

Runway Rotation Test 3 Report

July 23, 2017 – October 15, 2017

Fly Quiet Program

Chicago O'Hare International Airport



Visit the O'Hare Noise Webpage on the Internet at
www.flychicago.com/ORDNoise

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SUMMARY

On September 18, 2015, the ONCC formed an ad hoc Fly Quiet Committee (Committee) to review, modify and make recommendations regarding nighttime noise abatement procedures at O'Hare International Airport (O'Hare). The Committee was formed as a result of the CDA's Noise Recommendations modifying the Fly Quiet Program. The Committee began a series of public meetings to address Fly Quiet modifications and set the following goals for a Runway Rotation Program:

1. **Provide Near-Term Relief** – 12-Week Test with Citizen Feedback
2. **Reduce Impacts to the Highest Impacted Communities** – Provide Relief to Significantly Impacted Communities
3. **Provide Predictability** – Publish a rotation schedule that allows citizens to predict periods of relief to the extent possible

The Committee set specific criteria for a runway rotation program and the ONCC formally recommended to the Chicago Department of Aviation (CDA) on June 2, 2017, that a third Fly Quiet Runway Rotation Test (Test 3) be implemented. The CDA established Test 3 that met the goals and specific criteria established by the ONCC and received approval by the Federal Aviation Administration (FAA) on June 29, 2017.



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The CDA conducted Test 3 for a 12-week period in 2017 from the night of July 23, 2017, through the morning of October 15, 2017 (Test Period), as approved by the FAA. The purpose of Test 3 was to test a condition that could be in place during the period of time between Runway 15/33 decommissioning until Runway 9C/27C commissioning. Test 3 occurred during the overnight hours and followed a 12-week schedule, beginning the evening of July 23, 2017, and ending the morning of October 15, 2017. Test 3 included six (6) designated Fly Quiet Runway Configurations, along with runway rotations, intended to balance the overnight noise. Primary and Secondary Runway Configurations were designated for each week of the Test. Each new week began on Sunday evening at 10 p.m. or later, when demand allowed for one designated arrival runway and one designated departure runway.

The results of Test 3 show that 62 percent of the aircraft operations (operations) that occurred during the overnight Fly Quiet Hours utilized the designated rotation runways. Each night during Fly Quiet hours, there was an average of 115 operations, 71 of which operated on designated runways. Please refer to the following sections for additional details. Note that radar data was not available for one (1) of the 84 nights, therefore data for that night is not reflected in this report.

FLY QUIET MODE

The FAA considers nighttime hours as 10:00 p.m. - 07:00 a.m.¹ It is the CDA's goal for the Fly Quiet Program to occur during the entire nine-hour nighttime period of 10:00 p.m. to 7:00 a.m., however due to operational demand by the airlines and traveling public, Fly Quiet is typically limited to a period less than nine hours. Fly Quiet Mode, the period of time in Fly Quiet, starts each night on or after 10:00 p.m., once demand allows for two departure runways and one arrival runway and allows for the preferential flight tracks as outlined in the CDA's *Fly Quiet Manual*. Demand for the majority of the night allows for one arrival runway and one departure runway. Once demand increases in the morning where additional runways are needed and preferential flight tracks can no longer be utilized, Fly Quiet Mode stops.

For each week of the Test, the Start and Stop times of Fly Quiet was recorded and reported on the Test website: www.flychicago.com/flyquiettest.

¹ Airport Noise Compatibility Planning (14 CFR Part 150)

FIGURE 1
AVERAGE DAILY FLY QUIET START AND STOP TIMES

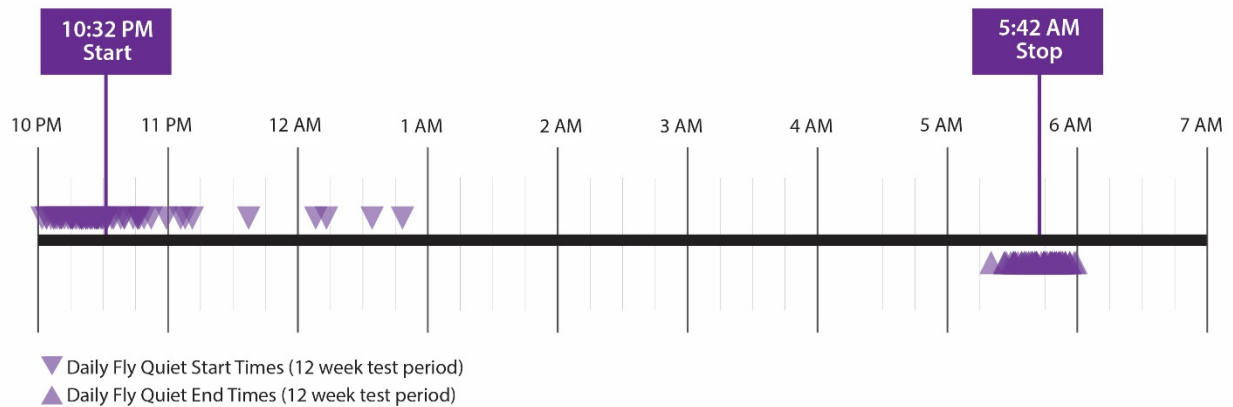
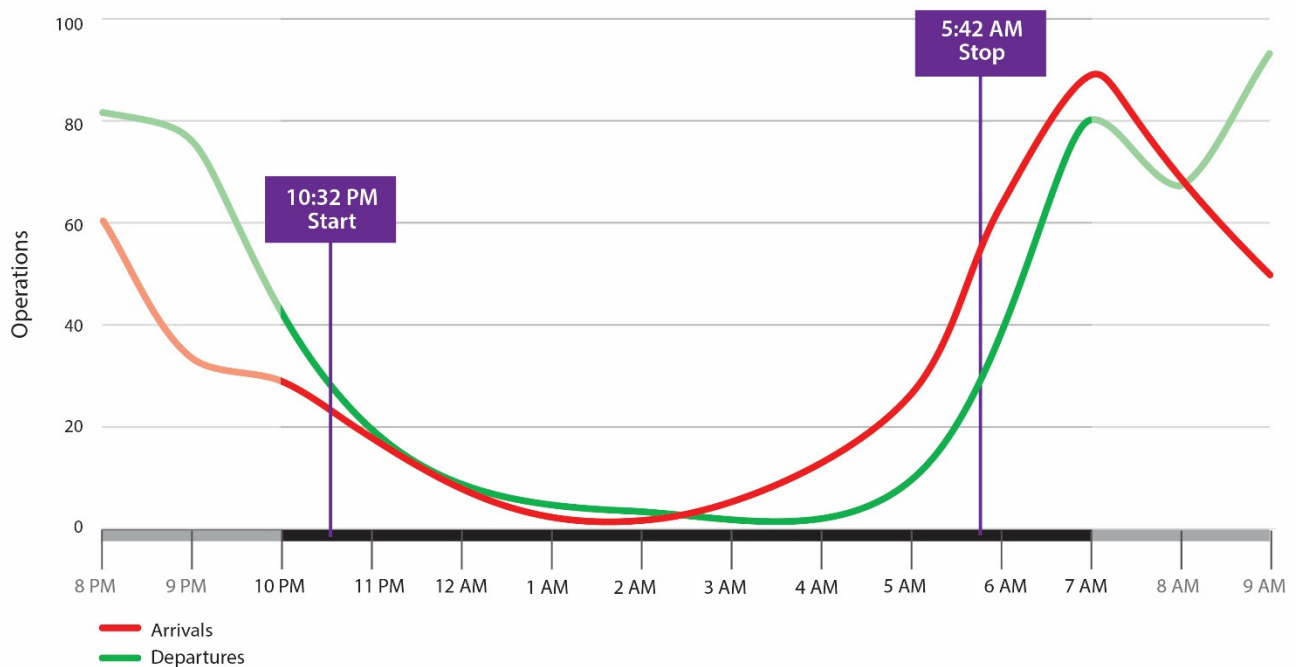


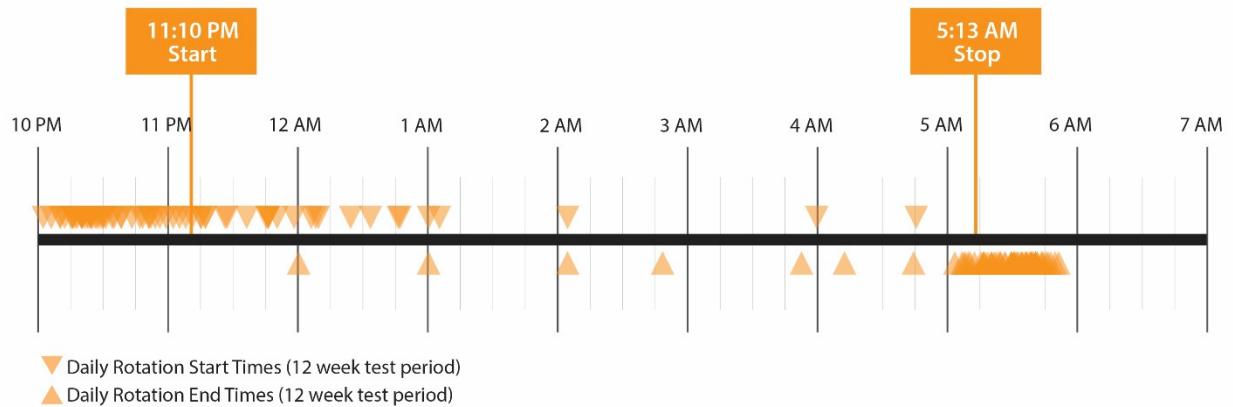
Figure 1 shows the daily Fly Quiet Start and Stop times for every night of the Test. The average daily Fly Quiet Start Time was 10:32 p.m. and the average daily Fly Quiet Stop Time was 5:42 a.m., for an average of seven (7) hours and ten (10) minutes each night. The Fly Quiet Start and Stop times were based on runway demand. As shown in **Figure 2**, there is a departure bank before 10:32 p.m. that typically prevents Fly Quiet from beginning any earlier. If that departure bank is delayed for any reason, the start of Fly Quiet is also delayed. Similarly, there is a large arrival bank before 7 a.m. that causes Fly Quiet to typically end at 5:42 a.m. If this arrival bank is delayed, Fly Quiet can continue longer.

FIGURE 2
AVERAGE OPERATIONS BY HOUR FOR TEST PERIOD



ROTATION MODE

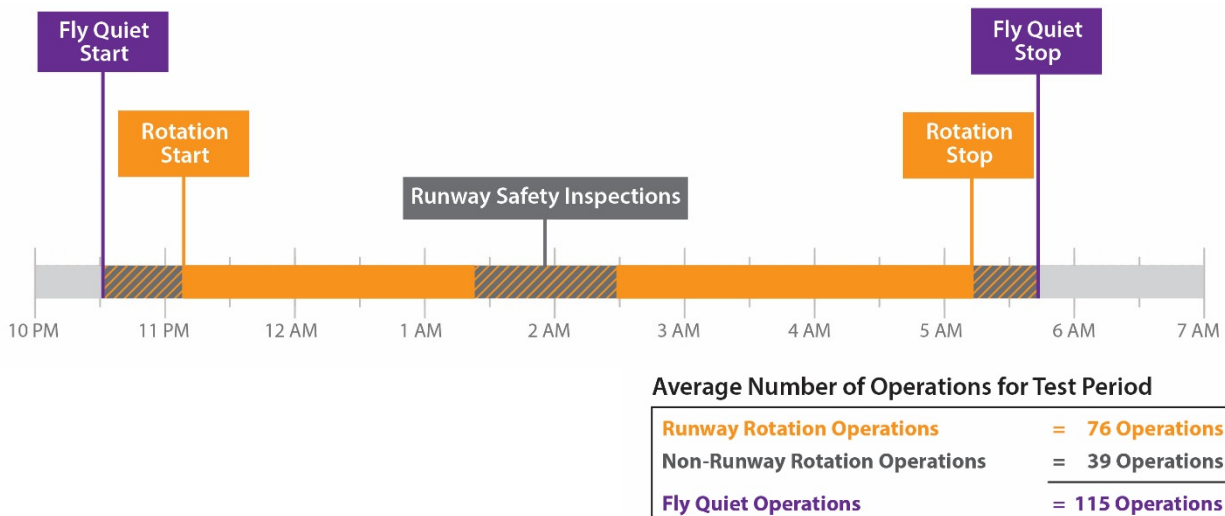
FIGURE 3
AVERAGE DAILY ROTATION MODE START AND STOP TIMES



For every week of Test 3, one runway was designated for arrivals and one runway was designated for departures - which were defined as configurations. These configurations included both. Each configuration also had a daily start and stop time, where both an arrival and departure runway were utilized. As shown in **Figure 3**, the daily Rotation Start and Stop times were tracked and reported for the Test. The average daily Rotation Start Time was 11:10 p.m. and the average daily Rotation Stop Time was 5:13 a.m.

Each runway at O'Hare is required to be closed throughout the night for approximately one hour in order to perform a proper runway safety inspection for FAR Part 139. During this time, a configuration will stop and typically resumes after the safety inspection is complete. In addition, there are typically periods of time immediately after Fly Quiet Mode starts and immediately before Fly Quiet Mode stops that the designated runways are not utilized or only partially utilized for many reasons.² The period of time when both the arrival and departure runway are utilized is Rotation Mode. Rotation Mode was conducted 73 of the possible 84 nights during Test3. **Figure 4** depicts a typical night for Fly Quiet Start and Stop, Rotation Start and Stop and quantifies operations for periods.

FIGURE 4
USAGE OF DESIGNATED ROTATION RUNWAYS
FOR TEST PERIOD

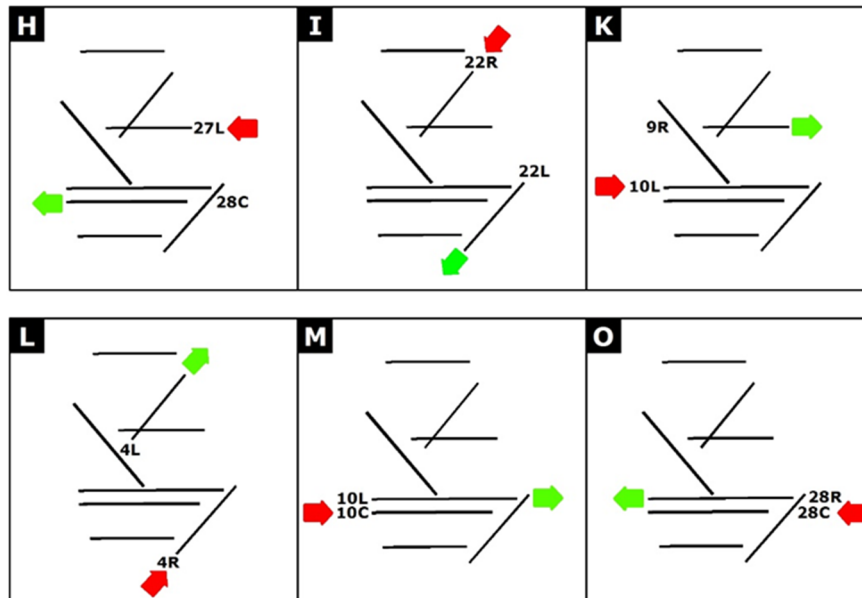


² On any given night, Test configurations may not have been allowed due to occurrences including, but not limited to, runway safety closures, thunderstorms, snow removal, FAA flight checks, construction, rubber removal, runway requests, and similar.

FLY QUIET TEST RUNWAY CONFIGURATIONS

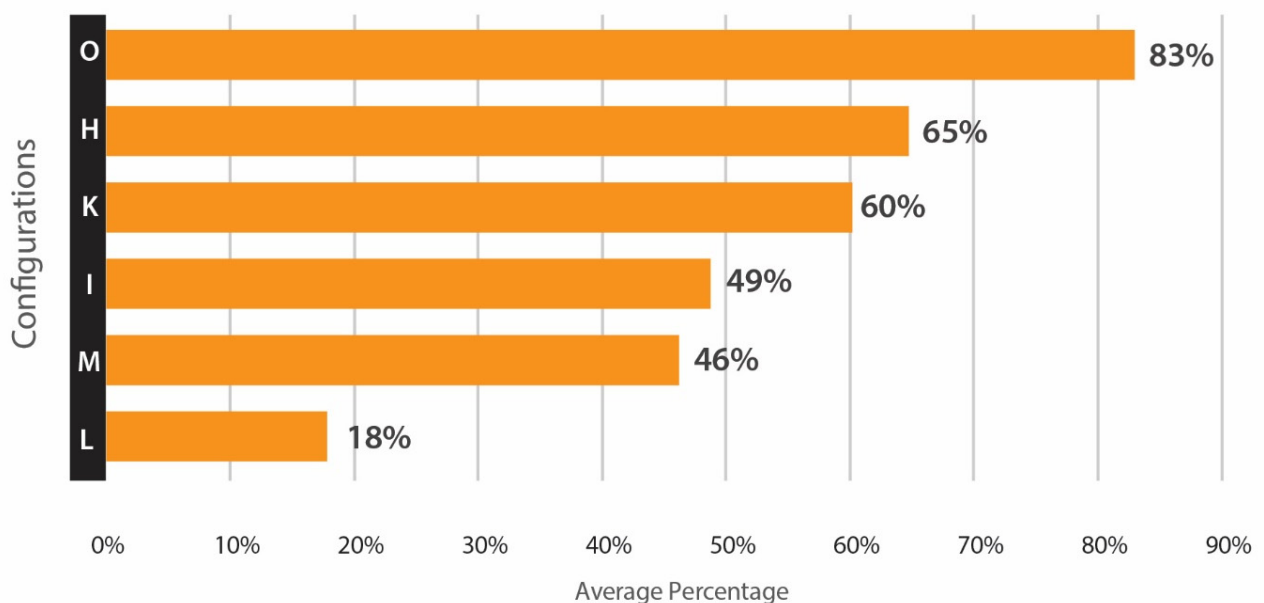
Six (6) Fly Quiet Runway Configurations were developed and scheduled for a 12-week Test as show in **Figure 5**, below. As nighttime airfield construction affected the schedule, construction alternatives were utilized for those weeks while notifying the public in advance on the Test website: www.flychicago.com/flyquiettest .

FIGURE 5
FLY QUIET TEST CONFIGURATIONS



The results of Test 3 show that 62 percent of the operations that occurred during Fly Quiet utilized the designated runways. **Figure 6**, below, ranks the order of Fly Quiet Configuration usage, from highest to lowest.

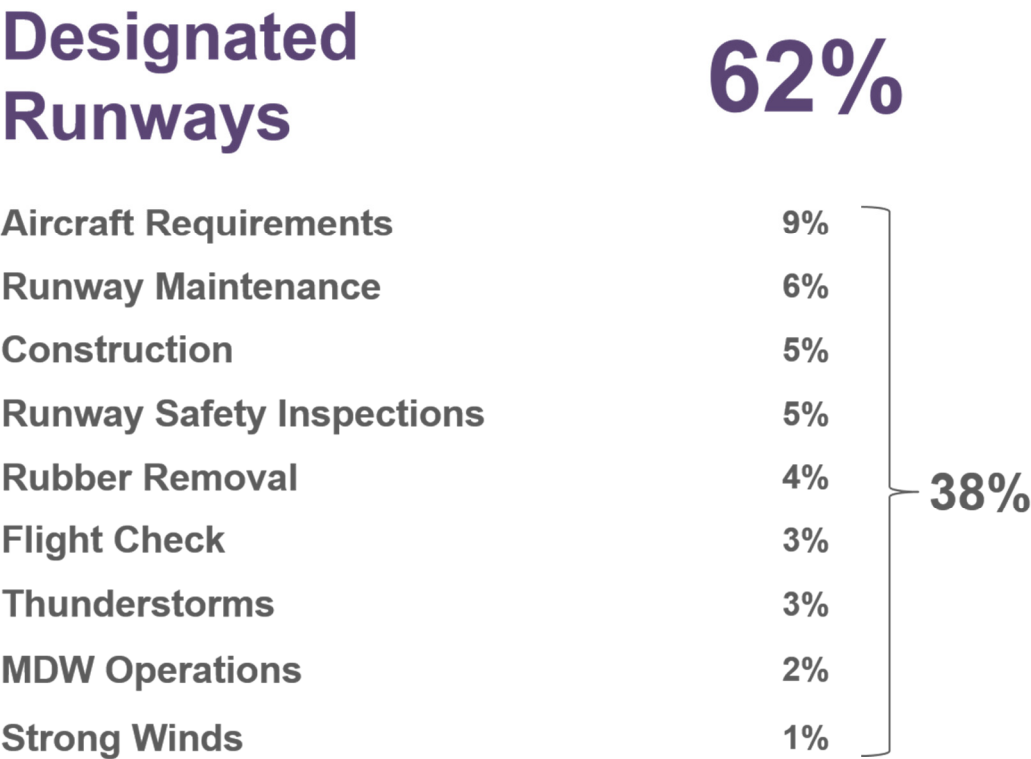
FIGURE 6
AVERAGE RUNWAY CONFIGURATION USAGE



Note: Does not include Construction Alternatives during the Test.

DESIGNATED RUNWAYS

Each night (10:00 p.m. to 7:00 a.m.) there was an average of 277 operations. Fly Quiet Mode had an average daily Start Time of 10:32 p.m. and an average daily Stop Time of 5:42 a.m. The results of Test 3 show that 62 percent of the aircraft operations that occurred during the Fly Quiet Mode utilized the designated rotation runways. Each night there was an average of 115 operations, 71 of which operated on designated runways. The remaining 38 percent of the operations were not on the designated runways due to the following reasons:



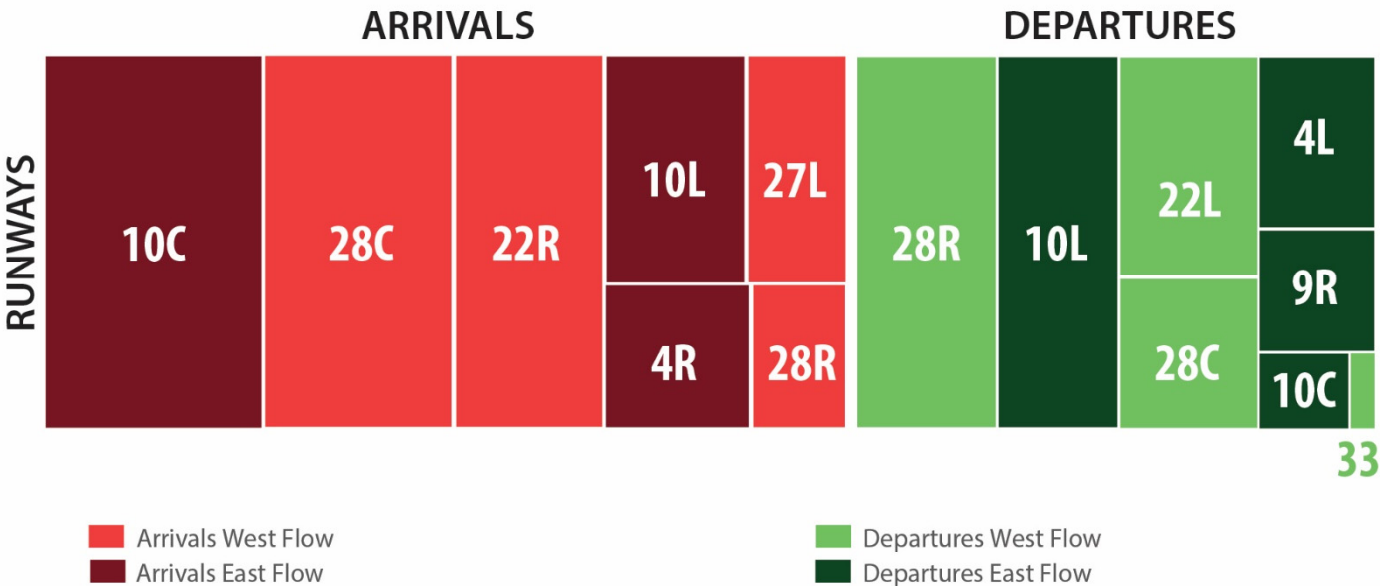
RUNWAY UTILIZATION FOR TEST PERIOD

Test 3 was designed to balance the runway utilization during Fly Quiet. The Test schedule included alternating weeks of utilizing parallel and diagonal runways and the Test included an equal number of East and West Flow weeks. Every week had a secondary configuration to accommodate opposite wind flow, but remained on parallel or diagonal runways similar to the primary configuration. The average operations for Fly Quiet Mode are broken out as follows:

Arrivals	70
Departures	45
Operations	115

Figure 7 is a TreeMap that displays proportional boxes in size for each runway operation, representative of the average throughout the Test. The lighter boxes represent West Flow operations and the darker boxes represent East Flow operations.

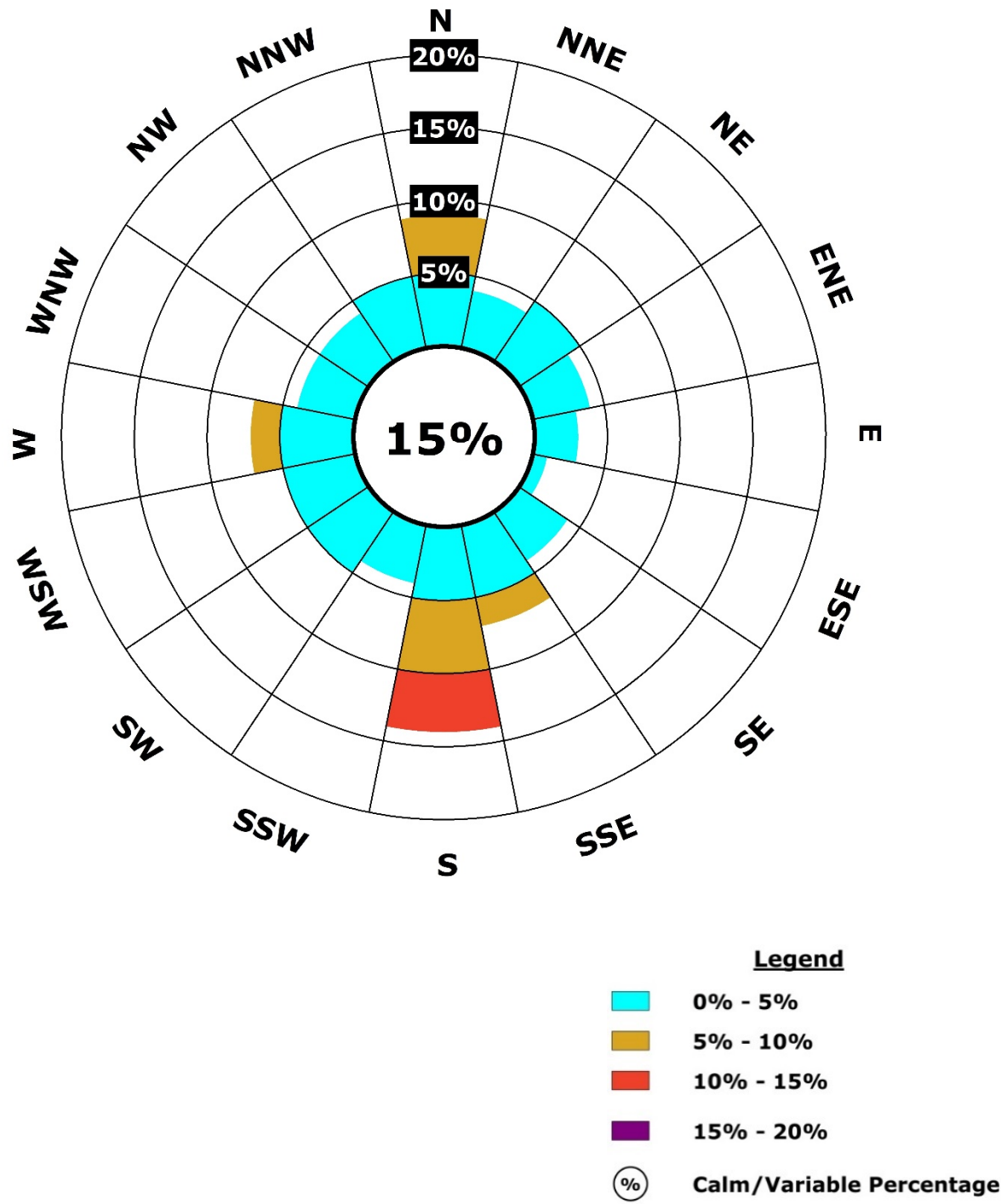
FIGURE 7
FLY QUIET MODE AVERAGE RUNWAY UTILIZATION FOR TEST PERIOD



WIND SUMMARY

Wind is a key factor influencing runway use and operation. Aircraft performance requirements make it necessary for aircraft to take off and land into the wind for safety purposes. Ideally, aircraft should take off and land into the wind as the increased airflow over the wings provides improved lift. **Figure 8** summarizes the percent of wind occurrences by direction based on hourly data from the KORD Automated Surface Observing System (ASOS), which is a joint effort of multiple government agencies.

FIGURE 8
PERCENT OF WIND OCCURRENCES DURING THE TEST



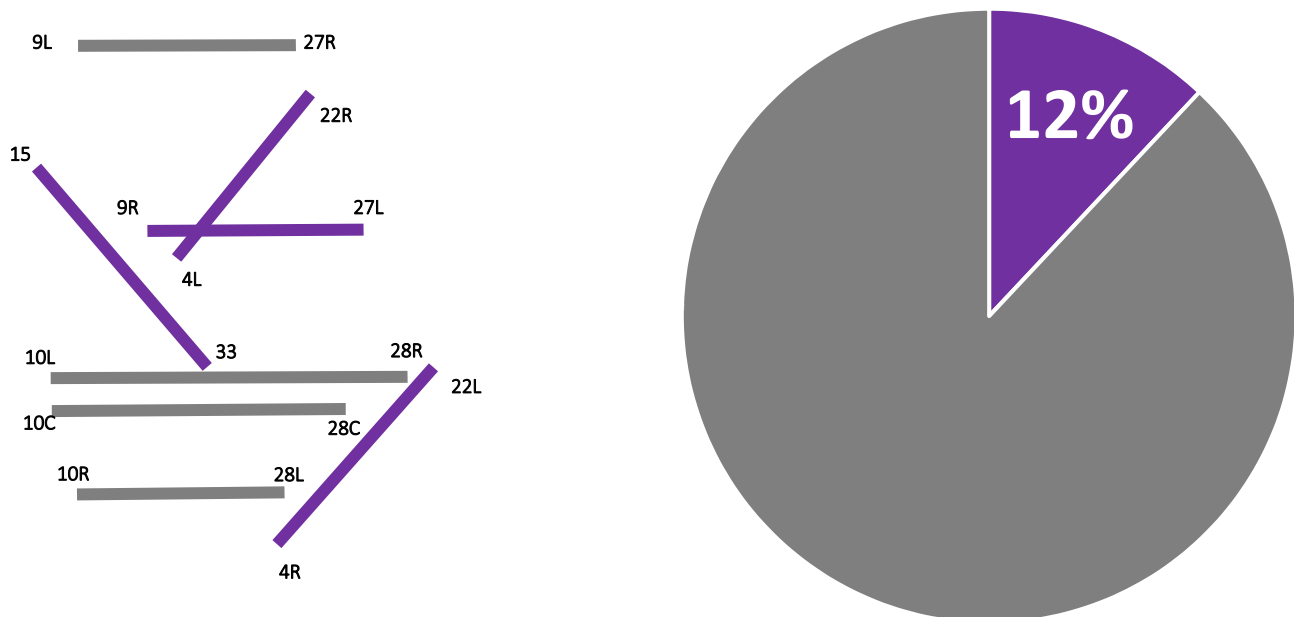
WIDE-BODY AIRCRAFT

Many wide-body aircraft operating during the nighttime hours at O'Hare are cargo aircraft with large payloads. The typical wide-body aircraft that operate at O'Hare are the 767, 777, 747, and DC-10. These aircraft are often louder and can climb at a slower rate that may cause significant noise complaints. Wide-body aircraft typically utilize the following two longest runways at O'Hare:

1. Runway 10L/28R 13,000 feet long
2. Runway 10C/28C 10,801 feet long

Wide-body operations on runway 10L/28R and 10C/28C heavily impact the communities of Bensenville and Schiller Park. While the Test did not prevent these operations from occurring on these runways, it recommended that airlines specifically request these longer runways if they were not the designated runways for that night. During the Test, the CDA asked airlines to request specific runways two hours in advance if a specific runway was needed for operational considerations. All requests were granted during the Test unless that specific runway was closed for maintenance. Due to specific FAA request, either runway 10L/28R or runway 10C/28C was left open every night of Test 3 for safety reasons. Test 3 results showed that 12% of wide-body operations (an average of 4 operations per night) were conducted on runways with lengths of less than 10,000 feet, which provided relief of nighttime noise to the communities impacted by runway 10L/28R and 10C/28C operations.

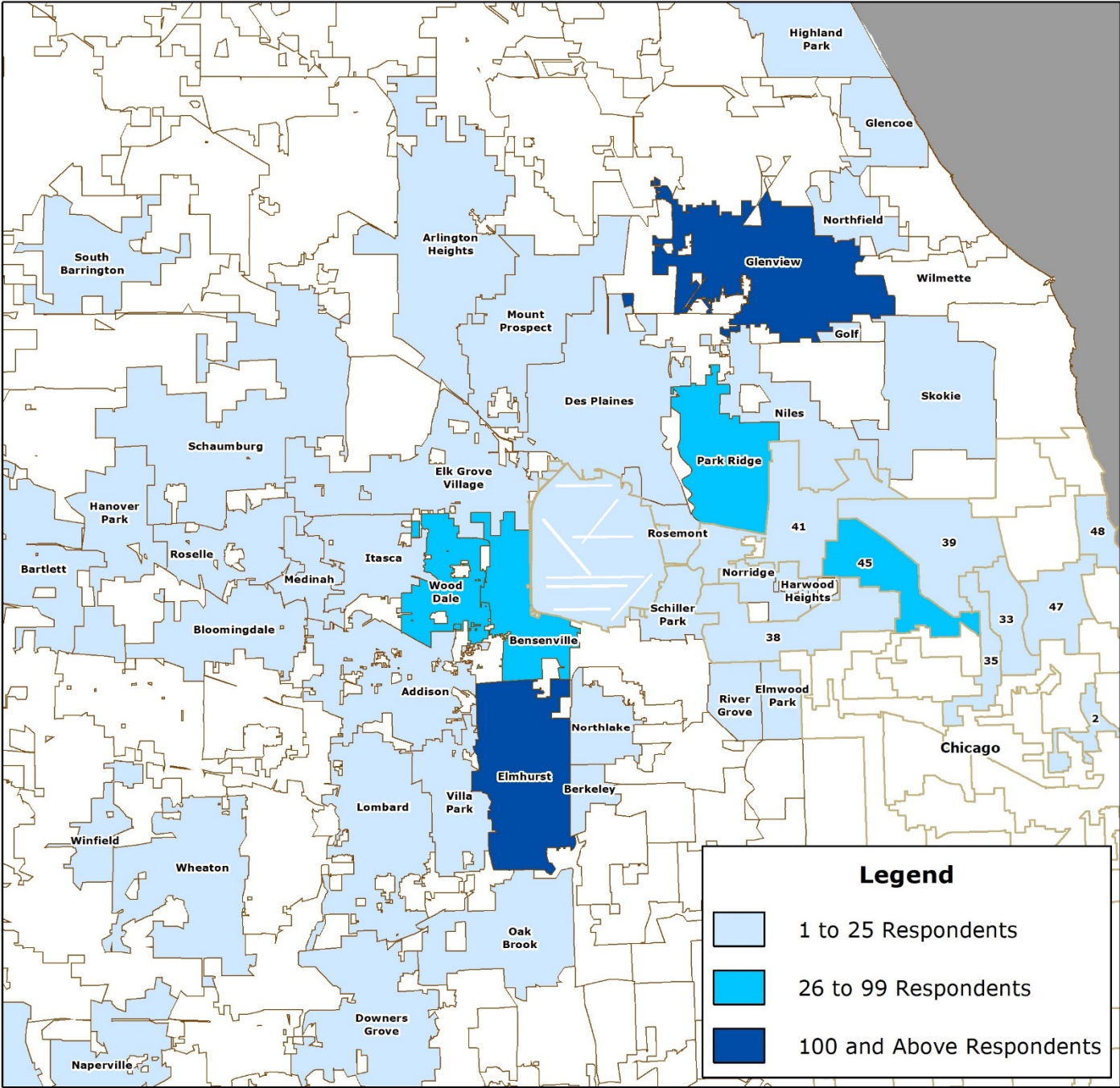
FIGURE 9
OPERATIONS OCCURRING ON RUNWAYS LESS THAN 10,000'



SURVEY FEEDBACK

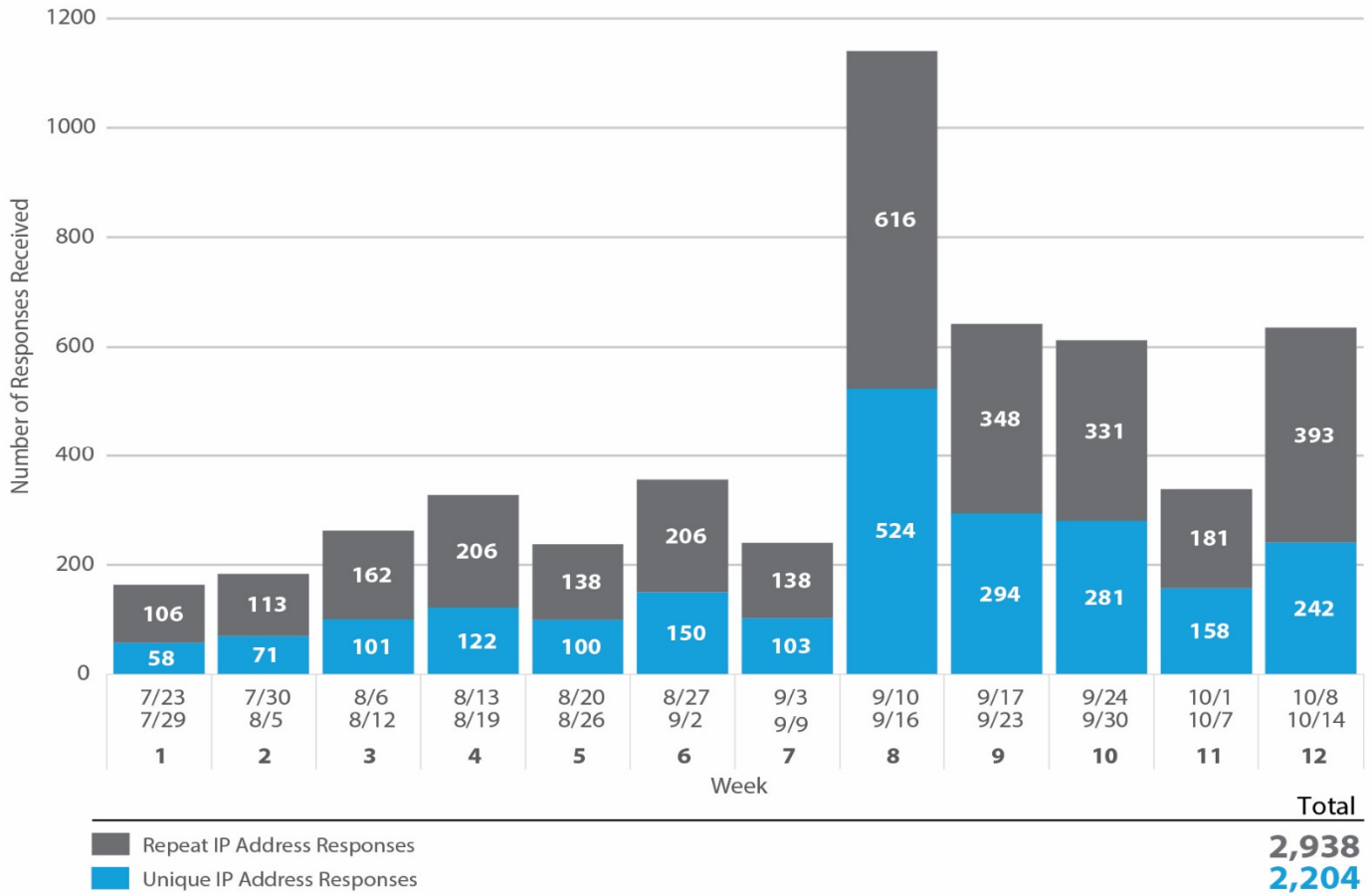
An online public survey was available during the Test in order for the CDA to receive feedback from residents of the communities surrounding O’Hare. There were 2,938 survey responses submitted, which originated from 2,204 unique IP addresses from 51 different communities in the Chicago region. The numbers of survey respondents by community are shown in **Figure 10**. The number of survey responses by week are shown in **Figure 11**.

**FIGURE 10
COMMUNITIES WITH SURVEY RESPONSES**



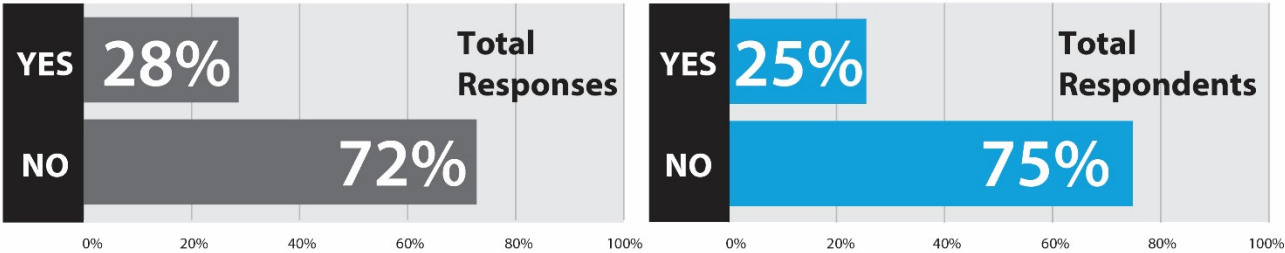
Note: The full list of survey responses is included in the Reports Section of this document.

FIGURE 11
SURVEY RESPONSES BY WEEK



As shown in **Figure 12-A**, 72% of the total survey responses indicate that a Runway Rotation Program should not continue. As shown in **Figure 12-B**, 79% of the total survey responses indicate that Test 3 should not continue. See the Reports Section of this document for detailed Survey results.

FIGURE 12-A
SURVEY QUESTION 15: WOULD YOU LIKE THE FLY QUIET RUNWAY ROTATION TO BE IN PLACE FROM SPRING 2018 UNTIL FALL 2020?

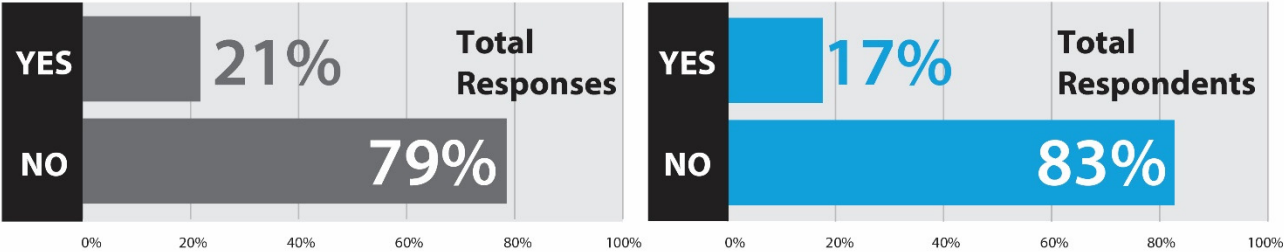


Would you like a nighttime Fly Quiet Runway Rotation to be in place from Spring 2018 until Fall 2020?

- A. YES
- B. NO

Note: Respondents represents unique IP addresses.

FIGURE 12-B
SURVEY QUESTION 21: WOULD YOU LIKE THE FLY QUIET RUNWAY ROTATION PLAN THAT IS IN PLACE FOR TEST 3 TO OCCUR FROM THE SPRING 2018 THROUGH NOVEMBER 2020?



Do you want the Fly Quiet Runway Rotation Plan that is in place for Test 3 to occur from the Spring of 2018 through November 2020?

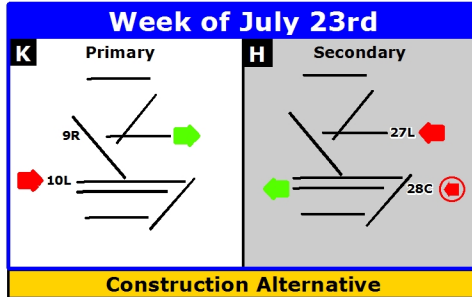
- A. YES
- B. NO

Note: Respondents represents unique IP addresses.

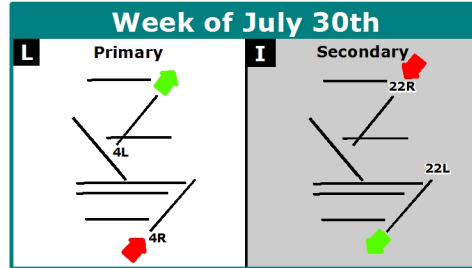
FLY QUIET RUNWAY ROTATION TEST 3

The graphic below outlines the Fly Quiet Runway Rotation Test 3 Schedule. For each week, a primary and secondary runway use configuration is provided to accommodate potential changes in wind direction. The runway use configurations have been defined and approved by the ONCC to balance noise exposure to the extent possible. Special procedures have been defined to accommodate aircraft that require specific runways.

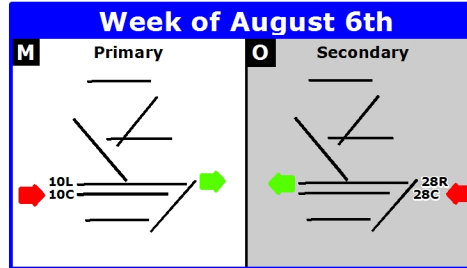
Parallel - East



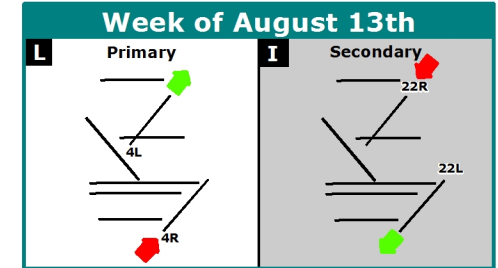
Diagonal - East



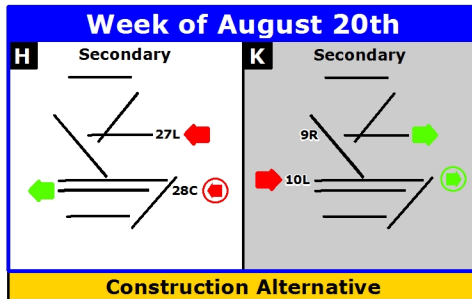
Parallel - East



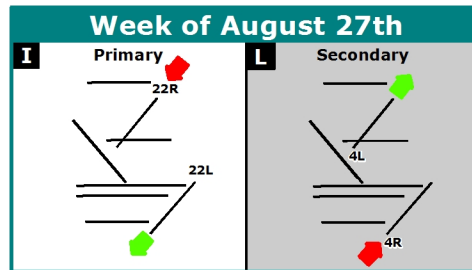
Diagonal - East



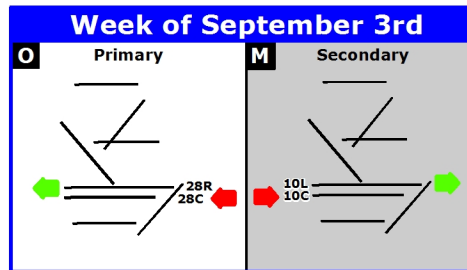
Parallel - West



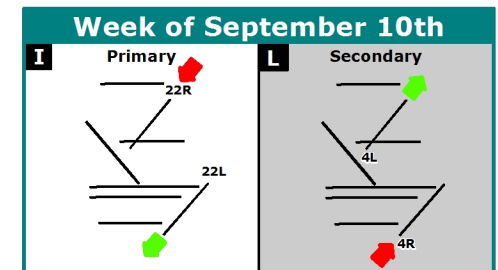
Diagonal - West



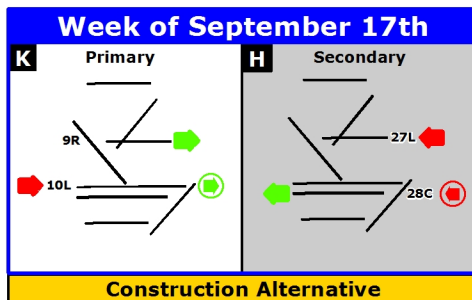
Parallel - West



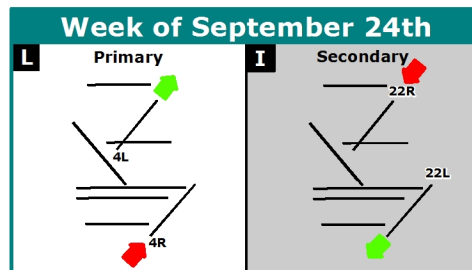
Diagonal - West



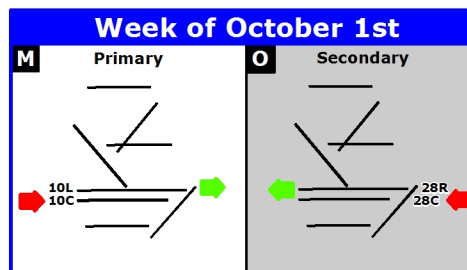
Parallel - East



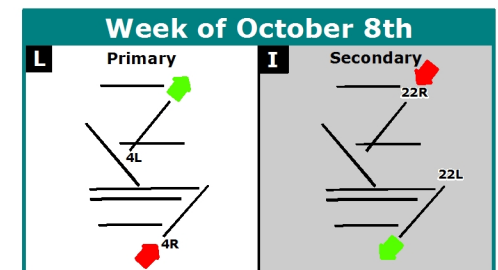
Diagonal - East



Parallel - East



Diagonal - East



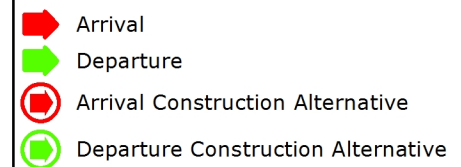
Week - Parallel Runways

Week - Diagonal Runways

Each weekly period will begin on Sunday evening at 10 p.m. or after when demand allows for one arrival and one departure runway.

Notes

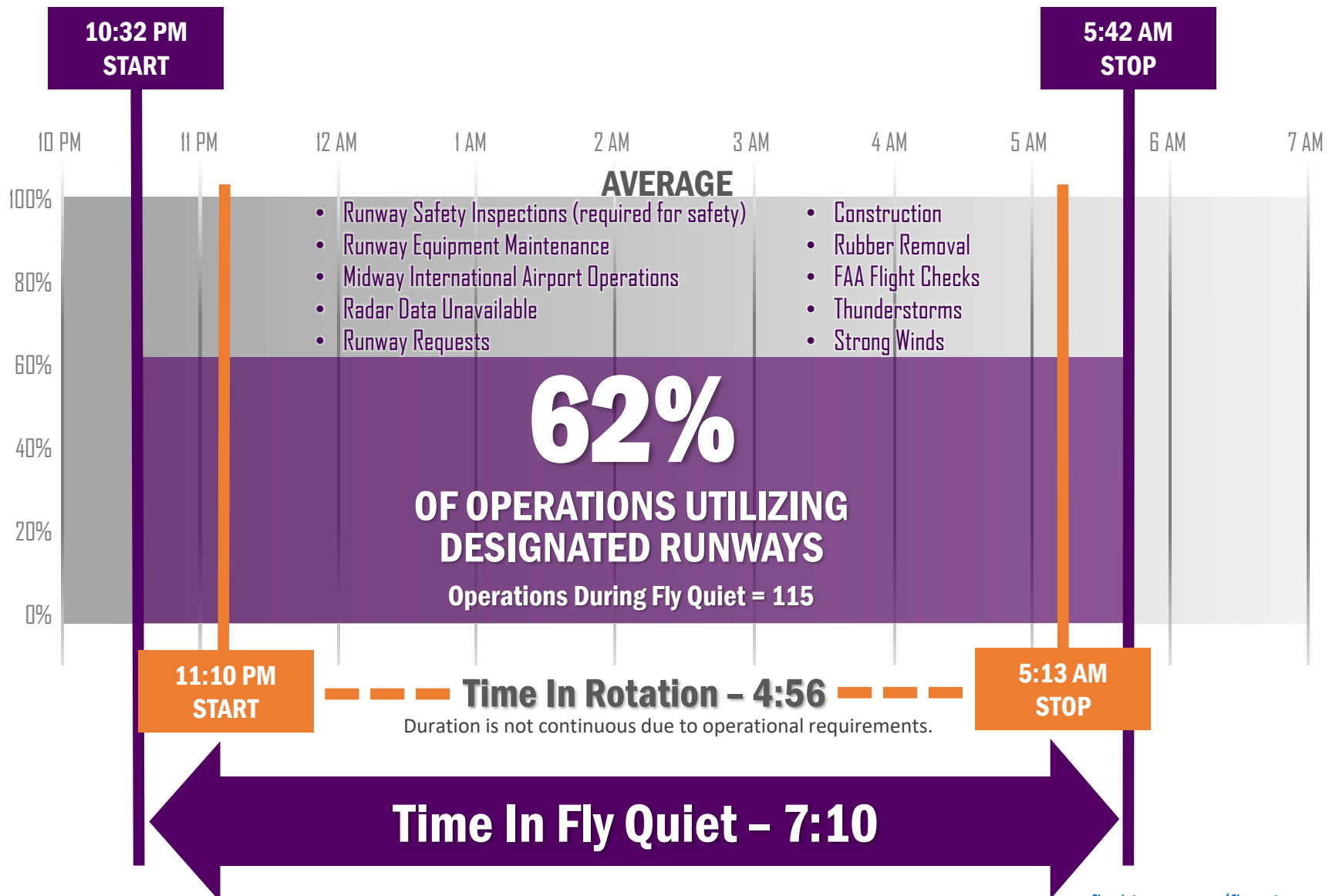
- Flights that require additional runway length should contact Chicago Department of Aviation (CDA) Operations at a minimum of 2 hours prior to arrival or departure.
- Alternative runways may be used to allow for construction, snow removal, runway maintenance, runway inspection and strong winds.
- Available runways are determined by CDA.



FLY QUIET SUMMARY

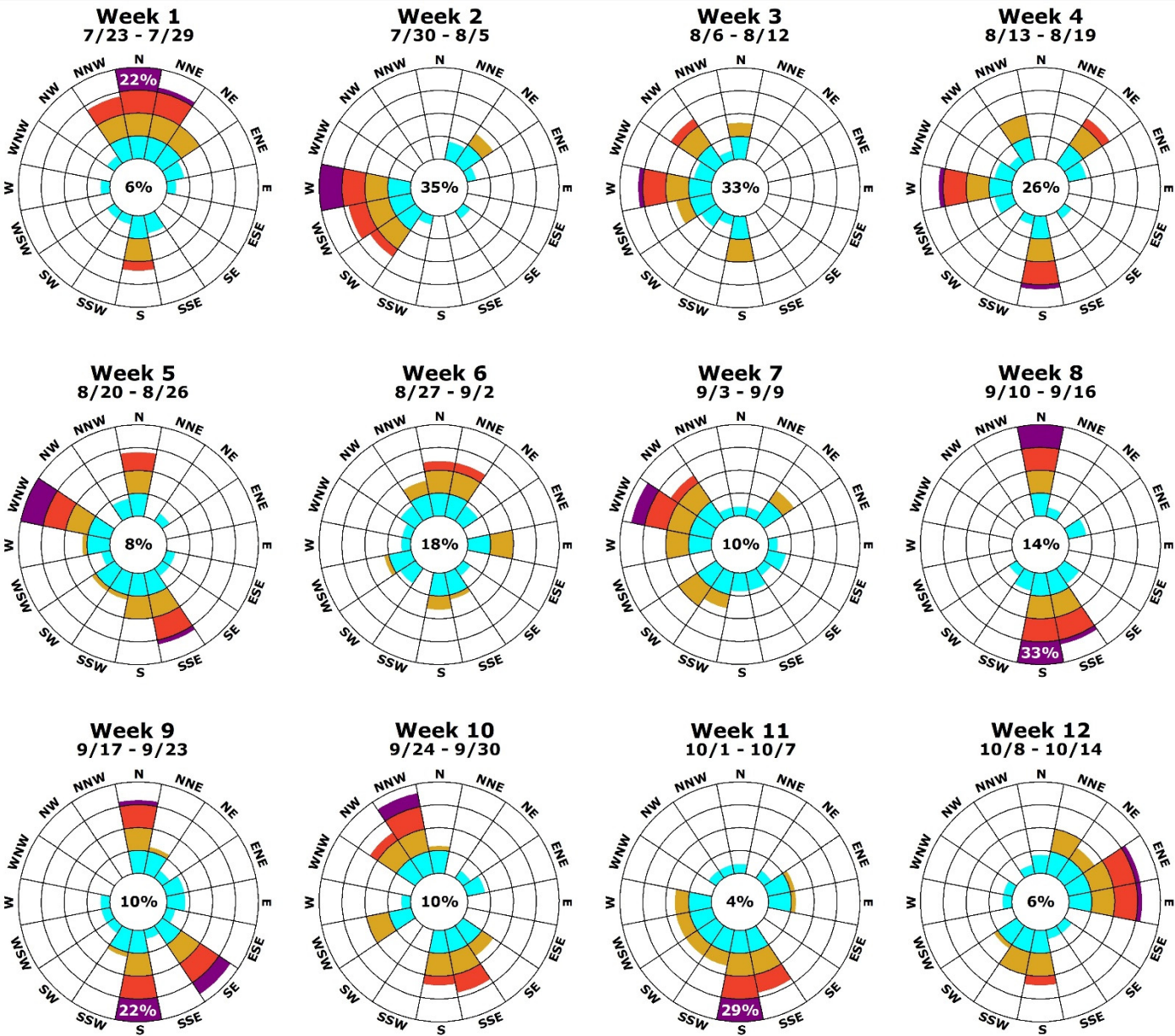
JULY 23 – OCTOBER 15, 2017

12 WEEK AVERAGE

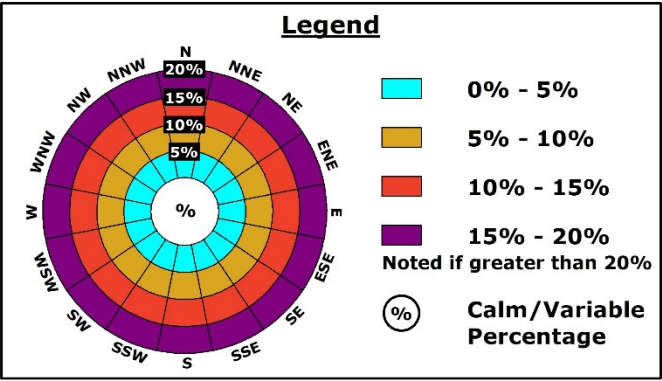


Note: Values above represent the average for time period.

NIGHTTIME WEEKLY WIND SUMMARY WEEKS 1 - 12



Source: National Climatic Data Center, 7/23/2017 - 10/15/2017;
<http://www.ncdc.noaa.gov>



Runway Rotation Test 3 Daily Log

Period: Night of July 23 through morning of September 10, 2017

Fly Quiet Mode



Fly Quiet Mode ¹						
Time				Operations		
Start	Stop	Duration (hrs: mins)	Percentage of Nighttime ²	Primary ³	Secondary ³	Operations ⁴
7/23/17 - 11:37 PM	7/24/17 - 05:59 AM	6:22	71%	20%	1%	114
7/24/17 - 10:44 PM	7/25/17 - 05:51 AM	7:07	79%	1%	0%	141
7/25/17 - 10:26 PM	7/26/17 - 05:20 AM	6:54	77%	60%	12%	121
7/26/17 - 10:46 PM	7/27/17 - 05:41 AM	6:55	77%	14%	33%	125
7/27/17 - 10:32 PM	7/28/17 - 05:53 AM	7:21	82%	19%	0%	155
7/28/17 - 10:46 PM	7/29/17 - 05:51 AM	7:05	79%	82%	0%	130
7/29/17 - 10:08 PM	7/30/17 - 05:48 AM	7:40	85%	22%	0%	121
7/30/17 - 10:16 PM	7/31/17 - 05:27 AM	7:11	80%	23%	23%	137
7/31/17 - 10:34 PM	8/1/17 - 05:31 AM	6:57	77%	29%	21%	117
8/1/17 - 10:29 PM	8/2/17 - 05:26 AM	6:57	77%	0%	75%	107
8/2/17 - 10:49 PM	8/3/17 - 05:44 AM	6:55	77%	38%	3%	145
8/4/17 - 12:48 AM	8/4/17 - 05:40 AM	4:52	54%	0%	68%	74
8/4/17 - 10:20 PM	8/5/17 - 05:47 AM	7:27	83%	0%	69%	166
8/5/17 - 10:27 PM	8/6/17 - 05:50 AM	7:23	82%	0%	68%	120
8/6/17 - 10:16 PM	8/7/17 - 05:29 AM	7:13	80%	95%	0%	146
8/7/17 - 10:52 PM	8/8/17 - 05:54 AM	7:02	78%	54%	40%	136
8/8/17 - 10:29 PM	8/9/17 - 05:36 AM	7:07	79%	0%	95%	129
8/9/17 - 10:20 PM	8/10/17 - 05:32 AM	7:12	80%	60%	37%	129
8/11/17 - 12:08 AM	8/11/17 - 05:35 AM	5:27	61%	0%	90%	73
8/11/17 - 10:28 PM	8/12/17 - 05:39 AM	7:11	80%	0%	89%	131
8/12/17 - 10:18 PM	8/13/17 - 05:37 AM	7:19	81%	92%	1%	108
8/13/17 - 10:27 PM	8/14/17 - 05:41 AM	7:14	80%	0%	47%	117
8/14/17 - 10:17 PM	8/15/17 - 05:31 AM	7:14	80%	0%	84%	137
8/15/17 - 10:19 PM	8/16/17 - 05:40 AM	7:21	82%	53%	2%	131
8/17/17 - 12:13 AM	8/17/17 - 05:31 AM	5:18	59%	0%	36%	53
--	--	--	--	--	--	--
8/18/17 - 10:04 PM	8/19/17 - 05:52 AM	7:48	87%	55%	0%	183
8/19/17 - 10:40 PM	8/20/17 - 05:56 AM	7:16	81%	0%	63%	118
8/20/17 - 10:21 PM	8/21/17 - 05:50 AM	7:29	83%	75%	0%	140
8/21/17 - 10:24 PM	8/22/17 - 05:51 AM	7:27	83%	78%	0%	175
8/22/17 - 10:07 PM	8/23/17 - 05:41 AM	7:34	84%	79%	0%	160
8/23/17 - 10:26 PM	8/24/17 - 05:35 AM	7:09	79%	5%	30%	128
8/24/17 - 10:14 PM	8/25/17 - 05:37 AM	7:23	82%	0%	25%	139
8/25/17 - 10:25 PM	8/26/17 - 05:39 AM	7:14	80%	0%	45%	121
8/26/17 - 10:16 PM	8/27/17 - 05:53 AM	7:37	85%	0%	79%	112
8/27/17 - 11:11 PM	8/28/17 - 05:44 AM	6:33	73%	58%	1%	76
8/29/17 - 12:34 AM	8/29/17 - 05:54 AM	5:20	59%	0%	42%	64
8/29/17 - 10:27 PM	8/30/17 - 05:54 AM	7:27	83%	41%	0%	127
8/30/17 - 10:32 PM	8/31/17 - 05:47 AM	7:15	81%	0%	35%	126
8/31/17 - 10:24 PM	9/1/17 - 05:51 AM	7:27	83%	0%	54%	127
9/1/17 - 10:09 PM	9/2/17 - 05:36 AM	7:27	83%	19%	23%	140
9/2/17 - 10:10 PM	9/3/17 - 05:30 AM	7:20	81%	63%	0%	81
9/3/17 - 10:02 PM	9/4/17 - 05:26 AM	7:24	82%	93%	0%	95
9/4/17 - 11:08 PM	9/5/17 - 05:41 AM	6:33	73%	94%	0%	104
9/5/17 - 10:07 PM	9/6/17 - 05:34 AM	7:27	83%	94%	0%	172
9/6/17 - 10:15 PM	9/7/17 - 05:41 AM	7:26	83%	96%	0%	111
9/7/17 - 10:47 PM	9/8/17 - 05:43 AM	6:56	77%	68%	23%	97
9/8/17 - 10:59 PM	9/9/17 - 05:46 AM	6:47	75%	72%	19%	78
9/9/17 - 10:10 PM	9/10/17 - 05:40 AM	7:30	83%	0%	93%	74

Runway Rotation Test 3 Daily Log

Period: Night of September 10 through morning of October 15, 2017

Fly Quiet Mode



Fly Quiet Mode ¹						
Time				Operations		
Start	Stop	Duration (hrs: mins)	Percentage of Nighttime ²	Primary ³	Secondary ³	Operations ⁴
9/10/17 - 10:27 PM	9/11/17 - 05:39 AM	7:12	80%	0%	0%	90
9/11/17 - 10:15 PM	9/12/17 - 05:44 AM	7:29	83%	1%	61%	111
9/12/17 - 10:19 PM	9/13/17 - 05:49 AM	7:30	83%	0%	42%	113
9/13/17 - 10:20 PM	9/14/17 - 05:58 AM	7:38	85%	55%	0%	121
9/14/17 - 10:27 PM	9/15/17 - 05:44 AM	7:17	81%	69%	0%	126
9/15/17 - 10:38 PM	9/16/17 - 05:40 AM	7:02	78%	74%	0%	88
9/16/17 - 10:12 PM	9/17/17 - 05:39 AM	7:27	83%	70%	0%	80
9/17/17 - 10:35 PM	9/18/17 - 05:45 AM	7:10	80%	10%	1%	107
9/18/17 - 10:23 PM	9/19/17 - 05:48 AM	7:25	82%	58%	0%	120
9/19/17 - 10:11 PM	9/20/17 - 05:38 AM	7:27	83%	4%	0%	103
9/20/17 - 10:46 PM	9/21/17 - 05:44 AM	6:58	77%	0%	52%	113
9/21/17 - 10:26 PM	9/22/17 - 05:34 AM	7:08	79%	0%	74%	106
9/22/17 - 10:32 PM	9/23/17 - 05:48 AM	7:16	81%	46%	21%	105
9/23/17 - 10:06 PM	9/24/17 - 05:49 AM	7:43	86%	70%	0%	86
9/24/17 - 10:30 PM	9/25/17 - 05:41 AM	7:11	80%	0%	52%	107
9/25/17 - 10:21 PM	9/26/17 - 05:40 AM	7:19	81%	0%	73%	115
9/26/17 - 10:20 PM	9/27/17 - 05:30 AM	7:10	80%	0%	61%	85
9/27/17 - 10:22 PM	9/28/17 - 05:44 AM	7:22	82%	9%	4%	113
9/28/17 - 10:24 PM	9/29/17 - 05:44 AM	7:20	81%	0%	69%	127
9/29/17 - 10:22 PM	9/30/17 - 05:51 AM	7:29	83%	56%	0%	106
9/30/17 - 10:04 PM	10/1/17 - 05:50 AM	7:46	86%	0%	67%	94
10/1/17 - 10:20 PM	10/2/17 - 05:45 AM	7:25	82%	89%	0%	91
10/2/17 - 10:20 PM	10/3/17 - 05:30 AM	7:10	80%	75%	21%	112
10/3/17 - 10:22 PM	10/4/17 - 05:34 AM	7:12	80%	0%	95%	88
10/4/17 - 10:16 PM	10/5/17 - 05:47 AM	7:31	84%	0%	92%	120
10/5/17 - 10:25 PM	10/6/17 - 05:51 AM	7:26	83%	97%	0%	116
10/6/17 - 10:30 PM	10/7/17 - 05:54 AM	7:24	82%	0%	96%	115
10/7/17 - 10:31 PM	10/8/17 - 05:49 AM	7:18	81%	0%	95%	81
10/8/17 - 10:15 PM	10/9/17 - 05:30 AM	7:15	81%	0%	74%	96
10/9/17 - 10:28 PM	10/10/17 - 05:48 AM	7:20	81%	38%	0%	121
10/10/17 - 10:28 PM	10/11/17 - 05:49 AM	7:21	82%	24%	0%	121
10/11/17 - 10:40 PM	10/12/17 - 05:52 AM	7:12	80%	46%	0%	119
10/12/17 - 10:11 PM	10/13/17 - 05:48 AM	7:37	85%	0%	39%	128
10/13/17 - 10:23 PM	10/14/17 - 05:56 AM	7:33	84%	22%	0%	103
10/14/17 - 11:06 PM	10/15/17 - 05:56 AM	6:50	76%	0%	75%	126

Notes:

- 1: Fly Quiet Mode is the period of time in which the nighttime operations are operating in accordance with CDA's Fly Quiet Program.
- 2: FAR Part 150 considers nighttime hours 10:00 PM - 07:00 AM.
- 3: Percentage of operations on designated runways within Fly Quiet Mode.
- 4: Operations within Fly Quiet Mode.

Runway Rotation Test 3 Daily Log

Period: Night of July 23 through morning of September 10, 2017

Runway Rotation Mode



Rotation Mode ¹						
Time				Operations		
Start	Stop	Duration ² (hrs: mins)	Percentage of Nighttime ³	Primary ⁴	Secondary ⁴	Operations ⁵
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
7/27/17 - 04:45 AM	7/27/17 - 05:18 AM	0:33	6%	100%	0%	15
7/27/17 - 11:46 PM	7/28/17 - 12:00 AM	0:14	3%	100%	0%	5
7/28/17 - 11:46 PM	7/29/17 - 05:45 AM	4:47	53%	91%	0%	74
--	--	--	--	--	--	--
7/31/17 - 12:09 AM	7/31/17 - 05:16 AM	3:33	40%	0%	71%	38
7/31/17 - 11:46 PM	8/1/17 - 05:17 AM	4:26	49%	32%	44%	50
8/1/17 - 10:43 PM	8/2/17 - 05:26 AM	5:36	62%	0%	85%	91
8/3/17 - 12:24 AM	8/3/17 - 04:44 AM	3:35	40%	74%	0%	43
8/4/17 - 01:05 AM	8/4/17 - 05:40 AM	2:51	32%	0%	83%	53
8/4/17 - 10:48 PM	8/5/17 - 05:36 AM	5:31	61%	0%	92%	115
8/5/17 - 10:38 PM	8/6/17 - 05:34 AM	6:00	67%	0%	80%	95
8/6/17 - 10:16 PM	8/7/17 - 05:29 AM	5:37	62%	100%	0%	135
8/7/17 - 10:52 PM	8/8/17 - 05:38 AM	4:25	49%	62%	37%	115
8/8/17 - 10:29 PM	8/9/17 - 05:36 AM	5:33	62%	0%	100%	122
8/9/17 - 10:20 PM	8/10/17 - 05:32 AM	6:03	67%	63%	37%	124
8/11/17 - 12:08 AM	8/11/17 - 05:35 AM	3:46	42%	0%	100%	63
8/11/17 - 10:28 PM	8/12/17 - 01:00 AM	2:32	28%	0%	100%	79
8/12/17 - 10:18 PM	8/13/17 - 05:37 AM	5:59	66%	99%	1%	99
8/13/17 - 11:15 PM	8/14/17 - 05:24 AM	5:26	60%	0%	74%	69
8/14/17 - 10:17 PM	8/15/17 - 05:31 AM	6:21	71%	0%	86%	133
8/15/17 - 11:15 PM	8/16/17 - 05:20 AM	5:15	58%	84%	0%	62
8/17/17 - 12:46 AM	8/17/17 - 05:06 AM	3:08	35%	0%	58%	31
--	--	--	--	--	--	--
8/18/17 - 10:54 PM	8/19/17 - 05:30 AM	5:22	60%	88%	0%	105
8/19/17 - 10:56 PM	8/20/17 - 05:47 AM	6:08	68%	0%	77%	96
8/20/17 - 10:51 PM	8/21/17 - 05:24 AM	5:37	62%	89%	0%	81
8/21/17 - 10:24 PM	8/22/17 - 05:07 AM	5:39	63%	85%	0%	141
8/22/17 - 10:23 PM	8/23/17 - 05:41 AM	6:11	69%	91%	0%	131
8/23/17 - 11:58 PM	8/24/17 - 04:12 AM	2:53	32%	0%	76%	21
8/25/17 - 01:00 AM	8/25/17 - 02:48 AM	1:48	20%	0%	100%	9
8/26/17 - 12:33 AM	8/26/17 - 02:04 AM	1:31	17%	0%	100%	10
8/26/17 - 10:16 PM	8/27/17 - 05:43 AM	6:37	74%	0%	82%	106
8/27/17 - 11:11 PM	8/28/17 - 05:08 AM	4:55	55%	82%	0%	51
8/29/17 - 12:47 AM	8/29/17 - 05:16 AM	3:42	41%	0%	83%	30
8/30/17 - 02:04 AM	8/30/17 - 05:09 AM	3:05	34%	96%	0%	27
8/30/17 - 11:50 PM	8/31/17 - 05:30 AM	4:33	51%	0%	80%	55
8/31/17 - 11:02 PM	9/1/17 - 05:20 AM	5:00	56%	0%	83%	72
9/2/17 - 03:59 AM	9/2/17 - 05:36 AM	1:37	18%	90%	0%	30
9/2/17 - 10:10 PM	9/3/17 - 05:21 AM	6:18	70%	70%	0%	73
9/3/17 - 10:02 PM	9/4/17 - 05:26 AM	6:00	67%	99%	0%	88
9/4/17 - 11:08 PM	9/5/17 - 05:22 AM	4:52	54%	99%	0%	85
9/5/17 - 10:34 PM	9/6/17 - 05:34 AM	5:16	59%	100%	0%	133
9/6/17 - 10:15 PM	9/7/17 - 05:41 AM	6:37	74%	100%	0%	104
9/7/17 - 10:47 PM	9/8/17 - 05:43 AM	5:34	62%	74%	26%	84
9/8/17 - 10:59 PM	9/9/17 - 05:46 AM	5:20	59%	78%	22%	69
9/9/17 - 10:10 PM	9/10/17 - 05:40 AM	6:28	72%	0%	100%	68

Runway Rotation Test 3 Daily Log

Period: Night of September 10 through morning of October 15, 2017

Runway Rotation Mode



Rotation Mode ¹						
Time				Operations		
Start	Stop	Duration ² (hrs: mins)	Percentage of Nighttime ³	Primary ⁴	Secondary ⁴	Operations ⁵
--	--	--	--	--	--	--
9/11/17 - 10:35 PM	9/12/17 - 05:20 AM	5:58	66%	1%	79%	82
9/12/17 - 11:17 PM	9/13/17 - 05:15 AM	4:55	55%	0%	76%	45
9/13/17 - 10:20 PM	9/14/17 - 05:29 AM	6:13	69%	60%	0%	106
9/14/17 - 10:27 PM	9/15/17 - 05:29 AM	6:09	68%	72%	0%	109
9/15/17 - 10:38 PM	9/16/17 - 05:40 AM	5:57	66%	77%	0%	84
9/16/17 - 10:12 PM	9/17/17 - 05:39 AM	6:55	77%	74%	0%	76
--	--	--	--	--	--	--
9/18/17 - 11:26 PM	9/19/17 - 05:30 AM	3:56	44%	81%	0%	54
--	--	--	--	--	--	--
9/21/17 - 12:06 AM	9/21/17 - 05:44 AM	4:23	49%	0%	65%	51
9/21/17 - 10:26 PM	9/22/17 - 03:52 AM	4:06	46%	0%	85%	72
9/22/17 - 11:36 PM	9/23/17 - 05:39 AM	4:59	55%	90%	0%	52
9/23/17 - 10:06 PM	9/24/17 - 05:29 AM	6:30	72%	84%	0%	70
9/24/17 - 11:05 PM	9/25/17 - 05:10 AM	5:01	56%	0%	69%	72
9/25/17 - 10:21 PM	9/26/17 - 05:16 AM	6:01	67%	0%	84%	98
9/26/17 - 10:30 PM	9/27/17 - 05:12 AM	5:43	64%	0%	70%	73
--	--	--	--	--	--	--
9/28/17 - 10:24 PM	9/29/17 - 05:38 AM	6:20	70%	0%	74%	117
9/29/17 - 10:51 PM	9/30/17 - 05:32 AM	5:29	61%	73%	0%	70
9/30/17 - 10:20 PM	10/1/17 - 05:33 AM	6:13	69%	0%	80%	70
10/1/17 - 10:20 PM	10/2/17 - 05:30 AM	5:16	59%	100%	0%	74
10/2/17 - 10:20 PM	10/3/17 - 05:30 AM	4:45	53%	77%	23%	101
10/3/17 - 10:22 PM	10/4/17 - 05:34 AM	4:55	55%	0%	99%	83
10/4/17 - 10:16 PM	10/5/17 - 05:38 AM	6:03	67%	0%	100%	104
10/5/17 - 10:25 PM	10/6/17 - 05:51 AM	5:27	61%	100%	0%	105
10/6/17 - 10:30 PM	10/7/17 - 05:38 AM	5:55	66%	0%	99%	99
10/7/17 - 10:31 PM	10/8/17 - 05:49 AM	6:05	68%	0%	99%	77
10/8/17 - 10:24 PM	10/9/17 - 05:03 AM	5:42	63%	0%	83%	78
10/9/17 - 11:27 PM	10/10/17 - 05:23 AM	4:58	55%	66%	0%	47
--	--	--	--	--	--	--
10/11/17 - 11:17 PM	10/12/17 - 05:36 AM	4:48	53%	61%	0%	67
--	--	--	--	--	--	--
--	--	--	--	--	--	--
10/14/17 - 11:45 PM	10/15/17 - 05:40 AM	5:08	57%	0%	81%	91

Notes:

- 1: Rotation Mode is the period of time in which both arrivals and departures are operating in accordance with the Test.
Rotation Mode is a subset of Fly Quiet Mode.
- 2: Duration was not continuous because FAR Part 139.
- 3: FAR Part 150 considers nighttime hours 10:00 PM - 07:00 AM.
- 4: Percentage of operations on designated runways within Rotation Mode.
- 5: Operations within Rotation Mode.

Runway Use Report

Chicago O'Hare International Airport

Period: Night of July 23 through morning of October 15, 2017

Fly Quiet Mode



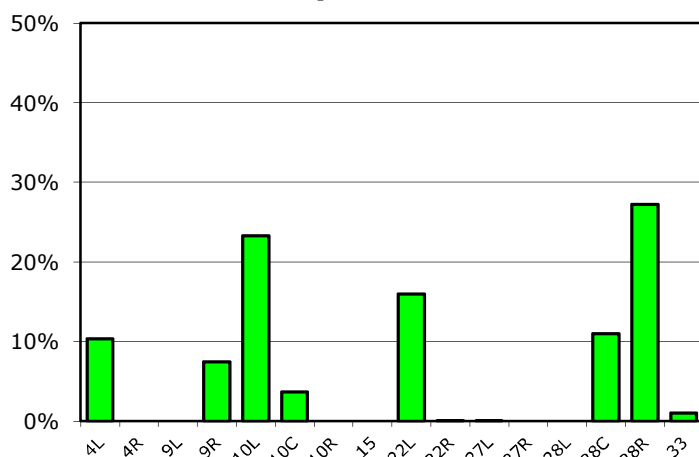
Runway Use

Source: Airport Noise Management System (ANMS)

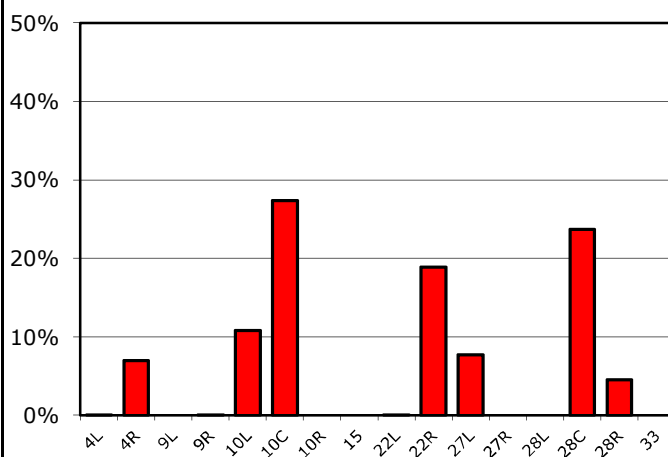
Runway Utilization

	4L	4R	9L	9R	10L	10C	10R	15	22L	22R	27L	27R	28L	28C	28R	33
Average Daily Operations																
Departures	5	0	0	3	11	2	0	0	7	0	0	0	0	5	12	0
Arrivals	0	5	0	0	8	19	0	0	0	13	5	0	0	17	3	n/a
Percentage Utilization																
Departures	10%	0%	0%	7%	23%	4%	0%	0%	16%	0%	0%	0%	0%	11%	27%	1%
Arrivals	0%	7%	0%	0%	11%	27%	0%	0%	0%	19%	8%	0%	0%	24%	5%	n/a

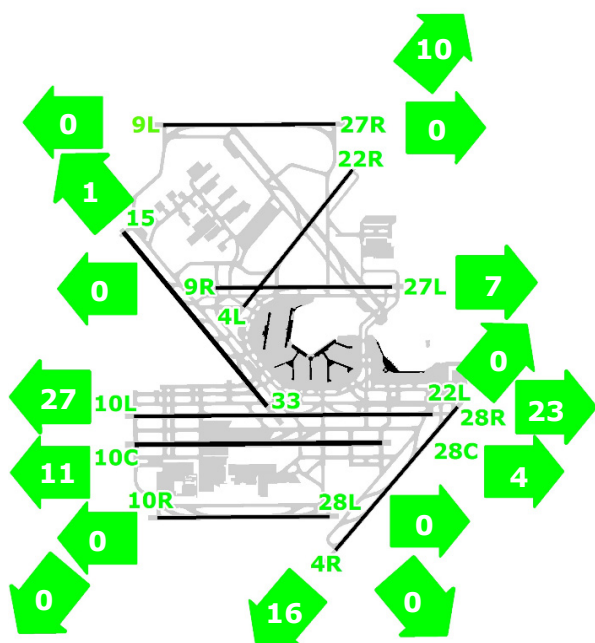
Departures



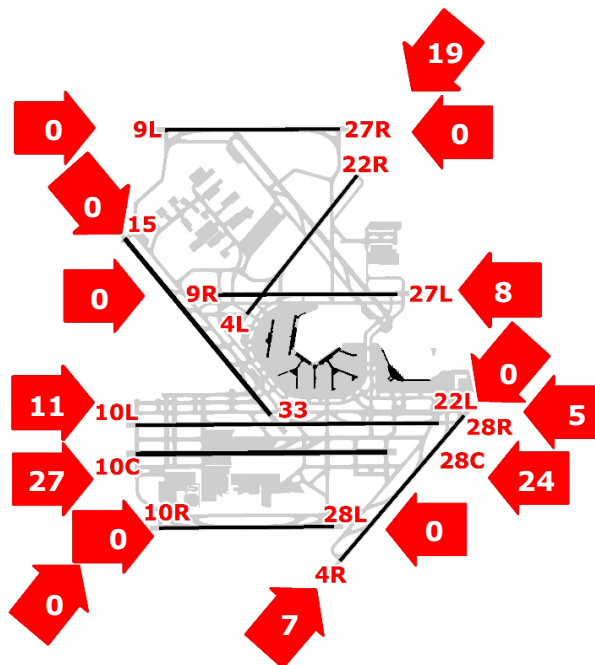
Arrivals



Percentage Departure Utilization



Percentage Arrival Utilization



Runway Use Report

Chicago O'Hare International Airport

Period: Night of July 23 through morning of October 15, 2017

Runway Rotation Mode



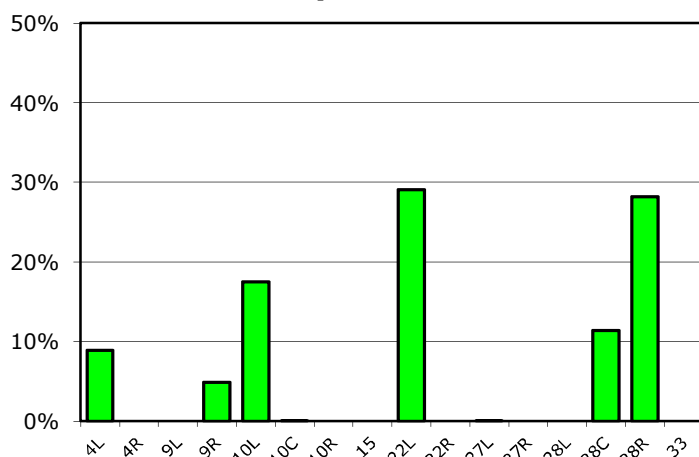
Runway Use

Source: Airport Noise Management System (ANMS)

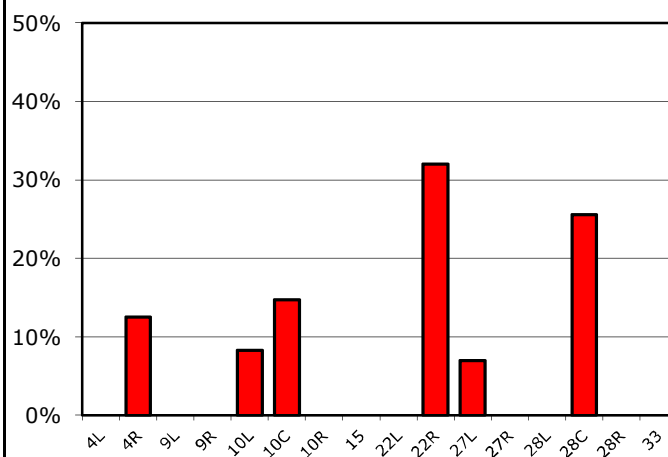
Runway Utilization

	4L	4R	9L	9R	10L	10C	10R	15	22L	22R	27L	27R	28L	28C	28R	33
Average Daily Operations																
Departures	2	0	0	1	4	0	0	0	7	0	0	0	0	3	6	0
Arrivals	0	6	0	0	4	6	0	0	0	14	3	0	0	11	0	n/a
Percentage Utilization																
Departures	9%	0%	0%	5%	17%	0%	0%	0%	29%	0%	0%	0%	0%	11%	28%	0%
Arrivals	0%	13%	0%	0%	8%	15%	0%	0%	0%	32%	7%	0%	0%	26%	0%	n/a

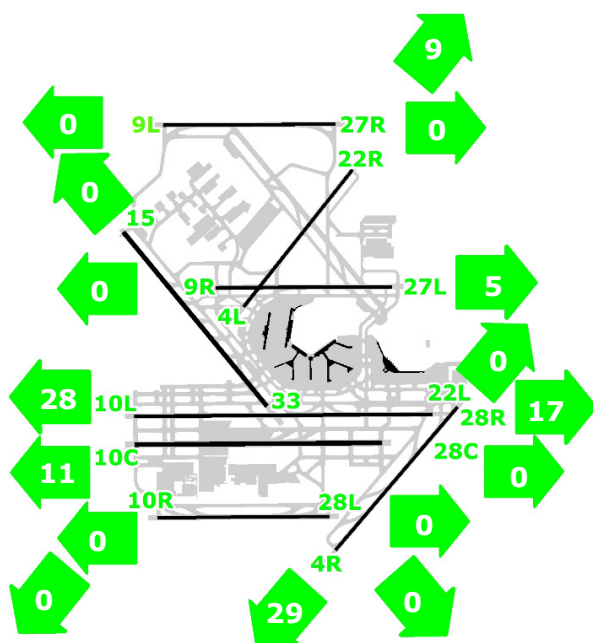
Departures



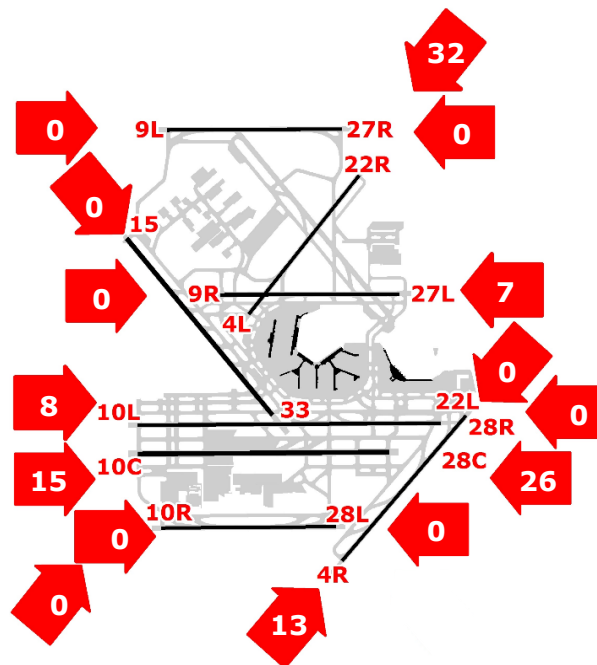
Arrivals



Percentage Departure Utilization



Percentage Arrival Utilization























Aircraft Fleet Mix Report

Chicago O'Hare International Airport

Period: Night of July 23 through morning of October 15, 2017

Fly Quiet Mode



Aircraft	Average Operations per Day (Rotation Test)	Percentage of Total (Rotation Test)	Percentage of Total
Regional Aircraft			0% 20% 40%
 CRJ200/700/900	7	6.4%	
 E135/E145	2	2.1%	
 E170	4	3.7%	
 E190	0	0.0%	
 C208	0	0.1%	
Subtotal	14	12.2%	
Narrow-Body Aircraft			
 A319/320/321	25	21.7%	
 B717	0	0.0%	
 B737	35	30.1%	
 B757	8	6.5%	
 MD80	2	2.1%	
 MD90	0	0.1%	
Subtotal	70	60.5%	
Wide-Body Aircraft			
 A300	2	2.1%	
 A330	0	0.3%	
 A340	1	0.5%	
 B747	12	10.4%	
 B767	2	1.8%	
 B777	6	5.5%	
 B787	3	2.3%	
 DC10	3	2.3%	
 MD11	1	1.0%	
Subtotal	30	26.4%	
General Aviation	1	0.6%	
Total	115	100%	




















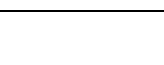
Aircraft Fleet Mix Report

Chicago O'Hare International Airport

Period: Night of July 23 through morning of October 15, 2017

Runway Rotation Mode





















































Aircraft	Average Operations per Day (Rotation Test)	Percentage of Total (Rotation Test)	Percentage of Total
Regional Aircraft			0% 20% 40%
 CRJ200/700/900	4	5.3%	
 E135/E145	1	1.3%	
 E170	2	2.6%	
 E190	0	0.0%	
 C208	0	0.0%	
Subtotal	7	9.2%	
Narrow-Body Aircraft			
 A319/320/321	17	22.4%	
 B717	0	0.0%	
 B737	24	31.6%	
 B757	5	6.6%	
 MD80	1	1.3%	
 MD90	0	0.0%	
Subtotal	47	61.8%	
Wide-Body Aircraft			
 A300	2	2.6%	
 A330	0	0.0%	
 A340	1	1.3%	
 B747	8	10.5%	
 B767	2	2.6%	
 B777	5	6.6%	
 B787	1	1.3%	
 DC10	2	2.6%	
 MD11	1	1.3%	
Subtotal	22	28.9%	
General Aviation	0	0.0%	
Total	76	100%	















Airline Summary

Chicago O'Hare International Airport

Period: Night of July 23 through morning of October 15, 2017

Fly Quiet Mode

Airline	Arrivals	Departures	Total
United Airlines 	1,722	623	2,345
American Airlines 	1,301	504	1,805
Sky West Aviation 	217	384	601
Spirit Airlines 	363	141	504
FedEx 	240	201	441
AeroMexico 	187	163	350
UPS 	167	143	310
Asiana Airlines 	117	115	232
Delta Air Lines 	62	126	188
Frontier Airlines 	168	13	181
General Aviation	152	20	172
Republic Airlines 	42	119	161
Korean Air Lines 	76	70	146
American Eagle/Envoy 	41	100	141
Cargolux Airlines 	73	64	137
Alaska Airlines 	100	23	123
Virgin America 	102	5	107
Qatar Airways 	47	51	98
United Express/ASA 	76	20	96
AirBridge Cargo Airlines 	39	56	95
Cathay Pacific Airways 	43	52	95
Nippon Cargo Airlines 	19	69	88
EVA Air 	9	75	84
Atlas Air 	21	63	84
Copa Airlines 	79	--	79
Kalitta Air 	28	46	74
Lufthansa 	1	73	74
JetBlue Airways 	55	18	73
Volaris 	29	32	61
United Express/Trans States 	21	38	59
Emirates 	19	33	52
United Express/Gojet 	20	26	46
Scandinavian Airlines 	--	43	43
Qantas Airways 	19	23	42
Lufthansa Cargo 	18	23	41
LOT 	1	30	31
Aerologic 	--	26	26
Finnair 	--	24	24
Turkish Airlines 	10	14	24
China Cargo Airlines 	8	14	22
Air Canada 	18	3	21
Yangtze River Express Airlines 	11	10	21
American Eagle/PSA Airlines 	2	14	16
Singapore Airlines Cargo 	5	11	16
AeroUnion 	9	7	16
American Eagle/Air Wisconsin 	7	8	15
Delta Connection/Endeavor Air 	11	4	15
Air France 	2	11	13
National Air Cargo 	6	7	13
Air Canada Express/Sky Regional 	10	--	10
Polar Air Cargo 	7	2	9

Airline	Arrivals	Departures	Total
China Southern Airlines 	7	--	7
Air Choice One 	2	4	6
China Airlines 	2	3	5
British Airways 	--	3	3
Icelandair 	1	2	3
Western Global Airlines 	--	3	3
Aer Lingus 	--	2	2
Iberia Airlines 	--	2	2
Sky Lease Cargo 	--	2	2
Royal Jordanian 	--	2	2
Miami Air International 	1	--	1
Hainan Airlines 	--	1	1
Kalitta Charters 	--	1	1
Aeronaves TSM 	--	1	1
Total 64	5,793	3,766	9,559

Carrier Category	Percent of Total
United & American	47%
Other Domestic	21%
Other International	16%
Dedicated Cargo	14%
General Aviation	2%
Total	100%

Airline Summary














Chicago O'Hare International Airport

Period: Night of July 23 through morning of October 15, 2017

Runway Rotation Mode



Airline	Arrivals	Departures	Total
United Airlines	1,100	341	1,441
American Airlines	730	254	984
Sky West Aviation	100	210	310
FedEx	170	118	288
Spirit Airlines	207	77	284
AeroMexico	121	88	209
UPS	122	76	198
Frontier Airlines	105	11	116
Asiana Airlines	40	66	106
Delta Air Lines	100	5	105
Interjet	57	36	93
Korean Air Lines	51	41	92
Cargolux Airlines	43	42	85
Republic Airlines	17	65	82
Alaska Airlines	63	12	75
American Eagle/Envoy	20	43	63
Qatar Airways	29	31	60
Copa Airlines	59	--	59
EVA Air	4	54	58
AirBridge Cargo Airlines	24	33	57
Virgin America	52	2	54
Cathay Pacific Airways	21	28	49
Kalitta Air	16	33	49
Atlas Air	12	35	47
Nippon Cargo Airlines	6	39	45
Lufthansa	--	45	45
Emirates	14	26	40
JetBlue Airways	30	9	39
United Express/ASA	25	9	34
Volaris	22	11	33
United Express/Trans States	8	24	32
Lufthansa Cargo	9	12	21
Qantas Airways	10	9	19
United Express/Gojet	6	13	19
Scandinavian Airlines	--	18	18
LOT	--	16	16
General Aviation	21	14	35
Air Canada	12	2	14
China Cargo Airlines	6	6	12
Finnair	--	12	12
Singapore Airlines Cargo	3	8	11
Aerologic	--	11	11
Turkish Airlines	5	6	11
Yangtze River Express Airlines	6	5	11
Delta Connection/Endeavor Air	7	1	8
Air France	--	7	7
AeroUnion	2	4	6
National Air Cargo	3	2	5
American Eagle/PSA Airlines	--	5	5
Air Choice One	1	3	4

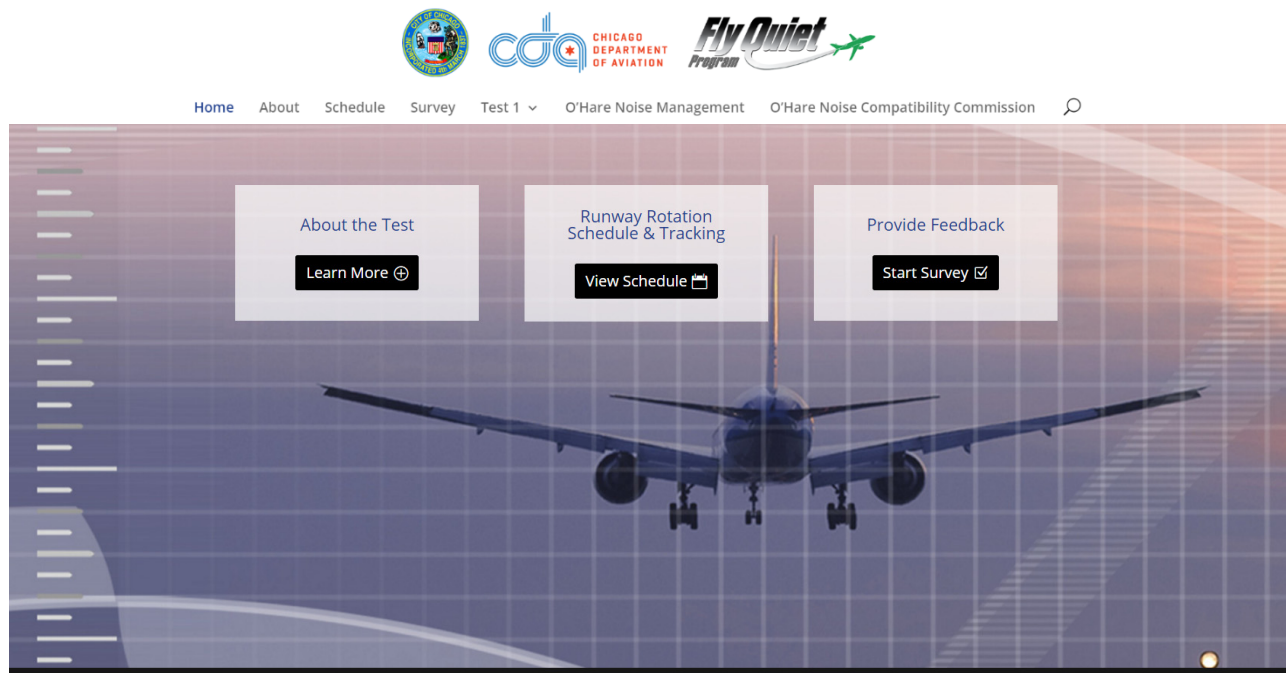
Airline	Arrivals	Departures	Total
Air Canada Express/Sky Regional 	4	--	4
American Eagle/Air Wisconsin 	1	3	4
Polar Air Cargo 	2	1	3
China Southern Airlines 	2	--	2
Western Global Airlines 	--	2	2
Iberia Airlines 	--	2	2
China Airlines 	1	1	2
Aeronaes TSM 	--	1	1
Sky Lease Cargo 	--	1	1
Hainan Airlines 	--	1	1
Icelandair 	--	1	1
Kalitta Air Charters 	--	1	1
Aer Lingus 	--	1	1
Total 63	3,469	2,033	5,502

Carrier Category	Percent of Total
United & American	46%
Other Domestic	14%
Other International	19%
Dedicated Cargo	21%
General Aviation	0%
Total	100%

SURVEY RESULTS: CITIZEN FEEDBACK

In order to capture citizen feedback regarding the Test, the CDA administered a public website that included the following:

- **Background Information** – Information on the Fly Quiet Program and the Test
- **Test Schedules** – Downloadable Test schedule in multiple formats
- **Weekly updates** – Adherence tracking of the Test
- **Survey** – Public survey, as approved by the ONCC



www.flychicago.org/flyquiettest

There were 2,938 survey responses submitted, which originated from 2,204 unique IP addresses. See **Table 1** on the following page for the number of survey responses by community. For the purposes of this report, each unique IP address is considered to be one respondent. In some cases, repeat respondents provided inconsistent responses. Therefore, in such cases, the CDA made assumptions to summarize all survey responses.

Survey results show that 28% of the total survey responses believe that the Test should continue. Based on unique IP addresses received, 25% believe that the Test should continue.

The detailed results of the survey are included in this section of the document. The following pages include the public survey questions, as well as summarized responses to each survey question.

FLY QUIET PROGRAM

RUNWAY ROTATION TEST 3

SURVEY QUESTIONS



Welcome to the Fly Quiet Runway Rotation Test 3 Survey. The survey consists of 21 questions and should take less than five minutes to complete. All questions must be answered in order to complete the survey. Survey results will be compiled after the test has ended.

1. What is your address?
 - a. User input in address format (mandatory)
2. Has your home been sound-insulated?
 - a. Yes
 - b. No
3. What is your age?
 - a. Under 20
 - b. 20 – 29
 - c. 30 – 39
 - d. 40 – 49
 - e. 50 – 59
 - f. 60 – 69
 - g. 70 and over
4. In what type of building do you live?
 - a. Single-family
 - b. Multi-family
 - c. Mixed Use (residential and some other use)
5. What is the approximate age of the building in which you live?
 - a. Less than 10 years
 - b. 10 – 20 years
 - c. 20 – 30 years
 - d. 30 – 40 years
 - e. 40 – 50 years
 - f. Greater than 50 years
6. How long have you lived at this address?
 - a. Less than 1 year
 - b. 1-5 years
 - c. 5-10 years
 - d. 10-20 years
 - e. 20 or more years
7. How many people live in your home?
 - a. 1
 - b. 2
 - c. 3-5
 - d. 6-8
 - e. More than 8
8. Is this your primary residence?
 - a. Yes
 - b. No
9. Other than aircraft noise, would you say that your neighborhood is generally quiet or noisy at night?
 - a. Quiet
 - b. Noisy
10. What time do you typically go to sleep?
 - a. User input in time format
11. What time do you typically wake up in the morning?
 - a. User input in time format

12. What time of day do you typically work?
 - a. Daytime
 - b. Nighttime
 - c. Both
 - d. Do not work
13. Do aircraft from O'Hare fly directly over your residence or further away?
 - a. Directly Overhead
 - b. Further Away
14. On a scale of 1-5 (5 being the highest), how helpful was the information on this website regarding the runway rotation test?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5
15. Would you like a nighttime Fly Quiet Runway Rotation to be in place from Spring 2018 until Fall 2020?
 - a. Yes
 - b. No
16. What time during the overnight hours (10PM – 7AM) is aircraft noise most noticeable to you?
 - a. 10 PM-12 AM
 - b. 12 AM-2 AM
 - c. 2 AM-4 AM
 - d. 4 AM-6 AM
 - e. 6 AM-7 AM
17. If you notice aircraft noise during the overnight hours (10 PM- 7 AM) during this Test 3, do you review the Test 3 website to see which preferred rotation configuration is proposed for the week?
 - a. Yes
 - b. No
18. How did you hear about Test 3?
 - a. Village/City website/newsletter
 - b. ONCC website
 - c. CDA website
 - d. Newspaper
 - e. Radio
 - f. Facebook
 - g. Twitter
 - h. Other
19. Do you file a noise complaint for each time you are bothered by aircraft noise during the overnight (10 PM – 7 AM) hours?
 - a. Yes
 - b. No
20. How do you file aircraft noise complaints?
 - a. City of Chicago website
 - b. City of Chicago 311
 - c. 1-800-435-9569
 - d. Chicagonoise.complaint.com
21. Do you want the Fly Quiet Runway Rotation Plan that is in place for Test 3 to occur from the Spring of 2018 through November 2020?
 - a. Yes
 - b. No

Thank You for taking the survey. The results will be compiled and made available after the six-month test is complete. For more aircraft noise information, please use the below links:

[Noise Complaints](#)

[Sound Insulation](#)

[Flight Tracker](#)

[Introduction to Noise](#)

[ONCC Meeting Dates](#)

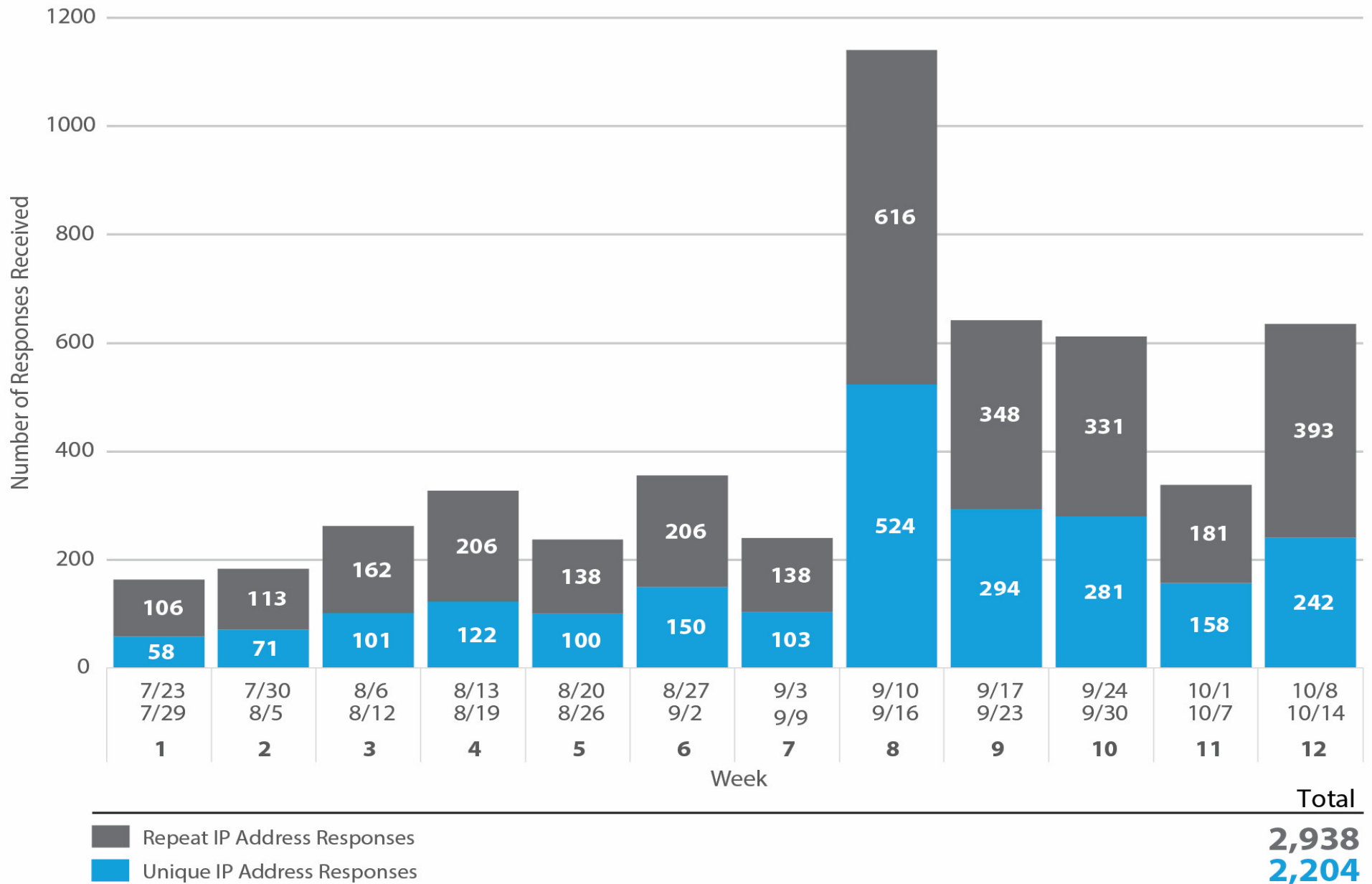
TABLE 1
SURVEY RESPONSES BY COMMUNITY

Community	Number of Survey Responses	Number of Unique IP Addresses
Elmhurst	2,165	1,719
Bensenville	239	69
Glenview	141	103
Chicago	97	87
Ward 2	2	1
Ward 33	4	4
Ward 35	1	1
Ward 38	11	8
Ward 39	4	4
Ward 41	12	11
Ward 45	60	55
Ward 47	2	2
Ward 48	1	1
Park Ridge	83	68
Wood Dale	42	26
Des Plaines	20	17
Itasca	18	16
Villa Park	17	13
Elk Grove Village	16	5
Schaumburg	10	10
Harwood Heights	7	7
Lombard	7	4
Roselle	5	2
Geneva	5	2
Winfield	4	3
Bloomingtondale	4	3
Norridge	4	2
Medinah	4	3
Bartlett	3	1
Schiller Park	3	3
Bloomingtondale	3	3
Arlington Heights	3	1
South Barrington	3	3
Addison	3	3
Niles	3	2
Schaumburg	2	2
Hanover Park	2	2
Bartlett	2	2
River Grove	2	2
Glencoe	1	1
Skokie	1	1

Community	Number of Survey Responses	Number of Unique IP Addresses
Winfield	1	1
Northlake	1	1
St. Charles	1	1
Oak Brook	1	1
Wheaton	1	1
Elgin	1	1
Northfield	1	1
Plainfield	1	1
Downers Grove	1	1
Golf	1	1
Valparaiso	1	1
Elmwood Park	1	1
Villa Park	1	1
Rosemont	1	1
Berkeley	1	1
Highland Park	1	1
Golf	1	1
Mt. Prospect	1	1
Naperville	1	1
TOTAL	2,938	2,204

*Note: There were multiple survey responses from the same IP address, representing more than one community.

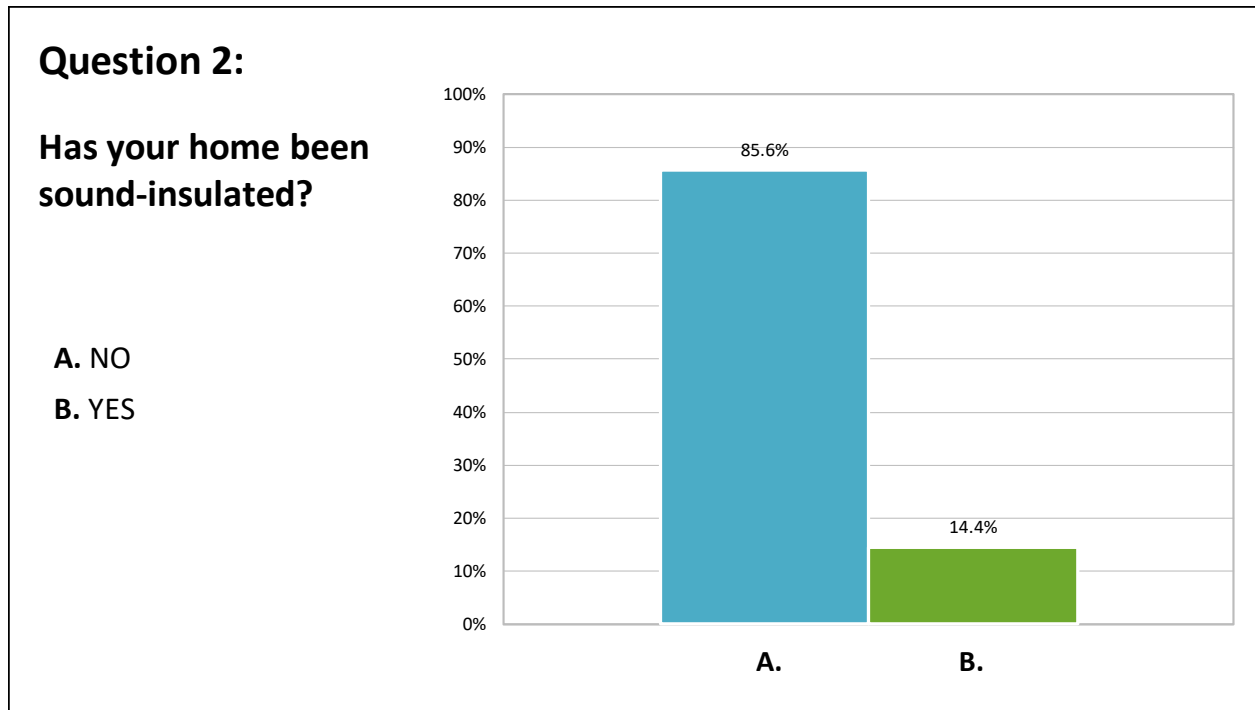
The graph below shows the number of survey responses by week, broken-down by unique IP Addresses and repeat IP addresses.



SURVEY QUESTION 1
What is your address?

Based on total responses, 2,456 unique community addresses were entered.

SURVEY QUESTION 2
Has your home been sound insulated?



Based on unique IP address responses.

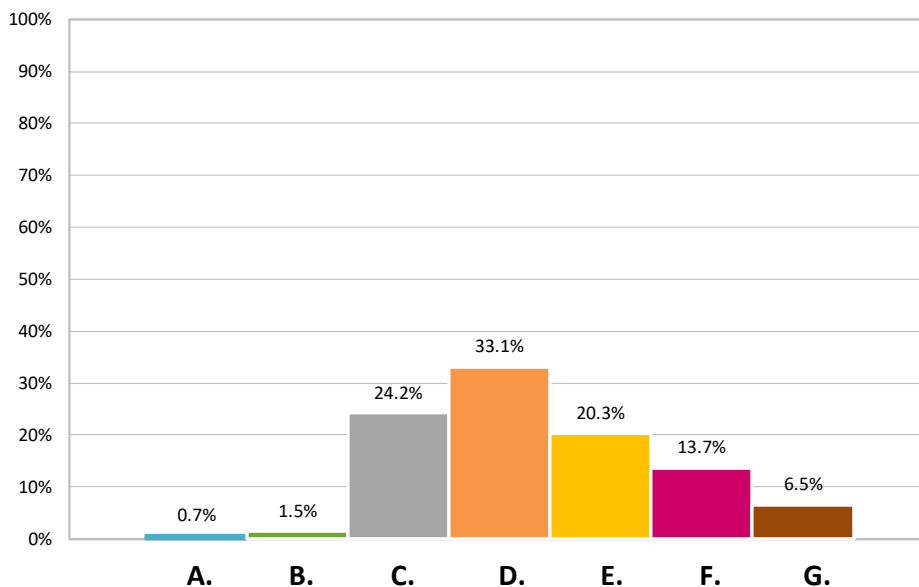
SURVEY QUESTION 3

What is your age?

Question 3:

What is your age?

- A. Under 20
- B. 20-29
- C. 30-39
- D. 40-49
- E. 50-59
- F. 60-69
- G. 70 and over



Based on unique IP address responses.

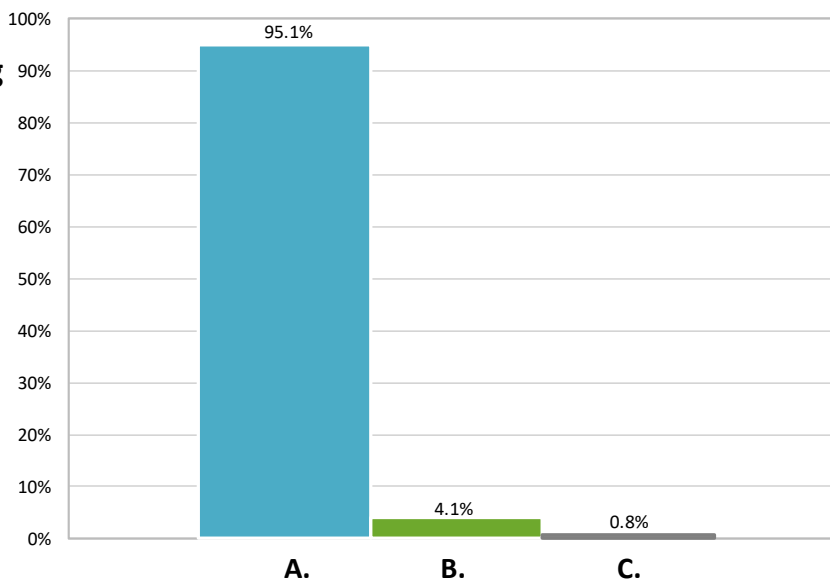
SURVEY QUESTION 4

In what type of building do you live?

Question 4:

In what type of building do you live?

- A. Single-Family
- B. Multi-Family
- C. Mixed-Use (residential and commercial)



Based on unique IP address responses.

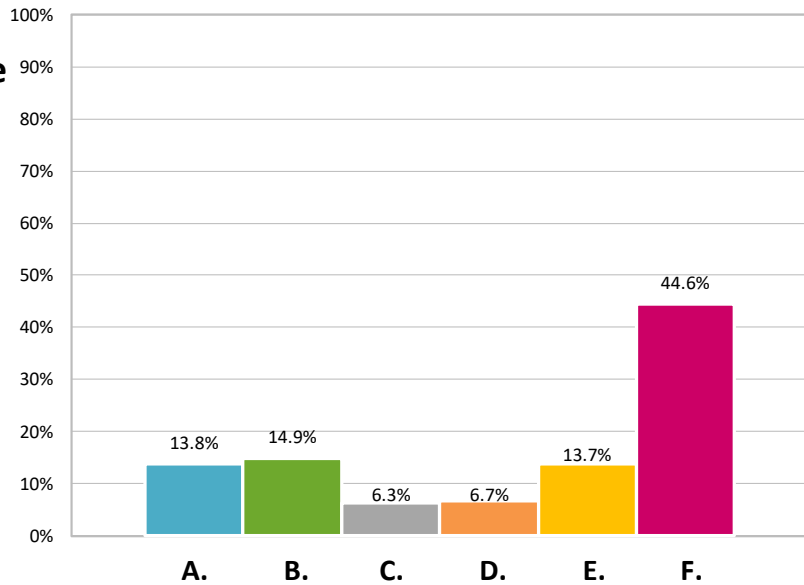
SURVEY QUESTION 5

What is the approximate age of the building in which you live?

Question 5:

What is the approximate age of the building in which you live?

- A. Less than 10 years
- B. 10-20 years
- C. 20-30 years
- D. 30-40 years
- E. 40-50 years
- F. Greater than 50 years



Based on unique IP address responses.

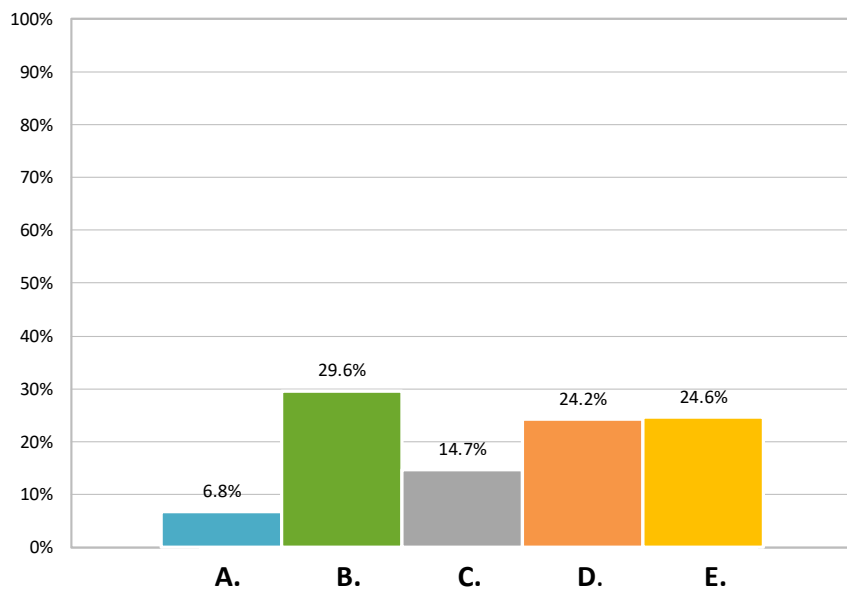
SURVEY QUESTION 6

How long have you lived at this address?

Question 6:

How long have you lived at this address?

- A. Less than 1 year
- B. 1-5 years
- C. 5-10 years
- D. 10-20 years
- E. 20 or more years



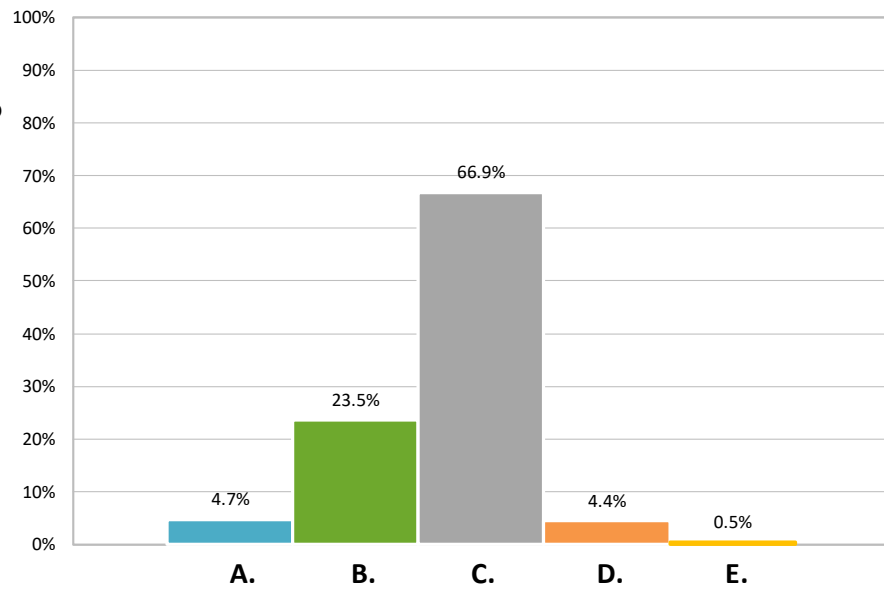
Based on unique IP address responses.

SURVEY QUESTION 7
How many people live in your home?

Question 7:

How many people live in your home?

- A. 1**
- B. 2**
- C. 3-5**
- D. 6-8**
- E. More than 8**



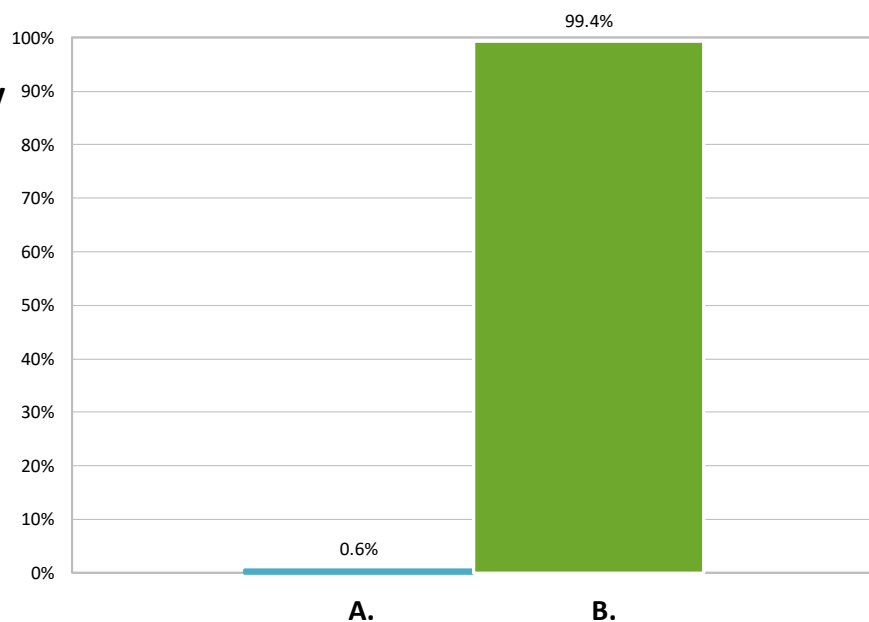
Based on unique IP address responses.

SURVEY QUESTION 8
Is this your primary residence?

Question 8:

Is this your primary residence?

- A. NO**
- B. YES**



Based on unique IP address responses.

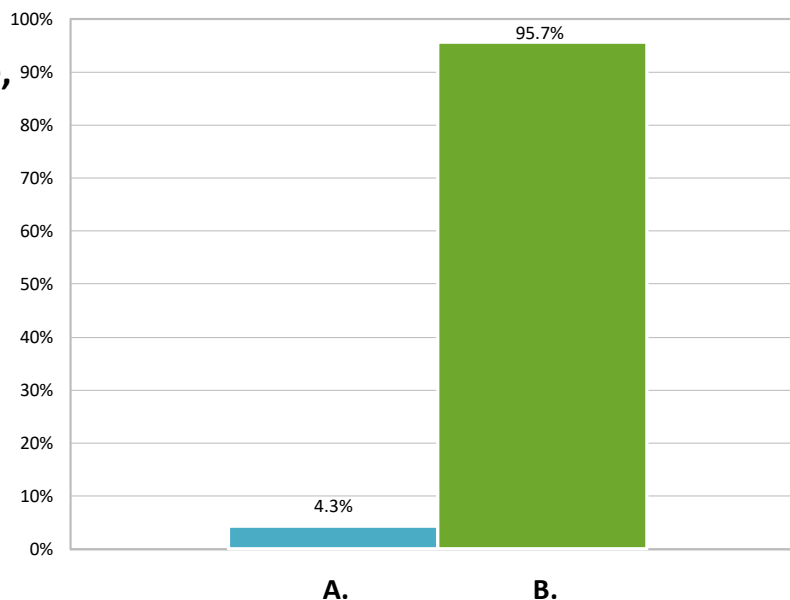
SURVEY QUESTION 9

Other than aircraft noise, would you say that your neighborhood is generally quiet or noisy at night?

Question 9:

Other than aircraft noise, would you say that your neighborhood is generally quiet or noisy at night?

- A. Noisy
- B. Quiet



Based on unique IP address responses.

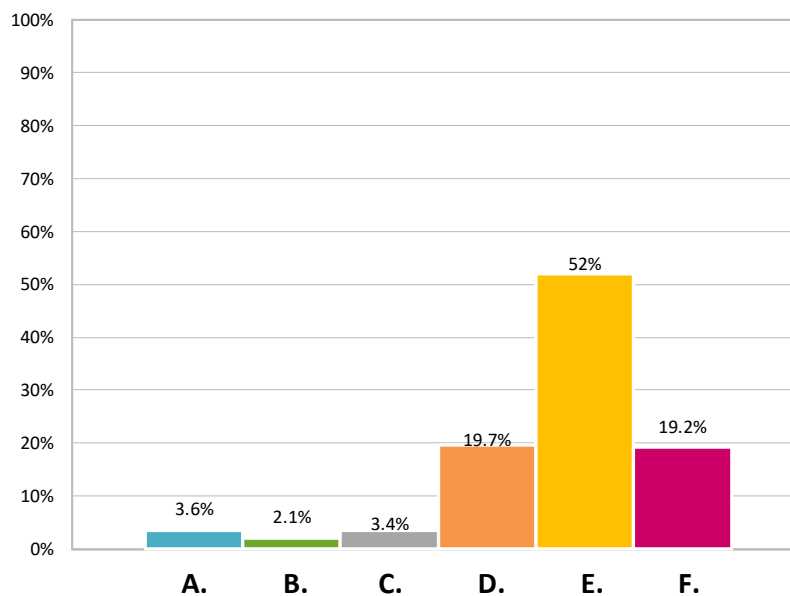
SURVEY QUESTION 10

What time do you typically go to sleep?

Question 10:

What time do you typically go to sleep?

- A. 12 am - 3:59 am
- B. 4 am - 7:59 pm
- C. 8 pm - 8:59 pm
- D. 9 pm - 9:59 pm
- E. 10 pm - 10:59 pm
- F. 11 pm - 11:59 am



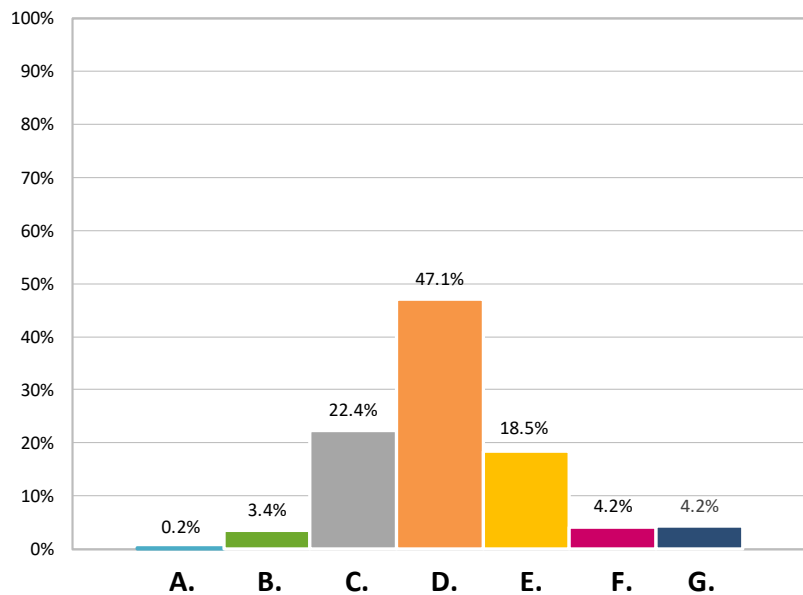
Based on unique IP address responses.

SURVEY QUESTION 11
What time do you typically wake up in the morning?

Question 11:

What time do you typically wake up in the morning?

- A.** 12 am - 3:59 am
- B.** 4 am - 4:59 am
- C.** 5 am - 5:59 am
- D.** 6 am - 6:59 am
- E.** 7 am - 7:59 am
- F.** 8 am - 8:59 am
- G.** 9 am - 11:59 pm



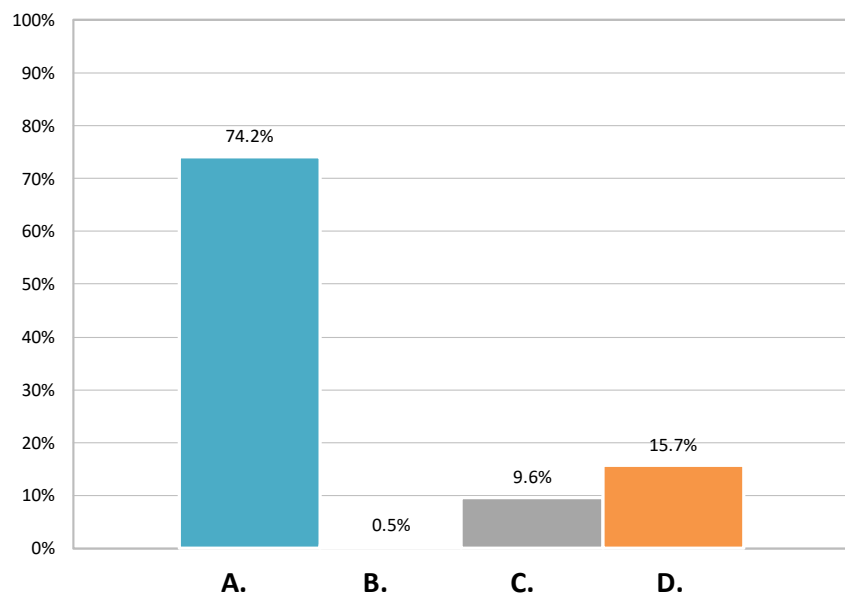
Based on unique IP address responses.

SURVEY QUESTION 12
What time of day do you typically work?

Question 12:

What time of day do you typically work?

- A.** Daytime
- B.** Nighttime
- C.** Both, Daytime and Nighttime
- D.** Do not work



Based on unique IP address responses.

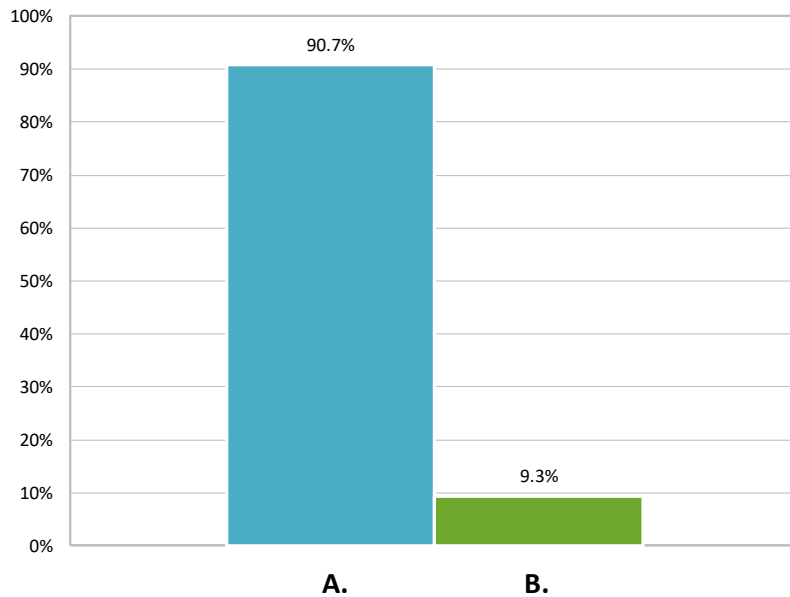
SURVEY QUESTION 13

Do aircraft from O'Hare fly directly over your residence or further away?

Question 13:

Do aircraft from O'Hare fly directly over your residence or further away?

- A. Directly Overheard
- B. Further Away



Based on unique IP address responses.

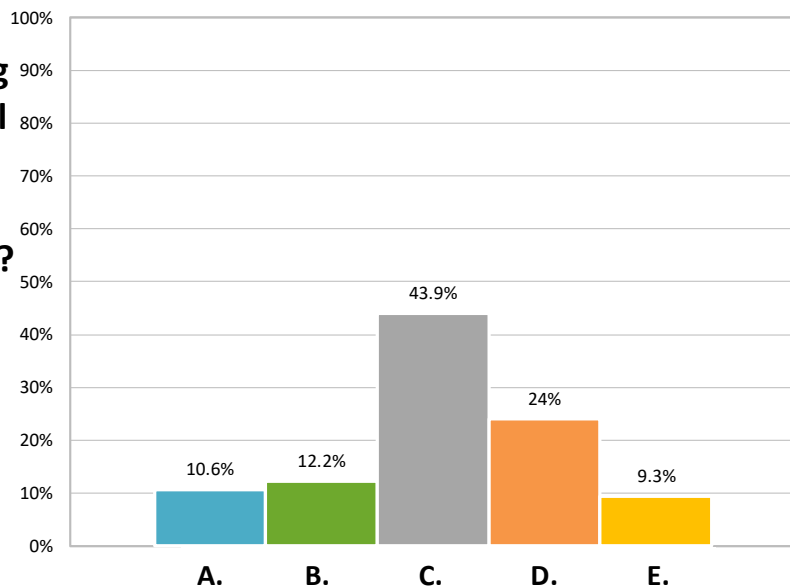
SURVEY QUESTION 14

On a scale of 1-5 (5 being the highest), how helpful was the information on this website regarding the runway rotation test?

Question 14:

On a scale of 1-5 (5 being the highest), how helpful was the information on this website regarding the runway rotation test?

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5



Based on unique IP address responses.

SURVEY QUESTION 15

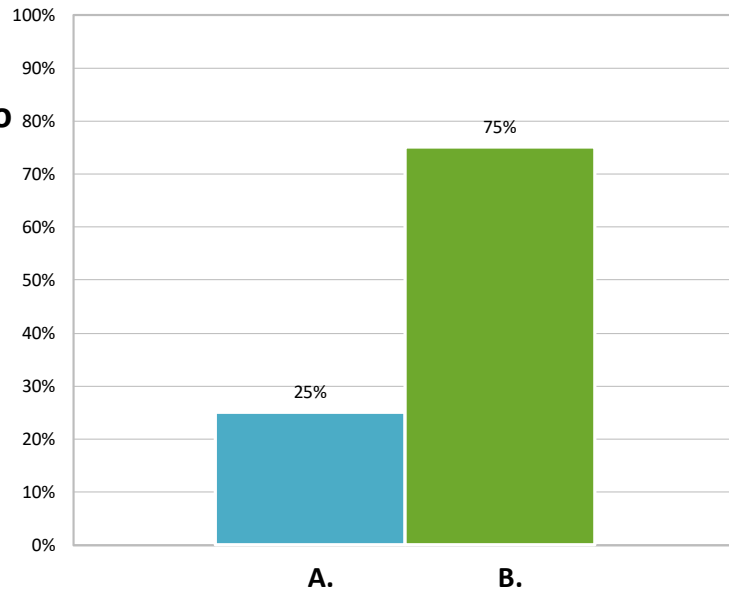
Would you like a nighttime Fly Quiet Runway Rotation to be in place from Spring 2018 until Fall 2020?

Question 15:

Would you like a nighttime Fly Quiet Runway Rotation to be in place from Spring 2018 until Fall 2020?*

A. Yes

B. No



* Note: Results based on unique IP address responses

SURVEY QUESTION 15

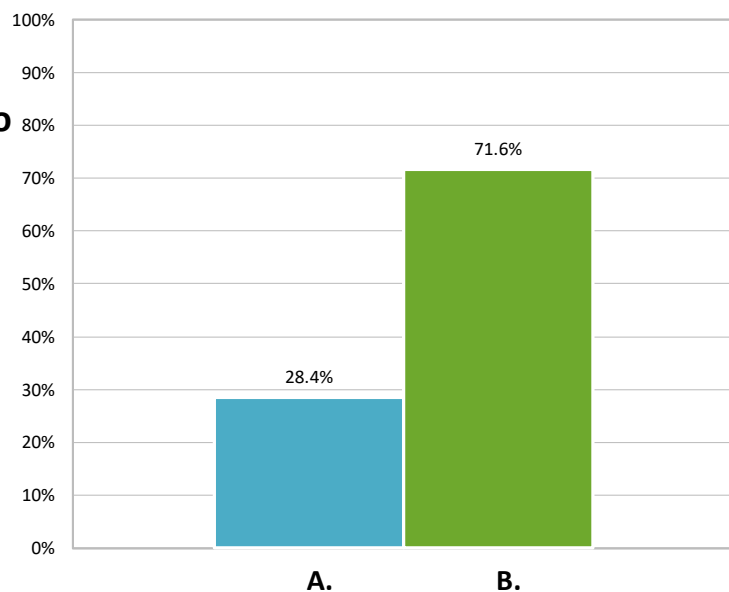
Would you like a nighttime Fly Quiet Runway Rotation to be in place from Spring 2018 until Fall 2020?

Question 15:

Would you like a nighttime Fly Quiet Runway Rotation to be in place from Spring 2018 until Fall 2020?**

A. Yes

B. No



** Note: Results based on all responses received

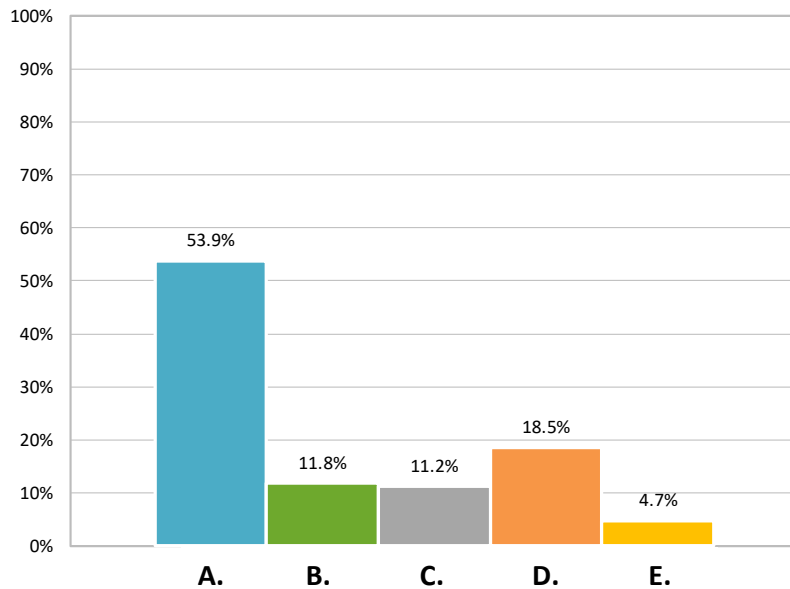
SURVEY QUESTION 16

What time during the overnight hours (10PM - 7AM) is aircraft noise most noticeable to you?

Question 16:

What time during the overnight hours (10PM - 7AM) is aircraft noise most noticeable to you?

- A. 10 PM - 12 AM
- B. 12 AM - 2 AM
- C. 2 AM - 4 AM
- D. 4 AM - 6 AM
- E. 6 AM - 7 AM



Based on unique IP address responses.

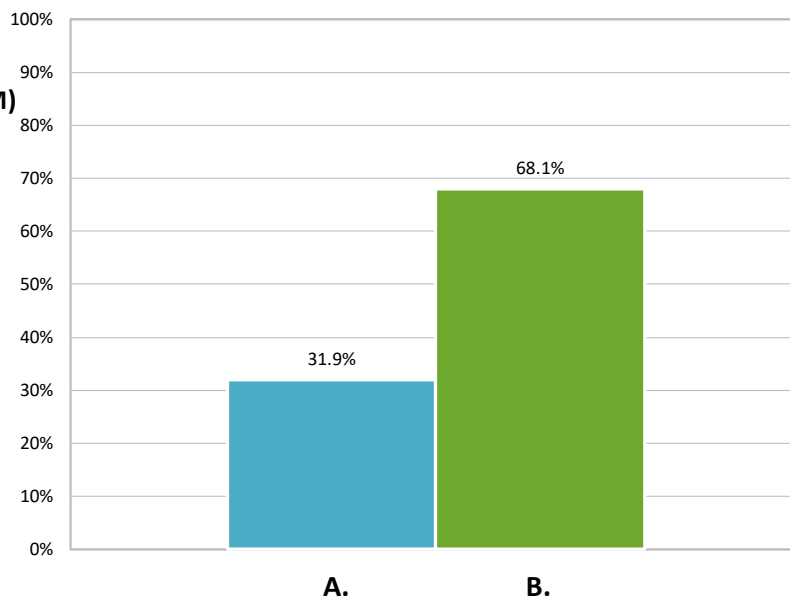
SURVEY QUESTION 17

If you notice aircraft noise during the overnight hours (10 PM- 7 AM) during this Test 3, do you review the Test 3 website to see which preferred rotation configuration is proposed for the week?

Question 17:

If you notice aircraft noise during the overnight hours (10 PM - 7 AM) during this Test 3, do you review the Test 3 website to see which preferred rotation configuration is proposed for the week?

- A. Yes
- B. No



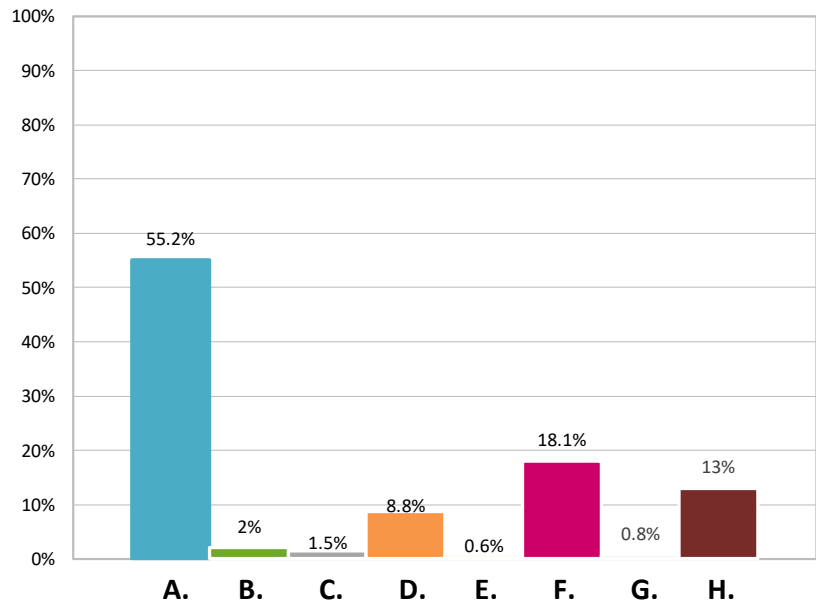
Based on unique IP address responses.

SURVEY QUESTION 18
How did you hear about Test 3?

Question 18:

How did you hear about Test 3?

- A. Village/City website/
newsletter
- B. ONCC website
- C. CDA website
- D. Newspaper
- E. Radio
- F. Facebook
- G. Twitter
- H. Other



Based on unique IP address responses.

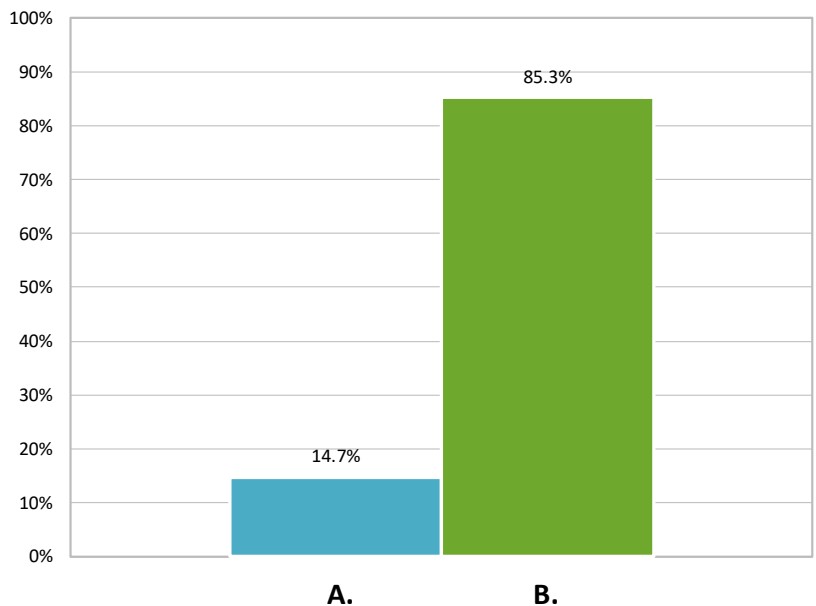
SURVEY QUESTION 19

Do you file a noise complaint for each time you are bothered by aircraft noise during the overnight (10 PM – 7 AM) hours?

Question 19:

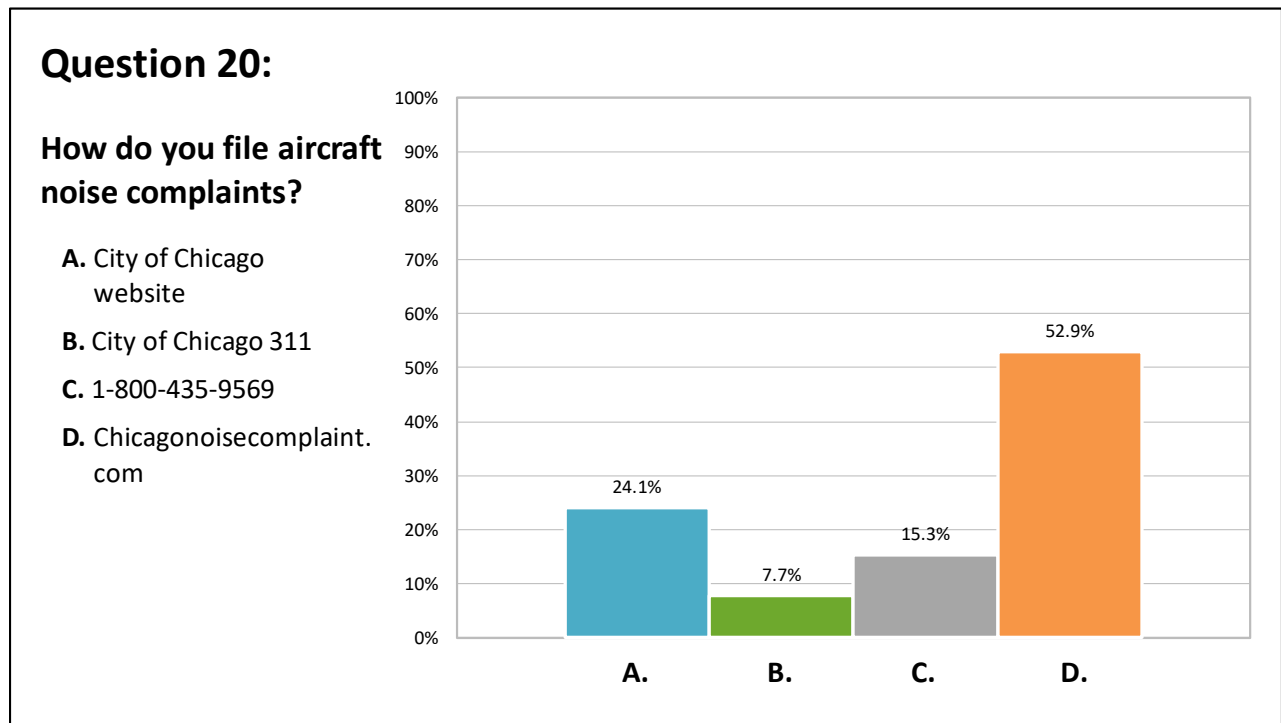
Do you file a noise complaint for each time you are bothered by aircraft noise during the overnight (10PM - 7 AM) hours?

- A. NO
- B. YES



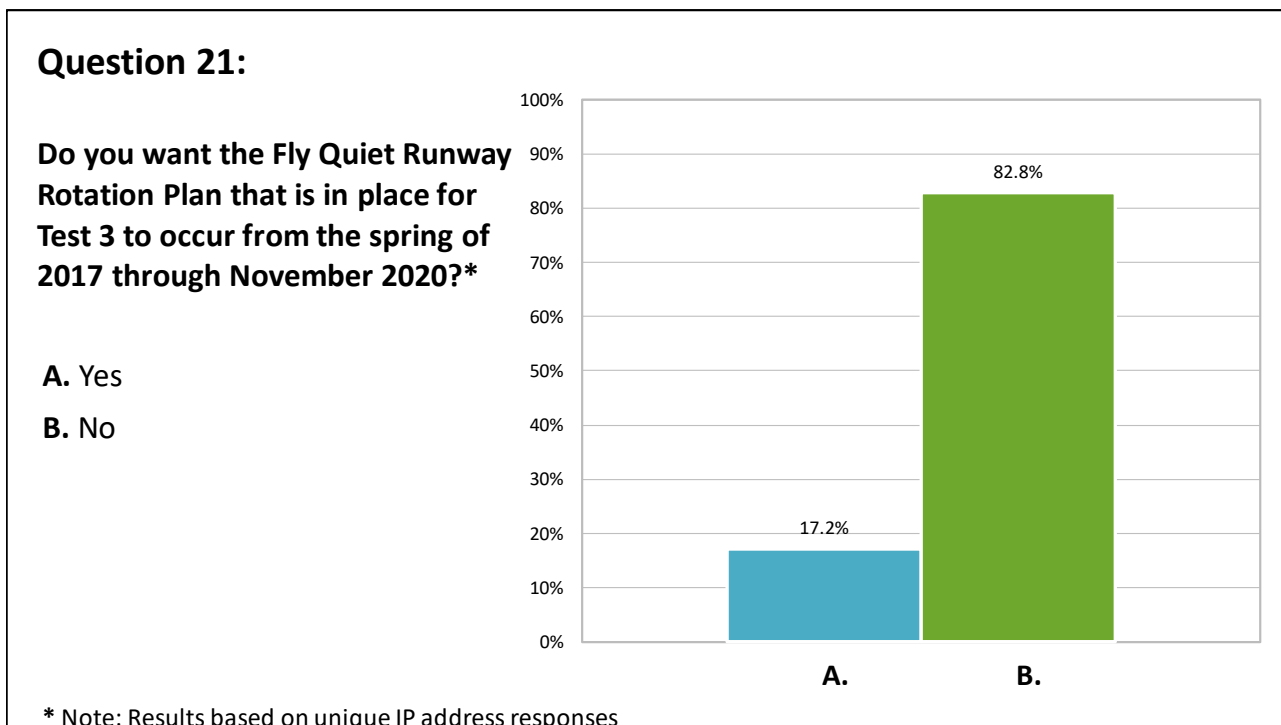
Based on unique IP address responses.

SURVEY QUESTION 20
How do you file aircraft noise complaints?



Based on unique IP address responses.

SURVEY QUESTION 21
Do you want the Fly Quiet Runway Rotation Plan that is in place for Test 3 to occur from the Spring of 2018 through November 2020?



SURVEY QUESTION 21

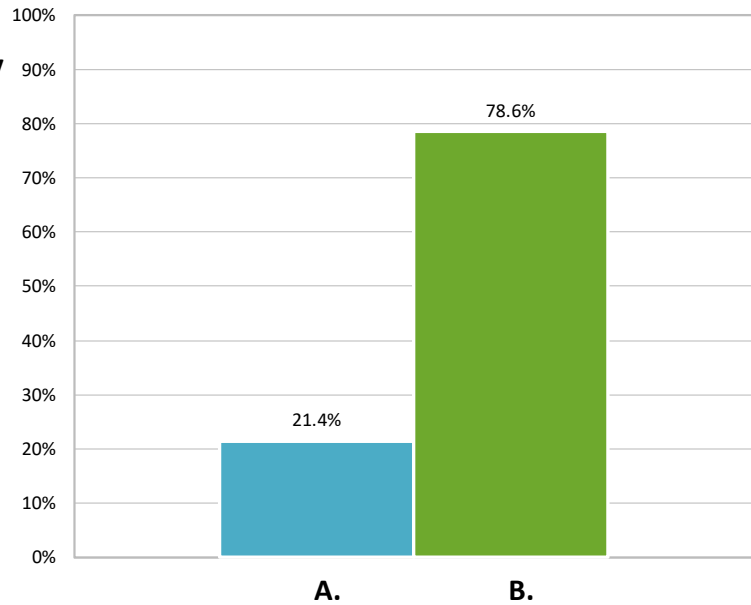
Do you want the Fly Quiet Runway Rotation Plan that is in place for Test 3 to occur from the Spring of 2018 through November 2020?

Question 21:

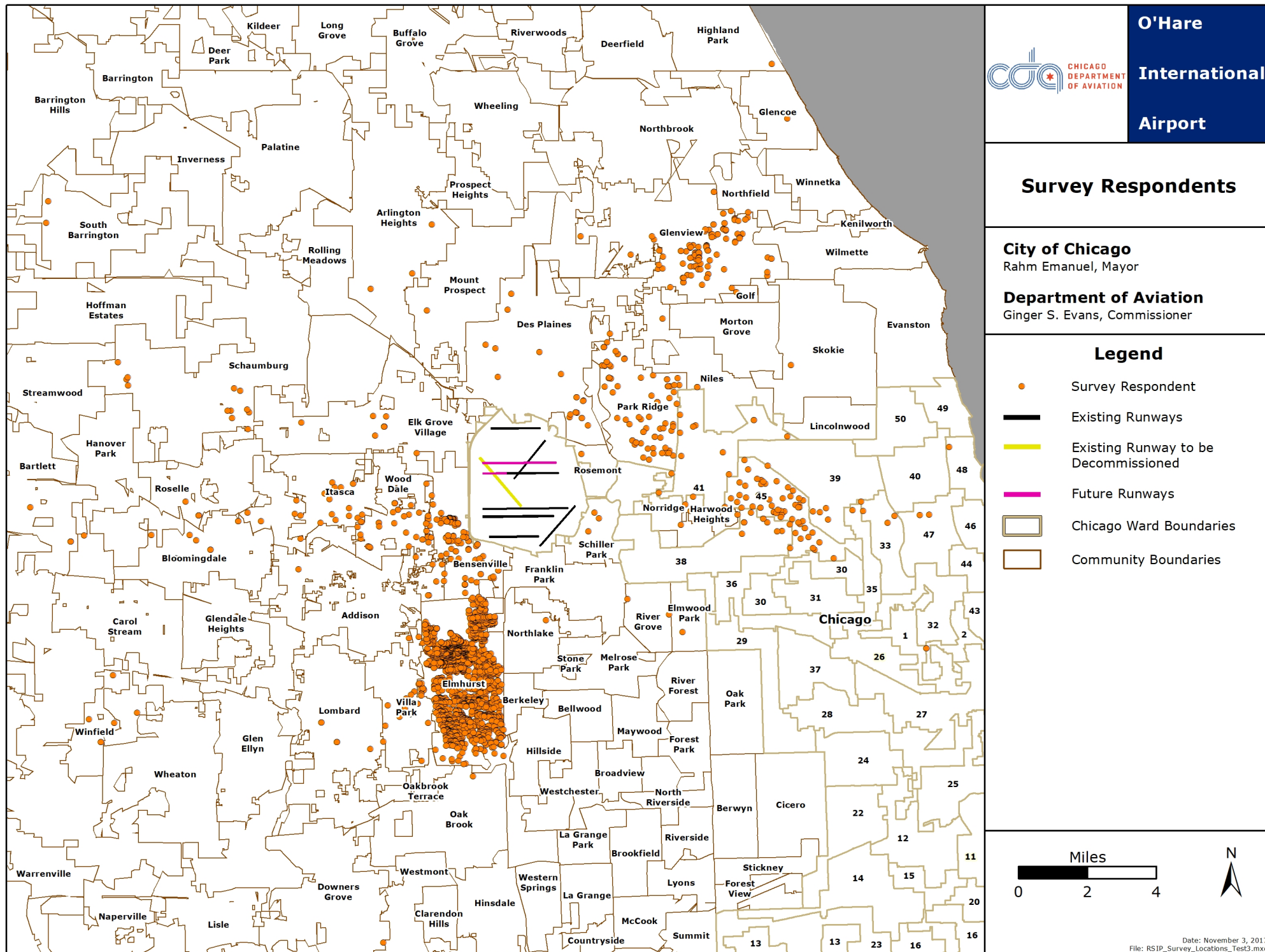
Do you want the Fly Quiet Runway Rotation Plan that is in place for Test 3 to occur from the spring of 2017 through November 2020?**

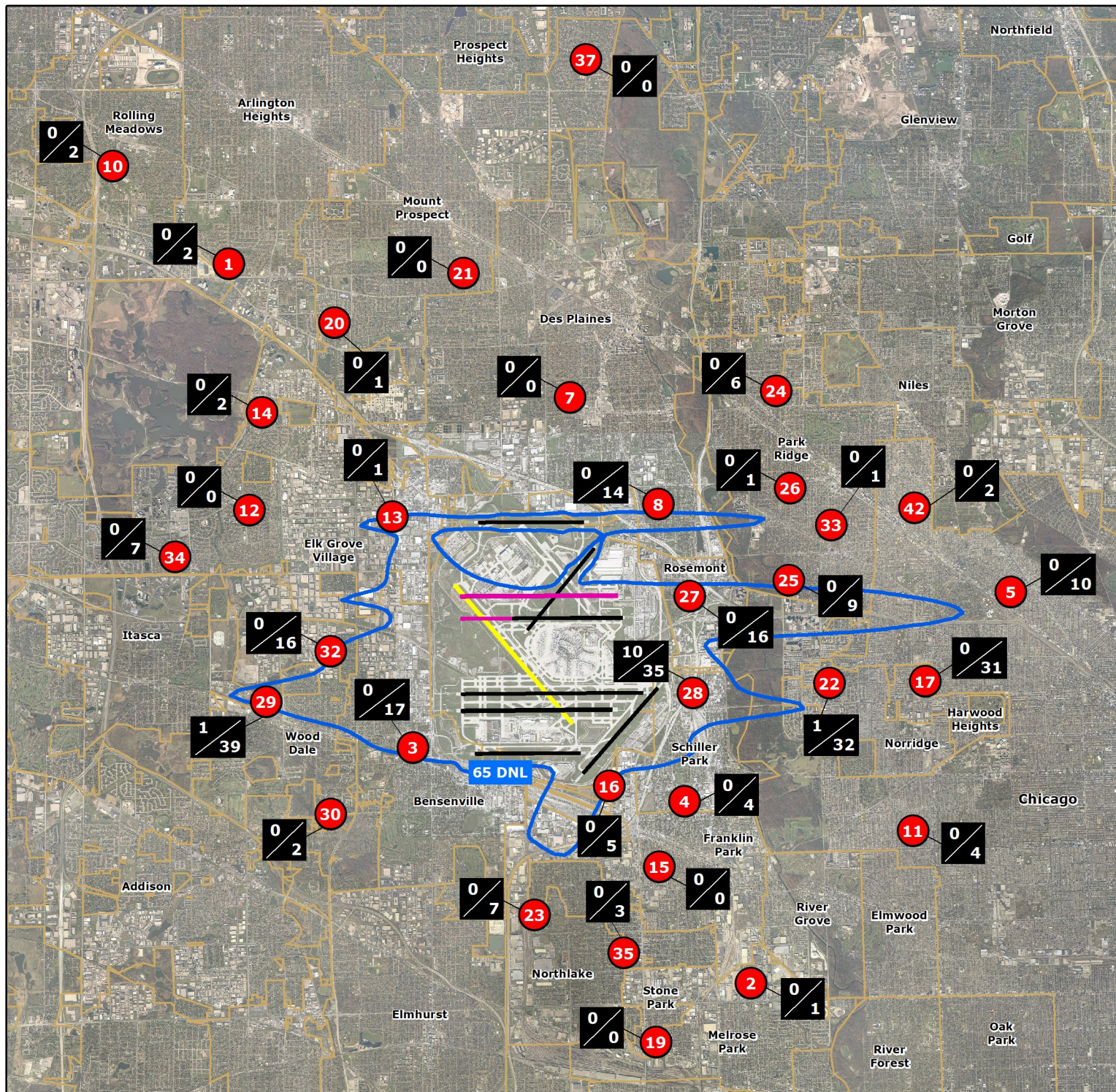
A. Yes

B. No



**** Note: Results based on all responses received**





O'Hare International Airport

Average* Fly Quiet Mode Aircraft Noise Events

July 23, 2017 through October 15, 2017


City of Chicago

Rahm Emanuel, Mayor

Department of Aviation

Ginger S. Evans, Commissioner


Legend

 Existing RMT Sites (33)


Average Events 85dB and Greater




Average Events 65dB and Greater

 Existing Runways

 Existing Runway to be
Decommissioned

 Future Runways

 OMP Build Out Noise Contour
(Measured in DNL - Day/Night
Average Sound Level)

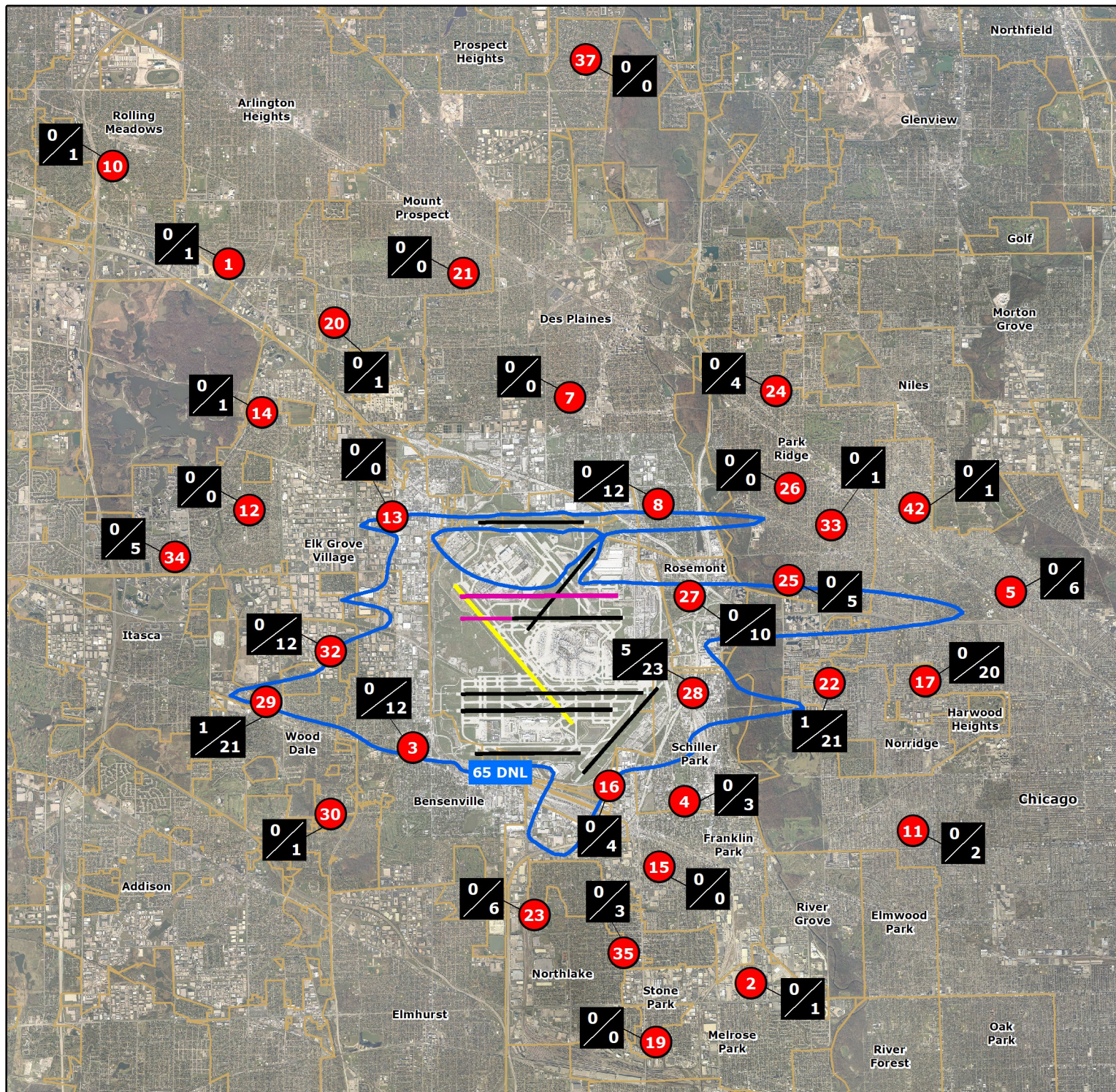
 Community Boundaries

*Average is the total number of aircraft noise events
divided by the total number of nights in Fly Quiet
Mode during Test 3.

Miles
0 1 2



Date: November 3, 2017
File: ORDFQ_ADANE_072317-101517.mxd



O'Hare International Airport

Average* Rotation Mode Aircraft Noise Events

July 23, 2017 through October 15, 2017


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 Existing Runway to be
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 OMP Build Out Noise Contour
(Measured in DNL - Day/Night
Average Sound Level)

 Community Boundaries

*Average is the total number of aircraft noise events
divided by the total number of nights in Rotation
Mode during Test 3.

Miles
0 1 2

