

Updating ATL's Noise Exposure Maps (NEMs)

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MAYOR ANDRE DICKENS
CITY OF ATLANTA



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INTERIM AIRPORT GENERAL MANAGER

Purpose of Presentation

- The City of Atlanta owns Hartsfield-Jackson Atlanta International Airport (ATL) and the City's Department of Aviation (DOA) operates the airport.
- The DOA implements an aircraft noise mitigation program and uses federal funds to fund the program.
- To receive and use federal funds, the DOA must follow a process prescribed in Code of Federal Regulations Title 14, Part 150 that guides an airport sponsor in the preparation of Noise Exposure Maps (NEMs).
- The NEMs provide the basis for the geographic boundaries of the noise insulation program.
- In accordance with 14 CFR 150, the DOA is updating ATL's NEMs to reflect existing, year 2024, operations and forecast, year 2029, operations.
- Subpart B, Section 150.21(b) of Part 150 requires that the public be afforded the opportunity to review and comment during the development of the NEMs.

ATL Facts and Figures

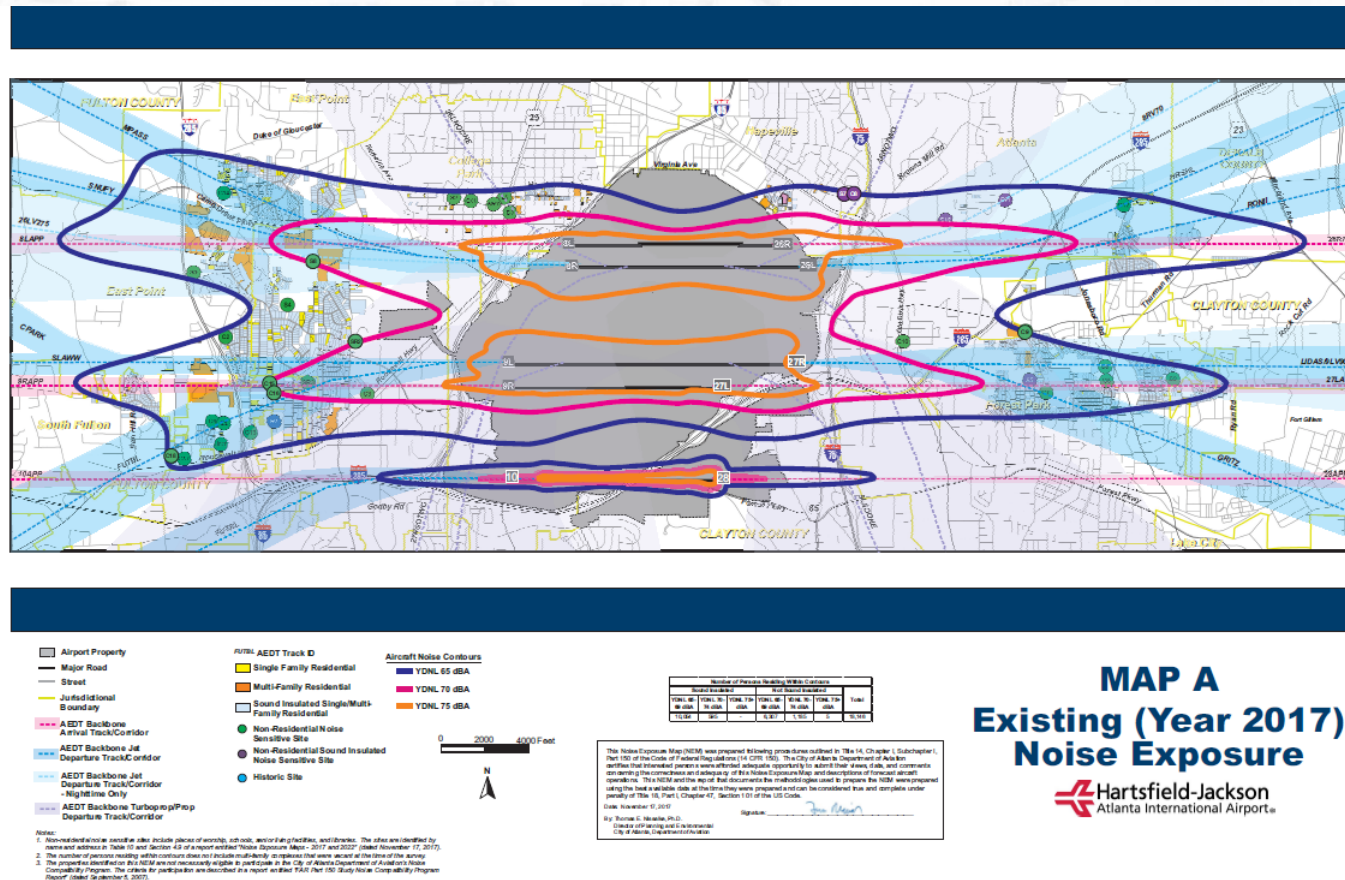
- Since 1998, Hartsfield-Jackson Atlanta International Airport (ATL) has been the busiest airport in the world for 24 out of 25 years.
- ATL has five parallel runways (two primarily used for arrivals, two primarily used for departures, and one used for both arrivals and departures).
- ATL serves more than 150 destinations within the U.S. and more than 70 international destinations in 43 countries.

Year	Annual Number of	
	Passengers	Operations
2019	110,531,300	904,301
2020	42,918,685	548,016
2021	75,704,760	707,661
2022	93,699,630	724,145
2023	104,663,451	775,818



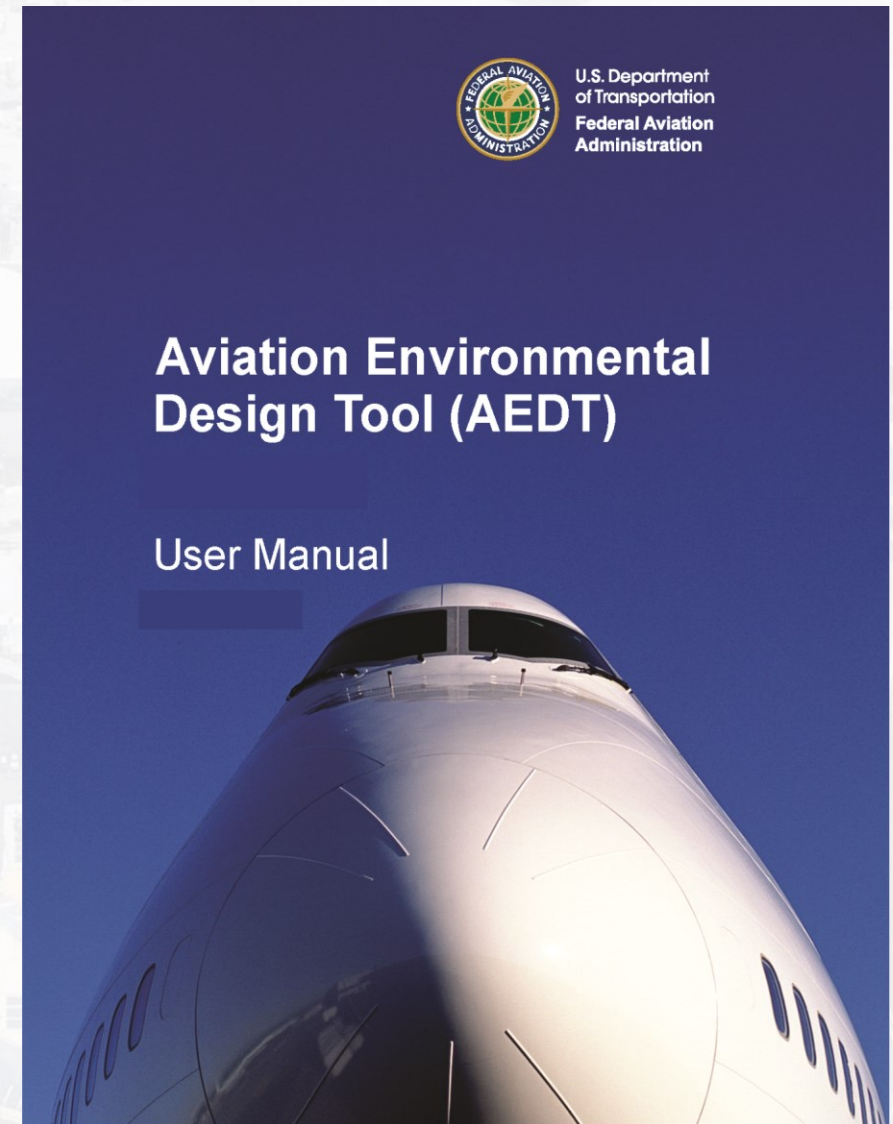
What's an NEM?

- A scaled, geographic depiction of a land use map overlaid with aircraft noise contours of yearly average day-night sound levels (YDNL 65, 70, and 75 decibels).
- NEMs identify land uses within the contours that are noncompatible with the above levels of aircraft noise (e.g., residences, schools).



How are NEMs Developed?

- NEMs are developed using a computer program-the Aviation Environmental Design Tool (AEDT).
- The AEDT was designed by the Federal Aviation Administration to model aviation-related operations to computer noise, emissions, and fuel consumption.
- AEDT Version 3f will be used in the preparation of the noise contours that are placed on the land use map.



Roles/Responsibilities

- There are multiple entities involved in the process of updating NEMs:
 - DOA:
 - **Responsible for preparing NEMs in consultation with those that use ATL, political jurisdictions, and planning agencies with property within ATL's NEMs, and the public. Meetings were held earlier this year with users of the airport and the political jurisdictions/planning agencies with authority over the properties within ATL's NEMs.**
 - Federal Aviation Administration:
 - **Establish regulations that provide a uniform system of evaluating aircraft noise exposure. Regulate the maximum noise level that civilian aircraft can emit through noise certification standards. Review and accept NEMs.**
 - Land Use Planning Officials:
 - **Responsible for considering the effects of aviation activity on local land use.**

Review of Draft AEDT Input

- Year 2024 and 2029 aircraft fleet mix data and number of average day operations
- Arrival and departure runway use
- Airfield directional use
- East and west flow flight tracks and corridors
- Arrival and departure profiles
- Time of day airfield use
- ATL average annual temperature
- Airfield elevation



Note: Other than fleet mix, there are no proposed changes from the Draft AEDT input that will be reviewed for the Year 2029.

Aircraft Fleet Data (Average Day) - 2024

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Developed using data from the DOA's
Flight Tracking System and Aviation
Activity Forecast prepared by Ricondo &
Associates.

Category		Airframe	Engine	Number of Operations
Air Carrier	Passenger	Airbus A220-300	PW1521G	7
		Airbus A319-100 Series	CFM56-5A5	63
		Airbus A320-200 Series	CFM56-5A3	120
		Airbus A320-NEO	LEAP-1A26/26E1	72
		Airbus A321-200 Series	CFM56-5B3/3	275
		Airbus A321-NEO	PW1133GA-JM	29
		Airbus A330-200 Series	PW4168A	5
		Airbus A330-300 Series	PW4168A	19
		Airbus A330-900N Series (Neo)	TRENT 7000-72	2
		Airbus A350-900 series	TRENT XWB-84	27
		Boeing 717-200 Series	BR700-715C1-30	260
		Boeing 737-700 Series	CFM56-7B24	116
		Boeing 737-8	LEAP-1B27	52
		Boeing 737-800 Series	CFM56-7B26/3	136
		Boeing 737-9	LEAP-1B27	3
		Boeing 737-900 Series	CFM56-7B24E	342
		Boeing 757-200 Series	PW2037	275
		Boeing 757-300 Series	PW2040	16
		Boeing 767-300 Series	PW4060	22
		Boeing 767-400	CF6-80C2B7E	13
		Boeing 777-200 Series	TRENT 892B	4
		Boeing 777-300 ER	GE90-115BL2	2
		Bombardier CRJ-700	CF34-8C1	43
		Bombardier CRJ-900	CF34-8C5	167
		Embraer ERJ170	CF34-8E5A1	4
		Embraer ERJ175	CF34-8E	5
		Embraer ERJ175-LR	CF34-8E	8
		Embraer ERJ190	CF34-10E6	10
	Cargo	Airbus A300F4-600 Series	PW4158-3	4
		Boeing 747-400 Series Freighter	CF6-80C2B1F	3
		Boeing 747-8F	GENX-2B67	5
		Boeing 757-200 Series	PW2037	2
		Boeing 767-300 Series	PW4060	21
		Boeing 777-200-LR	GE90-110B1L	8
Air Taxi		Cessna 208 Caravan	PT6A-114	15
		Embraer ERJ170	CF34-8E5A1	0
		Raytheon Beech 1900-C	PT6A-65B	17
General Aviation/Military		Cessna 560 Citation V	JT15D-5, -5A, -5B	5
		Cessna 680-A Citation Latitude	PW306C	8
		Embraer Phenom 300 (EMB-505)	PW530	15
Total				2,201

Aircraft Fleet Data (Average Day) - 2029

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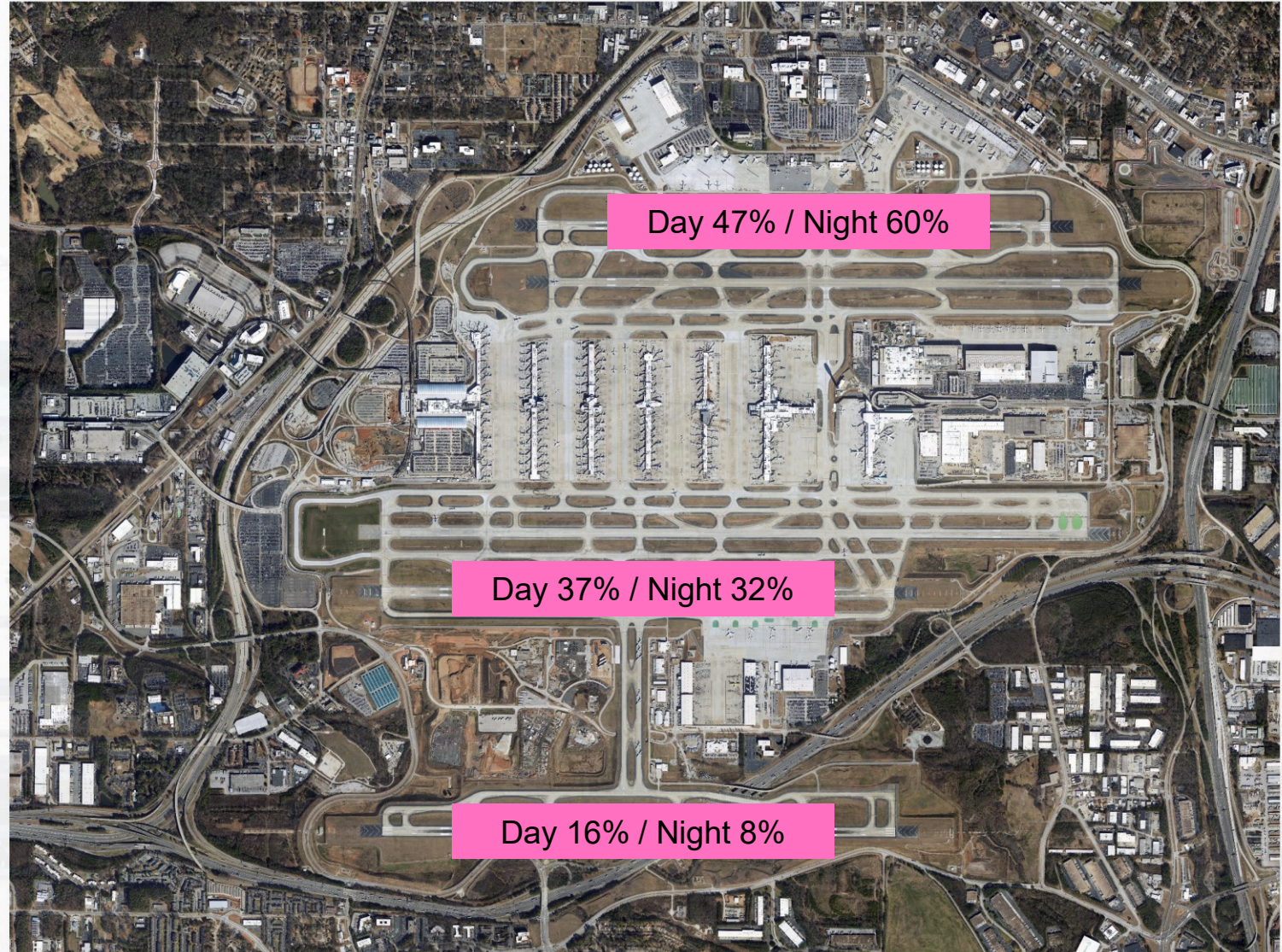
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		Airbus A220-300	PW1521G	106
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		Airbus A320-200 Series	CFM56-5A3	7
		Airbus A320-NEO	LEAP-1A26/26E1	47
		Airbus A321-200 Series	CFM56-5B3/3	383
		Airbus A321-NEO	PW1133GA-JM	231
		Airbus A330-200 Series	PW4168A	12
		Airbus A330-300 Series	PW4168A	10
		Airbus A330-900N Series (Neo)	TRENT 7000-72	7
		Airbus A350-900 series	TRENT XWB-84	40
		Boeing 737-700 Series	CFM56-7B24	118
		Boeing 737-8	LEAP-1B27	55
		Boeing 737-800 Series	CFM56-7B26/3	155
		Boeing 737-9	LEAP-1B27	48
		Boeing 737-900 Series	CFM56-7B24E	403
		Boeing 747-8F	GENX-2B67	2
		Boeing 757-200 Series	PW2037	238
		Boeing 757-300 Series	PW2040	26
		Boeing 767-300 Series	PW4060	8
		Boeing 767-400	CF6-80C2B7E	7
		Boeing 777-200 Series	TRENT 892B	7
		Boeing 777-300 ER	GE90-115BL2	2
		Boeing 787-9 Dreamliner	GENX-1B70	2
		Bombardier CRJ-700	CF34-8C1	34
		Bombardier CRJ-900	CF34-8C5	132
		Embraer ERJ170	CF34-8E5A1	6
		Embraer ERJ175	CF34-8E	15
	Cargo	Airbus A300F4-600 Series	PW4158-3	5
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		Cessna 680-A Citation Latitude	PW306C	6
		Embraer Phenom 300 (EMB-505)	PW530	12
Total				2,406

Developed using data from the DOA's
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Runway Use – Arrivals

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Developed using data from the DOA's Flight Tracking System and Aviation Activity Forecast prepared by Ricondo & Associates.



Runway Use – Departures

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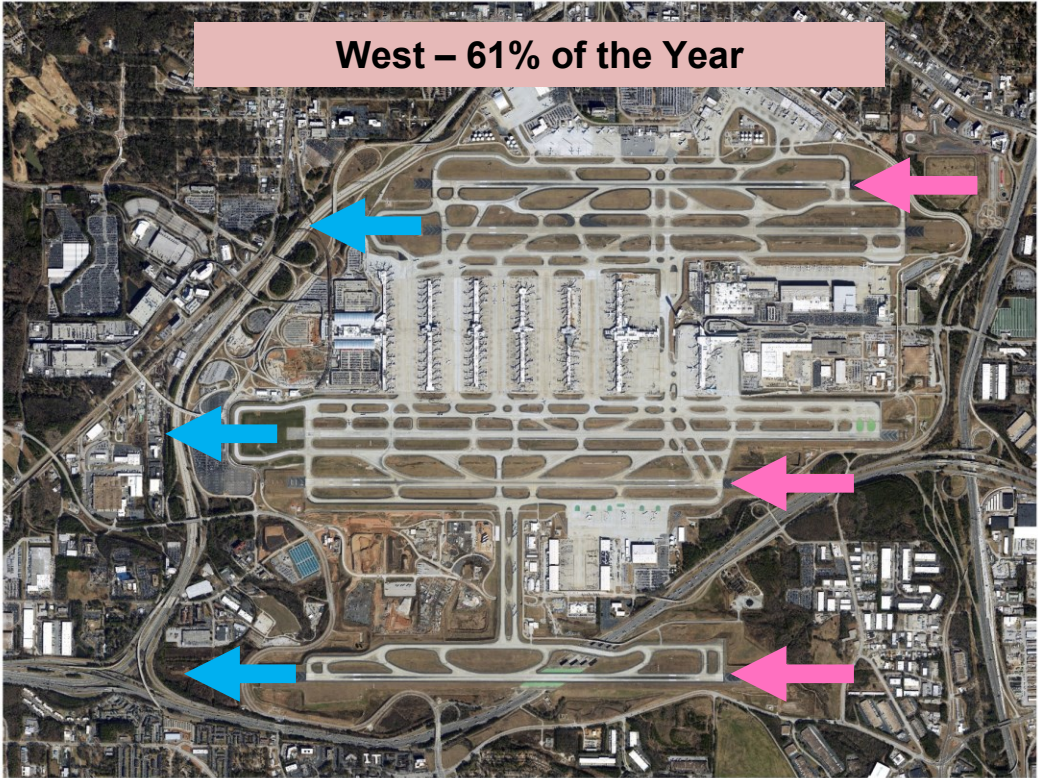
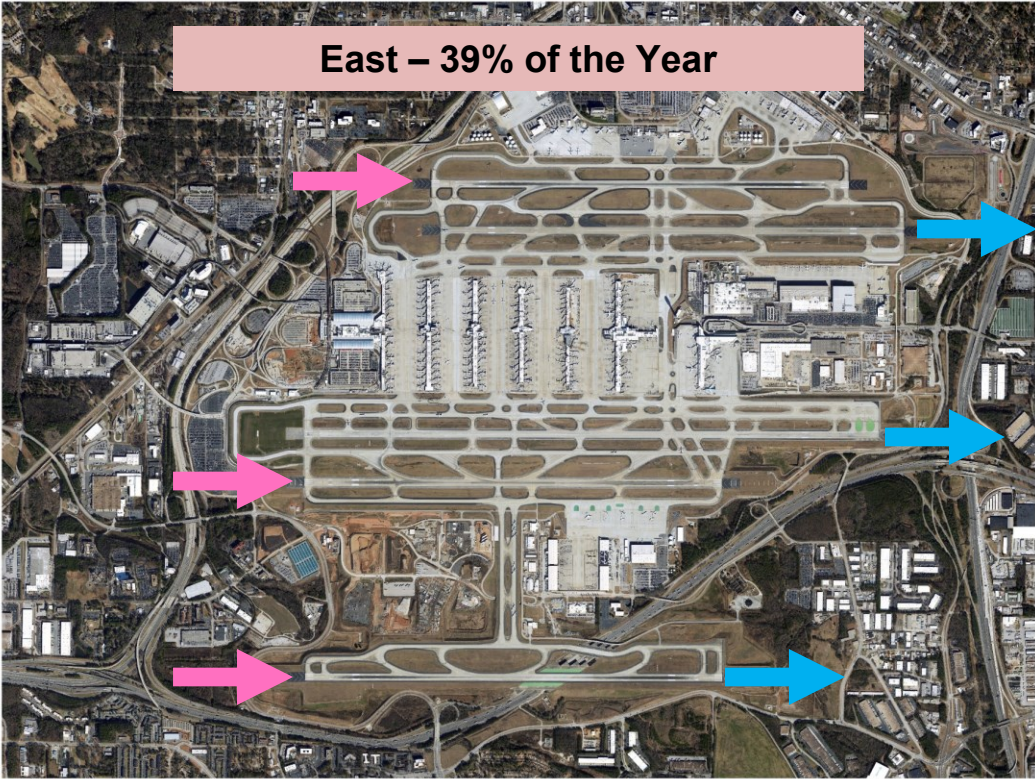
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Airfield Directional Use

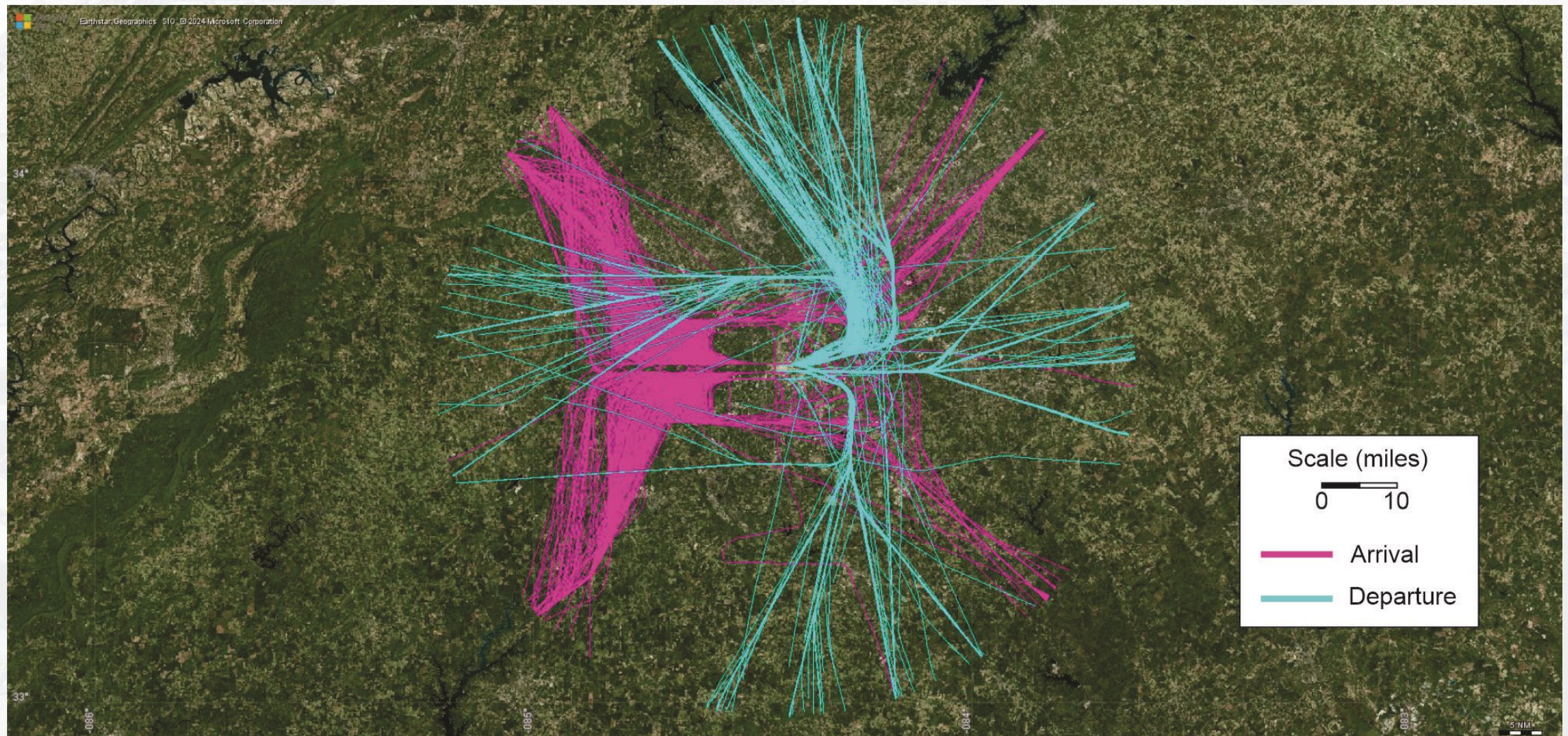
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- ➡ Arrivals
- ➡ Departures



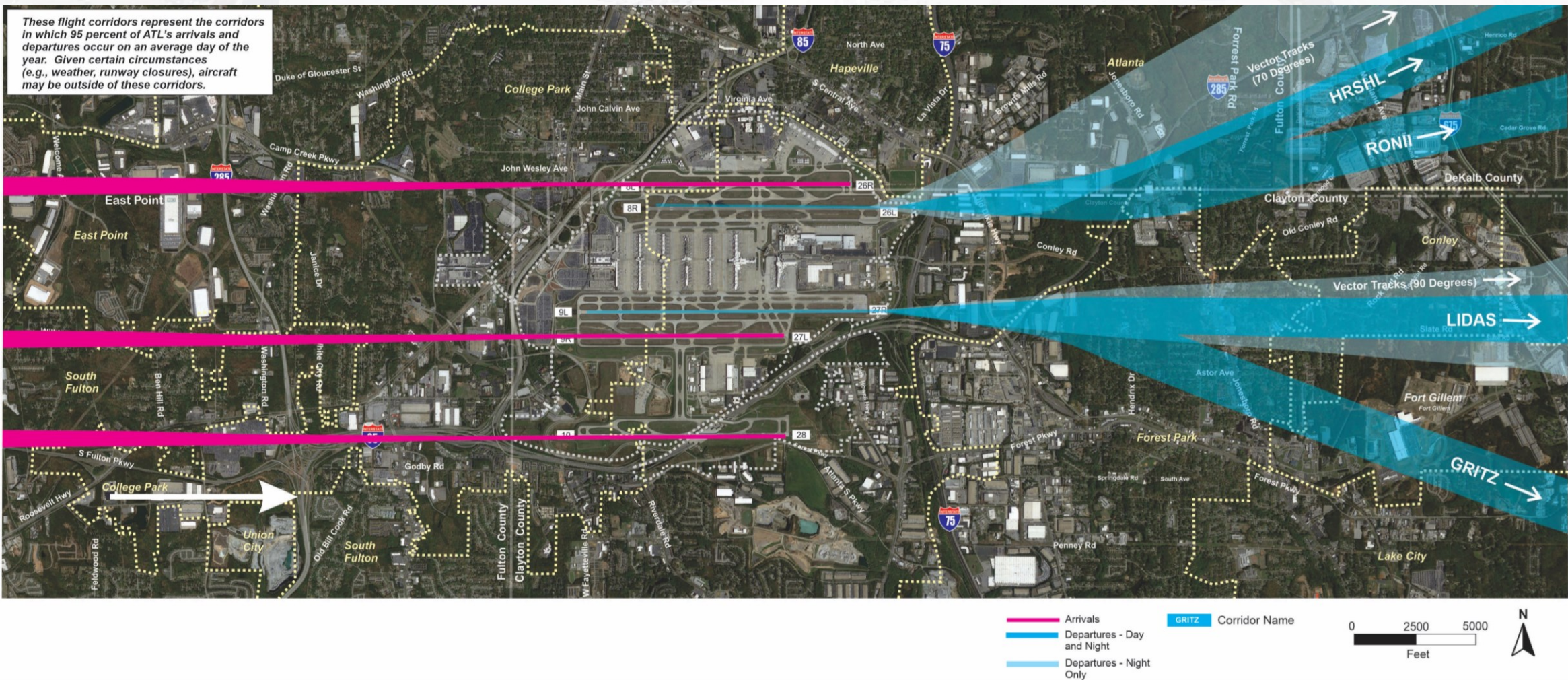
Developed using data from the DOA's Flight Tracking System.

Arrival/Departure Tracks- East Flow



Source: FAA radar data (coverage 45 miles from airport center and up to 20,000 ft in altitude).

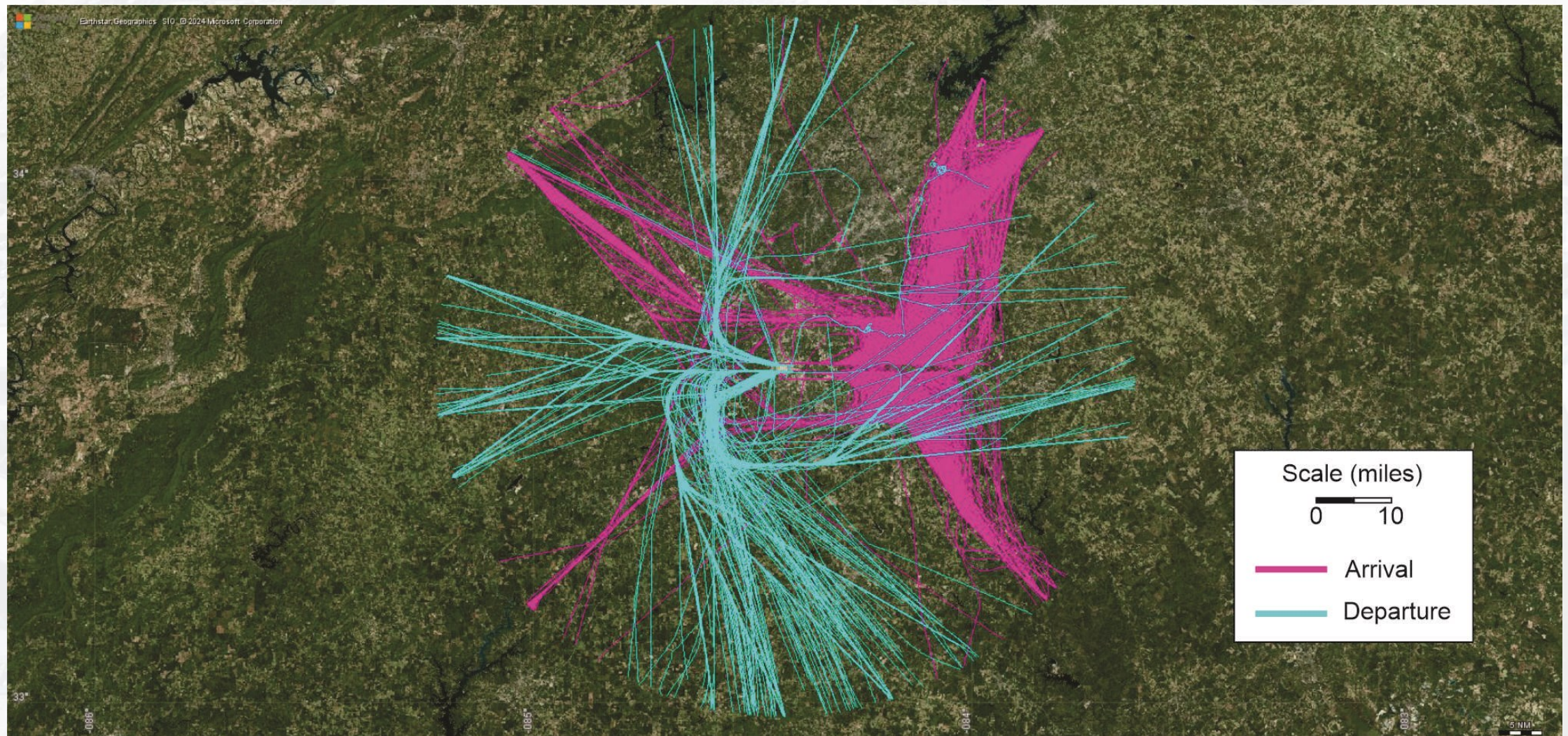
Jet Arrival/Departure Corridors – East Flow



Prop/Turboprop Arrival/Departure Corridors – East Flow

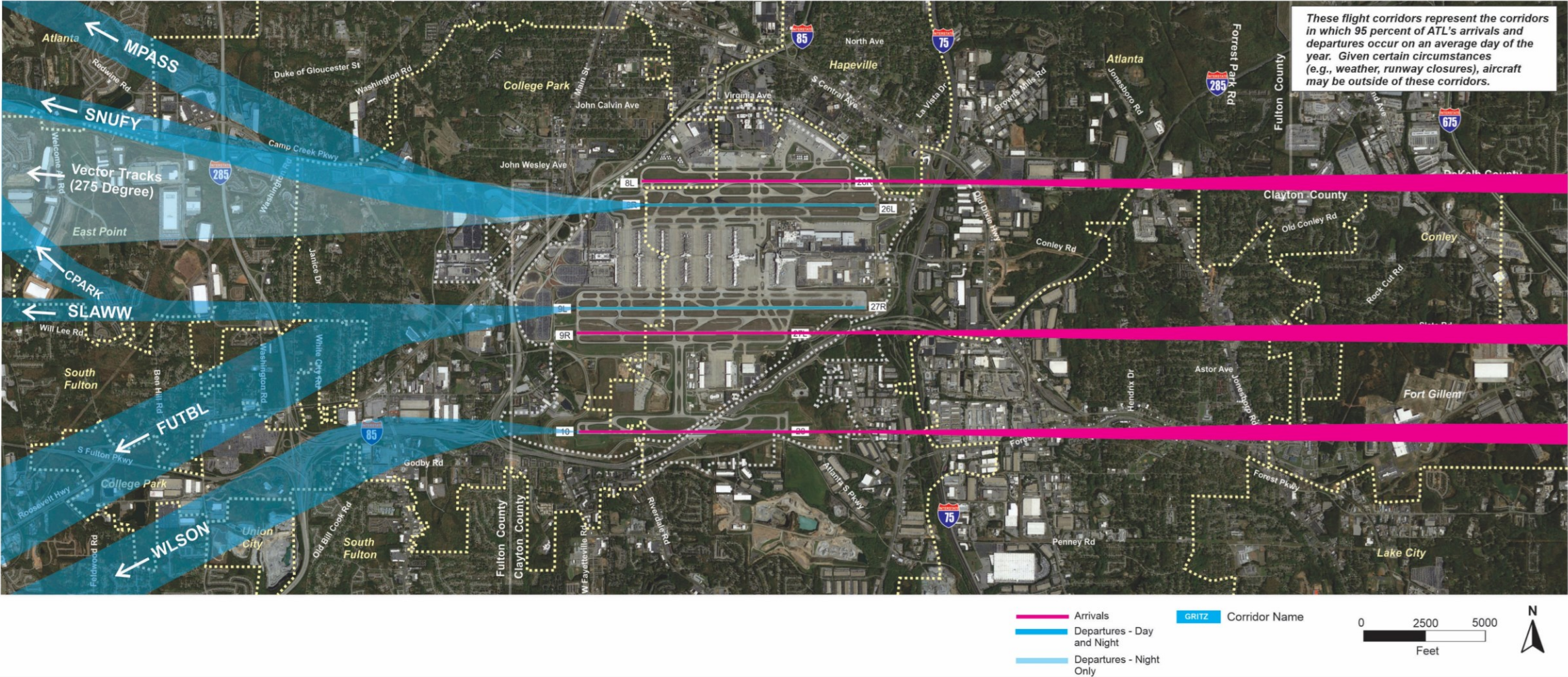


Arrival/Departure Tracks- West Flow

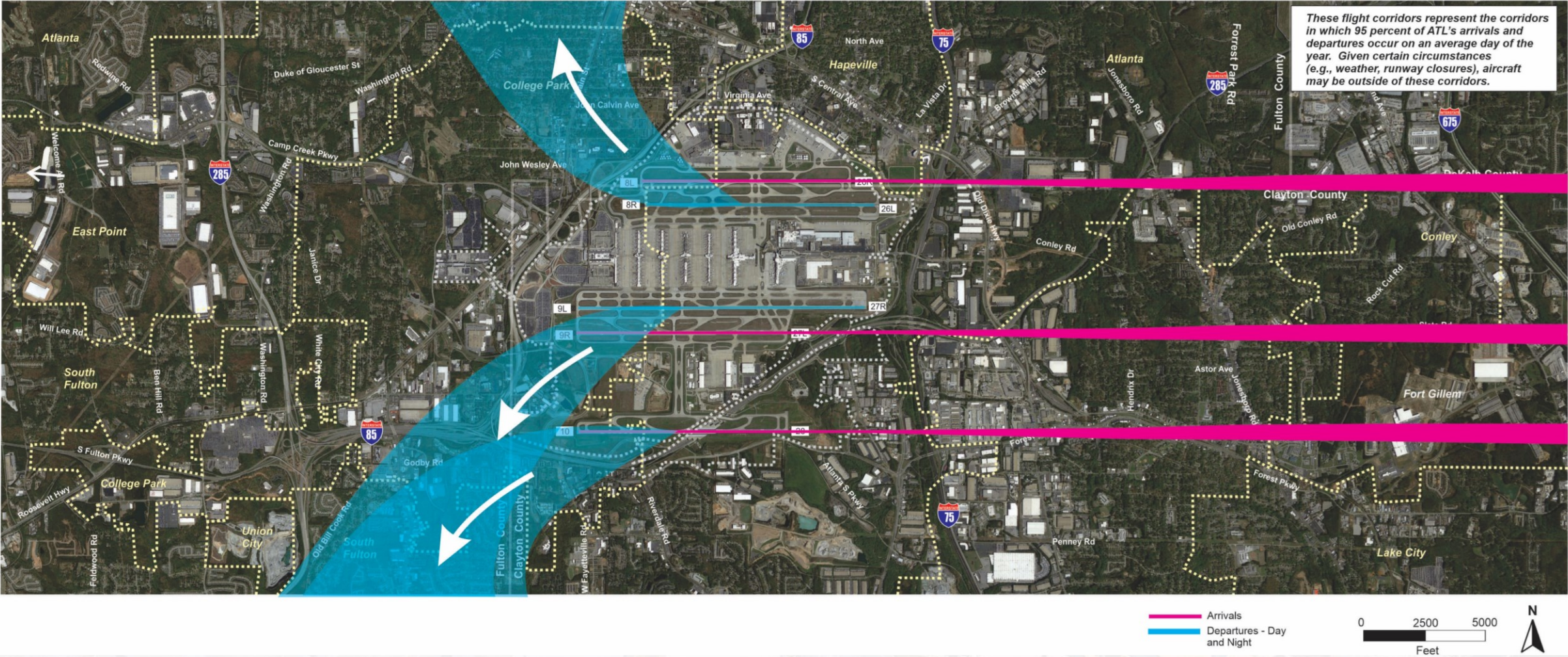


Source: FAA radar data (coverage 45 miles from airport center and up to 20,000 ft in altitude).

Jet Arrival/Departure Corridors – West Flow

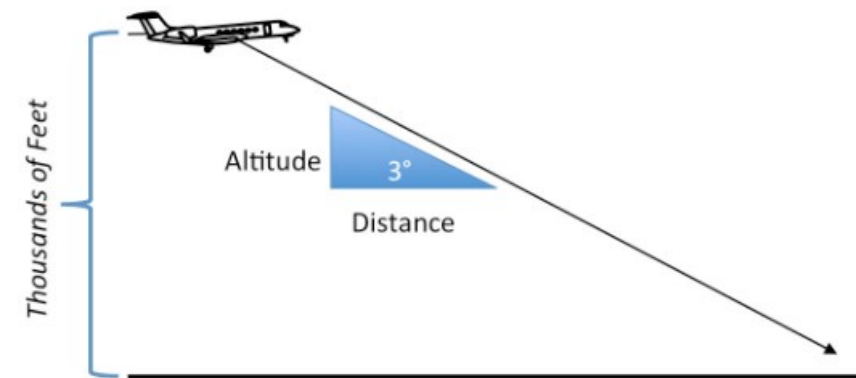


Prop/Turboprop Arrival/Departure Corridors–West Flow



Arrival and Departure Profiles

- Arrivals: At established distances from ATL’s runways, aircraft descend to the end of a runway using a three-degree glideslope.



- Departures: The profiles of the aircraft departing ATL will be based on data from the DOA’s Flight Tracking System (FTS). The FTS provides destination airports for each departure that are then assigned an aircraft stage (i.e., trip) length for input to AEDT. AEDT uses the trip length to approximate the weight of the aircraft on departure which, in combination with AEDT’s meteorological data, determines the aircraft departure profiles.

Operation Time	AC Type	Runway	Origin Airport	Destination Airport
2024-09-08 09:25:02	B739	8R	ATL	CLE
2024-09-08 09:25:49	B739	8R	ATL	SMF
2024-09-08 09:26:54	B739	8R	ATL	CVG
2024-09-08 09:32:49	B739	8R	ATL	SJC
2024-09-08 09:34:54	B739	8R	ATL	DTW
2024-09-08 09:56:45	B739	8R	ATL	GEG
2024-09-08 10:03:54	B739	8R	ATL	MEM

Time of Day

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Arrivals/Departures	Percent	
	Daytime (7 AM - 10 PM)	Nighttime (10 PM - 7 AM)
Arrivals	88	12
Departures	86	14

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Meteorological Data

Airport:	20486 - HARTSFIELD - JACKSON ATLANTA INTL
Select year:	2014-2023 average System data (ISD)
Temperature (°F):	63.85
Pressure (millibars):	981.21
Sea level pressure (millibars):	1018.38
Relative humidity (%):	66.36
Dew point (°F):	52.38
Wind speed (knots):	6.99

Source: AEDT

Airfield Location and Elevation

Airport: KATL - HARTSFIELD - JACKSON ATLANTA INTL

^ Location

City	ATLANTA
State	GEORGIA
Country	UNITED STATES
Latitude	33.6366996111
Longitude	-84.427864
Elevation MSL (ft)	1027

Source: AEDT

Schedule

Today	First Public Workshop (Comments due October 3 rd)
September-October	DOA prepares Draft NEMs and Draft NEM Report
November	Second Public Workshop to Present Draft NEMs
December	Draft Final NEMs/Report Submitted to the Federal Aviation Administration

Views, Data, Comments

- Tonight:
 - Provide your input to the court reporter
 - Submit the comment sheet attached to the handout
- Tomorrow through October 3, 2024, using **the addresses on the handout:**

- Mail to -

Tianna Evola
Director of Government Affairs
City of Atlanta/Department of Aviation
P. O. Box 20509
Atlanta, GA 30320

- Email to -

NEMComments@cmtengr.com



Note: This presentation is available for download on ATL's website (ATL.com).