

CASE STUDY

ATLANTA – AVIATION AND INCREASING EMPLOYMENT IN TWO MAJOR INDUSTRY SECTORS

Atlanta: Aviation and Increasing Employment in Transportation, Warehousing and Logistics

The metropolitan Atlanta region is among the most vibrant in the country and has experienced significant growth in its economy and air service over time. The region is the economic hub of the American southeast.

The region is home to 16 Fortune 500 companies, including Delta Air Lines, Coca-Cola, Home Depot, UPS, and The Southern Company and another 13 companies listed among the Fortune 1000.¹ More than 70 percent of the Fortune 1000 have a presence in greater Atlanta, and the region ranks third nationally for Fortune 1000 headquarters.² Metro Atlanta has also become one of the nation's top spots for film and video production. It boasts a growing technology sector and is also one of the nation's most important logistics hubs.

It is also home to what has long been recognized as the world's busiest airport – Hartsfield-Jackson Atlanta International Airport (ATL). The airport is a gateway to the world, offering metro Atlanta residents and businesses nonstop service to more than 150 domestic and 70 international destinations, including major commercial centers in Europe, Asia, the Caribbean, Africa, and South and Central America.³

The region was selected as a case study because of its size and the economic strength of employment in two sectors: (1) Transportation, logistics, and warehousing and (2) Information Technology.

Overview of the Region and its Economy

Greater Atlanta's economic influence extends over a large geographic area and has multiple definitions.

- The City of Atlanta is the capital and most populous city in the state of Georgia, with an estimated 2019 population of over 500,000. The city is the cultural and economic center of the region.
- The Atlanta Regional Commission, which is the federally-designated Metropolitan Planning Organization for the region, covers issues relating to the City of Atlanta and the 10 surrounding counties of Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry, and Rockdale.
- The Atlanta–Sandy Springs–Alpharetta, GA Metropolitan Statistical Area (MSA) adds another 19 counties.

¹ <https://www.metroatlantachamber.com/resources/most-popular/fortune-500-fortune-1000-in-metro-atlanta>

² <https://aeroatl.org/economic-development-collective/>

³ <https://aeroatl.org/about/>

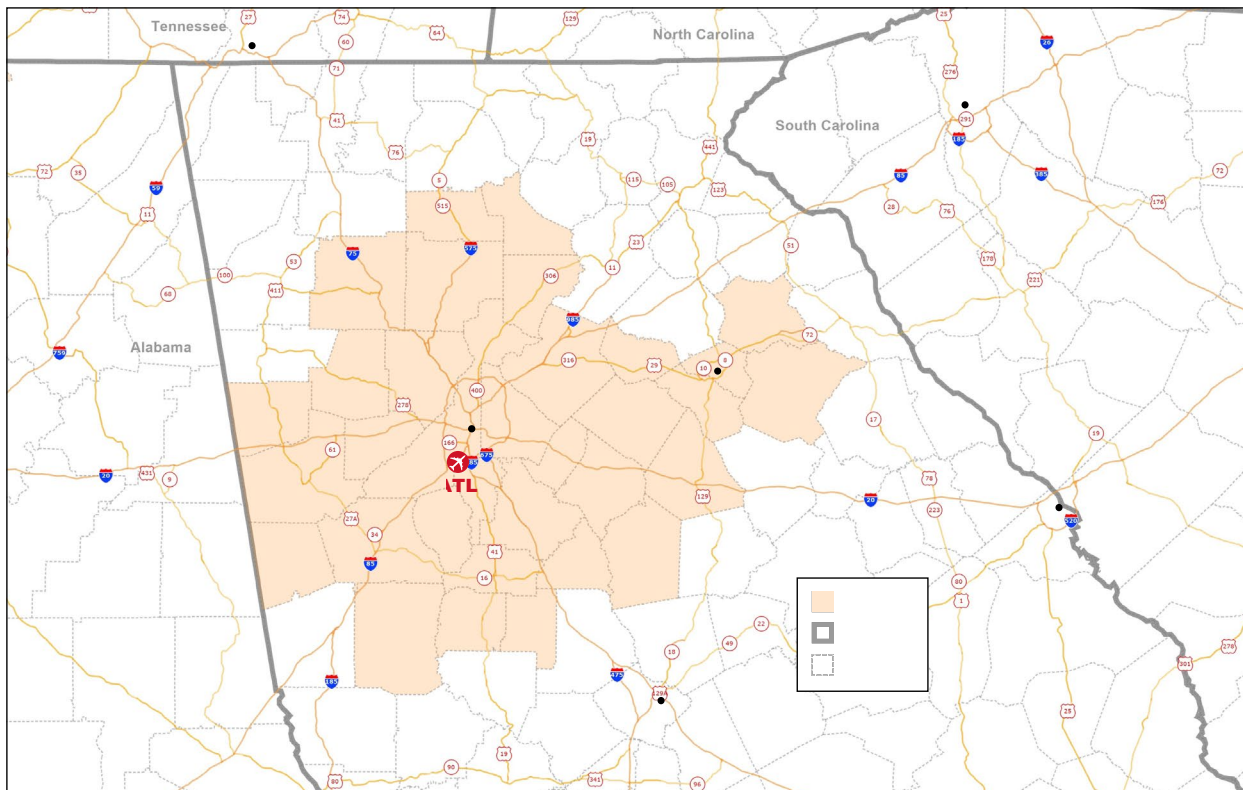


- The Atlanta--Athens-Clarke County--Sandy Springs, GA Combined Statistical Area (CSA) extends the boundaries to incorporate two smaller MSAs: Athens-Clarke County, GA and Gainesville, GA -- along with five micropolitan statistical areas.

The Atlanta region is a major hub for the movement and distribution of freight, providing access to the Port of Savannah and major markets across the Southeast and the U.S.

The region has historic routes as a rail terminus. The state of Georgia decided in 1836 to build a railroad to provide a link between the port of Savannah and the Midwest. The plan was to eventually link up with the Georgia Railroad from Augusta, and with the Macon and Western Railroad, which ran between Macon and Savannah. A point was selected (“zero milestone”), and the city began to grow around it. Now, the region is served by two of the seven Class I railroads (CSX and Norfolk Southern). It is one of only five cities served by three interstate highways. And commercial airlines operating at ATL provide cargo capabilities throughout the U.S. and internationally. In terms of tonnage, 83% of Metro Atlanta freight tonnage moves by truck, 17% by rail, and under 1% by air.⁴ Goods that move by air tend to be those that are high value and time sensitive.

Figure 1: The Greater Atlanta Region



⁴ Atlanta Regional Commission, Atlanta Regional Freight Mobility Plan Update, <https://cdn.atlantaregional.org/wp-content/uploads/arc-freight-plan-executive-summary-online.pdf>



According to the U.S. Bureau of Economic Analysis (BEA), in 2019, the Atlanta-Sandy Springs-Alpharetta MSA had a population of over 6 million, ranking 9th in the country. The MSA produced \$442.1 billion in current-dollar total GDP. This ranked 11th among MSAs (out of 384 total). It represents a slight decline in the region's national ranking from 2009, when it ranked 10th among MSAs.⁵

Table 1 summarizes the changes in the key socio-economic characteristics for Greater Atlanta. Between 2008 and 2019, the population rose by almost one million, or 16 percent. Total area employment increased by over 800,000 (23 percent). In addition, the average per capita income rose by 38 percent (nominal dollars) to nearly \$53,000. The total number of business establishments also increased by 20,000 (13 percent).⁶

Table 1: Change in Major Socio-Economic Factors: Greater Atlanta (000s)

	2008	2015	2019	Change 2008-15		Change 2015-19		Change 2008-19	
				#	%	#	%	#	%
Population	5,930	6,481	6,853	550	9%	373	6%	923	16%
Total Employment	3,607	3,967	4,445	360	10%	477	12%	838	23%
Private Non-farm Employment	3,163	3,554	4,014	391	12%	460	13%	851	27%
Gov't Employment	427	398	416	(29)	-7%	17	4%	(12)	-3%
Income per Capita (\$)	\$38,430	\$45,519	\$52,898	\$7,089	18%	\$7,379	16%	\$14,468	38%
Number of Establishments	153	176	173	23	15%	(3)	-2%	20	13%

Source: U.S. Bureau of Economic Analysis (BEA)

Note: Data are for the Atlanta--Athens-Clarke County--Sandy Springs, GA-AL CSA. All data are in 1,000 except income per capita.

Metro Atlanta is growing faster than the state of Georgia as a whole. For the same period 2008-2019, the population of the state of Georgia grew by 11.8 percent, and statewide employment increased by 17.8 percent. Statewide average per capita income was \$48,188, or 9 percent less than that for Greater Atlanta.

Aerotropolis Atlanta reported that the region is increasingly cosmopolitan, with a rapidly growing international population (the percent of the population born outside the U.S. rose from 8.1 percent 2010 to 13.8 percent in 2019). In addition, foreign investment has increased over time. In 2018, Metro Atlanta was home to more than 2,700 foreign-owned companies.

The US Cluster Mapping project's data show that in 2018, transportation and logistics (including air transportation, trucking, ground transportation and support activities) was the 3rd largest "traded cluster" in the Atlanta-Sandy Springs-Roswell GA metro area in terms of total employment. It trailed only Business Services (e.g., corporate headquarters, computer services, consulting, and engineering) and Distribution and Electronic Commerce (which includes warehousing and storage along with wholesale suppliers of professional and commercial equipment and supplies).

⁵ <https://apps.bea.gov/regional/bearfacts/action.cfm>. BEA's "BearFacts" did not include information for the larger

⁶ The U.S. Bureau of Economic Analysis uses data from the U.S. Census Bureau on "establishments," which it defines as "An establishment is a single physical location at which business is conducted or services or industrial operations are performed. It is not necessarily identical with a company or enterprise, which may consist of one or more establishments. ... Establishment counts represent the number of locations with paid employees any time during the year." The count excludes government establishments except for certain situations, such as state-operated retail liquor stores, local government-owned/operated hospitals, and federally chartered credit unions. <https://www.census.gov/programs-surveys/susb/about/glossary.html>



The Census Bureau’s County Business Pattern data highlight changes in the largest industry sectors as measured by employment. Table 2 summarizes the changes over time in the largest industry sectors (those with at least 100,000 employees sometime from 2008-2019). Employment in health care and social assistance grew most from 2008 through 2019, rising by over 70,000 jobs (32 percent). Transportation and warehousing grew next fastest, increasing by 28 percent (nearly 32,000 jobs). Other major industry sectors with significant growth included accommodations and food service (25 percent); professional, scientific, and technical services (PST)(25 percent); and Management of companies and enterprises (24 percent).

Table 2: Changes in Employment 2008-2019 for Largest Industry Sectors (ranked by number of employees in 2019)

Industry Sector	Employment			Changes over time			% change 2008-19
	2008	2015	2019	2008-15	2015-19	2008-19	
Health care and social assistance	222,024	256,203	293,342	34,179	37,139	71,318	32%
Retail trade	267,444	268,261	275,106	817	6,845	7,662	3%
Accommodation and food services	217,546	243,090	271,980	25,544	28,890	54,434	25%
Professional, scientific, and technical services	182,725	191,475	229,279	8,750	37,804	46,554	25%
Administrative and support and waste management and remediation services	206,408	187,227	184,395	(19,181)	(2,832)	(22,013)	-11%
Manufacturing	155,469	143,591	159,049	(11,878)	15,458	3,580	2%
Transportation and warehousing	115,132	119,529	147,095	4,397	27,566	31,963	28%
Wholesale trade	147,097	147,008	143,004	(89)	(4,004)	(4,093)	-3%
Construction	138,950	112,718	131,615	(26,232)	18,897	(7,335)	-5%
Management of companies and enterprises	100,177	105,327	124,118	5,150	18,791	23,941	24%
Finance and insurance	118,496	116,561	123,466	(1,935)	6,905	4,970	4%
Other services (except public administration)	102,107	99,251	104,645	(2,856)	5,394	2,538	2%
Information	100,956	100,551	99,585	(405)	(966)	(1,371)	-1%

Source: Bureau of the Census, County Business Pattern data, Atlanta-Sandy Springs-Roswell, GA Metro Area only.

The state Department of Economic Development highlights how Georgia’s market connectivity contributes to the state’s economy.

Georgia’s global connectivity continues to drive the state’s competitiveness, delivering another record year for total trade and exports. Georgia exports grew to an all-time high of \$41.2 billion in 2019, surpassing the previous record set in 2018. Overall, exports grew by 1.5 percent, even as total U.S. exports contracted slightly. Georgia remains home to a robust international ecosystem and companies across the state enjoy seamless access to the international marketplace. With more than 6,600 manufacturing firms in Georgia employing more than 400,000 Georgians, manufactured goods make up 90% of Georgia goods exports. ... In total, Georgia businesses exported goods to 214 unique countries and territories in 2019, and the state ranks 12th among the largest exporting states in the nation.⁷

The report also noted that Georgia is home to more than 800 aerospace companies, generating a record-breaking \$10.8 billion in exports in 2019. And with nearly 2,000 establishments related to the life sciences sector, Georgia exports of medical devices and pharmaceuticals grew to \$1.9 billion in 2019, an 8% increase over 2018.

⁷ https://www.georgia.org/sites/default/files/2020-02/annual_trade_report.pdf



Economic Clusters

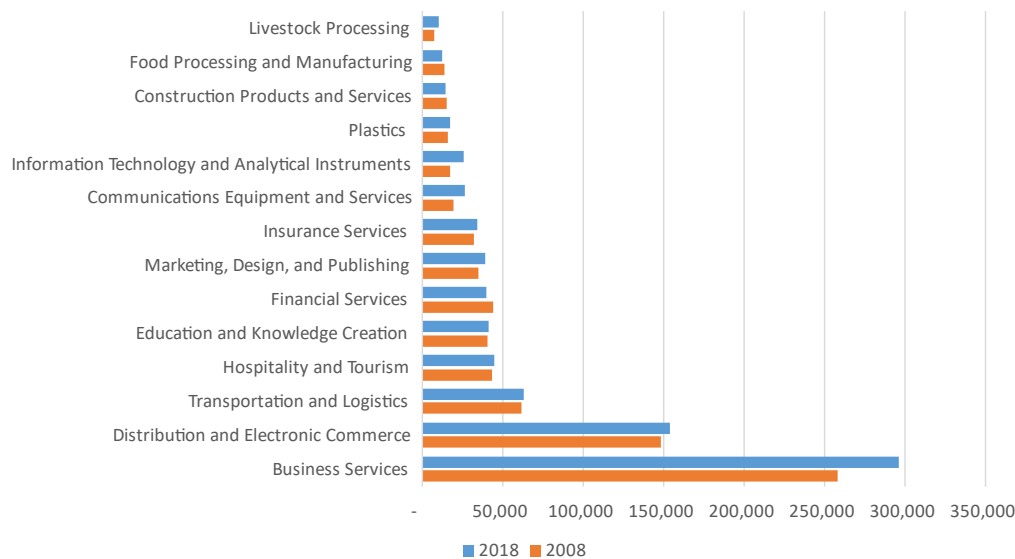
The U.S. Cluster Mapping Project’s analysis of the Greater Atlanta region also highlights its broad economic strength. Examples include financial service or information technology. By contrast, *local clusters* consist of industries that serve the local market. Examples include local grocery stores or restaurants.⁸

The Greater Atlanta area’s economy features multiple traded clusters that are among the top performers in the country, and several are of notable strength. Those include Business Services; Marketing, Design, and Publishing; and Communications Equipment and Services.

- The Business Services Cluster includes corporate headquarters, computer services, consulting services, and employment placement services. The Atlanta region is ranked among the top 10 in the nation in each of those.
- The Marketing, Design, and Publishing cluster includes publishing (e.g., news syndicates, internet publishing and broadcasting, other information services) and related services (e.g., media buying services and media representatives). The Atlanta region is among the top 10 in the country in both of those subsectors.
- The Communications Equipment and Services sector includes cable networks and satellite communications. Home to CNN, the Atlanta region is among the top in the nation.

Figure 2 shows the strongest tradeable sectors by total employment in 2018 along with employment in each in 2008. It indicates the changes in employment among these sectors. Not all show the significant growth experienced in Business Services (+38,600, or 15 percent) or Information Technology (+8,330 or 49 percent). For example, total employment dropped from 2008 to 2018 in Financial Services (-4,360 or 10 percent).

Figure 2: Changes in Employment in Major Industry Sectors 2008-2018



Source: U.S. Cluster Mapping project for Atlanta MSA

⁸⁸ <https://www.clustermapping.us/about/clusters-101>



Focus on Regional Transportation, Logistics, and Warehousing

According to the Atlanta Regional Commission (ARC), the metropolitan planning organization for the region, the area's freight and logistics sectors is a key component of the region's economic base, responsible for about \$514.8 billion of economic output, or 38% of the total regional output. The ARC reports that jobs in these sectors "can play a role in ladders of opportunity, as many of these jobs provide a livable wage but typically do not require a college education."⁹

Metro Atlanta's global logistics presence is built in part on its world class airport infrastructure, which is the 14th busiest cargo airport in the US by landed weight. The airport has 1.3 million square feet of total on-airport air cargo warehouse space, and its cargo services features operations by more than 100 licensed customs brokers, 200 domestic and international freight forwarders, and 100 trucking companies.¹⁰ Goods move to and from the region on its extensive highway and rail systems.

Aerotropolis Atlanta cites:¹¹

- Almost 136,000 warehouse/distribution workers within a 45-minute drive of ATL, with forecasted growth of 10.6% in the next decade
- 333 warehouse distribution facilities with almost 42,000 employees within that 45 minute drive

Georgia hosts over 80 cold chain facilities that protect perishables and temperature-sensitive products. Four out of the five top global companies for refrigerated warehousing are located in Georgia, and two are headquartered there. UPS's largest cold chain facility in the U.S. is in suburban Atlanta.

The region benefits from extraordinary market access. From ATL, businesses can reach 80 percent of the United States' population within two hours of flight time. Air carriers serve 150 domestic and 75 international destinations. The region also has ready access to ocean shipping via connections to the Port of Savannah.

Due to infrastructure needs and local zoning laws, manufacturing firms, warehouses, distribution centers, intermodal facilities, and other freight intensive land uses often cluster together. Many – especially those that assign a significant operational and financial benefit to the time-distance factor – are located near the airport. These include agri-business, food processing and logistics, aerospace, and logistics.

Focus on Information Technology

Another industry sector where Greater Atlanta has a competitive advantage is Information Technology. This assessment is based on analyses of the U.S. BLS Location Quotient data for the host county of each airport. "Location quotients (LQs)" compare the concentration of an industry within a specific area to the concentration of that industry nationwide. A LQ value of 1.0 indicates that the percentage of employment for that industry is the same as that for the nation. A LQ greater than 1.0 indicates an unusually high proportion of employment in the local economy while an LQ less than 1.0 suggests a disproportionately low share of employment, relative to the national norm or share.

⁹ RTP p 98-99

¹⁰ <https://www.georgia.org/competitive-advantages/infrastructure#block1>

¹¹ <https://aeroatl.org/economic-development-collective/>

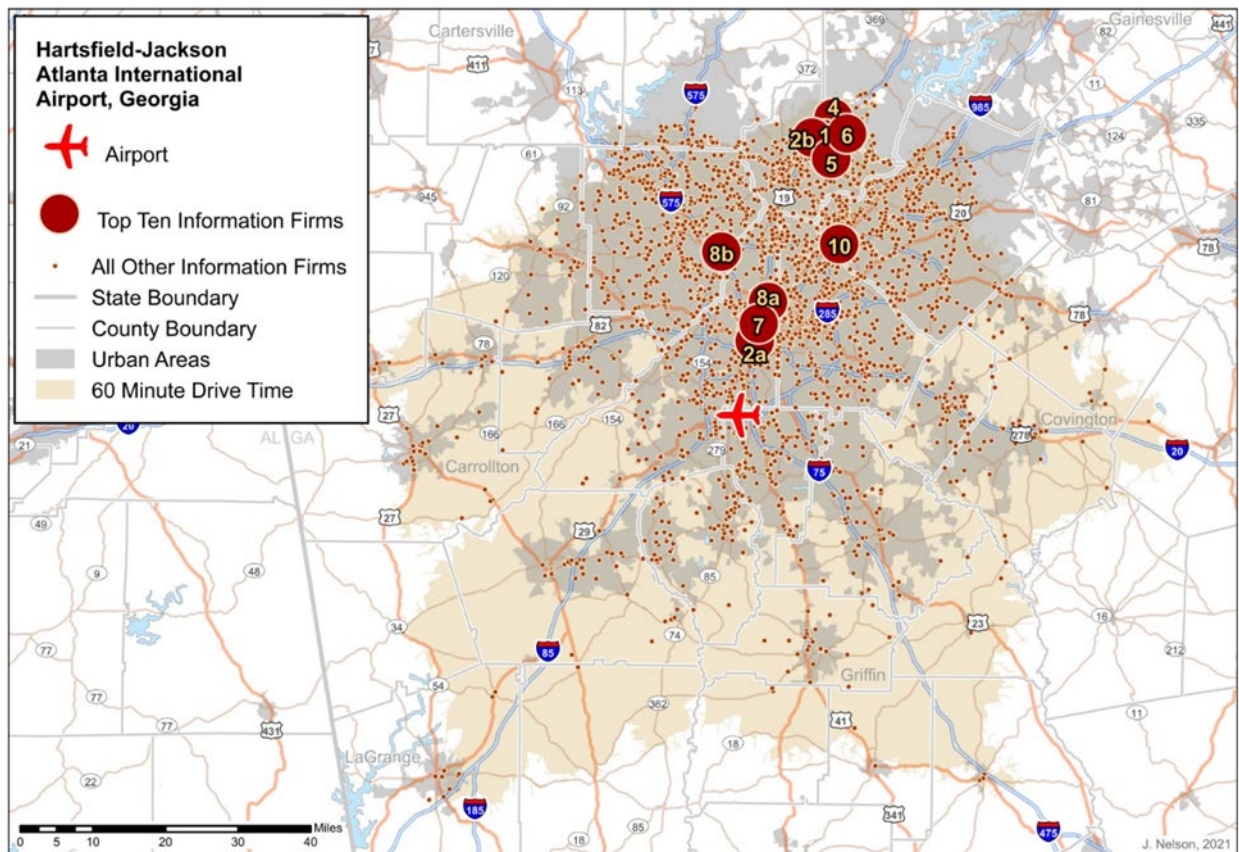


For Information Technology, the LQ for the Atlanta region is 3.37.

Economic Activity within Close Proximity to the Airport

Additional insight into the airport's contributions to the local economy can be gained by more closely examining economic activity within a relatively short drive to the facility. Figure 3 illustrates the location of the airport in the region, the bounds of a 60-minute drive from the airport, and the location of the IT firms relative to the airport. It shows that most of the larger firms are located north of the airport in the urban area.

Figure 3: Spatial Distribution of Information Firms (NAICS 51) in the ATL Airport One-Hour Drive Time Trade Area

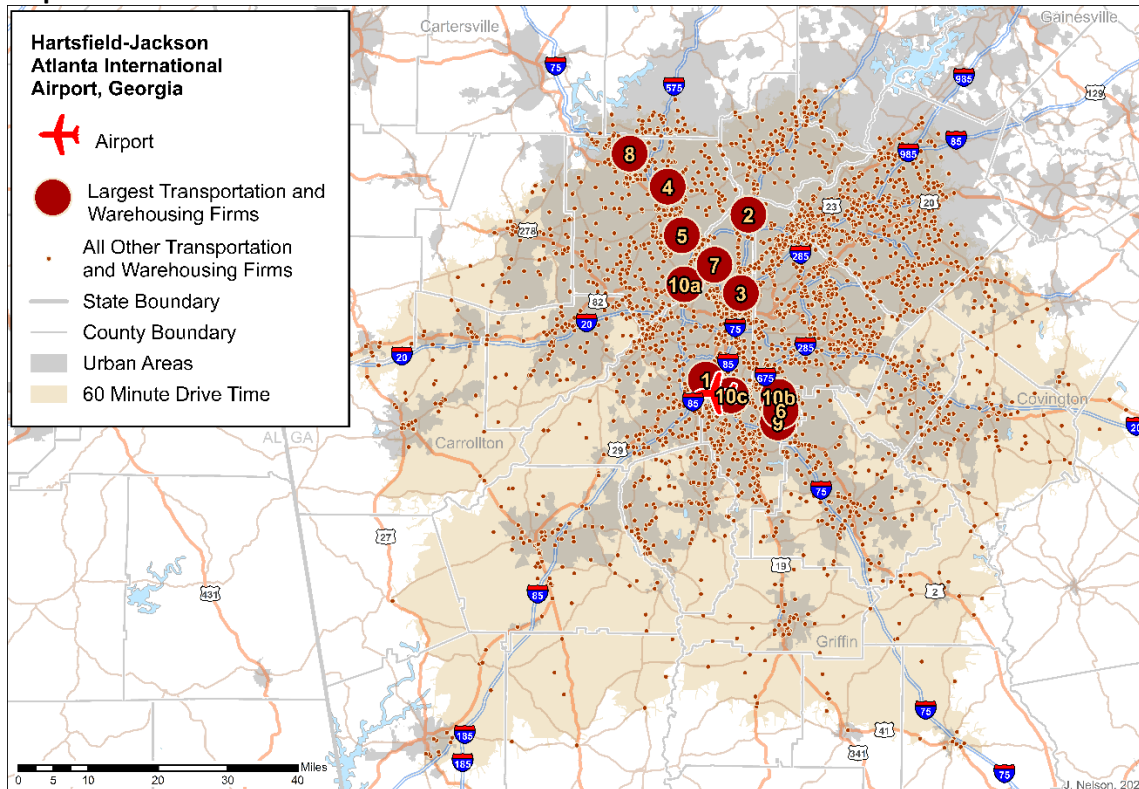


Source: Esri Arc GIS Business Analyst

Figure 4 illustrates the location of the airport in the region, the bounds of a 60-minute drive from the airport, and the location of the transportation and warehousing (T&W) firms relative to the airport. The larger T&W firms tend to be located either nearby the airport or along I-75, which runs on a diagonal across the metropolitan area between the northwest and southeast quadrants.



Figure 4: Spatial Distribution of Transportation and Warehousing Firms (NAICS 48-49) in the ATL Airport One-Hour Drive Time Trade Area



Overview of the Airport and Changes in Air Service

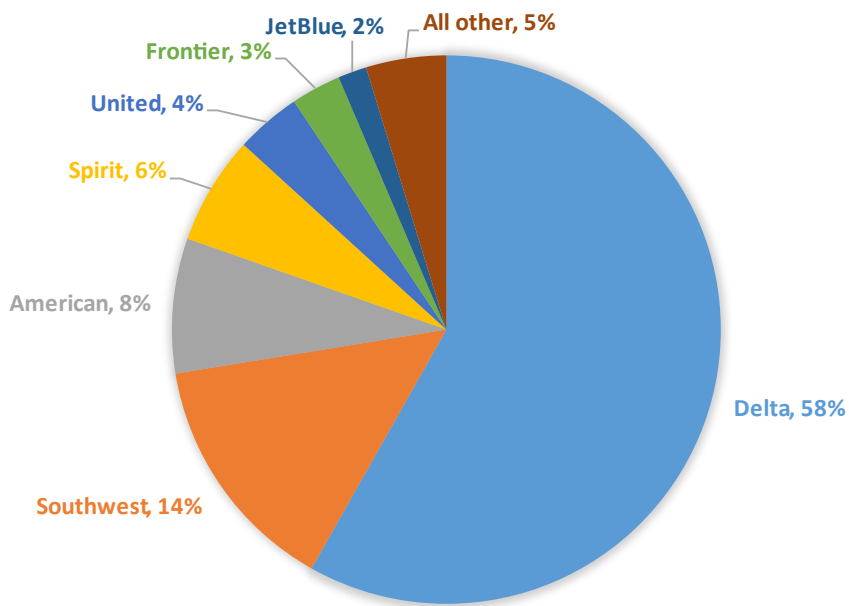
For decades, ATL has commonly recognized as the largest airport in the world based on total aircraft operations and passenger traffic. In general, the airport handles 2,700 arrivals and departures carrying 275,000 passengers on an average day. The airport offered nonstop service to 150 domestic and 75 international destinations in 2019.

The airport is home to Delta Air Lines (Delta), which is the largest carrier by far by flight operations and passenger enplanements. In 2019, Delta carried 74 percent of ATL's total passengers. Including traffic carried by its regional affiliates, the figure rose to 78 percent. Southwest was next largest, with 8 percent, followed by American Airlines (3 percent) and Spirit (2 percent). A total of 28 passenger airlines (17 US and 11 international) served ATL in 2019.

The market for origin and destination traffic is more competitive. In 2019, Delta carried 58 percent of Atlanta's O&D traffic. Southwest accounted for 14 percent, American had 8 percent, and Spirit had 6 percent. No other carrier controlled more than 5 percent of the market. Figure 5 summarizes the share of the origin and destination market captured by the largest carriers, showing data only for those with at least 1 percent of the total. (All airlines with less than that are grouped into the "all other" category.)



Figure 5: O&D Market Share Held by Different Airlines 2019

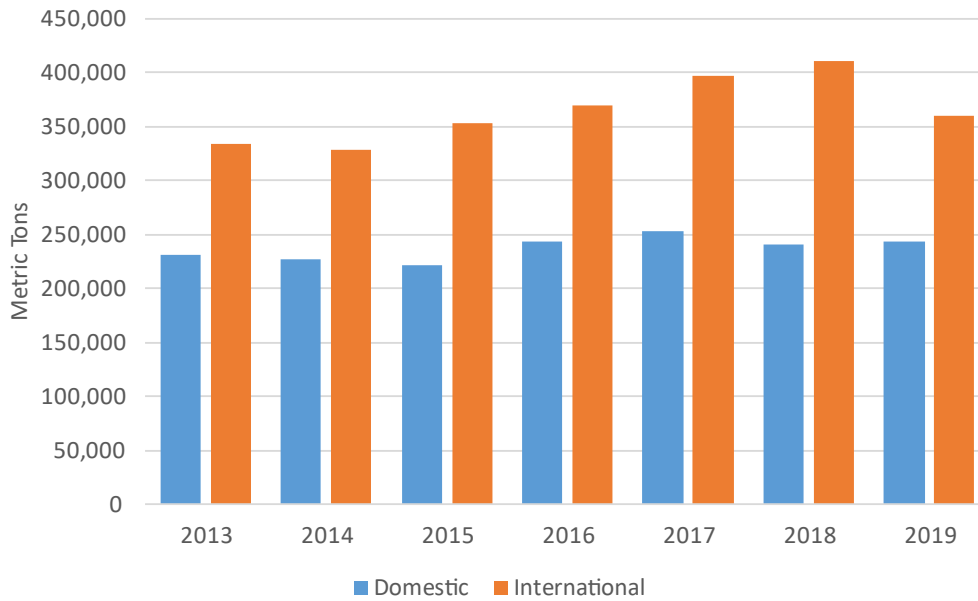


Source: Data from Sabre, includes both domestic and international traffic

The airport also reported that airlines carried a total of over 600,000 metric tons of cargo in 2019 – 40 percent of which was carried domestically and 60 percent internationally. This includes cargo and freight carried in the belly of passenger aircraft, by express airlines (e.g., FedEx), and on dedicated cargo aircraft (e.g., CargoLux, Polar Air Cargo). In some cases, international airlines may provide only cargo service rather than combined passenger and cargo service (e.g., Asiana Airlines, Cathay Pacific Airlines, China Cargo Airlines, Singapore Airlines Cargo). These operations are indicative of commercial ties between the two points. From 2013 through 2019, total tonnage handled at the airport increased by 37,000 tons (6 percent), with international tonnage increasing more than domestic.



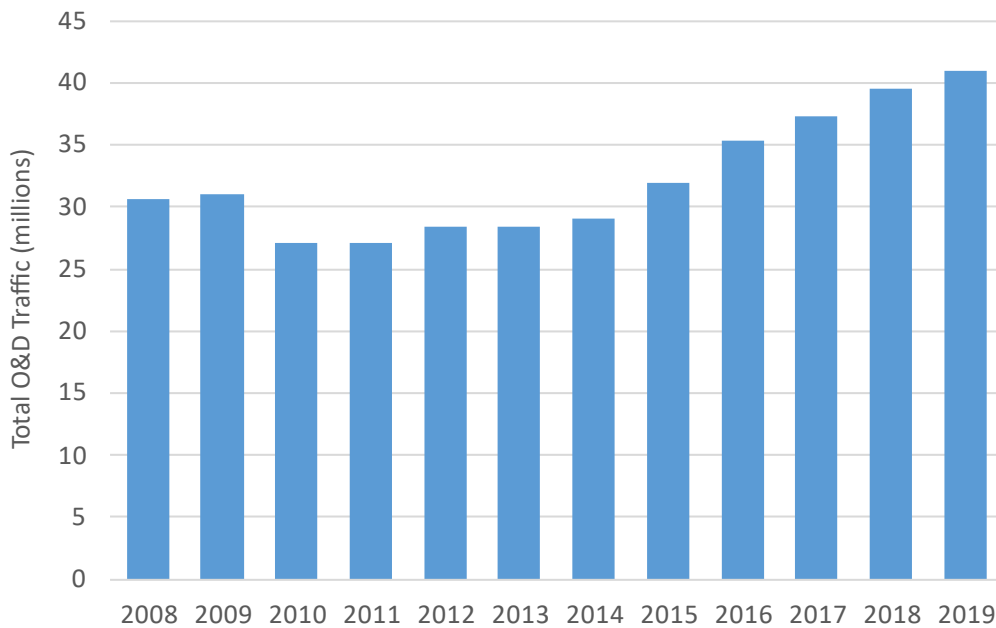
Figure 6: Tons of Metric Freight Handled at ATL 2013-2019



Source: Hartsfield Jackson Atlanta International Airport statistics.

Total origin and destination traffic increased since 2008, rising from 31 million to 40 million annually (percent). The increase was not consistent over time. Traffic dropped slightly following the Great Recession, recovered quickly in 2012, before dropping in 2014, when its annual total dropped back to 2009 levels. From that point through 2019, O&D traffic rose again, increasing by nearly 10 million.

Figure 7: Change in O&D Traffic at ATL, 2008-2019



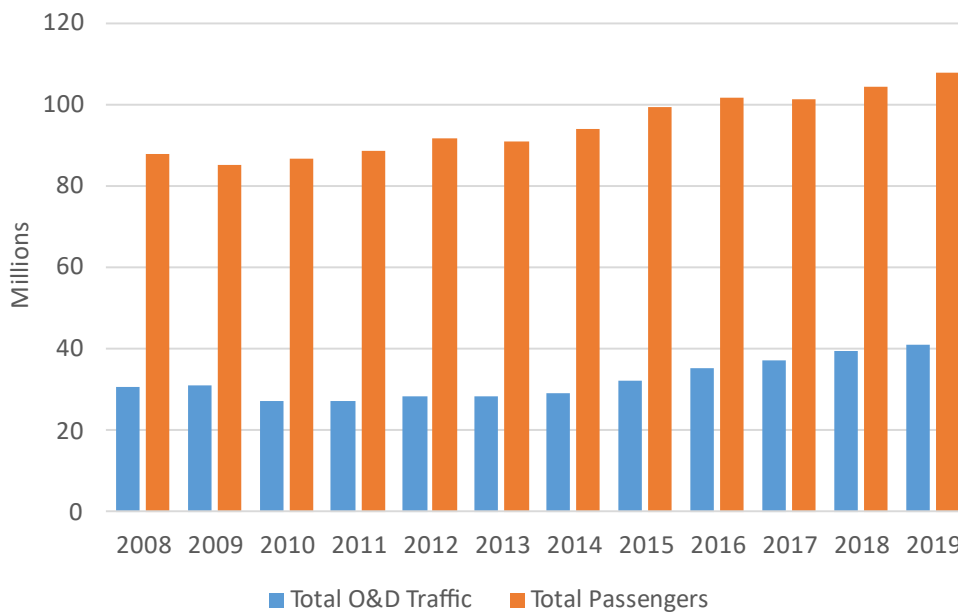
Note: Data are bidirectional.

Source: Diio by Cirium



By comparison, total passenger activity at the airport increased consistently over the period, indicating the overall strength of the airport as a connection point. Total passenger traffic at ATL rose from 88 million in 2008 to almost 108 million in 2019. Figure 8 shows the changes in both O&D and total passenger traffic at the airport.

Figure 8: Changes in O&D and Total Passenger Traffic at ATL, 2008-2019



Source: Diio by Cirium

However, as passenger activity rose, total flight activity fell over the same period. This is a reflection of the broader industry trend toward upgauging aircraft. From 2008 to 2019, the total number of flights dropped from 475,000 to 436,000 (-8 percent). At the same time, total available (outbound) seating capacity rose from 56 million to 63 million (14 percent). As a result, the average number of available seats per departing aircraft increased from 117 to 145 (24%).

Connectivity

High quality transportation is a prerequisite for sustained economic growth and competitiveness. Specifically, these factors of economic development are driven by productivity growth which is underpinned by trade, foreign investment, and innovative activity – all of which are facilitated by connectivity.

“Connectivity” generally means the ability to reach a wide range of places in a short amount of time. Connectivity is not simply a matter of the number of routes or number of frequencies operated. Connectivity is fundamentally about access to markets and regions. This can have a real impact on the competitiveness and appeal of a regional economy to a business. For instance, a country or region that has continental and intercontinental linkages only to a limited number of destinations will be a less desirable place to do business. Travel costs for staff and for goods will be higher due to the need to purchase multiple flight legs to move people and goods, as well as added time spend in-transit. On the other hand, a community with direct access to a broad range of markets, especially the fastest growing



markets, will have a lower cost of doing business. It will also enhance customer servicing, as goods and support staff can easily and quickly reach a range of destinations.

There are several ways of measuring air service connectivity. One such method has been developed by the International Air Transport Association (IATA) and seeks to estimate the relative quality of an airport's network based on the degree of air service to airports with the largest and most diverse route networks, as a proxy for how accessible the local economy is to the rest of the nation and world. This IATA index recognises that connections to major global gateways provide greater global connectivity than connections to the same number of spoke ends. For example, direct service to 40 small regional destinations does not have the same importance as direct service to 40 major global markets.

The formula for the IATA connectivity index is outlined below. Using airline schedule data for passenger service, the index measures the number of frequencies and available seats to a particular destination. It then weights the number of available seats by the size of the destination airport (in terms of total capacity handled each year). This weighting reflects both the size and economic importance of the destination and the potential for convenient onward connections.

As the world's largest airport, ATL is a national connectivity hub that offers the most onward air service for passengers who depart or connect through it. Because ATL tops all airports in total scheduled seat capacity, all air service to/from ATL is given a weighting of one when calculating the IATA connectivity index for a given airport. For comparison, all air service to London Heathrow (LHR), which handled roughly 81% of the seat capacity handled by ATL in 2019, would instead be given a weight of 0.90. Therefore, if an airport has 1,000 seats available to Atlanta it is given a weighted total of 1000. But if it also has 1,000 seats available to London Heathrow, these are only given a weighted total of 900. In this manner, ATL is a critical connectivity enabler to not only its own regional economy but all regional economies in the nation that link to it.

The weighted totals are then summed for all destinations (and divided by a scalar factor of 1,000) to determine the connectivity indicator. A higher figure for the connectivity index denotes a greater degree of access to the global air transport network.

Figure 9: IATA Connectivity Index Formula

$$\frac{[\text{Number of destinations} \times \text{Weekly Frequency} \times \text{Seats per flight}]}{\text{Weighted by the Size of the Destination Airport}}$$

Scalar factor of 1000

Unsurprisingly, the volume and variety of air service out of ATL places the airport itself among one of the most connected in the world. In 2019, ATL ranked 12th in the world and 3rd in the U.S. in terms of total connectivity (including both domestic and international service). Although ATL has the highest *total* seat capacity of any airport, its connectivity lags 11 other major global airports that scored higher because: 1) they served a higher number of destinations; 2) they offered more capacity to major global gateways (rather than smaller spoke or regional airports); or 3) some combination thereof. ATL's high degree of connectivity is driven largely by its extensive domestic air network, although it is also among the leading U.S. airports for international service as well.

Table 3: Top 20 Airports Based on the IATA Connectivity Index, 2019



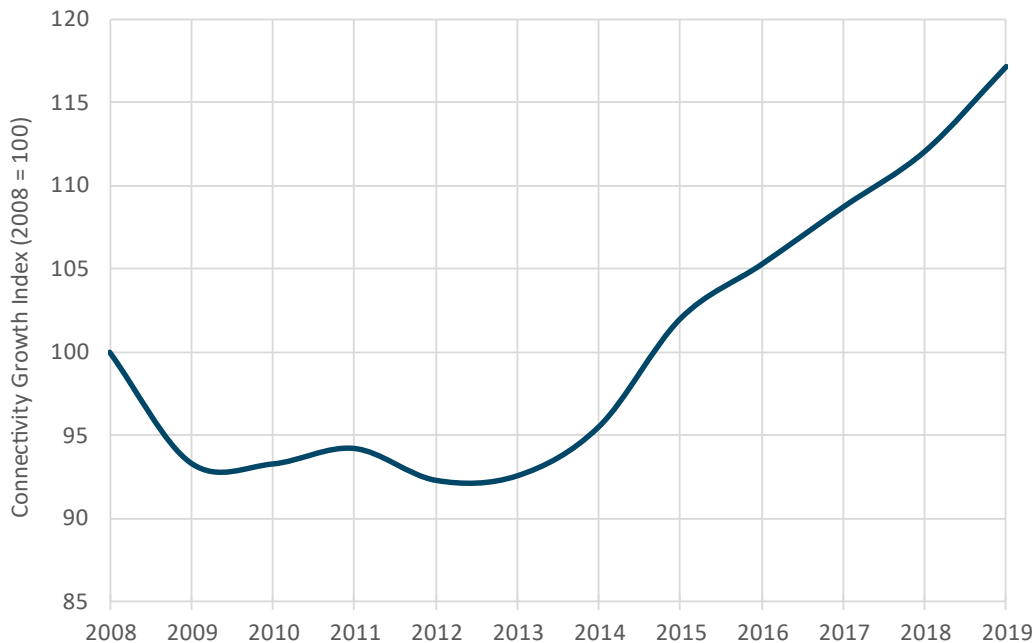
Airport Code	Airport Name	Number of Destinations	Total Seats (Millions)	Connectivity Index	Connectivity Rank
PEK	Beijing Capital Int'l	265	62.9	431	1
HKG	Hong Kong Int'l	167	44.8	402	2
LAX	Los Angeles Int'l	204	51.4	387	3
LHR	London Heathrow	222	51.1	378	4
SIN	Singapore Changi Int'l	159	42.5	353	5
PVG	Shanghai Pudong Int'l	238	46.5	323	6
CAN	Guangzhou Baiyun Int'l	195	44.6	312	7
DXB	Dubai Int'l	230	55.2	309	8
ICN	Seoul Incheon Int'l	171	42.2	305	9
ORD	Chicago O'Hare Int'l	267	50.5	300	10
BKK	Bangkok Suvarnabhumi	184	40.9	299	11
ATL	Atlanta Hartsfield Jackson Int'l	247	63.3	292	12
SFO	San Francisco Int'l	144	34.3	287	13
JFK	New York John F Kennedy Int'l	202	37.6	280	14
CDG	Paris Charles De Gaulle	342	44.6	271	15
FRA	Frankfurt Int'l	322	45.5	265	16
TPE	Taiwan Taoyuan Int'l	139	30	258	17
SHA	Shanghai Hongqiao Int'l Airport	75	27.5	241	18
DFW	Dallas/Fort Worth Int'l	257	43.8	237	19
AMS	Amsterdam Airport Schiphol	279	41	237	20

Source: InterVISTAS analysis of Innovata schedule data from Diio Mii.

Beyond the level or scale of connectivity, growth in connectivity over time can also be associated with improving the competitiveness or attractiveness of a regional economy. The figure below indexes the change in connectivity at ATL between 2008 and 2019. ATL was not immune to the impact of the Great Recession and the resulting industry-wide consolidation of air operations, as its connectivity dipped below 2008 levels for several years due to decreased capacity overall and fewer destinations served. However, the airport returned to its pre-recession levels by 2015 and maintained moderate incremental growth in connectivity each year through 2019, with 15% total growth in connectivity between 2015 and 2019. The airport's ability to resume positive connectivity growth, even as one of the world's most connected airports already, alludes to an air service development strategy focused not only on growth but also improved quality of service that can enhance the value of air transport for all passengers who rely on ATL.



Figure 10: ATL Connectivity Growth Index (2008 = 100)



Note: Chart shows the IATA Connectivity Index for ATL, indexed against 2008 (2008 = 100).

Source: InterVISTAS analysis of Innovata schedule data from Diio Mii.

The improvement in the airport's connectivity is a reflection the work of its staff, which focused not only on its largest airline tenant (Delta) and partners but also on domestic and international airlines who are not one of Delta's partners. The airport's approach to attract unaligned and/or foreign carriers, in addition to support a strong hometown hub carrier, should enhance the airport's air service levels and international reach.

Change in Air Service and Economic Activity

The total amount of O&D traffic at ATL is highly correlated with total local employment. Figure 11 summarizes how changes in total O&D traffic have aligned with changes in regional employment. The line indicates a basic relationship between the two. As total employment increases, total O&D increases. The correlation coefficient between the two is 0.931. But correlation does not establish causation. That is, just because the two concepts are correlated does not mean that rising total employment levels *leads to or causes* more air traffic. It is equally possible that more air traffic *leads to or causes* more employment.

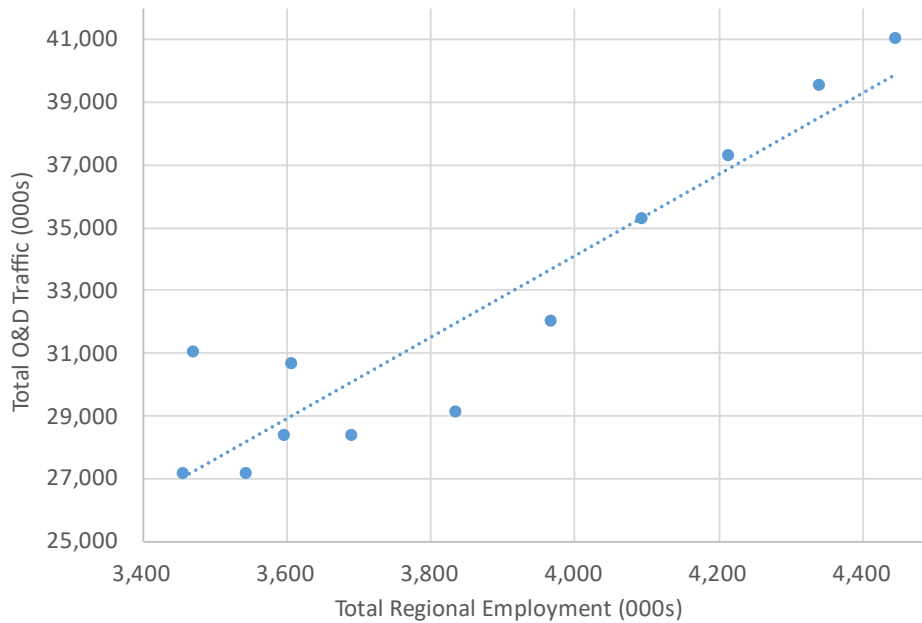
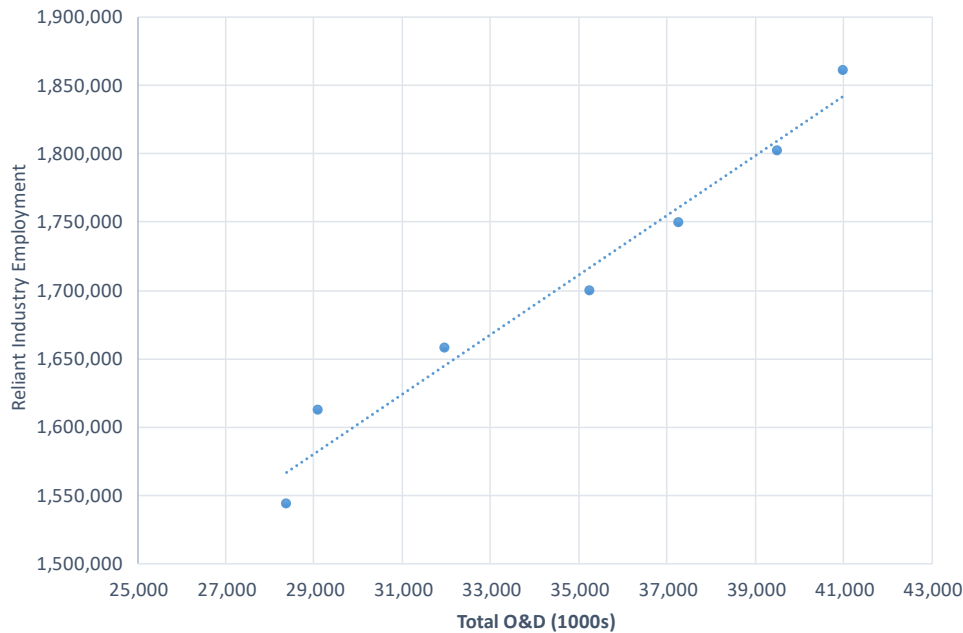
**Figure 11: Relationship between Total Regional Employment and Total O&D Traffic**

Figure 12 isolates changes in O&D traffic against changes in employment in industry sectors that have a relatively higher propensity to fly than others. Those sectors include manufacturing; wholesale; information technology; FIRE; PST; management of companies; and administrative and support and waste management and remediation services. As with the analysis of air traffic and total employment, the correlation of changes in air service and these “aviation-reliant” industries is a near-perfect 0.983. Data are available only for the years 2013-2019 because those for prior years was suppressed to protect confidentiality. Again, the two variables move together: Increases in one correspond with increases in the other. No causality is proven.



Figure 12: Relationship between Regional Employment in Aviation-Reliant Industries and Total O&D Traffic



Finally, we examined the relationship between changes in O&D traffic and changes in employment in the Information sector only. As before, the correlation of changes in air service and PST employment is very high, but less than when combined with other aviation-reliant industries: 0.953. Data are available only for the years 2013-2019 because those for prior years was suppressed to protect confidentiality. Again, the two variables move together: Increases in one correspond with increases in the other. No causality is proven.

The Airport's Connections with Regional Economic Stakeholders

The greater Atlanta region has an extensive array of community and business stakeholders that are involved with air service and economic development concerns. These include private organizations, government institutions, and public-private partnerships.

Table 4: ATL and its Major Air Service and Economic Development Stakeholder Organizations

Public Institutions	Private Organizations	Public-Private Partnerships
Hartsfield-Jackson Atlanta International Airport	Airlines (most notably Delta Air Lines)	Aerotropolis Atlanta Alliance
Atlanta Regional Commission (10 counties + City of Atlanta)	Metropolitan Atlanta Chamber of Commerce	Atlanta Convention and Visitors Bureau
GA Dept of Economic Development		

- The Atlanta Regional Commission (ARC) includes members from all 10 regional counties and the City of Atlanta. The ARC is responsible for developing and updating the Atlanta Region's Plan, a long-range blueprint that details the investments needed to ensure metro Atlanta's future success and improve the region's quality of life. A key part of that plan is the Regional



Transportation Plan (RTP), which prioritizes spending on transportation projects in the 20-county Atlanta region. The RTP covers not just aviation, highways, and rail, but all modes of transportation. It recognizes that ATL is “...the largest economic asset in the region and its continued success will require regional coordination of land use, transportation, and economic development in the surrounding communities.”¹²

- The Aerotropolis Atlanta Alliance is a public-private partnership working to improve the regional economic competitiveness of the area around Hartsfield-Jackson Atlanta International Airport (ATL). The organization has three broad areas of focus: workforce development, education, and economic development. The Aerotropolis Blueprint, first published in 2016 and due to be updated, lays out a strategy that leverages the airport as a major asset to drive economic investment, job growth, and quality of life. Aerotropolis Atlanta focuses on the area within 20 miles of the airport.¹³
- The Metro Atlanta Chamber (MAC) represents businesses, colleges and universities, and nonprofits across the 29-county region that makes up the nation’s ninth largest market. MAC works to position metro Atlanta as a top-tier global region by focusing on three key areas: economic development, public policy and promotion. MAC’s economic development efforts focus on recruiting new companies to the region and retaining and growing the innovative businesses.¹⁴ The key industry segments it identifies includes bioscience, financial technology, and global logistics. “From highways to rails to the frequency of flights, combined with an outstanding capital ecosystem, Atlanta is uniquely positioned for supply chain technology innovation and talent acquisition.”¹⁵
- The Georgia Department of Economic Development is the state's sales and marketing arm. It is the lead agency for attracting new business investment, encouraging the expansion of existing industry and small businesses, aligning workforce education and training with in-demand jobs, locating new markets for Georgia products, attracting tourists to Georgia, and promoting the state.

The City of Atlanta alone has its own economic development arm and office of international affairs. The City’s economic development and workforce development efforts are aligned under one organization.

Other public agencies and other organizations are also involved in economic development activities. These often match transportation-related issues with considerations of other issues, such as affordable housing, assistance to small businesses, financial support to groups that have historically been disadvantaged, business retention and expansion, and support for technology, innovation and entrepreneurship.

Stakeholders meet regularly with airport officials and discuss related economic development matters. These can vary depending on the perspectives and missions of the different organizations, although the broad mission of all is to enhance economic activity and the quality of life in the region. Representatives from each one contacted cited the significance of the airport and its air services in facilitating economic

¹² Regional Transportation Plan, March 2021, p. 24.

¹³ <https://aeroatl.org/about/>

¹⁴ <https://www.metroatlantachamber.com/about/metro-atlanta-chamber/about-the-chamber>

¹⁵ <https://www.metroatlantachamber.com/economic-development/key-industry-segments/supply-chain>



development, increasing market access, attracting foreign investment, and creating opportunities for broadly improving the overall quality of life.

Stakeholders emphasize the contribution that developing employment opportunities for people relative to their skills and experience levels makes toward the broader quality of life. Stakeholders define “good jobs” as those that provide stable employment, middle class wages and benefits. “Promising jobs” are entry-level positions from which most workers can reach a good job within 10 years.

Invest Atlanta plays an important role in improving opportunities for residents, especially those without an undergraduate degree. Specifically, it can attract, retain and support businesses that have a large share of good and promising jobs that do not require a bachelor’s degree. These businesses are likely to be in industry sectors ranging from IT, utilities and construction to transportation and logistics, manufacturing and food processing and marketing and design.

Invest Atlanta can also support residents by continuing to attract, retain and support businesses that offer good and promising jobs to college graduates. These businesses are likely to be in professional, scientific and technical industries, public administration, (e.g., urban planning, environmental quality programs, public health), finance and insurance and company headquarter functions.¹⁶

Because the airport and air service support employment and economic activity in these sectors, support for the airport and air service further contributes to the region’s overall development goals.

Many of the stakeholders have developed interests in particular industries and occupations that rely heavily on commercial aviation. That the region is home to one of the world’s largest airports and commercial airlines obviously creates economic assets that provide significant leverage for such employment opportunities. For example, Aerotropolis Atlanta identified a number of targeted industries with strong airport, airport city or aerotropolis positioning:¹⁷

- Logistics, freight forwarding and distribution
- Aerospace, aviation and advanced manufacturing
- Bio-life sciences and medical devices
- Perishables and agri-business
- Information communication technology
- Education, skills training and apprenticeships
- E-commerce and fulfillment
- Tourism and entertainment

BLS projects that employment in the transportation and logistics sector will grow by over 325,000 jobs between 2019 and 2029, a compounded annual rate of growth of 0.6 percent (50% faster than total national employment). BLS projects warehousing and storage employment to rise by 8.8 percent and employment for logisticians to increase by 4 percent by 2029.

¹⁶ City of Atlanta, One Atlanta: Economic Mobility, Recovery & Resiliency Plan, p. 28.

¹⁷ <https://aeroatl.org/blueprint/> p. 71.



Communicating the Airport's Economic Impact

The airport itself does not highlight its economic impact. There is no link on the website to the most recent analysis. Instead, there is only a single sentence reference: “ATL is the economic jewel of Georgia, generating a \$34.8 billion economic impact for metro Atlanta.”¹⁸

Without question, all stakeholders referenced the economic impact of the airport in terms of total employment supported and overall economic activity. They also agreed that the broad community includes a spectrum of different audiences that have varying levels of interest in how commercial aviation supports employment and economic activity. The general media or public tends to focus only on the “big numbers” whereas economic development professionals, planners, and corporate developers may have more interest in specific details on market access and questions of available capacity. Market access is a common concern, especially for businesses that desire nonstop service, since such operations reduce time in flight and possible interruptions of the flow of people and goods.

Several noted the challenges of conveying economic concepts to the general public. Some suggested using individual stories to personalize how an individual's employment or business is tied to the airport or airlines.

The stakeholders have their own metrics used to gauge performance, and these do not generally tie to the airport. Some of the metrics used may use measures that are often applied to airport economic impacts – such as jobs supported and associated GDP.

¹⁸ <https://www.atl.com/about-atl/atl-factsheet/>