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CCIA
Corpus Christi
International Airport

Corpus Christi International Airport

Air Cargo Master Plan Study

May 2024

hubpoint
STRATEGIC ADVISORS

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1 INTRODUCTION

1.1 Background and Objectives

In November 2023, the Corpus Christi International Airport ("CCIA" or "CRP" or "the Airport") engaged Coffman Associates to lead an update of the Airport Master Plan. CCIA placed special interest on the potential for further air cargo development and the outlook for additional cargo air services. To address this work, Coffman Associates partnered with Hubpoint Strategic Advisors, LLC – an aviation industry consultancy with deep experience in the air cargo sector. Hubpoint led the Air Cargo Master Plan Study ("the Study") to accomplish the following major objectives:

1. Assess the current situation for air cargo at CCIA;
2. Analyze the regional air cargo market;
3. Evaluate the outlook for air cargo services at CCIA; and
4. Develop long-term air cargo forecasts based on the findings of the Study.

This report describes the methodology and results of Hubpoint's work. Further, the report provides contextual information on the air cargo industry, current trends and relevant markets in order to put the findings in proper perspective. The CCIA air cargo forecasts, informed by the Study, will then be utilized by the Master Plan team to determine the future needs at the Airport related to air cargo.

The air cargo industry is highly competitive and constantly evolving. Historically, these characteristics have been most evident in international markets where a multitude of air carriers compete on price and service levels. This environment often spurs innovation as airlines work to keep existing customers, add new customers, navigate through economic cycles and grow their international cargo businesses. Until recently, the large, mature domestic U.S. air cargo industry was much less dynamic. Since the exit of multiple cargo carriers between 2000 and 2011, the domestic air cargo market had been primarily served by the duopoly of FedEx and UPS. While the two integrated express carriers compete vigorously, the slow growing domestic market did not inspire much innovation. However, the rise of e-commerce followed by COVID-19 related demand spikes and supply chain issues disrupted business models and led to the entry and growth of new air cargo competitors.

The resulting structural changes to the air cargo industry have particularly impacted small- and medium-size airports. These types of airports typically only handled shipments related to the express carriers and certain passenger aircraft. Now, a number of U.S. airports are experiencing new domestic and international freighter aircraft operations. Consequently, air cargo has taken on a higher level of importance, requiring airports to better understand their infrastructure and facilities needs.

From a planning perspective, airports should be aware of their market's air cargo demand drivers, the types of goods flowing through their region and the requirements for efficient goods

movement on both the airside and the landside. With this understanding and a perspective on future growth, effective airport plans can be developed. Due to changes in all air cargo segments (general cargo, integrated express, e-commerce) and the general lack of detailed, publicly available air cargo data, formal market studies are conducted to provide the necessary inputs for airport planning.

1.2 Methodology and Approach

In order to plan for air cargo growth and development, airports must have an understanding of their relevant markets as well as the overarching trends shaping the industry. Hubpoint analyzed CCIA's regional air cargo market using primary research (i.e. interviews) and secondary research (i.e. assessments of public data and information) methods.

The secondary research included analysis of historic operational statistics for CCIA and other Texas airports and reviews of air cargo industry news publications. Air cargo statistics were obtained from CCIA's monthly General Activity Reports and from the U.S. Department of Transportation's (U.S. DOT) T-100 carrier reports. Additionally, data from the U.S. Census Bureau's Foreign Trade Statistics division showing air imports and exports was analyzed. These data sources enabled valuable quantitative analysis. The CCIA cargo data includes directional air freight and mail tonnage reported per carrier over a multi-year period. The T-100 reports provide monthly data by air carrier and by direction for air freight and mail at U.S. airports. To complement data sourced from CCIA and the U.S. DOT, Hubpoint referenced annual cargo tonnage statistics reported by Airports Council International – North America (ACI-NA) and data from Boeing's latest World Air Cargo Forecast. The Census Bureau's Foreign Trade Statistics were utilized to assess international air cargo flows by U.S. state, foreign countries, and gateway airports.

From Hubpoint's experience in conducting dozens of other air cargo studies, it is clear that a thorough analysis of air cargo markets must include primary research. Secondary research is valuable and necessary, but it cannot provide the granular detail required to understand the dynamics of individual markets. Further, publicly available air cargo data lacks the type of detail and transparency that is often found in other segments of the aviation industry such as the robust data that is available for passenger air travel. Importantly, primary research (particularly in the form of stakeholder interviews) allows the consulting team to obtain forward-looking information and valuable firsthand insights from groups currently operating in the markets of interest.

For this study, Hubpoint conducted personal interviews with several stakeholders in the Corpus Christi area as well as air carriers operating in the domestic U.S. market. The meetings and interviews produced insights on regional freight transportation dynamics, current shipping practices, industry trends and the potential for air cargo activity at CCIA.

Finally, it should be noted that CCIA commissioned an Air Cargo Assessment in 2020 which was completed by Landrum & Brown, Inc. in February 2021. The stated objectives of the

Assessment included identification of potential air cargo development opportunities for CCIA as well as possible gaps that could constrain CRP's ability to optimize its cargo growth. While the Air Cargo Master Plan Study presented herein has different objectives, where scopes overlapped, Hubpoint referenced the 2021 Air Cargo Assessment. The intent of this approach was to recognize recent work for the Airport and to promote time and budget efficiencies.

2 AIR CARGO INDUSTRY TRENDS

To provide context for this report, it is helpful to review air cargo industry trends that may impact Corpus Christi International Airport. Although some trends became more prominent during the COVID pandemic years (2020-2022), others pre-date 2020. It is very likely that many of these industry trends signify structural change that will continue well into the future and, therefore, they are relevant to consider in airport planning, particularly insofar as smaller U.S. airports are concerned.

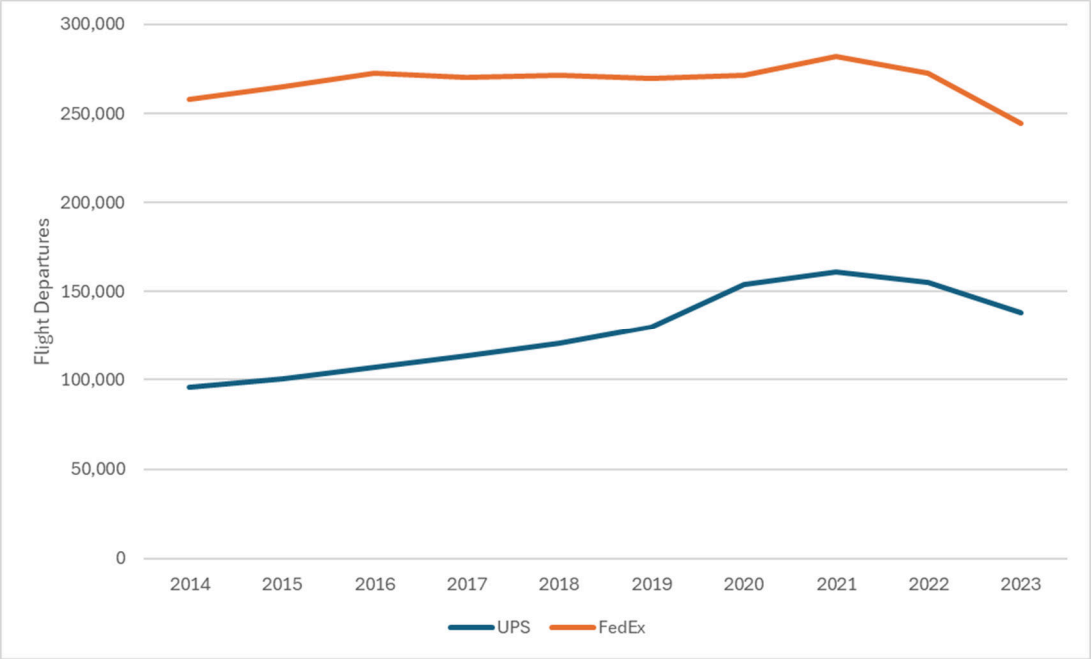
2.1 U.S. Domestic Integrator Trends: FedEx and UPS

The prominence of FedEx Express and UPS in the domestic cargo market is evident as these integrated express carriers have traditionally handled the vast majority of air cargo flown between U.S. airports, creating steady flows of flights and traffic for the airports they serve. In 2023, the two combined for over 60% of the domestic air cargo flown volumes as reported in U.S. DOT T-100, with FedEx serving over 225 and UPS over 100 U.S. airports.[1/] For many medium and smaller U.S. airports, securing either FedEx or UPS scheduled service has become the primary source of air cargo volume at that airport.

While the initial air express business model was founded on express envelopes and small packages, FedEx and UPS have successfully broadened their air cargo product lines to include specialty cargo, e-commerce, larger size packages and heavy freight. These then provide numerous synergy and optimization opportunities with the companies' respective trucking and ground cargo operations.

Over the last eight years, the emergence of e-commerce, with its heavy dependence on current shipment tracking capabilities and seamless operations, fed into the integrators' operational strengths and drove significant new growth. At the outset, major industry e-commerce players like Amazon relied on FedEx and UPS for package distribution. However, over time Amazon has invested heavily in insourcing those operations and volumes to their own chartered fleets, hubs, and route networks, and in the process, created strong e-commerce marketplace competition for FedEx and UPS. With the influx of new traffic and new competition, UPS managed to grow their US domestic flights by 44% over the ten-year 2014-2023 timeframe, while the larger FedEx (from an air transportation standpoint) generally grew through 2021, but by 2023, had reduced domestic flight operations by 5.4% vs 2014 (See **Exhibit 2.1**).

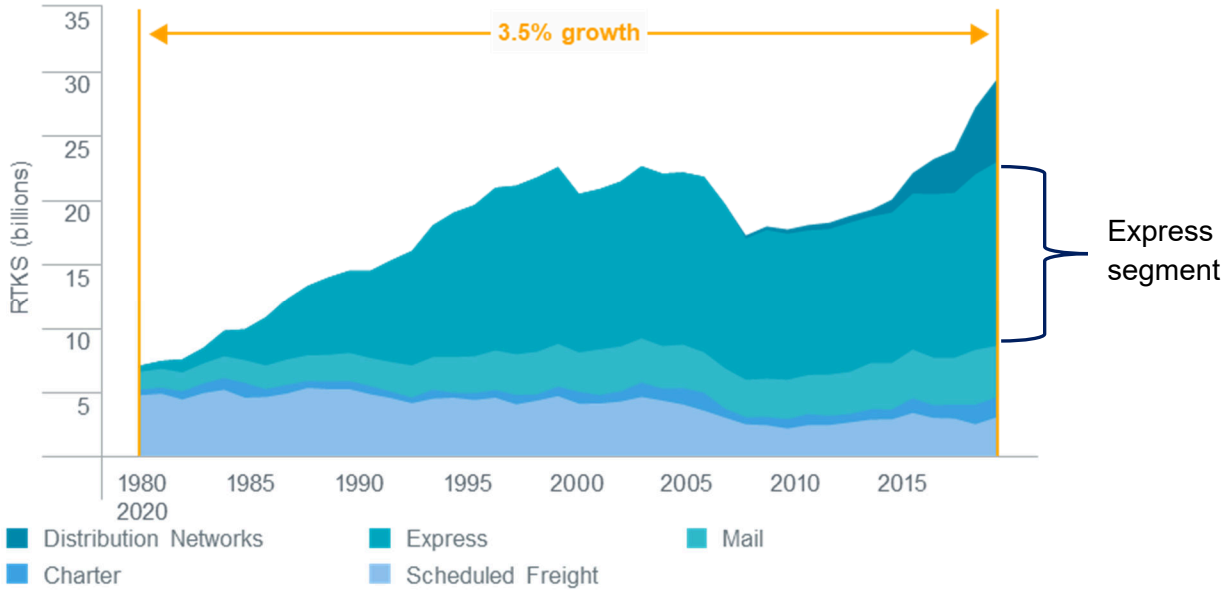
Exhibit 2.1
FedEx and UPS - U.S. Domestic Flight Departures 2014-2023



Source: Airline Data Inc, U.S. DOT T-100, Hubpoint analysis

Boeing's latest World Air Cargo Forecast (WACF), a standard industry reference tool, highlights domestic air cargo's 3.5% historic annual long term growth trend since 1980, and, as bracketed below (see **Exhibit 2.2**), the sizable express component flown by the integrators. For the 2022-2041 period, WACF foresees domestic air cargo growth will be driven by continued e-commerce expansion and resurgent domestic manufacturing.

Exhibit 2.2
U.S. Domestic Air Cargo Market Growth since 1980



Sources: Boeing World Air Cargo Forecast

Recognizing the longer-term growth forecast, the domestic air cargo market remains a largely mature market subject to yearly ups and downs. As an example, the strong business gains that the integrators enjoyed in the supply chain-disrupted years of 2020-2022 have now given way to a down cycle in 2023-2024. Both FedEx and UPS are seeing significant YOY domestic air volume shrinkage, with FedEx Average Daily Volume off 4.8% YOY and UPS off 8.3% in their latest respective reported quarters.

As a result, these companies are more immediately focused on cost control and network optimization. As part of a larger $2 billion initiative, FedEx has announced an aggressive $700 million air operations cost reduction target involving reducing or downgauging flights, outsourcing to third parties, and shifting traffic from air to surface modes (through merging and optimizing operations of its Express and Ground units). UPS has taken similar, but less visible steps, in seeking to retire older fleets, cut flying and rationalize its traffic across modes. With less in-house flying needed, both carriers have, up until recently, been in the process of reducing pilot headcount (FedEx by 700, UPS by nearly 200) including internally promoting pilot job opportunities at passenger regional airlines. However, as noted in the following section, the very recent U.S. Postal Service contract with UPS has changed the picture somewhat for that carrier.

This suggests structural adjustments underway in the integrator segment of the industry that could impact U.S. airports and current flight levels in the near-term. Potential cost cutting scenarios by these integrators that impact airports could include, where feasible: 1/ shifting volumes to lower-cost ground transportation; 2/ cutbacks in flight frequencies and aircraft gauge; 3/ outsourcing selected routes to other airlines; 4/ consolidation of operations to fewer

airports in a region; and 5/ downsizing or elimination of on-airport warehouses, maintenance or other aviation support facilities.

As both companies are among the industry's largest and financially strongest, we anticipate these integrators will manage through their current challenges and ultimately resume an upward growth trajectory. Most recent IATA air cargo industry indicators suggest some bottoming out and overall global traffic improvement in the fourth quarter 2023 and into both January and February, with UPS forecasting 2024 domestic small package market growth at 0-2 percent.

2.2 Changing Trends at the U.S. Postal Service

Historically the U.S. Postal Service (USPS) has been the single largest customer for U.S. domestic and international air cargo services in the U.S. In fact, FY 2022 saw USPS spending on domestic air transportation peak at over $3.6 *billion*.[2/] While USPS air mail volumes prominently supported passenger airlines' belly cargo operations during the last half of the twentieth century, the USPS opted to diversify in contracting with FedEx in 2002 as its primary air cargo provider domestically. This step placed increasingly less reliance by the U.S. Postal Service upon passenger airlines and other all-cargo operators for domestic mail carriage. With FedEx postal revenue ultimately growing over the years to $2.1 billion in FY 2021, the company built out its daytime flight network primarily to support air mail shipping needs across the U.S., complementing its nighttime express-centered network.

However, with overall declining postal volumes over the past 15 years creating continued pressure on the USPS to rationalize costs, the agency chose to expand its product service delivery windows and shift more mail volume to surface transport. This ultimately reduced FedEx revenue by $500 million, to $1.6 billion by FY 2023 and sharply impacted its profitability.[3/] After more than twenty years of servicing the mail, FedEx has chosen not to renew its contract with the USPS, and will end its service on September 29, 2024. As of April 1, 2024, UPS began transitioning services for the USPS and will ultimately become the new primary air cargo provider for the mail under a new five-year contract.

This major shift in the industry's premier air mail contract can be expected to have significant impacts on airports servicing FedEx and UPS. Once FedEx's contract ends in late September, it plans to make further network adjustments to consolidate its remaining air product flying needs, over and above its previously-announced cost savings initiatives. Airports served by FedEx are likely to see fewer, if any, daytime flights and volumes, and consequently, reduced demand for on-airport warehouse and flight support facility space.

On the UPS side, with its greater integration of air and truck networks, flown mail volumes are expected to be significant but may be smaller than what FedEx flew. On its most recent earnings call, UPS noted the new USPS business will fit very well into their existing integrated daytime flight network, feeding flights over both their Louisville (SDF) hub and new flights between regional UPS hubs. UPS is now partially shifting gears and looking to ramp back up its pilot hiring to support USPS demand, aiming to fully transition in the third quarter 2024. For airports served by UPS, the new air mail volumes can be expected to create potentially new ramp, warehouse and related support facility demands.

2.3 Amazon and E-Commerce

The growth of e-commerce has undoubtedly had a large and sustained impact on the U.S. air cargo industry. E-commerce has permanently changed consumer behavior and continues to have transformative effects on transportation networks. In the mid-1990s, as e-commerce truly gained momentum with companies like eBay and Amazon, it quickly became clear that fast, reliable and inexpensive shipping was a key differentiator for online sellers. In those early days of modern e-commerce, start-up companies accepted a lack of profits to gain market share. With that mindset, delivery costs for shipments to individual consumers were subsidized with the capital companies raised from investors.

The major U.S. integrated express carriers, FedEx and UPS, were ideally positioned to serve the growing e-commerce market. In the prior decades, the express carriers had invested heavily in facilities, equipment and technology to compete and better serve customers. With that, the integrators were able to offer the kinds of services e-commerce companies and their customers demanded. These services included door-to-door delivery involving a variety of transportation modes, package tracking, and return processes for unwanted orders.

Importantly, air cargo and e-commerce have been interdependent in terms of their growth. Given consumer expectations for deliveries and the often-vast distances between fulfillment centers and individual addresses, e-commerce companies must incorporate air transportation in their businesses to survive. Evidence of this is readily seen in Amazon Air's U.S. network which, in just eight years, has a fleet of nearly 90 aircraft under contract serving over 50 domestic markets. At the same time, e-commerce activity awakened the stagnant domestic air cargo market and encouraged competition and innovation amongst air carriers.

Importantly, Amazon Air is just one company flying e-commerce packages in the U.S. FedEx and UPS continue to prioritize e-commerce in their air networks and passenger airlines also often carry e-commerce for their freight forwarder customers. The U.S. Postal Service is also contracted by e-commerce companies to deliver shipments by air (often via its current partner FedEx). Finally, more competitors may eventually enter the market. In 2020, news reports revealed that Walmart had considered establishing its own U.S. freighter network to compete with Amazon. While the concept failed to move forward, it is likely that Walmart and other large retailers continue to assess potential strategies related to air cargo services in order to remain competitive.

E-commerce activity has tapered off somewhat after reaching record highs during the 2020-2022 period. Amazon itself has worked to rationalize its air network over the last 18 months, building out its primary hub capacity in Cincinnati/Northern Kentucky International Airport (CVG) and increasing hub-and-spoke flying, while shifting to a regional fulfillment strategy that increases use of trucking. As a result, Amazon's use of smaller ATR-72 turboprop freighters for short-haul traffic has been eliminated, resulting in fewer flights from Amazon's Fort Worth Alliance Airport (AFW) hub, with canceled service impacting 6 smaller markets (Omaha, Des Moines, Wichita, San Jose, Tampa and Mobile). In April 2024, Amazon also closed its air operation at San Antonio which was located at Kelly Field. According to DePaul University's

Chaddick Institute, which tracks Amazon activity, these network adjustments now leave Amazon consistently serving 46 U.S. airports, down from 53 a year ago.

Despite a slowing trend, industry experts are convinced that the e-commerce sector will continue to grow over the long term. Airports wishing to participate in this growth with Amazon or others should be aware of the opportunities and challenges that e-commerce air cargo can create. From a planning perspective, this involves understanding potential e-commerce air services and the associated infrastructure and facilities required to support those activities.

2.4 Use of Alternative Cargo Airports in the U.S.

For much of the history of commercial air cargo, large international gateway airports have held dominant shares of the U.S. air cargo market. Large airports in New York, Chicago, Los Angeles and Miami attract high concentrations of domestic and international air services by both passenger and all-cargo airlines. This is driven by high levels of population and business activity, including demand for goods shipped by air for consumer and manufacturing purposes. Additionally, freight forwarders, who utilize the air cargo capacity of airlines, found value in consolidating customer shipments at large airports. At these airports, forwarders can realize economies of scale, maximize utilization of resources, and leverage their size and competitive airline services to obtain favorable pricing for their air transportation needs.

It is likely that the largest U.S. airports, such as Dallas-Fort Worth (DFW) and Houston (IAH), will always attract large amounts of air cargo, if for no other reason than because airlines will continue offering high levels of service to many nonstop destinations and, therefore, provide much capacity to carry cargo. However, there is growing acceptance for the use of smaller alternative airports in the U.S. air cargo market. For many years, Rickenbacker International Airport (LCK) in Ohio and Huntsville International Airport (HSV) in Alabama have successfully served shippers, freight forwarders and airlines with strategic geographic locations and welcoming air cargo environments. Now, other small airports like Greenville-Spartanburg International Airport (GSP), Chicago-Rockford International Airport (RFD), Birmingham–Shuttlesworth International Airport (BHM) and Phoenix-Mesa Gateway Airport (AZA) are attracting the interest of forwarders who are dictating where cargo flights operate.

Major forwarding companies like Kuehne + Nagel, DSV and DB Schenker are operating freighter flights between select U.S. airports and international markets. These forwarder-controlled networks offer their shipping customers direct service to airports close to the actual point of demand, i.e. shippers' and consignees' plants and distribution centers. In doing so, they avoid the congestion and expense of larger big city airports. Adding to the momentum, large ocean container shipping companies like Maersk and MSC have entered the air cargo market with their own aircraft in order to provide customers a full suite of services and to ensure that certain shipments continue to move even when seaport disruptions occur. Importantly, industry leaders have attested to the long-term, sustainable nature of these cargo air services at alternative airports.

While the forwarder-controlled networks tend to handle heavy freight shipments of industrial customers at smaller airports, other small, alternative cargo airports are serving the needs of e-

commerce carriers. Since Amazon Air commenced operations in 2016, it has designated key roles for some domestic airports that can be considered alternative cargo airports. This includes investing in regional air hubs in such airports as Fort Worth Alliance Airport (AFW) in north Texas, Lehigh Valley International Airport (ABE) in Pennsylvania, Lakeland Linder International Airport (LAL) in Florida, and San Bernardino International Airport (SBD) in California. Each of these airports had modest air cargo activity prior to Amazon Air but have transformed their infrastructure and operating models to allow for cargo growth. In turn, parent company Amazon has invested in these communities with additional fulfillment centers leading to more jobs, which then support other local businesses.

In general, alternative cargo airports offer low costs, efficient airside and landside movement of cargo, and ready access to markets by truck and air. As these alternate airports have proven to be viable, there is more acceptance within the air cargo community to consider their added value in the supply chain. In turn, these air cargo operations have helped diversify the revenue streams of airports and contributed positively to regional economic development.

2.5 Nearshoring

Over the last ten years, recognition within the U.S. has grown over excessive concentration of manufacturing activities in certain geographic regions of the world. This concern stems from increased geopolitical competition, ongoing trade imbalances, and pandemic-induced global supply chain disruptions that especially impacted Chinese manufacturing during COVID-related shutdowns of Chinese cities. This factor, along with increased U.S.-China frictions and the imposition in 2018 of higher U.S. tariffs on Chinese manufactured goods have driven companies to seek to diversify the locations and roles of their production facilities to mitigate risks of future cost hikes and supply disruptions. Although this strategy will take time for individual companies to implement, there are already signs that the moves will have material impacts on supply chains and the utilization of air cargo.

Many companies operating in the U.S. are changing longstanding practices of sourcing goods from distant geographies and unstable regions of the world by obtaining those goods from places closer to home. Nearshoring and reshoring of production facilities among manufacturers has been taking place for years, but activity is clearly accelerating. A recent survey by a large manufacturer found that 70% of U.S. manufacturing companies plan to establish or relocate production closer to home, their customers or potential buyers. From a macro perspective, nearshoring can potentially solve supply chain issues related to national security, health security and overall competitiveness.

From an air cargo perspective, increased manufacturing in Mexico and Latin America can have major impacts on the way markets are served. For example, the major Asia-to-U.S. trade lane requires large aircraft flying vast distances and primarily operating at the largest airports to pick up and deliver cargo. As distances between where goods are produced and where they are consumed shorten, smaller aircraft can be utilized to transport cargo. Further, due to the proximity of the markets being served, the aircraft can operate at higher frequencies (i.e. more flights in a given time interval). In such a scenario, cargo airlines flying smaller aircraft would not need to restrict their services to only large airports. Smaller airports that are close to the origins

and ultimate destinations of shipments (i.e. manufacturing plants and distribution warehouse locations) become relevant and, perhaps even preferable, to shippers and cargo airlines.

While numerous industries are active in transborder trade and logistics, the automotive industry in particular has capitalized on the consistent use of smaller Part 135 air cargo charter aircraft to supplement surface transborder transportation to support its broader U.S.-Mexico supply chain needs. These charters feed critically-needed parts and supplies between auto plants and key suppliers in both countries. These charter operations fly into many smaller interior U.S. airports directly, but others take advantage of dual U.S. and Mexican Customs staffing at Texas border airports, often using Laredo (LRD) and El Paso (ELP) to help expedite clearances.

Aside from automotive logistics, other key air cargo-friendly commodities with sensitive supply chains moving in transborder trade include electronics, medical equipment, and electrical machinery. While Mexico figures predominantly in the nearshoring, there are lesser air cargo flows to and from Central America and the Caribbean countries. These types of small cargo charter opportunities may initially materialize infrequently, but are worth an airport's engagement within the local business community to determine potential support needs for further expansion.

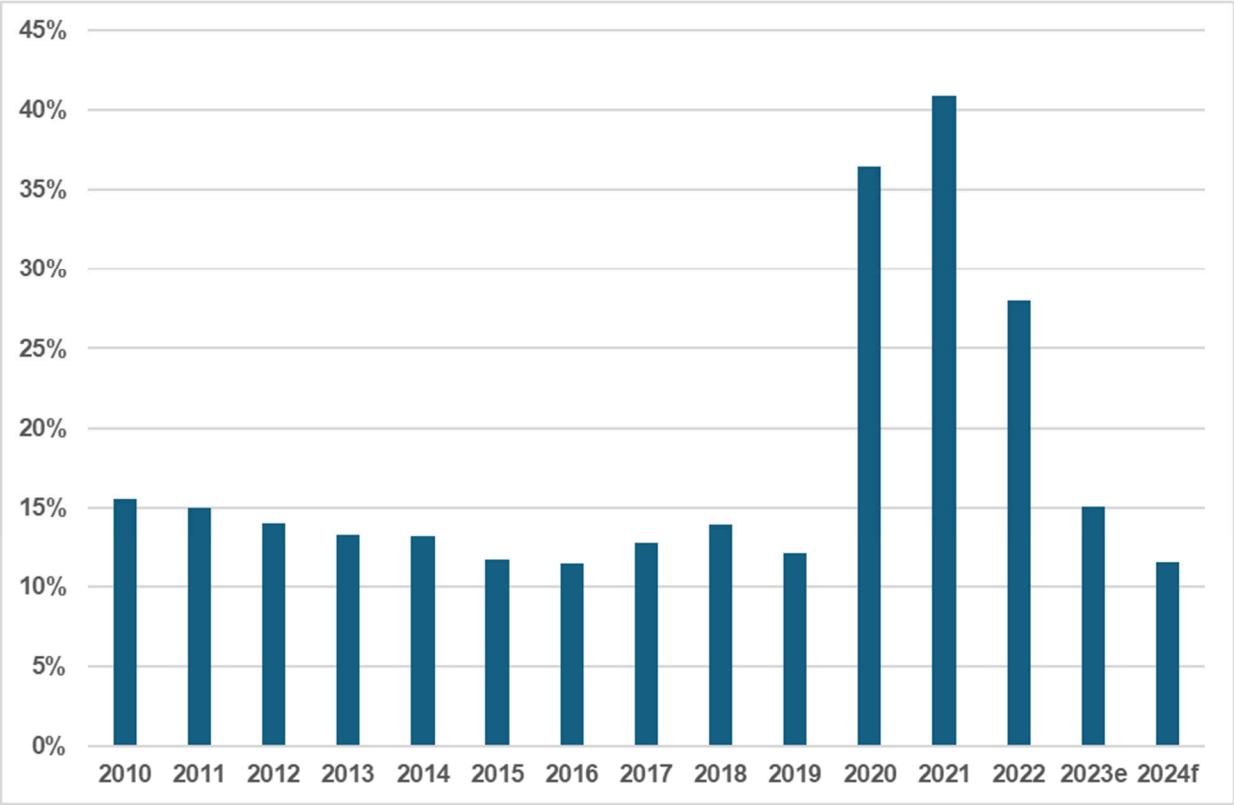
2.6 Cargo Revenue Contribution to Passenger Airlines

The U.S. passenger airline industry has now returned to a healthier and more typical revenue environment following the difficult COVID pandemic years, where the industry witnessed a devastating loss in air travel demand, particularly for international markets. This subsequently elevated the importance of these airlines' cargo business, and was particularly impactful to the air cargo industry where approximately 50% of air cargo is transported in the bellies of passenger airlines – especially on cargo-friendly widebody aircraft that typically fly intercontinental routes.

During the pandemic, American Airlines, United Airlines, Delta Airlines and Southwest Airlines all operated passenger aircraft as freighters with much success. The cargo operations materially improved airlines' financial standing. As a result, airline management fully realized the impact that air cargo potentially can have on airline route economics. At the time, several leading U.S. airlines stated that the focus on air cargo would remain elevated even in the post-pandemic environment. This includes decisions related to new and existing routes where cargo can make the difference between profitable and unprofitable operations.

At its peak in 2021 with passenger air travel still heavily restricted, the International Air Transportation Association (IATA) found that air cargo accounted for over 40% of global airline revenue. Since then, as passenger travel has returned, air cargo's share of total revenue has moderated significantly, a correction that was inevitable. For 2024, with strong passenger revenue growth and greater air cargo supply returning to the marketplace, cargo's percentage contribution is forecast at 12%, on par with pre-pandemic percentage levels (see **Exhibit 2.3)**. While the air cargo side of the business proved critical for many airlines just a few years ago, it remains to be seen how much cargo revenue opportunity will influence passenger flying on domestic U.S. routes over the long term.

Exhibit 2.3
Global Airline Industry Cargo Revenue as a Percentage of Total Operating Revenue



Source: IATA Chart of the Week, Dec 8, 2023

Nevertheless, there are still opportunities for consistent, albeit lower cargo volumes for smaller airports. It should be noted that while regional passenger jets are quite limited in their cargo-carrying capabilities, the narrowbody fleets of Boeing 737s and Airbus 319/320/321s that the main passenger network airlines fly in many medium and smaller U.S. airports have more consistent capacity available for cargo, typically 1-2 tons per domestic flight (and sometimes more). Airlines such as Southwest Airlines have in fact developed a strong reputation for reliability within the U.S. domestic air cargo market for small parcel and freight shipping, catering to both shippers and freight forwarders alike.

Where airports are successful in getting passenger airlines to “upgauge” their services from regional jets to narrowbodies, they can significantly increase the potential volumes of cargo they can carry in and out of an airport. Therefore, airports should be aware of this potential and be prepared to work with the airlines they serve for additional belly cargo volume and the increased demands that will have on both airside and landside activities.

2.7 Other Emerging Trends

Increasingly, the U.S. air cargo industry has been faced with severe delays and congestion at certain airports. Although some of the root causes relate to the pandemic and may naturally

fade, many issues existed before COVID-19 and persist in the aftermath. These issues relate to a lack of labor to process cargo, increased trucking activity at airports and the continuation of paper-based documentation. To counter these issues, some airports are turning to cargo community systems (CCS) – cloud-based technology that seeks to reduce congestion, increase data visibility and increase throughput at air cargo facilities. Currently, airports in Chicago, Philadelphia, Atlanta and Dallas-Fort Worth are deploying CCS developed by providers like Kale Logistics and Nallian.

The concept of CCS is to join all members of the air cargo ecosystem (e.g., airlines, ground handlers, freight forwarders, truckers, shippers) in a common technology platform. Ultimately, through seamless communications, information can be shared in a secure and timely manner to optimize air cargo operations. For instance, truckers are known to queue up at airport cargo facilities well before their shipments are ready for pick up. This causes congestion for other truckers whose shipments are available. A CCS would solve this issue by alerting truckers when their shipments are available and scheduling their trip to the cargo facility. Other CCS functions would process all required documents electronically and help ground handlers effectively plan daily activities and utilize resources better.

It should be noted the CCS concept is particularly beneficial for larger, more congested U.S. international gateway airports. While providing some benefit from a Customs and documentation standpoint, it would have lesser relevance for smaller less-congested airports focused primarily on domestic cargo.

2.8 Broader Long-Term Trends for U.S. Domestic Air Cargo

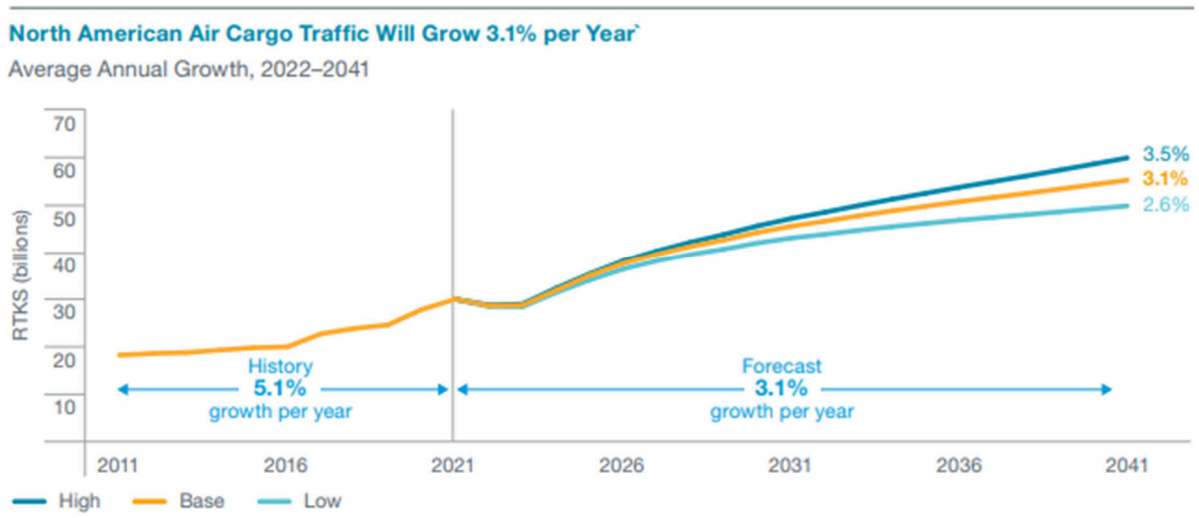
From a broader perspective, while the use of air cargo provides customers with benefits in terms of speed, handling and security, it remains in most cases a premium-priced mode for shipping as compared with surface modes (i.e. truck, rail, vessel). As such, year-to-year demand for air cargo is particularly subject to cyclicality and the various economic and demand pressures within air cargo-oriented sectors of the U.S. and global economy. While overall forecasts from Boeing, Airbus and governmental entities all call for long-term industry growth, consistent annual growth itself has proven to be fleeting with the industry seeing a pattern of volatility from year-to-year. Negative impacts to the supply chain caused by pandemics, port strikes, weather events, and similar disruptions can drive sharp short-term air cargo growth from which the industry gains great benefit, but ultimately recedes over time as normal conditions resume. However, those spikes become part and parcel of the long-term growth trend.

Between 1990 and 2015, the U.S. domestic air cargo (freight and mail) market was in a state of low growth, achieving just 1.6% compound annual growth over 25 years. Although the market is large compared to many other world regions, it had matured and was largely dominated by the duopoly of FedEx Express and UPS. Further, in this same timeframe, the increased sophistication and reliability of competitive trucking services in the U.S. hampered air cargo growth, kept pricing in check and stunted innovation. However, between 2016 and 2018, domestic air cargo volumes rose sharply with the growing influence of e-commerce. New entrant Amazon Air was gaining scale with an expanding aircraft fleet and network of U.S.

airports. In 2015 (pre-Amazon Air), the segment accounted for 4.9% of domestic air cargo. By 2020, the segment (now including Amazon Air) had grown to 21.4% of the total. Going forward, these three entities are currently anticipated to be the major drivers for domestic air cargo, while other carriers – passenger airlines, Part 135 charter operators, smaller express, all-cargo and e-commerce operators – continue to play niche roles and serve specific segments of the marketplace.

Earlier, it was noted that Boeing's WACF is a tool for estimating future air cargo growth in various global markets, including the U.S. domestic market. In the latest WACF published in November 2022, the U.S. domestic market is expected to grow at an average annual rate of 4.3% from 2022-2031 and an average of 3.1% for the 20-year full forecast 2022-2041 (**see Exhibit 2.4**). The higher growth rate through 2031 is expected primarily due to the rapid rise of e-commerce in the U.S. This contrasts with the pre-COVID 10-year period 2009-2019 when domestic cargo traffic grew at an average annual rate of 3.3%. That period included a recovering U.S. economy following the Great Recession in 2009-2010, as well as the U.S. foreign tariffs and trade wars of 2018-2019 which negatively impacted domestic and international cargo traffic.

Exhibit 2.4
U.S. Domestic Annual Air Cargo Traffic (2011-2041F)



Source: Boeing World Air Cargo Forecast

Finally, the large, resilient U.S. domestic air cargo market not only survived during the pandemic, but thrived. In fact, ACI-NA statistics for 2020 shows 200 U.S. airports suffering negative passenger air travel growth versus 2019, but 42% of these airports recorded positive air cargo gains vs 2019. The heavier use of online shopping, ongoing supply chain challenges

and increased shipments of Personal Protective Equipment (PPE) all contributed to higher cargo volumes for airports between 2020 and 2022.

Nevertheless, that boom portion of the air cargo business cycle has ended for now and domestic air cargo demand has softened considerably, resuming a more modest and customary demand profile.

2.9 Summary

The past eight years have been extraordinarily active for air cargo in the U.S. This includes Amazon Air's market entry and rapid expansion of e-commerce, the impacts related to the COVID-19 pandemic and the trend toward alternative cargo airports. The once stagnant, duopoly-controlled domestic U.S. market is now in positive motion with the influx of competition and the need to innovate. The pandemic presented its own opportunities and challenges; some of the resulting effects may prove to be permanent fixtures of the air cargo industry. Growing and thriving in a far less robust post-pandemic environment is the latest industry challenge. The trends outlined above are notable because they likely impact airports of all sizes, including smaller airports like CCIA. Although air cargo dynamics at smaller airports have been relatively stable in the recent past, a new environment exists which deserves the attention of airport management and planners. The pace of air cargo activity and developments has accelerated and prepared airports will be well-positioned to capitalize on available opportunities.

Sources:

1/ USDOT T100, Hubpoint analysis

2/ USPS 10K reporting 2012-2023

3/ FreightWaves articles

3 CURRENT SITUATION FOR AIR CARGO AT CORPUS CHRISTI INTERNATIONAL AIRPORT

3.1 Overview of Air Cargo at CCIA

The Corpus Christi International Airport is located in South Texas near the Gulf of Mexico and Corpus Christi Bay. The airport is in close proximity to Interstate 37 which runs northwest to San Antonio. CCIA serves area travelers with passenger flights operated by three scheduled commercial airlines - Southwest, American Eagle and United Express. The Airport also has frequent air cargo service utilizing feeder aircraft operated by UPS partner carriers.

In 2023, over 700,000 passengers utilized CCIA, ranking it as the thirteenth largest commercial airport in Texas in terms of passenger volume. American is the leading carrier in the market carrying approximately 41 percent of passengers, with Southwest and United accounting for 33 and 25 percent of passengers, respectively. Importantly, from an air cargo perspective, Southwest is the only scheduled airline operating mainline narrowbody aircraft whereas both American Eagle and United Express utilize regional jets at CCIA. As mentioned in Chapter 2, Southwest is a quality cargo carrier that utilizes its Boeing 737 belly space effectively to serve customers and generate additional revenue. Conversely, the regional jets used by the two CCIA network carriers have very little cargo carrying capabilities.

All-cargo flights at CCIA are operated by Ameriflight and Martinaire using small turboprop feeders on behalf of their partner UPS. Ameriflight primarily operates Beechcraft 1900s at CCIA while Martinaire operates the cargo variant of the Cessna Caravan known as the Super Cargomaster. At CCIA, Ameriflight typically operates two daily flights during weekdays – one operates directly to and from San Antonio (SAT) and the other often flies via Midland (MAF) before returning to San Antonio. Martinaire operates infrequently at CCIA, only showing in the General Activity Reports for just thirteen months over the past three years.

Exhibit 3.1
Air Cargo Tonnage at Select Texas Airports (2022)

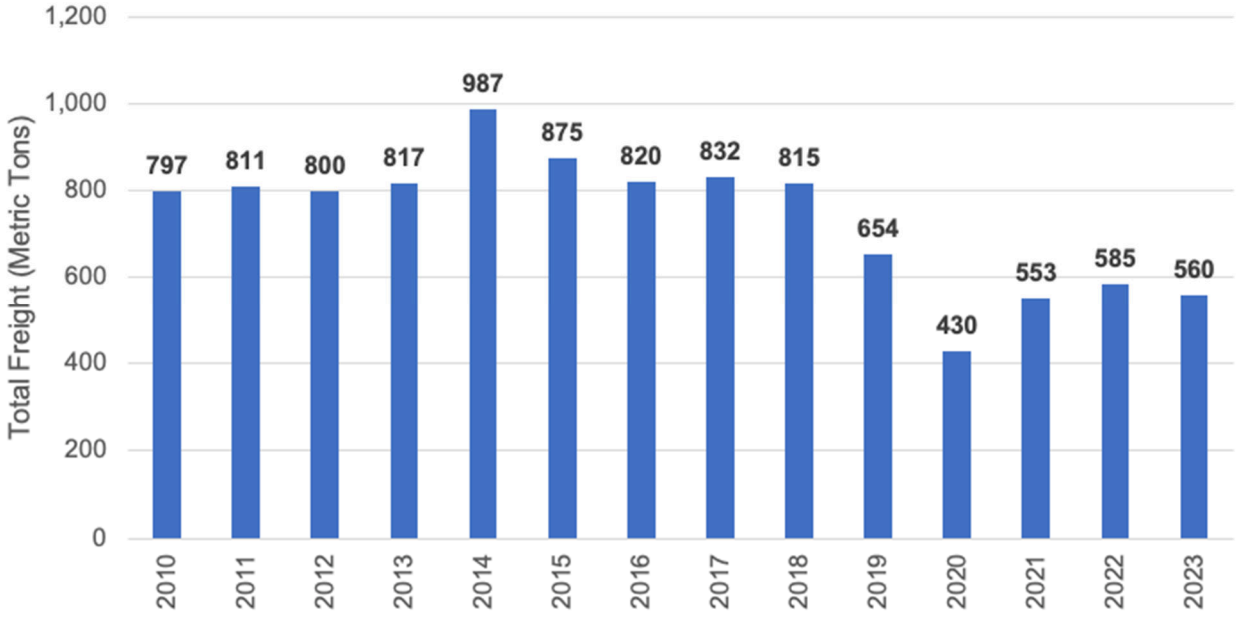
Airport Code	City/State	Airport Name	Total Cargo (Metric Tons)	Change 2022-2021
DFW	Dallas-Ft. Worth, TX	Dallas-Fort Worth International Airport	818,933	-10.1%
IAH	Houston, TX	Houston George Bush Intercontinental Airport	542,072	3.4%
AFW	Fort Worth, TX	Perot Field Fort Worth Alliance Airport	377,389	1.6%
AUS	Austin TX	Austin-Bergstrom International Airport	140,744	29.7%
SAT	San Antonio TX	San Antonio International Airport	121,639	-3.4%
ELP	El Paso TX	El Paso International Airport	87,982	-9.7%
HOU	Houston TX	W. P. Hobby Airport	10,897	-17.5%
ABI	Abilene TX	Abilene Regional Airport	931	-9.1%
BRO	Brownsville TX	Brownsville South Padre Island International Airport	680	96.0%
CRP	**Corpus Christi TX**	**Corpus Christi International Airport**	**585**	**5.7%**

Source: Hubpoint analysis of Airports Council International - North America (ACI-NA) data.
Note: Data in table includes ACI-NA member airports only.

As shown in **Exhibit 3.1** above, of the ten Texas airports reporting cargo tonnage to ACI-NA in 2022, CCIA had the lowest activity levels. To be clear, reported tonnage at an airport is not a true measure of the demand for air cargo for that city and region. Reported tonnage is also a function of the air services available at an airport. In the absence of freighter services using larger jets or additional passenger services using mainline equipment, CCIA's air cargo will be restricted by the capacity available with the UPS feeders and Southwest's B737s. Just as some air travelers forgo use of their closest airport and "leak" to other airports, some portion of Corpus Christi air cargo is handled at other airports and recorded in their statistics.

A time series review of CCIA air cargo tonnage as recorded in the Airport's published General Activity Reports is shown in **Exhibit 3.2.** During the period 2013-2023, CCIA generally handled low cargo volumes, peaking in 2014 with 987 metric tons and falling to a low point of 430 metric tons during the pandemic year 2020. In the most recent years (2021-2023), CCIA remained under 600 metric tons annually. This compares to an annual average of 858 metric tons during the period 2013-2018. Due to the recency of the pandemic, which greatly impacted the air cargo market, it is difficult to determine if lower levels of cargo at CCIA are to be expected moving forward. The Airport's own General Activity Reports include mixed signals where year-to-date tonnage through March 2024 was down -10 percent for enplaned cargo, but up +30 percent for deplaned cargo.

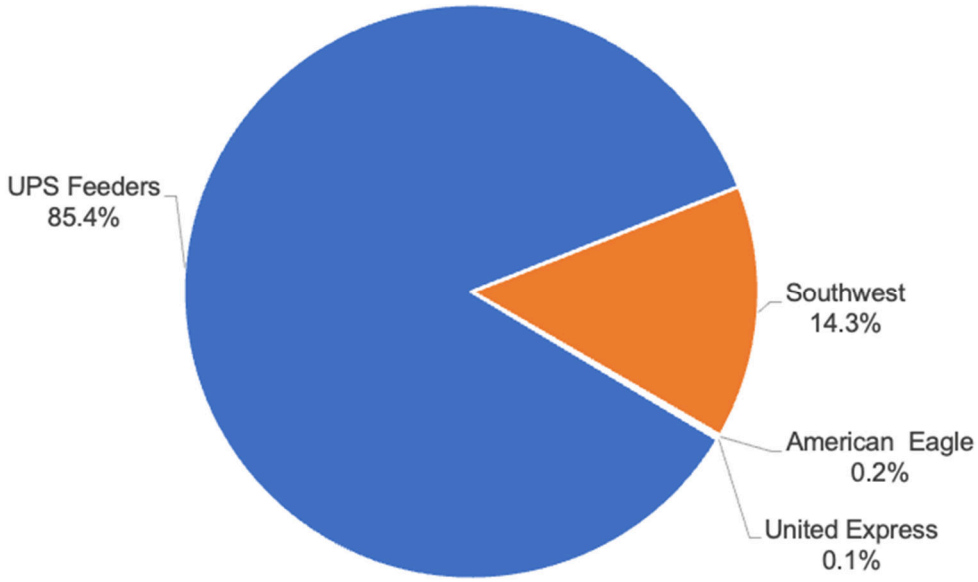
Exhibit 3.2
CCIA Air Cargo Tonnage (2014-2023)



Source: Hubpoint analysis of Corpus Christi International Airport General Activity Reports

Air cargo at CCIA is primarily carried by UPS feeders and Southwest. See **Exhibit 3.3**. In 2023, Ameriflight and Martinaire handled over 85% of the Airport's total cargo tonnage with Ameriflight accounting for the vast majority. For belly cargo, Southwest carries about 14% with American Eagle and United Express totaling less than 1%. Although the UPS feeders utilize turboprop aircraft which restrict shipment size and weight, their multiple daily flights and sole focus on carrying cargo enables them to cumulatively carry significant cargo volumes during the course of a year. Further, the feeder services at CCIA are likely handling the most time-critical, premium UPS next day deliveries while deferred shipments allowing for 2- and 3-day deliveries move via truck to a UPS airport with mainline jet service. Notably, of the 90 domestic U.S. markets served by Southwest, CCIA consistently ranks in the bottom 3% of markets for air cargo tonnage. To put this in perspective, on annual basis, Southwest handles over 10 times as much tonnage at its median airport than it carries at CCIA. While Southwest is a serious competitor in air cargo, airline management acknowledges that CCIA is a "very small operation" within their cargo network.

Exhibit 3.3
Carrier Market Shares of Total CCIA Freight and Mail (2023)

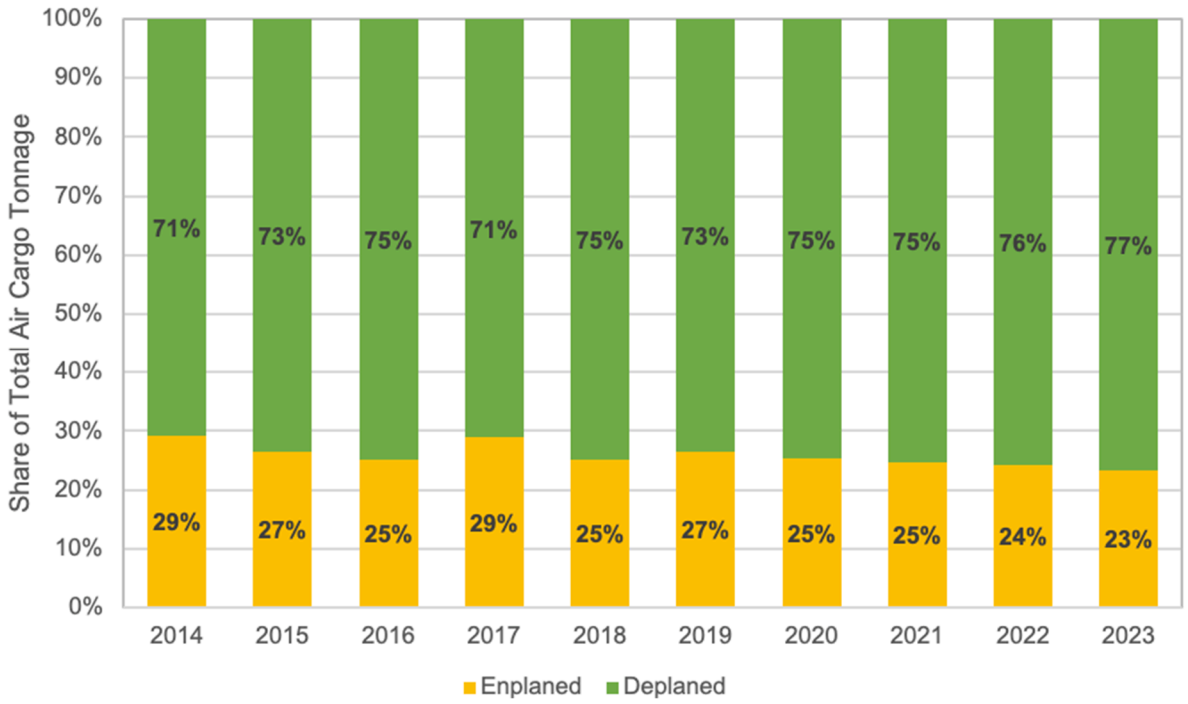


Source: Hubpoint analysis of Corpus Christi International Airport General Activity Reports

From a directional perspective, air cargo flows at CCIA have historically skewed heavily towards deplaned tonnage. During the 10-year period analyzed (2014-2023), deplaned (inbound) air cargo tonnage is consistently higher than outbound (enplaned) tonnage. As shown in **Exhibit 3.4**, inbound tonnage accounts for a weighted average of 74% of total tonnage compared to outbound tonnage at 26%. Importantly, the trend in recent years has been moving to an even more imbalanced state with 2023 inbound tonnage representing 77% of the total. Air cargo operators generally prefer more balanced directional flows as that translates to higher utilization of assets leading to more efficient and profitable operations. Possible explanations for the directional imbalance could be that there are simply a lack of companies and individuals

shipping air cargo originating from the Corpus Christi region or that outbound cargo from the region is of a lower priority (i.e. cargo that is trucked rather than flown at CCIA) than inbound cargo which uses feeder aircraft.

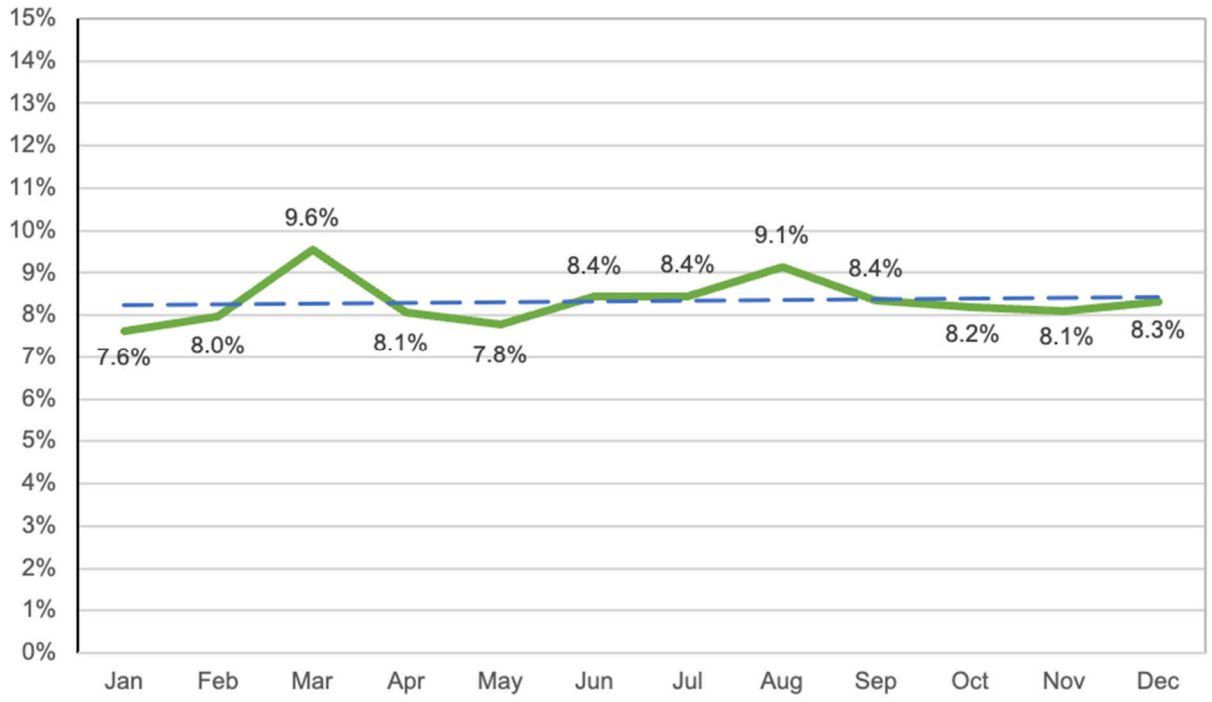
Exhibit 3.4
CCIA Air Cargo Tonnage Share by Direction (2014-2023)



Source: Hubpoint analysis of Corpus Christi International Airport General Activity Reports

Seasonality of demand is another factor that airports consider when assessing their air cargo markets. While air cargo activity typically peaks at most airports in the fourth quarter related to the holiday season shipping, relatively consistent month-to-month demand is desirable. This allows for an efficient use of resources including labor, facilities and equipment. A review of the monthly CCIA cargo statistics over a two-year period (2022-2023) shows overall consistent levels of demand with slight peaks in March and August. See **Exhibit 3.5.** Interestingly, there is no sign of a fourth quarter peak, but rather that quarter and most other months are very close to the pro-rata share of tonnage (8.3%). In a market like CCIA with very consistent air cargo capacity from air carriers, it is not surprising to see overall uniform tonnage volumes throughout the year. It would be fair to assume that any peaking activity of air cargo volumes is via trucking between the Corpus Christi region and airports with direct mainline services to integrator hubs.

Exhibit 3.5
Seasonality for CCIA Air Cargo Tonnage (2022-2023 aggregated)



Source: Hubpoint analysis of Corpus Christi International Airport General Activity Reports

While the analysis of the current situation for air cargo at CCIA is somewhat limited by the current types of cargo operations and the lack of much publicly available data, it does provide important insights into the dynamics of the market. Thanks to the UPS feeder flights, the region served by CCIA has access to time-definite, next day express cargo services. Separately, Southwest offers a viable option for the freight forwarding community and general cargo shipments using mainline aircraft.

Still, given the reported cargo volumes at CCIA, it seems clear that much of the region's inbound and outbound air cargo is transiting via other airports. Certain challenges arise from CCIA's proximity to both San Antonio and Houston where the integrated carriers and the belly cargo carriers have frequent direct services to major hubs and markets. Trucking operations of integrated carriers can easily meet scheduled flights at these larger airports and at much lower cost than operating jet aircraft directly at CCIA. Further, Forward Air, a leading less-than-truckload carrier, includes Corpus Christi in its scheduled network. Forward Air publishes services to over 100 U.S. markets, most of which have transit times of three days or less via truck to/from Corpus Christi. This provides yet another alternative for shippers which does not require actual air cargo flights at CCIA.

3.2 CCIA Infrastructure

Infrastructure and facilities provided at the Corpus Christi International Airport enable safe and efficient operations by the airport's various users. This includes runways, taxiways, ramp space, facilities, truck and automobile parking areas, and on-airport access roads. CCIA's current infrastructure is shown in **Exhibit 3.6** below. The Airport's location 5 miles from Interstate 37 is efficiently accessed via TX-44 and TX-358. Interstate 37 is a north-south highway which runs 143 miles between Corpus Christi and San Antonio where it then connects to Interstate 35 and the major east-west highway Interstate 10. While vast distances often separate large cities in Texas, this roadway system provides CCIA with access to major Texas and U.S. freight markets.

Exhibit 3.6
Corpus Christi Regional Airport Infrastructure

Source: Google Earth and Hubpoint

The Airport's primary runway (RWY 13/31) is 7,510 feet long and 150 feet wide with ILS an approach. A second runway (RWY 18/36) is 6,080 feet long and 150 feet wide. A passenger terminal with 6 gates was constructed in 2002 is located between the two runways. The access road to the passenger terminal is International Drive and it connects to Pinson Drive, Glasson Drive and Hangar Lane to provide access to key hangars, FBOs and other facilities.

CCIA does not currently have a formal air cargo facility, but there are facilities related to freight and logistics on airport property. Emerald City Cargo operates on-airport from a location in the CCIA passenger terminal. The company provides air and ground freight services, including for special shipments like Hazmat, temperature-controlled and high-value commodities. At CCIA, Emerald City Cargo primarily works on behalf of Southwest Airlines Cargo to handle the belly cargo associated with its passenger flights. FedEx Ground operates from a 70,000 square foot building located on Glasson Drive. Located on this same road, Carr's Delivery Service is a transportation company providing courier services, hot shot deliveries, distribution and warehousing, and coordination with air and ground freight shipping. Sharing the Carr's facility is Forward Air, the national LTL trucking company.

As noted in the Landrum & Brown Air Cargo Assessment, there are several existing hangars at CCIA that could potentially be utilized for cargo offices, load planning, and package sortation, if space were available. Four hangars are located in the area known as West General Aviation close to the Atlantic Aviation FBO. Some of these hangars are owned or managed by Atlantic Aviation. The ramp space associated with the four hangars in this area totals approximately 117,000 square feet. Notably, Ameriflight uses the far end of this ramp to park and service its aircraft as well as load and unload cargo. In the area known as the East General Aviation, several more hangars (formerly occupied by FBO Signature Flight Support) are located on a ramp of approximately 62,000 square feet. Additional discrete ramp space is available just to the north and also just to the south of the former Signature Flight Support ramp.

Beyond the current operators related to freight transportation, CCIA has been seeking additional air cargo operators and activity. The Airport is promoting its 24/7 operating environment, lack of noise restrictions and availability of U.S. Customs services on-airport. Further, several vacant land parcels have been identified for potential air cargo development and leasing. One parcel is almost 500,000 square feet and located on across from the FedEx Ground facility. Roadway, truck and auto parking, taxiway and ramp infrastructure would likely need to be further developed for these parcels to be ready for a new cargo operation. However, it is clear that there is adequate developable land available at CCIA should an air cargo opportunity arise which required facilities and infrastructure beyond what already exists at the Airport.

Exhibit 3.7
Corpus Christi Airport Infrastructure

Source: Google Earth and Hubpoint

Finally, there is no separate facility at CCIA designated for handling belly cargo associated with commercial passenger aircraft. As noted in the Landrum & Brown report, handling belly cargo in the terminal building is workable for the current levels of cargo. However, there would be limits to the growth of cargo volumes that could be accommodated there. Should Southwest begin additional flights or a network carrier introduce mainline aircraft at CCIA, the space available for cargo handling in the terminal building may be deficient.

4 REGIONAL MARKET OVERVIEW

As was described in Chapter 1, to produce development plans options for Corpus Christi International Airport's cargo activities, the relevant air cargo market must be defined and analyzed. Analysis is conducted via both primary and secondary research to obtain information about demand drivers, commodity flows and the market's future outlook. Interviews with local community groups and other industry stakeholders offer granular details and forward-looking perspectives based on their own experiences in the region. Then, traditional market research and historic data provides context to validate the primary research findings.

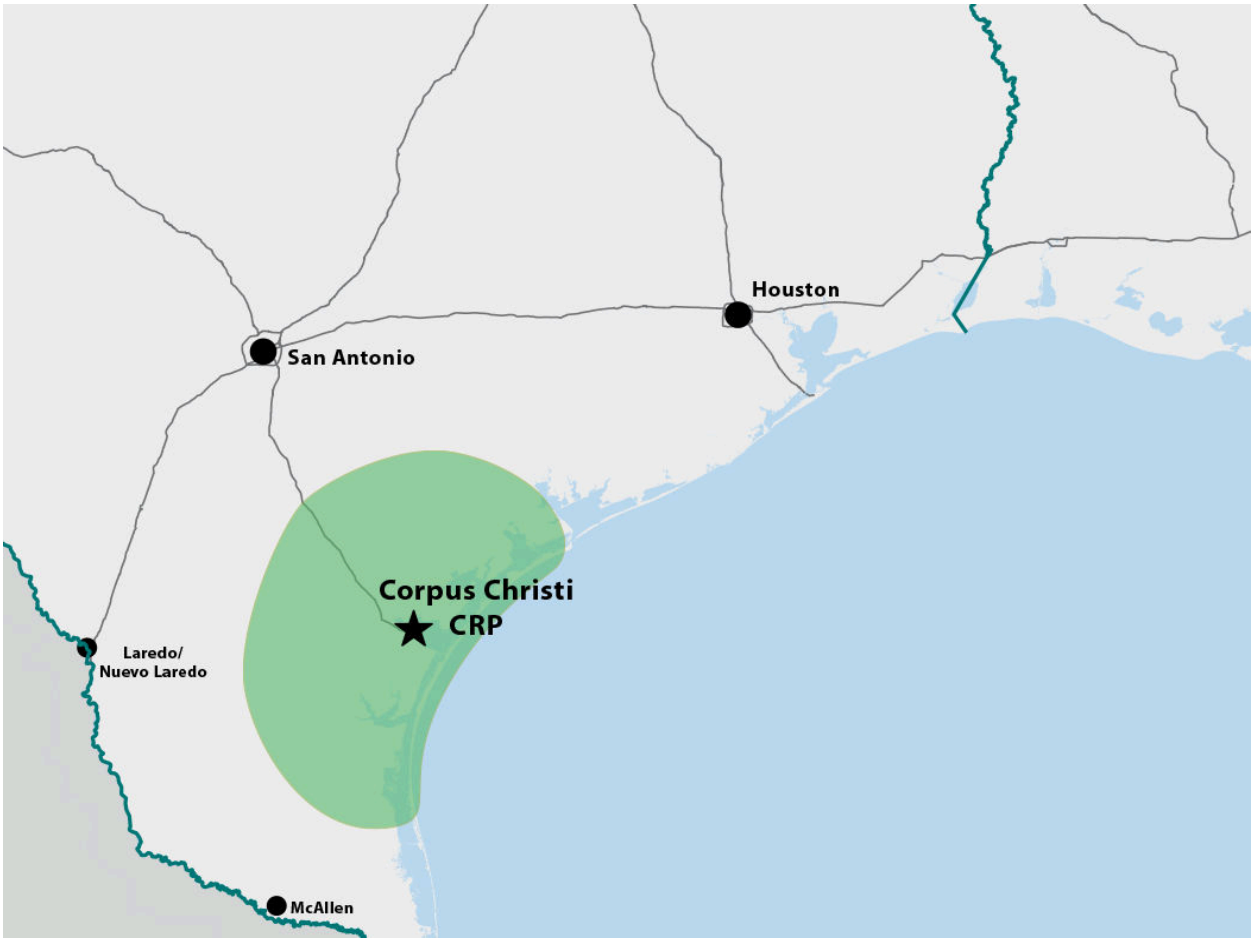
The objective of the analysis is to understand the market dynamics which then enables future demand estimates for air cargo services in the Corpus Christi region. Forecasts can then be developed with reasonable assumptions regarding CCIA's potential air cargo activity levels. Finally, based on the forecasts, plans for any required cargo infrastructure and facilities can be determined.

4.1 CCIA Air Cargo Market Area Definition

Among other factors, air cargo market areas for airports are primarily defined by the availability of cargo air services, the distance between competing commercial airports and the ability to access markets from various airports via trucks. The cargo market areas for airports are dynamic in nature depending on changes in the factors described above and the areas tend to not be mutually exclusive with overlapping borders. Given this situation, identifying the relevant market area for CCIA can be challenging and somewhat theoretical or subjective. This is particularly true for a small airport like CCIA which, historically, has had little direct air cargo service.

Typically, defining an airport's current air cargo market area can be informed by the service areas of the current major cargo service providers (e.g., UPS, FedEx, Amazon Air). These types of carriers are often able to provide inputs that can be used to establish reasonable boundaries for the airport's cargo market. Based on past projects for other small U.S. airports, Hubpoint has understood general parameters used by integrated carriers when establishing service areas around airports. All other things being equal, the Primary Market Area can often be considered an area around an airport ranging from a 1.0- to 2.0-hour drive time. Then, factors such as interstate highway access, rural / urban environments and distance to nearby commercial airports with cargo services are considered to potentially restrict or expand the drive time area in various directions. Applying these standards, the CCIA Primary Air Cargo Market Area (assuming a domestic integrated carrier service) is shown in **Exhibit 4.1.** This service area is not meant to be precise, but rather it is representative of the inputs obtained by the carriers themselves in other small airport markets. For CCIA, it is roughly defined as a 1.0 hour drive time towards San Antonio and 1.5 hour drive time to both the north and south of Corpus Christi following the Gulf Coast.

Exhibit 4.1
CCIA Primary Air Cargo Market Area



Source: Hubpoint analysis

Again, this defined Primary Air Cargo Market Area for CCIA is for a potential domestic integrated express service using mainline aircraft. As discussed earlier, the current CCIA feeder flights operated by UPS partner airlines utilize small turboprop aircraft with range and capacity limitations. Therefore, they only serve a small subset of the overall air cargo market that may be accessible with larger aircraft flying directly to national or regional cargo hubs. Other types of potential cargo services at CCIA may have different service areas depending on factors like markets served, flight frequency and aircraft size.

4.2 Demand Drivers in the Corpus Christi Market Area

Demand for air cargo services is complex and is impacted numerous direct and indirect factors. From a macro perspective, demand can be influenced by oil and fuel prices, interest rates, modal competition, trade wars and tariffs, and industry relocations. On a more local basis, demand for air cargo services is driven by both business and consumer activity in relevant market areas. Businesses often ship and receive parts, finished goods, small packages and documents utilizing air transportation. Consumers often receive small packages shipped by air.

Traditionally, air-eligible shipments tended to be high in value, relatively low in weight, and time-sensitive. While these characteristics are still generally applicable, e-commerce shipments break many of the traditional rules of air cargo. Regardless of these changing dynamics, air cargo largely remains premium-priced service, making it more relevant to certain business and consumer shipments than others.

Companies known to ship by air are often involved in the manufacture and distribution of products like electronics, computers, auto and aerospace parts, medical instruments, pharmaceuticals, precious metals and certain organic chemicals. Through interviews with local stakeholders in the Corpus Christi area, it was understood that the production of these types of goods is not prevalent in the region. While these kinds of products are utilized in some ways by area businesses and consumers, they are not yet at a quantity or profile where direct air cargo services at CCIA would be considered a necessity.

In contrast, it is clear that, from a freight transportation perspective, the Corpus Christi region is defined by the production, processing and transportation of oil and liquified natural gas. Other commodities regularly handled in the area include dry bulk cargo, such as minerals, iron ore, cement and grain. Additionally, goods related to renewable energy, such as wind turbine blades and solar farm components move via Corpus Christi. All of this activity is focused on the Port of Corpus Christi, the region's major economic driver. It is known as the Energy Port of the Americas and ranks No. 1 in the U.S. for crude oil exports, No. 2 for liquified natural gas and No. 3 for refined petroleum products. For the transportation of bulk commodities and other oversized products, the Port of Corpus Christi is supported by ocean shipping companies, pipelines and railroads.

The latest available Commodity Flow Survey (2017) reported by the Bureau of Transportation Statistics provides weight and value data for commodity shipments originating in U.S. states and metropolitan areas. **Exhibit 4.2** shows the top commodities (by value) originating from Texas and Corpus Christi and transported by any mode. These records show that many commodities originating at the state level and, more specifically, originating in the Corpus Christi region do not fit the typical characteristics of air cargo and are not air eligible (i.e. they must ship via other modes). These include gasoline, fuel oils, and petroleum products. However, other commodities that often are shipped by air (e.g., electronics, auto parts, and pharmaceuticals) are more prevalent at the Texas state level than in Corpus Christi.

Exhibit 4.2
Top Commodity Shipments Originating in Texas and Corpus Christi, Ranked by Value

Texas Commodity Description	Value (USD Millions)	Percent of Total
Gasoline and aviation turbine fuel	$228,397	14.0%
Fuel oils	$177,306	10.8%
Electronic and other electrical equipment and components, and office equipment	$137,737	8.4%
Mixed freight	$117,840	7.2%
Plastics and rubber	$107,478	6.6%
Motorized and other vehicles (includes autoparts)	$94,901	5.8%
Other coal and petroleum products, not elsewhere classified	$81,198	5.0%
Machinery	$79,835	4.9%
Pharmaceutical products	$76,933	4.7%
Basic chemicals	$73,231	4.5%
Top 10 commodities	**$1,174,856**	**71.8%**
Other commodities	$461,017	28.2%
Grand Total	**$1,635,873**	**100%**

Corpus Christi-Kingsville-Alice CFS Commodity Description	Value (USD Millions)	Percent of Total
Fuel oils	$8,619	25.5%
Gasoline and aviation turbine fuel	$6,897	20.4%
Other coal and petroleum products, not elsewhere classified	$6,588	19.5%
Basic chemicals	$5,541	16.4%
Electronic and other electrical equipment and components, and office equipment	$730	2.2%
Motorized and other vehicles (includes autoparts)	$634	1.9%
Alcoholic beverages	$511	1.5%
Other prepared foodstuffs and fats and oils	$415	1.2%
Machinery	$390	1.2%
Plastics and rubber	$382	1.1%
Top 10 commodities	**$30,707**	**90.9%**
Other commodities	$3,056	9.1%
Grand Total	**$33,763**	**100%**

Source: Bureau of the Census, 2017 Commodity Flow Survey

Alternatively, **Exhibit 4.3** shows the top commodities (by weight) originating from Texas and Corpus Christi and transported by any mode. It is likely none of these top commodities ship by air cargo as would be expected in this high weight ranking. It is notable, however that for Texas, the Top 10 by weight account for 83% of the total commodities, while Corpus Christi's Top 10 by weight represent 93% of its total. The clear interpretation of this comparative data is that the Corpus Christi region skews significantly towards bulk commodities which are not shipped by air cargo, thereby validating the findings from the stakeholder interviews.

Exhibit 4.3
Top Commodity Shipments Originating in Texas and Corpus Christi, Ranked by Weight

Texas Commodity Description	Metric Tons (thousands)	Percent of Total
Gasoline and aviation turbine fuel	396,014	23.5%
Fuel oils	318,599	18.9%
Other coal and petroleum products, not elsewhere classified	133,949	7.9%
Basic chemicals	121,144	7.2%
Non-metallic mineral products	118,766	7.0%
Gravel and crushed stone (excludes dolomite and slate)	108,349	6.4%
Natural sands	64,168	3.8%
Plastics and rubber	58,751	3.5%
Cereal grains (includes seed)	44,571	2.6%
Other prepared foodstuffs and fats and oils	35,279	2.1%
Top 10 commodities	**1,399,589**	**82.9%**
Other commodities	287,993	17.1%
Grand Total	**1,687,582**	**100.0%**

Corpus Christi-Kingsville-Alice CFS Commodity Description	Metric Tons (thousands)	Percent of Total
Other coal and petroleum products, not elsewhere classified	18,877	26.6%
Fuel oils	16,621	23.4%
Gasoline and aviation turbine fuel	13,470	19.0%
Basic chemicals	8,463	11.9%
Natural sands	4,999	7.0%
Non-metallic mineral products	1,558	2.2%
Other non-metallic minerals, not elsewhere classified	800	1.1%
Cereal grains (includes seed)	603	0.8%
Alcoholic beverages	218	0.3%
Gravel and crushed stone (excludes dolomite and slate)	210	0.3%
Top 10 commodities	**65,817**	**92.7%**
Other commodities	5,203	7.3%
Grand Total	**71,020**	**100%**

Source: *U.S. Census Bureau, 2017 Commodity Flow Survey*

The Commodity Flow Survey also provides data on the transportation modes utilized by shippers located in U.S. states and metropolitan areas. **Exhibit 4.4** show transportation modes used for shipments, in both weight and value, for Texas and the Corpus Christi region. For Texas, 68% of shipments in the state, by both weight and value, exclusively used trucks. For the Corpus Christi region, trucks exclusively carried only about 30% of shipments and the majority of shipments moved via water or pipeline (over 50% combined). These exhibits show that shipments using two modes related to air cargo – "Air (including truck and air)" and "Parcel, USPS, or courier" – accounted for relatively minor shares of the total. Again, this is expected as air cargo is a premium service mode and applies to only a small subset of commodities. With

that said, the differences between the Texas shares for air cargo shipments and Corpus Christi's shares are quite stark. In terms of shipment value, Texas' combined share of "Air" and "Parcel" modes is 11.9%, while the same combined share for Corpus Christi's air cargo shipments is just 0.9%. One interpretation of this analysis is that the Corpus Christi region uses air cargo at a rate that is 10 times less than what is seen throughout the State of Texas.

Exhibit 4.4
Weight and Value of Freight Shipments by Transportation Mode

Texas Transportation Mode	Weight		Value	
	Metric Tons (Thousands)	Percent of Total	U.S. Dollars (Millions)	Percent of Total
Single				
Truck	1,145,065	67.9%	$1,116,345	68.2%
Rail	64,775	3.8%	$35,428	2.2%
Air (including truck and air)	633	0.0%	$60,649	3.7%
Multiple				
Parcel, USPS, or courier	2,312	0.1%	$133,846	8.2%
Truck and rail	64,026	3.8%	$70,426	4.3%
Truck and water	9,640	0.6%	$20,911	1.3%
Rail and water	3,625	0.2%	$2,953	0.2%
Other				
Water	173,015	10.3%	$73,587	4.5%
Pipeline	216,345	12.8%	$120,951	7.4%
Other	8,147	0.5%	$777	0.0%
Total shipments (all modes)	1,687,582	100.0%	$1,635,873	100.0%

Corpus Christi CFS Area Transportation Mode	Weight		Value	
	Metric Tons (Thousands)	Percent of Total	U.S. Dollars (Millions)	Percent of Total
Single				
Truck	21,206	29.9%	$11,241	33.3%
Rail	-	0.0%	$0	0.0%
Air (including truck and air)	-	0.0%	$53	0.2%
Multiple				
Parcel, USPS, or courier	4	0.0%	$238	0.7%
Truck and rail	-	0.0%	$311	0.9%
Truck and water	-	0.0%	$0	0.0%
Rail and water	-	0.0%	$0	0.0%
Other				
Water	24,794	34.9%	$10,119	30.0%
Pipeline	15,161	21.3%	$7,850	23.3%
Other	9,855	13.9%	$3,951	11.7%
Total shipments (all modes)	71,020	100.0%	$33,763	100.0%

Source: *U.S. Census Bureau, 2017 Commodity Flow Survey*

As another indicator of the types of activities that may drive air cargo demand at in the CCIA area, the concentration of industries in Corpus Christi Metropolitan Statistical Area (MSA) was assessed. For the analysis, location quotients were calculated for more than 20 industries operating locally. Location quotients measure the relative employment levels for metropolitan areas by industry against national averages. A location quotient of 1.0 for a particular industry means that the industry's regional employment level compared to overall employment is equal to that of the U.S. average. Location quotients greater than 1.0 indicate regional employment for an industry exceeds the U.S. average for that industry.

Certain industries such as Transportation and Warehousing (which include logistics companies and distribution centers) are known to be correlated to air cargo demand. Other industries like Retail trade, Wholesale trade and certain types of Manufacturing can also be related to air cargo activity. The Corpus Christi location quotient for Transportation and Warehousing is 0.6, meaning that Corpus Christi's employment and activities in this sector are well below the U.S. average. Corpus Christi's Manufacturing sector also has a low location quotient of 0.6, while Retail trade and Wholesale trade are right around the U.S. average. This signifies that while the Corpus Christi region has activity in these industries, they are not overly focused or specialized in the sectors. The industries do not appear to be the major drivers of the regional economy and, by extension, their expected demand for air cargo services would likely be at, or below, the U.S. averages. **Exhibit 4.5** below shows the location quotients for the Top 20 Industries in the Corpus Christi MSA.

Exhibit 4.5
Corpus Christi MSA Employment Concentration by Industry (2022)

Industry	Location Quotient	Total Employment (thousands)
Mining, Quarrying, and Oil and Gas Extraction	4.4	6.0
Construction	2.0	27.1
Federal Civilian Government	1.6	5.7
Utilities	1.4	1.0
Accommodation and Food Services	1.3	25.2
Health Care and Social Assistance	1.2	36.3
Federal Military	1.1	2.6
State and Local Government	1.1	26.5
Retail Trade	1.0	24.1
Other Services, except Public Administration	1.0	14.2
Administrative and Waste Services	0.9	14.9
Wholesale Trade	0.9	7.0
Forestry, Fishing, and Related Activities	0.8	1.0
Real Estate, Rental and Lease	0.8	10.4
Finance and Insurance	0.8	10.8
Professional and Technical Services	0.7	13.6
Arts, Entertainment, and Recreation	0.7	3.9
Transportation and Warehousing	0.6	7.6
Farm	0.6	1.8
Manufacturing	0.6	9.1
Top 20 Total		**248.5**
Other		6.7
Total		**255.2**

Source: Hubpoint analysis of Woods & Poole Economics data

Findings from the stakeholder outreach validate several of these location quotient values. Clearly, the activity at the Port of Corpus Christi is the driver of the high “Mining, Quarrying, and Oil and Gas Extraction” location quotient. The development of many large industrial facilities occurring in the region also explains the high value for the Construction industry. One stakeholder specifically stated that companies are averse to placing distribution centers near Corpus Christi due to the threat of hurricanes and other severe weather that could impact operations of damage stored inventory. Additionally, the Corpus Christi Army Depot performs overhaul and maintenance on military helicopters, but any inbound parts or components used in those processes are managed by the Defense Logistics Agency and are not transported via commercial carriers.

4.3 Texas International Air Cargo

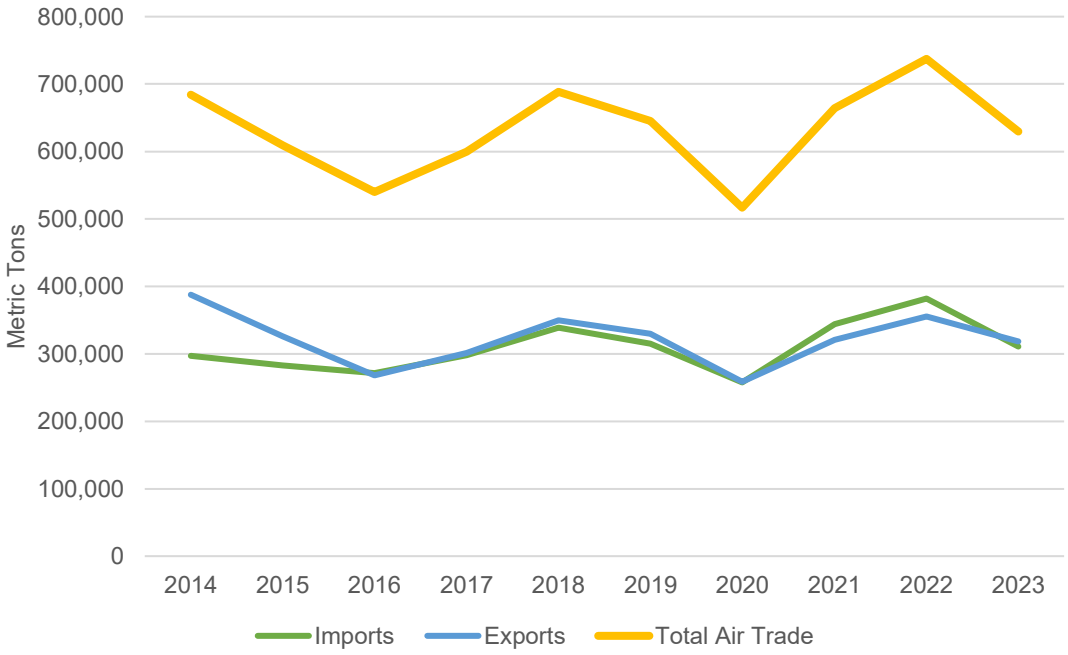
For good reason, smaller airports like CCIA first focus on domestic services when seeking to further develop their air cargo businesses. Certainly, attracting a domestic scheduled or charter operator presents a lower hurdle than attracting a carrier for international service. Still, an important component of air cargo is international trade between the U.S. and foreign countries. While the majority of international cargo travels by truck to large gateway airports, significant volumes also move on integrated express carriers via their U.S. hub airports with origins and destinations at spoke airports within their networks. Further, as discussed in Chapter 2, there are industry trends suggesting that smaller airports are becoming more relevant to international air cargo services. In this manner, international cargo can be viewed as a potential driver of demand and activity at CCIA.

International air trade statistics are reported by the U.S. Census Bureau’s Foreign Trade Division offering very good information on air imports and exports on a U.S. state and foreign country basis. For air trade, it is possible to analyze Texas’ international commodities, foreign trading partners and shipment volumes by both weight and value on a monthly basis. This complements the Commodity Flow Survey data by providing even more detail on CCIA’s air cargo market reported at regular intervals and allowing for meaningful trend analysis.

For the 10-year period (2014-2023), Texas international air trade experienced regular and significant changes in its imports and exports. The historic data shows four instances of double-digit year-over-year declines interspersed amongst four years of double-digit increases. Several of these changes appear to be explainable with U.S. trade tariffs starting in 2018, negative COVID impacts in 2020, followed by pandemic-related stimulus in 2021-2022 and finally the current down cycle in 2023-2024. See **Exhibit 4.6**.

Interestingly, Texas shows as a remarkably balanced international air trade market. Since 2016, air imports and air exports have been almost equal, even mirroring each other’s increases and decreases in annual shipment weight. Texas is consistently the No. 3 or No. 4 ranked state for international air trade weight. Therefore, in such a large market, it is not surprising to see high and fairly equal levels of both imports and exports.

Exhibit 4.6
Texas Air Trade Trends (CY 2014-2023)



Source: Hubpoint analysis of U.S. Census Bureau, Foreign Trade Statistics

Commodity detail for Texas' 2023 air imports and exports are provided in **Exhibits 4.7 and 4.8**. Air imports are dominated by traditional air cargo commodities like electric machinery, industrial machinery (computers, but also oil, gas and construction equipment), medical instruments, and plastics, representing 79% of the state's total air import weight. The state's air exports are also fairly concentrated in the Top 10 commodities representing 76% of total exports and led by industrial machinery and electric machinery.

Exhibit 4.7
Texas Top Air Imports by Weight (2023)

Rank	Commodity Imports	Air Weight (Metric Tons)	% Share of Total
1	Electric Machinery	83,267	26.8%
2	Industrial Machinery, Computers	78,696	25.3%
3	Optical, Surgical & Med. Equip	21,008	6.8%
4	Plastics	13,050	4.2%
5	Iron or Steel Articles	12,534	4.0%
6	Special Class. Provisions	10,587	3.4%
7	Fish, Crustaceans, etc.	10,311	3.3%
8	Furniture, Bedding, Light Fix	7,109	2.3%
9	Vehicles & Parts	4,810	1.5%
10	Non-Knit Apparel & Access.	4,350	1.4%
	All Other	65,316	21.0%
	Total Texas Air Imports	**311,038**	**100.0%**

Source: Hubpoint analysis of U.S. Census Bureau, Foreign Trade Statistics, CY 2023

Exhibit 4.8
Texas Top Air Exports by Weight (2023)

Rank	Commodity Exports	Air Weight (Metric Tons)	% Share of Total
1	Industrial Machinery, Computers	93,870	29.5%
2	Electric Machinery	47,978	15.1%
3	Iron or Steel Articles	22,865	7.2%
4	Plastics	22,207	7.0%
5	Optical, Surgical & Med. Equip	22,205	7.0%
6	Aircraft, Spacecraft & Parts	7,838	2.5%
7	Furniture, Bedding, Light Fix	7,498	2.4%
8	Inorganic Chemicals	6,417	2.0%
9	Fuel, Oil, Min Wax	6,290	2.0%
10	Misc. Chemical Products	6,108	1.9%
	All Other	75,059	23.6%
	Total Texas Air Exports	**318,334**	**100.0%**

Source: Hubpoint analysis of U.S. Census Bureau, Foreign Trade Statistics, CY 2023

For many decades, China has been, by far, the leading country for U.S. air trade and, therefore, it is to be expected that China is also Texas' top air trade partner for both imports and exports in 2023. Other leading countries for Texas imports, are mainly located in Europe and Asia, but India also ranks highly. Texas exports have more diverse trade partners with the UAE, Canada

and Brazil holding tops rankings along with European and Asian countries. See **Exhibits 4.9 and 4.10**.

Exhibit 4.9
Texas Air Imports by Country – CY 2023

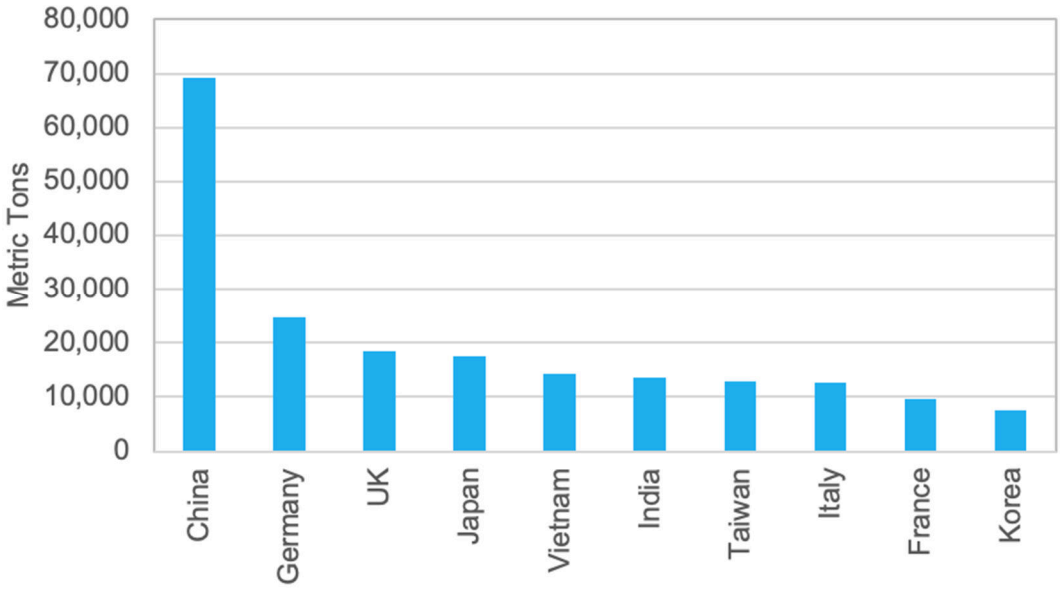
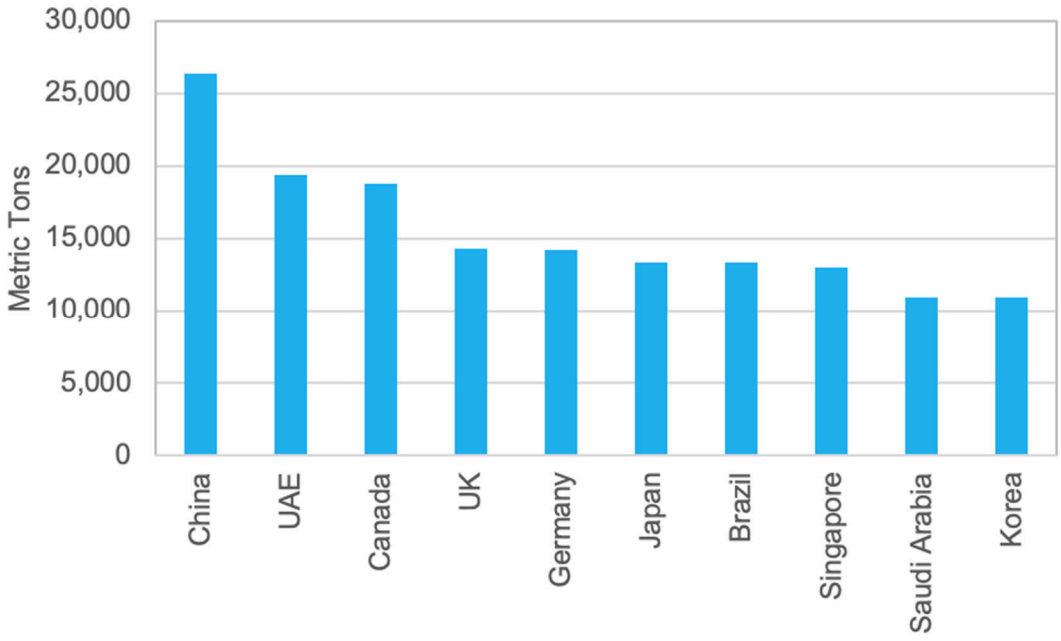


Exhibit 4.10
Texas Air Exports by Country – CY 2023

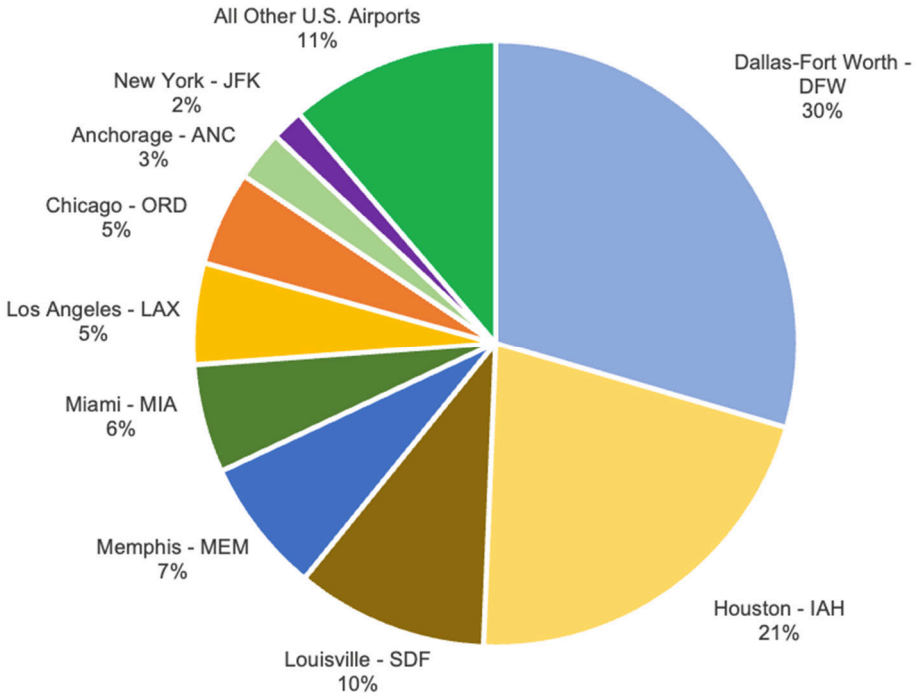


Source: Hubpoint analysis of U.S. Census Bureau, Foreign Trade Statistics, CY 2023

Insights on how international air cargo is routed to/from Texas can also be obtained from the Census Bureau's Foreign Trade data. For each state, data is available on the last U.S. airport utilized for outbound international shipments (U.S. airport of exit) as well as the first U.S. airport for inbound international shipments (U.S. airport of entry). **Exhibit 4.11** shows the distribution of Texas' international air trade (imports and exports combined) in 2023 by airport of entry/exit. In many cases, there is a single dominant airport that handles a large share of a state's international shipments. For example, international air trade for many states in the Eastern U.S. traditionally flow primarily over New York's JFK International Airport. Similarly, Midwestern states' trade routings usually flow primarily via Chicago O'Hare International Airport.

Because Texas is such a large aviation market and has two major international hubs at Dallas/Fort Worth International Airport (DFW) and Houston's George Bush Intercontinental Airport (IAH), there is more fragmentation of air trade amongst airports. DFW is the leading airport for handling Texas' international cargo with 30% of the total, followed by IAH with 21% of the total. Integrator hubs at Louisville (SDF) and Memphis (MEM) represent 10% and 7% of total international cargo, respectively. An additional 21% of Texas's international cargo is spread over 6 other large gateway airports. The remaining 11% of cargo transits multiple smaller airports. This breakdown of international cargo confirms what was observed in the prior exhibits - that Texas has a diverse group of international trading partners and the state has many choices as to how it ships to/from other countries. With two large international airports within Texas, the state captures the majority of its origin-destination cargo, but much of the state's cargo still leaks to airports in other states for a variety of reasons.

Exhibit 4.11
Texas Air Imports / Exports by Airport of Entry / Exit (CY 2023)



Source: Hubpoint analysis of U.S. Census Bureau, Foreign Trade Statistics, CY 2023

5 TEXAS AIRPORT PROFILES

Understanding the competitive environment for the Corpus Christi International Airport is important because air cargo typically moves long distances by truck to airports well away from the initial origin or ultimate destination of a shipment. This is especially true for international shipments where the ground movements are a minor portion of the overall journey. However, this practice can occur in the U.S. domestic market as well, depending on the type of shipments and the geographic locations of airports. Due to this dynamic, the catchment area for cargo is often larger and encompasses more competing airports than would typically be considered for passenger air travel.

At many U.S. airports, FedEx and UPS provide excellent services and timely access to markets across the country and around the world. Further, the integrated express services are fairly homogeneous at most spoke airports in that aircraft typically operate to and from national or regional hubs. In the case of small and/or remote markets, FedEx and UPS often utilize turboprop feeder aircraft that sync with larger jet aircraft to formally enter the express network. For these reasons, the closest airport with integrated express service is often the most likely choice for shippers.

However, for general cargo, involving many different stakeholders (e.g., freight forwarders, ground handlers, trucking companies, airlines and warehouse operators), decisions for choosing airports are much more complex and can vary widely based on critical factors like pricing, availability and quality of air services, types of aircraft and flight schedules. In addition to all-cargo services, passenger airlines often carry freight, but this is highly dependent on the type of aircraft and the type of airline. In general, regional jets have very little space or carry meaningful amounts of cargo and low-cost carriers (especially those that operate in markets on a less than daily basis) do not carry cargo.

For purposes of this study, it is appropriate to review the profiles of various Texas airports and consider how they serve the state's large and complex cargo market. Understanding the types of air services at each airport as well as the demographics and demand drivers of their respective communities is helpful in this evaluation. This will provide context for assessing CCIA's position in the air cargo ecosystem relative to other airports and can aid identification of potential opportunities and challenges for developing its cargo business. To efficiently compare and contrast the diverse Texas airports, they were grouped into four categories for air cargo: 1) Large international hub airports; 2) Mid-size airports; 3) Border area airports; and 4) Small regional airports. A map of the airports reviewed is shown in **Exhibit 5.1**.

Exhibit 5.1
Airports Reviewed for Texas Airport Profiles

Source: Hubpoint

5.1 Large International Hub Airports

Dallas/Fort Worth International Airport (DFW)

The Dallas/Fort Worth International Airport (DFW) is an FAA large hub airport located 12 miles northwest of Dallas and 400 miles north of CCIA via I-35. DFW is home to American Airlines' largest hub which operates over 800 daily departures. More than 20 airlines offer international passenger flights at DFW with scheduled service to points in Europe, Asia, Latin America, Caribbean, Middle East and Australia. Many of these flights utilize cargo-friendly widebody aircraft.

The airport also has robust freighter operations by 20 cargo airlines, serving all market segments - integrated express, e-commerce and general cargo. Airlines with regular all-cargo services at DFW include FedEx, UPS, DHL, Amazon Air, Ameriflight, Asiana, Cargolux, Cathay Pacific, China Airlines, EVA Air, Korean Air, Lufthansa, MSC, Nippon Cargo, Qantas Freight,

Qatar Airways, Singapore Airlines, and Suparna. Additionally, the airport hosts numerous charter freighter aircraft each year. DFW's international air cargo flows are dominated by Asia and Western Europe.

In addition to connectivity provided via its flight operations, DFW's north Texas location allows for efficient omnidirectional access to cargo markets across the U.S. via interstate highways used by dozens of trucking companies. This location has also made the Dallas-Fort Worth metro area a multimodal freight transportation and logistics center with significant activities in the manufacturing, distribution and warehousing sectors. Importantly, many of the commodities shipping to and from the DFW metro area are air-eligible with low weight, high-value and time-sensitive characteristics. Shipments of electronics, telecommunications, auto parts, pharmaceuticals, e-commerce and oil and energy equipment commonly transit the airport.

In 2022, DFW ranked 10th among North American airports in air cargo tonnage according to ACI-NA data, with over 330,000 metric tons of international freight, 430,000 metric tons of domestic freight and 53,000 metric tons of mail. Finally, the Dallas-Fort Worth-Arlington, TX MSA ranks as one of the largest metro areas in the country by population. It includes a 2023 population of 8 million with a gross regional product of $544.7 billion and a per capita income of $74,901.

Houston George Bush Intercontinental Airport (IAH)

The Houston George Bush Intercontinental Airport (IAH) is an FAA Large hub located 15 miles from Houston and 250 miles northeast of CCIA. United Airlines operates its third largest hub at IAH, trailing only its Chicago O'Hare and Denver hubs in terms of scheduled flights. Currently, United has almost 500 daily departures from IAH, with almost 100 of those to international destinations. Other passenger airlines at IAH operate another 30 or so daily international flights. IAH international passenger flights are heavily concentrated to Mexico and Latin America, but there are frequent nonstop flights utilizing widebody equipment to Europe, Asia, and the Middle East as well.

Airlines operating freighter aircraft at IAH include DHL, FedEx, UPS, Amazon Air, CAL Cargo, Cargolux, Cathay Pacific, Emirates SkyCargo, Lufthansa, Qatar Airways, SilkWay West, and Turkish Cargo. Much of the international cargo at IAH is related to the major driver of Houston's economy – the energy sector, particularly the oil and gas industry. Typical commodities flowing through IAH include valves, pumps, machine parts and special tools. Other major industries in Houston that generate demand for air cargo services include health care, biomedical research, and aerospace. Freight transportation in the region extends beyond air cargo to container shipping, railroads, and trucking. The Port of Houston is the fifth ranked container port in the U.S. and the Houston Ship Channel is the top waterway in the country in terms of waterborne tonnage. As a result, foreign trade and logistics activities are prevalent in the Houston metro area.

In 2022, IAH ranked 16th among North American airports in air cargo tonnage according to ACI-NA data, with over 200,000 metric tons of international freight, 317,000 metric tons of domestic freight, and 24,000 metric tons of mail. In terms of demographics, the Houston-The Woodlands-

Sugar Land, TX MSA has a population of 7.4 million with a gross regional product of $501 billion and a per capita income of $73,327.

5.2 Mid-size Airports

Austin-Bergstrom International Airport (AUS)

Based on passenger activity, Austin-Bergstrom International Airport (AUS) is classified as an FAA large hub airport, but for cargo activity it is a mid-size airport. It is located 7 miles from downtown Austin and 200 miles north of CCIA. AUS currently has scheduled passenger service by 19 airlines, 8 of which are foreign-flag carriers flying to markets like Mexico, Canada, Europe and Central America. The largest carrier is Southwest (representing over 40 percent of AUS departures), followed by American, Delta and United (collectively accounting for almost 50 percent of AUS departures). The vast majority of U.S. passenger airlines operating at AUS use narrowbody aircraft with attractive belly capacity for the domestic market. British Airways, Lufthansa and KLM all operate widebody aircraft with excellent belly cargo capabilities to Europe multiple times per week.

Scheduled cargo airlines operating at AUS include FedEx, UPS, DHL and Amazon Air. In 2023, these airlines carried over 90,000 metric tons at AUS with almost 6,000 aircraft operations. In addition to the scheduled cargo carriers, AUS has occasional charters from airlines like Cargolux, USA Jet and IFL Group. Key industries located in the Austin area such as semiconductors, electronics, automotive, and aerospace ship products and components via air cargo. The region is also home to multiple large-scale e-commerce fulfillment and distribution centers.

In terms of demographics, the Austin–Round Rock–San Marcos, TX MSA has a population of 2.4 million with a gross regional product of $168 billion and a GDP per capita of $76,922. In 2022, AUS ranked 39th among North American airports in air cargo tonnage according to ACI-NA data, with over 8,000 metric tons of international freight, and 129,000 metric tons of domestic freight.

San Antonio International Airport (SAT)

The San Antonio International Airport (SAT) is an FAA medium hub airport located 10 miles from downtown San Antonio and 150 miles northwest of CCIA. SAT's passenger air service is robust and very similar to that of AUS, with the exception of flights by foreign flag carriers to Europe. Southwest is SAT's major carrier with 36 percent of departures and network carriers (American, Delta, United) account for an additional combined 47 percent of capacity. U.S. low cost carriers and Mexican carriers make up the remainder of scheduled operations. The majority of flights at SAT utilize narrowbody equipment, though the airport does have more regional jet operations than AUS.

Scheduled cargo airlines operating at SAT include FedEx, UPS, and DHL. UPS feeder airline Ameriflight also operates flights from SAT to 6 Texas airports, including CCIA. Notably, Amazon

Air does not operate at SAT, but for many years had used nearby Kelly Field which it recently exited. San Antonio is home to several industries that typically ship by air cargo, including automotive, electronics, and aerospace.

In terms of demographics, the San Antonio-New Braunfels, TX MSA has a population of 2.6 million with a gross regional product of $133.5 billion and a GDP per capita of $58,959. In 2022, SAT ranked 42nd among North American airports in air cargo tonnage according to ACI-NA data, with over 5,000 metric tons of international freight, 87,000 metric tons of domestic freight, and 29,000 metric tons of mail.

5.3 Border Area Airports

El Paso International Airport (ELP)

The El Paso International Airport (ELP) is an FAA small hub airport located on the U.S.-Mexico border in West Texas. As with AUS and SAT, ELP's largest passenger carrier is Southwest, followed by American and United. All other passenger airlines have modest levels of service at ELP. Scheduled cargo operators at ELP include FedEx, UPS and DHL. In addition to these scheduled services, ELP experiences significant charter activity from U.S. and Mexican cargo carriers flying goods across the border, usually to points in the interior areas of the two countries.

Given its remote location, air cargo serves a critical role in connecting El Paso to domestic and international freight markets. Although El Paso is not a major manufacturing center, its location on the border makes it an important logistics center. There are six international bridges connecting El Paso to Ciudad Juarez and, in 2023, close to $100 billion of goods were processed at these points of entry. This ranked El Paso as the second highest port of entry for U.S.-Mexico trade, trailing only Laredo. Nearshoring trends are adding to the cross-border trade levels and, currently, demand for warehouse space in the El Paso area is well in excess of supply.

Commodities associated with the automotive industry generate the majority of air cargo at ELP, but there is significant volumes of electronics, high tech, medical equipment, electrical components and e-commerce that move through the airport as well. To transport these goods at ELP, FedEx primarily utilizes A300 and B767 freighters; UPS operates A300, B767 and B757 freighters and DHL uses B767 freighters.

El Paso is the sixth largest metropolitan area in Texas, with a population over 800,000.

Laredo International Airport (LRD)

The Laredo International Airport (LRD) is an FAA non-hub airport located on the U.S.-Mexico border in South Texas. LRD has modest levels of passenger air service with regional jet service by American and United. Also, Allegiant offers low fare service at LRD. None of these passenger services carry a meaningful amount of cargo.

Similar to ELP, scheduled cargo operators at LRD include FedEx, UPS and DHL. At LRD, FedEx typically operates 2 daily departures while UPS operates 1 daily departure. Both carriers primarily utilize A300 and B757 freighters. These carriers not only serve the local market demand for business, residential and e-commerce shipments, but they also serve industrial customers associated with manufacturing operations in Mexico

Due to LRD's 24/7 U.S. Customs capabilities and efficiency in clearing air cargo transiting the U.S.-Mexico border, the airport experiences even higher levels of cargo charter activity than ELP. Additionally, LRD has a unique Dual Customs capability whereby Mexican Customs officials work from LRD on a daily basis enabling shipments bound for Mexico to effectively pre-clear before entering the country. Upon arrival in Mexico, these goods can immediately exit the airport for their final destination without further inspection which greatly reduces delays. Multiple U.S. and Mexican carriers operate charter cargo flights for customers at LRD to/from Mexico as these carriers rely on easy and quick access to LRD's facilities to respond to manufacturers' needs on a moment's notice. These carriers typically stage aircraft at LRD awaiting customer directives related to emergency shipments, mainly for the automotive industry. The charter operators serve a valuable role in the supply chain because they enable production lines to stay open when inventories are low or a problem arises with parts on-hand at assembly plants.

5.4 Small Regional Airports

Midland International Airport (MAF)

The Midland International Airport (MAF) is an FAA non-hub airport located in West Texas approximately 330 miles from Dallas and 300 miles from El Paso. MAF currently averages 32 daily departures by passenger airlines. Southwest supplies almost 50 percent of the seats in the market with the remainder split between American, Delta and United. With the exception of Southwest, all passenger operations utilize regional jet aircraft. Cargo flights are operated by FedEx and UPS with feeder aircraft. At MAF, FedEx feeders fly an average of 2 daily flights to its Fort Worth Alliance hub, sometimes routing via Lubbock. UPS feeders also average 2 daily flights to San Antonio with some operations cycling through CCIA.

Rick Husband Amarillo International Airport (AMA)

The Rick Husband Amarillo International Airport (AMA) is an FAA non-hub airport located in the panhandle region of Texas approximately 360 miles from Dallas-Fort Worth and 250 miles from Oklahoma City. AMA currently has about 15 daily departures by its passenger airlines, Southwest, American and United. Like MAF, Southwest offers approximately 50 percent of the seats at the airport. Regional jet service is operated by American to DFW and by United to Houston and Denver. Additionally, UPS operates feeder aircraft at AMA to Dallas with about 2 flights per day.

5.5 Summary

The State of Texas encompasses almost every class of cargo airport and they can be grouped into distinct categories. Reviewing the characteristics of these airport categories provides good perspective on the types of cargo services available and how airports interact with their cargo markets. Importantly, this review reveals the need for airports to establish an air cargo identity or niche that meets specific needs of the air cargo community.

- Large International Hub Airports, with their frequent widebody passenger and freighter services, are particularly adept at handling high levels of international cargo volumes. These airports not only serve their local communities, but also broader regional markets and large swaths of the U.S. as well. They are supported by many freight forwarding companies which consolidate freight at large airports as well as top tier ground handlers with expertise in handling every kind of commodity.

- Mid-size Airports focus on local and regional air cargo demand, usually with domestic belly cargo capacity and good mainline integrated express services to multiple hub airports.

- Border Area Airports are located in small- or medium-size cities, but the primary driver of air cargo demand relates to their proximity to Mexico, which is a large industrial freight market with robust inbound and outbound volumes.

- Small Regional Airports offer connections to large or mid-size airports via feeder aircraft and passenger belly capacity in order to move their most critical cargo. Alternatively, general cargo (handled by freight forwarders) or deferred shipments (handled by integrated carriers) often bypass these small airports and truck cargo directly to large or mid-size airports where a variety of air cargo services are available.

Exhibit 5.2
Texas Airport Profiles Summary

	Metro Area					Nearest Large Metro		
Origin Airport Code	Metro	Metro Population (thousands)	Per Capita Income	Gross Regional Product (Millions)	Total Cargo 2022 (Metric Tons)	Nearest Large/Med US Metro	Drive to Center (Miles)	Drive Time to Center
Large Airports								
DFW	Dallas-Ft Worth	7,988	$ 74,901	$ 544,652	818,933	Dallas TX	19	21m
IAH	Houston	7,415	$ 73,327	$ 500,977	542,072	Houston TX	22	25m
Medium Airports								
AUS	Austin	2,445	$ 76,922	$ 167,893	140,744	Austin TX	7	16m
SAT	San Antonio	2,673	$ 58,959	$ 133,516	121,639	San Antonio TX	10	16m
Border Airports								
ELP	El Paso	888	$ 47,345	$ 33,470	87,982	Albequerque, NM	273	4h 0m
LRD	Laredo	275	$ 44,313	$ 10,231	27,884	San Antonio, TX	157	2h 38m
Small Airports								
MAF	Midland	178	$ 181,964	$ 21,600	3,792	Ft Worth, TX	311	4h 30m
AMA	Amarillo	273	$ 59,735	$ 13,900	135	Oklahoma City, OK	254	3h 35m
CRP	Corpus Christi	428	$ 58,322	$ 21,903	585	San Antonio, TX	143	2h 0m

Source: Hubpoint analysis of Woods & Poole Economics data 2022, ACI-NA data, U.S. DOT, Corpus Christi International Airport General Activity Reports, and Google Earth

6 ASSESSMENT OF SELECT U.S. AIR CARGO OPERATORS

6.1 Introduction

For most small U.S. airports, there is a short list of relevant all-cargo carriers that could regularly operate at their facilities. This group includes the U.S. integrated express carriers UPS and FedEx, foreign integrated express carrier DHL, and e-commerce carrier Amazon Air. In some ways, these air carriers are very similar, but they have unique characteristics as well. A brief overview of each air carrier is provided below along with assessments of their current strategies and relevance to Corpus Christi International Airport.

6.2 FedEx Express

FedEx Express is one of many units of FedEx Corporation and is primarily responsible for operating the air transportation division. It serves over 650 airports worldwide with a fleet consisting of over 400 large jets and over 300 smaller turboprop feeder aircraft. In the U.S., FedEx Express operates a Superhub in Memphis and several regional hubs, including the Southwest Hub at Fort Worth Alliance Airport.

In 2022, FedEx Corporation announced its “Drive” initiative – an aggressive cost-cutting plan impacting almost every area of the company, including staffing, aircraft fleet, capital spending and facilities. Concurrently, a massive restructuring is underway which will bring FedEx Express, FedEx Ground and several other operating companies into a single combined company. The consolidated company is meant to simplify customer experiences, improve efficiencies, lower costs and increase profitability.

Meanwhile, the end of the USPS contact and the continued down cycle in air cargo activity is challenging the company and forcing change. While FedEx is making progress with cutting costs and improving its financials, the end result of the transformed company unclear. In the air Express group, several large freighter aircraft have been grounded or retired in response to lower package volumes. At the same time, FedEx and its partner carriers are increasing their feeder aircraft deliveries as part of a long-planned fleet renewal program.

Under the new, evolving structure, the company is expected to continue placing emphasis on moving more packages on trucks and less on airplanes in the U.S market. Therefore, it is likely that many airports will experience decreased flight activity by FedEx and some airports may even lose service completely. Clearly, FedEx is currently more focused on reducing its flight operations overall and is not expected to add new airport stations to the U.S. network in the foreseeable future.

6.3 UPS

Like FedEx, UPS has several different divisions, including U.S. Domestic, International and Supply Chain Solutions. UPS Airlines services each of these divisions and is headquartered in Louisville, KY where it operates the Worldport Hub. UPS serves approximately 375 U.S. airports and over 350 international airports. Its fleet consists of 294 UPS jet aircraft and 255 chartered

aircraft (including turboprop feeders). UPS maintains several regional hubs at U.S. airports, including Dallas-Fort Worth International Airport.

UPS began a corporate initiative called the Total Service Plan in 2022. This strategy is designed to promote network efficiencies, reduces costs and improve customer service levels. One element of the plan is aimed at reducing flight hours of UPS aircraft. This has been particularly important as e-commerce activity continues to lag. Further, the company has had a moratorium on capital spending at its airport facilities for several years. Similar to FedEx, it appears that UPS has prioritized cost-cutting at its air operation to improve profitability as cargo activity languishes.

UPS continues to be aligned with Amazon.com for its e-commerce deliveries, even as Amazon operates its own air network and sells space on its aircraft to third-party shippers – effectively competing with UPS and other transportation providers. In 2019, FedEx proactively ended its relationship with Amazon. UPS's partnership with Amazon may ultimately come to an end at which time UPS Airlines could find itself with too much capacity for the volume it handles.

As discussed in Chapter 2, the new USPS contract is being viewed very positively within UPS. Perhaps the increased mail volumes are even being seen as a potential backstop of demand should the work with Amazon decline or end someday. It is too early to understand the impact of the mail contract on UPS airport operations, but details should be forthcoming by late Summer 2024.

With respect to CCIA and the current feeder flights by Ameriflight and Martinaire, there does not appear to be momentum to overhaul the UPS feeder network and operations. The feeder flights enable UPS to efficiently serve customers in remote markets and to also sell its premium next day, time-definite services in smaller markets where UPS does not have mainline jet service directly to hub airports. Further, the feeder markets tend to not have any significant airport facility or staffing costs associated with them, so they likely avoid being targeted for service reductions or cost cutting.

6.4 DHL Express USA

DHL is a German company and is part of the logistics firm Deutsche Post. DHL Express USA is owned by the German parent company and manages the air and express network related to the U.S. market. Although DHL Express operates in the U.S. market, as a foreign entity, it cannot serve domestic aviation routes. In 2003, DHL acquired Airborne Express and contracted with other airlines in order to compete with FedEx and UPS in the domestic U.S. express logistics market. By 2009, the experiment had failed and DHL exited the domestic market. However, DHL still maintained its services in the U.S. for international shipments.

Currently, all of DHL's service involving air transportation within the U.S. market are flown under contract by U.S. air carriers. For instance, DHL's flights between Phoenix and its Cincinnati/Northern Kentucky International Airport (CVG) hub are operated by U.S. airline ABX Air. Importantly, DHL-branded flights between two U.S. points cannot serve the local domestic market, but rather they are utilized to pick up and deliver freight associated with international

markets. At CVG, DHL flights departing for Europe can be operated by both foreign-flag and U.S. airlines.

For U.S.-international markets, DHL Express is particularly active in shipping e-commerce packages as well as industrial goods like automotive parts and electronics. Given the arrangement with air carrier partners in the U.S., DHL Express typically operates large jet aircraft, particularly B767 and B777 freighters. Heavy freight customers are serviced through DHL Global Forwarding (one of the world's largest freight forwarding companies) which has offices in many U.S. cities.

In contrast to both FedEx and UPS, DHL Express USA has recently reported that its e-commerce and express shipments remain in a growth mode and that no major cost cutting has been required to date. Of course, this situation may be mostly a function of the U.S.-international markets DHL Express serves versus heavy exposure FedEx and UPS have to the domestic U.S. market. DHL Express typically serves larger U.S. airports or airports with a particular industrial niche (e.g. border airport El Paso with regular shipments to/from Mexico maquiladoras). Growing services to smaller airports like CCIA does not appear to be in DHL's immediate plans.

6.5 Amazon Air

As mentioned previously in this report, Amazon Air initiated U.S. services in 2016 and since then has grown its fleet to approximately 90 aircraft service almost 50 U.S. cities. The current freighter fleet consists of B767s, A330s and B737s. Most aircraft are owned by contracted air carriers that have partnered with Amazon. Initially, Amazon Air was wholly dedicated to serving its parent company's e-commerce shipments. However, as the air operation has matured (and e-commerce growth has slowed), Amazon Air is now flying some mail for the U.S. Postal Service as well as other third-party shippers. Even with this diversification of services, Amazon Air is primarily focused on moving packages for Amazon.

The fairly recent elimination of ATR-72 turboprop freighters from the Amazon Air fleet potentially signals that small markets are no longer viable service points for Amazon. When Amazon Air exited markets like Omaha, Des Moines and Wichita which had been ATR-72 markets, it did not backfill the service with other aircraft. Further, it has been well over one year since Amazon Air added a new U.S. airport to its network. Representatives of Amazon Air state that they are always looking at new airports in the U.S., but also concede that under the current Amazon strategy, developing a regional approach to logistics focused on trucking is the priority.

Finally, based on research and analysis of the Amazon Air network, Hubpoint has identified several criteria that are considered for airports to attract service. While the criteria are flexible in some ways, they provide a baseline for understanding an airport's eligibility for inclusion in the Amazon Air network. The common criteria for airport selection include:

- Presence of existing Amazon fulfillment center(s) in close proximity to an airport
- Proximity to other airports already served by Amazon Air
- Strategic geographic location and efficient access to many markets

- Airport-specific capabilities (including CAT III ILS and ability to handle Group IV aircraft)
- Lack of environmental entitlements and shovel-ready on-airport sites
- Access to a significant labor force
- Risk-sharing and airport incentives

7 SWOT ANALYSIS

7.1 Introduction

An analysis of the Corpus Christi International Airport's **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats ("SWOT") related to air cargo is a useful tool to identify areas where the Airport may focus attention to ensure the success of its air cargo business. On the following page, a SWOT matrix is presented to summarize each element. Notably, Strengths and Weaknesses are considered to be Internally-oriented – meaning they can be influenced by the Airport or they relate to factors on or near the Airport. On the other hand, Opportunities and Threats are considered to be Externally-oriented – meaning they are largely outside the direct influence of the Airport and relate more to the macro-environment.

7.2 Air Cargo SWOT Analysis Matrix for the Corpus Christi International Airport

STRENGTHS	WEAKNESSES
• Long-standing cargo services by UPS feeders • Existing passenger belly cargo capacity and on-airport handling company • Efficiencies from uncongested airport environment • Available airport land for cargo-related development • Runway length able to accommodate mainline cargo aircraft • Available ramp space for cargo aircraft parking and cargo handling • 24/7 airport operations, no noise restrictions, U.S. Customs on-airport • Nearby access to interstate highway system (I-37) • Airport management supports growing air cargo activity	• No available dedicated cargo facility for potential new operators • No standalone belly cargo facility • Lack of belly cargo capacity on regional jets serving CCIA • Geographic location on Gulf Coast prevents omni-directional market access • No existing cargo equipment or trained staff to handle larger freighter aircraft • No local presence of air freight forwarding companies
OPPORTUNITIES	**THREATS**
• Build upon existing UPS feeder service to obtain additional feeder aircraft frequencies and capacity • Pursue UPS potential interest in adding new jet service operation at CCIA • Potential to attract additional mainline passenger aircraft service with associated belly cargo capacity • Potential for charter cargo services to serve ad hoc needs of oil and gas sector, Port of Corpus Christi, etc.	• Close proximity to large and mid-size airports (SAT and IAH) with robust air cargo services • No major manufacturer of air-eligible commodities in Corpus Christi region • Lack of distribution centers and non-bulk cargo logistics activities • Current FedEx and UPS initiatives emphasize cost-cutting and reducing domestic air operations • FedEx Express combining with FedEx Ground likely leads to reductions in existing domestic flight operations • No large Amazon fulfillment centers in close proximity to CCIA • Current Amazon regional logistics strategy focuses on trucks, not air cargo

8 SYNTHESIS

Based on the findings of this Air Cargo Master Plan Study, the near-term prospects of a cargo carrier with true freighter aircraft starting service at the Corpus Christi International Airport are mostly challenged by external conditions.

Internally, the Airport may, at some point, need to solve for some of the Weaknesses in its control and as described in the SWOT analysis. However, these are not judged to be prohibitive to an air cargo carrier entering the market and operating at CCIA.

Externally, the Corpus Christi region presents numerous challenges to the attraction of a freighter operator. These include the lack of meaningful air cargo demand drivers and focus on bulk freight transportation, close proximity to larger airports offering high levels of air cargo services, and current strategies of integrated carriers away from expanding air operations. Further, certain air cargo opportunities for CCIA require enabling events to occur before air cargo demand materially increases. These events include the development of large e-commerce fulfillment centers, attraction of regional distribution centers and warehousing related to air-eligible commodities, and increased regional consumer activity driven by population and income growth.

8.1 Outlook for Dedicated Air Cargo Operations at CCIA

For this study, the consulting team made specific outreach to each of the carriers described in Chapter 6 regarding the potential of future direct services at CCIA. Inputs were successfully obtained from UPS and Amazon Air. Unfortunately, neither FedEx nor DHL was able to share any information on their future operations and potential for new airports in their networks.

In the Landrum & Brown Air Cargo Assessment from 2021, there was mention of past consideration by UPS to open a full station at CCIA using mainline aircraft rather than feeders. Initial interest ended with a strategic decision to not pursue a CCIA station. Then, in 2019, CCIA was again listed as a potential new airport for UPS along with several other domestic airports. CCIA appeared to be positioned for a favorable decision from UPS, but all planning stopped once the pandemic began and UPS had not revisited the CCIA opportunity at the writing of that report.

Hubpoint established contact with the primary UPS manager overseeing the area of Texas which includes Corpus Christi. After summarizing the past Landrum & Brown findings related to UPS consideration of a new station at CCIA, the UPS manager checked internally with other teams. The response was that UPS may again be considering a direct CCIA operation, however, no further details were available at this time. The UPS manager stated that he would keep tracking decisions related to CCIA and remain in contact as news was available for dissemination.

Given the many changes particularly related to the integrated carriers recently, this feedback from UPS seems quite positive. Further, it comes in an environment where the CEO of UPS still has a moratorium on new capital expenditures at airports (as was also mentioned in the

Landrum & Brown report). At the very least, it is reason to follow-up with the carrier in the near- to medium-term to understand additional details and perhaps steps the Airport may take to influence the decision-making process. These issues may relate to airport operating costs, facilities/infrastructure, equipment and staffing. With the response from UPS, it may be possible that decisions regarding additional UPS airports, including CCIA, are related to the new USPS mail contract and how UPS can directly cover many of areas of the country that may not have been necessary in the past.

Hubpoint's communications with Amazon Air representatives regarding the potential for future CCIA services yielded less input. Amazon Air has no current or foreseeable interest in serving CCIA and they provided insights on their rationale for this position. The e-commerce air carrier currently operates out of three major sites in Texas (AFW, IAH, AUS) and the Corpus Christi area is well-served via IAH where there is a large scale of flights. Further, it was mentioned that Amazon Air finds it difficult to operate at coastal sites due to lack of omnidirectional market access, particularly those that do not have very high population levels. The representative then shared that the Amazon.com parent company was still focused on developing its regional logistics operations where lower cost trucking will reduce the reliance on shipping by higher cost air cargo.

Finally, as stated above, there are no large Amazon fulfillment centers close to CCIA and the local delivery station in Corpus Christi (known as WTX5) is only responsible for so-called "last mile" services, not the high volume inbound and outbound activity of much larger facility necessary to support an air operation. These delivery stations typically serve a radius of no more than 45 miles and are often staffed by outsourced partners of Amazon.

9 Air Cargo Forecasts

Alternative Approaches to Air Cargo Forecasting

The air cargo forecasts for Corpus Christi International Airport result from analysis of historic cargo-related operations at the Airport as well as research indicating the potential for new cargo services. Based on prior experience at other airports, air cargo forecasts for individual airports (especially those that are not major cargo gateway airports) are often best formulated using a service-based approach or a scenario-based approach.

A service-based approach to air cargo forecasts is established under the premise that airports can only realize cargo volumes to the extent that adequate supply of air cargo capacity (from air carriers) is present and available at those airports. In fact, for an airport level forecast, supply of air cargo capacity is just as important as the “demand-pull” created by economic growth and activity. For the service- based approach, estimates of future aircraft operations (both passenger and all-cargo operations) are required to impute air cargo tonnage on those flights. The future aircraft operations are a function of historical operations at the airport as well as any forward-looking information regarding demand and related possible net new operations or anticipated changes in the profile of existing operations. The summation of cargo tonnage via this methodology, along with other assumptions and analyses, produces an airport-level air cargo forecast.

A scenario-based approach to air cargo forecasts is similar to the service-based approach, but is particularly useful for airports with little history with air cargo operations and for airports pursuing specific types of air cargo development that have particular profiles from the perspective of airline operations and service patterns. As the name implies, the scenario-based approach relies on the definition of specific cargo-related scenarios at airports (including assumptions of operational details and service development over time) and the cargo volumes associated with those scenarios. While this approach can be seen as somewhat prospective, its value from a planning perspective lies in quantifying possible levels of cargo activity should those types of scenarios come to fruition. From this standpoint, it is important to ensure that the scenarios are as realistic and informed as possible, but for planning purposes, also encompass a wide-range of possible cargo air service development environments that could be experienced by an airport during the forecast period.

Notably, both of these approaches to air cargo forecasts have been utilized in Master Plans for U.S. airports over the past 20 years, either as standalone forecasts or to supplement Baseline forecasts developed via traditional methods. In each case, the FAA has accepted and approved the forecasts. It is especially important to consider these approaches to cargo forecasting due to the extraordinarily dynamic nature of the air cargo industry. In recent years, the COVID-19 pandemic led to large increases in overall air cargo activity, but coming out of the pandemic, volumes normalized. Currently, the down market for air cargo in the domestic U.S. market has many markets below pre-COVID levels of tonnage. However, the air cargo industry is cyclical and net growth is expected to return.

The consulting team developed the CCIA forecasts using a combination of the service-based and scenario-based approaches. This enabled full consideration of the historic cargo activity at the Airport, while also bringing in forward-looking scenarios that were validated by research. In particular, the potential of UPS upgrading to jet service at CCIA was viewed as viable after obtaining inputs directly from the company.

The following sections describe the forecast background, methodology, assumptions, and output for the two cargo segments at CCIA – integrated express cargo service by UPS and belly cargo services by passenger airlines. For the UPS services, the substantive quantitative output relates to annual air cargo tonnage and annual operations by type of aircraft. For belly cargo services, the aircraft operations are driven by the expected passenger demand, so only the cargo tonnage element is addressed here.

9.1 Air Cargo Forecast: UPS Feeders and Jet Service Entry

During the forecast period (2025-2044) for CCIA, it is anticipated that UPS will continue to serve the Corpus Christi market with feeder flights in the initial years and then transition to larger jet aircraft operations. This outlook is based on recent input from UPS headquarters which confirmed interest remains in upgrading the CCIA station to jet service. It also further validates earlier findings that, prior to the COVID-19 pandemic, CCIA had been on a short list of potential new UPS markets for jet service. While UPS was unable to provide additional details on their plans for CCIA, for purposes of this forecast, we assume the start of jet service in the medium-term (2030).

Although UPS has a mature U.S. air network, it continually evolves with different aircraft fleets, airports served and strategic focus. Texas is an important market for UPS and the company has regular jet service at seven Texas airports – more than any other state in the country. UPS also maintains its Southwest Region Air Hub at Dallas-Fort Worth International Airport (DFW). As mentioned previously, it is possible that the new mail contract with the U.S. Postal Service is leading UPS to refine its air network and add airports in order to meet USPS requirements and standards. Notably, FedEx (the long-time primary air carrier for the USPS) has always been much more focused on air transportation than UPS. Therefore, it seems logical that UPS may have to invest in and expand its air network over time to accommodate the new mail volumes.

As CCIA moves from a feeder aircraft market to a jet market for UPS, it is expected that the current cargo volumes related to the Corpus Christi area which UPS currently trucks to San Antonio and other airports will begin to use CCIA instead. Further, it is envisioned that the service area for CCIA will widen as UPS seeks to maximize use of the jet aircraft. Serving additional regional markets beyond just the Corpus Christi metropolitan area would aid in accomplishing this objective.

With this background, the CCIA air cargo forecast related to UPS was developed. The approach and major assumptions are detailed below. They are based on research and analysis of historical activity at CCIA as well as UPS air operations in the U.S. Wherever possible, peer airports for CCIA were used as proxies for how UPS may operate at the Airport over time.

Key assumptions of the UPS air cargo forecast for CCIA include:

- CCIA's UPS feeders operated by Ameriflight and Martinaire will continue at their current levels of activity and use the same types of aircraft (particularly the Beechcraft 1900) through the end of 2029.
- Growth of tonnage is dictated by a return to historical cargo tonnage norms which have not been realized since the pandemic.
-
- UPS initiates jet service at CCIA with B757Fs in full year 2030 and continue through the end of the forecast period in 2044.
- These B757F flights will operate directly between CCIA and the UPS main hub at Louisville.
- Service operates five flights per week in each direction on weekdays throughout the year (i.e. 5 arrivals and 5 departures)
    - Note that UPS often uses trucking to serve markets on Monday mornings and Friday evenings. The weekend allows time for trucks to replace more expensive aircraft for linehaul movements. In order for aircraft to serve markets with Monday evening departures, aircraft are repositioned to airports over the weekend or on Monday afternoon.
- For Tuesday through Thursday flights, the B757F will arrive at CCIA in the early morning and stay on the ramp all day until the evening departure. This operational pattern is consistent with some other smaller markets that UPS serves with B757Fs.
- The B757F is assumed to operate 525 total flights (i.e. arrivals and departures combined) through the end of the forecast period in 2024. This total allows for certain number of peak period flights in addition to the regularly scheduled flights.
- Annual tonnage is derived by applying average cargo tons per flight to each B757F operation.
- Research of UPS flight operations in the U.S. found some consistency among markets for the average cargo carried per flight and these relationships were applied to the CCIA case.
- In the first year of jet service (2030), the tons per flight starts at the lower range of historical UPS operations. Then, through the remainder of the forecast period, the tons per flight increases to the level of the 33rd percentile of UPS markets with jet service.

From an operations perspective, the UPS results in the annual combined aircraft departures and arrivals shown in **Exhibit 9.1**.

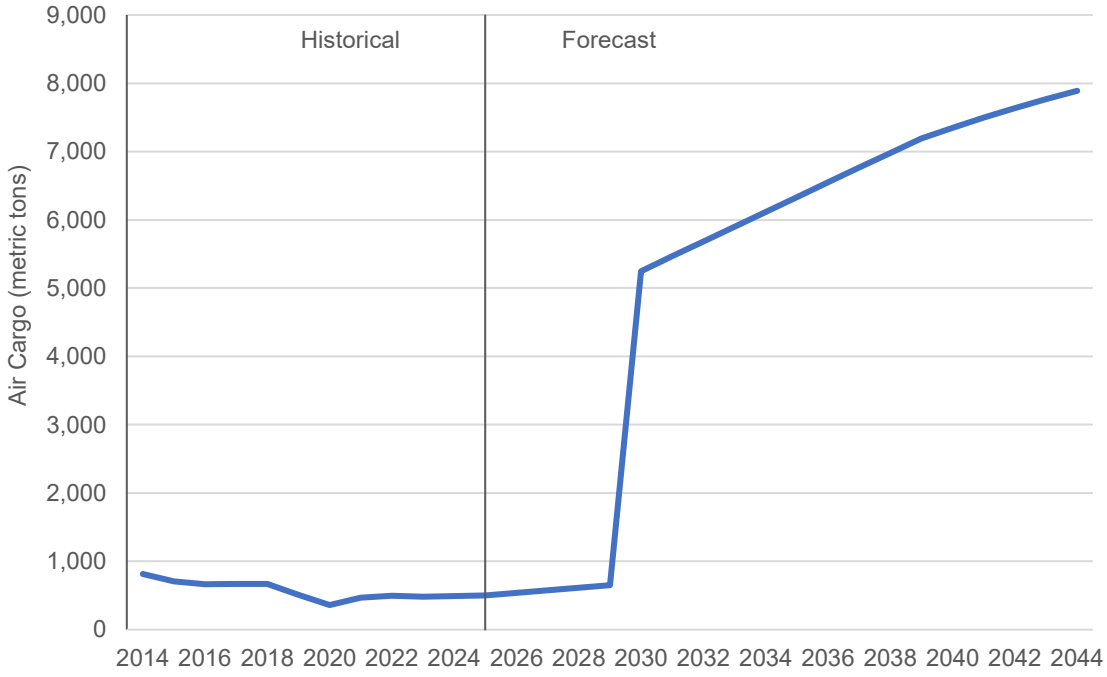
Exhibit 9.1
CCIA Annual Aircraft Operations Forecast - UPS

	2025-2029	2030-2044
Beechcraft 1900	525	0
Boeing 757F	0	525

Source: Hubpoint analysis

The tonnage forecast for cargo on UPS flights (feeders and jets) at CCIA is depicted below in **Exhibit 9.2**. This shows air cargo tonnage carried by feeder aircraft growing from 500 metric tons in 2025 to 650 metric tons in 2029. Then, CCIA tonnage carried by UPS jets grows from 5,250 metric tons in 2030 to 7,887 metric tons in 2044.

Exhibit 9.2
CCIA Air Cargo Tonnage Forecast - UPS



Source: Hubpoint analysis

Forecast UPS tonnage growth over the forecast period are summarized in **Exhibit 9.3** in terms of CAGRs. Due to the two distinct types of UPS operations expected during this time, the CAGR timeframes shown correspond to the specific years in which the feeder and jet aircraft will operate at CCIA.

Exhibit 9.3
Forecast Growth Rates for CCIA Air Cargo - UPS

	Feeder Aircraft 2025-2029	Jet Aircraft 2030-2044
CAGR	5.8%	4.4%

Source: Hubpoint analysis

9.2 Air Cargo Forecast: Passenger Belly Cargo Services

Historically, cargo carried by passenger airlines at CCIA accounts for a small share of the total cargo. In 2023, Southwest, American and United collectively carried less than 15% of the Airport's total inbound and outbound tonnage. As discussed previously, regional jets operated by American and United have very little cargo carrying capacity. Meanwhile, Southwest is adept at carrying cargo in the belly space of its larger B737 aircraft. Indeed, Southwest is, by far, the major airline for belly cargo at CCIA.

It is believed that Southwest will remain the major belly cargo carrier at CCIA during the forecast period and that the network carriers will continue operating with regional jets. Further, the overall B737 flight operations by Southwest at CCIA are expected to remain at their current levels. The potential for a new entrant Low Cost Carrier for passenger service would not impact the Airport's air cargo since the operational profiles of those types of airlines is not conducive to carrying cargo and they do not seek that business.

During the forecast period (2025-2044), the forecast shows Southwest recovering belly cargo to a level consistent with its pre-COVID experience within the first 10 years (approximately 2034). Then, in the last 10 years of the forecast, the airline will grow incrementally at an average annual rate that is roughly one-half of the growth rate projected by Boeing for the U.S. domestic market overall. This reflects the competitive environment between trucks and airplanes in the U.S. domestic cargo market as well as the proximity of CCIA to the large Southwest hubs at Houston Hobby and even Dallas Love Field where trucking is a viable option for much air cargo.

A similar dynamic is expected for the other belly cargo carriers at CCIA where they will recover to tonnage levels seen prior to the COVID-19 pandemic by 2034 and grow slowly thereafter. During the pandemic, air cargo was recognized by many airlines, particularly the network carriers, as a differentiator and a significant source of potential revenue that could support the economics of passenger routes. While air cargo is currently in a down cycle, the airlines should be well positioned to regain the cargo levels experienced in the past, even on the smaller regional jets.

Key assumptions of the belly cargo forecast for CCIA include:

- Southwest will continue operating at CCIA in a manner that is consistent with its current operations, including frequencies, routes and aircraft.
- Southwest will attain pre-COVID tonnage levels by 2034 and will grow at an average annual rate of approximately 1.6% between 2035 and 2044.
- CCIA will remain on the smaller side of Southwest's air cargo markets based on the types of cargo in the region and the close proximity to other major Southwest hubs.
- Network carrier regional jet operations will also recover to pre-COVID levels in the first 10 years of the CCIA forecast and will have similar growth rates as Southwest beyond that, albeit at much lower tonnage levels.
- Any new entrant Low Cost Carriers at CCIA will not carry cargo, consistent with their business models that focus solely on the passengers and passenger-related revenue.

The tonnage forecast for belly cargo at CCIA is depicted below in **Exhibit 9.4**. This shows air cargo tonnage carried by passenger aircraft growing from approximately 87 metric tons in 2025 to 176 metric tons in 2044. Southwest's shares of will overall belly cargo tonnage will moderate somewhat from 98% in 2023 to 91% of total tonnage in 2044. This reflects the higher loss of tonnage by other passenger carriers at CCIA during and since the pandemic and is also in line with belly cargo tonnage relationships that existed prior to the pandemic

Exhibit 9.4
CCIA Belly Cargo Tonnage Forecast – Passenger Airlines

Source: Hubpoint analysis

Forecast belly cargo tonnage growth over the forecast period is summarized in **Exhibit 9.5** in terms of CAGRs. The initial years of the forecast with higher growth rates reflect the return to pre-COVID tonnage levels, while the outer years show the effects of a normalized, slower growth market for CCIA's belly cargo.

Exhibit 9.5
Forecast Growth Rates for CCIA Belly Cargo – Passenger Airlines

	2025-2030	2025-2035	2025-2040	2025-2044
CAGR	7.0%	5.9%	4.6%	3.8%

Source: Hubpoint analysis

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