



# **Noise Compatibility Report**

**2022 Quarter 3  
July - September**

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## Disclaimer

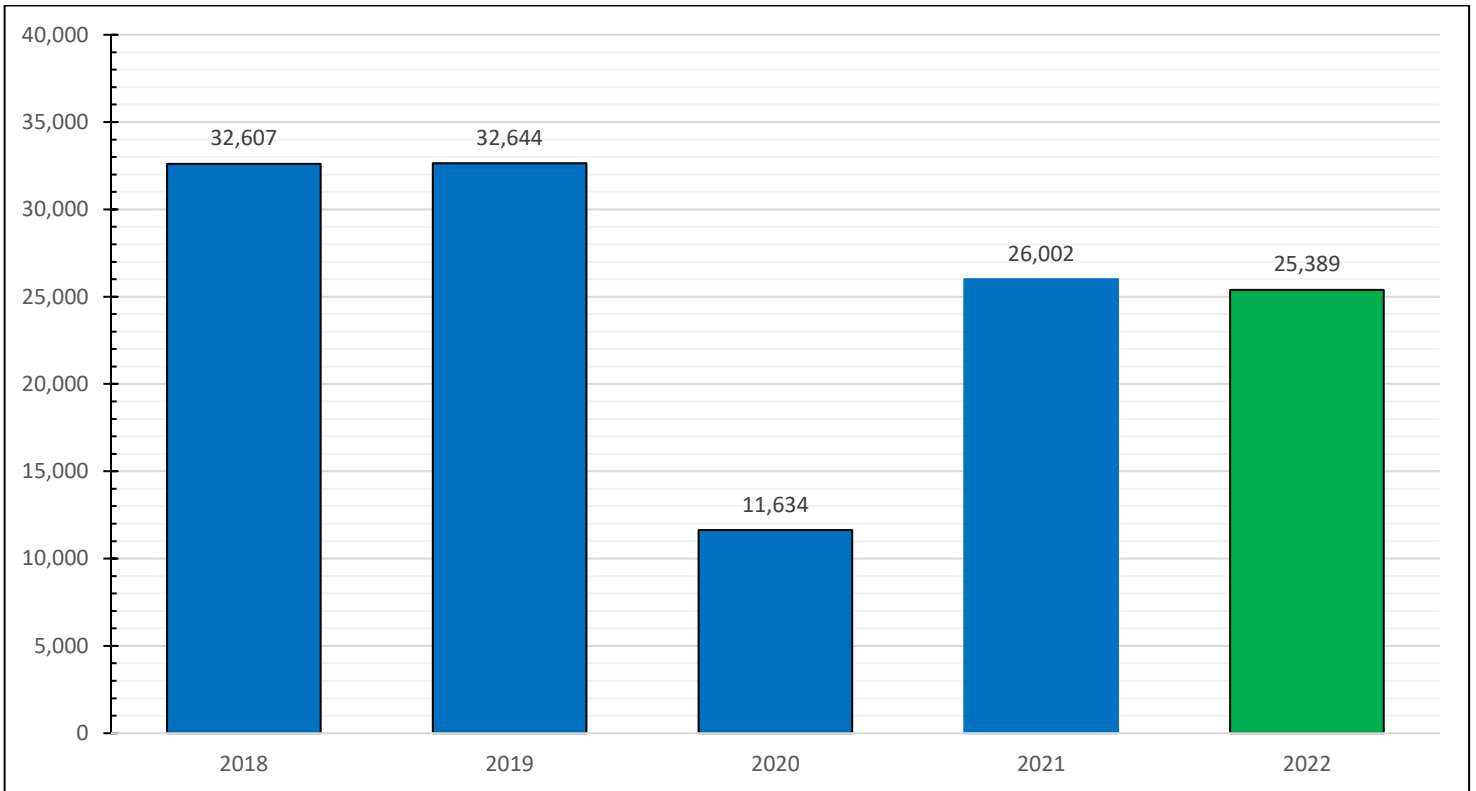
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- The Noise Compatibility Plan (NCP) at Cleveland Hopkins International Airport (CLE) combines the existing approved Part 150 Noise Compatibility Plan with Air Traffic Control Tower (ATCT) requirements to ensure the safe and expeditious handling of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

# Aircraft Operations

## Cleveland 3<sup>rd</sup> Quarter Operations 2017 – 2022

- There were **25,389** operations in the 3<sup>rd</sup> Qtr. 2022; this is 3% below the 3<sup>rd</sup> Qtr. 2021.



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 **25,389** operations in Quarter 3 of 2022. Here are some of the notable aircraft that regularly arrive and depart from CLE.

Aircraft	Total
Boeing 737 Series	6,645
Embraer E-Jet Family	3,542
Bombardier CRJ-900	2,529
Airbus A320/A321/A319	4,278
MD-11	112



Other notable aircraft operations include:

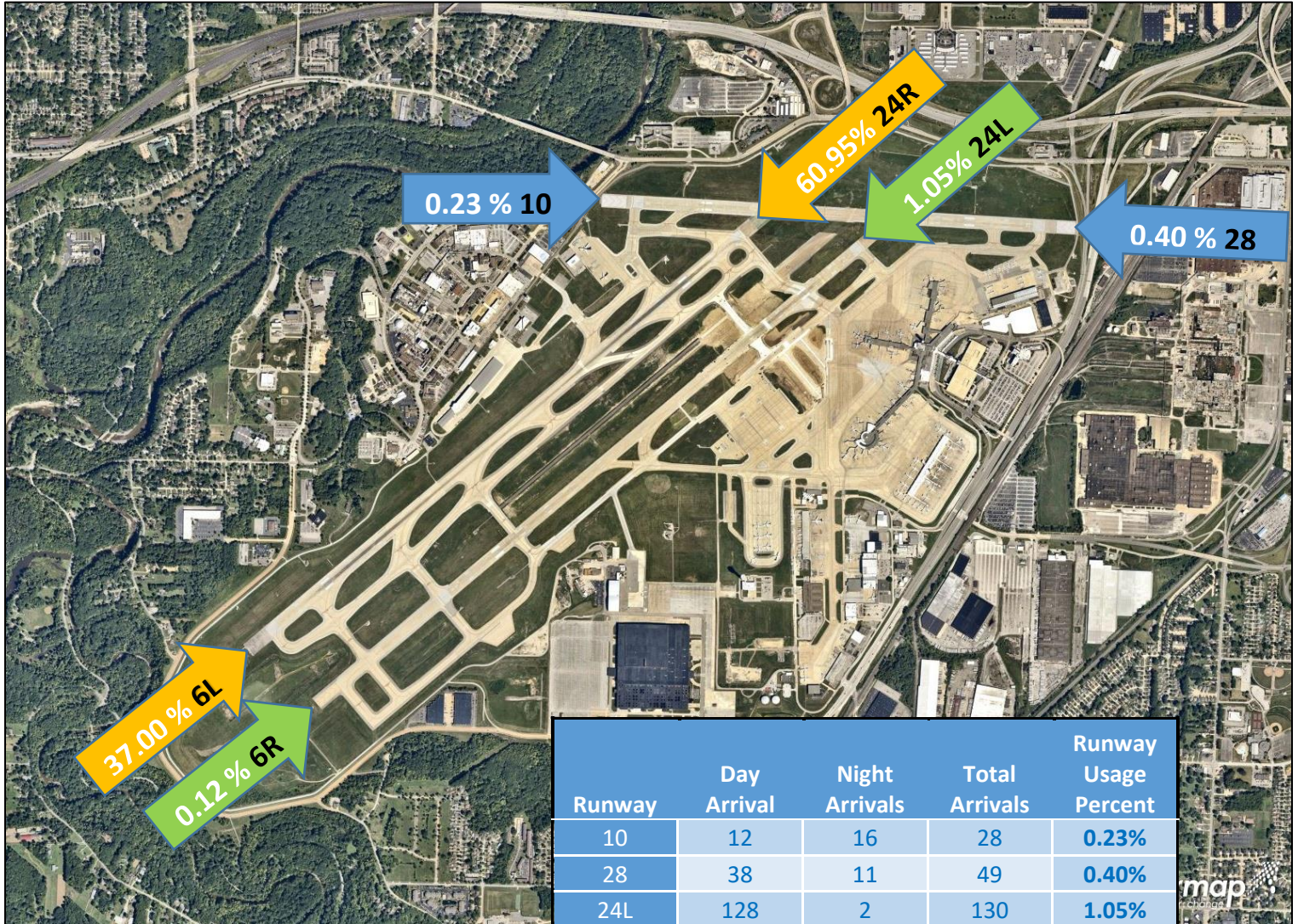
Aircraft	Total
Air Taxi	3,363
General Aviation	1,822
Military	0



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: 3<sup>rd</sup> Quarter, 2022 Arrivals

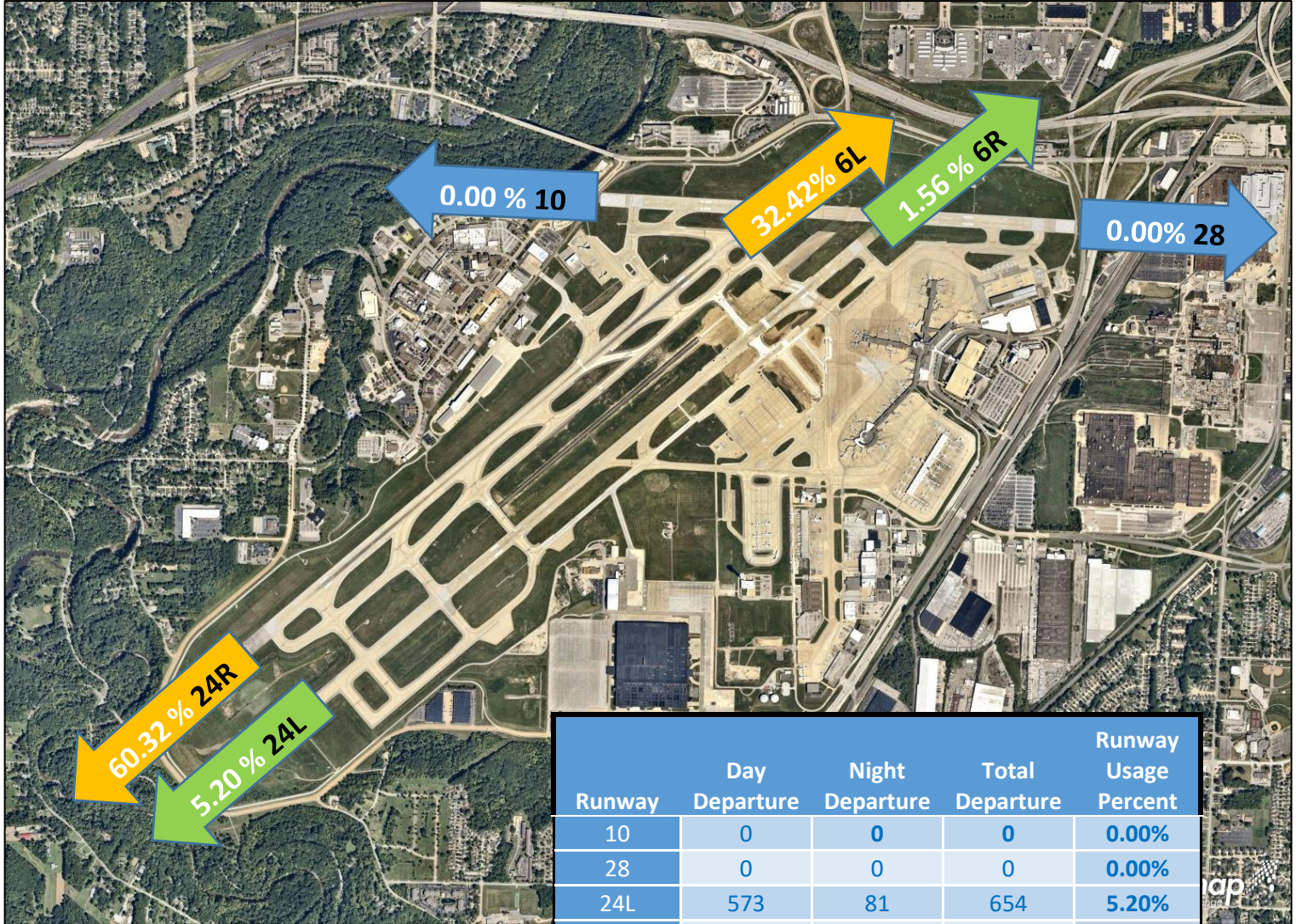


Runway	Day Arrival	Night Arrivals	Total Arrivals	Runway Usage Percent
10	12	16	28	0.23%
28	38	11	49	0.40%
24L	128	2	130	1.05%
24R	6,350	1206	7,556	60.95%
6L	3,825	762	4,587	37.00%
6R	12	3	15	0.12%
UNK	32	1	33	0.27%
<b>TOTALS</b>	<b>10397</b>	<b>2001</b>	<b>12398</b>	<b>100.00%</b>

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



# Runway Use: 3<sup>rd</sup> Quarter, 2022 Departures



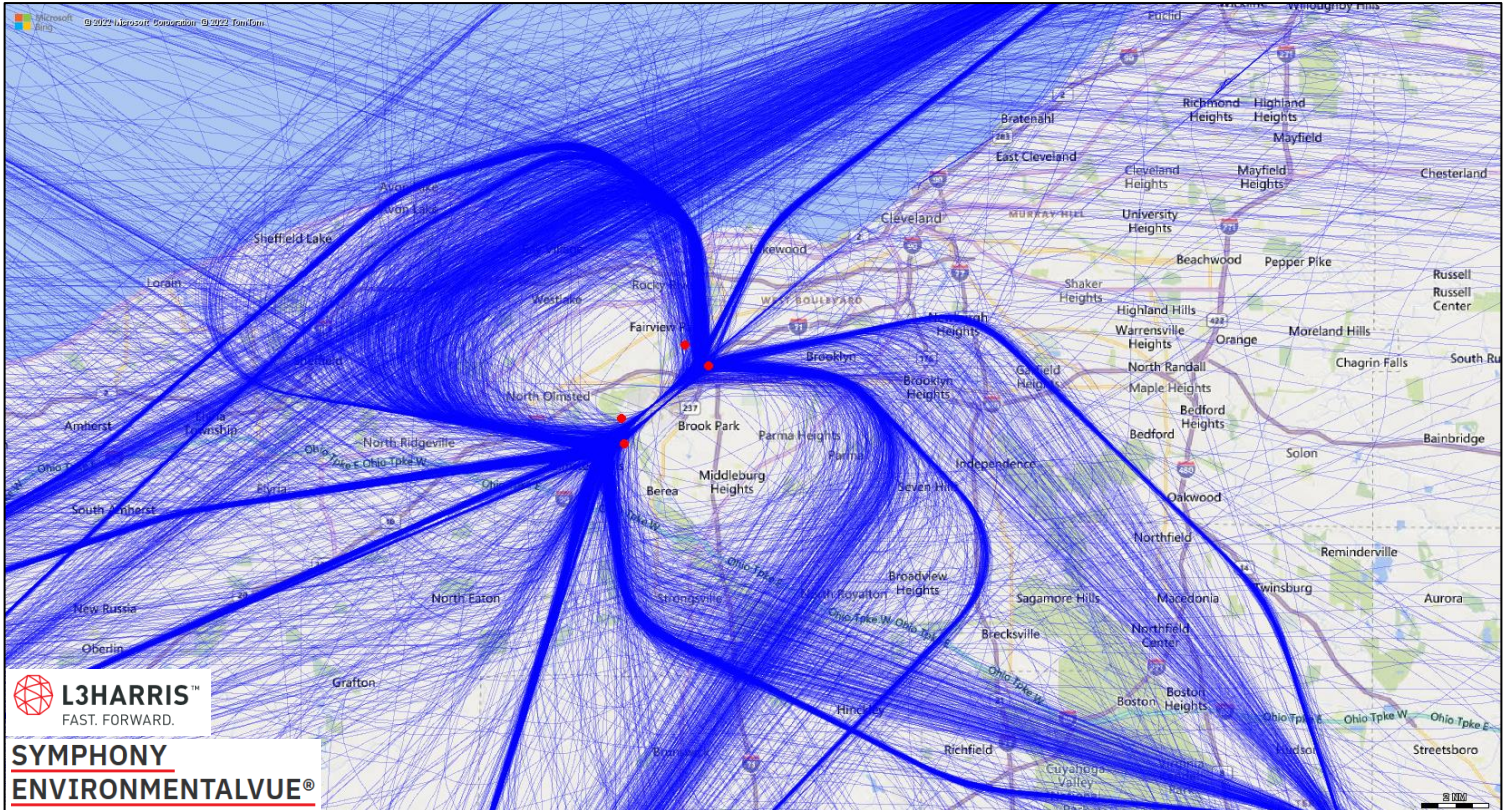
Runway	Day Departure	Night Departure	Total Departure	Runway Usage Percent
10	0	0	0	0.00%
28	0	0	0	0.00%
24L	573	81	654	5.20%
24R	6,386	1206	7,592	60.32%
6L	3,623	458	4,081	32.42%
6R	153	43	196	1.56%
UNK	57	7	64	0.51%
<b>Totals</b>	<b>10792</b>	<b>1795</b>	<b>12587</b>	<b>100.00%</b>

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



# Departure Headings, 3<sup>rd</sup> Quarter: Day-time

2022 3<sup>rd</sup> Quarter day-time departure – 11,593 flight tracks (jet propulsion only). Day-time reflects 06:00 am to 11:00 pm.



Flight tracks generated using L3 Harris Symphony EnvironmentalVue

## Key:

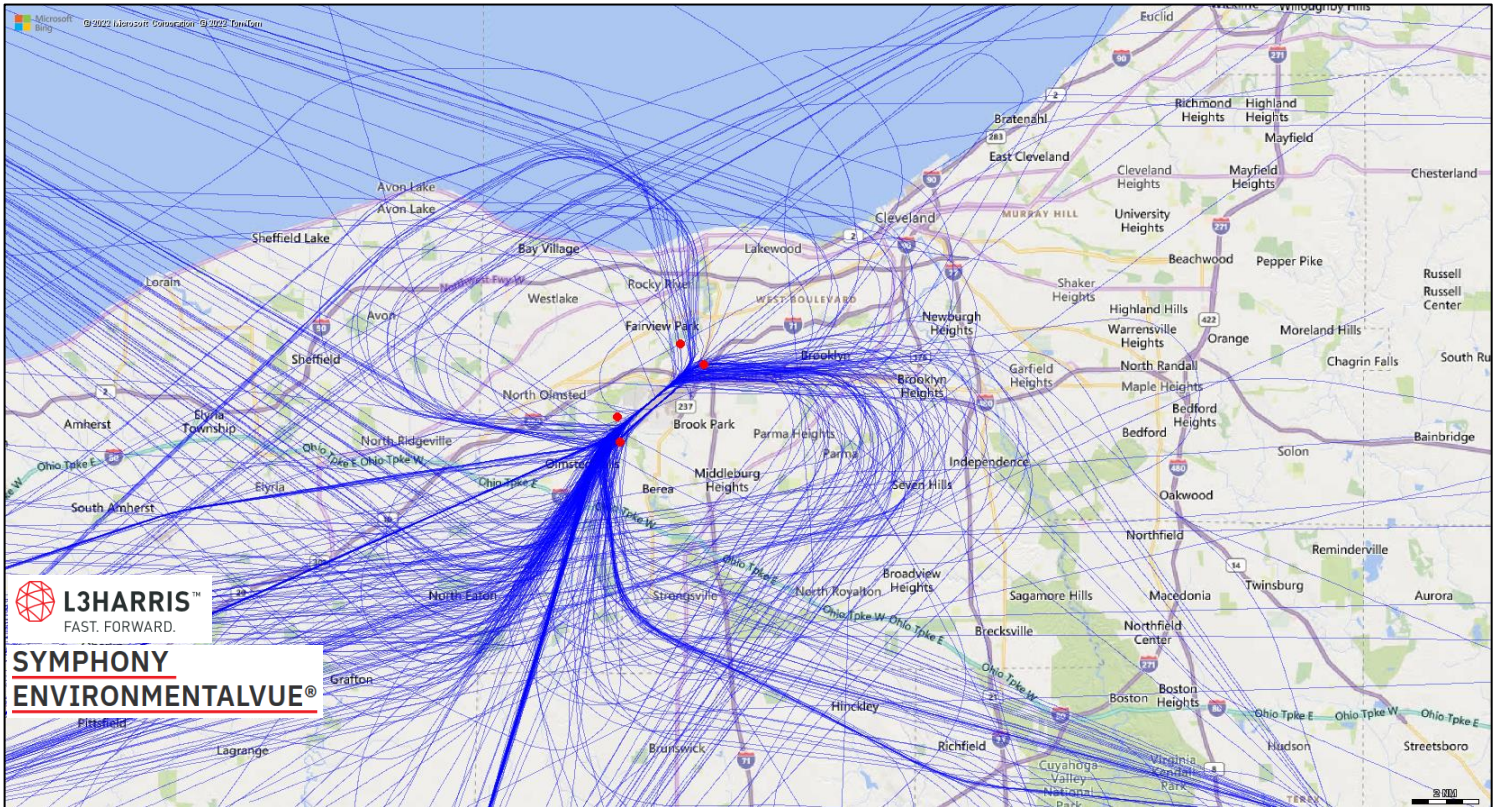
- Flight Tracks —
- Departure Gates —
- Noise Monitoring Station ●



# Departure Headings, 3<sup>rd</sup> Quarter: Night-time

2022 3<sup>rd</sup> Quarter nighttime departure flight tracks (jet propulsion only). Night-time reflects 11:00 pm to 06:00 am.

Of **333** departure flights, **148 (44%)** were outside or too low for 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

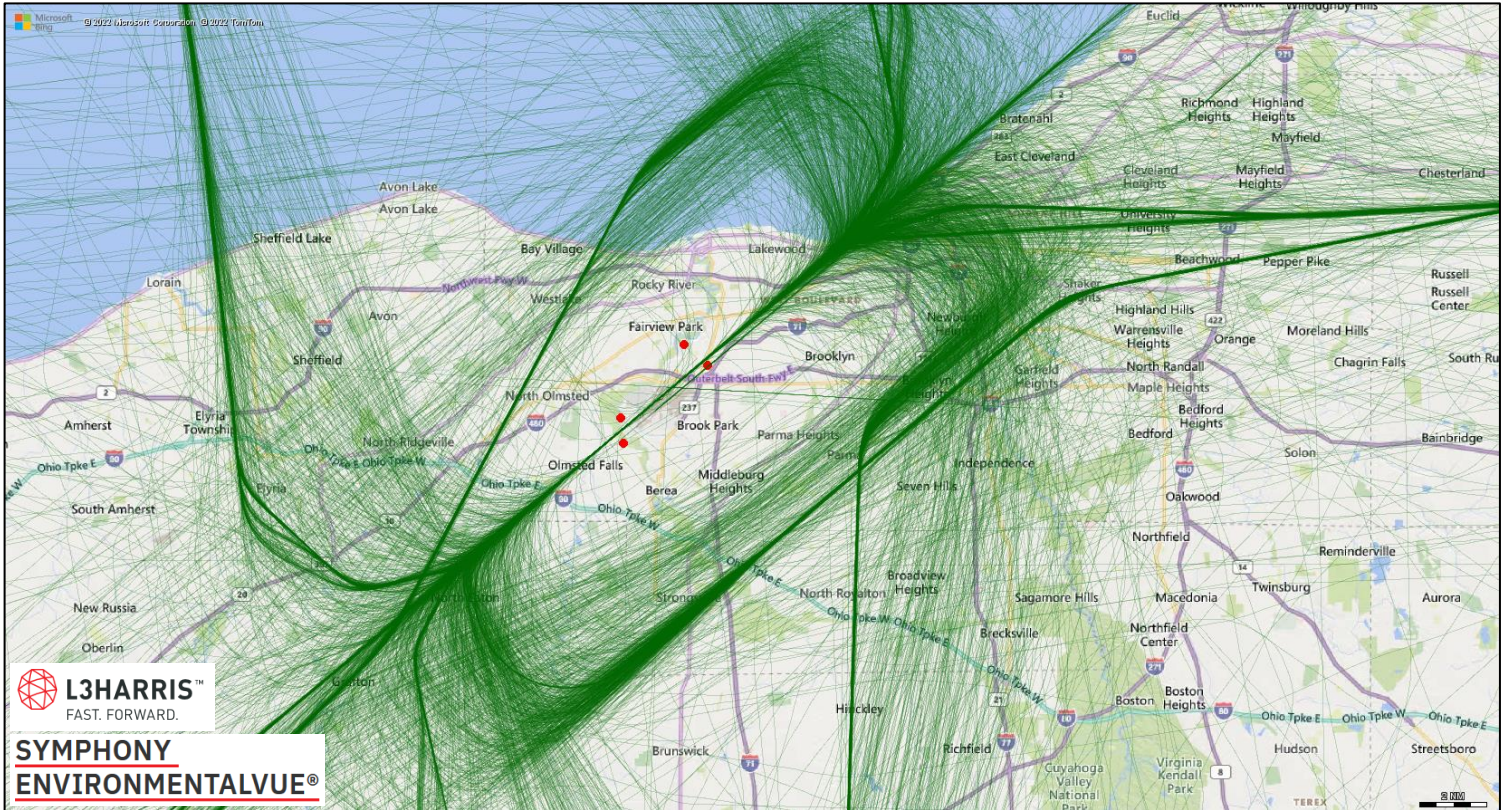
## Key:

- Flight Tracks —
- Departure Gates —
- Noise Monitoring Station ●



# Arrival Headings, 3<sup>rd</sup> Quarter

Day-time and night-time arrivals for all of Quarter 3 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 ●



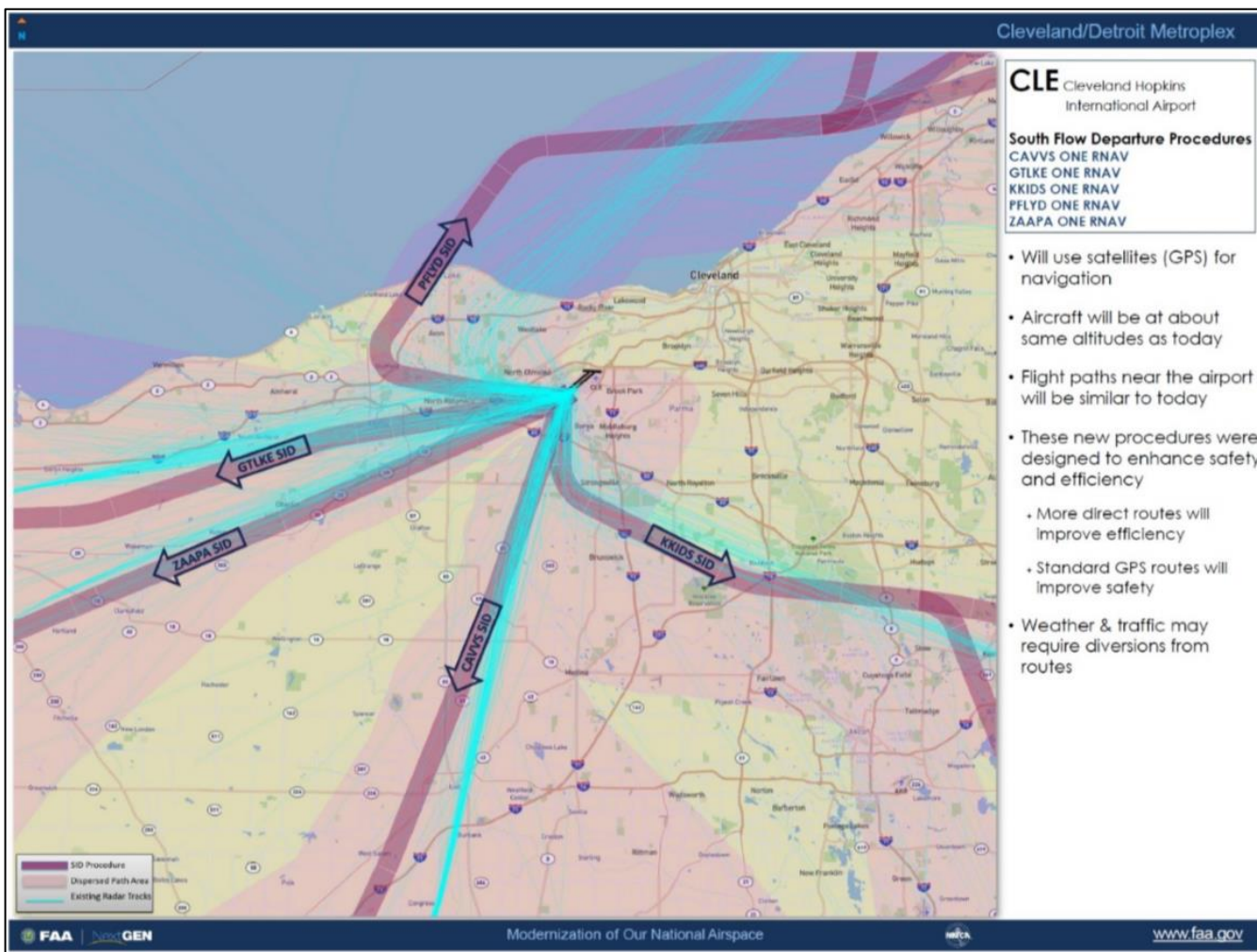
# Metroplex: South Flow (Departures)

## 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.



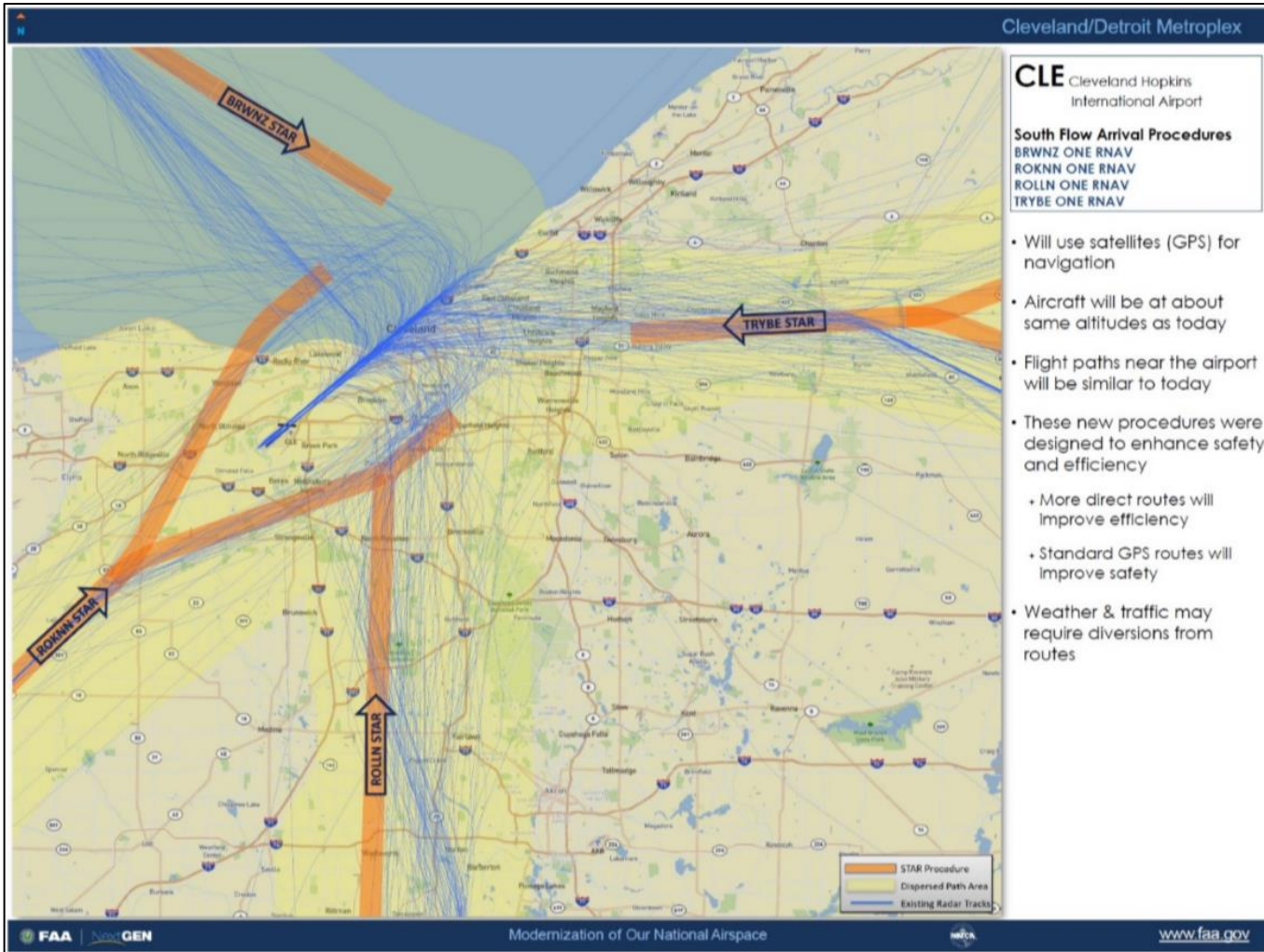
Note: Flight tracks are historic and do not represent the current quarter.

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



# Metroplex: South Flow (Arrivals)

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

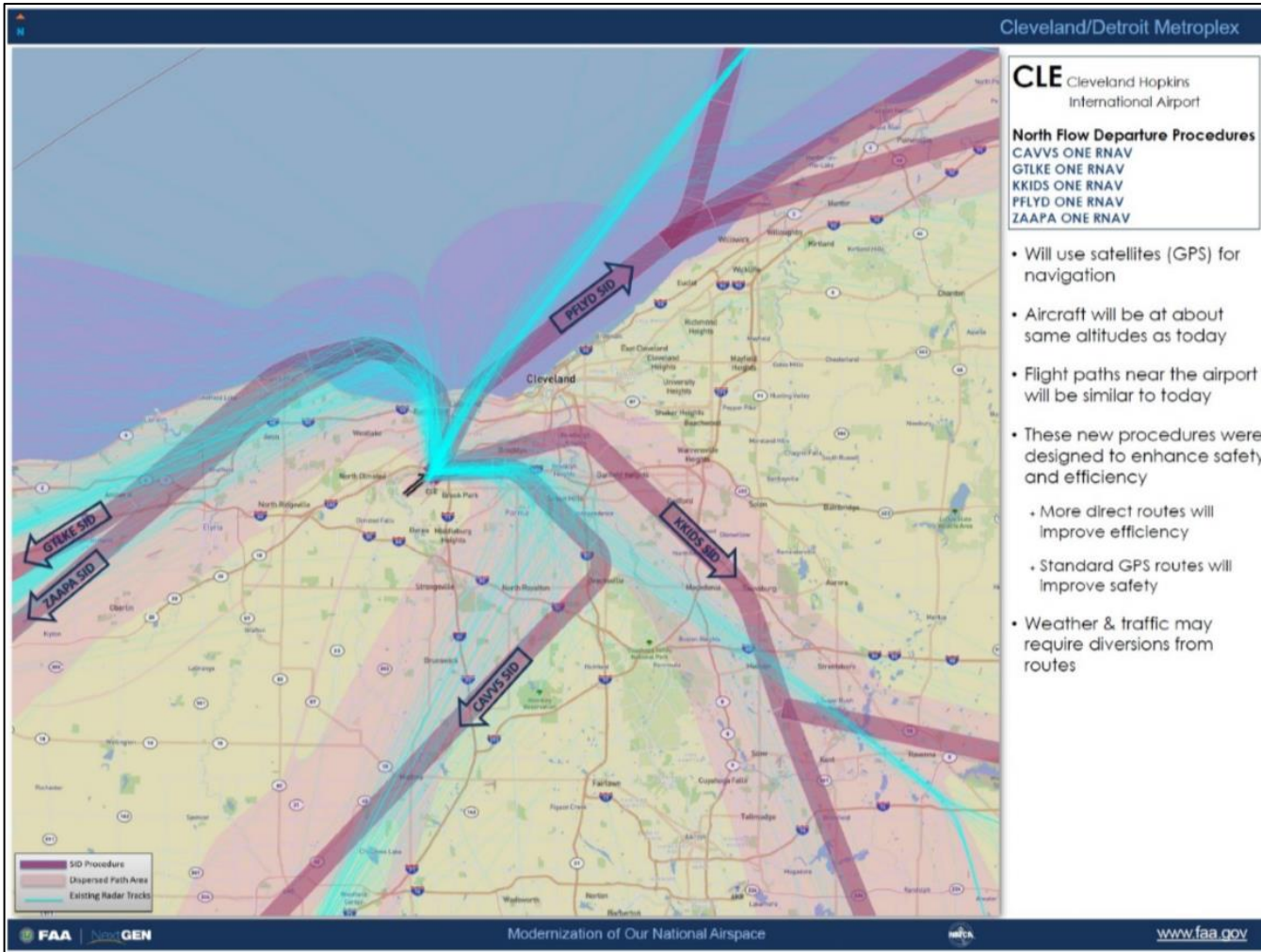


Note: Flight tracks are historic and do not represent the current quarter.

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

# Metroplex: North Flow (Departures)

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



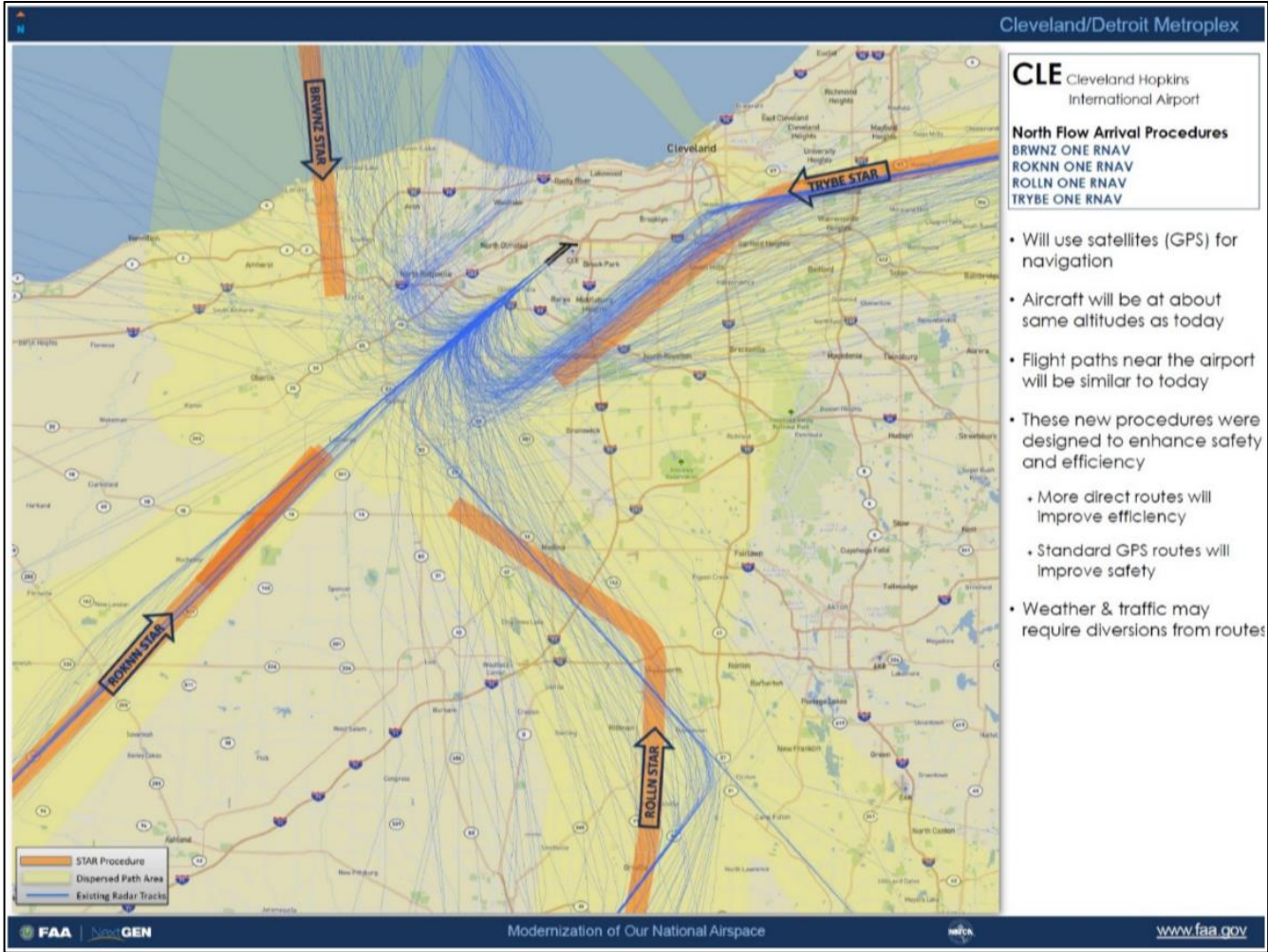
Note: Flight tracks are historic and do not represent the current quarter.

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.

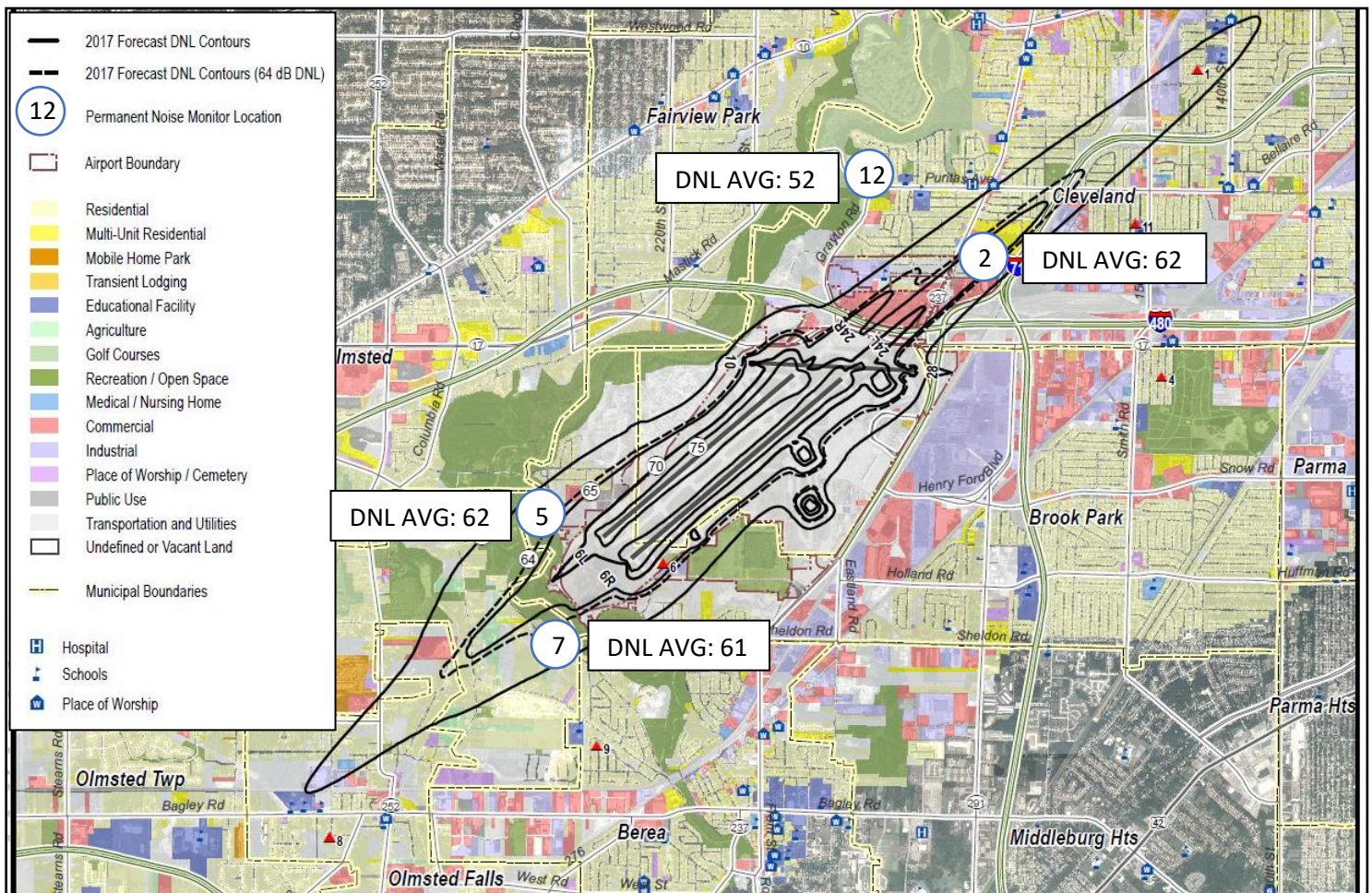
Source: [www.metroplexenvironmental.com](http://www.metroplexenvironmental.com)



# Aircraft Noise: Q3 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/)



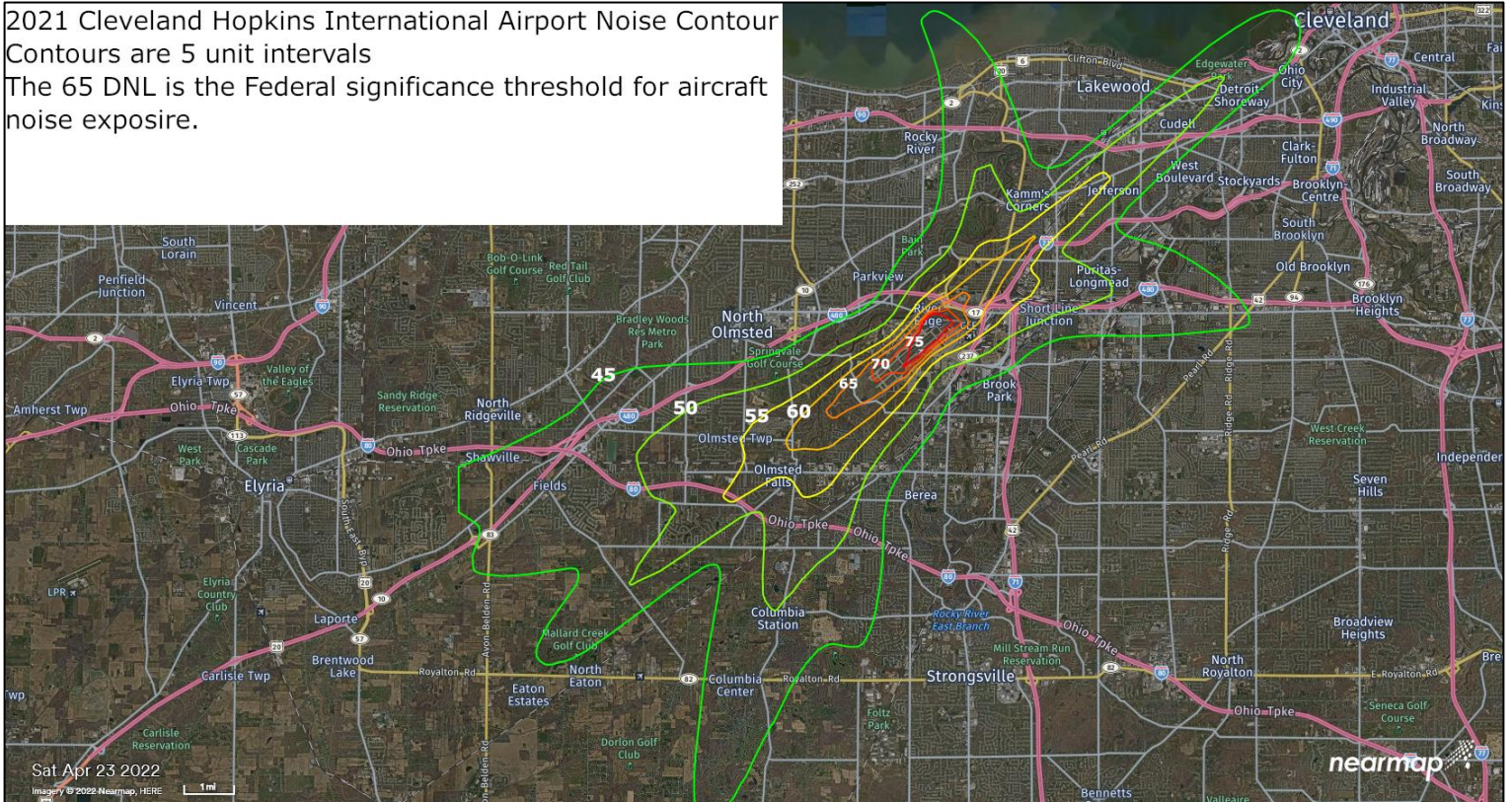
Data generated using L3 Harris Symphony EnvironmentalVue



# 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, the 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.



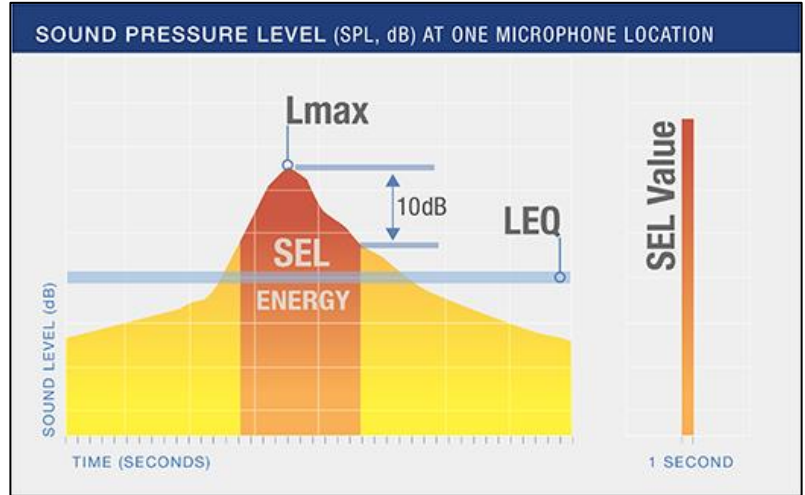
# Top Three Lmax at Each NMS

**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 page.



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

Date and Time	NMS	Lmax (dB)	Sound Exposure Level (dB)	Duration (sec)	Operation	Aircraft
7/30/2022 21:21	NMS02	95	100.56	19	Deprtature 6L	DC93
8/10/2022 20:15	NMS02	95	102.47	31	Departure 6L	Boeing 722
9/23/2022 13:28	NMS02	94.9	103.38	31	Departure 6L	Boeing 747-400
9/21/2022 14:27	NMS05	90.6	98.78	24	Departure 24R	DC39
8/1/2022 12:02	NMS05	89.9	96.86	24	Departure 24R	Airbus A321
7/27/2022 17:36	NMS05	89.4	96.44	21	Departure 24R	Boeing 738
9/28/2022 7:10	NMS07	91.1	98.15	24	Departure 24L	Boeing 739
9/28/2022 8:51	NMS07	90.7	96.92	20	Departure 24L	Boeing 739
9/28/2022 8:50	NMS07	90.2	97.49	27	Departure 24L	Airbus A321
8/3/2022 23:08	NMS12	84.7	93.91	33	Departure 6L	Airbus A306
7/6/2022 21:32	NMS12	84.3	93.43	30	Departure 6L	MD-11
8/12/2022 9:16	NMS12	83.6	92.14	22	Departure 6L	Boeing 738

Data generated using L3 Harris Symphony EnvironmentalVue



## Do you have a 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.

