



Noise Compatibility Report

**2023 Quarter 1
January - March**

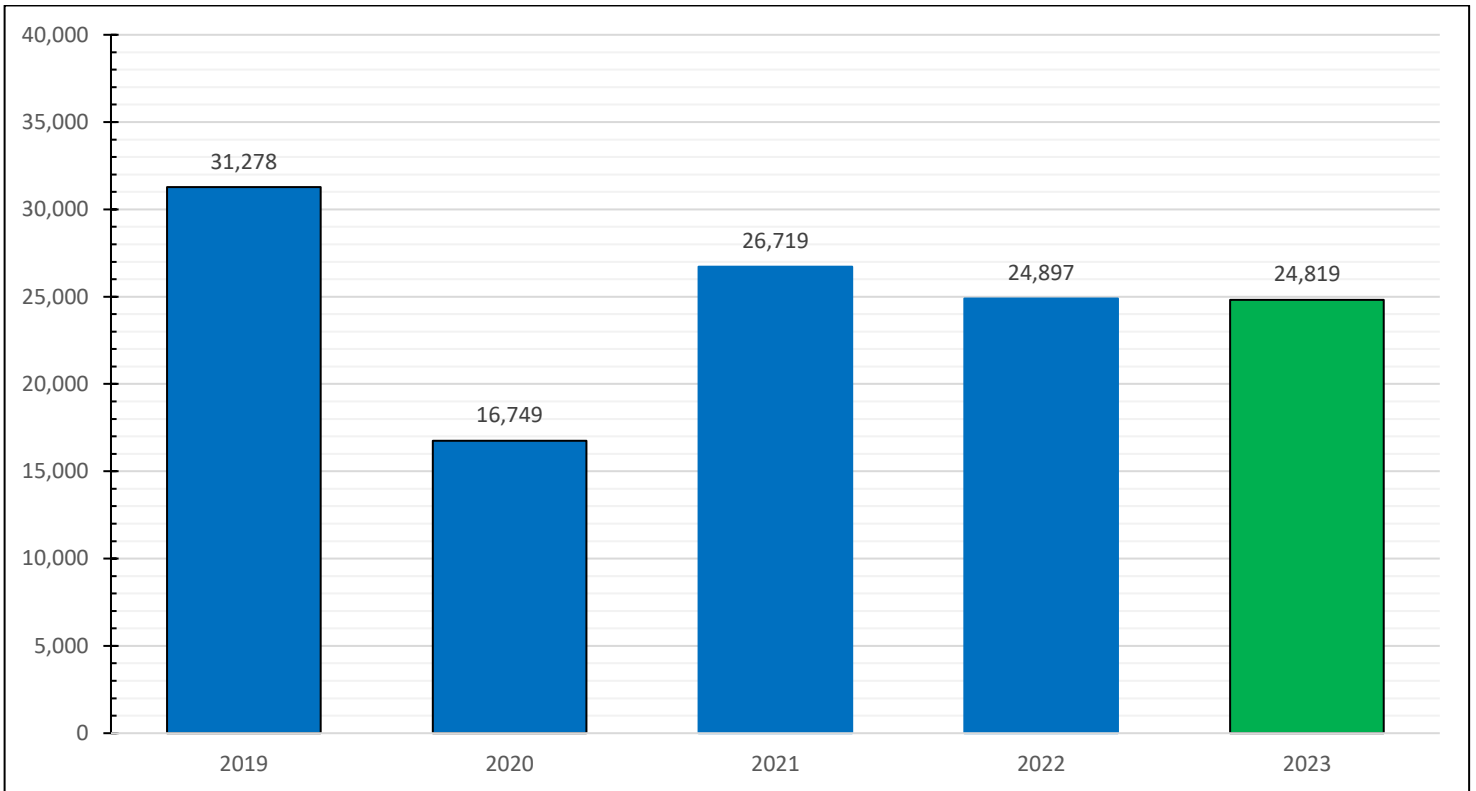
Disclaimer

- The Noise Compatibility Plan (NCP) at Cleveland Hopkins International Airport (CLE) combines the existing approved Part 150 Noise Compatibility Plan with Air Traffic Control Tower (ATCT) requirements to ensure the safe and expeditious handling of air traffic. While safety is paramount to any aircraft operation, noise sensitivity to the surrounding communities is also of key importance in airport operations.
- CLE is not directly responsible for changes made to flight plans or routes of aircraft.
- Adherence to approved noise abatement measures is voluntary and subject to change based on weather, efficiency, and safety.
- The contents of this report are for informational purposes only. The information cannot be used for enforcement of any Noise Abatement Measure.
- Due to the large volume of data when reporting noise, not all noise and flight information can be shown in this report.
- If more information is needed, please contact the noise hotline and the airport will respond as soon as possible.

Aircraft Operations

Cleveland 1st Quarter Operations 2019 – 2023

- There were **24,819** operations in the 1st Qtr. 2023; This is less than a 1% change below the 1st Qtr. 2022.



Source: FAA Operations Network (OPSNET) - <https://aspm.faa.gov/opsnet/sys/Main.asp?force=atads>
The Operations Network (OPSNET) is the official source of FAA air traffic operations and delay data.



Fleet Mix

Cleveland Hopkins had **24,819** operations in Quarter 1 of 2023. Here are some of the notable aircraft that CLE welcomes and sends off on a regular basis.

Aircraft	Total
Boeing 737 Series	6,319
Embraer E-Jet Family	3,571
Bombardier CRJ-900	1,946
Airbus A320/A321/A319	5,061
MD-11	124



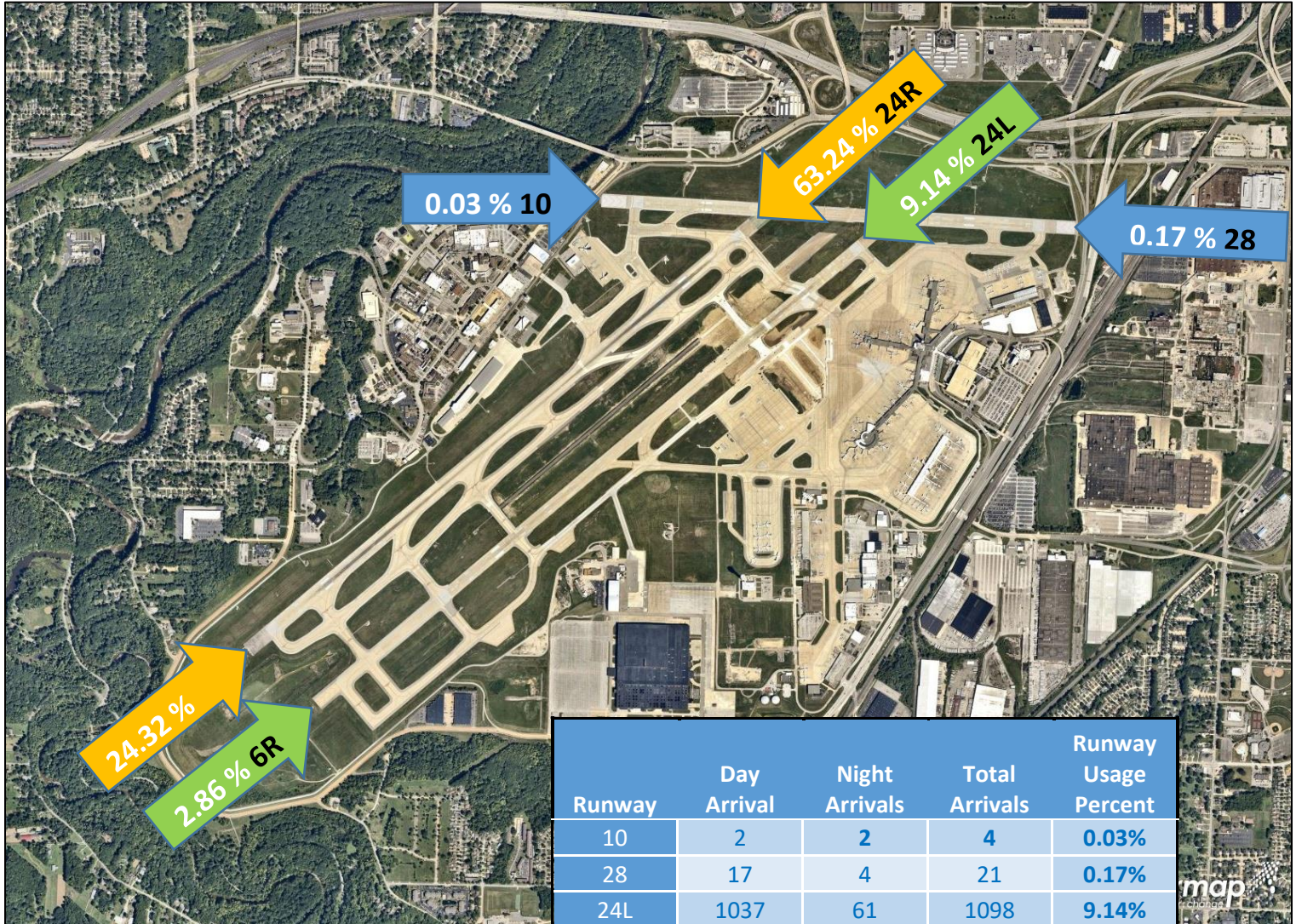
Other notable aircraft operations include:

Aircraft	Total
Air Taxi	2,997
General Aviation	1,517
Military	9



Source: FAA Operations Network (OPSNET) - <https://aspm.faa.gov/opsnet/sys/Main.asp?force=atads>
 The Operations Network (OPSNET) is the official source of FAA air traffic operations and delay data.

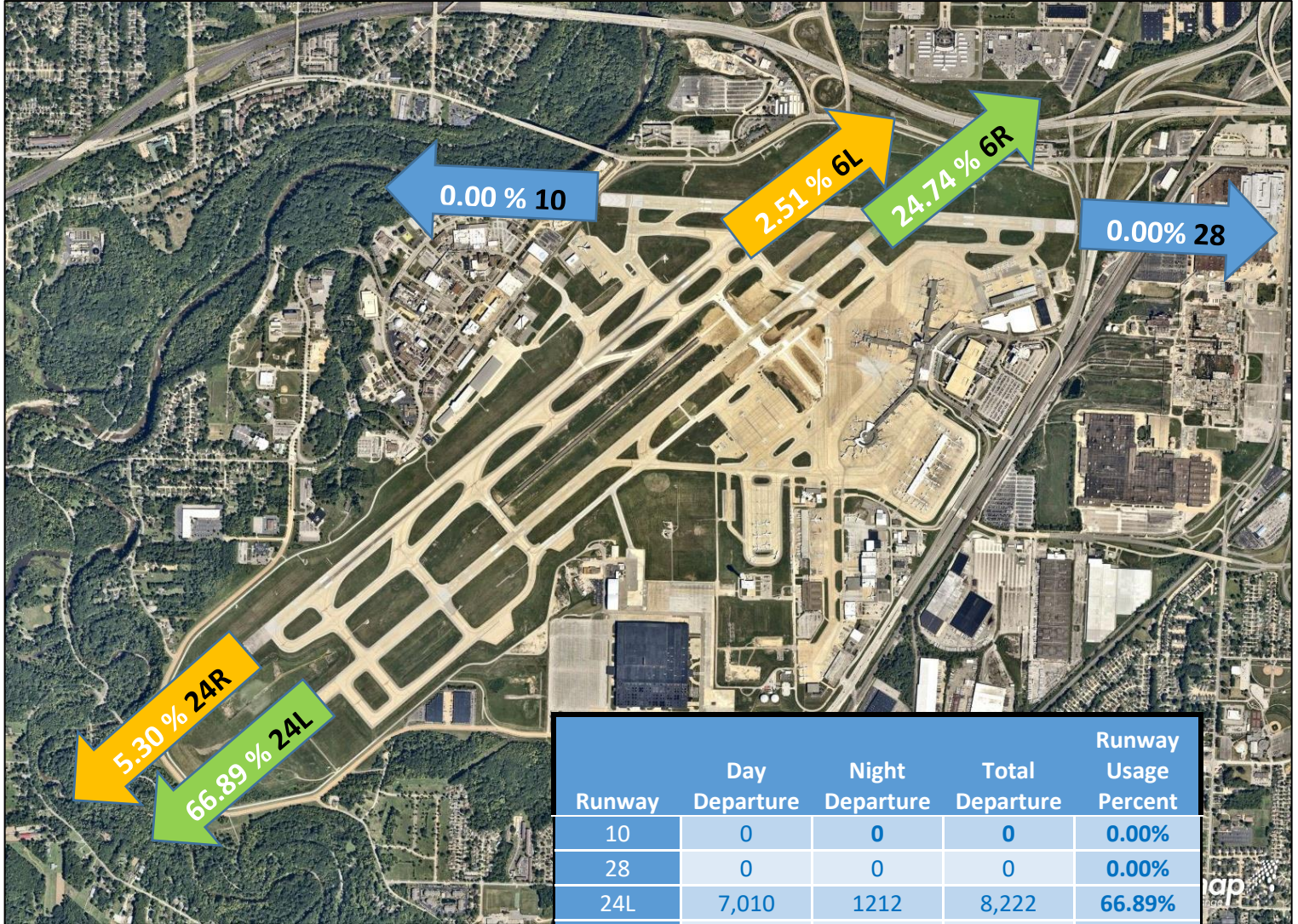
Runway Use: 1st Quarter, 2023 Arrivals



Runway	Day Arrival	Night Arrivals	Total Arrivals	Runway Usage Percent
10	2	2	4	0.03%
28	17	4	21	0.17%
24L	1037	61	1098	9.14%
24R	6,325	1269	7,594	63.24%
6L	2,447	474	2,921	24.32%
6R	270	74	344	2.86%
UNK	22	5	27	0.22%
TOTALS	10120	1889	12009	100.00%

Note: Runway usage totals may not match FAA operation totals due to different system tracking methods and potential duplicate data. Data is generated using L3 Harris Symphony EnvironmentalVue.

Runway Use: 1st Quarter, 2023 Departures

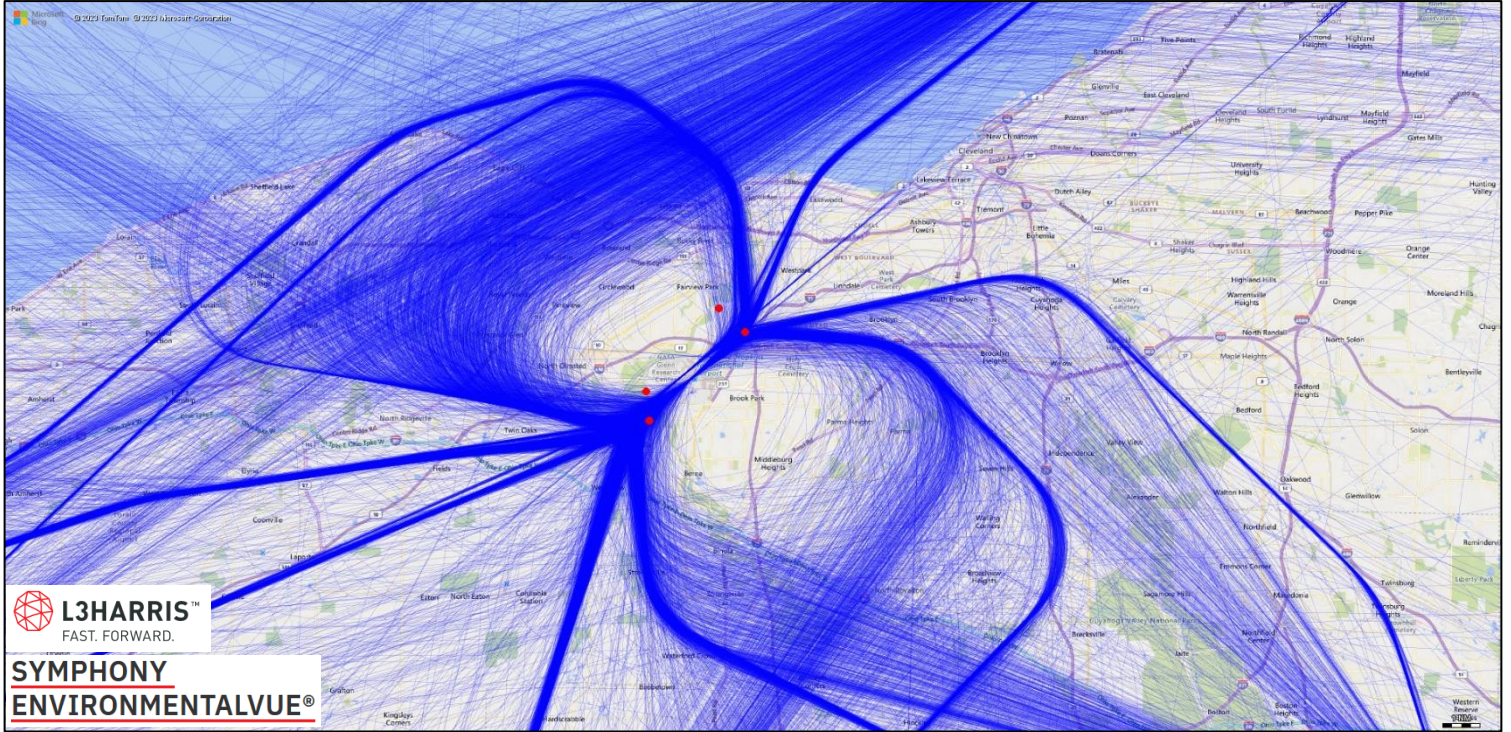


Runway	Day Departure	Night Departure	Total Departure	Runway Usage Percent
10	0	0	0	0.00%
28	0	0	0	0.00%
24L	7,010	1212	8,222	66.89%
24R	638	13	651	5.30%
6L	292	17	309	2.51%
6R	2562	479	3041	24.74%
UNK	58	10	68	0.55%
Totals	10560	1731	12291	100.00%

Note: Runway usage totals may not match FAA operation totals due to different system tracking methods and potential duplicate data. Data is generated using L3 Harris Symphony EnvironmentalVue.

Departure Headings, 1st Quarter: Day-time

2023 1st Quarter day-time departure – 11,584 flight tracks (jet propulsion only). Day-time reflects 06:00 am to 11:00 pm.



Flight tracks generated using L3 Harris Symphony EnvironmentalVue

Key:

Flight Tracks 

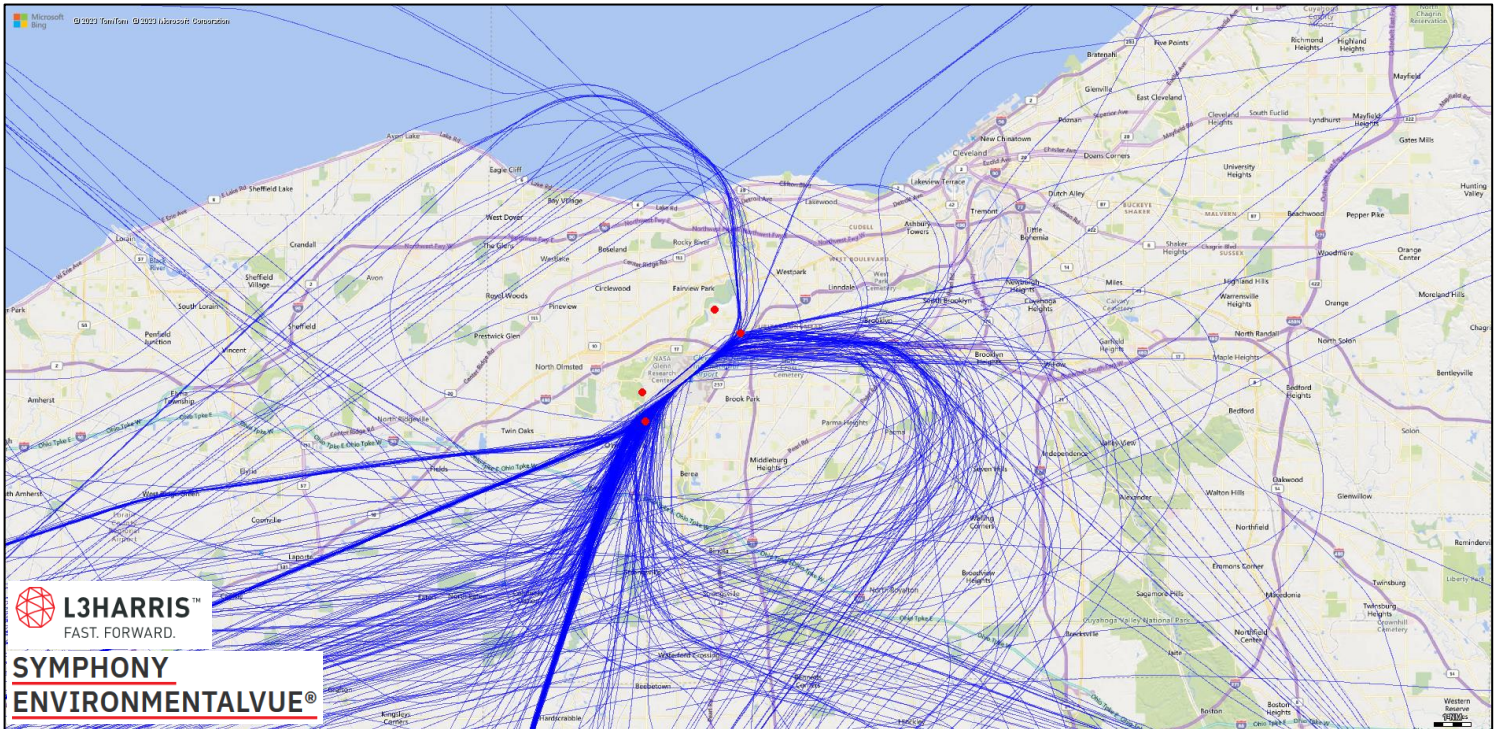
Departure Gates 

Noise Monitoring Station 

Departure Headings, 1st Quarter: Night-time

2023 1st Quarter nighttime departure flight tracks (jet propulsion only). Night-time reflects 11:00 pm to 06:00 am.

Of **282** departure flights, **88 (31%)** were outside their respective late night departure corridor. These corridors represent the airspace through which aircraft depart and arrive. When an aircraft departs, it has a certain path it follows which is a function of altitude and heading.



Flight tracks generated using L3 Harris Symphony EnvironmentalVue

Key:

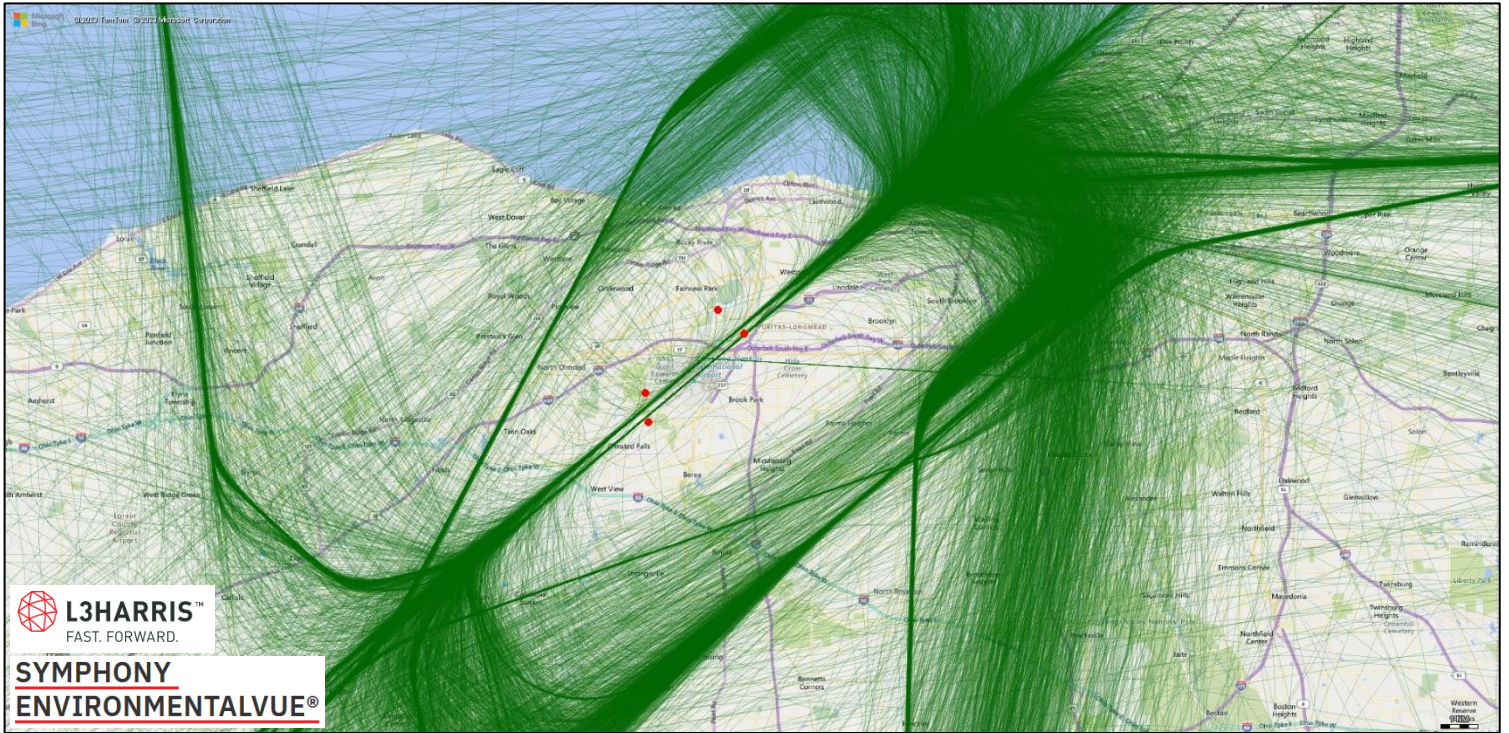
Flight Tracks 

Departure Gates 

Noise Monitoring Station 

Arrival Headings, 1st Quarter

Day-time and night-time arrivals for all of Quarter 1 are shown here (all propulsion types). Note that a voluntary measure or the Noise Compatibility Program calls for all aircraft arriving between 11:00 pm and 6:00 am, wind and weather permitting, to intercept final approach course no closer than four miles before touchdown.



Flight tracks generated using L3 Harris Symphony EnvironmentalVue

Flight Tracks 

Noise Monitoring Station 

Metroplex: South Flow (Departures)

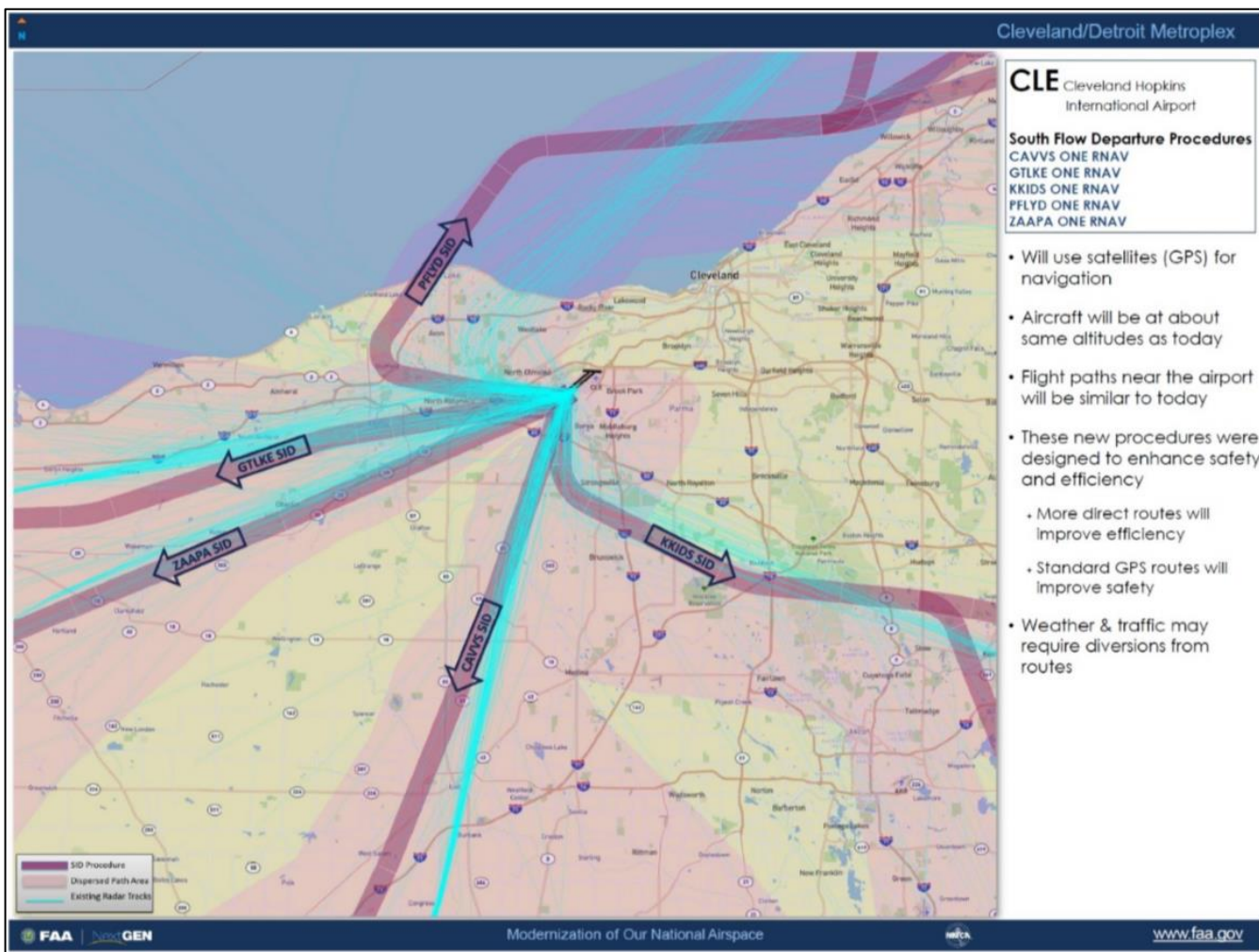


What is the Cleveland/Detroit Metroplex?

- Starting in mid-September 2018, the Federal Aviation Administration (FAA) made airspace changes in and around Cleveland and Detroit airports. These changes are part of the Cleveland-Detroit Metroplex project, which will bring updated satellite procedures to improve traffic flow.
- In most cases, aircraft will follow the same tracks that they do today. The difference is that aircraft will be using modernized procedures that replace dozens of decades-old conventional air traffic control procedures. In all, the Cleveland/Detroit Metroplex project includes 71 new satellite-based procedures. This project is a key component of the FAA's Next Generation Air Transportation System (NextGen) and a nationwide effort to build the foundation for future safety and efficiency improvements.

Source: <https://www.clevelandairport.com/faa-makes-airspace-changes-clevelanddetroit-metroplex-project>

South flow departures take off from runway 24L and runway 24R.



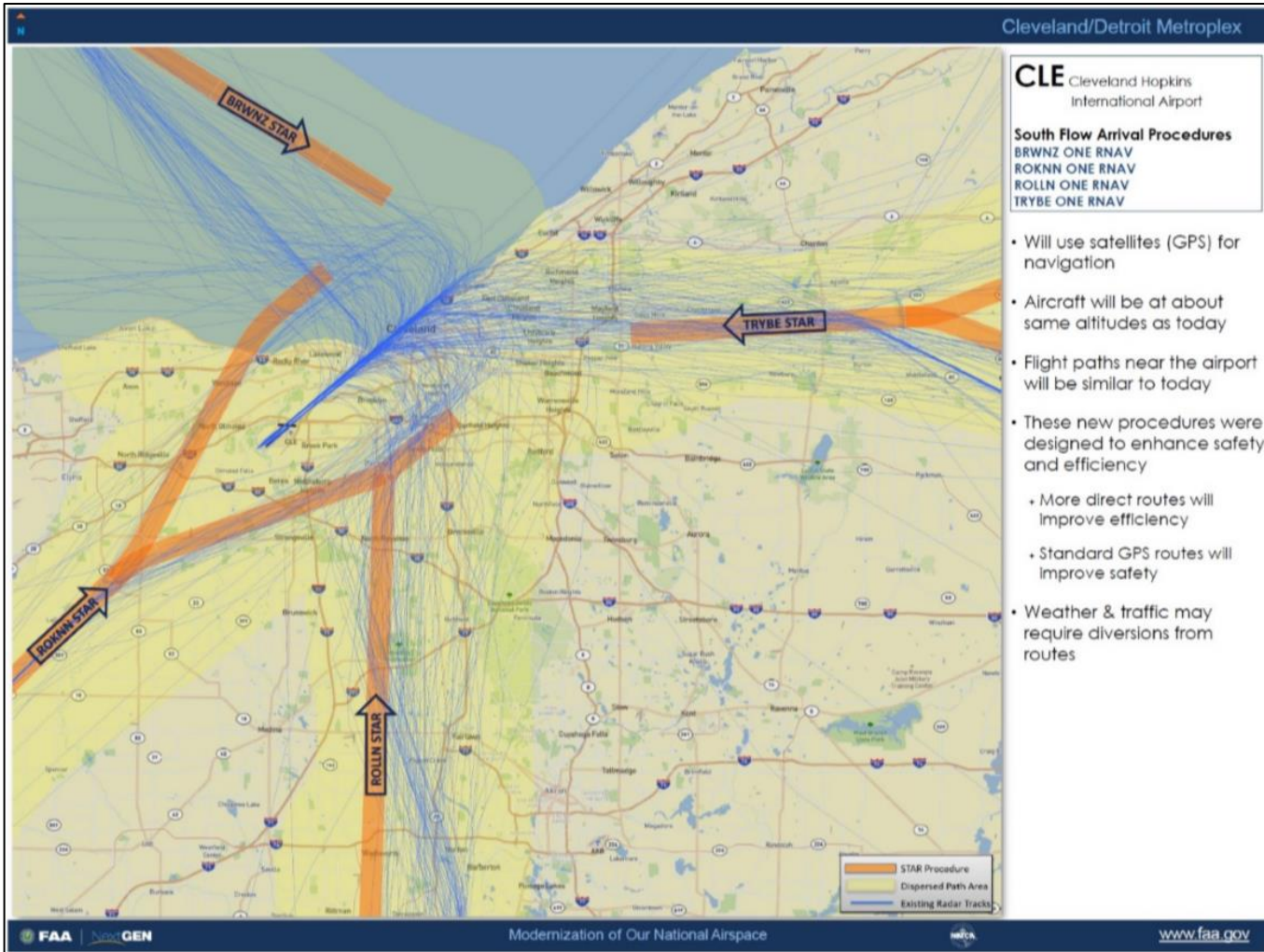
Note: Flight tracks are historic and do not represent the current quarter.

Source: www.metroplexenvironmental.com



Metroplex: South Flow (Arrivals)

South flow arrivals land on runway 24L and runway 24R.

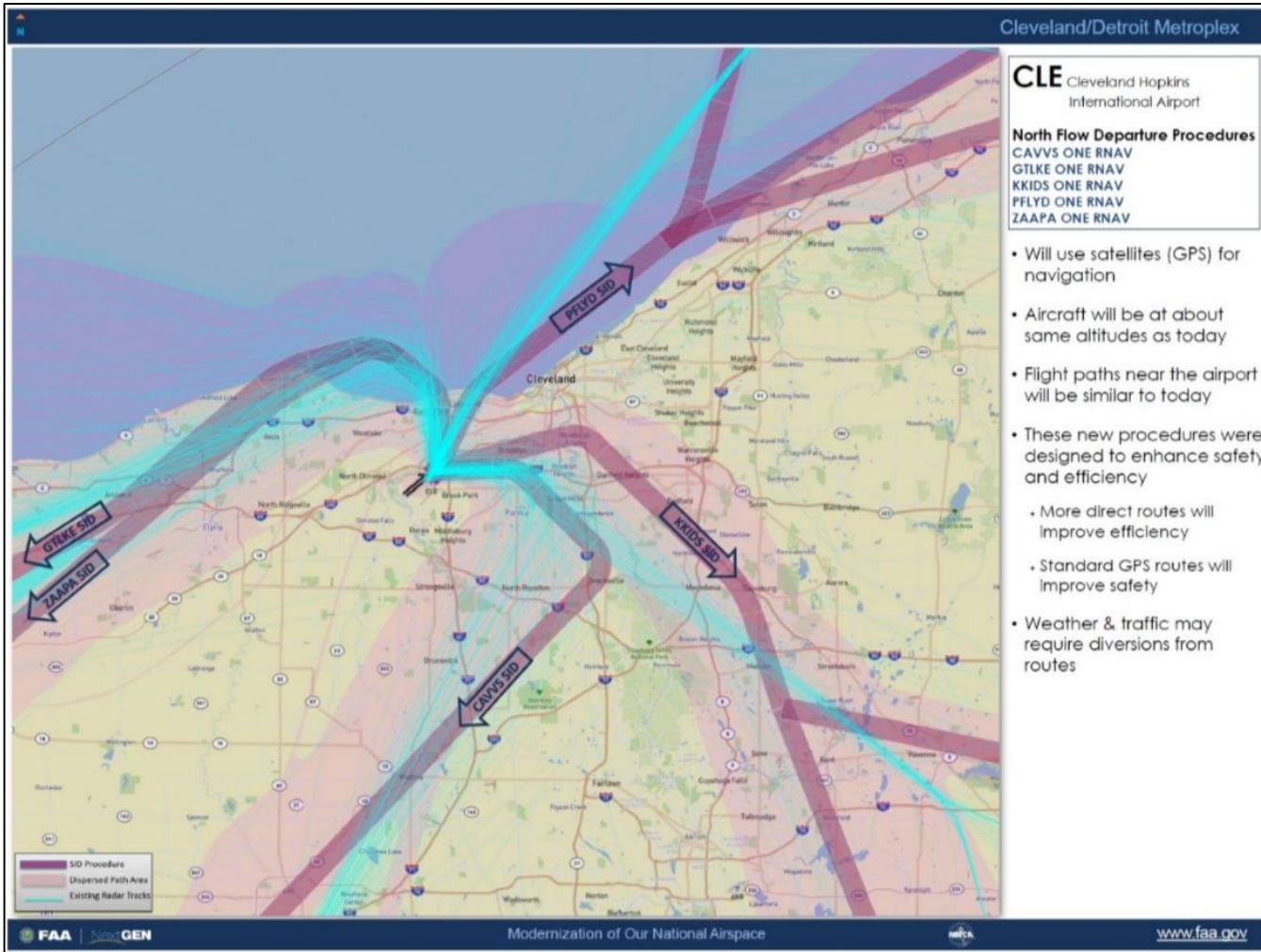


Note: Flight tracks are historic and do not represent the current quarter.

Source: www.metroplexenvironmental.com

Metroplex: North Flow (Departures)

North flow departures take off from runway 6L and runway 6R.

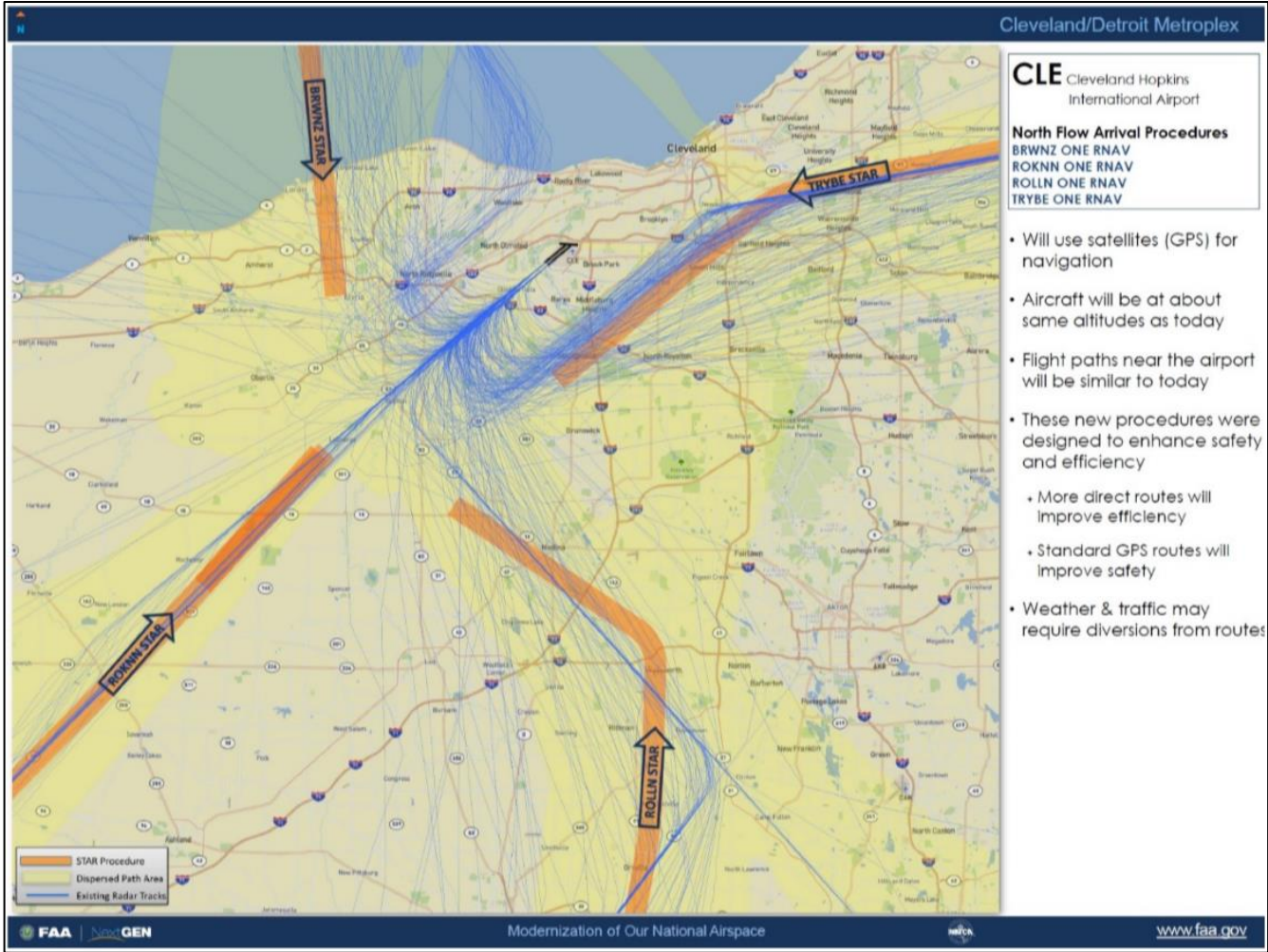


Note: Flight tracks are historic and do not represent the current quarter.

Source: www.metroplexenvironmental.com

Metroplex: North Flow (Arrivals)

North flow arrivals land on runway 6L and runway 6R.



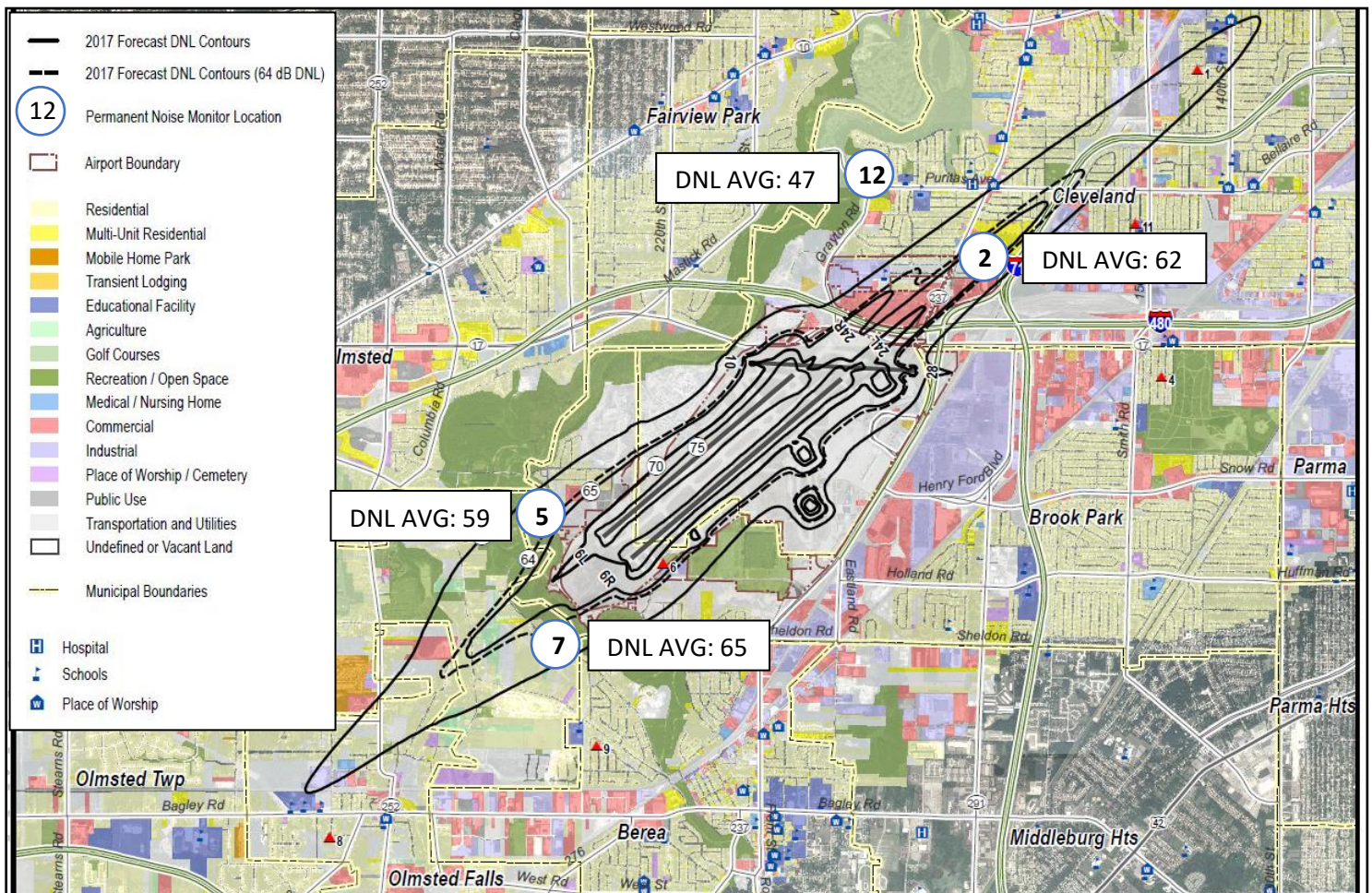
Note: Flight tracks are historic and do not represent the current quarter.

Source: www.metroplexenvironmental.com

Aircraft Noise: Q1 Average DNL by Noise Monitoring Station (NMS)

What is DNL?

- As FAA's primary metric for aviation noise analysis, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of the day-night average sound level (DNL) in decibels (dB). The 65 DNL is the Federal significance threshold for aircraft noise exposure.
- If interested in the Fundamentals of Noise and Sound, please visit: https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/



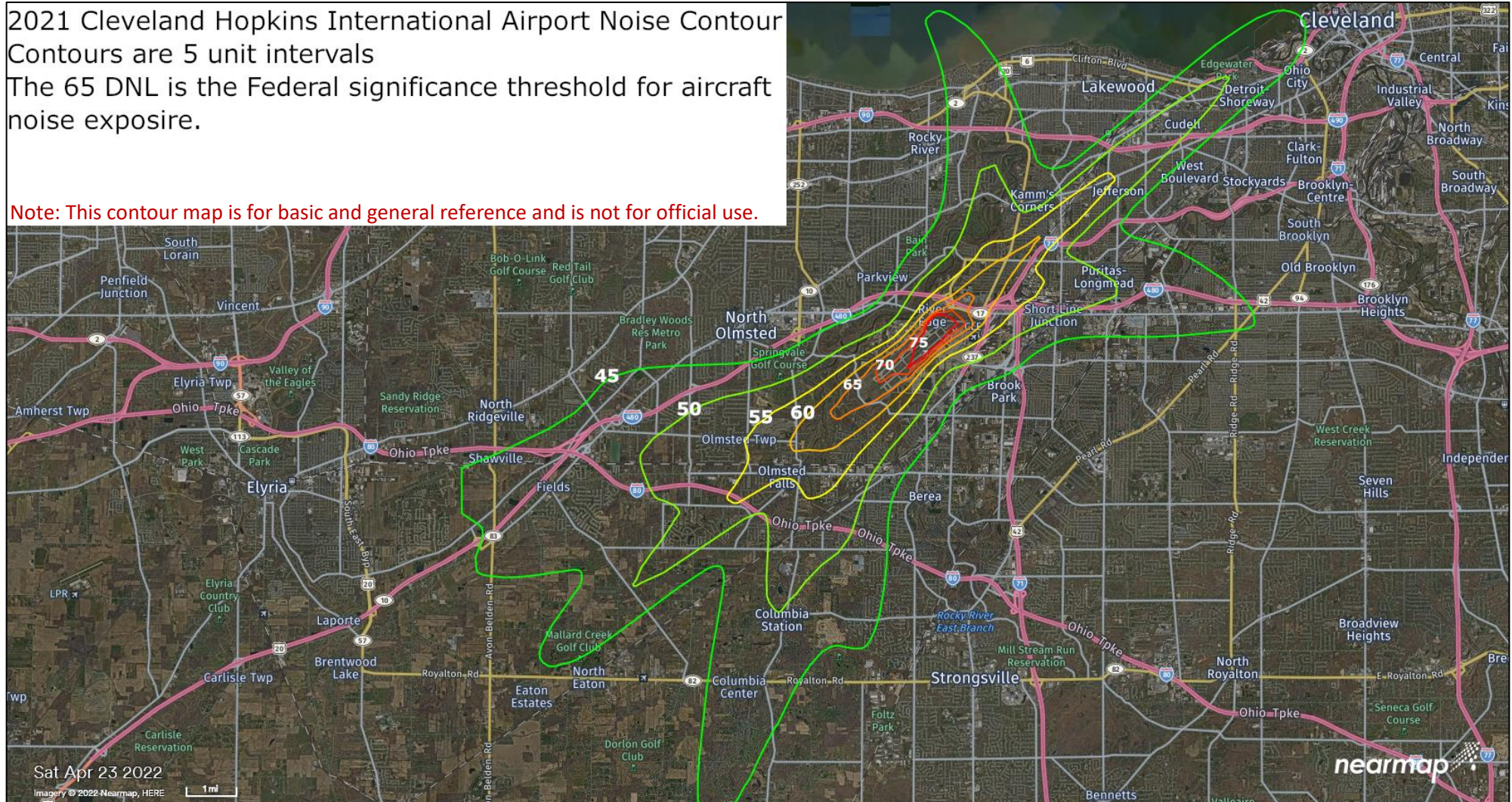
Data generated using L3 Harris Symphony EnvironmentalVue

2021 Yearly Noise Contour

Noise levels can be computed at individual locations of interest, but to show how noise can vary over extended areas, noise metric results like DNL are often drawn on maps in terms of lines connecting points of the same decibel (dBA). Similar to topographical maps showing the elevation of terrain in an area, these noise "contours" are useful for comparing aircraft noise exposure throughout an airport community. The shape of noise contours depends on many factors, but are influenced by things like whether more arriving or departing aircraft are flying over an area.

2021 Cleveland Hopkins International Airport Noise Contour
Contours are 5 unit intervals
The 65 DNL is the Federal significance threshold for aircraft noise exposure.

Note: This contour map is for basic and general reference and is not for official use.



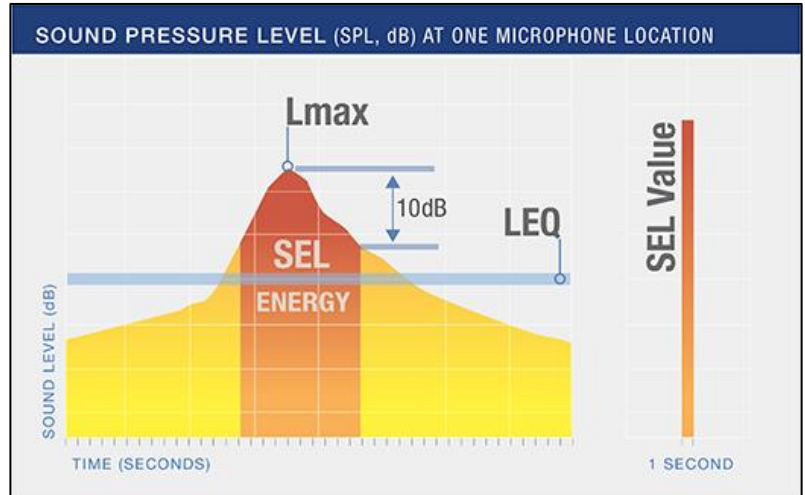
Top Three Lmax at Each NMS

Lmax is the single loudest point during a noise event.

Sounds Exposure Level (SEL) is a measure that takes into account all noises over the entire duration of the noise event.

Decibel (db) is the unit used to measure the intensity of a sound. The human ear hears sound pressures over a wide range. Decibels, which are measured on a *logarithmic* scale, correspond to the way our ears interpret sound pressures.

NMS – Noise Monitoring Station: For a map of these stations, refer to the previous pages.



Source: www.faa.gov

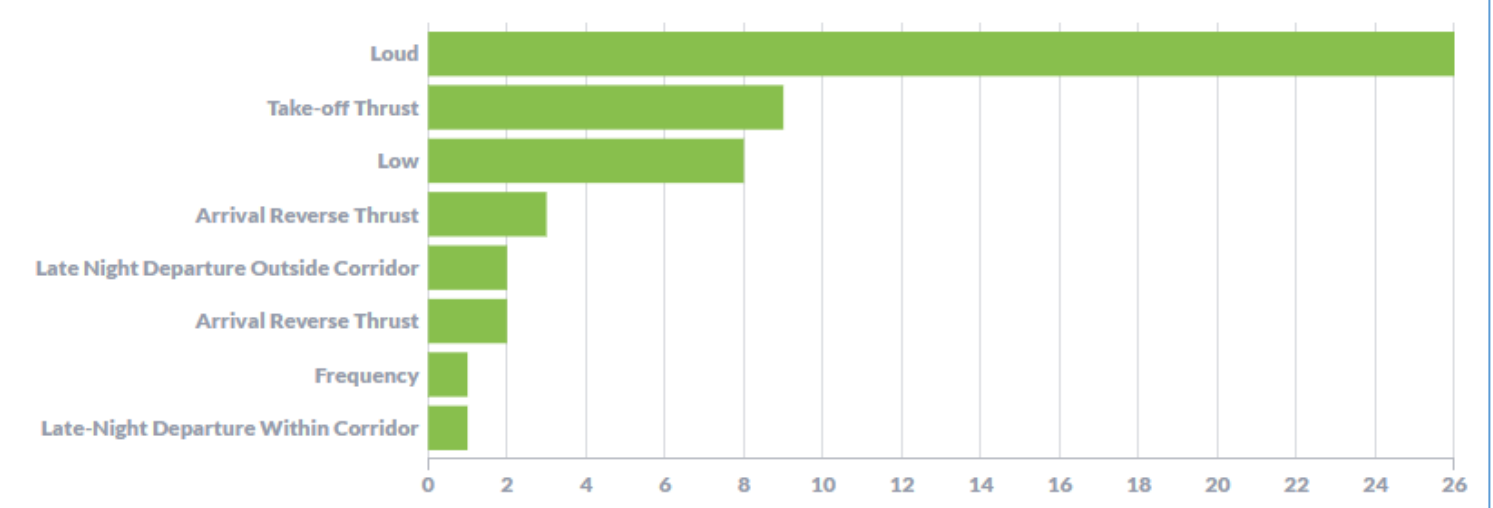
Date and Time	NMS	Lmax (dB)	Sound Exposure Level (dB)	Duration (sec)	Operation	Aircraft
1/5/2023 18:49	NMS02	94.6	100.48	21	Arrival 24L	Boeing 767-300
2/21/2023 5:33	NMS02	94.3	99.39	22	Arrival 24L	MD-11
3/8/2023 21:25	NMS02	92.5	99.16	24	Departure 6R	Boeing 747-400
2/23/2023 18:22	NMS05	95.8	99.08	19	Departure 24L	Beechjet 400A
3/3/2023 21:34	NMS05	88.2	98.11	41	Departure 24R	MD-11
1/11/2023 14:05	NMS05	90.6	97.78	20	Departure 24R	Airbus 321
2/28/2023 8:57	NMS07	103.2	109.28	40	Departure 24L	Boeing 727
1/26/2023 7:15	NMS07	99.7	106.02	52	Departure 24L	Boeing 727
1/23/2023 18:13	NMS07	96.6	103.18	29	Departure 24L	B747-400
3/26/2023 20:54	NMS12	86.9	95.72	35	Departure 6R	MD-88
2/16/2023 10:33	NMS12	79.9	89.53	24	Departure 6R	Bombardier CRJ-900
3/25/2023 16:25	NMS12	84.7	88.95	15	Arrival 24R	B737-900ER

Data generated using L3 Harris Symphony EnvironmentalVue

Noise Complainant Metrics - Q1 2023

City	Complainant	Count
Berea	Ro002	2
Cleveland	Ad001	1,811
Cleveland	Ar005	2
Cleveland	De001	2
Fairview Park	Bu008	1
Lakewood	St004	3
Olmsted Falls	Fo003	1
Olmsted Falls	Lo001	1
Valley City	OI002	137

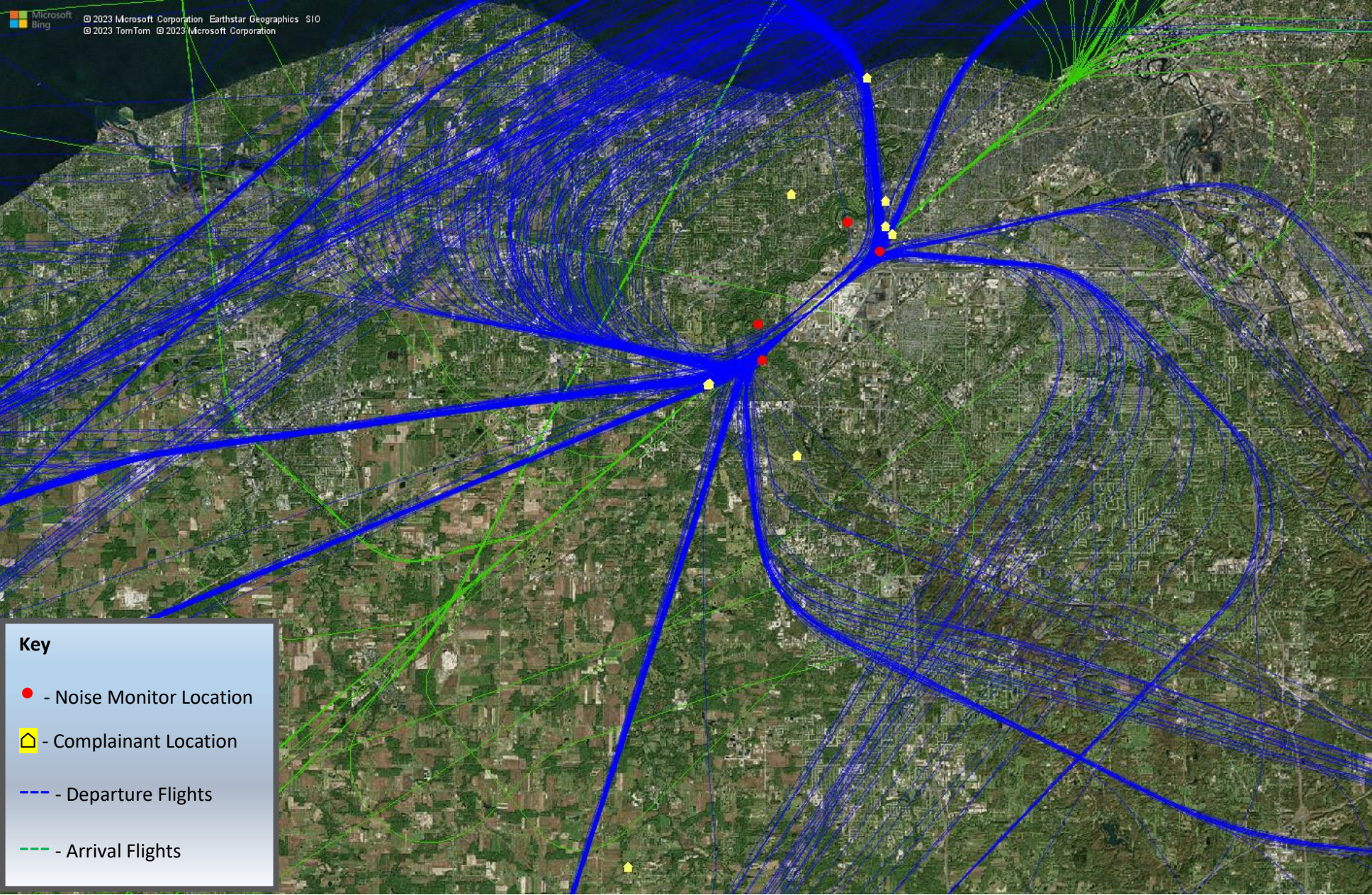
Complaint by Disturbance Type



Noise Events, Count, Grouped by Site i

SITE	Count
NMS02	9,308
NMS05	9,560
NMS07	15,680
NMS12	1,464

Noise Complainant Map - Q1 2023



Do you have a question or noise complaint?

Please visit the [Symphony PublicVue](https://www.clevelandairport.com/contact) to submit a noise complaint. This site can also be found by going to <https://www.clevelandairport.com/contact> and click on “Learn More” under Noise Complaints. Please be patient while we take time to process your message and respond with the appropriate information.

