

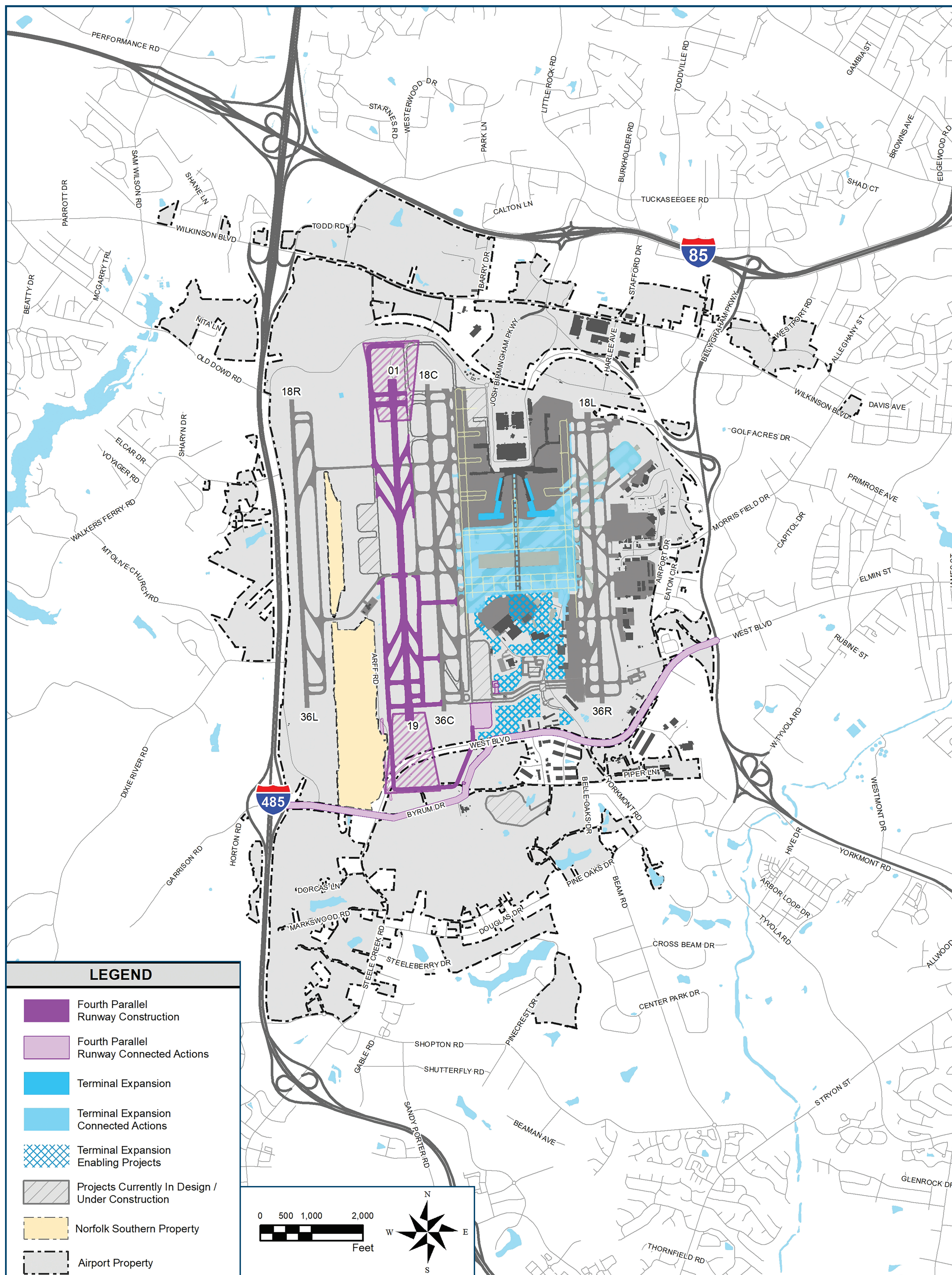
Welcome to the

Public Information Meeting

What is a Part 150 Study?

- **Code of Federal Regulations (14 CFR) Part 150**
 - » Part 150 is the common name for the process outlined in 14 CFR Part 150
 - » The purpose of a Part 150 study is to identify where land uses are not compatible with aircraft noise and to recommend solutions
 - » Airports prepare Part 150 studies in accordance with Federal Aviation Administration (FAA) guidance
- **Part 150 Studies are Planning Studies**
 - » Identify noise and land use impacts in accordance with FAA guidance
 - » Work to develop solutions within the FAA's framework
 - » City Council ultimately recommends measures, FAA approves measures
- **Part 150 Studies can open funding sources**
 - » May be eligible for grants to implement recommendations
 - » Funding is not guaranteed
- **Part 150 Studies do not:**
 - » Recommend closing an airport
 - » Recommend implementing mandatory restrictions
- **Purpose for conducting this Part 150 Study**
 - » Re-evaluate noise with respect to the decommissioning of Runway 5/23 and implementation of multiple previously-approved airfield and terminal improvement projects to be constructed and operational by 2028
 - » Develop a balanced and cost-effective plan for reducing noise impacts from the updated airfield and to limit additional impacts in the future where possible

Airfield Improvements – Previously Approved



PLANNED CONSTRUCTION TIMELINE

2022 EARLY

FAA Issued
 Finding of
 No Significant
 Impact/Record
 of Decision

2022 MID

Initiate Design

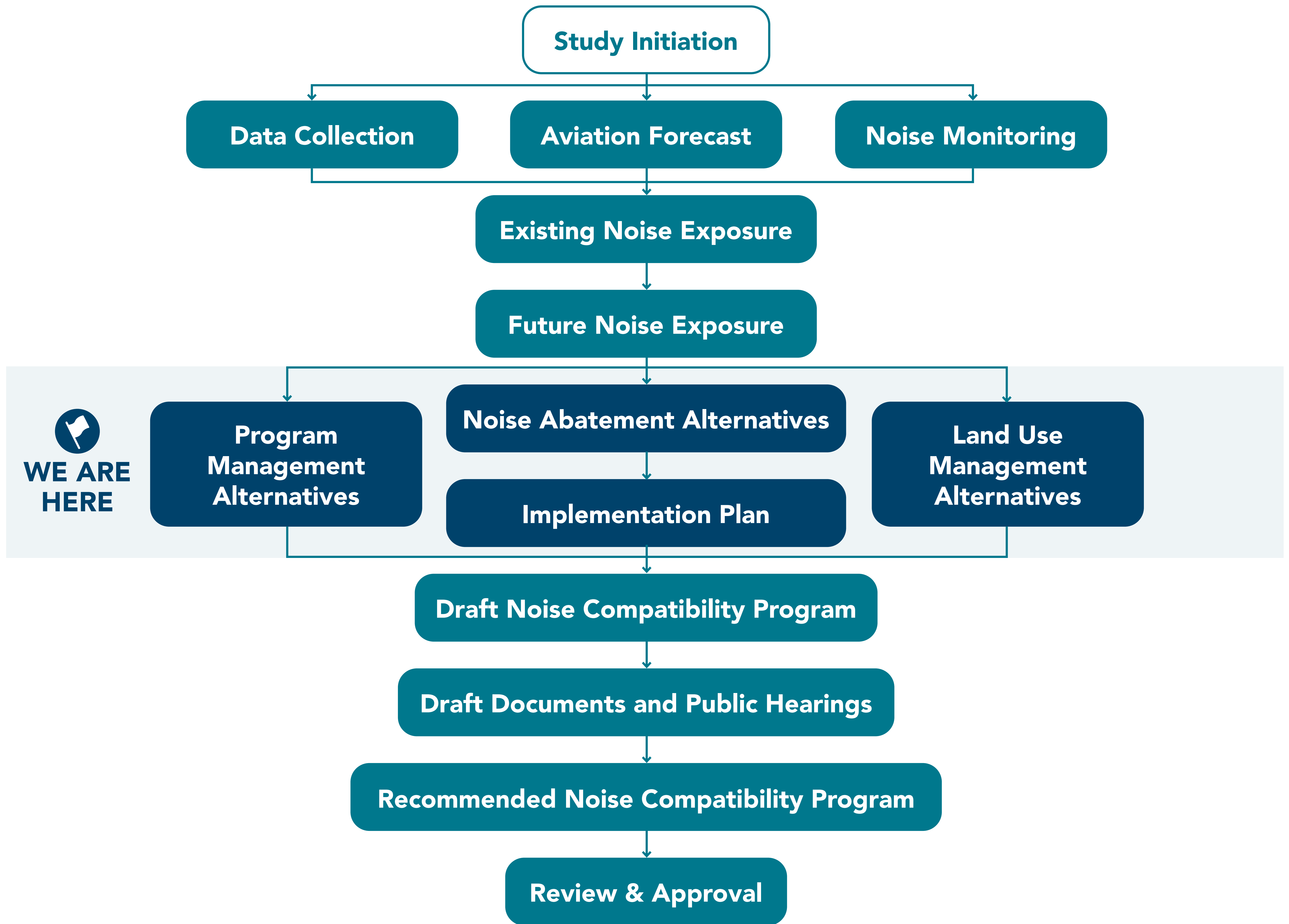
2023 to 2028

Construction

2028

Project
 Completion

Part 150 Process



Part 150 Study – Primary Elements:

Noise Exposure Maps	Noise Compatibility Programs	Public Involvement
<ul style="list-style-type: none"> • Description of the noise levels for existing and future (+5 years) conditions 	<ul style="list-style-type: none"> • Recommendations for reducing, minimizing, and/or mitigating aircraft noise and land use conflicts • May reflect short-term and long-term 	<ul style="list-style-type: none"> • Project website and social media • Meeting notices, study process, and draft findings • Comment collection

History of Noise Compatibility Planning at CLT

1987

Part 150 Noise
Compatibility Study

1996

Part 150
Study Update

2015

Noise Exposure Map
(NEM) Update

- Prepared NEMs for 1996 and 2001 conditions
- 2001 NEM included construction of the third parallel runway

- Prepared NEMs for 2015 and 2020 conditions

CLT has invested more than \$120 million in local community projects directly related to reducing or mitigating airport noise issues through a **Residential Sound Insulation Program** and **Residential Acquisition Program**. To date, nearly 1,000 homes, six churches and three schools have been insulated. Additionally, almost 400 properties in high noise zones, including mobile home parks, have been purchased by the Airport.

History of Noise Compatibility Planning

CURRENTLY APPROVED NOISE ABATEMENT MEASURES

Measure ID	DESCRIPTION	STATUS
NA-1	Continue periodic monitoring procedures, initiated as a result of the 1990 Part 150 Noise Compatibility Program (NCP), within the Airport Environs. (Continuation of implemented Measure NA-1 of adopted 1990 NCP.) (Phase I) Approved in 1996	Inactive
NA-4	Provide monthly reports on late night (11:00 p.m. to 7:00 a.m.) runway utilization and variances from NCP assumptions to Air Traffic Control Tower management and frequent nighttime operators. Conduct follow-up with FAA and carriers to enhance voluntary adherence to existing program. (Phase I) Approved in 1996	Active
NA-5	Designate Runway 18C or 18L as preferred for takeoffs by turbojet and large four-engine prop aircraft between 11:00 p.m. and 7:00 a.m. when, under the current preferential runway use program, Runway 23 or Runway 5 cannot be used for reasons of wind, weather, operational necessity, or required runway length. (Phase I) Approved in 1996	Active
NA-6	Reaffirm Airport user policy which designates locations and procedures for aircraft engine runups. Establish a runup position on the USAir ramp parallel to Runway 5/23. (Phase I) Approved in 1996	Active
NA-7	Departing Runways 36R and 36C, turbojet and large four-engine prop aircraft initiate turns at the 2.6 and 2.5 DME north of the CLT VOR/DME, respectively. (Phase I) Approved in 1996	Active
NA-8	After construction of Runway 18R/36L, 3,700 feet west of Runway 18C/36C, establish an initial departure turn for Runway 18R, to be made as soon as practicable by turbojets and large four-engine prop aircraft, to a heading of 195 degrees. (Phase II) Approved in 1996	Active
NA-9	After commissioning of a third parallel runway west of Runway 18C/36C, establish an initial departure turn, as soon as practicable, by turbojets and large four-engine prop aircraft to a heading of 315 degrees from Runway 36L. (Phase II) Approved in 1996	Active

*Measures that are not active and have been revoked are not included.

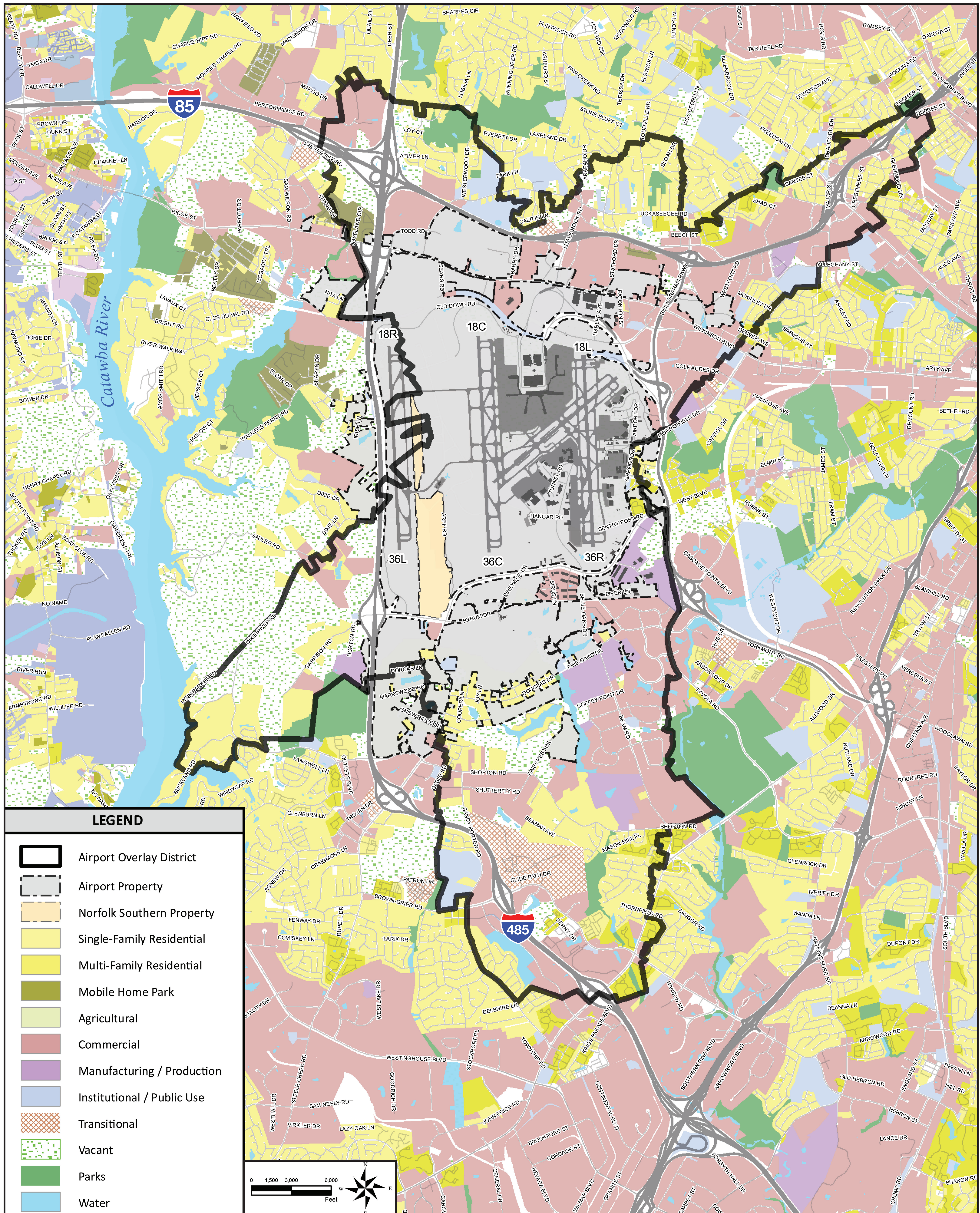
History of Noise Compatibility Planning

CURRENTLY APPROVED LAND USE CONTROL MEASURES

Measure ID	DESCRIPTION	STATUS
LU-1	Promote compatible land use planning within the 65 DNL of the combined 1996 NEM contours and 1996 NCP contours. (Phase I) Approved in 1996	Active
LU-2	Pursue zoning for compatible development. (Phase I) Approved in 1996	Active
LU-4	Require the dedication of an aviation easement as a condition to approval of development of property located in the Airport Environs. (Phase I) Approved in 1996	Active
LU-7	Pursue the establishment of an Airport Overlay District that corresponds to the Airport Environs. (Phase I) Approved in 1996	Active
LU-8	Pursue amending the state building code to authorize the City of Charlotte and Mecklenburg County to raise the minimum building standards (Noise Level Reduction requirements) by incorporating noise attenuation requirements for new residential construction within an Airport Overlay District. (Phase I) Approved in 1996	Active
LU-9	Develop a purchaser disclosure notice and pursue method of enforcement. (Phase I) Approved in 1996	Active

*Measures that are not active and have been revoked are not included.

Airport Noise Disclosure Overlay District



History of Noise Compatibility Planning

CURRENTLY APPROVED LAND USE MITIGATION MEASURES

Measure ID	Description	Status
NM-1	Establish a public information program which distributes noise and noise abatement information to the public. (Phase I) Approved in 1996	Active
NM-2	Sound insulate noise-sensitive public building intended for public use, instruction (e.g., schools) or assembly (e.g., churches) located within the 65 DNL noise contour of the combined 1996 NCP/NEM contours, whichever is greater. (Phase I) Approved in 1996 and again in 1998 to add churches	Active
NM-3	Sound insulate eligible houses located within the 65 DNL noise contour of the 1996 NCP/NEM contours, whichever is greater, which may be benefited under the FAA design criteria. (Phase I)	Active
NM-4	Reduce existing noise-sensitive uses within 70-75 DNL zone of the 1994 NEM via purchase assurance, sound insulate residences to NLR standards, purchase avigation easements, or acquisition of developed incompatible property. (Phase I) Approved in 1996	Completed
NM-5	Acquire property within the 75 DNL of the 1994 NEM contours. Listed for numeric continuity.	Completed
NM-6	Acquire mobile homes located within the 70 DNL noise contour of the 1996 NCP and 1996 NEM, whichever is greater. (Phase I) Approved in 1996	Active
NM-7	At the Airport's option, purchase avigation easements, sound insulate, or acquire houses within the combined 65 DNL of the 1996 NEM/NCP contour, whichever is greater, where sound insulation is infeasible or not cost-effective because the property does not comply with the Building Code. (Phase I) Approved in 1996	Active
NM-8	Sound insulate eligible houses located within the 65 DNL noise contour of the 2001 NCP, if any remain to be treated. (Phase II) Approved in 1996	Active
NM-9	Acquire mobile homes located within the 65 DNL noise contour of the 2001 NCP. (Phase II) Approved in 1996	Active

Land Use Noise Sensitivity Matrix

Per Part 150:



Compatible



Compatible with Sound Insulation



Incompatible

Residential



OUTDOOR NOISE LEVEL

< 65
DNL

65-75
DNL

75+
DNL

1-2 Family



Multi-Family



Mobile Homes



Dorms, etc.



Institutional



Schools



Places of Worship



Hospitals



Nursing Homes



Libraries



Recreational



Sports/Play



Amphitheaters,
Music Shells



Camping



Commercial*

All Uses



Industrial*

All Uses



Agricultural

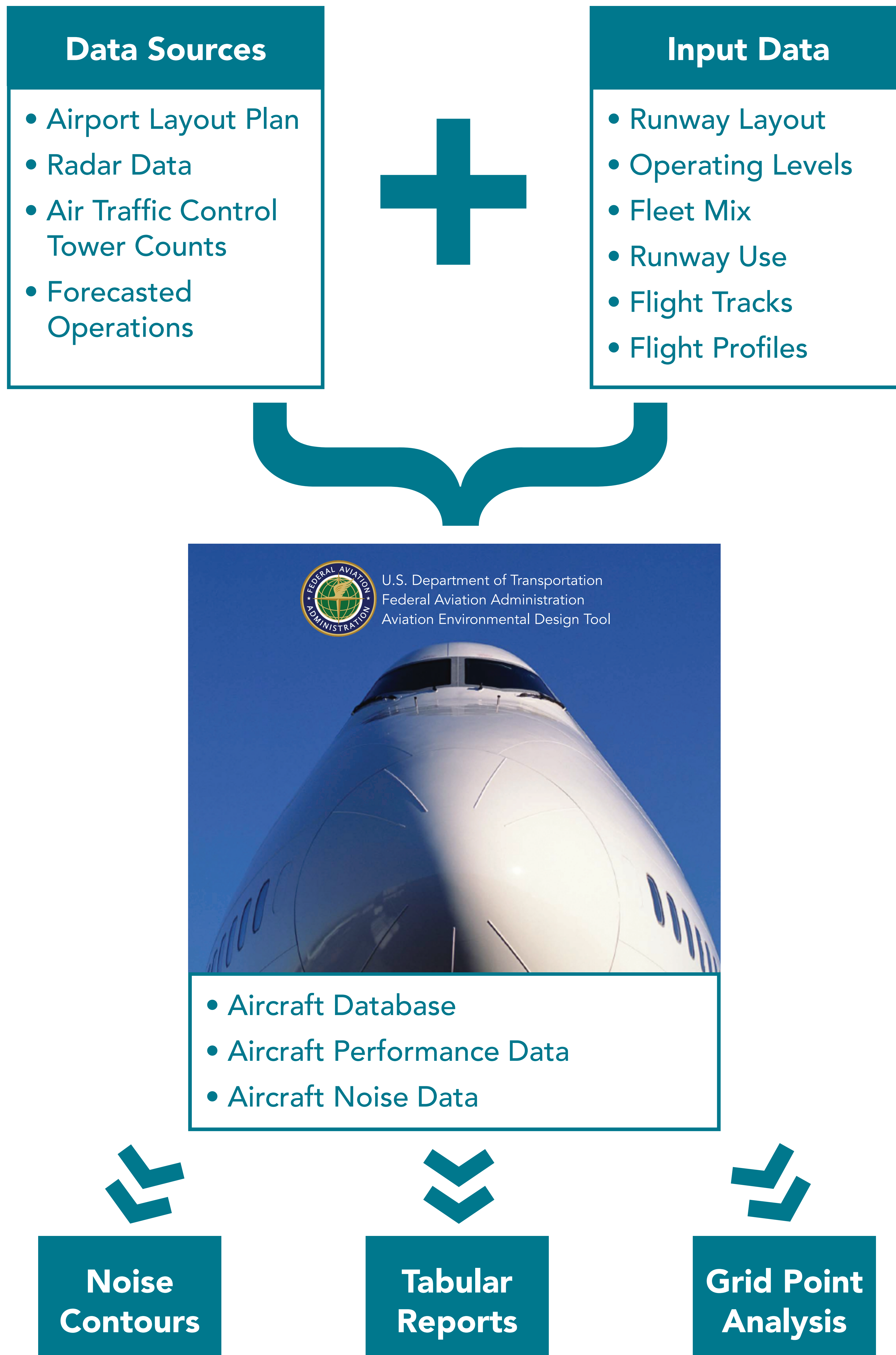
All Uses



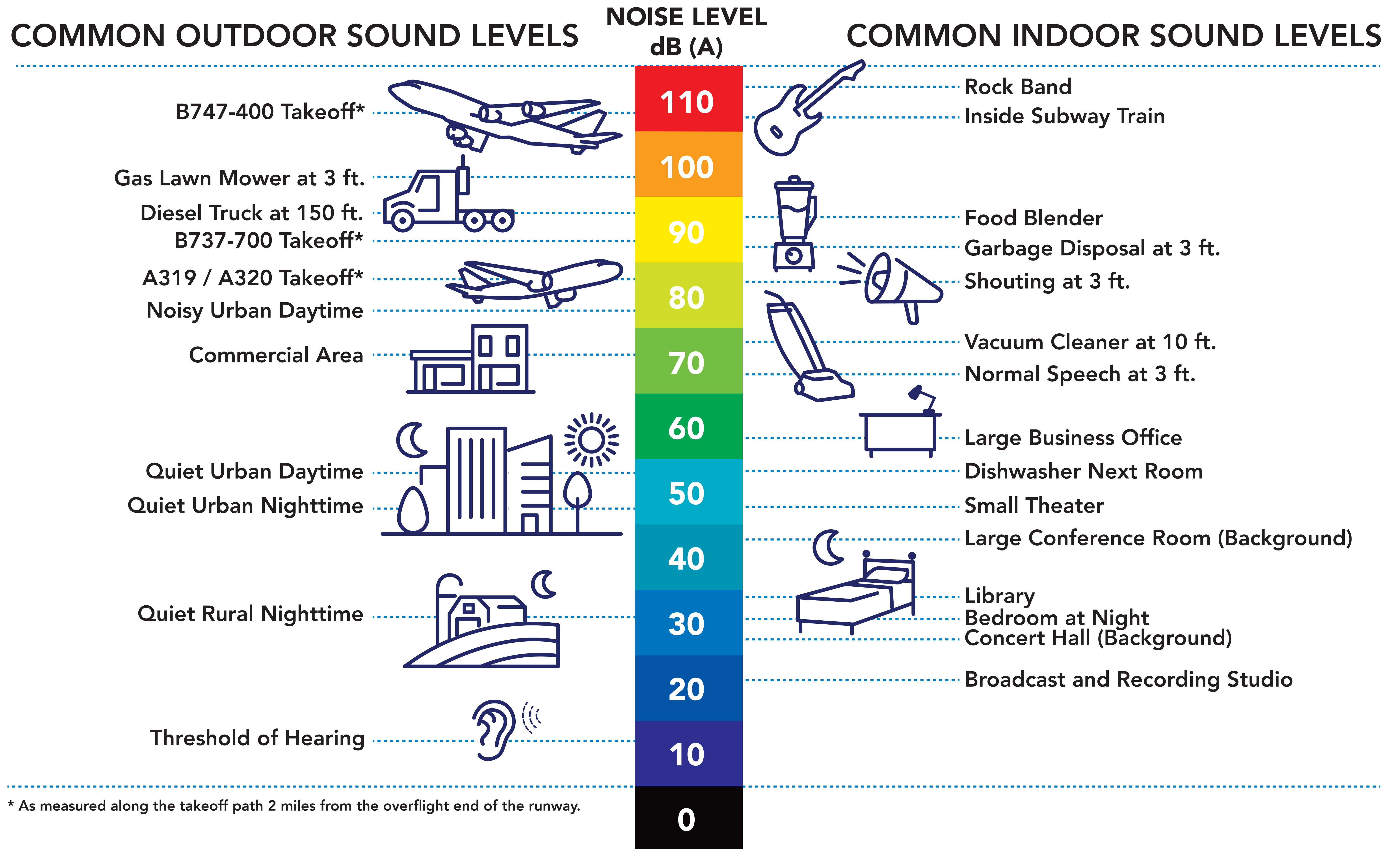
*Appropriate noise level reduction must be incorporated into the design of areas where the public is received, office areas, and other noise-sensitive areas.

How Noise Contours are Generated

AVIATION ENVIRONMENTAL DESIGN TOOL (AEDT)

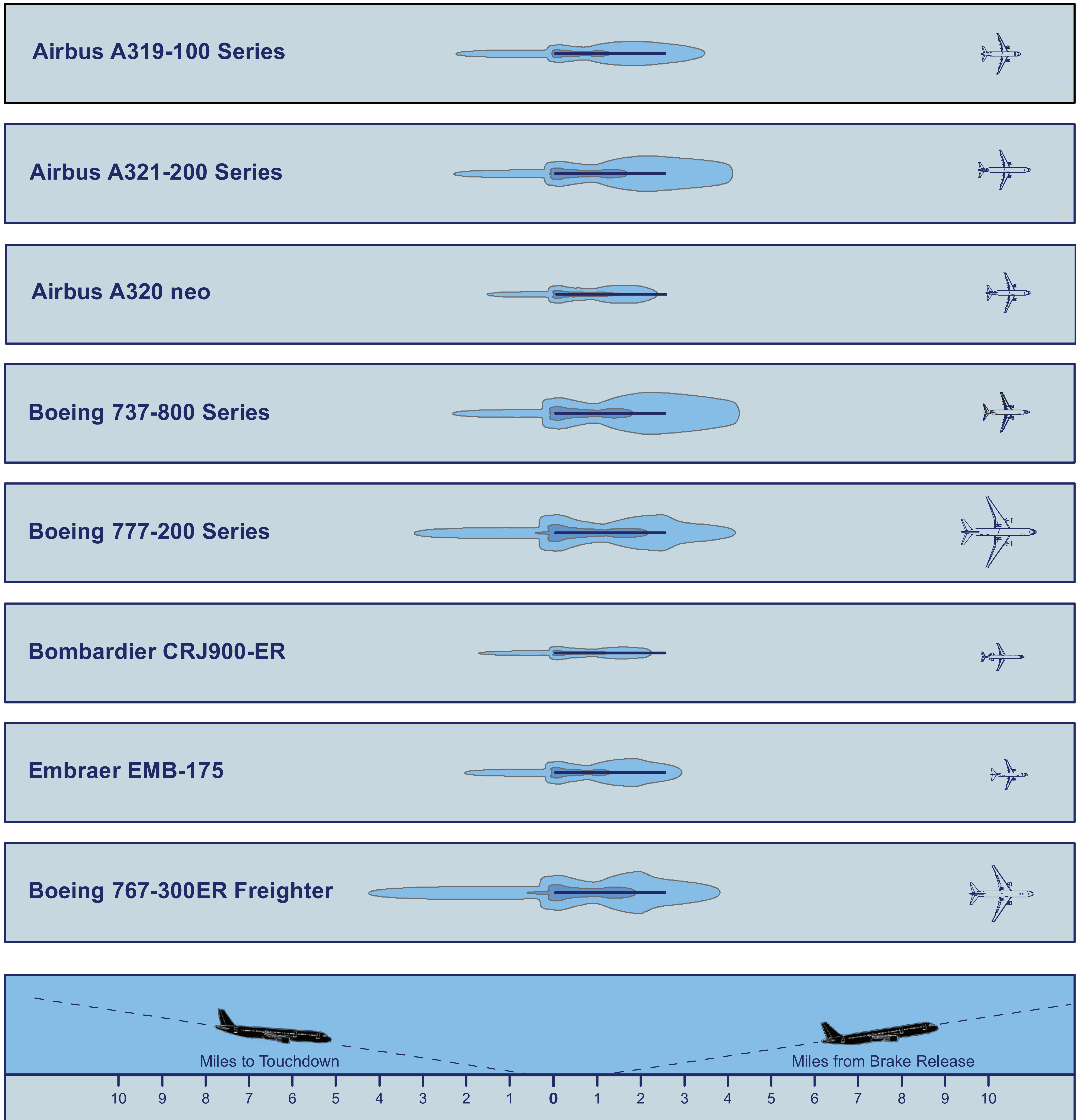


Comparison of Noise Levels

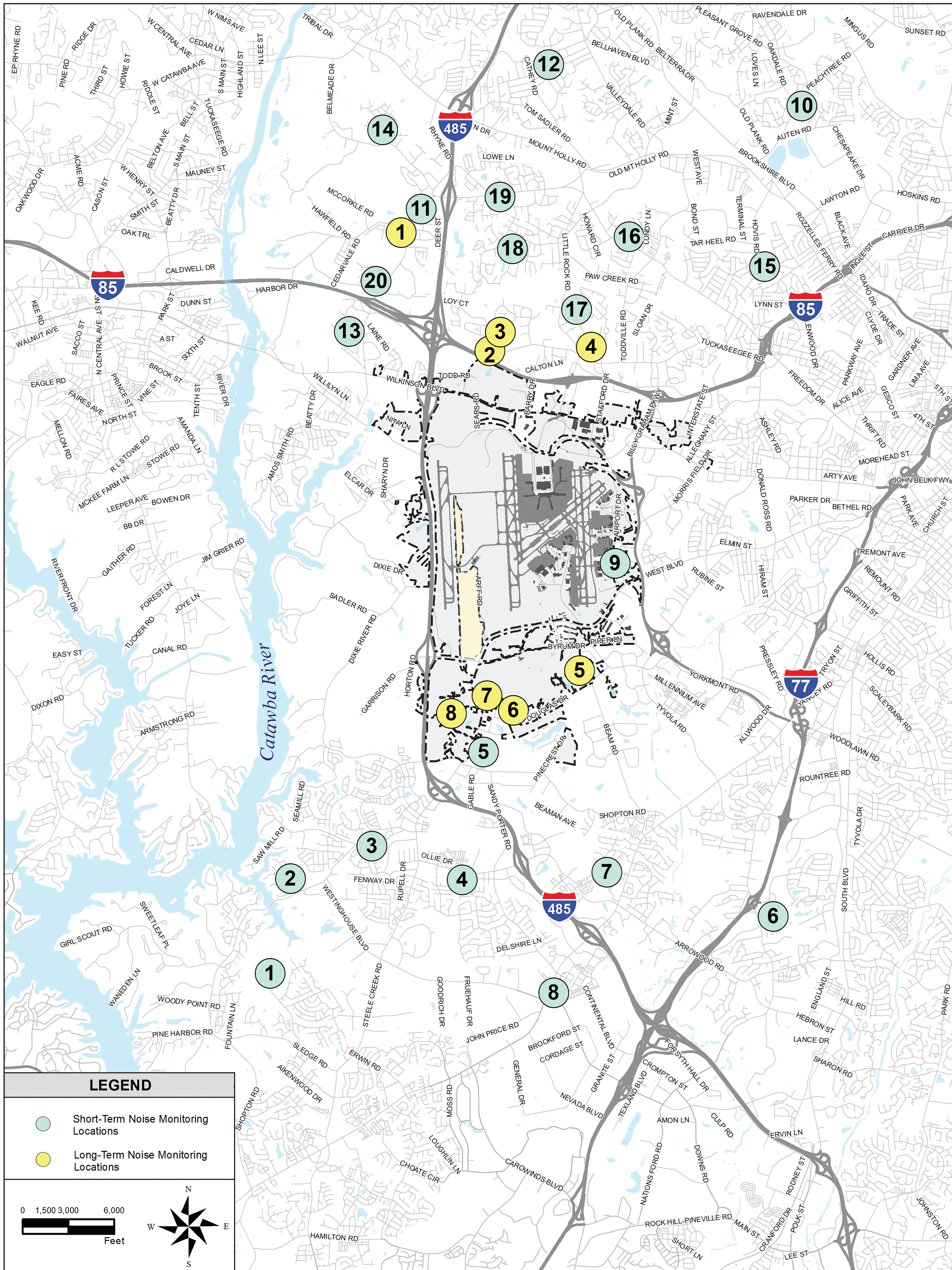


* As measured along the takeoff path 2 miles from the overflight end of the runway.

Aircraft Noise Footprints



Noise Monitoring Program



Noise Monitoring Program

PURPOSE:

- Validate and verify the input data in the AEDT
- Obtain “real-life” noise measurements to assist in understanding the total noise environment

METHODS:

- Conducted the week of October 4, 2022
- Collected noise measurements at 20 short-term sites (approximately one hour at each site) and eight long-term sites (up to seven days)
- Correlated noise measurement data to radar data

LONG-TERM SITE RESULTS:

- Results showed that the AEDT profiles were consistent with actual conditions

SHORT-TERM SITE RESULTS:

Site ID	Site Description	Date	Time of Measurement	Type of Event	# of Events	Loudest Aircraft
1	Winget Park	10/6/22	3:42 pm to 4:18 pm	Departures	11	B737
2	River Cabin Lane	10/6/22	5:45 pm to 6:32 pm	Departures	19	A319
3	Berewick Commons Parkway near Loch Lomond Drive	10/6/22	4:46 pm to 5:24 pm	Departures	27	A320
4	Griers Fork Drive & Brown Grier Rd	10/10/22	1:59 pm to 2:51 pm	Arrivals	15	A321
5	Gerald Drive at Sullivan Trace Drive	10/6/22	9:21 am to 10:08 am	Arrivals	34	A319
6	Treetops Apartments	10/6/22	2:37 pm to 3:12 pm	Departures	15	B737
7	Thornfield Road west end cul-de-sac	10/11/22	8:33 am to 9:18 am	Arrivals	5	B737
8	Central Steele Creek Church	10/5/22	9:06 am to 9:49 am	Arrivals	30	CRJ9
9	Harvest Center Church	10/6/22	10:46 am to 11:46 am	Departures	30	A321
10	Peachtree Road & Emmanuel Drive	10/10/22	12:40 pm to 1:27 pm	Departures	13	A321
11	Prairiegrouse Lane	10/4/22	10:12 pm to 11:12 pm	Departures	11	A306
12	Coulwood Drive & Fielding Road	10/11/22	10:29 am to 10:55 am	Departures	7	CRJ9
13	Community west of Sam Wilson Road on Farrhill Road	10/5/22	5:55 pm to 6:37 pm	Departures	16	CRJ9
14	Verde Creek Road west of San Gabriel Avenue	10/5/22	11:12 am to 11:53 am	Departures	25	B737
15	Chappell Baptist Church	10/5/22	3:36 pm to 4:49 pm	Departures	13	A320
16	Eagles Landing Drive	10/4/22	9:05 am to 10:05 am	Departures	3	B757
17	Still Pond Court	10/5/22 10/6/22	7:09 pm to 8:03 pm 1:19 pm to 1:51 pm	Departures Arrivals	23 11	B737 B737
18	Cabe Lane	10/5/22	2:35 pm to 3:33 pm	Departures	22	A321
19	St Johns Chapel Baptist Church	10/10/22	4:23 pm to 5:24 pm	Departures	55	B777
20	Taimi Drive	10/5/22	4:51 pm to 5:32 pm	Departures	25	A321

Existing (2023) Operating Levels and Fleet

Aircraft Category	2023 Existing Operations		
	Annual Operations	Average Annual Day	Percent
Air Carrier & Commuter	499,472	1,368.4	94.9%
General Aviation	25,785	70.6	4.9%
Military	1,197	3.3	0.2%
Total	526,454	1,442.3	100.0%

AEDT Airframe Type	Average Annual Day Operations
Heavy Passenger Jet	
Airbus A350-900 series	0.7
Boeing 777-200-ER	7.6
Subtotal	8.3
Large Passenger Jet	
Airbus A319-100 Series	119.4
Airbus A320-200 Series	69.5
Airbus A320-NEO	5.5
Airbus A321-200 Series	192.4
Boeing 717-200 Series	23.8
Boeing 737-700 Series	8.6
Boeing 737-8	2.2
Boeing 737-800	195.4
Boeing 737-900-ER	0.3
Bombardier CRJ-700	4.0
Bombardier CRJ-700-ER	154.6
Bombardier CRJ-900	6.7
Bombardier CRJ-900-ER	283.0
Embraer ERJ170	18.3
Embraer ERJ170-LR	14.5
Embraer ERJ175-LR	78.9
Embraer ERJ190-AR	2.7
Subtotal	1,179.7
Regional Jet	
Embraer ERJ135	3.8
Embraer ERJ145-LR	131.9
Subtotal	135.7
Cargo Jet	
Airbus A300F4-600 Series	3.3
Boeing 757-200 Series Freighter	2.9
Boeing 767-200 Series Freighter	1.8
Boeing 767-300 ER Freighter	4.6
Boeing MD-11 Freighter	1.4
Subtotal	14.1
Commuter / General Aviation Prop	
Cessna 172 Skyhawk	1.5
Pilatus PC-12	6.8
Piper PA-32 Cherokee Six	0.6
Raytheon Super King Air 300	6.2
Subtotal	15.1

AEDT Airframe Type	Average Annual Day Operations
General Aviation Jet	
Bombardier Challenger 300	9.0
Bombardier Challenger 600	2.4
Bombardier Global Express	0.6
Bombardier Learjet 45	0.8
Cessna 550 Citation II	1.0
Cessna 560 Citation Excel	6.7
Cessna 560 Citation V	4.8
Cessna 560 Citation XLS	2.2
Cessna 650 Citation III	0.7
Cessna 680 Citation Sovereign	3.1
Cessna 680-A Citation Latitude	12.0
Cessna 750 Citation X	1.6
Dassault Falcon 2000	4.6
Dassault Falcon 50	0.7
Dassault Falcon 900	4.4
Dassault Falcon 900-EX	1.9
Gulfstream G280	2.9
Gulfstream G400	2.0
Raytheon Beechjet 400	3.5
Raytheon Hawker 800	1.9
Raytheon Premier I	0.8
Cessna 525	2.9
Cessna 525A	1.9
Cessna 525B	2.7
Embraer Phenom 100	0.8
Embraer Phenom 300	4.8
Gulfstream G650	1.4
Gulfstream G-5 Gulfstream 5 / G-5SP Gulfstream G500	1.2
Subtotal	83.2
Helicopter	
Agusta A119	0.3
Eurocopter EC-130	2.3
Bell 407 / Rolls-Royce 250-C47B	0.4
Subtotal	3.0
Military	
Boeing C17A	3.3
Subtotal	3.3
Grand Total	1,442.3

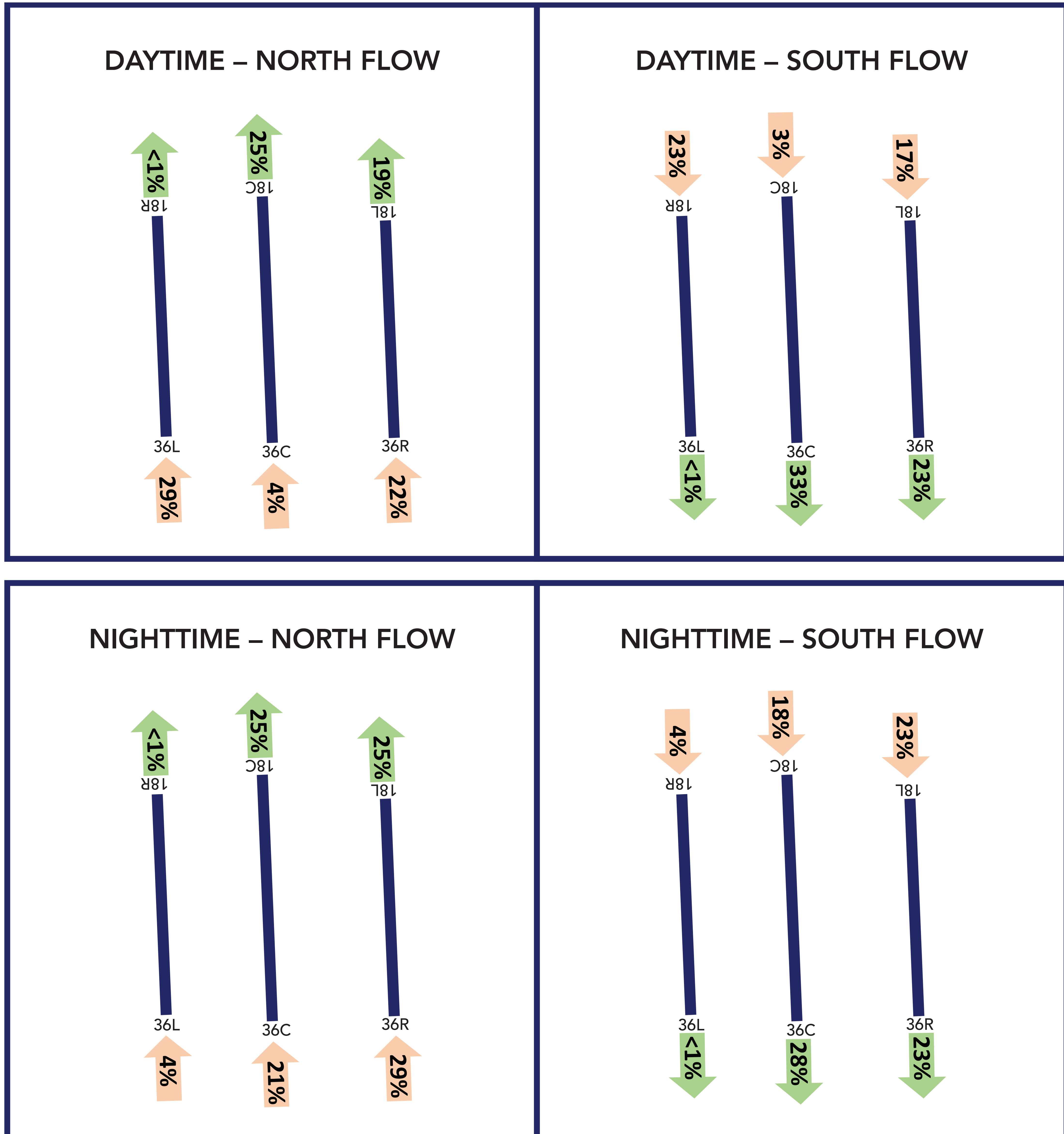
Future (2028) Operating Levels and Fleet

Aircraft Category	2028 Forecast Operations		
	Annual Operations	Average Annual Day	Percent
Air Carrier & Commuter	611,620	1,675.7	95.6%
General Aviation	25,487	69.8	4.0%
Military	2,676	7.3	0.4%
Total	639,783	1,752.8	100.0%

AEDT Airframe Type	Average Annual Day Operations
Heavy Passenger Jets	
Airbus A330-200 Series	7.3
Airbus A350-900 series	1.5
Boeing 787-9 Dreamliner	7.3
Subtotal	16.0
Large Passenger Jet	
Airbus A319-100 Series	215.9
Airbus A320-100 Series	24.8
Airbus A320-200 Series	7.3
Airbus A321-200 Series	218.8
Airbus A321-NEO	42.3
Boeing 717-200 Series	10.2
Boeing 737 MAX 7	1.5
Boeing 737 MAX 8	55.4
Boeing 737 MAX 9	2.9
Boeing 737-700 Series	11.7
Boeing 737-800 Series	16.0
Boeing MD-90	2.9
Bombardier CRJ-700-ER	249.5
Bombardier CRJ-700-LR	2.9
Bombardier CRJ-900-ER	319.5
Embraer ERJ170	7.3
Embraer ERJ175	93.4
Embraer ERJ190-AR	11.7
Subtotal	1,294.0
Regional Jet	
Bombardier Challenger 300	10.1
Bombardier CRJ-200-LR	236.3
Bombardier Global Express	7.0
Bombardier Learjet 45	10.7
Cessna 525 Citation Jet	5.4
Cessna 560 Citation XLS	5.4
Cessna 750 Citation X	16.1
Dassault Falcon 2000	14.9
Dassault Falcon 50	7.0
Dornier 328 Jet	5.4
Embraer 505	21.5
Subtotal	355.7
Cargo Jet	
Airbus A300F4-600 Series	9.6
Boeing MD-10-1 Freighter	1.6
Subtotal	11.2

AEDT Airframe Type	Average Annual Day Operations
Commuter / Cargo Prop	
Embraer EMB120 Brasilia	10.7
Raytheon Super King Air 300	5.4
Subtotal	16.1
General Aviation Jet	
Bombardier Challenger 600	1.6
Bombardier Learjet 60	1.6
Cessna 525A Citation Jet	1.6
Cessna 525B Citation Jet	1.6
Cessna 550 Citation II	3.2
Cessna 560 Citation Excel	4.9
Cessna 560 Citation V	4.8
Dassault Falcon 900	1.6
Gulfstream G150	1.6
Gulfstream G200	1.6
Gulfstream G280	3.2
Gulfstream G500	1.6
Gulfstream G650	1.6
Subtotal	30.3
General Aviation Prop	
Cessna 303 Crusader (FAS)	1.6
Cirrus SR22	1.6
DAHER TBM 900/930	1.6
Pilatus PC-12	9.5
Raytheon Beech Baron 58	1.6
Raytheon King Air 90	1.6
SOCATA TBM 850	1.6
Subtotal	19.0
Helicopter	
Agusta A119	0.3
Eurocopter EC-130	2.3
Bell 407/Rolls-Royce 250-C47B	0.4
Subtotal	3.0
Military	
Boeing C17A	7.3
Subtotal	7.3
Grand Total	1,752.8

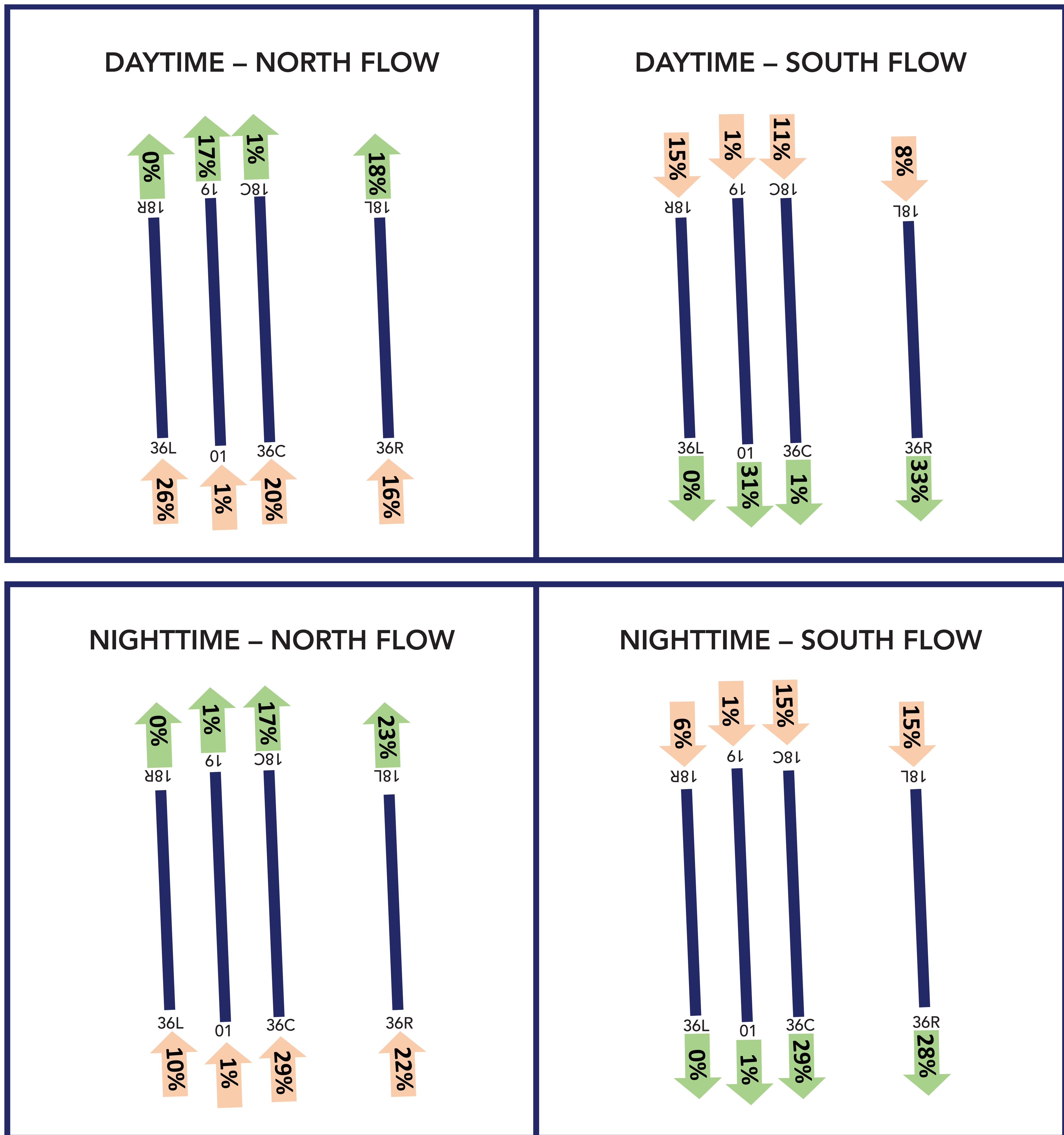
Existing (2023) Baseline Runway Use Average Annual Conditions*



*Totals may not equal 100% due to rounding.

Arrivals
 Departures

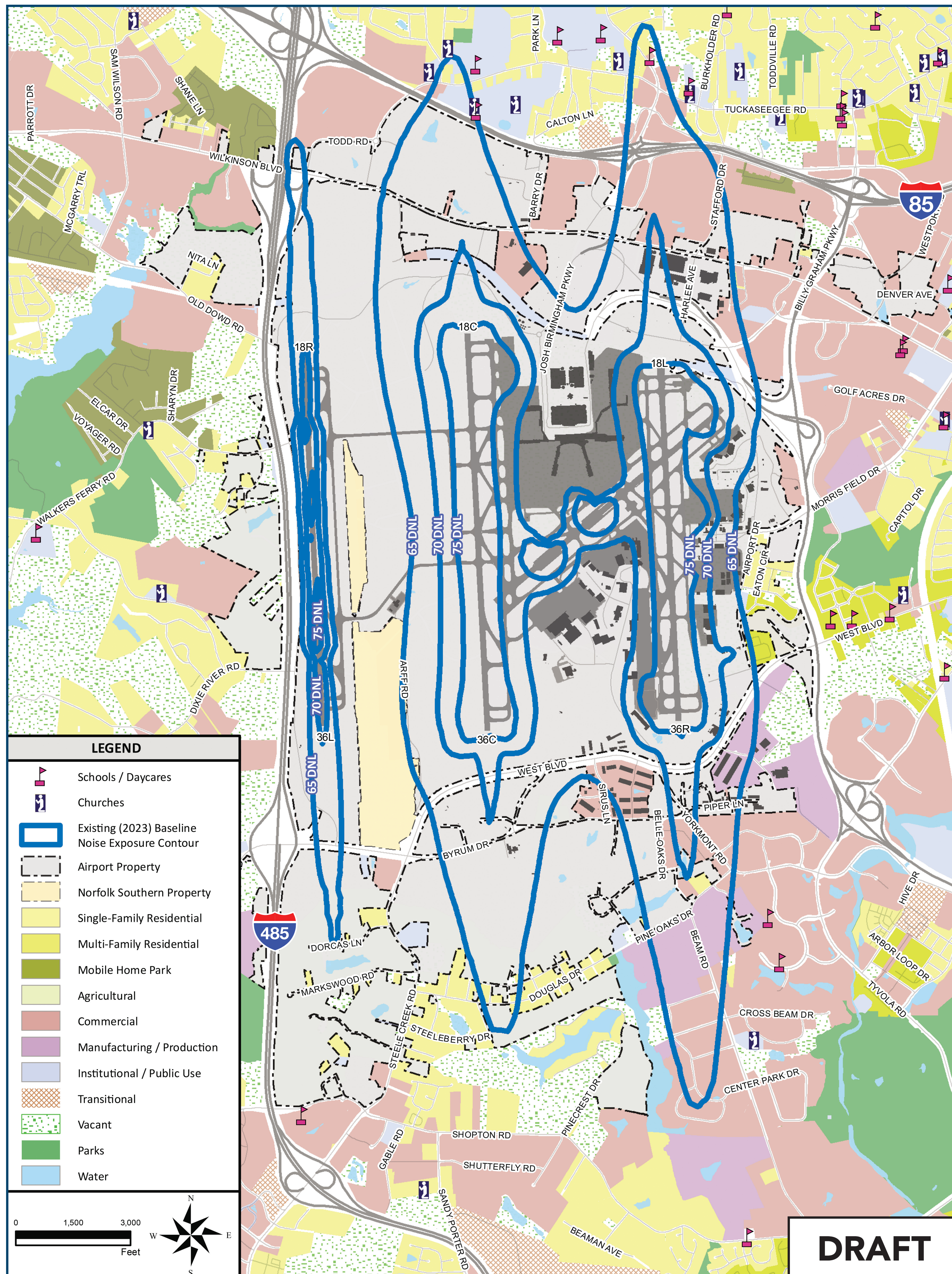
Future (2028) Baseline Runway Use Average Annual Conditions*



*Totals may not equal 100% due to rounding.

Arrivals
 Departures

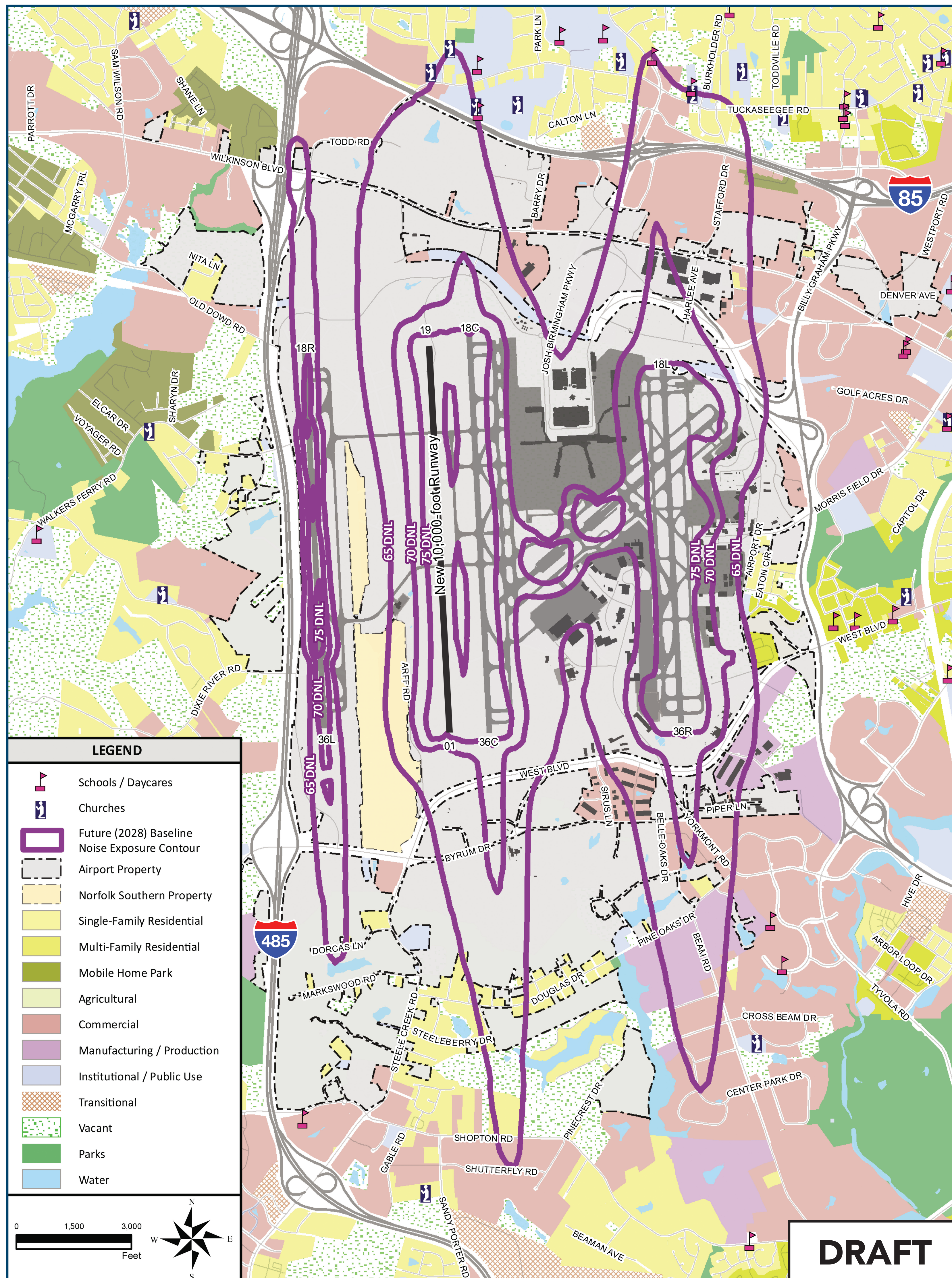
Existing (2023) Baseline Noise Exposure Contour



Housing Units within the 65 DNL	
Single-Family Residential	51
Mitigated	15
Not Mitigated	36
Multi-Family Residential	90
Not Mitigated	90
Manufactured Home	1
Not Mitigated	1
Total Housing Units	142

Noise Sensitive Facilities within the 65 DNL	
Churches / Places of Worship	4
Schools / Educational Facilities	3
Libraries	0
Hospitals	0
Nursing Homes	0
Total Noise Sensitive Facilities	7

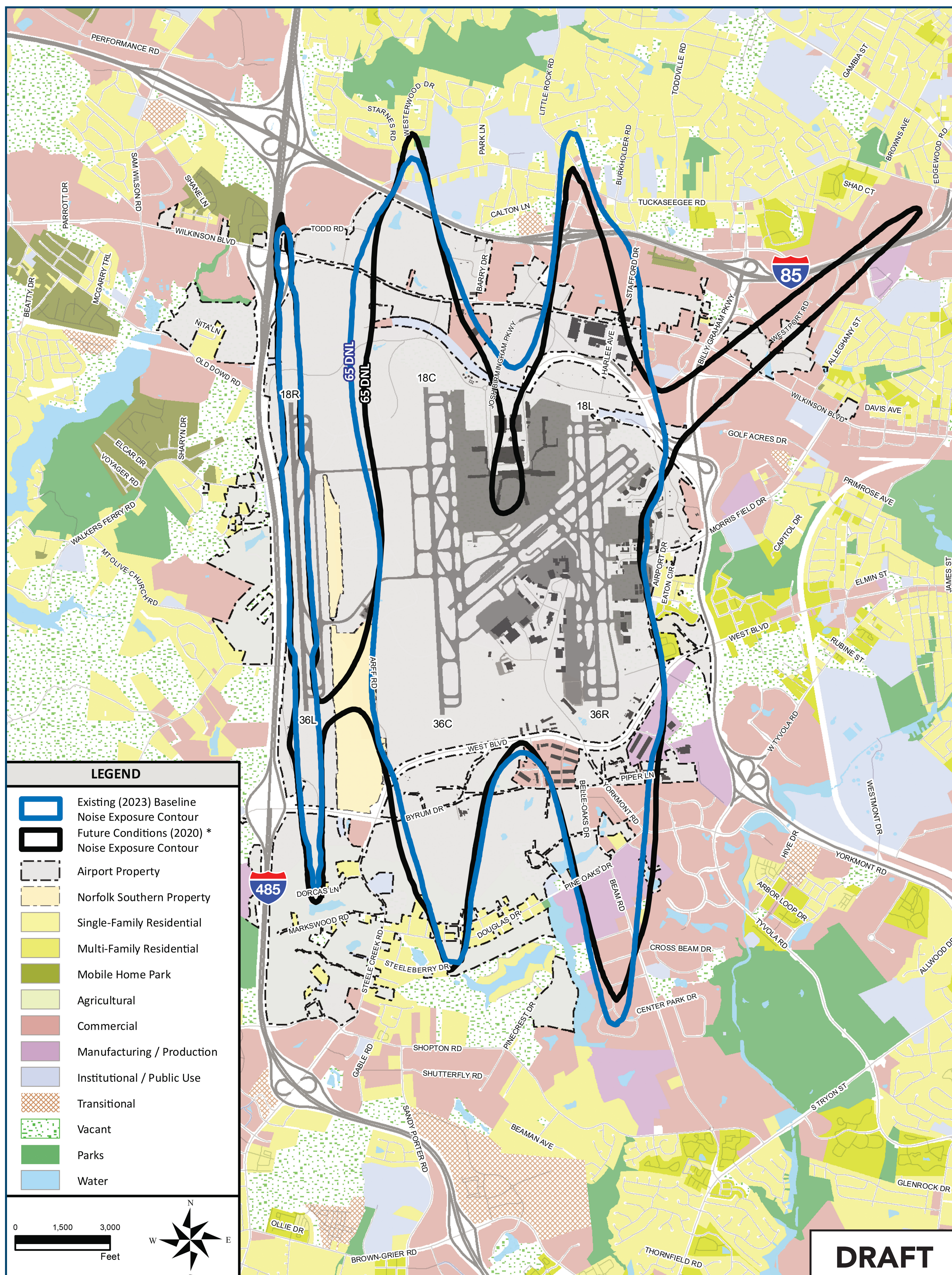
Future (2028) Baseline Noise Exposure Contour



Housing Units within the 65 DNL	
Single-Family Residential	85
Mitigated	47
Not Mitigated	38
Multi-Family Residential	96
Mitigated	2
Not Mitigated	94
Manufactured Home	63
Not Mitigated	63
Total Housing Units	244

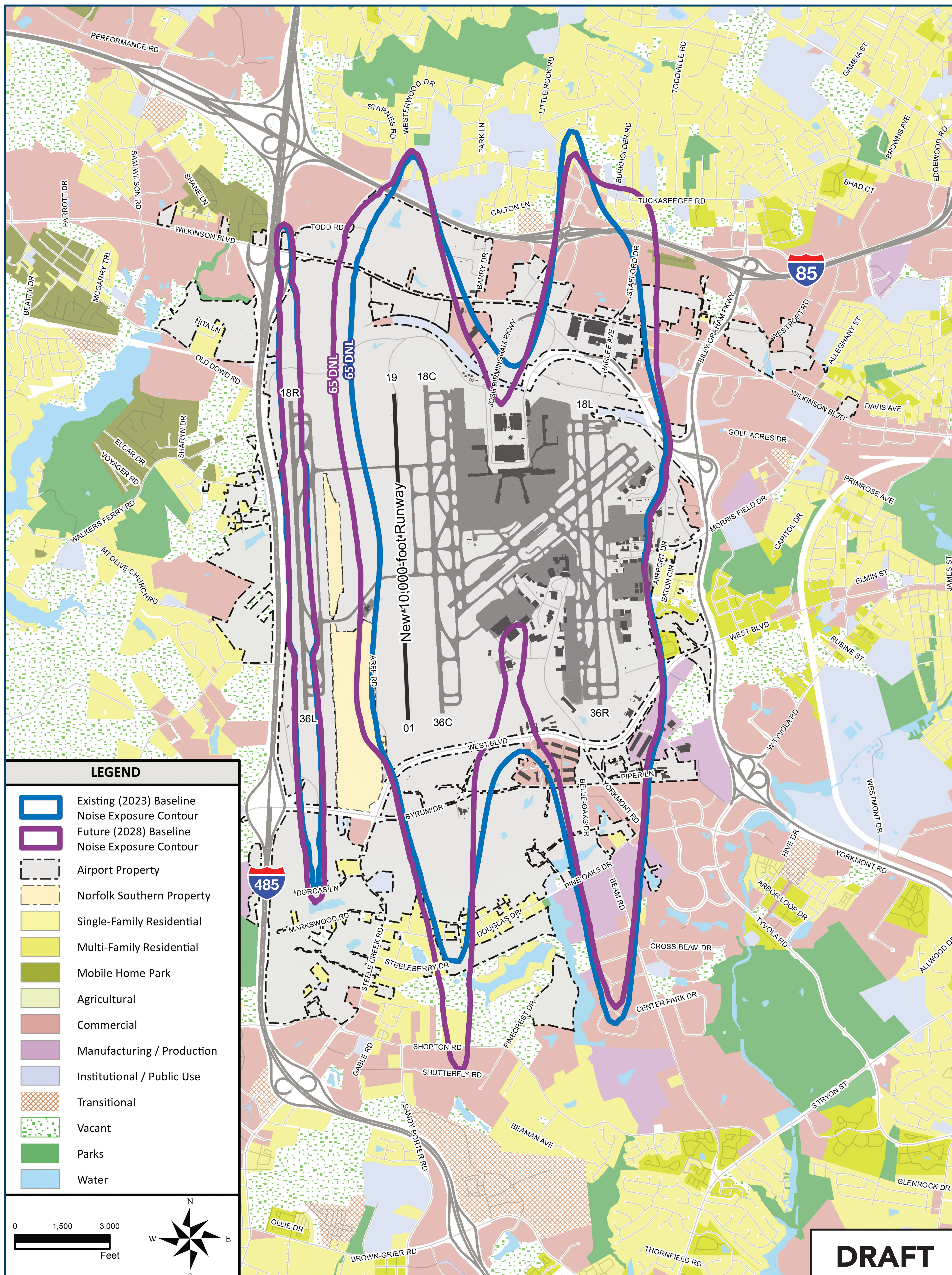
Noise Sensitive Facilities within the 65 DNL	
Churches / Places of Worship	4
Schools / Educational Facilities	4
Libraries	0
Hospitals	0
Nursing Homes	0
Total Noise Sensitive Facilities	8

Existing (2023) Baseline vs. Previous Part 150 (2020) Noise Exposure Contour



* Future Conditions (2020) Noise Exposure Contour was taken from a previous Part 150 Study modeled in 2015

Existing (2023) Baseline vs. Future (2028) Baseline Noise Exposure Contour



Examples of Noise Compatibility Measures

1. NOISE ABATEMENT MEASURES

Measures to control noise at the source (i.e. aircraft)



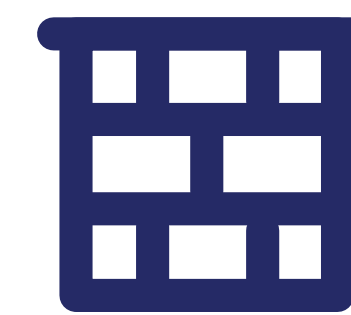
Flight location
(e.g., departure
flight corridors)



Runway use program
(e.g., how often runway
ends are used)



Ground activity
restrictions (e.g.,
run-up locations/time)



Facility modifications
(e.g., runway
extensions, berms)



Flight management
(e.g., restrictions)

2. LAND USE MEASURES

Preventive Strategies

- **Prevent** the introduction of additional noise-sensitive land uses within existing and future noise exposure contours
- May also be applicable outside of the 65 DNL noise contour
- Examples:
 - Zoning Codes
 - Subdivision Regulations
 - Airport Environs Overlay Zone

Corrective / Remedial Strategies

- **Mitigate** existing and projected future unavoidable noise impacts in areas of existing incompatible land use
- Applicable to 65+ DNL noise contour
- Examples
 - Voluntary Property Acquisition
 - Voluntary Sound Insulation
 - Avigation Easements

3. IMPLEMENTATION MEASURES

Measures designed to assist with the implementation and management of the Noise Compatibility Program (NCP)

- Noise Program Office and Staff Support
- Flight Tracking / Noise Monitoring System
- Focus Groups / Roundtables
- Periodic Review / Update to the Program

Next Steps / Schedule



How to Comment

**Please submit your comments by April 24, 2023
using one of these methods:**

IN PERSON

Members of the public may fill out and submit their comment forms today

EMAIL

CLTPart150@landrumbrown.com

MAIL

Gaby Elizondo
4445 Lake Forest Dr. Suite 700
Cincinnati, OH 45242

PROJECT WEBSITE

Visit the project website and submit a comment on the "Contact" page:
CLTPart150.com

**All comments must be submitted or postmarked by
April 24, 2023**