



Wilmington International Airport

14 CFR Part 150
Noise Compatibility Study



Agenda

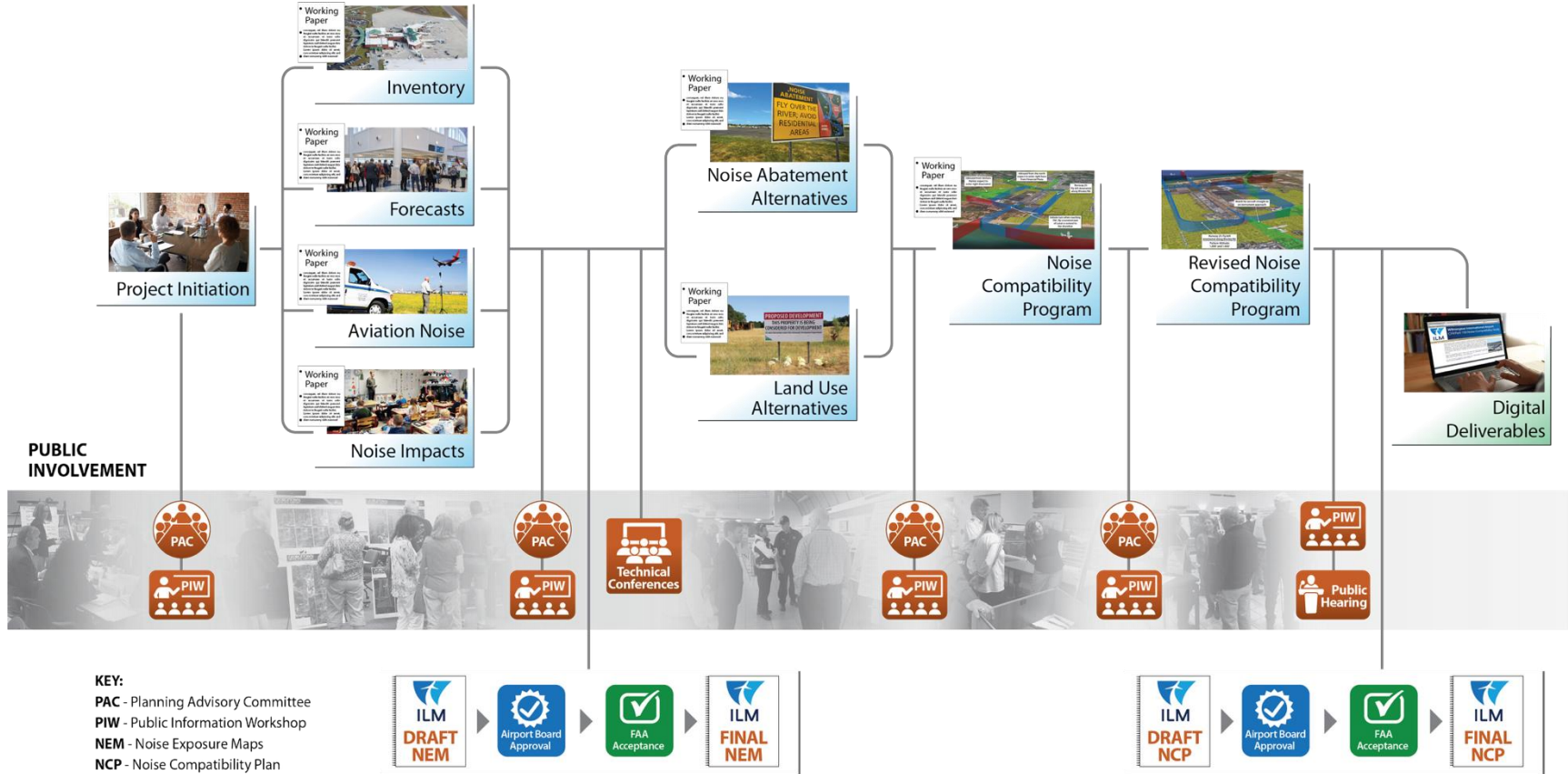
1. Welcome
2. Schedule
 1. 5:00-5:20 pm – Presentation
 2. 5:30-6:30 pm – Workshop (gymnasium)

Study materials are available at:



ilmpart150.airportstudy.net

Study Process



What is a Part 150 Study?

A Part 150 Study:

- Identifies the current and projected annualized aircraft noise levels at ILM using the Day Night Average Sound Level (DNL) noise metric.
- Identifies measures to reduce the noise impacts within the noise exposure contours from aircraft operating to and from Airport through changes in aircraft operations or airport facilities.
- Encourages future land uses which are compatible with aircraft noise, such as commercial or industrial in undeveloped areas.
- Determines methods to reduce the adverse impacts of noise above FAA thresholds in existing residential areas.
- Establishes a procedure to implement, review, and update the program.

A Part 150 Study does not:

- Evaluate aircraft operations from other area airports.
- Consider other types of impacts (air quality, accidents, etc.).
- Use noise metrics other than DNL to determine noise impacts.
- Provide justification for airport expansion.

Priorities of the Current Phase

Develop existing & future noise contours based on 14 CFR Part 150/FAA Guidelines

- Using FAA developed and required software, Aviation Environmental Design Tool (AEDT)
- Inputs are the approved forecast fleet mix, time-of-day, radar tracks, and runway use data

Overlay AEDT contours on land use mapping to quantify impacts

- Land use mapping depicts noise-sensitive properties
- Includes residences, schools, hospitals, and places of worship
- Exposure to 65+ DNL is considered significant according to FAA threshold

Next Phase: Evaluate alternatives to mitigate impacts

- Technical Advisory Committees will weigh-in on feasibility of alternatives
- Results will be presented in Chapters 5 & 6
- Final recommendations will be included the Noise Compatibility Program (Chapter 7)
- Next PAC meeting to be held in Spring 2026

A round analog clock with a black frame and white face. The clock has black numbers from 1 to 12. The hour hand is positioned between 10 and 11, and the minute hand is pointing exactly at 2. The time shown is 10:10.

Gulfstream-IV

Distance From Brake Release In Feet (x 1000)

LEGEND

- Observed Summer
- Observed Fall
- Stage 1
- Stage 2
- Stage 3
- Stage 4
- Stage 5
- * Selected Profile

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AVIATION ENVIRONMENTAL DESIGN TOOL (AEDT)

Fleet Mix

TABLE 3C | ILM Operational Fleet Mix

Aircraft Type ¹	AEDT Designator ²	2023 Operations ³	2028 Operations ³
Itinerant Operations			
Single-Engine Piston, Fixed	GASEPF	15,653	17,490
Single-Engine Piston, Variable	GASEPV	15,653	17,490
Multi-Engine Piston	BEC58P	1,330	1,487
Turboprop	DHC8	608	571
Turboprop	CNA208	352	329
Turboprop	Pilatus PC-12	327	378
Turboprop	DHC6	1,219	1,407
Turbojet, Medium	CNA525C	1,225	1,414
Turbojet, Medium	CNA55B	990	1,143
Turbojet, Medium	CNA55B	990	1,143

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Turboprop	DHC6	1,219	1,407
Turbojet, Medium	CNA525C	1,225	1,414

Military, Turbojet	F-18	191	0
Military, Turbojet	F-35	381	781
Military, Turbojet	CNA560E	328	336
Military, Turbojet	737700	175	179
Military, Turbojet	737800	2,088	2,138
Total Itinerant Operations		64,510	71,310
Local Operations			
Single-Engine Piston, Fixed	GASEPF	9,537	11,115
Single-Engine Piston, Variable	GASEPV	9,537	11,115
Multi-Engine Piston	BEC58P	1,000	1,170
Military, Turboprop	C130E	3,078	3,129
Total Local Operations		23,152	26,529
TOTAL OPERATIONS		87,662	97,839

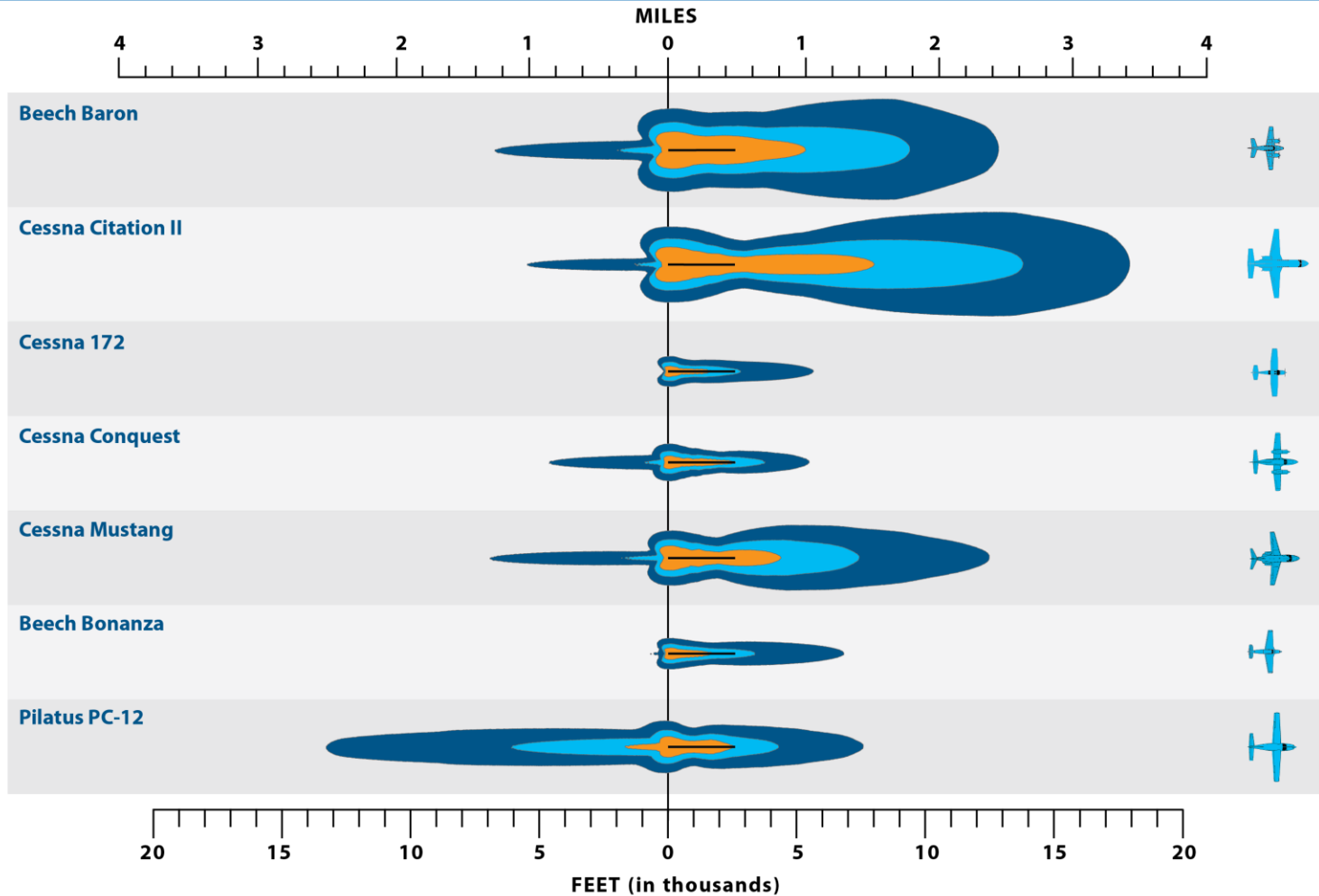
GA = General Aviation

¹ Coffman Associates analysis. No user-defined aircraft or profiles requiring FAA approval were used in the AEDT modeling.

² FAA Traffic Flow Management System Counts, Wilmington International Airport, January through December 2023; Automatic Dependent Surveillance-Broadcast data collected from February through December 2023.

³ The FAA approved the forecast contained in Chapter 2 – Forecasts, which was prepared as part of this study. (See **Appendix E**.)

GENERAL AVIATION AIRCRAFT



The contours represent sound exposure levels (SEL) of 85, 90 and 95 dB for one arrival and one departure of each aircraft type. The outer contour represents 85 dB SEL. The inner contour represents 95 dB SEL.

Runway Use

TABLE 3E | ILM Runway Use Percentages

ARRIVALS			
Runway 6	Runway 24	Runway 17	Runway 35
29.16%	39.57%	15.31%	15.95%
DEPARTURES			
Runway 6	Runway 24	Runway 17	Runway 35
31.27%	38.85%	13.60%	16.28%

Sources: 1200.aero ADS-B data; Coffman Associates analysis

Time of Day

TABLE 3D | ILM Time-of-Day Operations Percentages

Aircraft Category and Type	2023		2028	
	Day %	Night %	Day %	Night %
Turbojet (Airlines) B757-300; B767-300; A330 (200+ seats)	77.2	22.8	77.2	22.8
Turbojet (Airlines) B737-800; B757-200; A321 (177-179 seats)	98.6	1.4	98.6	1.4
Turbojet (Airlines) B737-800; A320 (155-174 seats)	88.2	11.8	88.2	11.8
Turbojet (Airlines) B737-700; A320 (135-154 seats)	86.3	13.7	86.3	13.7
Turbojet (Airlines) B737-700; A319 (115-134 seats)	99.3	0.7	99.3	0.7
Turbojet (Airlines) B717-200; A220: ERJ 190 (95-114 seats)	72.6	27.4	72.6	27.4
Turbojet (Airlines) Q400; ERJ 190-E2 (80-94 seats)	80.3	19.7	80.3	19.7
Turbojet (Airlines) CRJ 900; ERJ 175 (70-79 seats)	99.0	1.0	99.0	1.0
Turbojet (Airlines) CRJ 700; ERJ 170 (60-69 seats)	77.2	22.8	77.2	22.8
Turbojet (Airlines) CRJ 200; ERJ 140,145 (40-59 seats)	98.6	1.4	98.6	1.4
Turboprop	94.6	5.4	94.6	5.4
Piston	96.1	3.9	96.1	3.9
Helicopter	96.1	3.9	96.1	3.9
Military	97.7	2.3	97.7	2.3

Note: Night = 10:00 p.m. to 7:00 a.m.

Sources: ADS-B Data (2023); Coffman Associates analysis

Flight Tracks – Fixed Wing

TABLE 3F | ILM Flight Track Use Percentages by Aircraft Category and Type

AIRCRAFT CATEGORY AND TYPE	DEPARTURES							
	RUNWAY 6		RUNWAY 24		RUNWAY 17		RUNWAY 35	
	Track	%	Track	%	Track	%	Track	%
Turbojet, Turboprop, Single-Engine Piston, and Multi-Engine Piston	6A	70%	24A	70%	17A	60%	35A	70%
	6B	5%	24B	5%	17B	10%	35B	10%
	6C	5%	24C	5%	17C	10%	35C	10%
	6D	5%	24D	5%	17D	5%	35D	5%
	6E	5%	24E	5%	17E	5%	35E	5%
	6F	5%	24F	5%	17F	5%	–	–
	6G	5%	24G	5%	17G	5%	–	–
AIRCRAFT CATEGORY AND TYPE	ARRIVALS							
	RUNWAY 6		RUNWAY 24		RUNWAY 17		RUNWAY 35	
	Track	%	Track	%	Track	%	Track	%
Turbojet, Turboprop, Single-Engine Piston, and Multi-Engine Piston	6A	60%	24A	70%	17A	80%	35A	70%
	6B	5%	24B	5%	17B	5%	35B	5%
	6C	5%	24C	5%	17C	5%	35C	10%
	6D	10%	24D	10%	17D	5%	35D	5%
	6E	5%	24E	10%	17E	5%	35E	5%
	6F	10%	–	–	–	–	35F	5%
	6G	5%	–	–	–	–	–	–
AIRCRAFT CATEGORY AND TYPE	TOUCH-AND-GOS							
	RUNWAY 6		RUNWAY 24		RUNWAY 17		RUNWAY 35	
	Track	%	Track	%	Track	%	Track	%
Single-Engine Piston and Multi-Engine Piston Turbojet, Turboprop Military	6TA	100%	24TA	60%	17TA	100%	35TA	60%
	–	–	24TB	40%	–	–	35TB	40%
	6TM	100%	24TM	100%	17TM	100%	17TM	100%
	6TM	100%	24TM	100%	17TM	100%	17TM	100%

Exhibit 3C – Arrival Tracks

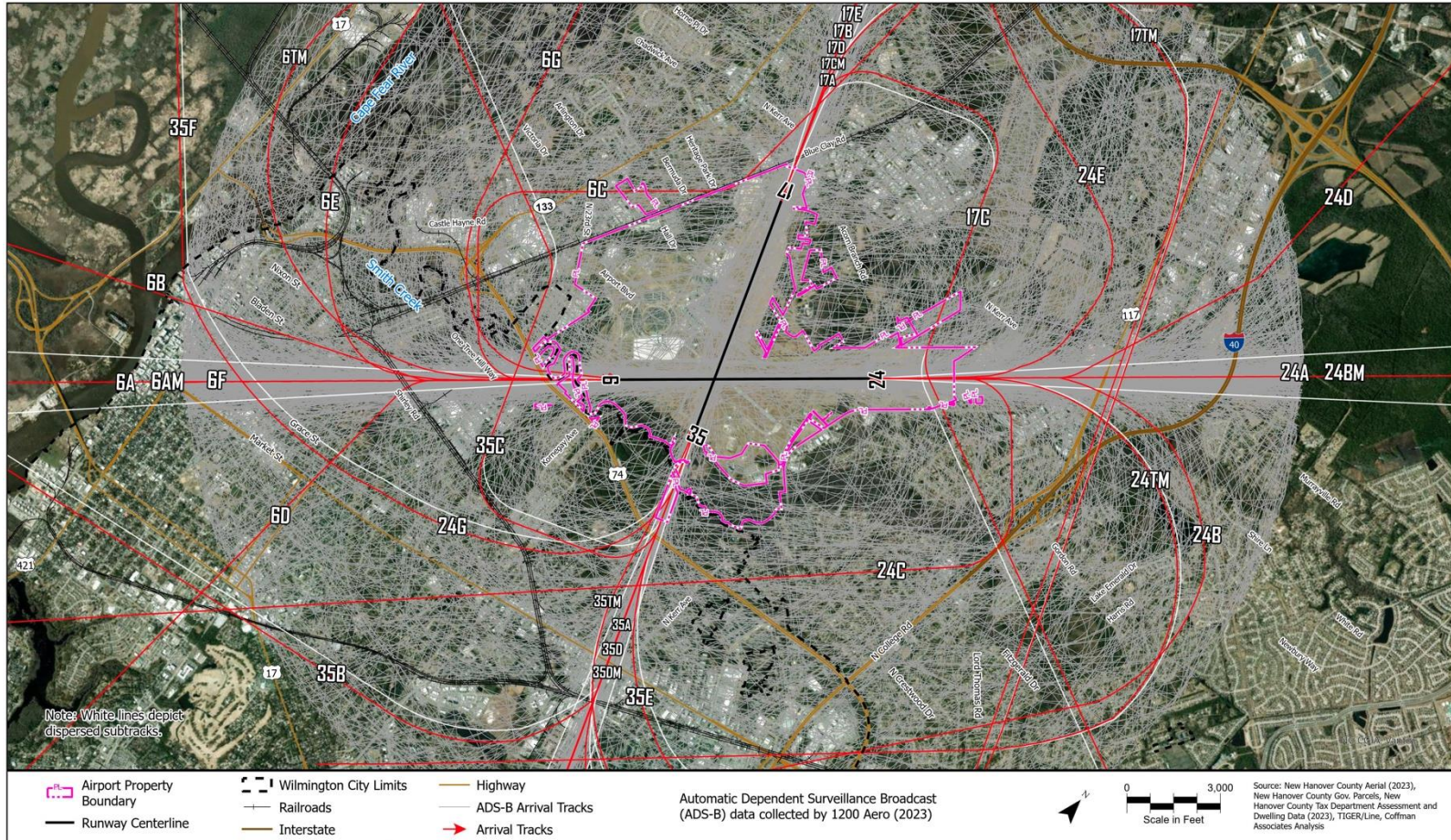


Exhibit 3D – Departure Tracks

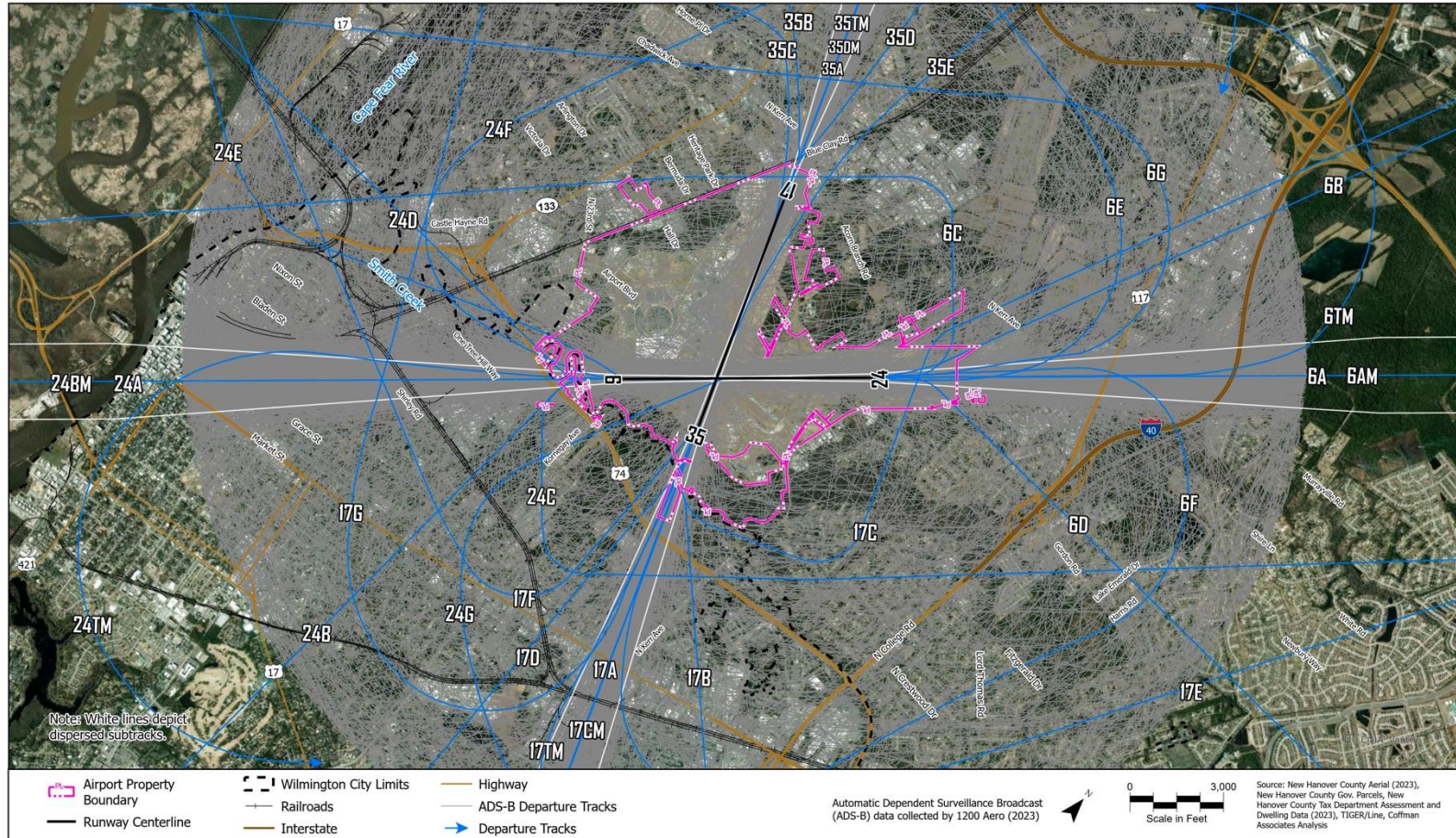
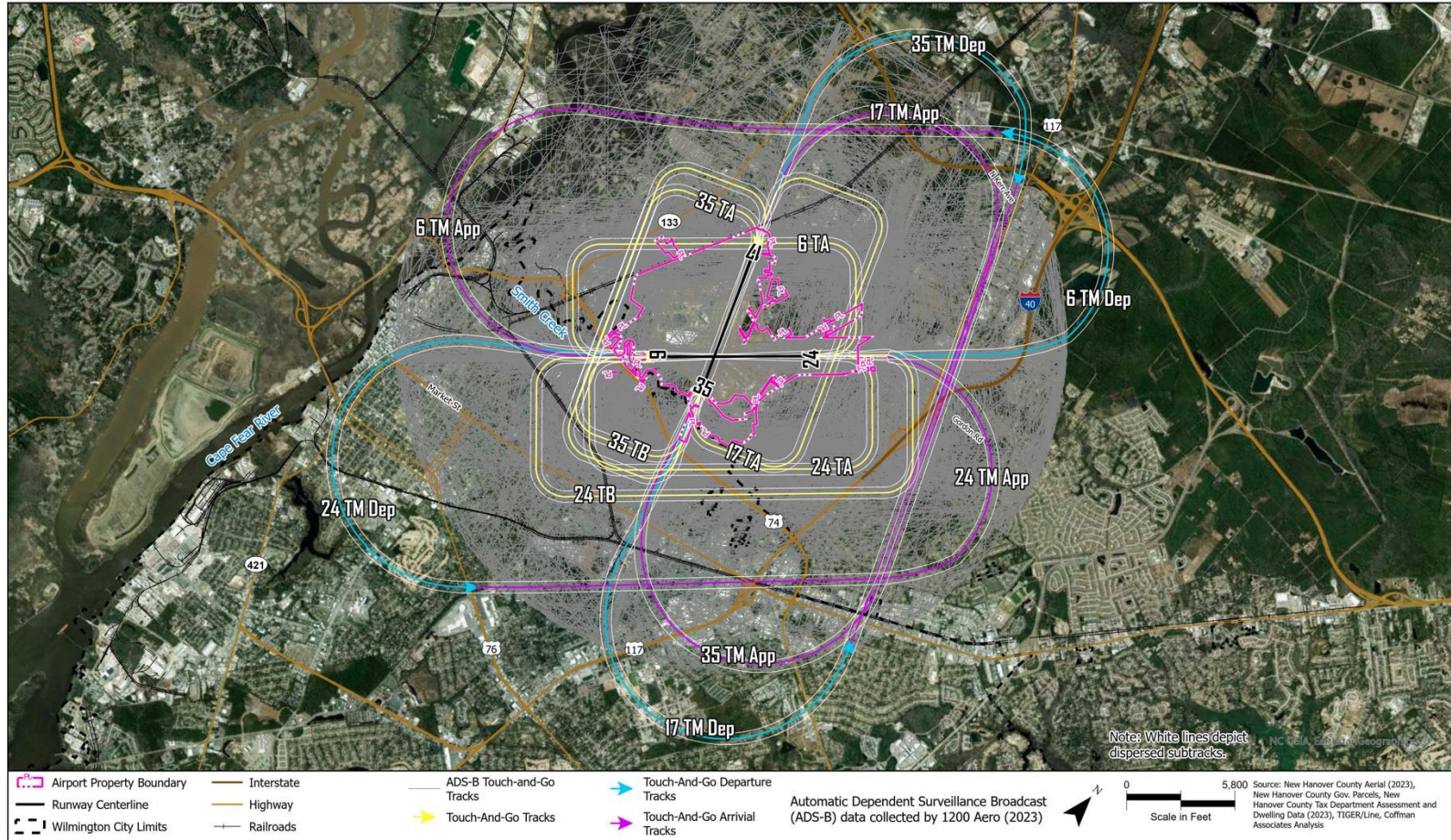


Exhibit 3E – Touch-and-Go Tracks



NOISEMAP (NMAP) Modeling

Some aircraft in the ILM fleet mix do not have flight profiles in AEDT

- NMAP DoD model was used to model fighter jets
- NMAP and AEDT results were combined in AEDT
- See Appendix H for flight profiles and fleet mix

Based on information contained in the *Continuing Environmental Review Statement (CERS) for F-35 basing at Marine Corps Air Station Cherry Point, North Carolina*

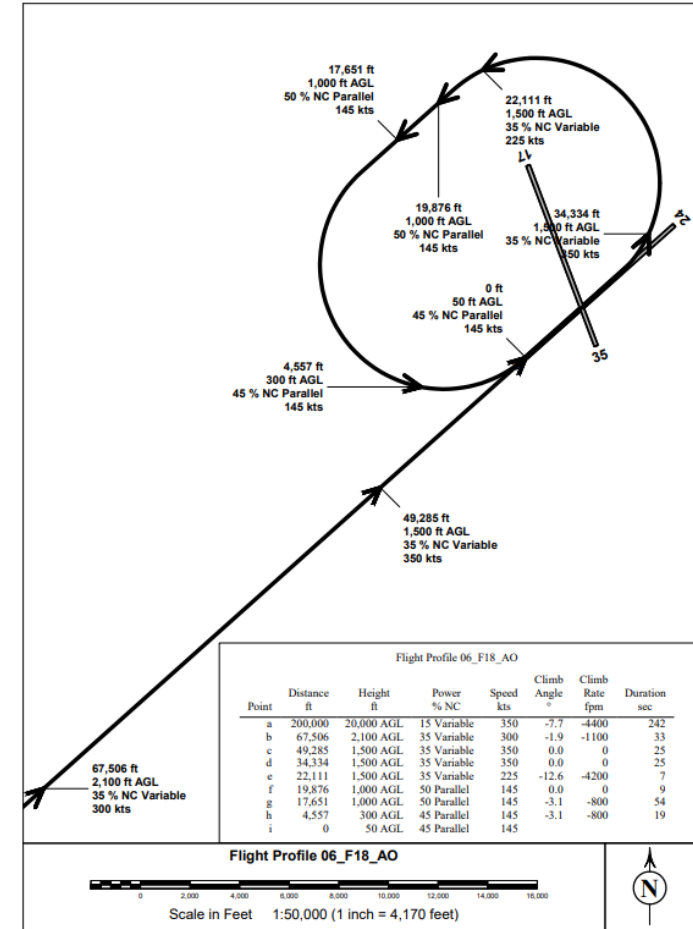
TABLE H1 | NMAP Operational Fleet Mix

Aircraft Type ¹	AEDT Designator ²	2023 Operations ³	2028 Operations ³
Itinerant Operations			
Military, Turbojet	AV8B	191	0
Military, Turbojet	F-18	191	0
Military, Turbojet	F-35	381	781
Total		763	781















TABLE H2 | ILM Runway Use Percentages











ARRIVALS			
Runway 6	Runway 24	Runway 17	Runway 35
29.16%	39.57%	15.31%	15.95%
DEPARTURES			
Runway 6	Runway 24	Runway 17	Runway 35
31.27%	38.85%	13.60%	16.28%

Sources: 1200.aero ADS-B data; Coffman Associates analysis



14 CFR Part 150 Noise Compatibility Guidelines

LAND USE		Yearly Day-Night Average Sound Level (DNL) in Decibels					
		Below 65	65-70	70-75	75-80	80-85	Over 85
Residential							
 Residential, other than mobile homes and transient lodgings		Y	N ¹	N ¹	N	N	N
 Mobile home parks		Y	N	N	N	N	N
 Transient lodgings		Y	N ¹	N ¹	N ¹	N	N
Public Use							
 Schools		Y	N ¹	N ¹	N	N	N
 Hospitals and nursing homes		Y	25	30	N	N	N
 Churches, auditoriums, and concert halls		Y	25	30	N	N	N
 Government services		Y	Y	25	30	N	N
 Transportation		Y	Y	Y ²	Y ³	Y ⁴	Y ⁴
 Parking		Y	Y	Y ²	Y ³	Y ⁴	N
Commercial Use							
 Offices, business and professional		Y	Y	25	30	N	N
 Wholesale and retail-building materials, hardware and farm equipment		Y	Y	Y ²	Y ³	Y ⁴	N
 Retail trade-general		Y	Y	25	30	N	N
 Utilities		Y	Y	Y ²	Y ³	Y ⁴	N
 Communication		Y	Y	25	30	N	N

LAND USE		Yearly Day-Night Average Sound Level (DNL) in Decibels					
		Below 65	65-70	70-75	75-80	80-85	Over 85
Manufacturing and Production							
 Manufacturing, general		Y	Y	Y ²	Y ³	Y ⁴	N
 Photographic and optical		Y	Y	25	30	N	N
 Agriculture (except livestock) and forestry		Y	Y ⁶	Y ⁷	Y ⁸	Y ⁸	Y ⁸
 Livestock farming and breeding		Y	Y ⁶	Y ⁷	N	N	N
 Mining and fishing, resource production and extraction		Y	Y	Y	Y	Y	Y
Recreational							
 Outdoor sports arenas and spectator sports		Y	Y ⁵	Y ⁵	N	N	N
 Outdoor music shells, amphitheaters		Y	N	N	N	N	N
 Nature exhibits and zoos		Y	Y	N	N	N	N
 Amusements, parks, resorts, and camps		Y	Y	Y	N	N	N
 Golf courses, riding stables, and water recreation		Y	Y	25	30	N	N

The designations contained in this table do not constitute a federal determination that any use of land covered by the program is acceptable under federal, state, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally-determined land uses for those determined to be appropriate by local authorities in response to locally-determined needs and values in achieving noise compatible land uses.

Exhibit 3G – 2023 Noise Contours

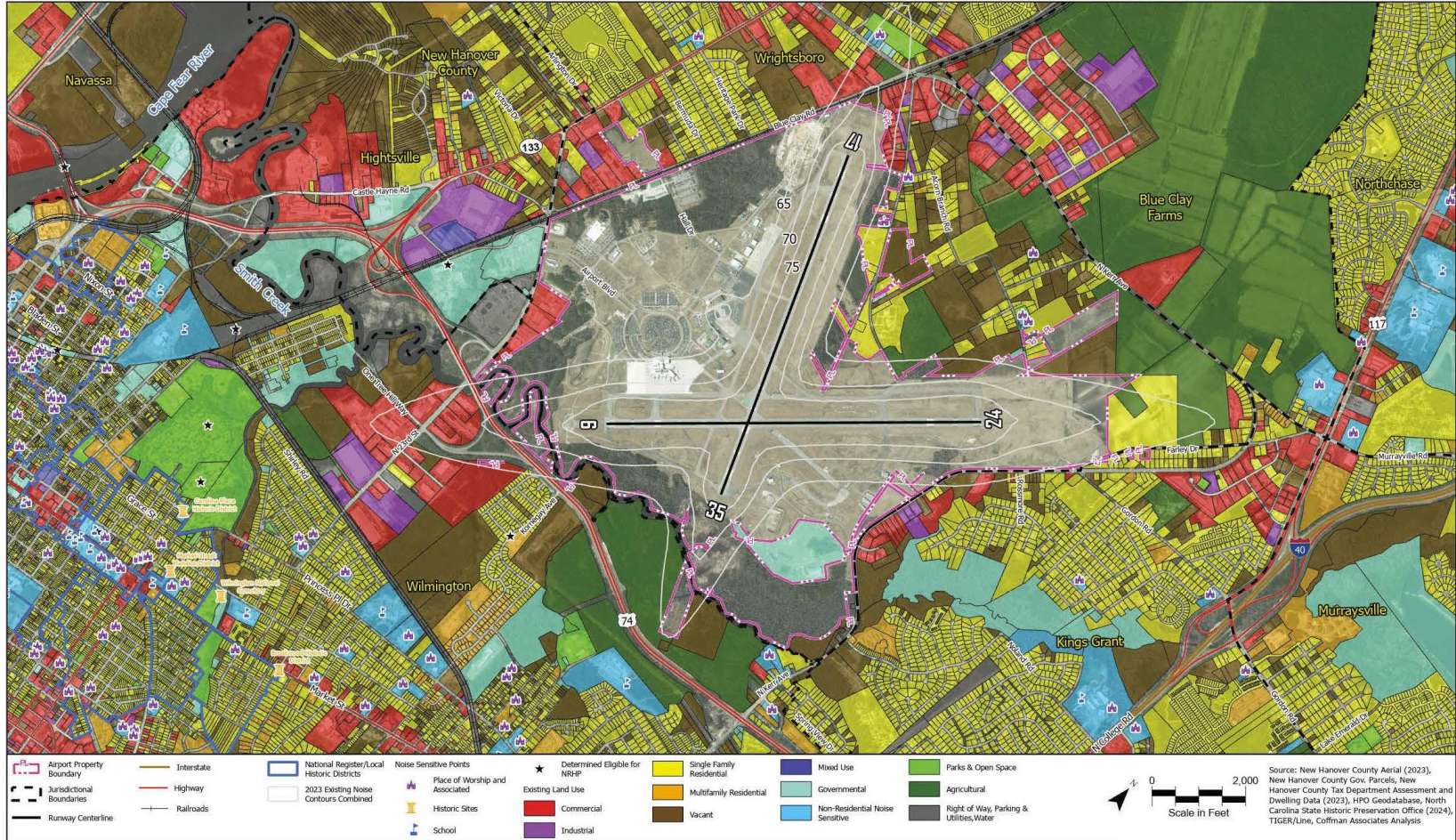


Exhibit 4B – 2023 Dwelling Units

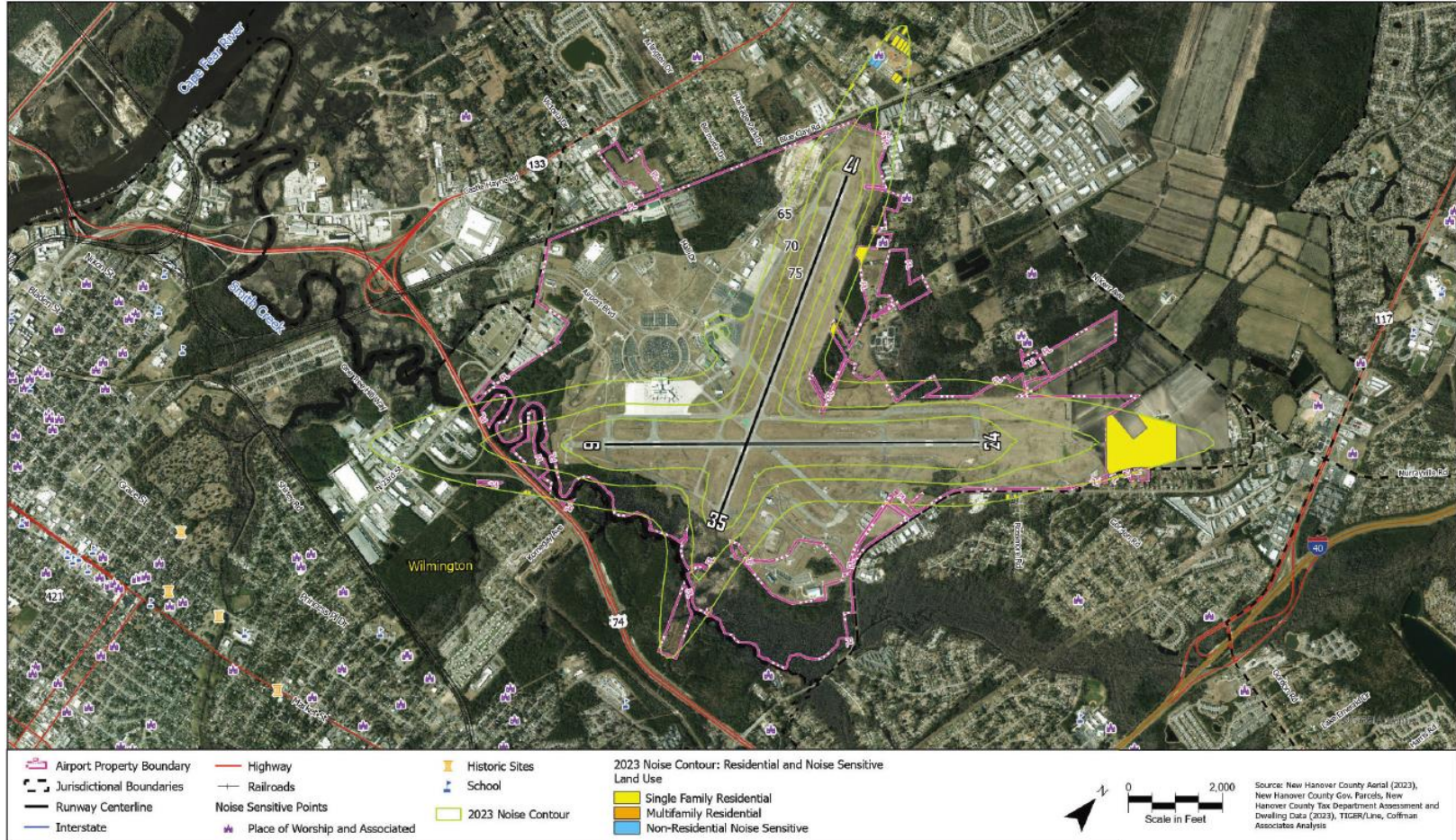


Exhibit 3H – 2028 Noise Contours

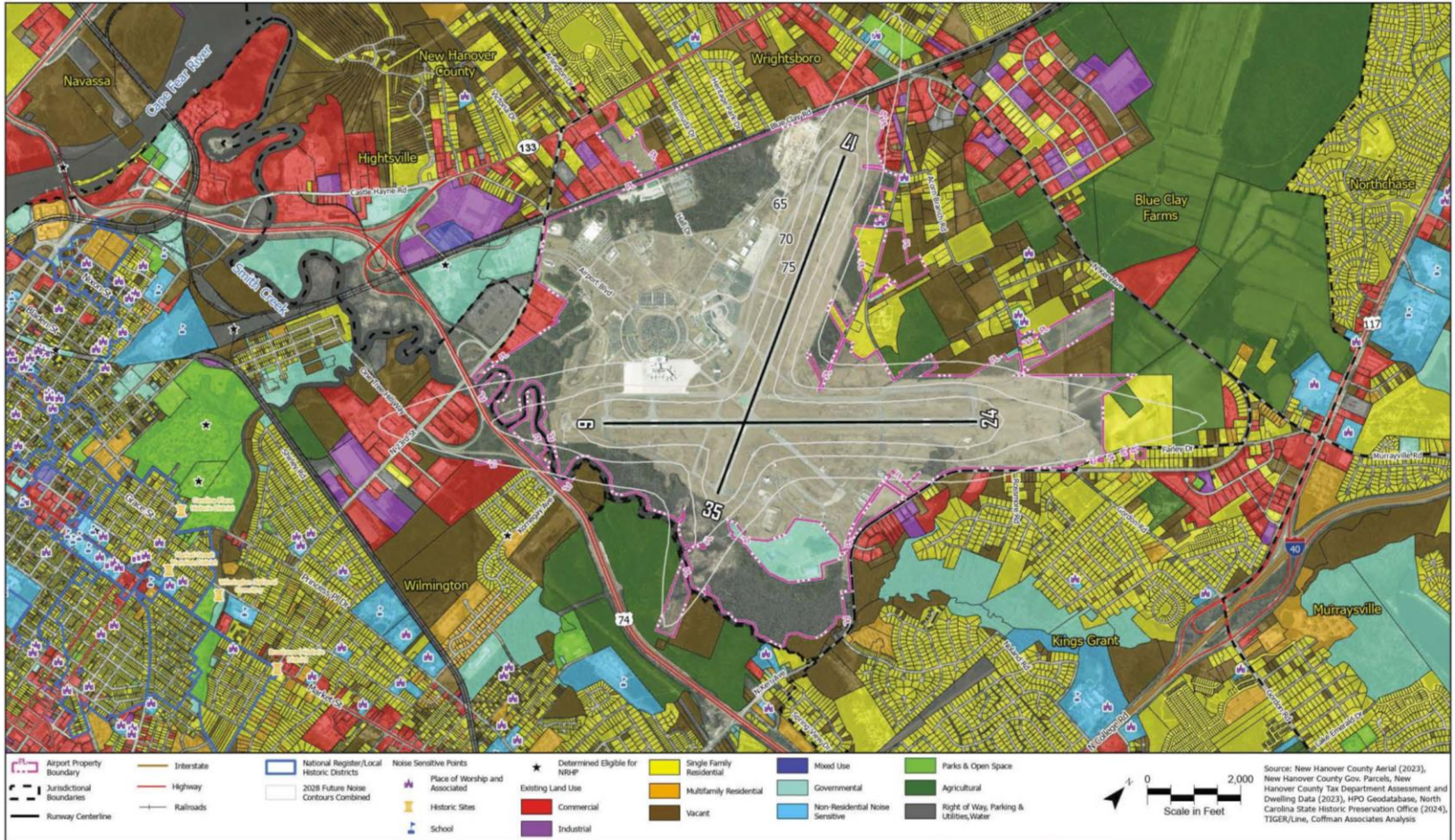
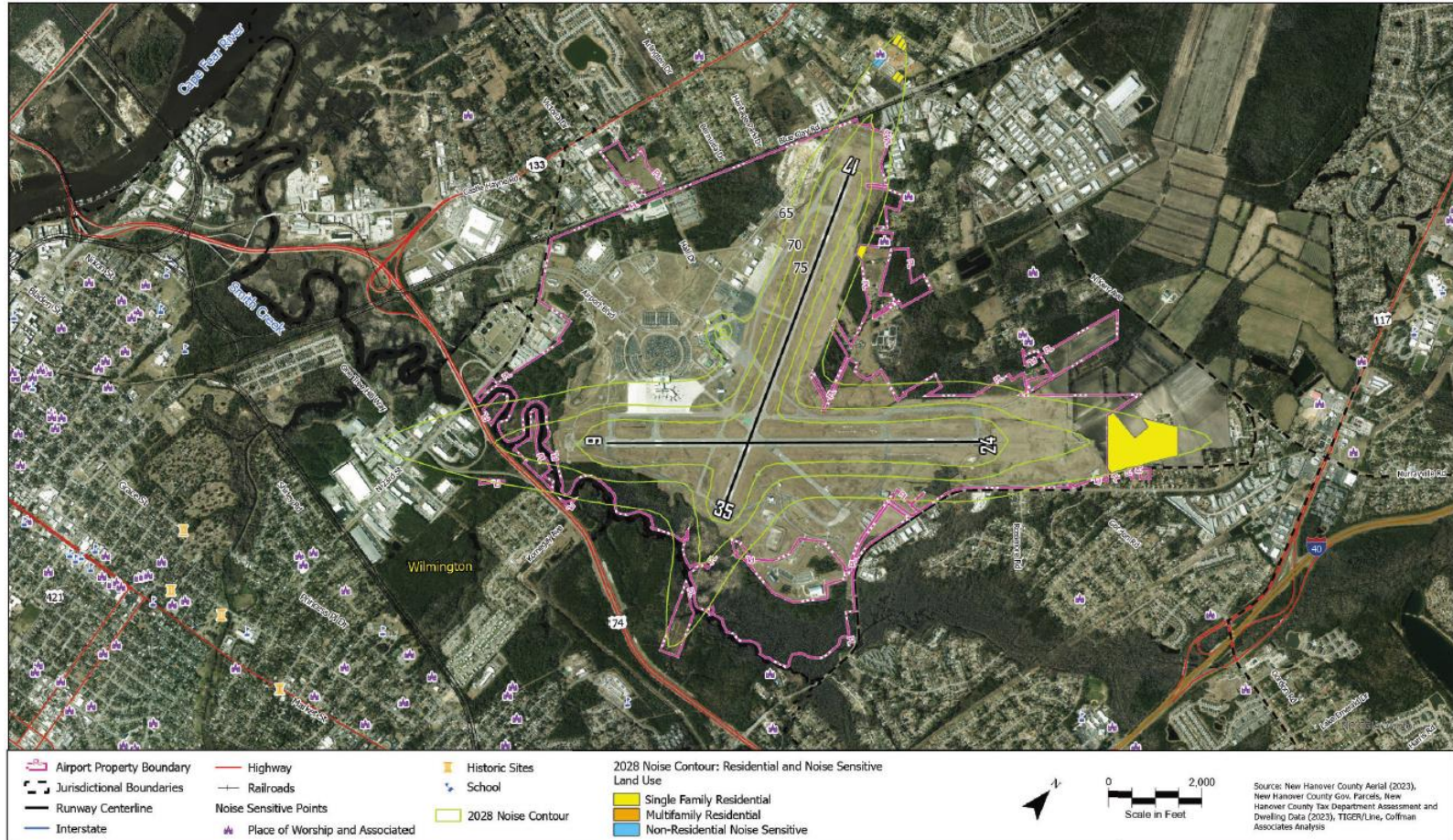


Exhibit 4C – 2028 Dwelling Units



Summary of Noise Impacts

TABLE 4J | ILM Noise-Sensitive Land Use Impact Summary

	65-70 DNL	70-75 DNL	75+ DNL
Noise-Sensitive Parcels/Dwelling Units (d.u.)			
Existing (2023)	46.96 acres/14 d.u.	–	–
Future (2028)	37.14 acres/2 d.u.	–	–
Estimated Population			
Existing (2023)	31 people	–	–
Future (2028)	5 people	–	–
Growth Risk for Noise-Sensitive Land Uses			
Single-Family Residential	22.47 acres	0.82 acres	–
Manufactured Housing	13.81 acres	–	–
Places of Worship	22.47 acres	0.82 acres	–
Hospitals	7.49 acres	0.82 acres	–
Schools	1.17 acres	–	–

Sources: New Hanover County Tax Department (2024); Coffman Associates analysis

Next Steps

- ▶ Submit Noise Exposure Map document to FAA for approval
- ▶ Technical Advisory Committee Meetings
- ▶ Begin Noise Compatibility Program
 - ▶ Chapter 5 – Noise Abatement Alternatives
 - ▶ Chapter 6 – Land Use Alternatives
 - ▶ Opportunity to evaluate voluntary measures
- ▶ Next Meeting in Spring 2026



Public Involvement



ilmpart150.airportstudy.net



Community members are invited to attend a Public Information Workshop regarding the ongoing Part 150 Noise Study:

Wednesday, November 19, 2025

Presentation - 5:00 PM in the Snipes Academy Auditorium
Workshop - 5:30 PM - 6:30 PM at Snipes Academy Gymnasium

2150 Chestnut Street
Wilmington, NC 28405

The public workshop is an open house format, so attendees can drop in at their convenience. Your input and participation matter!

Why attend?

- Learn more about the noise study and the process
- View information boards on display in the meeting room
- Ask questions, participate, and provide feedback

For more information, please contact:

Kory Lewis - Project Manager
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816-524-3500

Learn more or submit a comment:

ILMPART150.AIRPORTSTUDY.NET