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# Noise Compatibility Report

2024 Quarter 1

January – February - March

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# Disclaimer

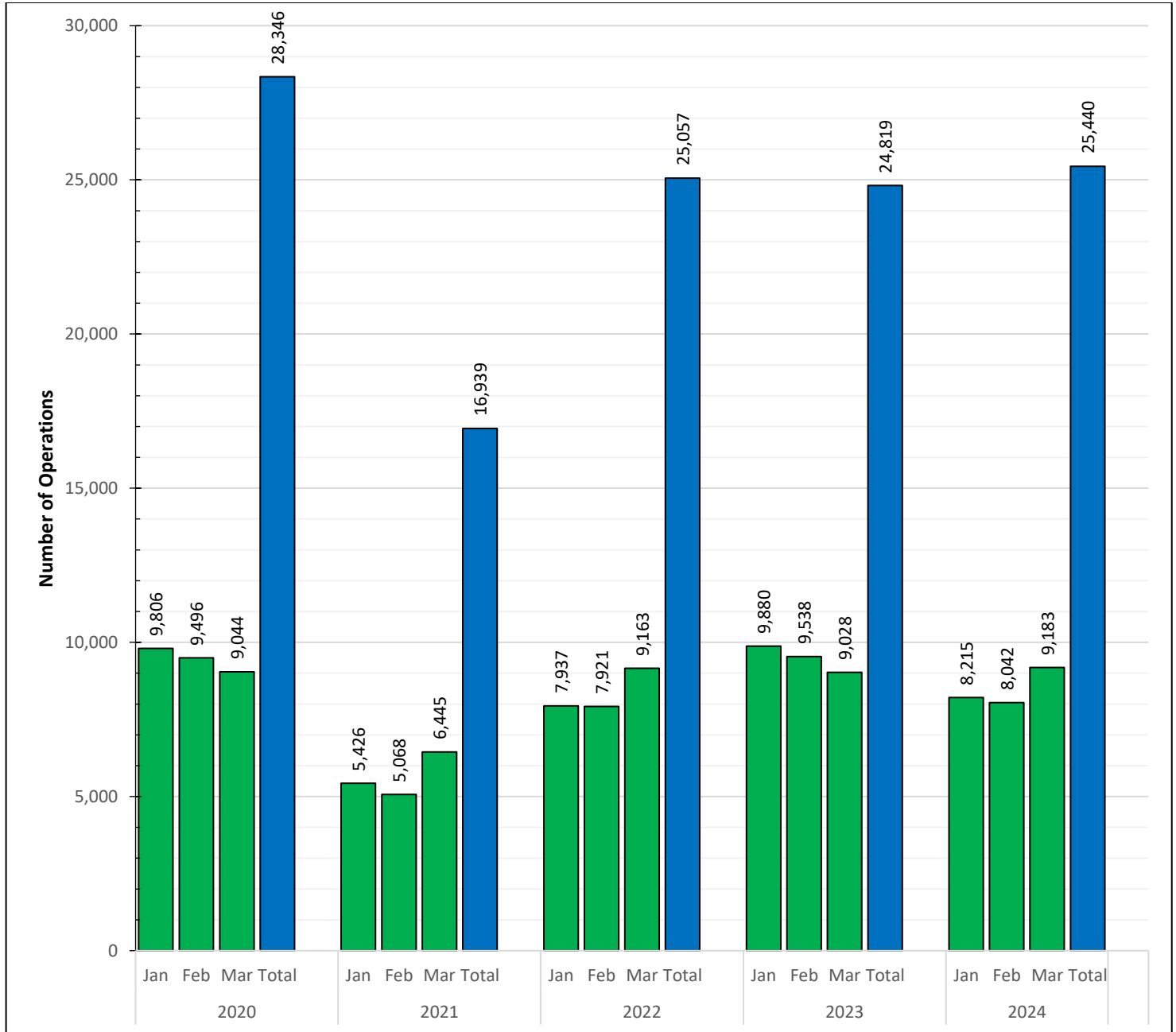
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- The Noise Compatibility Plan (NCP) at Cleveland Hopkins International Airport (CLE) combines the existing approved Part 150 Noise Compatibility Plan with Air Traffic Control Tower (ATCT) requirements to ensure the safe and expeditious handling of 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 airport and we will respond as soon as possible.

# Aircraft Operations

## Cleveland 1<sup>st</sup> Quarter Operations 2020 – 2024

- There were **25,440** operations in the 1<sup>st</sup> Qtr. 2024; This is a 2% increase over 1<sup>st</sup> Qtr. 2023.



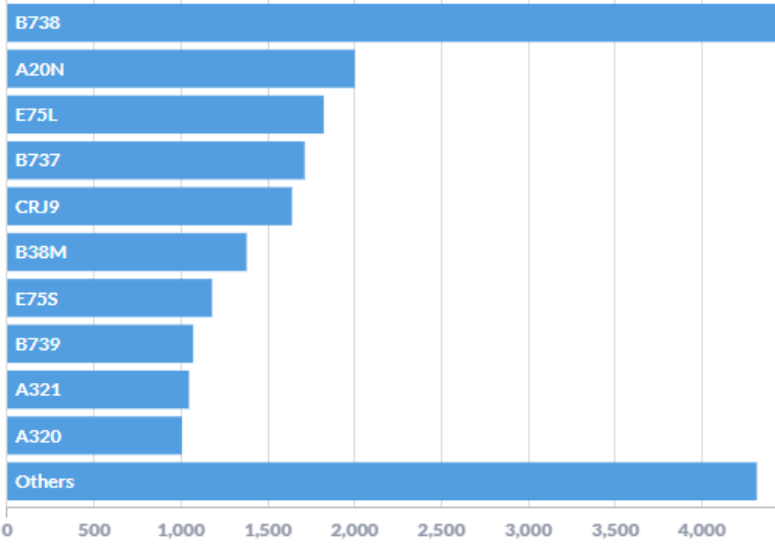
Source: FAA Operations Network (OPSNET) - <https://aspm.faa.gov/opsnet/sys/Main.asp?force=atads>  
The Operations Network (OPSNET) is the official source of FAA air traffic operations and delay data.



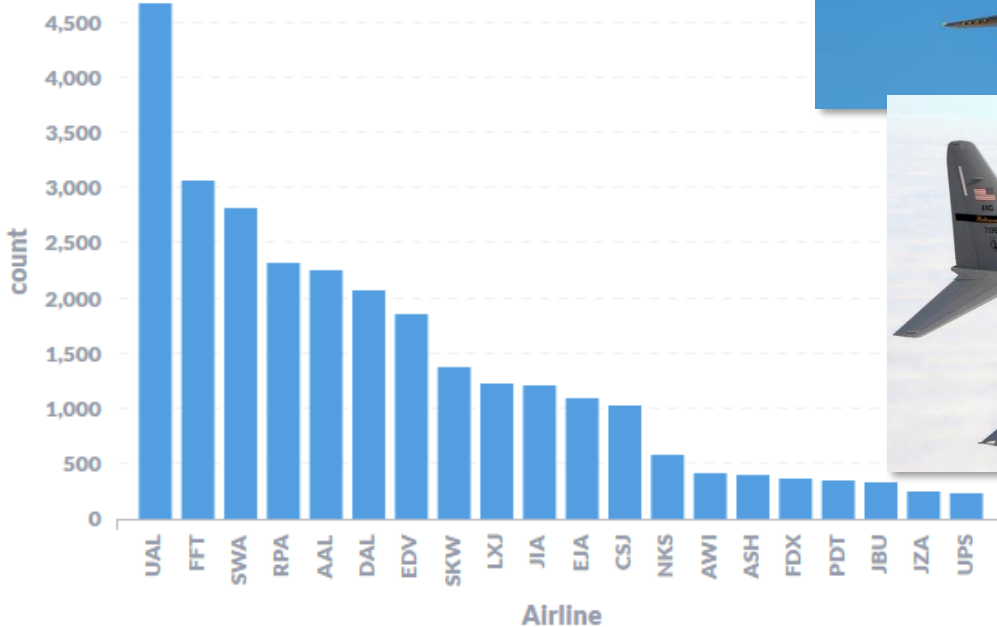
# Fleet Mix

Cleveland Hopkins had **25,440** operations in Quarter 1 of 2024. Here are some of the notable aircraft and airlines that CLE welcomes and sends off on a regular basis.

Top 20 Aircraft

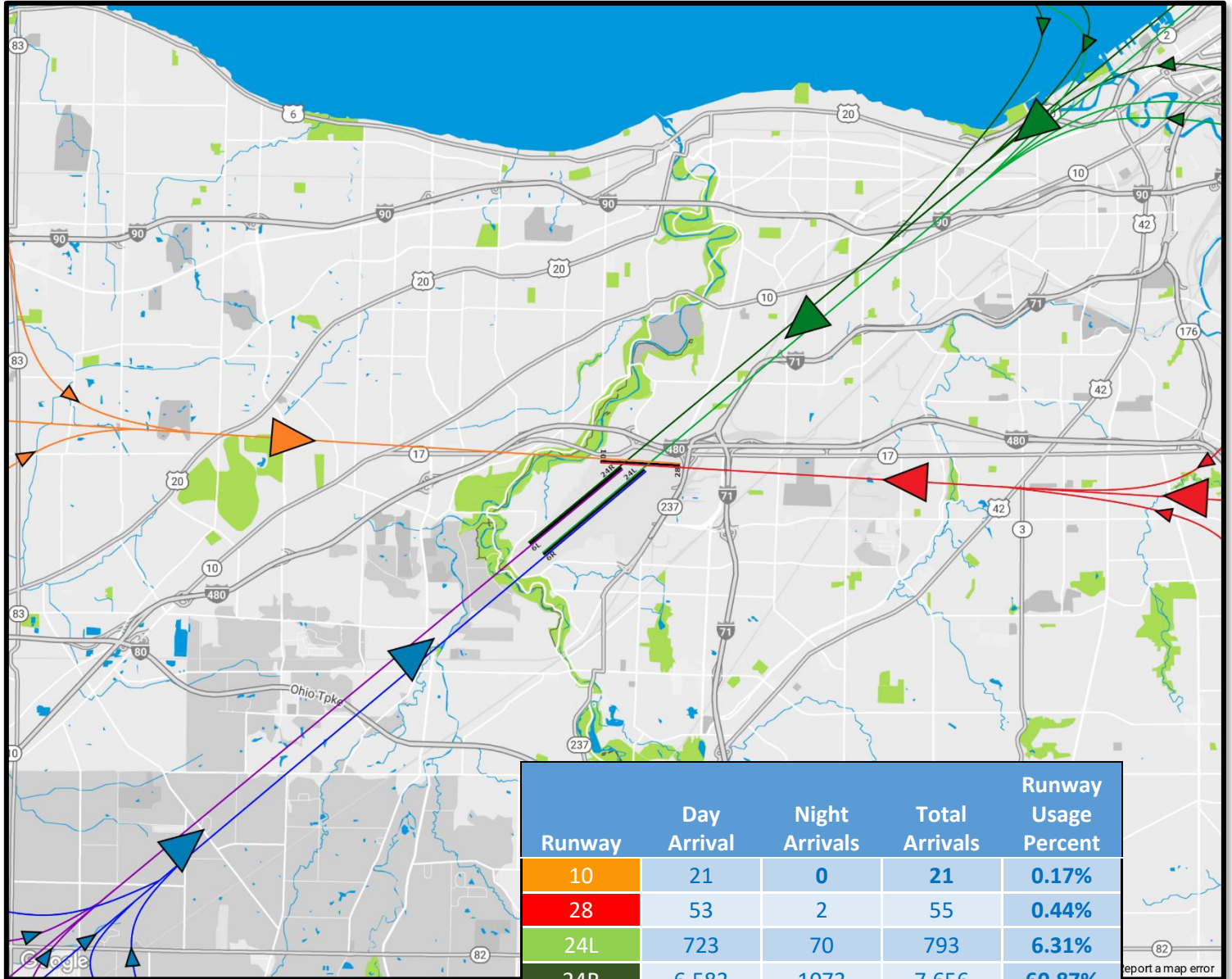


Top 20 Airlines



Source: PASSUR Symphony EnvironmentalVue

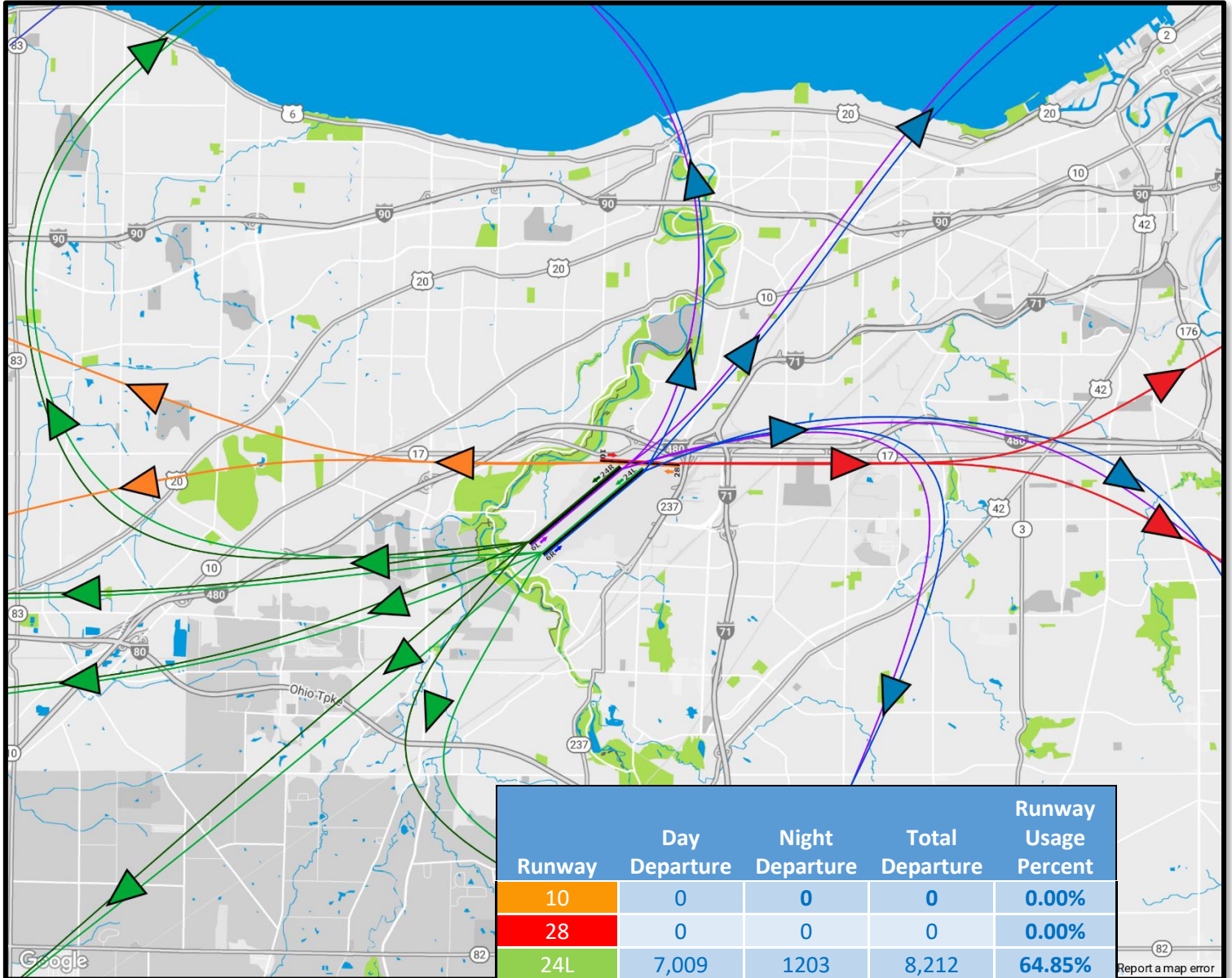
# Runway Use: 1<sup>st</sup> Quarter, 2024 Arrivals



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



# Runway Use: 1<sup>st</sup> Quarter, 2024 Departures



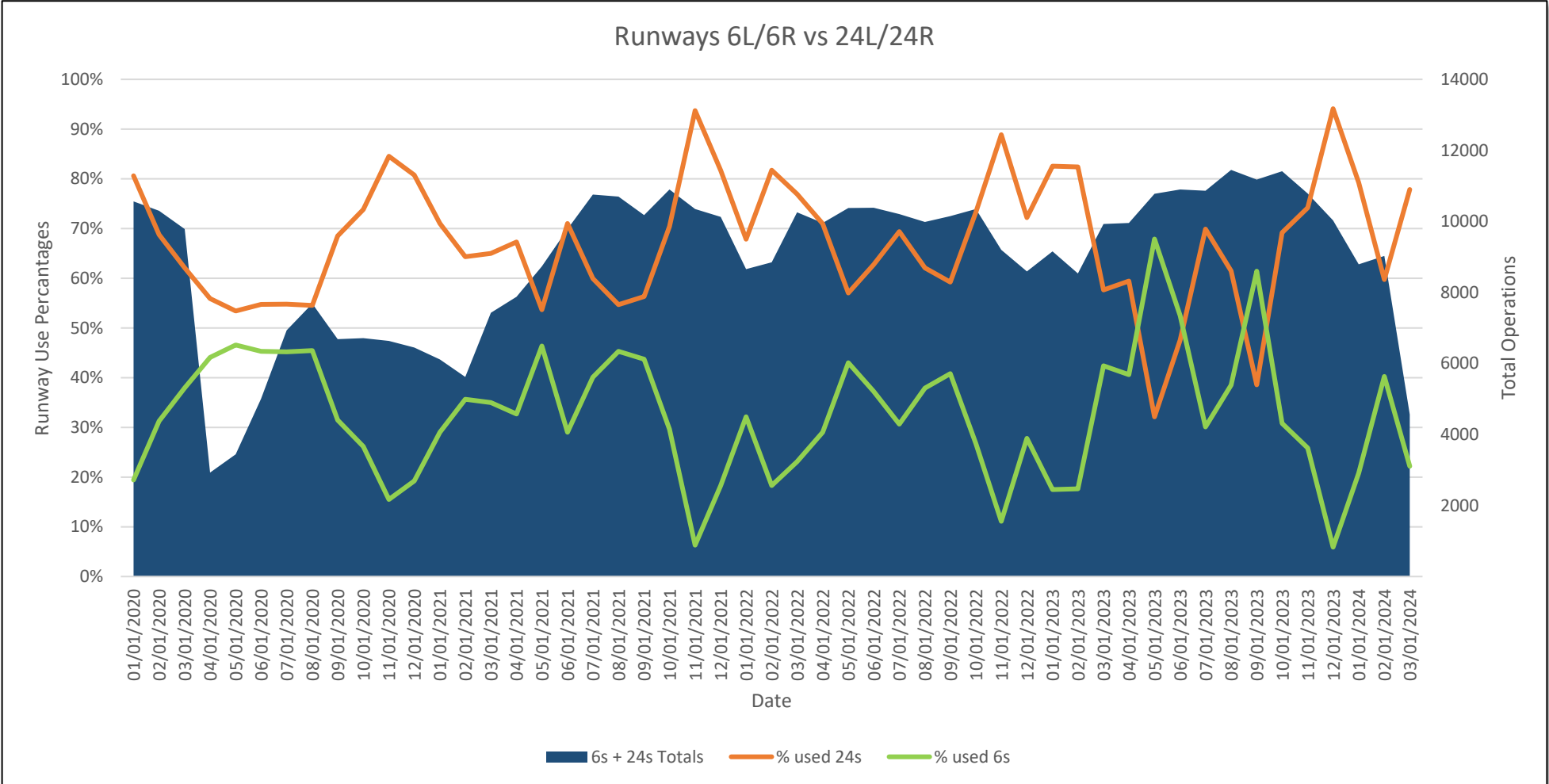
Runway	Day Departure	Night Departure	Total Departure	Runway Usage Percent
10	0	0	0	0.00%
28	0	0	0	0.00%
24L	7,009	1,203	8,212	64.85%
24R	408	43	451	3.56%
6L	95	5	100	0.79%
6R	3,246	550	3,796	29.98%
UNK	99	5	104	0.82%
<b>Totals</b>	<b>10,857</b>	<b>1,806</b>	<b>12,663</b>	<b>100.00%</b>

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

# Primary Air Traffic Flow 6L/6R vs 24L/24R

In general, CLE mostly operates in a 24 flow throughout the year. The reason for this almost always has to do with the prevailing wind direction. Aircraft operate most efficiently and safely when taking off and landing into the wind. Generally, winds move across the United States from west to east. Runways 24L and 24R are aligned southwest, thus making them the most used runway configuration for arrivals and departures.

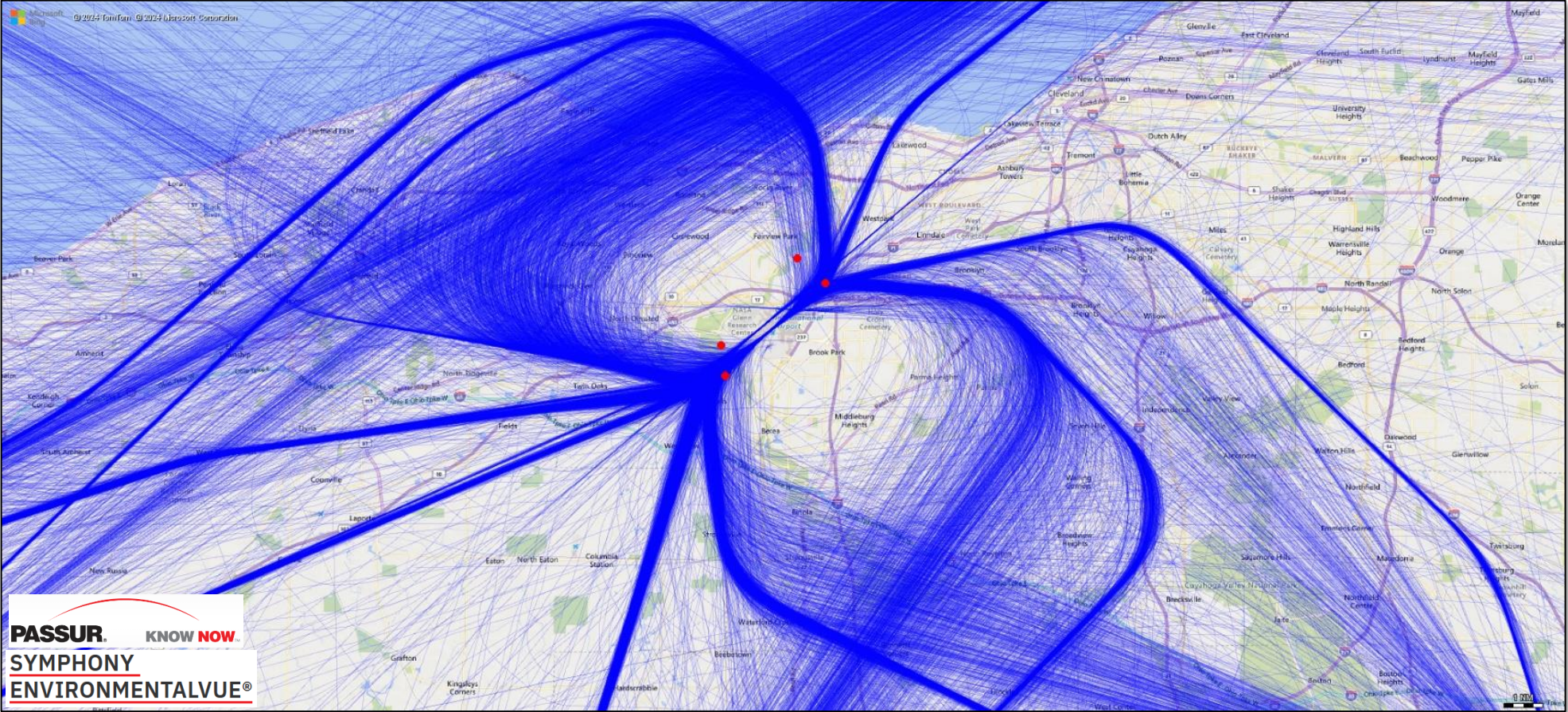
On average, Runways 24L & 24R are used 65% of the time. Runways 6L & 6R are used 35% of the time. Runway 10-28 is CLE's crosswind runway and is used in less than 1% of all operations. Again, these usages are based on wind direction.





# Departure Headings, 1<sup>st</sup> Quarter: Daytime

2024 1<sup>st</sup> Quarter Day-time departure – 10,057 flight tracks (jet propulsion only). Daytime reflects 06:00 am to 11:00 pm.



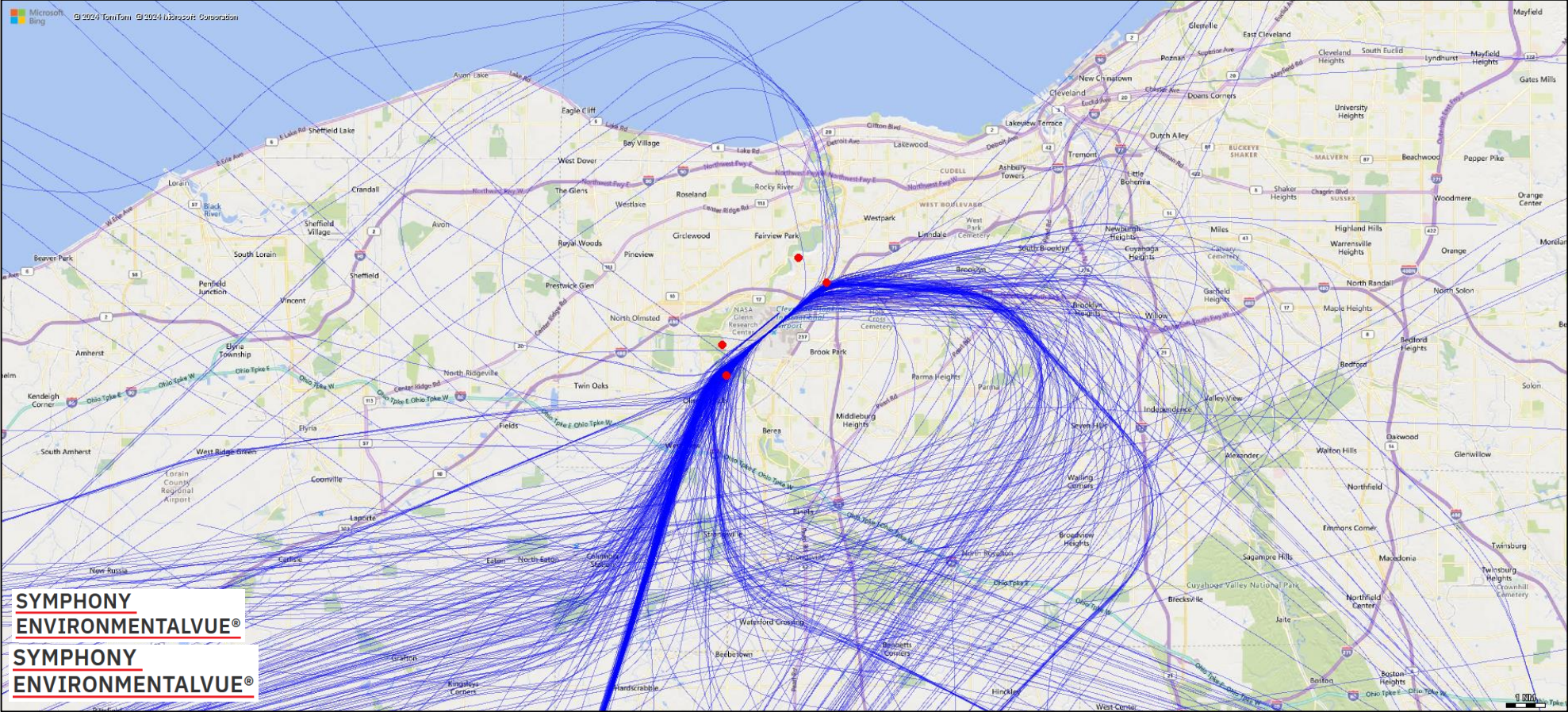
Key: Flight Tracks ———  
Noise Monitoring Station ●



# Departure Headings, 1<sup>st</sup> Quarter: Night-time

2024 1<sup>st</sup> Quarter nighttime departure flight tracks (jet propulsion only). Night-time reflects 11:00 pm to 06:00 am.

Of **401** departure flights, **137 (34%)** were outside their respective late night departure corridor. These corridors represent the airspace through which aircraft depart and arrive. These corridors are not mandatory. When an aircraft departs, it has a certain path it follows which is a function of altitude and heading.

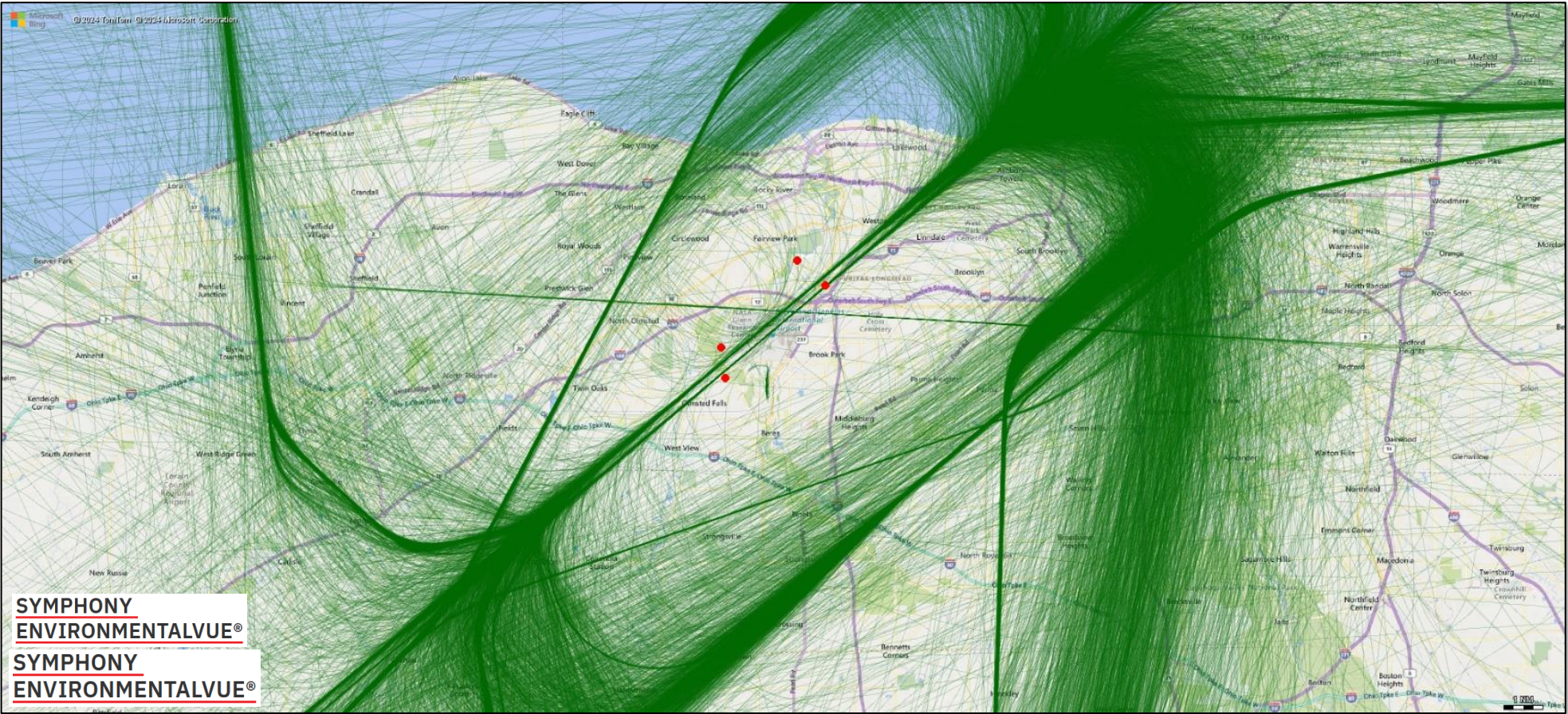


Key: Flight Tracks ———  
Noise Monitoring Station ●



# Daytime and Nighttime Arrival Headings, 1<sup>st</sup> Quarter

Daytime and nighttime 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.



**Key:** Flight Tracks ———  
Noise Monitoring Station ●



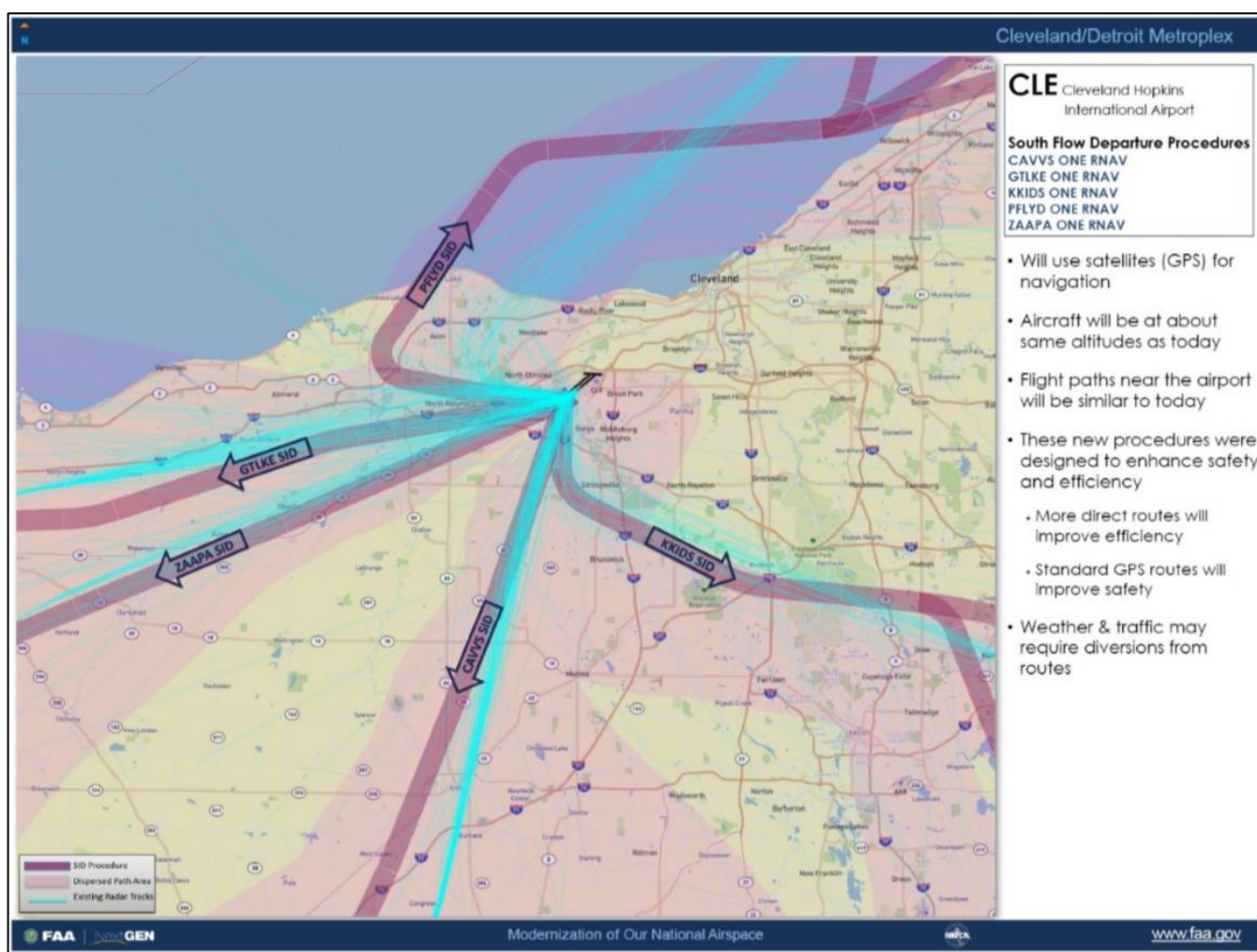
# Metroplex: South Flow (Departures)

## 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.



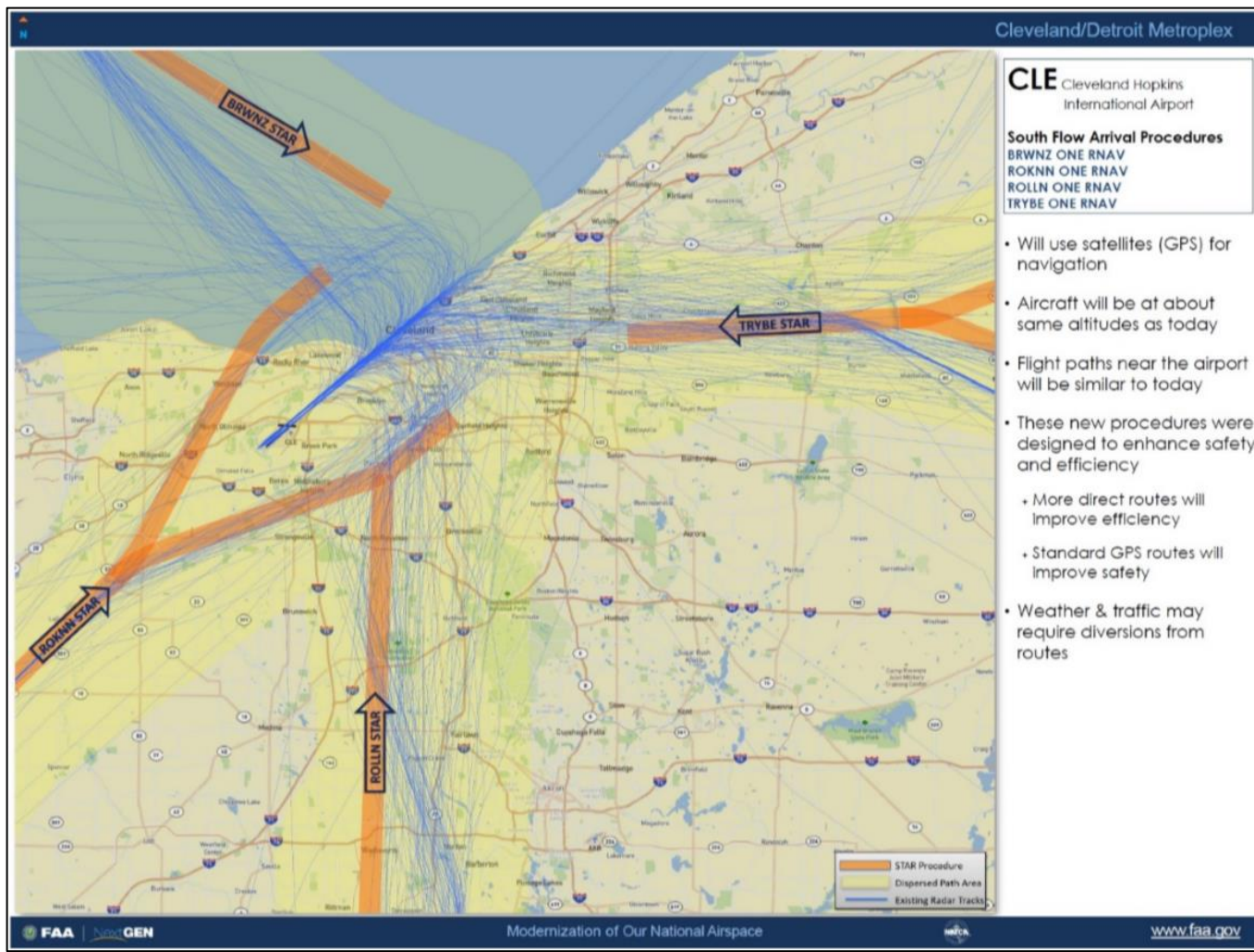
Note: Flight tracks are historic and do not represent the current quarter.

Source: [www.metroplexenvironmental.com](http://www.metroplexenvironmental.com)



# Metroplex: South Flow (Arrivals)

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

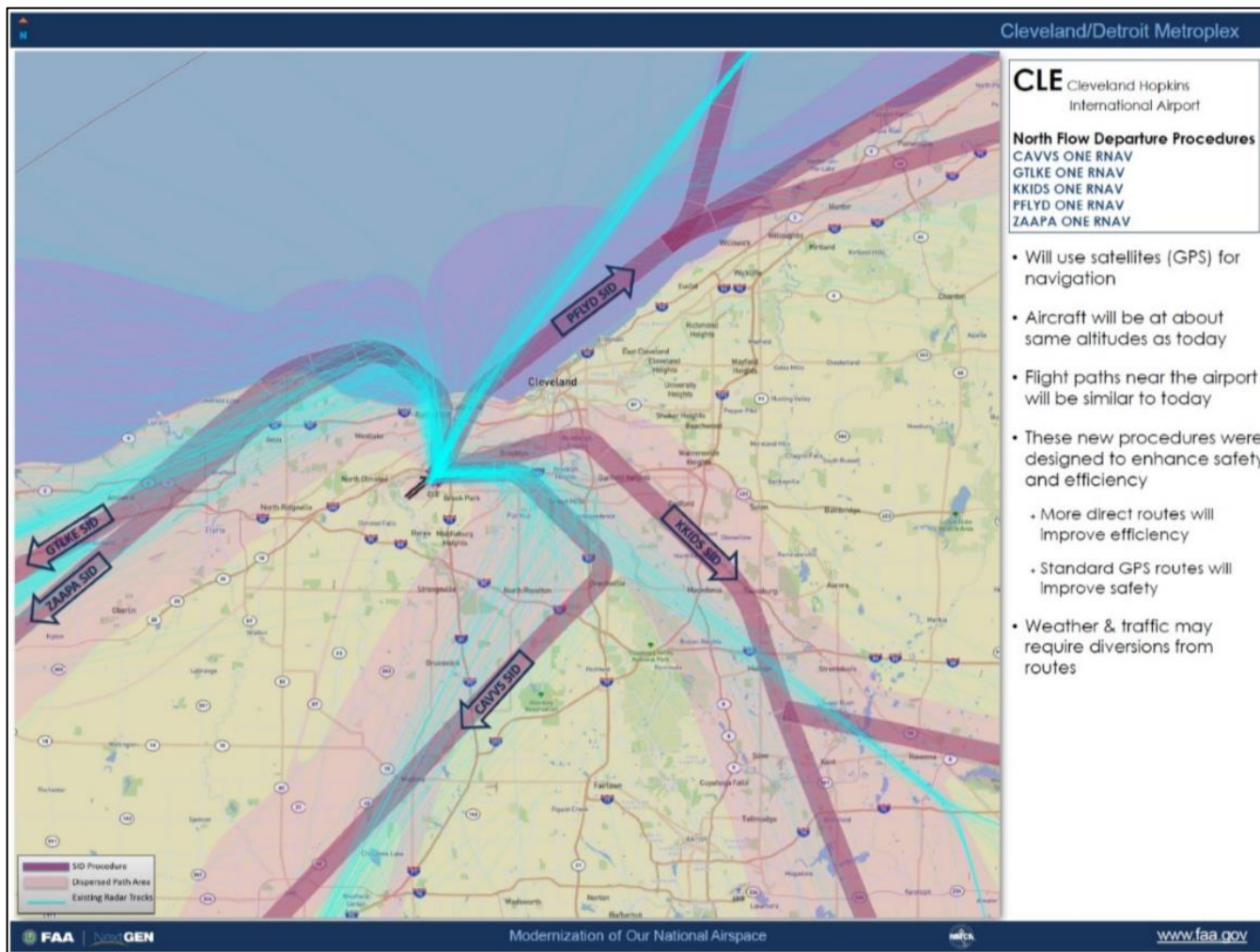


Note: Flight tracks are historic and do not represent the current quarter.

Source: [www.metroplexenvironmental.com](http://www.metroplexenvironmental.com)

# Metroplex: North Flow (Departures)

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



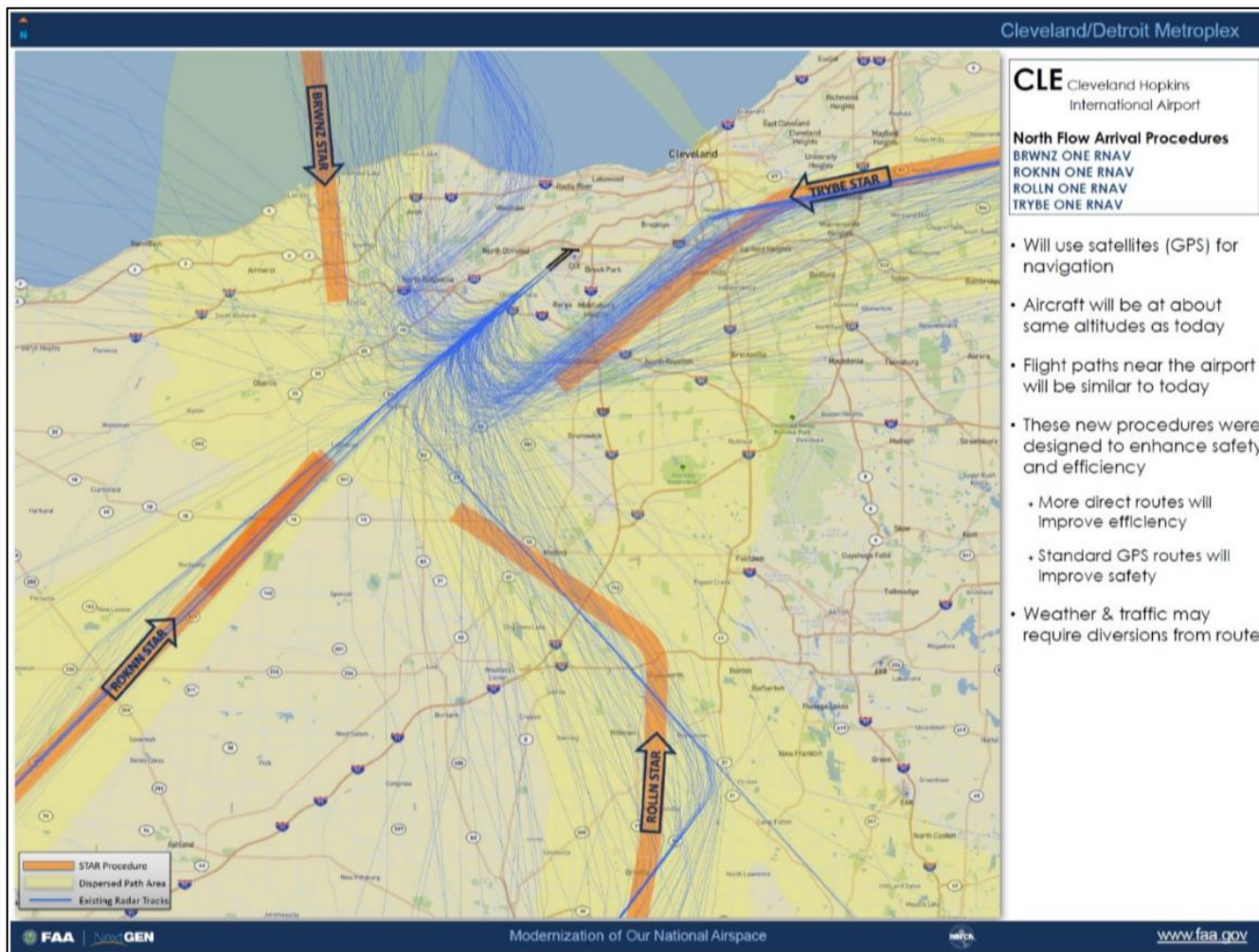
Note: Flight tracks are historic and do not represent the current quarter.

Source: [www.metroplexenvironmental.com](http://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.

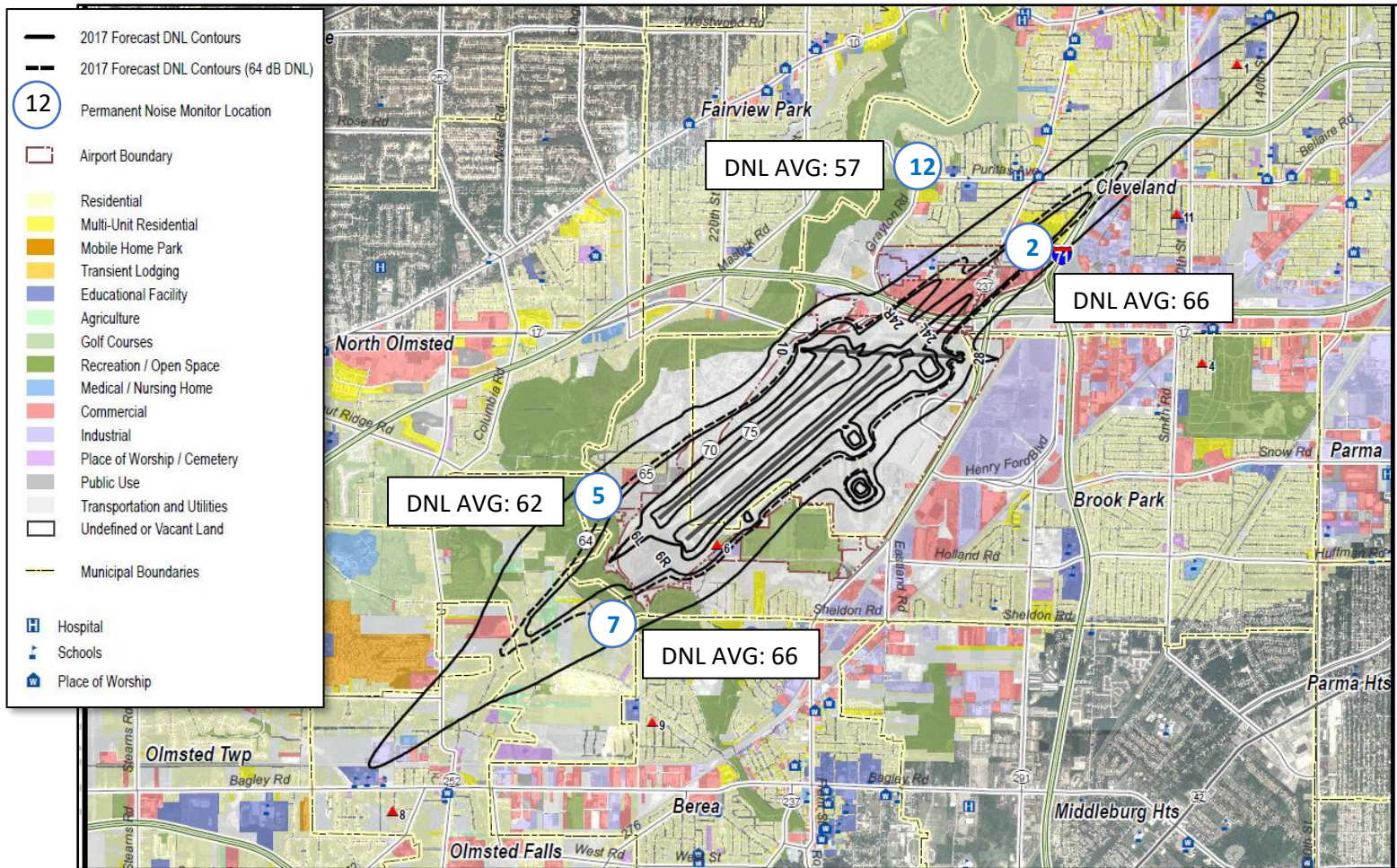
Source: [www.metroplexenvironmental.com](http://www.metroplexenvironmental.com)



# 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/](https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/)



Data generated using PASSUR Symphony EnvironmentalVue

**Interesting Fact:** The map above shows the variety of land uses around Cleveland Hopkins. CLE has grown with the communities around it and there are many residential neighborhoods in every direction from the airport. Due to the land-locked nature of the airport, it is impossible for aircraft to avoid operating over these residential areas.

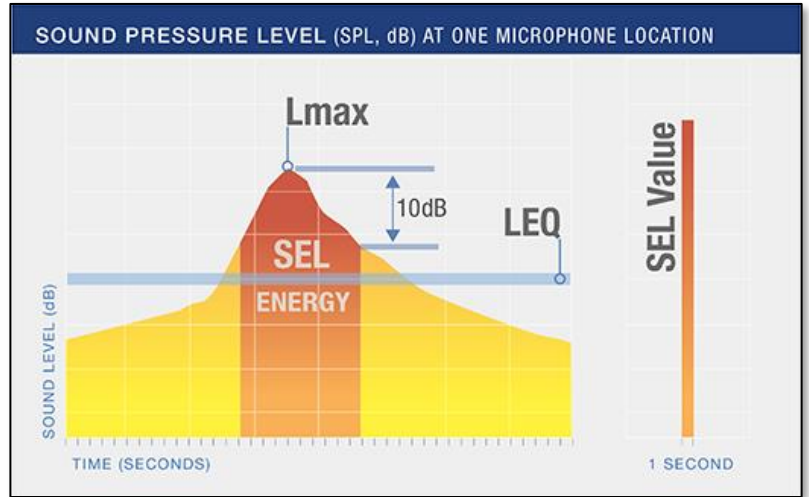
# Top Three Lmax at Each NMS

**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.



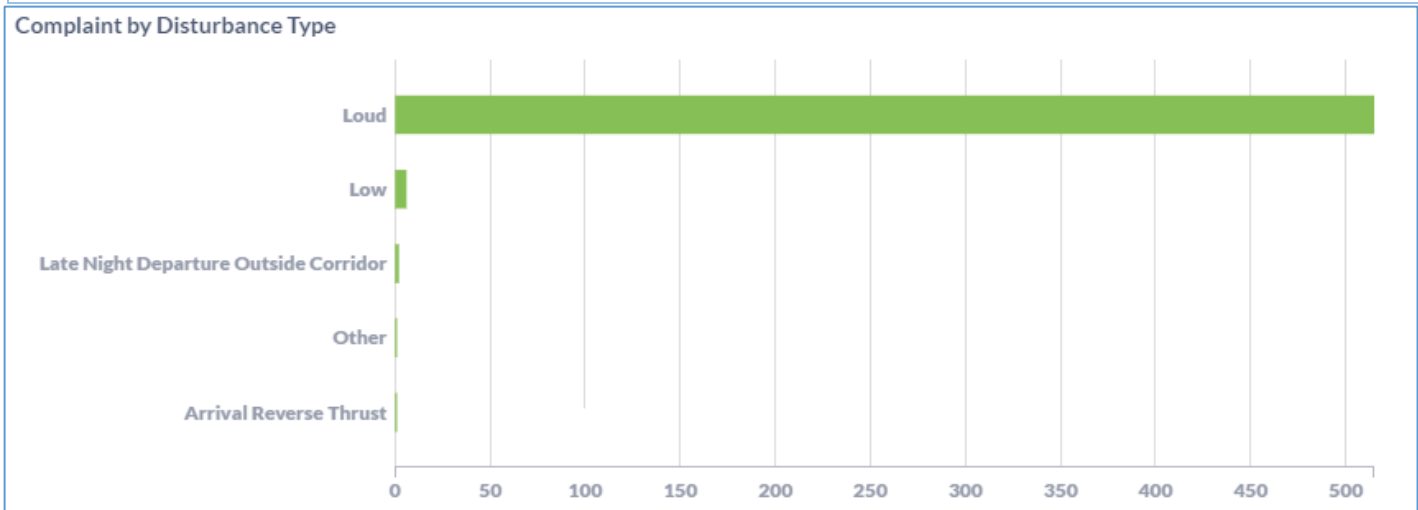
Source: [www.faa.gov](http://www.faa.gov)

Date and Time	NMS	Lmax (dB)	Sound Exposure Level (dB)	Duration (sec)	Operation	Aircraft
2/1/2024 4:05	NMS02	93.3	98.02	15	Arrival 24L	MD-88
1/4/2024 18:29	NMS02	93.1	97.92	14	Arrival 24L	B767-300
1/10/2024 14:01	NMS02	92.2	97.28	19	Arrival 24R	Embraer 170
2/9/2024 11:13	NMS05	89.5	95.47	22	Departure 24R	B737-800
1/30/2024 14:40	NMS05	89.4	97.88	45	Departure 24L	DC-93
3/15/2024 19:13	NMS05	88.4	93.27	13	Arrival 6L	Embraer 75S
3/4/2024 16:29	NMS07	97.1	100.64	16	Departure 24L	Airbus A320neo
1/1/2024 7:06	NMS07	92.5	98.75	19	Departure 24L	B737-900
1/7/2024 18:34	NMS07	91.4	100.05	30	Departure 24L	Airbus A343
2/26/2024 13:45	NMS12	84.6	89.31	16	Arrival 24L	Boeing 737 MAX
2/26/2024 13:26	NMS12	83.2	87.76	12	Arrival 24L	Airbus A321neo
3/23/2024 10:45	NMS12	82.9	89.78	22	Departure 6R	Boeing 737

Data generated using PASSUR Symphony EnvironmentalVue

# Noise Complainant Metrics – Q1 2024

City	Complainant	Count
Cleveland	A001	1195
Fairview Park	O002	2
Lakewood	N001	1
Lakewood	P001	1
Olmsted Falls	L001	1
Olmsted Falls	N001	1
Parma	S015	1
Valley City	O003	78



Noise Events, Count, Grouped by Site

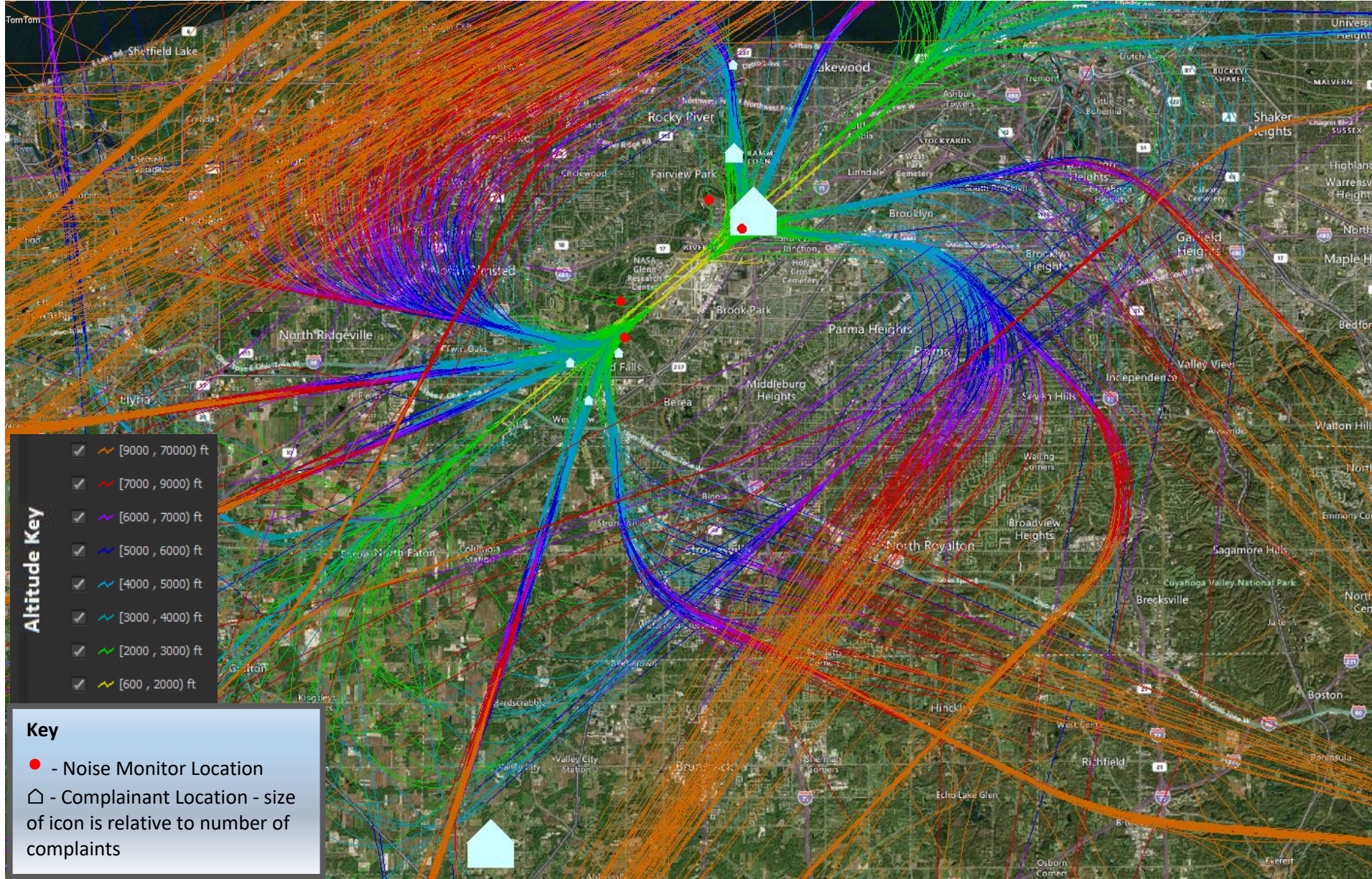
SITE	Count
NMS02	10,087
NMS05	7,773
NMS07	16,201
NMS12	1,301

Monthly Noise Summary

NMS	Month	Ave_LDNA	Ave_LDNC	Ave_LDNT	Events	Exceeds
NMS02	2024-01	61.8	62.8	65.4	3,189	75
NMS02	2024-02	62.0	62.9	65.5	3,134	69
NMS02	2024-03	62.9	67.0	68.4	3,785	101
NMS05	2024-01	59.4	58.5	62.0	2,887	10
NMS05	2024-02	58.9	58.1	61.5	2,166	6
NMS05	2024-03	59.2	58.8	62.0	2,760	5
NMS07	2024-01	64.6	61.2	66.2	6,175	211
NMS07	2024-02	63.8	60.7	65.5	4,645	147
NMS07	2024-03	65.4	60.8	66.7	5,451	252
NMS12	2024-01	47.0	56.4	56.9	477	1
NMS12	2024-02	47.8	56.0	56.6	434	0
NMS12	2024-03	46.5	56.4	56.8	395	0



# Noise Complainant Map – Q1 2024





# Do you have a question or noise complaint?

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Please visit the [Symphony PublicVue](#) 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.

