

# ***Part 150 Noise Compatibility Study***

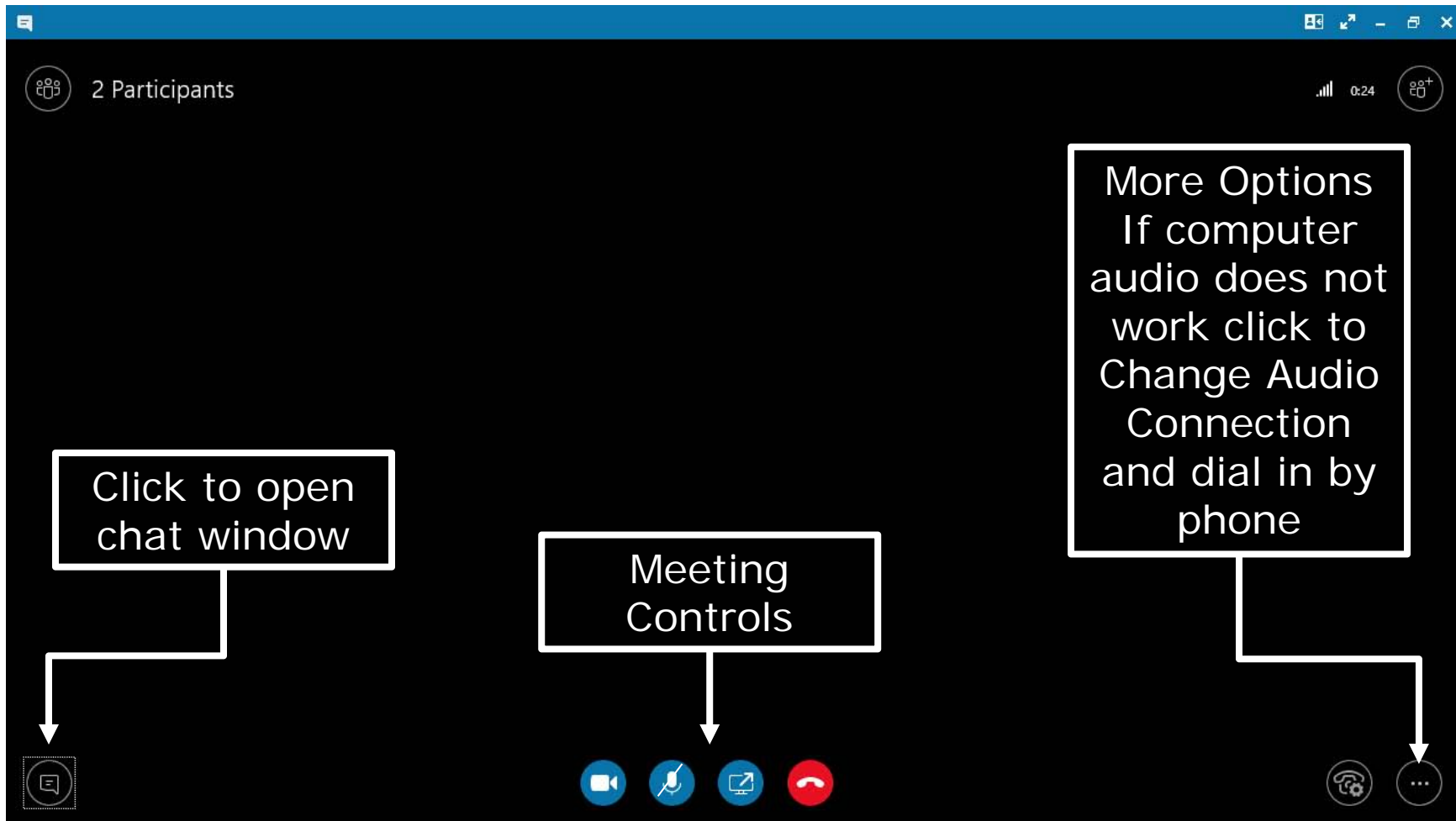
Technical Advisory Committee Meeting #2  
April 8, 2020



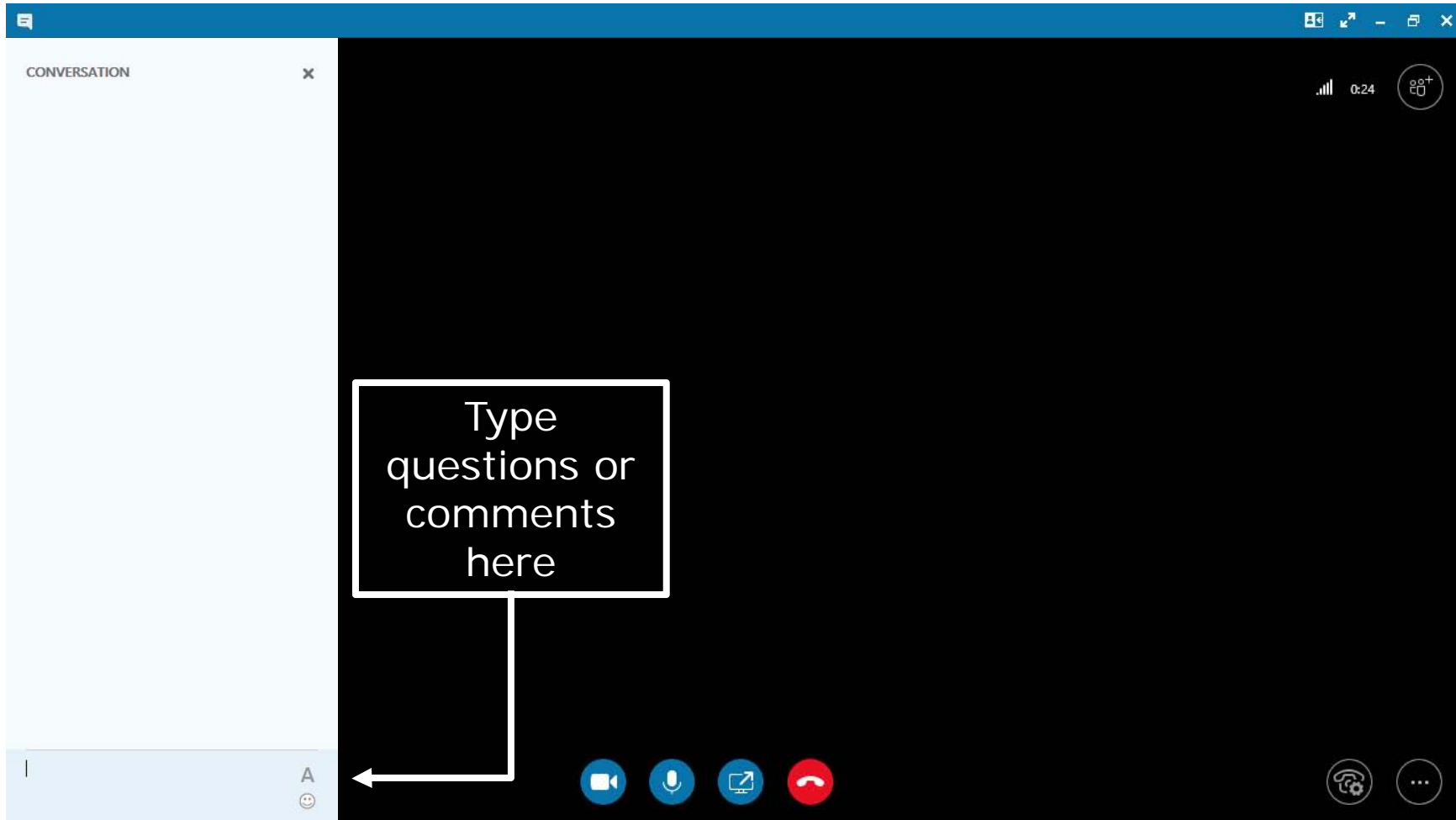
**JOHN GLENN**  
INTERNATIONAL



# Meeting Logistics



# *Meeting Logistics*

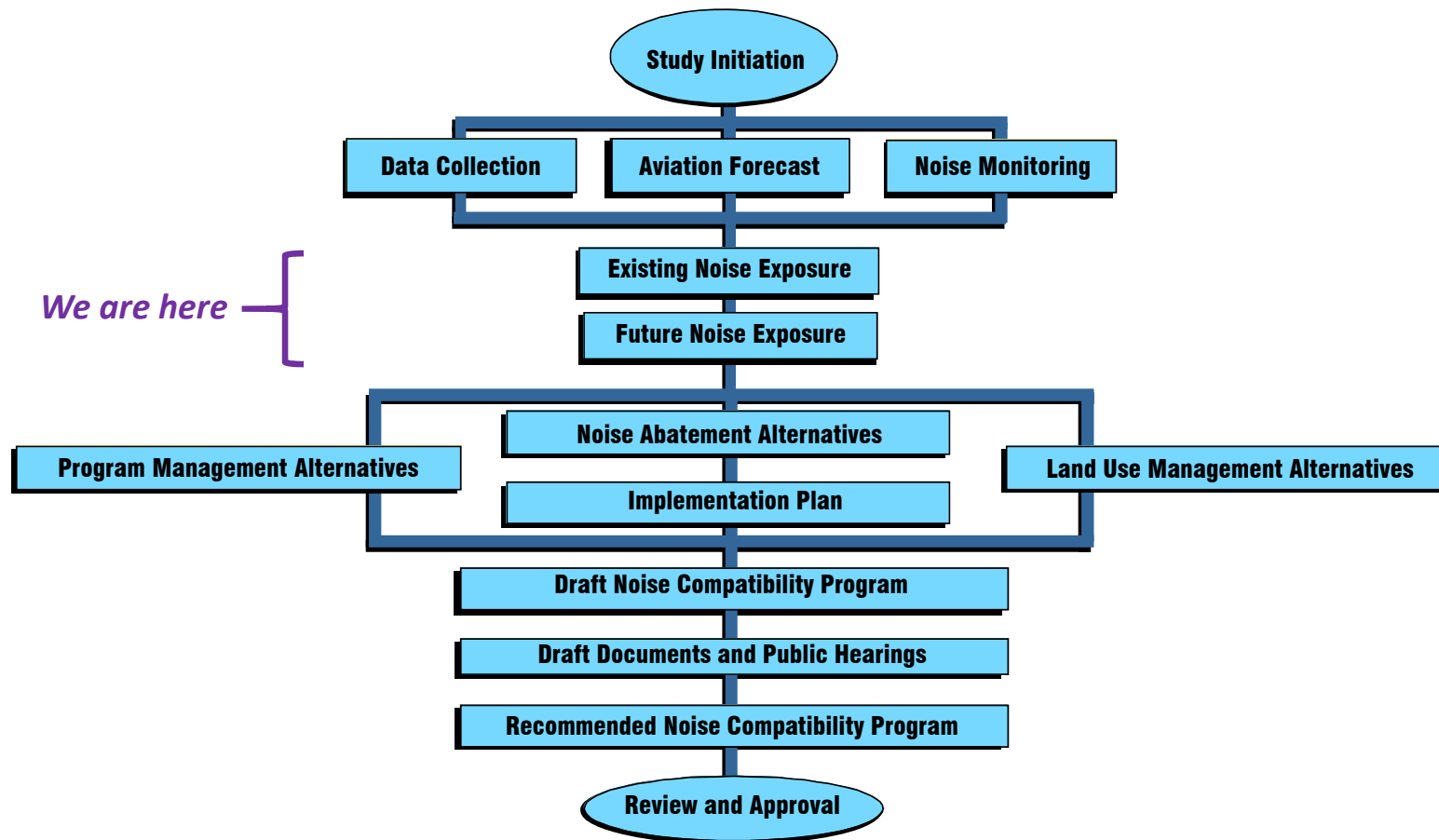


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# *Agenda*

- Welcome and Discussion of Virtual Meeting Resources
- Part 150 Noise Compatibility Study Process and Schedule
- Noise Monitoring Program Results
- Review of Noise Modeling Data and Methodology
- Existing and Future Baseline Noise Exposure Contours
- Discussion of Noise Compatibility Program (NCP) Measures
- Schedule and Next Steps

# *Part 150 Noise Compatibility Study Process*



# Part 150 Noise Compatibility Study Schedule

Part 150 Task and Subtasks	2019				2020												2021		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Project Kick-Off and Data Collection																			
Prepare Aviation Demand Forecasts																			
Conduct Noise Monitoring																			
Existing Noise Exposure																			
Future Noise Exposure Map																			
Noise Abatement Alternatives																			
Land Use Alternatives																			
Noise Compatibility Program																			
Draft Part 150 Report and Public Hearing																			
Part 150 NCP Adoption by CRAA																			
Prepare and Submit Final Part 150 NCP to FAA																			
FAA Record of Approval																			
Meetings and Coordination																			
Technical Advisory Committee Meetings																			
Public Information Meetings																			
Public Hearing/Responses																			

Cancelled due to policies  
regarding COVID-19 -  
information posted online

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# **Noise Monitoring Program**

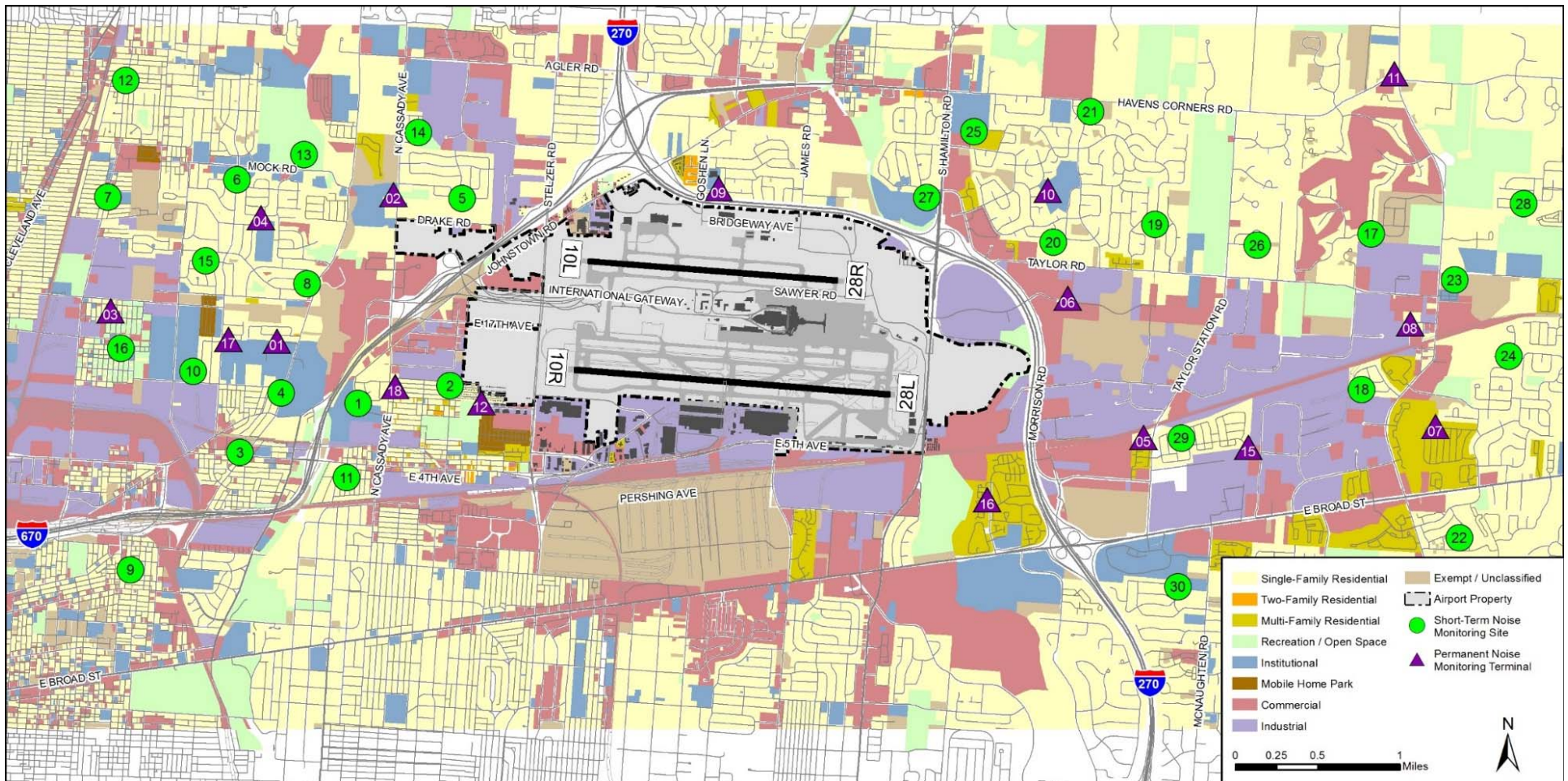
## *Process and Description*

- Purpose
  - Validate/verify the input data in the Aviation Environmental Design Tool (AEDT) with a focus on departures
  - Obtain “real-life” noise measurements to assist in understanding the total noise environment
- Conducted the week of November 11, 2019
- Collected noise readings at 30 sites (for approximately 1 hour at each site)
  - Sites selected to provide wide coverage within residential areas and areas of noise complaints
  - Three person team
  - Used Type 1 Sound Level Meters based on American National Standards Institute (ANSI) standards



# Noise Monitoring Program

## Locations of Noise Measurements





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# ***Noise Monitoring Program***

## ***Monitoring Results***

- Summary Results
  - Loudest aircraft recorded included, Boeing 737-800/900 and Embraer ERJ-175 aircraft
  - Average number of aircraft observed at each site was 11 to 12
  - Some aircraft noise events were combined with community noise sources such as intermittent car/truck traffic
- Next Steps
  - Further analysis to be completed
  - Incorporate data from permanent noise monitors
  - Compare to AEDT noise database

# Existing Data Collection

## Noise Monitoring Program Summary (1 of 2)

Site Number	Location	Ambient Noise Level (dB)	Date Monitored	Time Monitored	Type of Events	Number of Events	Aircraft SEL Range	Lmax (loudest noise event)	Loudest aircraft
1	North Cassady near Summit Trace	47.4	11/12/2019	9:11am - 10:11am	Departures	21	69.0 - 87.2	78.1	Boeing 737-700
2	E 13th Ave & Rarig Avenue	47.9	11/12/2019	10:32am - 11:32am	Departures	8	76.0 - 91.2	83.0	Boeing 737-700
3	E 5th Avenue & Sunbury Road	57.1	11/11/2019	12:15pm - 1:15pm	Arrivals & Departures	11	71.9 - 86.1	84.2	Embraer E-175 LR
4	1095 Sunbury Road	47.2	11/12/2019	12:15pm - 1:15pm	Departures	10	69.3 - 88.4	79.1	Boeing 737-800
5	Lone Spruce Rd & Mountain Oak Road	44.1	11/12/2019	9:00am - 10:00am	Arrivals & Departures	21	63.9 - 90.4	80.0	Boeing 737-800
6	Delevan & Brentnell	59.6	11/12/2019	12:30pm - 1:30pm	Arrivals & Departures	10	73.0 - 87.7	82.2	Embraer E-175 LR
7	Joyce Avenue & Maynard Avenue	51.7	11/13/2019	11:45am - 12:45pm	Arrivals & Departures	10	71.1 - 86.6	77.2	Boeing 737-900
8	Thames Drive north of Argyle Drive	56.6	11/12/2019	10:30am - 11:30am	Arrivals & Departures	12	63.9 - 90.1	80.5	Boeing 737-900
9	Parkwood Ave & Pembroke Ave	48.8	11/11/2019	12:50pm - 1:50pm	Arrivals & Departures	7	54.5 - 79.1	75.7	Embraer E-175 LR
10	Eastlawn Cemetery	46.4	11/11/2019	10:58am - 11:58am	Departures	11	64.3 - 88.1	80.7	Boeing 737-800
11	Margaret Street & Drexel Ave	56.3	11/11/2019	3:25pm - 4:25pm	Departures	6	68.7 - 78.3	72.0	Cessna 525
12	Joyce Ave & Genessee Ave	49.3	11/11/2019	12:52pm - 1:52pm	Departures	12	64.5 - 85.9	77.3	Embraer E-175 LR
13	Mock Park - Mock Road & Bar Harbor Road	44.6	11/11/2019	2:02pm - 3:02pm	Departures	11	66.7 - 86.4	76.5	McDonnell-Douglas MD-90
14	Baylor Avenue & Pepper Street	50.3	11/11/2019	3:22pm - 4:22pm	Departures	5	68.4 - 85.9	69.5	Bombardier CRJ-900
15	Marina Drive west of Toni Street	45.5	11/12/2019	6:10am - 7:10am	Arrivals & Departures	14	45.6 - 86.8	79.1	Embraer E-175

# Existing Data Collection

## Noise Monitoring Program Summary (2 of 2)

Site Number	Location	Ambient Noise Level (dB)	Date Monitored	Time Monitored	Type of Events	Number of Events	Aircraft SEL Range	Lmax (loudest noise event)	Loudest aircraft
16	American Addition Park	42.1	11/12/2019	6:20am – 7:20am	Departures	20	38.2 – 84.9	77.9	Boeing 737-800
17	Poppy Hills Drive & Keystone Ranch Court	45.4	11/11/2019	4:10pm - 5:10pm	Arrivals	6	64.5 - 73.5	63.9	Embraer E-170
18	Onyx Bluff Lane west of Stone Shadow Drive	45.8	11/12/2019	2:45pm – 3:45pm	Arrivals	12	62.8 – 83.3	74.7	Boeing 737-800
19	Rice Avenue & Spruce Hill Drive	42.1	11/12/2019	1:58pm – 2:58pm	Arrivals & Departures	12	61.5 – 86.5	80.0	Embraer E-175 LR
20	Hunters Run	45.6	11/12/2019	3:00pm – 4:00pm	Arrivals	7	62.5 – 75.6	74.9	Hawker 800
21	Tamara Drive & Helmbright Drive	43.8	11/13/2019	9:20am – 10:20am	Arrivals	8	52.0 – 62.8	54.0	Embraer E-175
22	Serenoa Dr & Endora St	54.0	11/13/2019	1:30pm – 2:30pm	Arrivals & Departures	12	47.6 – 79.4	74.6	Embraer E-175 LR
23	Olde Quarry Park	41.4	11/11/2019	12:50 PM - 1:59 PM	Arrivals	8	67.0 - 78.9	67.5	McDonnell Douglas MD90
24	Sherridon Drive & Streamwater Drive	38.7	11/13/2019	10:43am – 11:43am	Arrivals	14	57.6 – 78.9	73.3	Bombardier CRJ-701
25	Meadow Green Circle	38.4	11/13/2019	9:00am – 10:00am	Arrivals & Departures	16	42.1 – 77.7	71.5	Bombardier CRJ-200
26	Estate View Drive east of Taylor Station Road	48.8	11/12/2019	3:10pm – 4:10pm	Arrivals & Departures	13	52.5 – 80.9	75.7	Bombardier CRJ-701
27	Shepherd Church of the Nazarene	48.2	11/13/2019	12:02pm – 1:02pm	Arrivals	6	66.0 – 71.9	65.2	Boeing 737-700
28	Sand Bar Drive south of Headwater Drive	34.6	11/13/2019	1:10pm – 2:10pm	Arrivals	10	53.7 – 68.0	68.8	Cessna 560 Citation Excel
29	Lakes at Taylor Crossing Subdivision	42.8	11/12/2019	9:00pm – 10:00pm	Arrivals	11	59.0 – 86.9	80.7	Boeing 737-800
30	Forestview Drive & Revere Road	44.0	11/13/2019	10:16am – 11:16am	Arrivals & Departures	11	63.3 – 72.9	66.2	Airbus A319

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# ***Review of Data Collection***

## ***Existing Noise Exposure Contour***

- Represents an annual-average day (1 year of operations/365 days).
- Data Collection includes:
  - Number of aircraft operations
  - Aircraft types / fleet mix
  - Runway use patterns
  - Flight tracks
- Described with a set of continuous lines that represent equal levels of noise.
- Prepared using the FAA's AEDT (Version 3b)
- Must use specific noise metric: Day-Night Average Sound Level (DNL)
  - DNL represents 24-hour average noise level
  - Penalty for nighttime (10:00 p.m. - 6:59 a.m.) flights (x 10)
  - National standard for all Federal agencies
  - 65 DNL identified as threshold for impact to noise sensitive land uses

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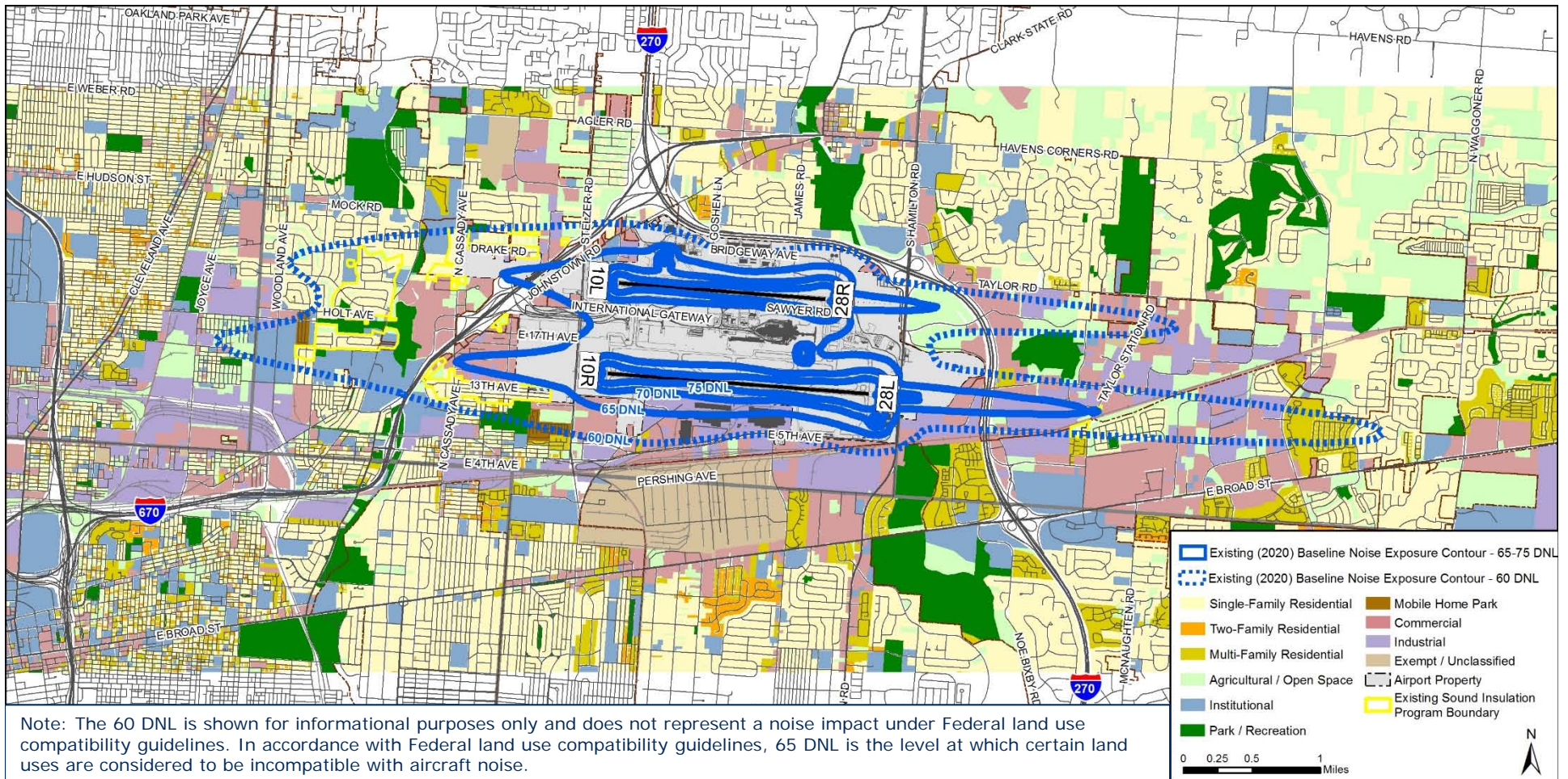
## ***Review of Data Collection***

### *Future Noise Exposure Contour*

- Represents an annual-average day in 2025
- Based on a forecast of aviation activity
- No major changes expected to fleet mix or destinations served
- Runway use patterns expected to be similar with east/west split based on long-term averages



# Existing (2020) Baseline Noise Exposure Contour



## *Existing (2020) Baseline Noise Exposure Contour*

Jurisdiction	65-70 DNL	70-75 DNL	75+ DNL
Housing Counts			
Columbus	0	0	0
Gahanna	0	0	0
Mifflin Township	0	0	0
Jefferson Township	0	0	0
Total	0	0	0
Population			
Columbus	0	0	0
Gahanna	0	0	0
Mifflin Township	0	0	0
Jefferson Township	0	0	0
Total	0	0	0
Noise-Sensitive Facilities			
Schools / Daycares	0	0	0



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## ***Existing (2020) Baseline Noise Exposure Contour***

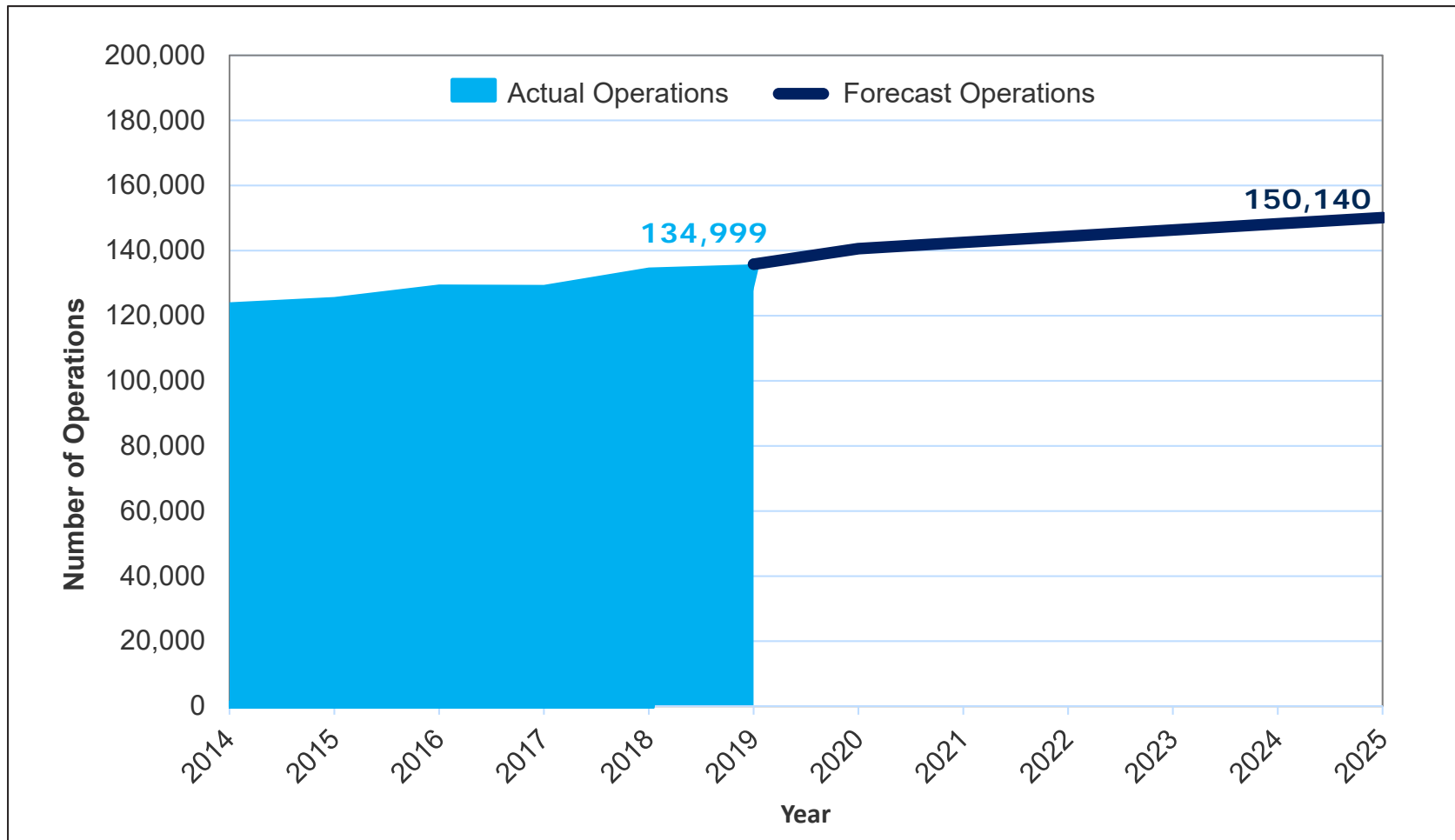
- East of the Airport, the noise contour primarily reflects usage by aircraft arriving to the airport (thinner noise contours).
- West of the Airport, the noise contour primarily reflects usage of aircraft departing from the airport (wider and rounder noise contours).
- Contour shape and size also reflects a greater use of Runway 10R/28L
- There are no residences or other noise-sensitive land uses within the 65 DNL noise contour.
- The 60 DNL is shown for informational purposes and does not represent a noise impact under Federal land use compatibility guidelines. There are approximately 3,300 residences and 19 noise-sensitive facilities (schools, daycares, and churches) within the 60-65 DNL Existing (2020) Baseline noise contour

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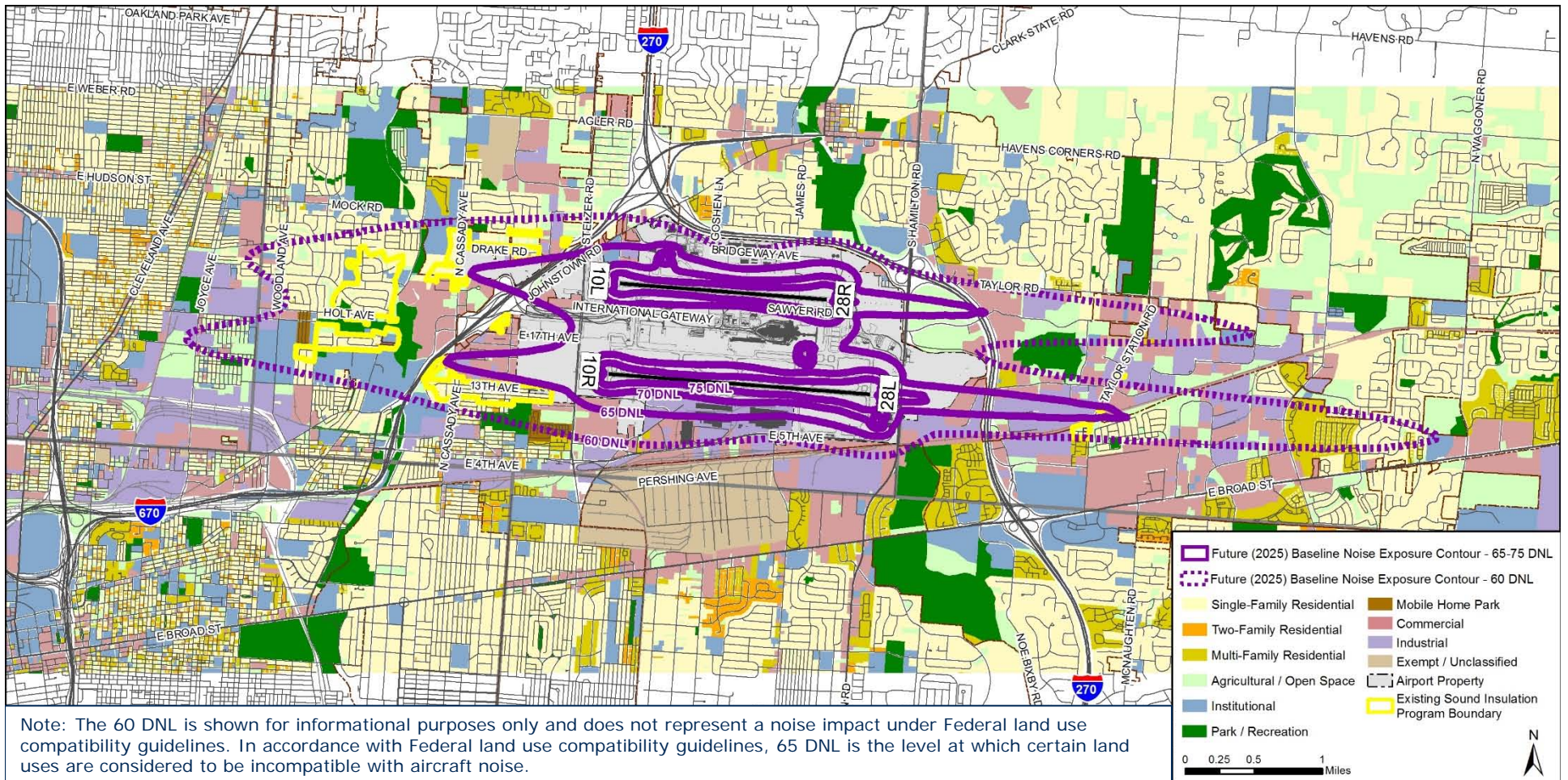
***Pause for Questions***



## Forecast of Aviation Activity

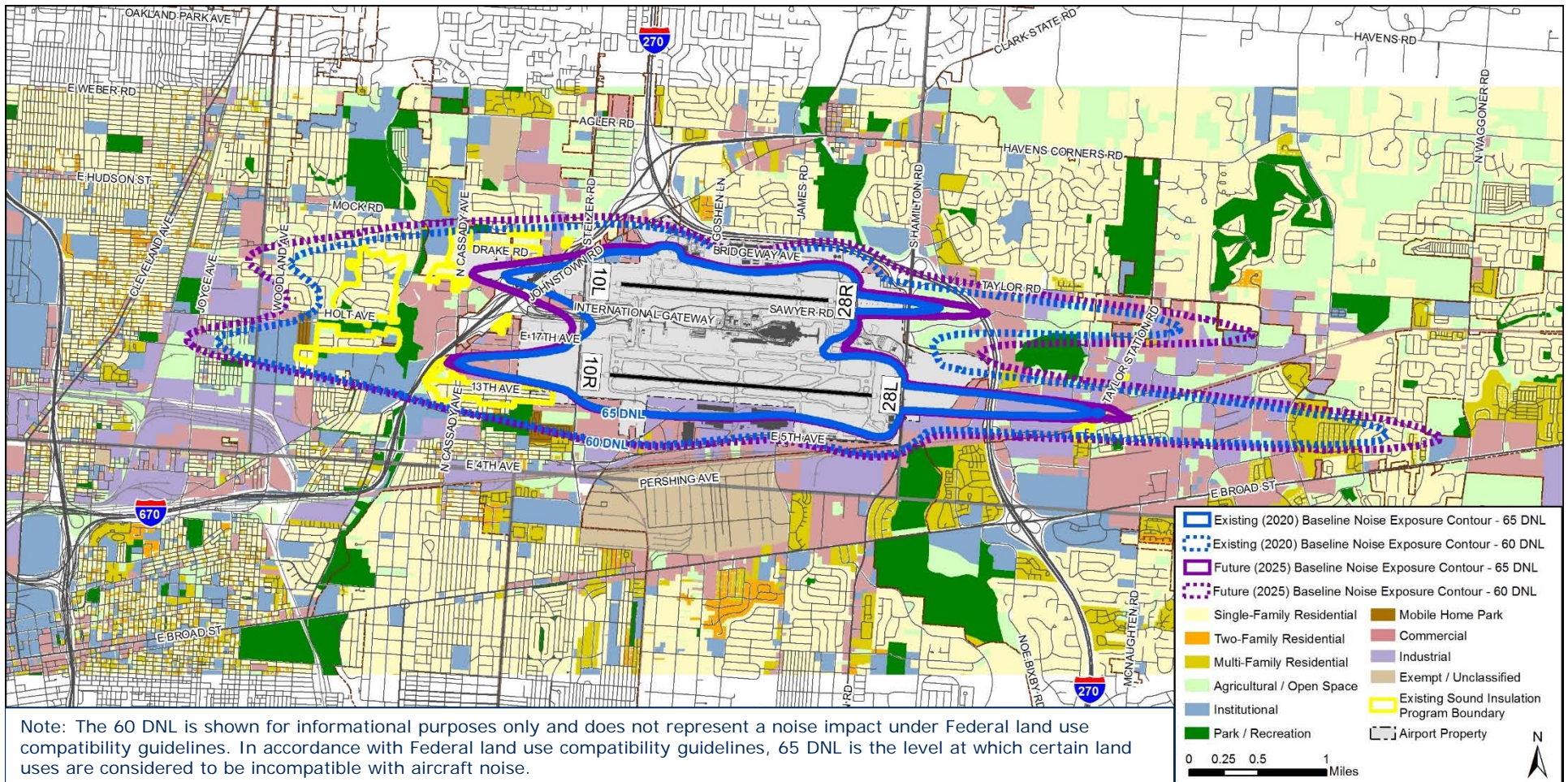


# Future (2025) Baseline Noise Exposure Contour



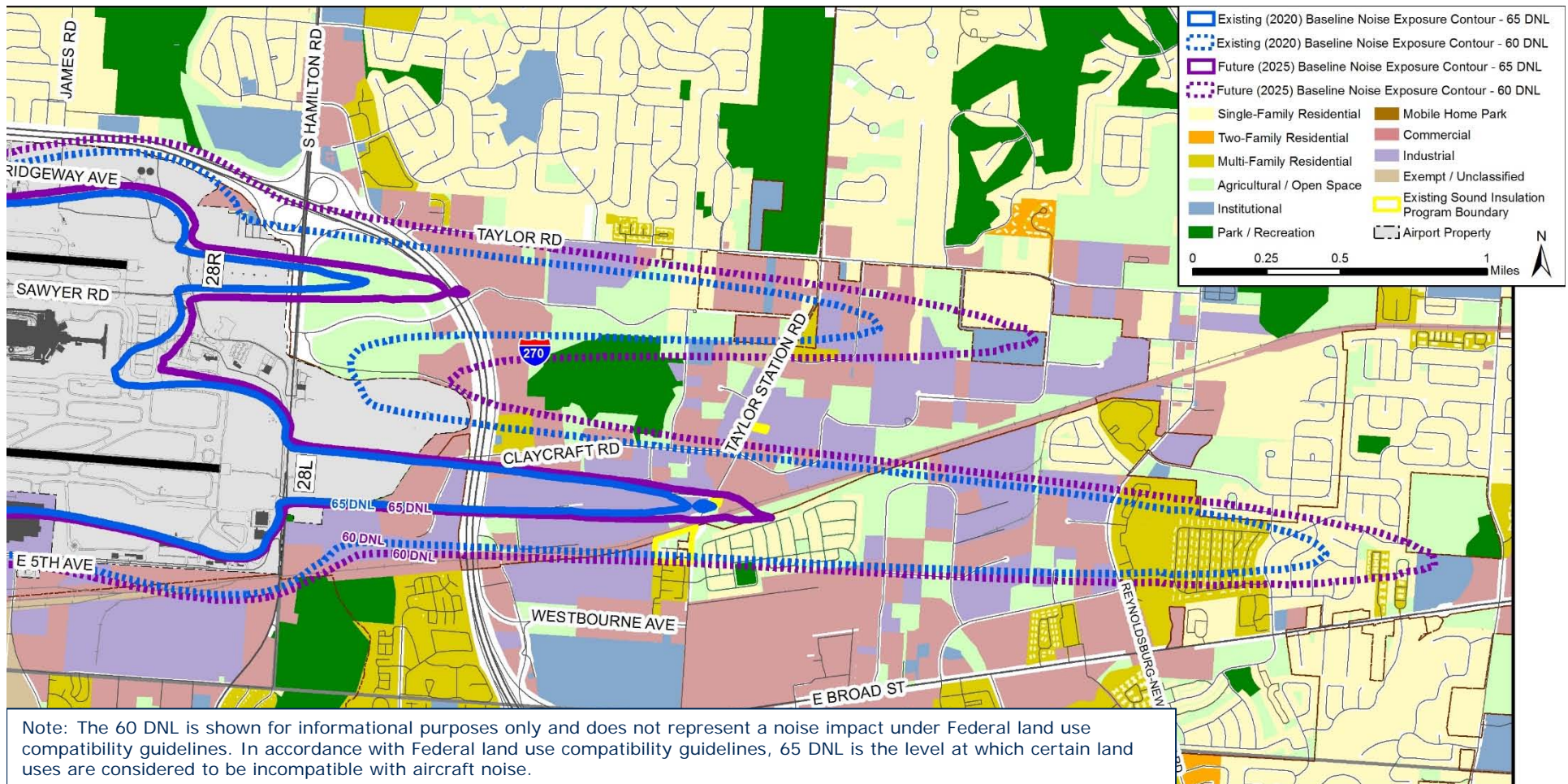


# Existing (2020) compared to Future (2025) Baseline Noise Exposure Contours



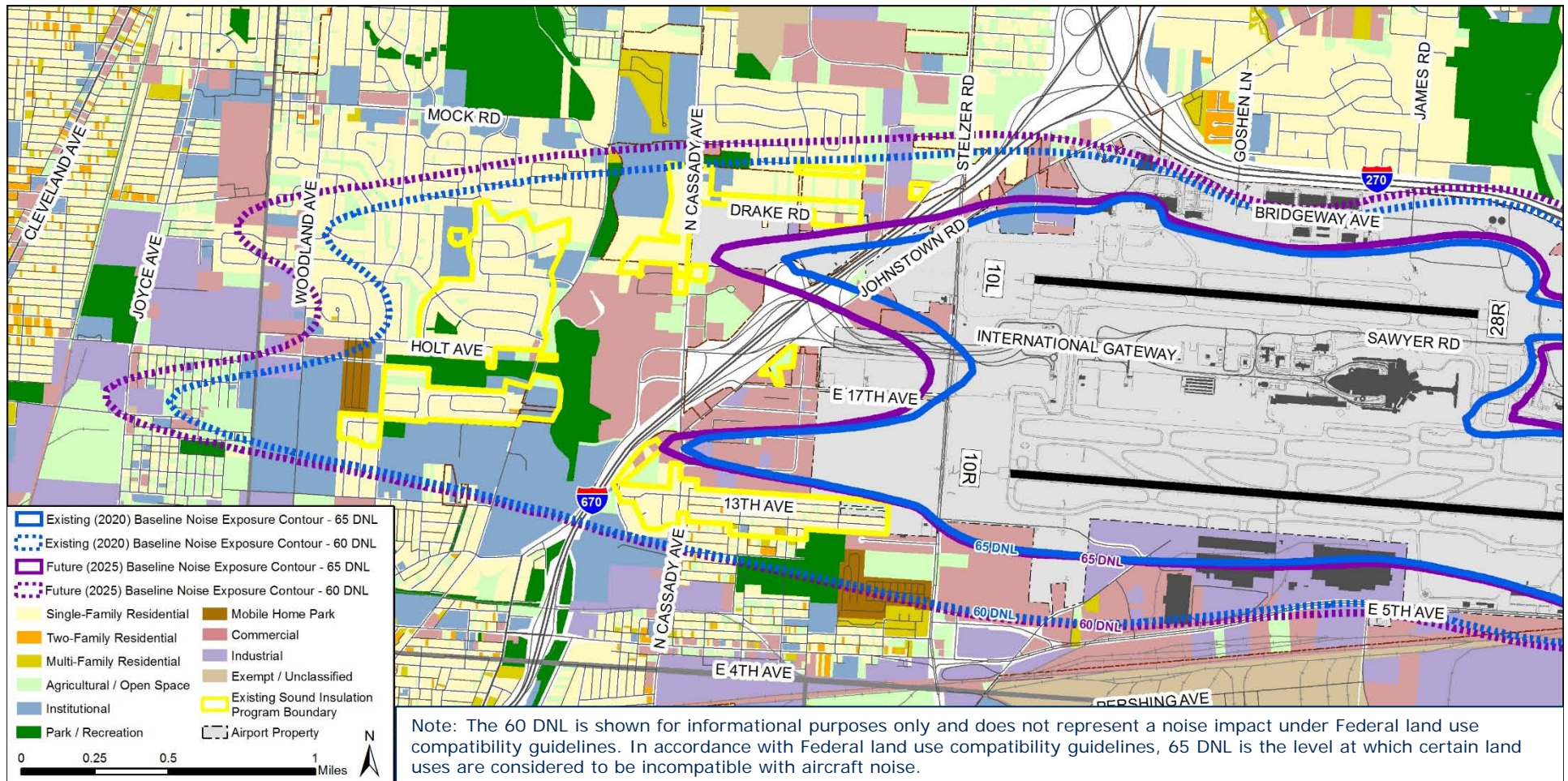


# Existing (2020) compared to Future (2025) Baseline Noise Exposure Contours



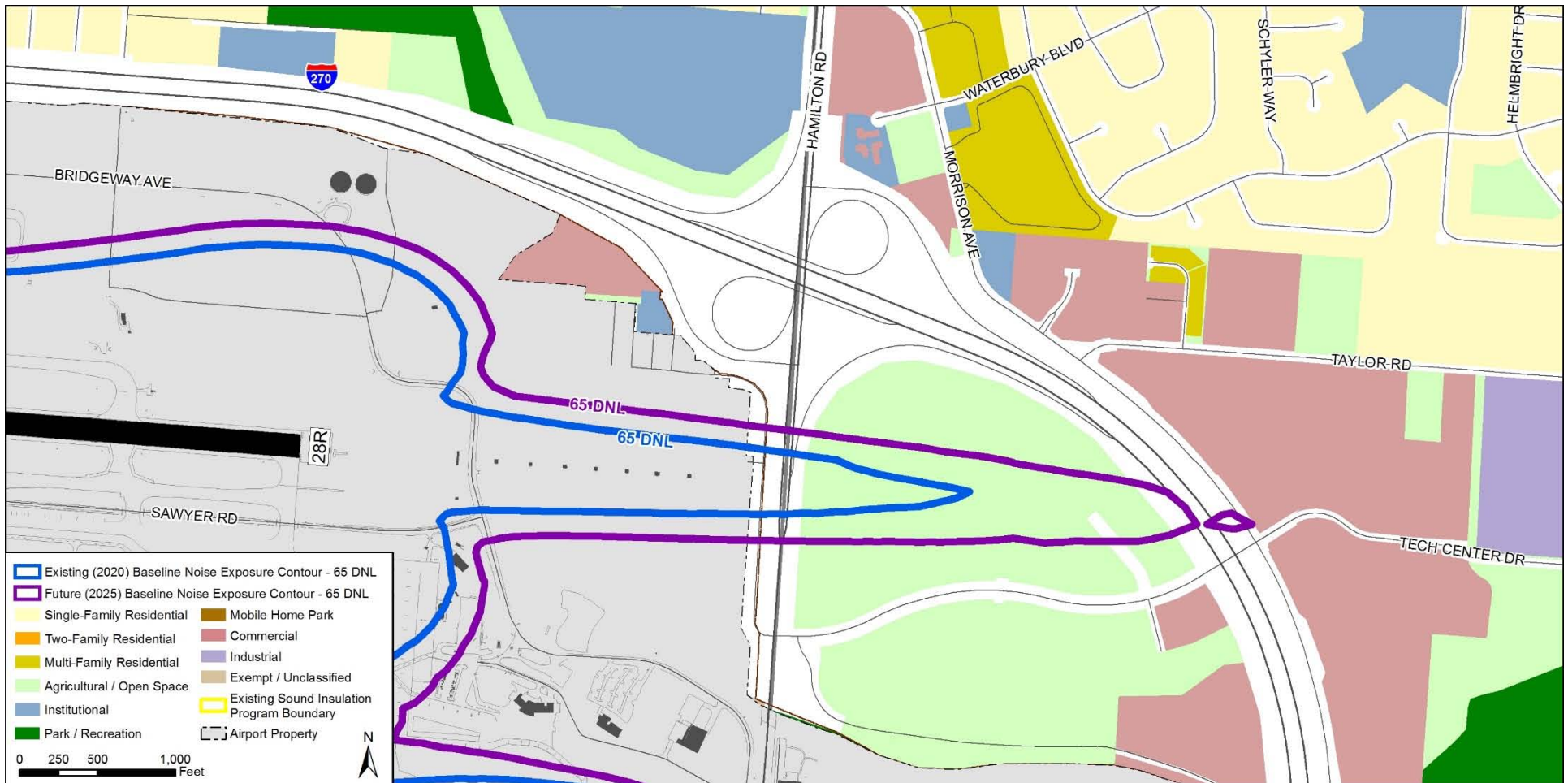


# Existing (2020) compared to Future (2025) Baseline Noise Exposure Contours

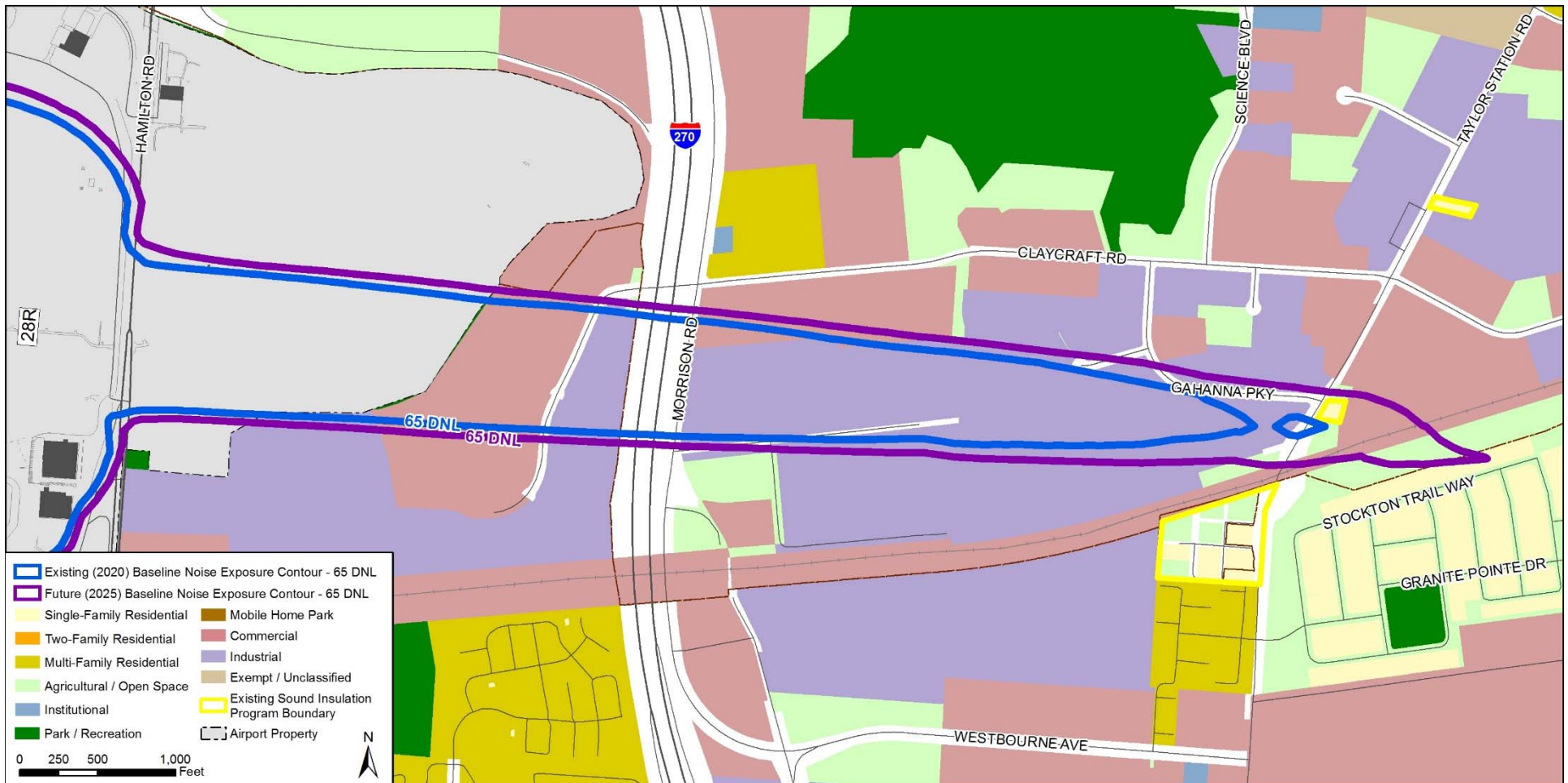




## *Existing (2020) compared to Future (2025) Baseline Noise Exposure Contours*

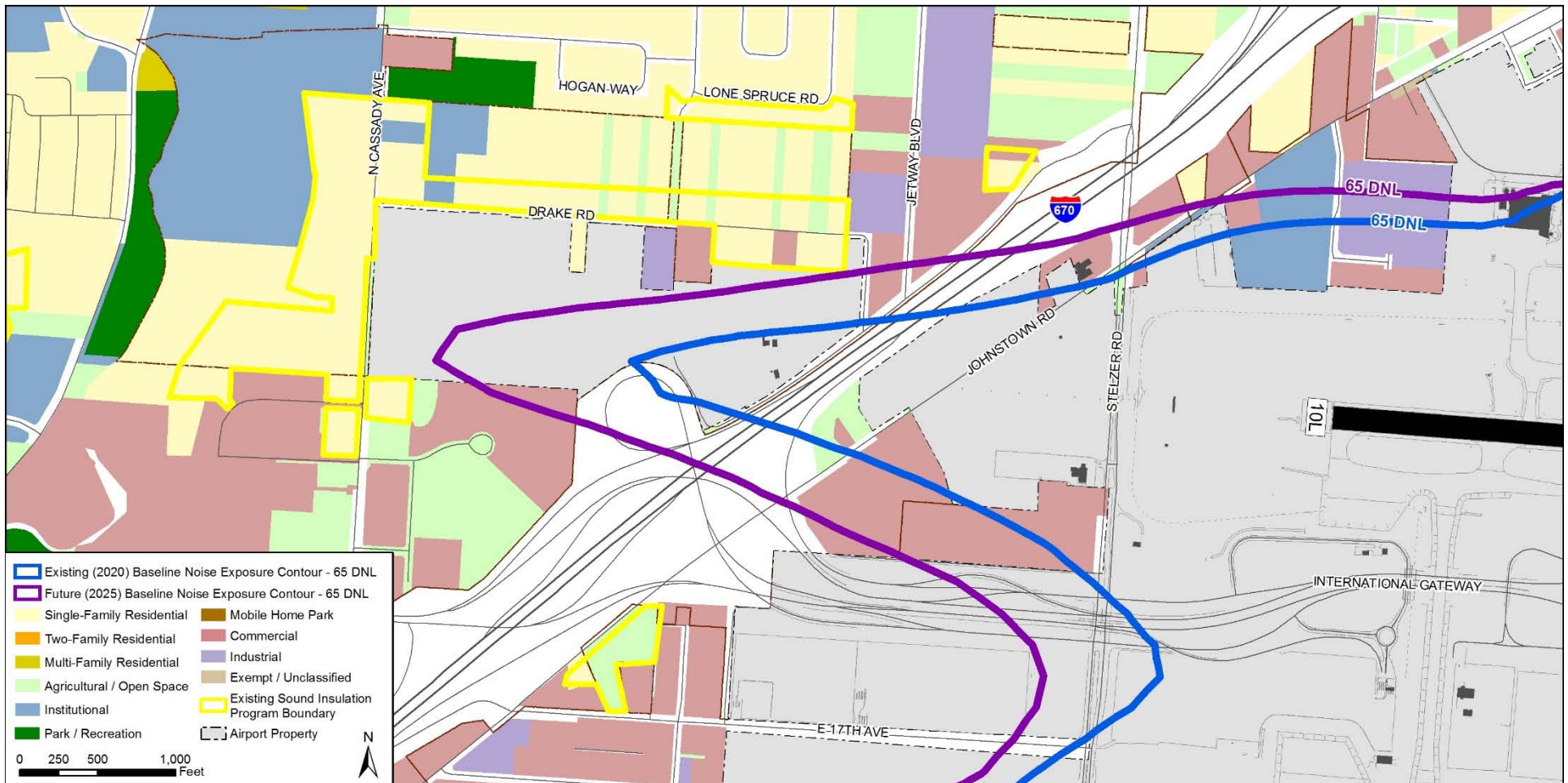


# *Existing (2020) compared to Future (2025) Baseline Noise Exposure Contours*

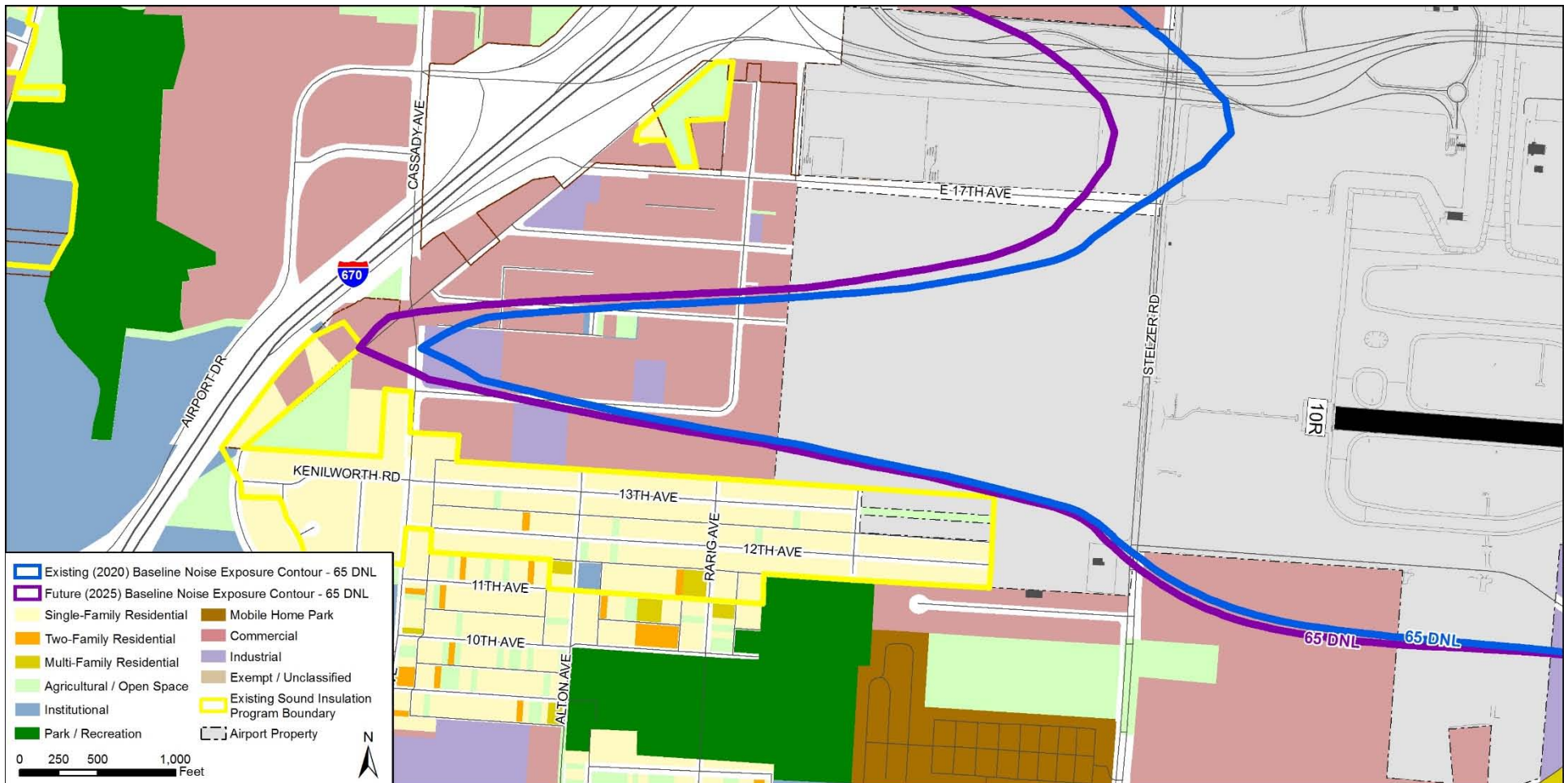




## *Existing (2020) compared to Future (2025) Baseline Noise Exposure Contours*



## *Existing (2020) compared to Future (2025) Baseline Noise Exposure Contours*



## *Future (2025) Baseline Noise Exposure Contour*

Jurisdiction	65-70 DNL	70-75 DNL	75+ DNL
Housing Counts			
Columbus	1	0	0
Gahanna	1	0	0
Mifflin Township	0	0	0
Jefferson Township	0	0	0
<b>Total</b>	<b>2</b>	<b>0</b>	<b>0</b>
Population			
Columbus	3	0	0
Gahanna	3	0	0
Mifflin Township	0	0	0
Jefferson Township	0	0	0
<b>Total</b>	<b>6</b>	<b>0</b>	<b>0</b>
Noise-Sensitive Facilities			
Schools / Daycares	1	0	0

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## ***Future (2025) Baseline Noise Exposure Contour***

- The Future (2025) Baseline Noise Exposure Contour reflects conditions expected in the future with no noise abatement procedures other than what is already implemented today.
- Serves as the basis for recommending and evaluating any new noise abatement procedures.
- There is an increase in size of the noise contours compared to Existing (2020) Baseline Noise Exposure Contour due to the forecast increase in aircraft operations at CMH.
- Contour retains a similar shape because no major changes in runway use or flight tracks are expected within the Study Area.
- There are two residences and one noise-sensitive facility within the 65 DNL of the Future (2025) noise contour.
- The 60 DNL is shown for informational purposes and does not represent a noise impact under Federal land use compatibility guidelines. There are approximately 4,400 residences and 29 noise-sensitive facilities (schools, daycares, and churches) within the 60-65 DNL of the Future (2025) Baseline noise contour.

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***Pause for Questions***





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# ***Noise Compatibility Program***

## *Types of Program Measures*

- Noise Abatement Measures
  - Not applicable outside the 65 DNL
- Corrective Land Use Measures
  - Typically not applicable outside the 65 DNL
- Preventative Land Use Measures
  - Can be applied outside the 65 DNL but typically consist of informational/notification only in areas outside the 65 DNL
- Implementation Measures
  - Designed to assist with the implementation and management of the Noise Compatibility Program (NCP)

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## ***Group Comments / Discussion***



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## ***Next Steps***

### Public Meeting Information Online

- Project Website: [www.airportprojects.net/cmh-part150](http://www.airportprojects.net/cmh-part150)
- Questions/comments accepted through May 31
- Notify your constituents
  - Social media imagery and language available
  - Email: [mkeister@engagepublicaffairs.com](mailto:mkeister@engagepublicaffairs.com)

### Part 150 Process

- Next TAC meeting Summer/Fall 2020
- Questions or comments?

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