

Noise Compatibility Report

2018 1st Quarter

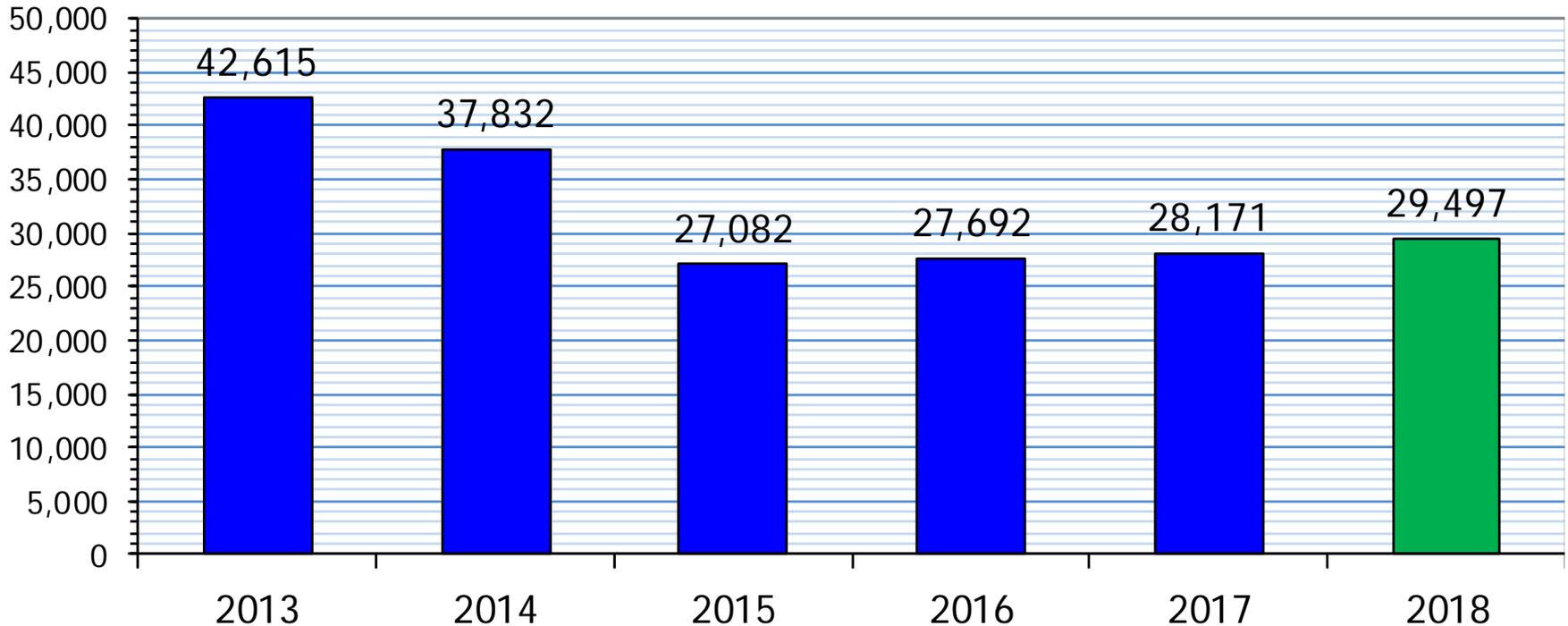
May 22, 2018

Disclaimer

- Sound levels were unavailable between Oct. 6th and May 22nd, 2018. On May 22nd, new state of the art monitors were installed.
- 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.
- Totals may not add to 100.0%, due to rounding.

Aircraft Operations

Cleveland 1st Qtr. Operations 2013 - 2018



There were 29,497 landings and takeoffs in the 1st Qtr. 2018;
this is 4.71% above the 1st Qtr. 2017.

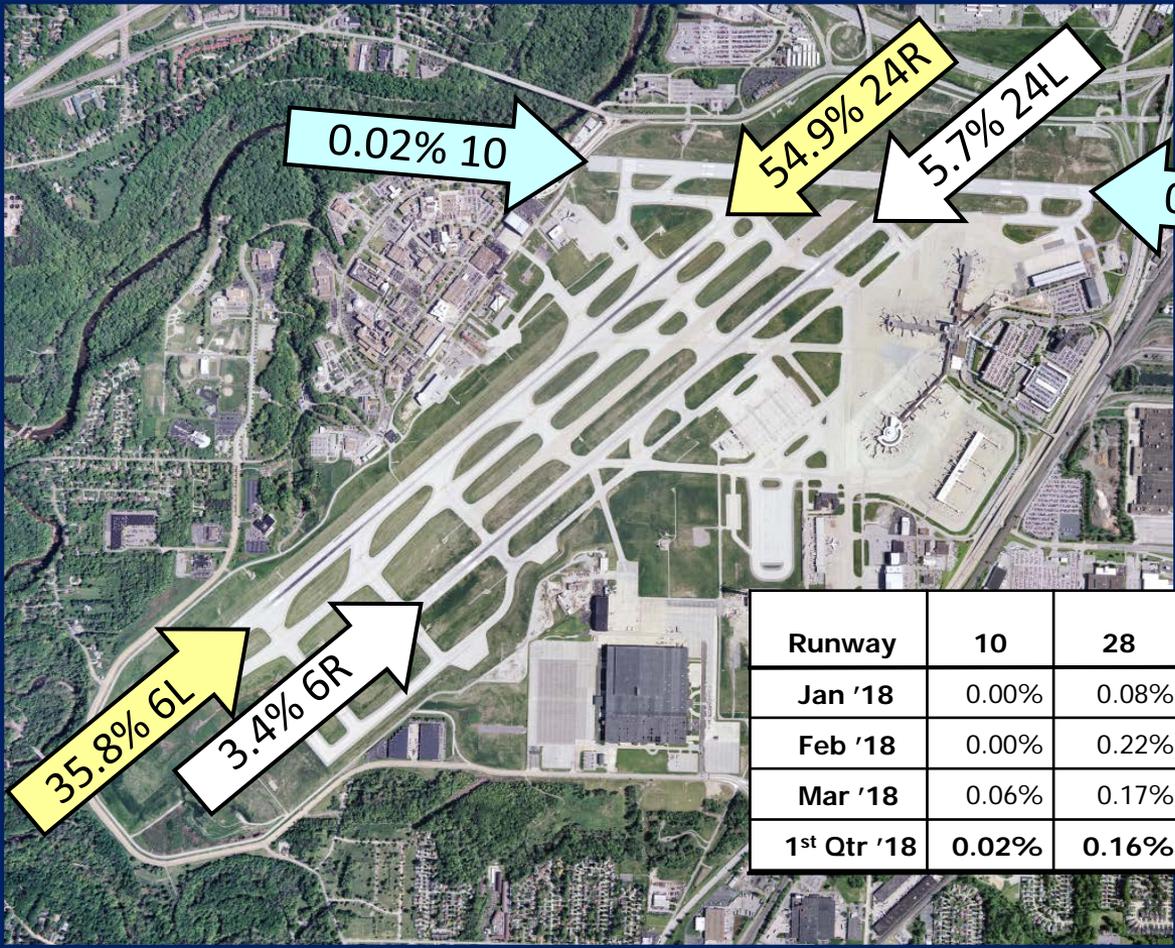
Fleet Mix

Landings & Takeoffs

	1 st Qtr., 2018		1 st Qtr., 2017	
Commercial				
-Stage 2 with hush kit	67	0.23%	28	0.10%
-Heavy (excl. all B757s)	398	1.35%	300	1.06%
-MD80 series	1,638	5.55%	1,098	3.90%
-Other Stage 3	16,657	56.47%	16,827	59.73%
-Regional Jet	7,123	24.15%	6,450	22.90%
-Turboprop	658	2.23%	619	2.20%
Air Taxi	1,162	3.94%	708	2.51%
General Aviation	1,746	5.92%	2,122	7.53%
Military	48	0.16%	19	0.07%
Total	29,497	100.00%	28,171	100.00%

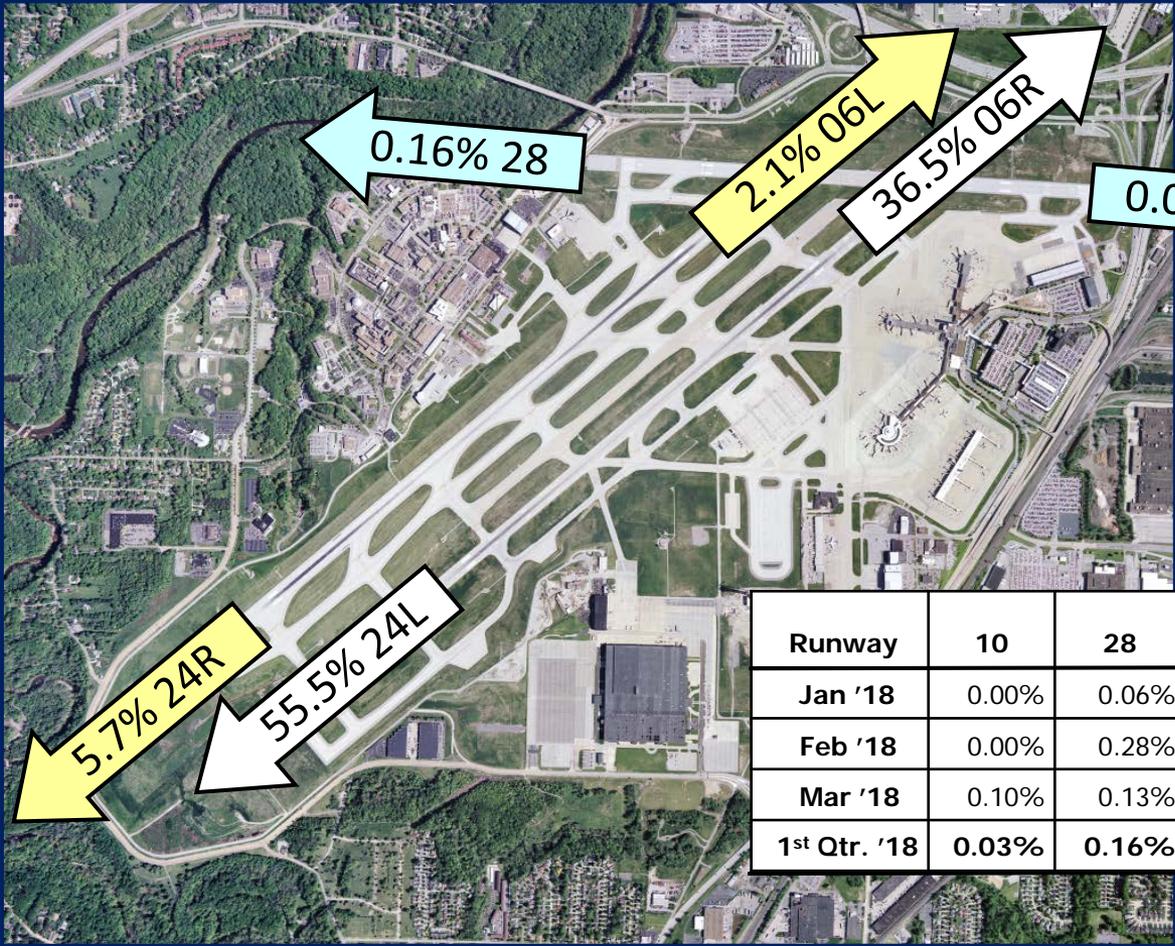
All aircraft above are Stage 3 certified with the exception of some military aircraft. A hush kit reduces noise enough to meet Stage 3 levels, but well short of the noise level typical of aircraft originally manufactured as Stage 3.

Runway Use: 1st Qtr., 2018 Arrivals



Runway	10	28	24L	24R	6L	6R
Jan '18	0.00%	0.08%	8.5%	76.5%	11.8%	3.2%
Feb '18	0.00%	0.22%	6.1%	63.3%	28.1%	2.3%
Mar '18	0.06%	0.17%	2.9%	27.4%	64.9%	4.6%
1st Qtr '18	0.02%	0.16%	5.7%	54.9%	35.8%	3.4%

Runway Use: 1st Qtr., 2018 Departures



Runway	10	28	24L	24R	6L	6R
Jan '18	0.00%	0.06%	77.9%	7.7%	1.6%	12.7%
Feb '18	0.00%	0.28%	61.1%	8.0%	1.5%	29.1%
Mar '18	0.10%	0.13%	29.6%	1.9%	3.0%	65.3%
1st Qtr. '18	0.03%	0.16%	55.5%	5.7%	2.1%	36.5%

Departure Headings, 1st Qtr. : Day-time

Day-Time Jet Departures are from 6:00 a.m. to 11:00 p.m.

A voluntary measure of the Noise Compatibility Program calls for jets departing between 6:00 a.m. and 11:00 p.m. from Runways 6L and 6R to take magnetic headings between 360° and 35° when turning left and between 65° and 95° when turning right until the jet is either 5 mi. away from the airport or has gained an altitude of 5,000 ft. above Mean Sea Level (MSL).

Another voluntary measure of the Noise Compatibility Program calls for jets departing between 6:00 a.m. and 11:00 p.m. from Runways 24L and 24R to take magnetic headings between 190° and 220° when turning left and between 250° and 280° when turning right until the jet is either 5 mi. away from the airport or has gained an altitude of 5,000 ft. MSL.

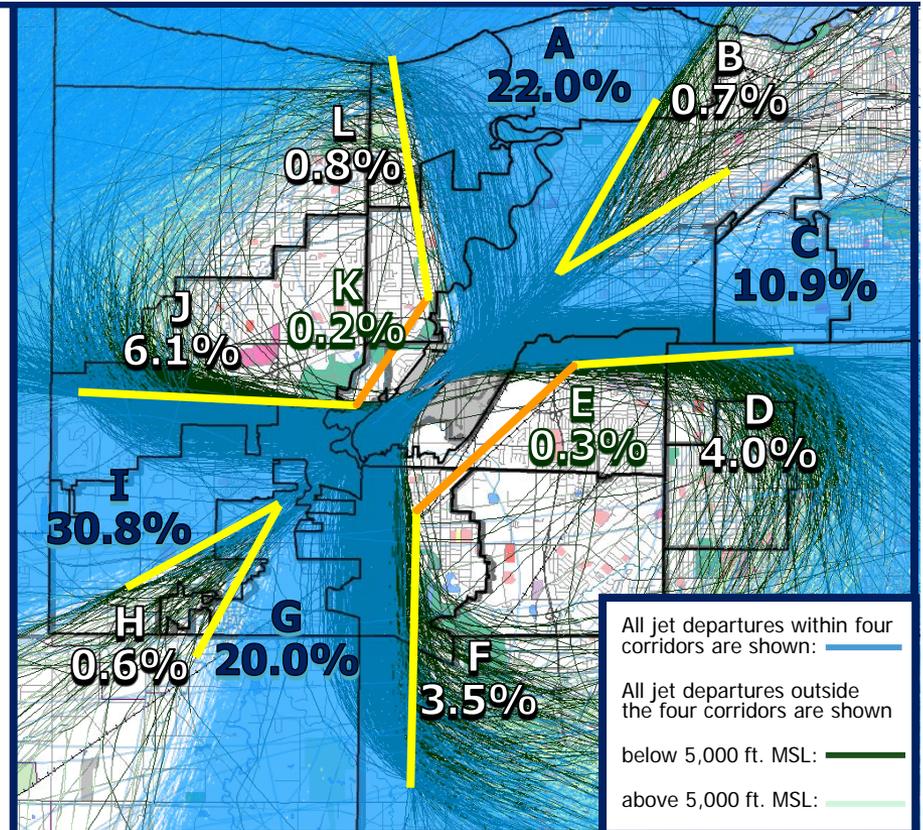
83.8% within corridors

- A. 22.0%: north corridor, including flights crossing the corridor boundaries above 5,000 ft. MSL
- C. 10.9%: east corridor, including flights crossing the corridor boundaries above 5,000 ft. MSL
- G. 20.0%: south corridor, including flights crossing the corridor boundaries above 5,000 ft. MSL
- I. 30.8%: west corridor, including flights crossing the corridor boundaries above 5,000 ft. MSL

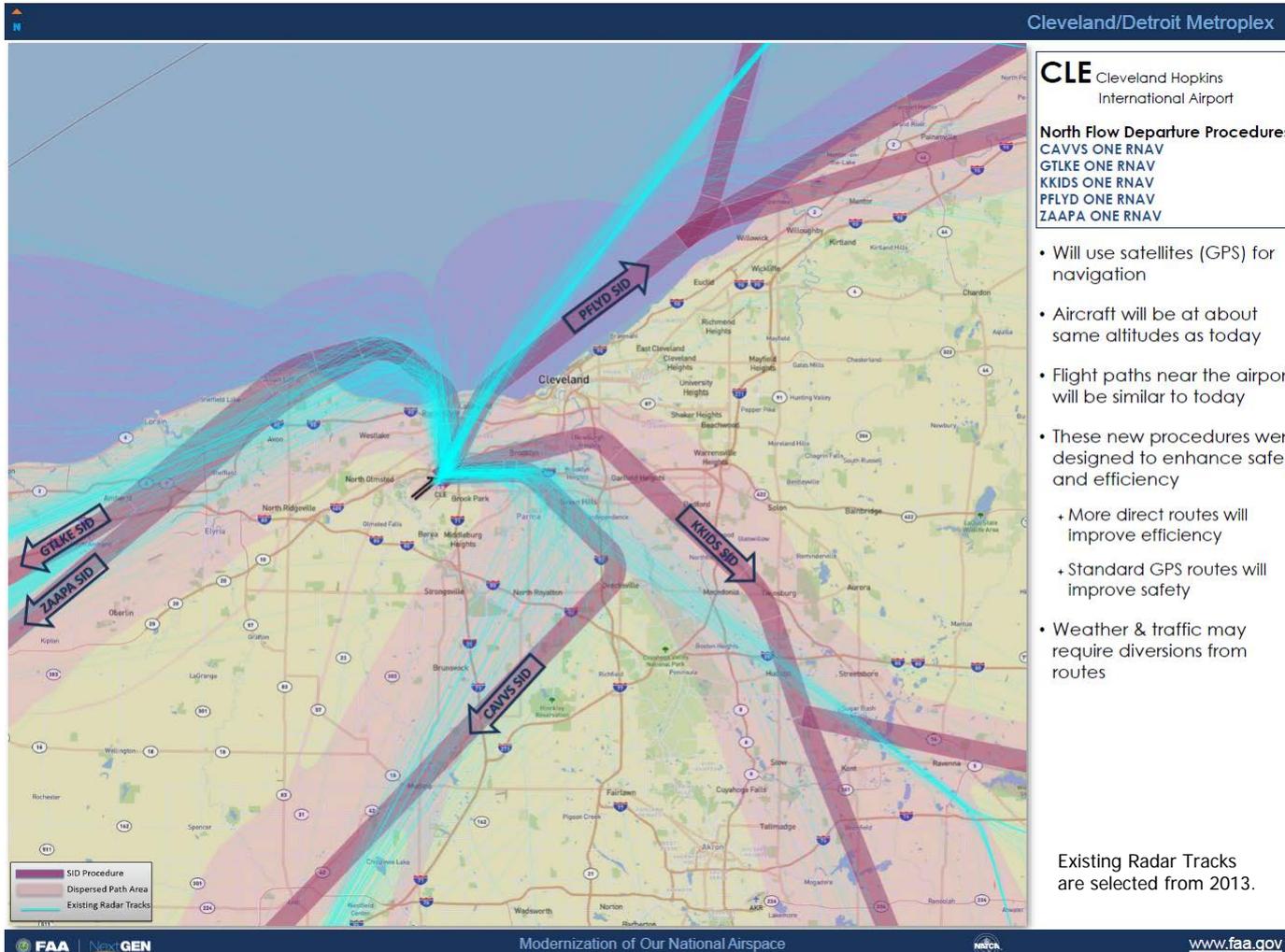
16.2% outside corridors

- B. 0.7%: flights crossing inner boundaries below 5,000 ft. MSL and then exiting between the north and east corridors
- D. 4.0%: flights crossing the south boundary below 5,000 ft. MSL
- E. 0.3%: flights turning south before entering the corridor
- F. 3.5%: flights crossing the east boundary below 5,000 ft. MSL
- H. 0.6%: flights crossing inner boundaries below 5,000 ft. MSL and then exiting between the west and south corridors
- J. 6.1%: flights crossing the north boundary below 5,000 ft. MSL
- K. 0.2%: flights turning north before entering the corridor
- L. 0.8%: flights crossing the west boundary below 5,000 ft. MSL

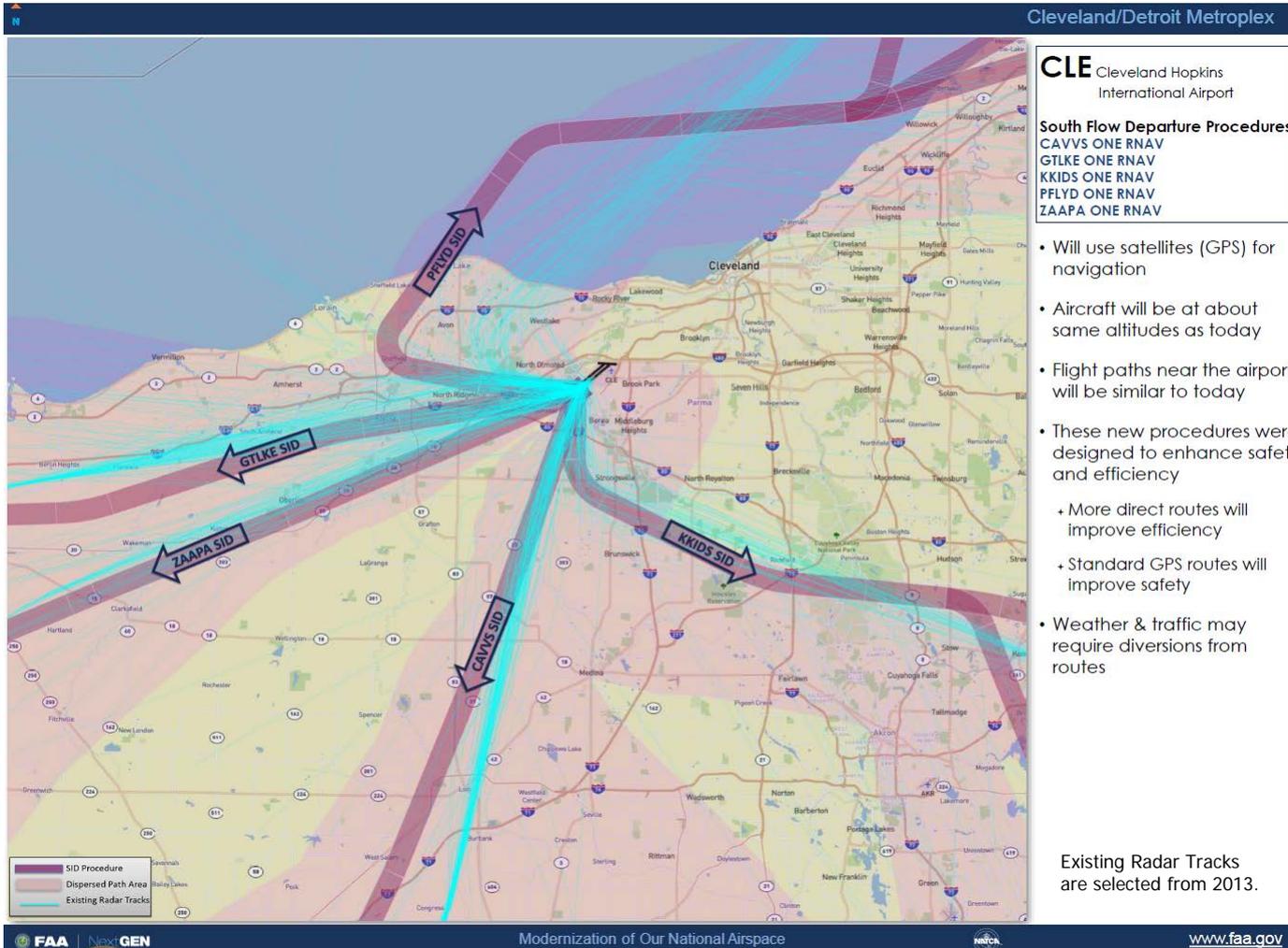
(Percentages do not include Rwy 10/28 departures)



Metroplex: North Flow



Metroplex: South Flow



Departure Headings, 1st Qtr. : Late Night

Late Night Jet Departures are from 11:00 p.m. to 6:00 a.m.

A voluntary measure of the Noise Compatibility Program calls for jets departing between 11:00 p.m. and 6:00 a.m. from Runways 6L and 6R to take headings of roughly 095° to 100° until reaching an altitude of 5,000 ft. MSL.

Another voluntary measure of the Noise Compatibility Program calls for jets departing between 11:00 p.m. and 6:00 a.m. from Runways 24L and 24R to take headings between 200° and 220° until reaching an altitude of 5,000 ft. MSL.

70.7% within corridors

- A. 33.2%: 095 corridor, including flights crossing the 095 corridor boundaries above 5,000 ft. MSL
- F. 37.5%: 200 corridor, including flights crossing the corridor boundaries above 5,000 ft. MSL

29.3% outside corridors

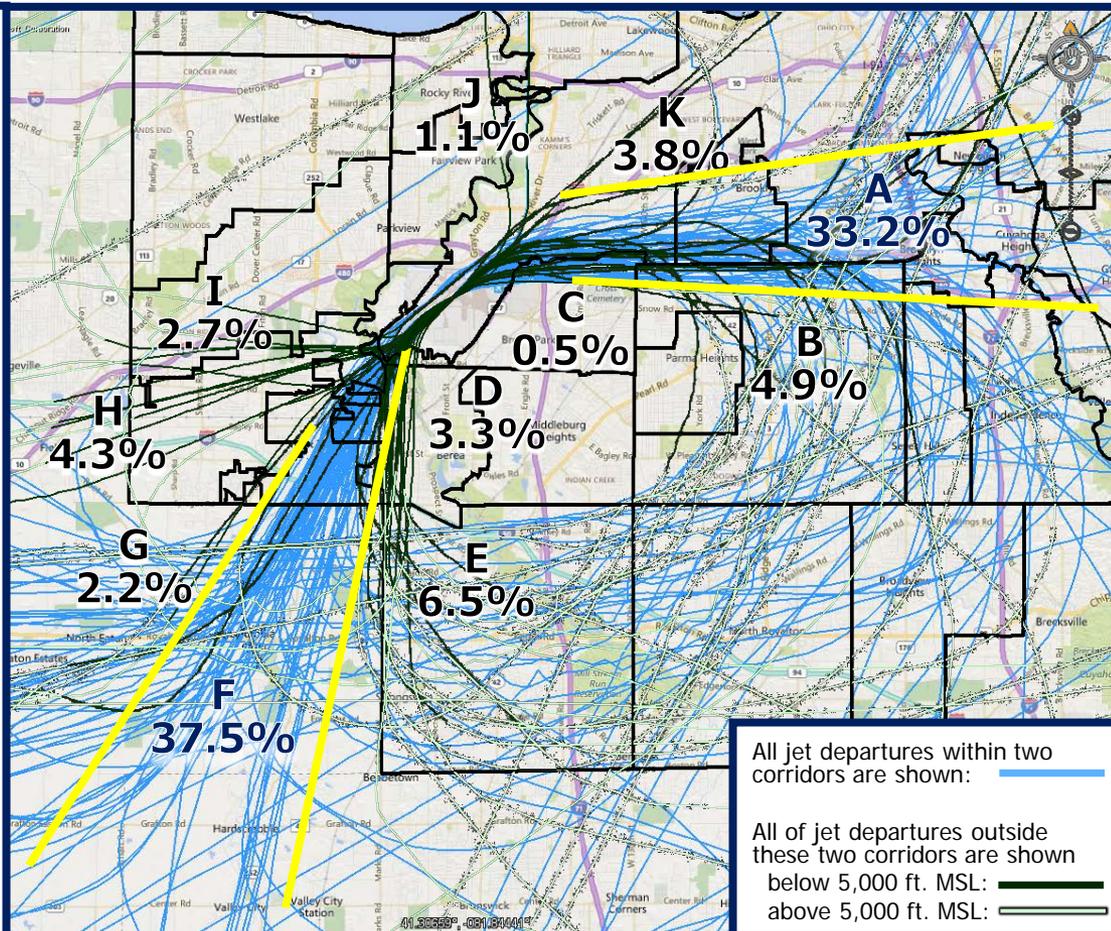
- B. 4.9%: flights crossing the south boundary below 5,000 ft. MSL
- C. 0.5%: flights turning right before entering the 095 corridor
- D. 3.3%: flights departing south without entering the 200 corridor
- E. 6.5%: flights crossing the east boundary below 5,000 ft. MSL
- G. 2.2%: flights crossing the west boundary below 5,000 ft. MSL
- H. 4.3%: flights departing southwest without entering the corridor
- I. 2.7%: flights departing west without entering the corridor
- J. 1.1%: flights departing north, not east with the 095 corridor
- K. 3.8%: flights crossing the north boundary below 5,000 ft. MSL

(There were three Rwy 10 and four Rwy 28 jet departures between 11:00 p.m. and 6:00 a.m. during the quarter.)

The percentage of departures on each runway from 11:00 p.m. to 6:00 a.m. during the quarter were as follows:

Rwy	10	28	24L	24R	6L	6R
For jets:	1.5%	2.1%	52.1%	4.6%	3.6%	36.1%
For all aircraft:	1.4%	1.8%	52.3%	4.1%	4.1%	36.5%

90.9% of Jet Departures from Rwy 6L/6R were on the preferred Rwy, 6R.



All jet departures within two corridors are shown: —

All of jet departures outside these two corridors are shown below 5,000 ft. MSL: —

above 5,000 ft. MSL: —

Arrival Headings, 1st Qtr. : Night-time

Night-time Arrivals are from 10:00 p.m. to 6:59 a.m.

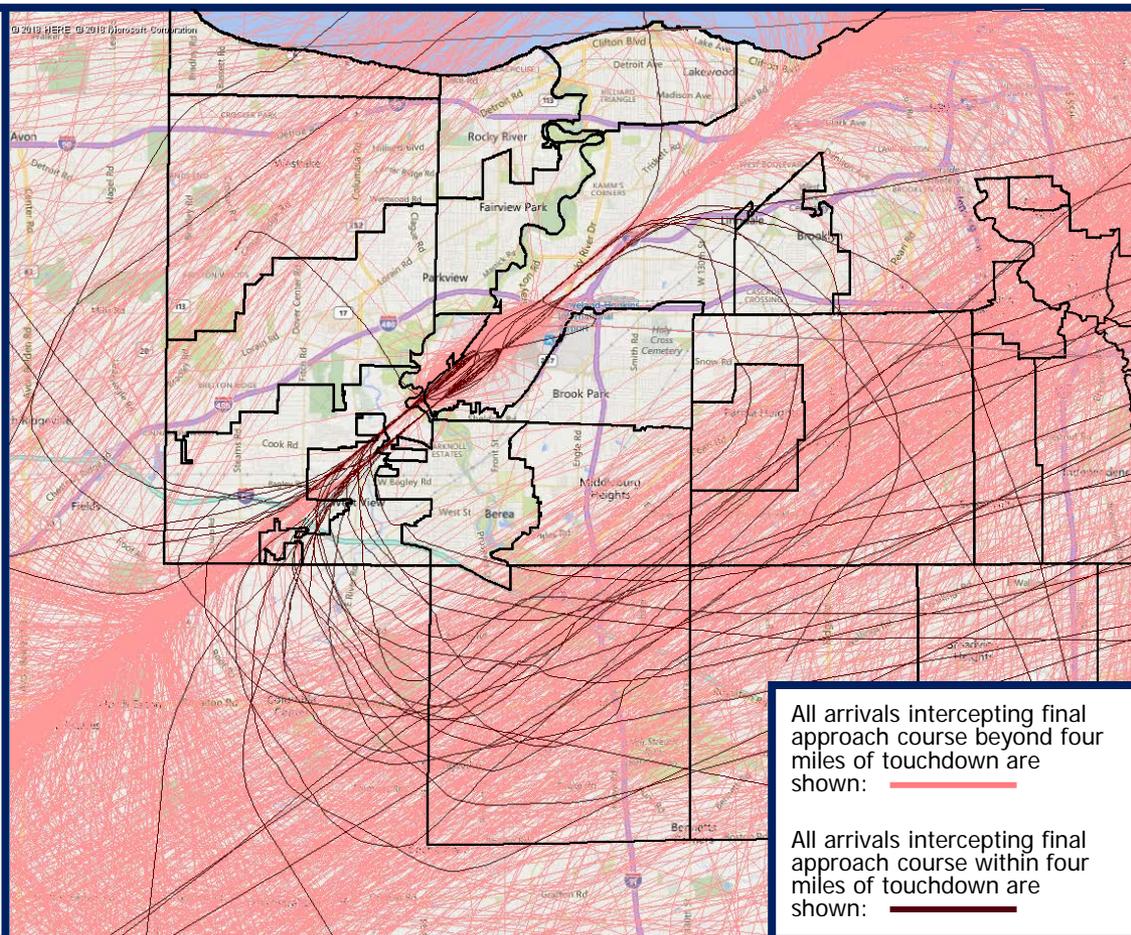
A voluntary measure of the Noise Compatibility Program calls for all aircraft arriving between 10:00 p.m. and 6:59 a.m., wind and weather permitting, to intercept final approach course no closer than four miles before touchdown.

98.6% beyond four miles and 1.4% within four miles

There is no comparable NCP measure regarding day-time arrivals.

Runway use by all arriving aircraft from 10:00 p.m. to 6:59 a.m. during the quarter was as follows:

Rwy	Percentage of Arrivals	
	Jets	All Aircraft
10	0.0%	0.0%
28	0.1%	0.1%
24L	6.3%	6.7%
24R	50.4%	50.3%
6L	39.7%	39.4%
6R	3.5%	3.5%
Helicopter	0.0%	<0.1%
Total	100.0%	100.0%



All arrivals intercepting final approach course beyond four miles of touchdown are shown: —————

All arrivals intercepting final approach course within four miles of touchdown are shown: —————

Noise Complaints

City	Jan	Feb	Mar	1 st Q '18 Calls	%	1 st Q '17 Calls	%	1 st Q '18 Callers	%	1 st Q '17 Callers	%
Bay Village	0	0	0	0	0.0%	1	3.6%	0	0.0%	1	5.9%
Berea	0	12	12	24	57.1%	6	21.4%	2	11.8%	4	23.5%
Brook Park	0	1	0	1	2.4%	2	7.1%	1	5.9%	2	11.8%
Cleveland	0	1	4	5	11.9%	11	39.3%	4	23.5%	5	29.4%
Fairview Park	0	0	1	1	2.4%	2	7.1%	1	5.9%	1	5.9%
Olmsted Falls	2	2	2	6	14.3%	1	3.6%	4	23.5%	1	5.9%
Olmsted Twp.	0	2	0	2	4.8%	0	0.0%	2	11.8%	0	0.0%
Rocky River	0	0	2	2	4.8%	4	14.3%	2	11.8%	2	11.8%
Strongsville	0	0	1	1	2.4%	0	0.0%	1	5.9%	0	0.0%
Westlake	0	0	0	0	0.0%	1	3.6%	0	0.0%	1	5.9%
Totals	2	18	22	42	100.0%	28	100.0%	17	100.0%	17	100.0%

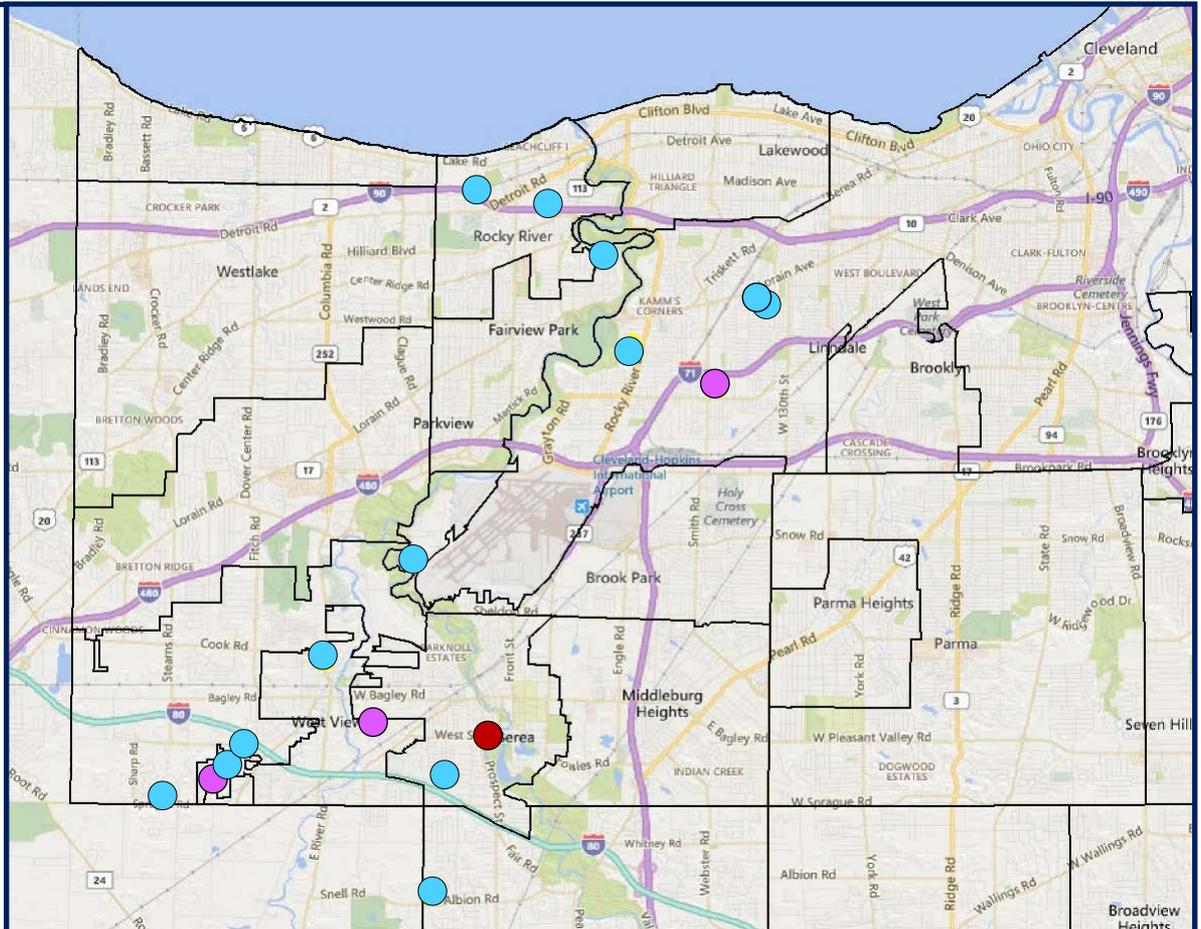
Noise Hotline – (216) 898-5220

1st Quarter Complaint Map

LEGEND

Complaints per household

- 1 complaint
- 2 to 5 complaints
- 6 or more complaints



New Noise Monitoring System

Noise Monitors

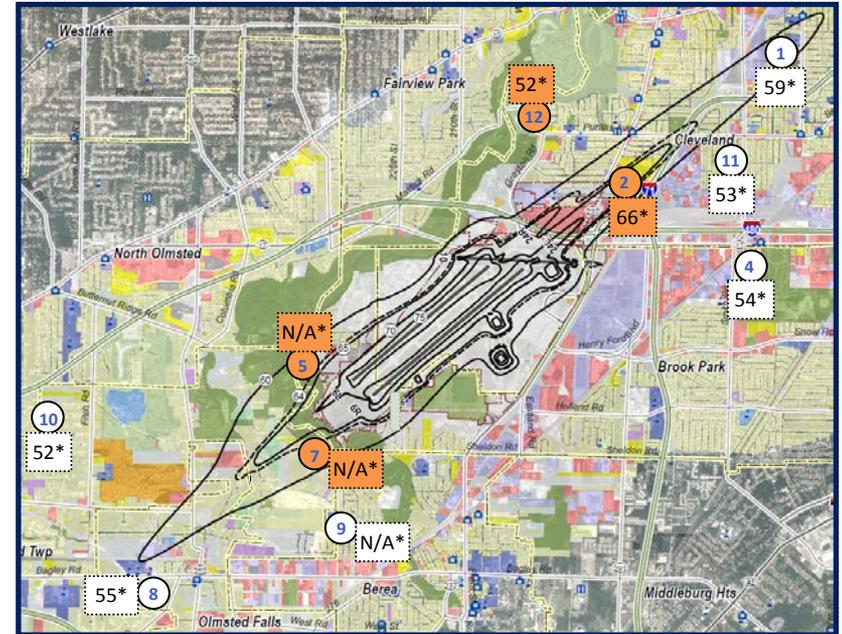
- Four of the closest sites (indicated in orange) have been replaced with state of the art monitors using wireless communications.

Integrated Noise Monitoring

- Will provide noise levels based on flight data for any location
- Data will be reported from original locations and also from new ones aligned with Runway 24R/6L and eventually also along Metroplex routes.

Year 2017 DNLs*

The 2017 Forecast *DNL Contours* illustrated below are a projection made in 2011 and do not necessarily accurately represent current or future conditions.



*Using available data from Jan 1st to Oct 6th, 2017.

No data is available after Oct. 6th, 2017.

CLE.
Going places.TM