Final Report

CFR Part 150

NOISE EXPOSURE MAP UPDATE

CHICAGO EXECUTIVE AIRPORT

PWK

Final Report
March 2018

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The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration (FAA) as provided under Section 505 of the Airport and Airway Improvement Act of 1982 as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987. The contents do not necessarily reflect the official views or policy of the FAA.

Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted herein, nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public law. This document is intended to be a planning document by Chicago Executive Airport.

The Noise Exposure Maps and accompanying documentation for the Noise Exposure Maps for Chicago Executive Airport, submitted in accordance with CFR Part 150 with the best available information, are hereby certified as true and complete to the best of my knowledge and belief.

In addition, it is hereby certified that the airport sponsor has afforded persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of these noise exposure maps.

Signed: _____

Dated: _____

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CFR Part 150 Noise Exposure Map Checklist

		Page Number
I.	**IDENTIFICATION AND SUBMISSION OF MAP DOCUMENT:**	
A.	Is this submittal appropriately identified as one of the following, submitted under CFR Part 150:	Cover, Cover Letter
1.	A NEM only	Yes
2.	A NEM and NCP N/A	
3.	A revision to NEMs which have previously been determined by FAA to be in compliance with Part 150?	Yes
B.	Is the airport name and the qualified airport operator identified?	Yes, Cover Letter
C.	Is there a dated cover letter from the airport operator which indicates the documents are submitted under Part 150 for appropriate FAA determination?	Yes
II.	**CONSULTATION:** [150.21 (b), A150.(a)]	
A.	Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?	Yes, Ch F, App 2 and 3
B.	Identification:	
1.	Are the consulted parties identified?	Yes, Ch F, App 2 and 3
2.	Do they include all those required by 150.21 (b) and A150.105 (a)?	Yes, Ch F, App 2 and 3
C.	Does the documentation include the airport operator's certification, and evidence to support it, that interested persons have been afforded adequate opportunity to submit their view, data, and comments during map development and in accordance with 150.21(b)?	Cover Letter, Fly Sheet Maps, Ch F, App 2

D. Does the document indicate whether written comments were received during consultation and, if there were comments, that they are on file with the FAA region? Yes, Ch F, App 2 and 3

III. **GENERAL REQUIREMENTS:** [150.21]

A. Are there two maps, each clearly labeled on the face with year (existing condition year and 5-year)? Yes, p. 62, p. 67

B. Map currency:
1. Does the existing condition map year match the year on the airport operator's submittal letter? No, p. 62
2. Is the 5-year map based on reasonable forecasts and other planning assumptions and is it for the fifth calendar year after the year of submission? Yes, p. 67
3. If the answer to 1 and 2 above is no, has the airport operator verified in writing that data in the documentation are representative of existing condition and 5-year forecast conditions as of the date of submission? Yes, Cover Letter

C. If the NEM and NCP are submitted together:
1. Has the airport operator indicated whether the 5-year map is based on 5-year contours without the program vs. contours if the program is implemented? N/A
2. If the 5-year map is based on program implementation:
   a. are the specific program measures which are reflected on the map identified? N/A
   b. does the documentation specifically describe how these measures affect land use compatibilities depicted on the map? N/A
3. If the 5-year NEM does not incorporate program implementation, has the airport operator included an additional NEM for FAA determination after the program is approved which show program implementation conditions and which is intended to replace the 5-year NEM as the new official 5-year map? N/A

IV. **MAP SCALE, GRAPHICS, AND DATA REQUIREMENTS:**
[A150.101, A150.105, 150.21 (a)]

A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 2,000') and is the scale indicated on the maps? Yes

B. Is the quality of the graphics such that required information is clear and readable? Yes

C. Depiction of the airport and its environs.
   1. Is the following graphically depicted to scale on both the existing condition and 5-year maps:
      a. Airport boundaries Yes, Large-scale maps submitted separately
      b. Runway configurations with runway end numbers Yes, Large-scale maps submitted separately
   2. Does the depiction of the off-airport data include:
      a. A land use base map depicting streets and other identifiable geographic features Yes
      b. The area within the 65 Ldn (or beyond, at local discretion) Yes
      c. Clear delineation of geographic boundaries and the names of all jurisdictions with the 65 Ldn (or beyond, at local discretion) Yes

D. 1. Continuous contours for at least the Ldn 65, 70, and 75? Yes
   2. Based on current airport and operational data for the existing condition year NEM, and forecast data for the 5-year NEM? Yes

E. Flight tracks for the existing condition and 5-year forecast time frames (these may be on supplemental graphics which must use the same land use base map as the existing conditioned and 5-year NEM), which are numbered to correspond to accompanying narrative? Yes, p. 58, p. 59, p. 60

F. Locations of any noise monitoring sites (these may be on supplemental graphics which must use the same land use base map as the official NEMs). N/A

G. Noncompatible land use identification:
1. Are noncompatible land uses within at least the 65 Ldn depicted on the maps? Yes, p. 62, p. 67
2. Are noise sensitive public buildings identified? Yes, p. 62, p. 67
3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend? Yes, p. 62, p. 67
4. Are compatible land uses, which would normally be considered noncompatible, explained in the accompanying narrative? N/A

V. **NARRATIVE SUPPORT OF MAP DATA:**
[150.21 (a), A150.1, A150.103]

A. 1. Are the technical data, including data sources, on which the NEMs are based adequately described in the narrative? Yes, Ch A, Ch B, Ch D
2. Are the underlying technical data and planning assumptions reasonable? Yes, Ch A, Ch B, Ch D

B. Calculation of Noise Contours:
1. Is the methodology indicated? Yes, Cover Letter, p. 20, p. 52-53
   a. Is it FAA approved? Yes, Cover Letter, p. 20
   b. Was the same model used for both maps? Yes
   c. Has AEE approval been obtained for use of a model other than those which have

previous blanket FAA approval? N/A

2. Correct use of noise models:
   a. Does the documentation indicate the airport operator has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another? No
   b. If so, does this have written approval from AEE? N/A
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were followed? N/A
4. For noise contours below 65 Ldn, does the supporting documentation include explanation of local reasons? (Narrative explanation is highly desirable but not required by the Rule.) Yes, p. 52

C. Noncompatible Land Use Information:
1. Does the narrative give estimates of the number of people residing in each of the contours (Ldn 65, 70 and 75, at a minimum) for both the existing condition and 5-year maps? Yes, p. 69, p. 71
2. Does the documentation indicate whether Table 1 of Part 150 was used by the airport operator? Yes, p. 47, p. 49, p. 61, p. 68
   a. If a local variation to Table 1 was used:
      (1) does the narrative clearly indicate which adjustments were made and the local reasons for doing so? N/A
      (2) does the narrative include the airport operator's complete substitution for Table 1? N/A
3. Does the narrative include information of self-generated or ambient noise where compatible/ noncompatible land use identifications consider non-airport/aircraft sources? N/A
4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas? N/A
5. Does the narrative describe how forecasts will affect land use compatibility? Yes, p. 69, p. 71

VI. **MAP CERTIFICATIONS:** [150.21 (b), 150.21 (e)]

A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecasts? Yes, Cover Letter, Ch F

B. Has the operator certified in writing that each map and description of consultation and opportunity for public comment are true and complete? Yes, Cover Letter, Fly sheet

Chapter A, Inventory of Existing Conditions

Chicago Executive Airport (PWK or the Airport), formerly Palwaukee Municipal Airport, is the busiest reliever airport in the Chicago metropolitan area. In terms of itinerant operations (trips exceeding 20 miles), PWK is the 3rd busiest airport in the state of Illinois. The Airport, co-located and co-owned by the Village of Wheeling and the City of Prospect Heights, is located approximately 18 miles northwest of downtown Chicago, serves private, corporate, charter, and air freight aircraft, and represents a vital and significant regional economic asset. In 2013, businesses operating at the Airport produced more than $2.3 million in sales and real estate tax revenues combined.[1]

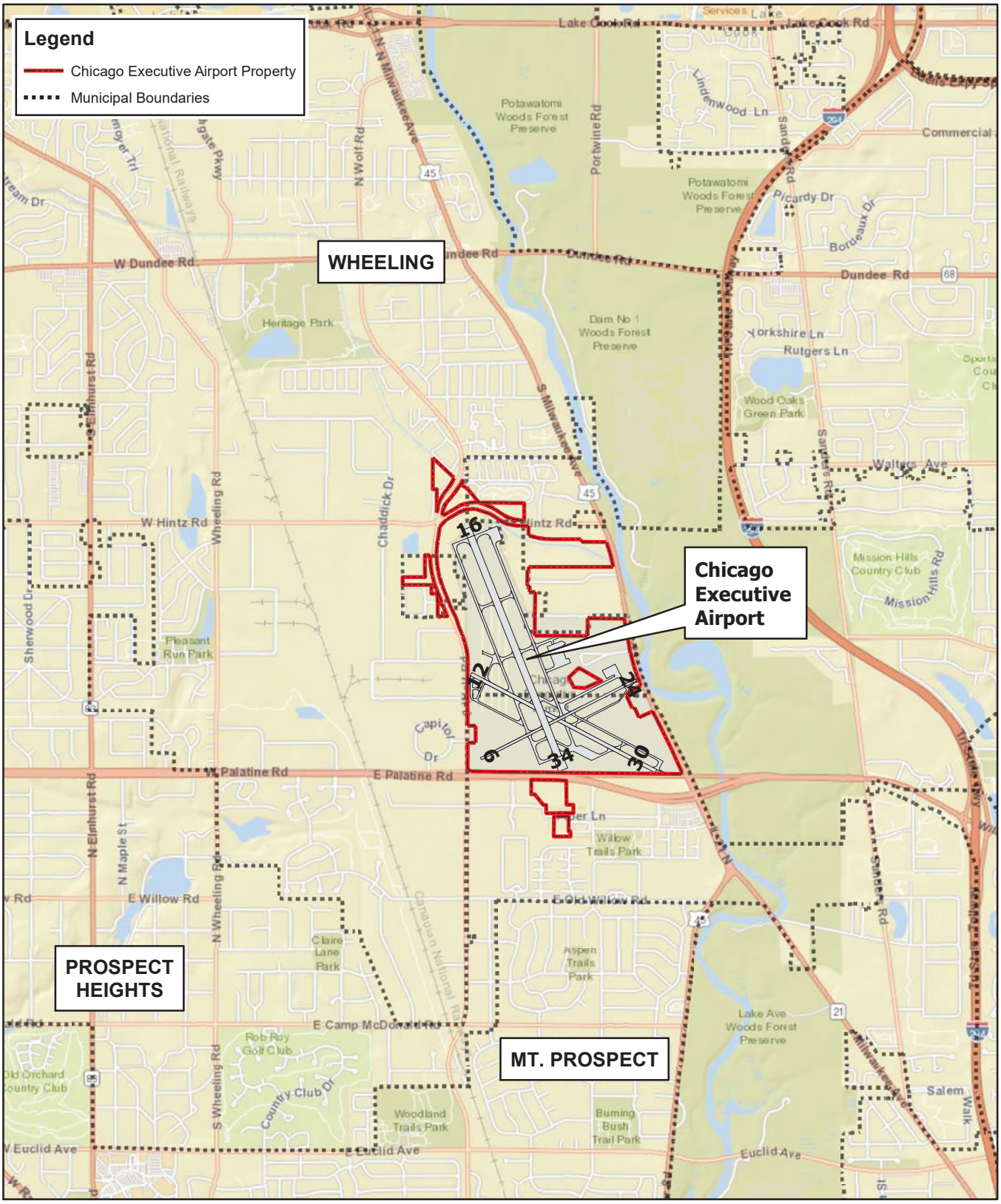
The Airport is located within both the Village of Wheeling (to the north and west) and Prospect Heights (to the south) (Figure A1, *AIRPORT LOCATION MAP)*. PWK is unique in that land use authority within the bounds of the Airport resides with both jurisdictions. The Airport functions under an intergovernmental cooperative agreement between the Village of Wheeling and Prospect Heights, and is governed by a board of appointed directors representing the interests of the Airport and its surrounding communities.

While numerous studies and master plan updates have been conducted at Chicago Executive Airport, the last full master plan was completed more than 30 years ago. The previous CFR Part 150 Study, including a Noise Exposure Map Update and Noise Compatibility Program (NCP), was conducted in 2010. As part of the NCP, the Airport developed noise abatement measures. The FAA approved some of the measures, however PWK has not yet implemented most of them.

Airport Physical Facilities

The Chicago Executive Airport has three runways: Runway 16/34 runs north and south, Runway 6/24 runs southwest to northeast and Runway 12/30 runs northwest to southeast. All three runways are constructed of asphalt. Runway 16/34, the main runway, is 5,001 feet in length and 150 feet in width. This runway is equipped with High Intensity Runway Lights (HIRL and Runway End Identifier Lights (REIL). Precision Approach Path Indicators (PAPI) serve both Runways 16 and 34, while only Runway 16 has a Runway Lead In Lighting System (RLLS) and an Instrument Landing System (ILS). Runway 12/30 is the secondary runway at the Airport and is 4,415 feet in length and 75 feet in width. The runway is equipped with PAPI serving both Runways 12 and 30. Runway 6/24 functions as a light general aviation runway and is 3,677 feet in length and 50 feet in width. PAPI serve Runway 6 only.

[1] Chicago Executive Airport Visioning Report, Master Plan Update Phase 1



N

0 3,000 6,000 Feet

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User

FIGURE A1 *Airport Location Map*

Parallel taxiways are located on either side of Runway 16/34. Various connector taxiways connect the taxiways with their respective parallel runways and the various landside development areas. Landside facilities, including three Fixed Base Operators, are located throughout airport property. T-hangars and various storage hangars are located on the north and south sides of the Airport. The Airport Traffic Control Tower (ATCT) is located on the east side of the airport, north of Runway 6/24. Vehicular access to the airport administration offices is provided by Industrial Lane or Sumac Road. South Wolf Road provides access to facilities on the west side of the airport, while South Milwaukee Road provides access to facilities on the east side. These areas are illustrated in Figure A2, *EXISTING AIRPORT LAYOUT PLAN*.

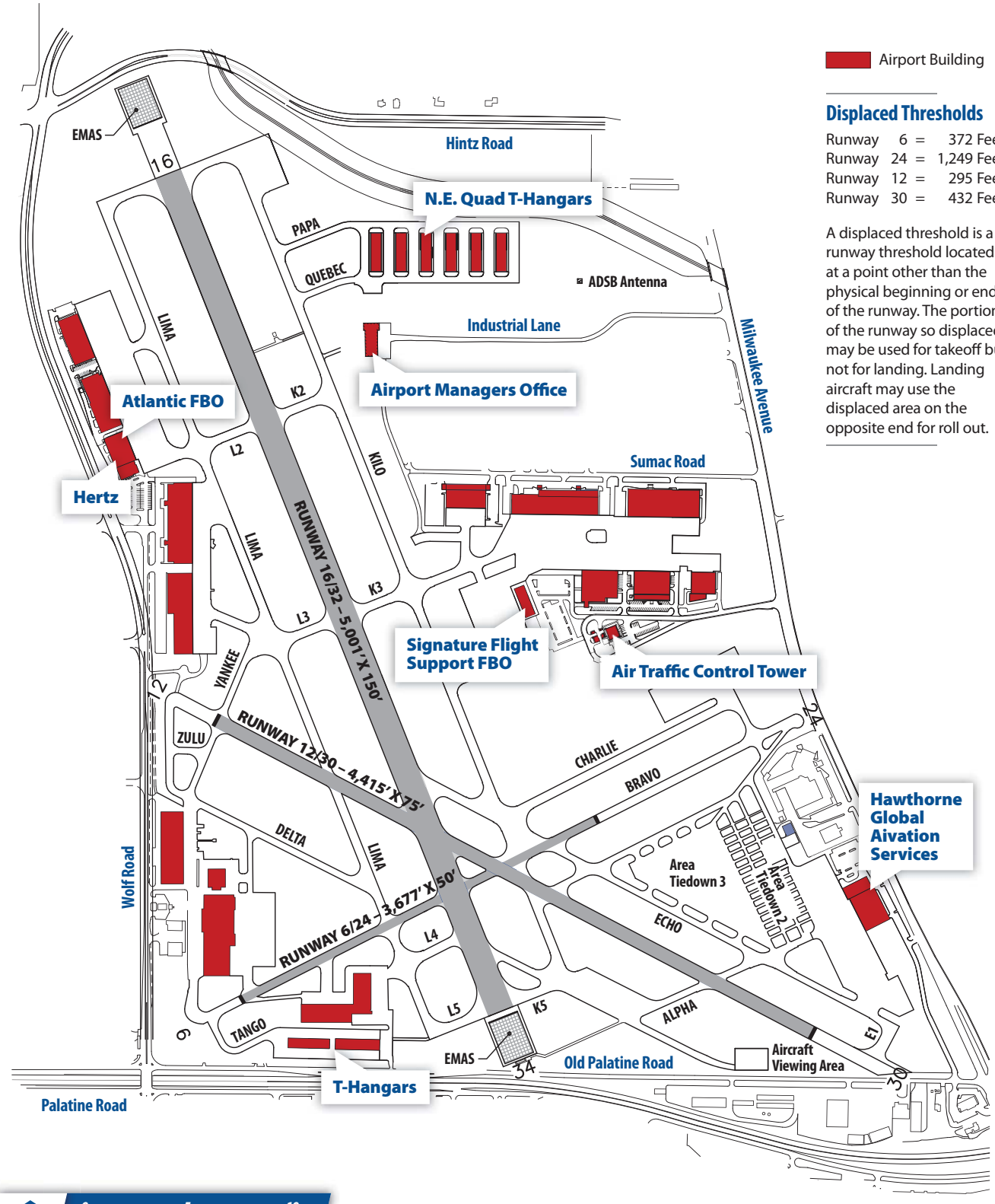
Air Traffic Operations Activity

Chicago Executive Airport has experienced a steady decline in overall operations in the past decade. However, operations have started to increase as of late. Specifically, (itinerant) general aviation operations decreased more than 40% from 2006 to 2015. Starting ten years ago, this trend was observed across the country, where GA activity declined in the wake of the financial crisis and increased fuel prices. An operation is defined as either a take-off or a landing. As shown in Table A1, *SUMMARY OF HISTORICAL OPERATIONS*, operations have decreased from approximately 112,000 in 2006 to approximately 79,000 in 2016.

Airspace/Air Traffic Control

The Federal Aviation Administration (FAA) is responsible for the safe and efficient use of the National Airspace System. This airspace is divided into three specific types: local, terminal, and enroute. When an aircraft departs an airport, it is located in airspace handled by controllers working in an ATCT. When the aircraft is approximately one to five miles away from its departure airport, the aircraft is handed off to controllers working the Chicago Terminal Radar Approach Control Facility (TRACON). The Chicago TRACON controllers are responsible for the airspace extending approximately 40 nautical miles out from the Chicago O'Hare International Airport (ORD or simply O'Hare) in all directions. Outside of this approximate 40 nautical mile radius, the aircraft enters the third type of airspace and becomes the responsibility of enroute controllers working in an Air Route Traffic Control Center (ARTCC). The enroute controllers retain control until the aircraft nears its intended destination. The process is then reversed for landings.

Based on Source Data From FAA 5010 Information for KPWK, May 13, 2014.



Airport Building

Displaced Thresholds

Runway	6	=	372 Feet
Runway	24	=	1,249 Feet
Runway	12	=	295 Feet
Runway	30	=	432 Feet

A displaced threshold is a runway threshold located at a point other than the physical beginning or end of the runway. The portion of the runway so displaced may be used for takeoff but not for landing. Landing aircraft may use the displaced area on the opposite end for roll out.

FIGURE A.2 *Existing Airport Layout*

Table A1, SUMMARY OF HISTORICAL OPERATIONS, 2006-2015

	Itinerant					Local			
	Air Carrier	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	Total Operations
2006	0	12,126	75,297	42	87,465	25,396	14	25,410	112,875
2007	0	13,247	74,948	55	88,250	25,870	0	25,870	114,120
2008	44	13,369	60,626	43	74,082	24,144	21	24,165	98,247
2009	0	10,999	50,862	154	62,015	23,209	23	23,232	85,247
2010	0	12,495	52,714	155	65,364	23,943	46	23,989	89,353
2011	9	13,379	47,717	99	61,204	22,820	86	22,906	84,110
2012	17	14,342	49,465	198	64,022	20,908	61	20,969	84,991
2013	24	13,142	45,104	91	58,361	21,161	22	21,183	79,544
2014	41	12,872	44,185	98	57,196	19,248	6	19,254	76,450
2015	67	13,204	42,510	154	55,935	19,432	98	19,530	75,465
2016	25	12,621	45,931	41	58,618	20,295	6	20,301	78,919
Total	**227**	**141,796**	**589,359**	**1,130**	**732,512**	**246,426**	**383**	**246,809**	**979,321**

Source: Sources: Air Traffic Activity System (ATADS), Report created in August 2017.

Note: Itinerant operations are operations performed by an aircraft that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area. Local operations are those operations performed by aircraft that remain in the local traffic pattern in a designated practice area within a 20−mile radius of the tower. Air carrier operations at a general aviation (GA) airport include aircraft that have more than 60 seats (which can include chartered or private aircraft operations).

There are several airports located in the Chicago Metropolitan Area that are under the control of the Chicago TRACON. Although O'Hare and Chicago Midway International Airport account for a significant percentage of all area aircraft operations, the cumulative number of aircraft operations at the other airports, including Chicago Executive Airport, also contributes significantly to the demand placed on terminal airspace and the Chicago TRACON. There are also other general aviation airports without operational control towers or published instrument procedures that contribute to the total number of area wide aircraft operations.

While aircraft using these other general aviation airports often operate under visual flight rules (VFR), they use the terminal airspace, and aircraft using PWK must be segregated. Chicago TRACON provides full arrival and departure services for Chicago Executive Airport, as well as for O'Hare and Midway Airports and many other airports throughout the Chicago metropolitan area.

Chicago Executive Airport has an ATCT associated with Class D Airspace area that operates from 6:00 a.m. to 10:00 p.m. Aircraft that operate within Class D Airspace must be in contact, at all times, with the tower controllers, especially to receive approval for take-offs and landings. Standard Tower Controlled Airspaces (TCAs) are designated to include all airspace within five miles of the Airport from the surface of the ground up to (but not including) 3,000 feet. The Chicago Executive Airport airspace encompasses a semi-circle to the north and unique dimensions to the east, west and south due to the Airport's proximity to O'Hare. Chicago Executive Airport essentially exists within a cutout of one of O'Hare's Class B airspace rings. Airspace operational activities are explained in greater detail in the following paragraphs.

Airspace Configuration

Local airspace surrounding the Airport is designated as Class D airspace. Class D airspace usually consists of airspace surrounding airports that have an operational control tower, but do not meet the requirements for the more restrictive Class B or Class C airspace. The Chicago Executive Airport Class D airspace extends from the ground surface up to, but not including, 3,000 feet above mean sea level (AMSL). Chicago Executive Airport's proximity to O'Hare greatly influences the way aircraft operate in and out of the Airport and requires some non-standard means to the basic straight-in/out approach/departure corridors typical to many airports. At Chicago Executive Airport, approaches from and departures to the south (off Runway end 34) are generally constrained by the boundary of the Class B airspace at O'Hare, causing operators to either avoid it entirely by approaching from or departing to the north (off Runway end 16) or by flying under the airspace.

Figure A3, *GENERALIZED AIRSPACE*, presents an illustration of Chicago Executive's Class D airspace. The exact configuration of each Class D airspace area is tailored to the individual airport. However, Class D airspace usually consists of a five-nautical mile radius circle surrounding an airport. Unless otherwise authorized, each aircraft must establish two-way radio communications with the Air Traffic Control (ATC) facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace.

Above 3,000 feet AMSL, Chicago Executive Airport is located under a ring of O'Hare Class B airspace extending from 3,000 feet AMSL up to 10,000 feet AMSL. Class B airspace usually consists of a 20-Nautical Mile (NM) radius circle surrounding an airport; the floor and ceiling of the airspace is unique to each airport. PWK is also located within the Chicago mode C veil as shown in the illustration. This airspace has been delegated to the Chicago TRACON facility by the Chicago ARTCC or Center. The Center provides ATC services to aircraft between terminal areas. The Chicago TRACON provides approach/departure control services within its delegated airspace. Seven of the busiest airports within the Chicago TRACON's airspace have ATCTs (or "towers"). These towers provide control within the TRACON's airspace. Airports that have towers are listed below:

- Chicago Executive Airport (PWK)
- Chicago O'Hare International Airport (ORD)
- Chicago Midway International Airport (MDW)
- Gary/Chicago International Airport (GYY)
- Aurora Airport (ARR)
- Waukegan Regional Airport (UGN)
- DuPage Airport (DPA)

The Center and TRACON provide control primarily to aircraft operating under instrument flight rules (IFR). In addition, TRACON provides control or service to aircraft operating under VFR within the Chicago Class B Airspace. An ATC clearance and control is mandatory for VFR aircraft operating within Class B airspace. Published instrument approach procedures exist for at least ten different airports within the Chicago TRACON airspace and include both precision and non-precision approaches. A precision approach, by definition, provides electronic vertical guidance to the pilot as well as horizontal (azimuth) guidance. A non-precision approach provides horizontal guidance only. Generally, the azimuth guidance for a precision approach is more precise. For an ILS approach procedure, a localizer transmitter provides the azimuth guidance and a glide slope transmitter provides the vertical guidance.

FAA Sectional Aeronautical Chart: Chicago, April 2017.

FIGURE A3 *Generalized Airspace*

Radar Data Availability

To obtain the detailed operational assumptions, a full year of radar data was used to determine: fleet mix, runway use, time of day, flight tracks, and flight track use. This includes records of operations at PWK of the majority of all itinerant flights, the time of the operation, the type of operation (departure/arrival), runway used and type of aircraft. The radar track points for each flight were also obtained. These inputs also served as a starting point to assess future aircraft noise levels for the future year scenario.

The existing conditions noise analysis utilize flight radar and operational logs to determine the number of operations by type and the runway utilization. Year to year operations vary depending upon user demand, weather, and airfield constraints such as construction. During the 2016 baseline time period, there were 12 weekends where there was construction that affected the accessibility of the airport. This construction period represents 451 hours of the year, or 5% of the total hours in the year. The construction would typically start at 10 pm on a Friday night and end around 3 pm on a Sunday. Two of the days ended on Saturday at around 3 pm while two other days ended at 6 pm and 7 pm on Sunday. Nine of those days involved the closure of Runway 16/34, the main runway at the airport that the majority of the jet aircraft use. Three of those days involved the closure of the airfield for all runways for fixed wing aircraft. The closure dates are summarized in Table A2. The hours that Runway 16/34 was closed represents 3.7% of the total hours in the year. The hours that the airfield was closed represents 1.4% of the total hours of the year.

Table A2, WEEKEND CONSTRUCTION CLOSURES

Weekend Starting	Closure	Approximate Start Time	Approximate End Time	Construction Hours
6/10/2016	Rwy 16/34	6/10/16 10:00 PM	6/11/16 3:00 PM	17
6/17/2016	Rwy 16/34	6/17/16 10:00 PM	6/19/16 3:00 PM	41
6/24/2016	Rwy 16/34	6/24/16 10:00 PM	6/26/16 3:00 PM	41
7/8/2016	Rwy 16/34	7/8/16 10:00 PM	7/10/16 3:00 PM	41
7/15/2016	Rwy 16/34	7/15/16 10:00 PM	7/17/16 3:00 PM	41
7/22/2016	Rwy 16/34	7/22/16 10:00 PM	7/24/16 3:00 PM	41
7/29/2016	Airfield	7/29/16 10:00 PM	7/31/16 3:00 PM	41
8/5/2016	Airfield	8/5/16 10:00 PM	8/7/16 3:00 PM	41
8/12/2016	Rwy 16/34	8/12/16 10:00 PM	8/14/16 3:00 PM	41
9/9/2016	Rwy 16/34	9/9/16 10:00 PM	9/11/16 7:00 PM	45
9/16/2016	Airfield	9/16/16 10:00 PM	9/18/16 6:00 PM	44
11/11/2016	Rwy 16/34	11/11/16 10:00 PM	11/12/16 3:00 PM	17

During the time period of the runway closure, a user may choose a number of different options. These are listed below. All are possible options and it is not possible to know what any individual operator chose to do. The radar data will provide information as to when aircraft operated, the type and which runway was used, but the data does not provide information as to whether that flight differed from "normal" operations, like if an aircraft choose to not operate or changed when they flew or if they substituted an aircraft.

1. Use another runway
2. Operate the aircraft at a lower weight allowing use of a shorter runway
3. Use a different aircraft in their fleet that can use one of the available runways
4. Delay the operation until the construction is complete.
5. Accelerate the operation prior to the construction starts.
6. Not operate at the airport at all

To operate on a runway, an aircraft performance must meet the conditions of that runway that vary with type of operation (departure vs. arrival), aircraft type, payload weight, wind speed direction temperature, and runway surface conditions. For example, an aircraft may need to operate at a lower payload to operate on a shorter runway. In some conditions, the larger corporate jets may not be able to operate on any of the other runways, even at a lower payload. Most fractional operators have a large fleet that includes different sizes and aircraft performance. Because these closures are published well in advance, these operators may have chosen to use an aircraft that could operate on one of the available runways. Note this is internal data to the operator, and the radar data does not provide any information on this.

In reviewing the 2016 base case radar flight tracks, the consultant team analyzed the data for the runway closures on all weeks of the year. During this time, weekly aircraft still operated at the about the same numbers as non-runway closure weeks, but during the construction closure hours they operated on one of the other runways (mostly on Runway 12/30). While it was determined that this small number of reduced operations would not significantly change the noise contour, the total number of closure period operations were adjusted and added in the base year 2016 DNL noise contour inputs. The operations on Runway 12/30 were also adjusted to operate on Runway 16/34 instead of Runway 12/30 as they normally would if the runway was not closed.

Note that the future year noise contour analysis is based upon the forecasts that were developed as part of the Master Plan. The future contours are the noise contours that would be used to determine the noise insulation program boundaries.

It must be remembered that the aircraft noise contours are not intended to be a perfect representation of the noise generated by the aircraft operating at an airport, but they are a reasonable representation of the aircraft generated noise (based on the constraints discussed above.

Airport Environs

Chicago Executive Airport is located in the western portion of Cook County, approximately 27 miles from the central business district (CBD) of Chicago. The Airport is located within both the Village of Wheeling and the City of Prospect Heights, approximately 13 miles from the Chicago O'Hare Airport. The City of Mount Prospect is located just south of Prospect Heights, but does not include PWK property. CFR Part 150 specifies that the 65 DNL noise contour is the threshold contour for land use compatibility purposes and the official Noise Exposure Maps (NEM) reflect this contour. The 65 DNL contour will be further used to define land use compatibility for the existing (2016) condition and the future (2022) condition.

Existing Land Use

The generalized existing land use for the area surrounding the Airport was compiled directly from the previous Part 150 Study and field checked with a windshield survey in early 2017. Existing land use is presented in Figure A4, *GENERALIZED EXISTING LAND USE*.

Areas north and west of PWK are located within the jurisdiction of the Village of Wheeling. Existing land uses immediately west of the Airport comprise mostly industrial uses with some residential and public/institutional uses. Cultural (Korean Cultural Center of Chicago) and religious centers (Grace Church) are located southwest of the Airport near the intersection of E Palatine Rd and S. Wolff Rd. Land use north of PWK consists of a mixture of single- and multi-family residential, commercial use, and open space (Lake County Forest Preserve and Potawatomi Woods). A Metra station (Northeast Illinois commuter rail system) is located approximately two miles northwest of the Airport. The Metra North Central Service line connects Wheeling to Chicago, running roughly north- south, paralleling the Airport.

The area south of the Airport is under the jurisdiction of the City of Prospect Heights. Land uses south of PWK are a mixture of single- and multi-family residential, industrial, and open space (Willow Trails Park). Educational facilities including Northbrook College of Healthcare and Harper College Learning and Career Center are located southwest of PWK along S. Wolff Rd. Land south of Prospect Heights falls under the jurisdiction of Mount Prospect. This area comprises residential uses and recreational areas. Frost Elementary School is located south of E. Palatine Road and east of Wolff Road. A detailed evaluation of land use and population is presented later in the document for how each relates to the noise contours.

Future Land Use

The Village of Wheeling Comprehensive Plan (2003) and City of Prospect Heights Comprehensive Plan (2014) work in concert with Chicago Executive Airport to guide land use and development in the area. Both jurisdictions recommend an expansion of mixed-use development and redevelopment near the Airport to attract employees, utilize vacant parcels and support local business growth. The adopted Comprehensive Plans are illustrated in Figure A5, *GENERALIZED FUTURE LAND USE*.

The Village of Wheeling Comprehensive Plan discusses potential plans to promote Milwaukee Avenue (east of the Airport) as "Restaurant Row" to encourage pedestrian-oriented mixed-use development and business growth. Additionally, the plan discusses the benefits in annexing the Wolf Ridge subdivision (immediately west of the Airport) in order to facilitate a transition to airport-related industrial uses.

The City of Prospect Heights Comprehensive Plan discusses developing additional industrial uses just south of the Airport along Palatine Road. Existing infrastructure could support compatible land uses in this area.

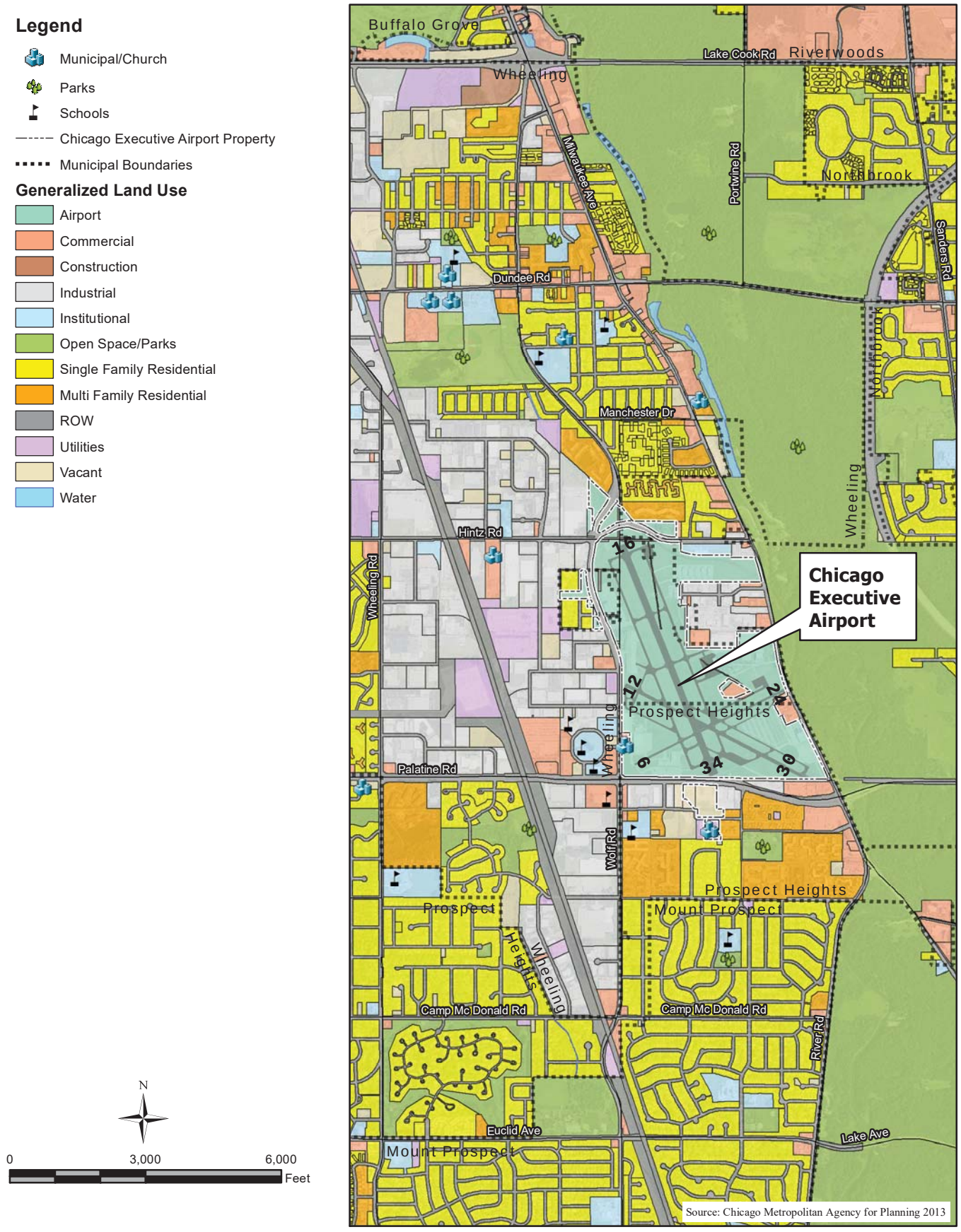


FIGURE A4 ***Generalized Existing Land Use***

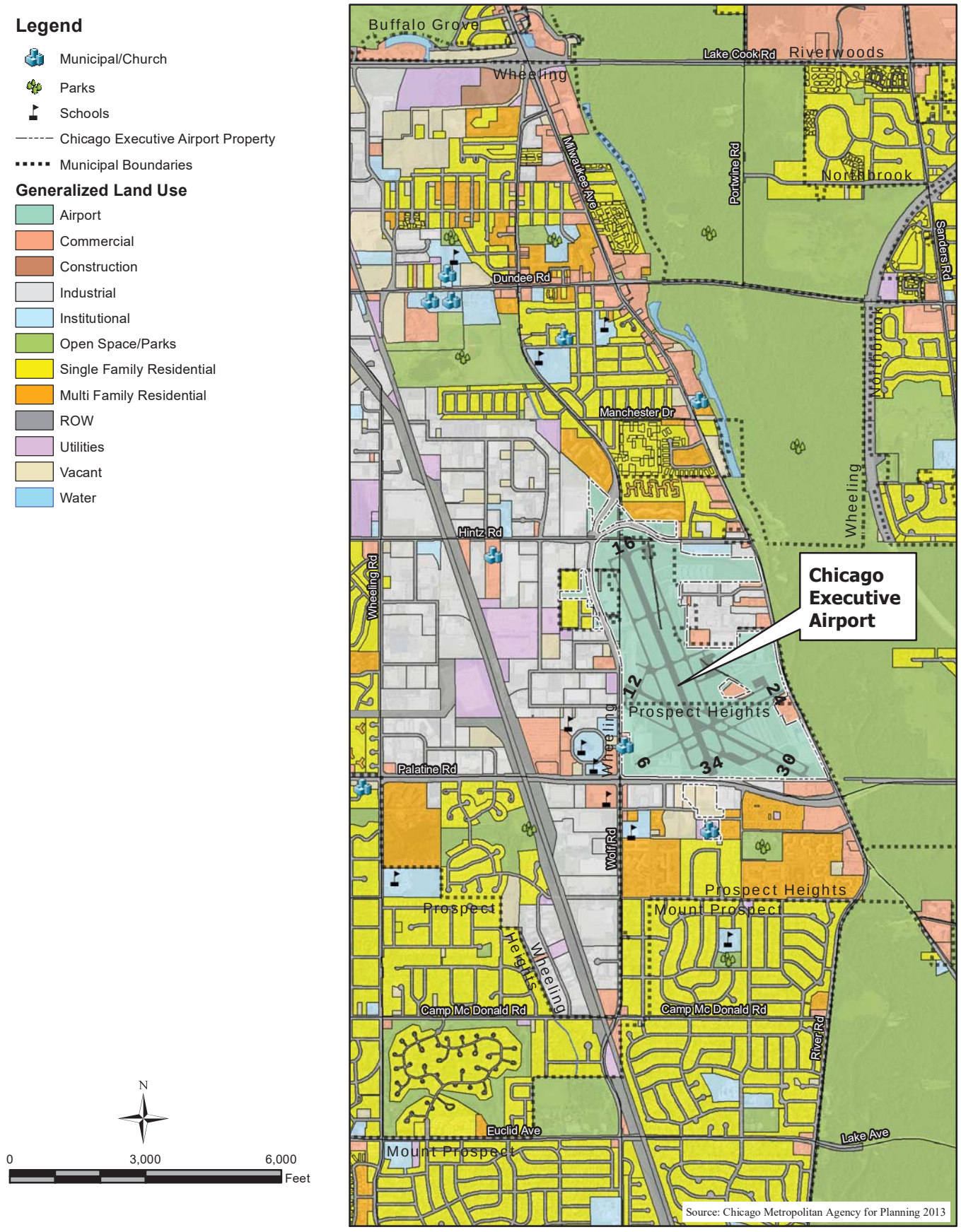
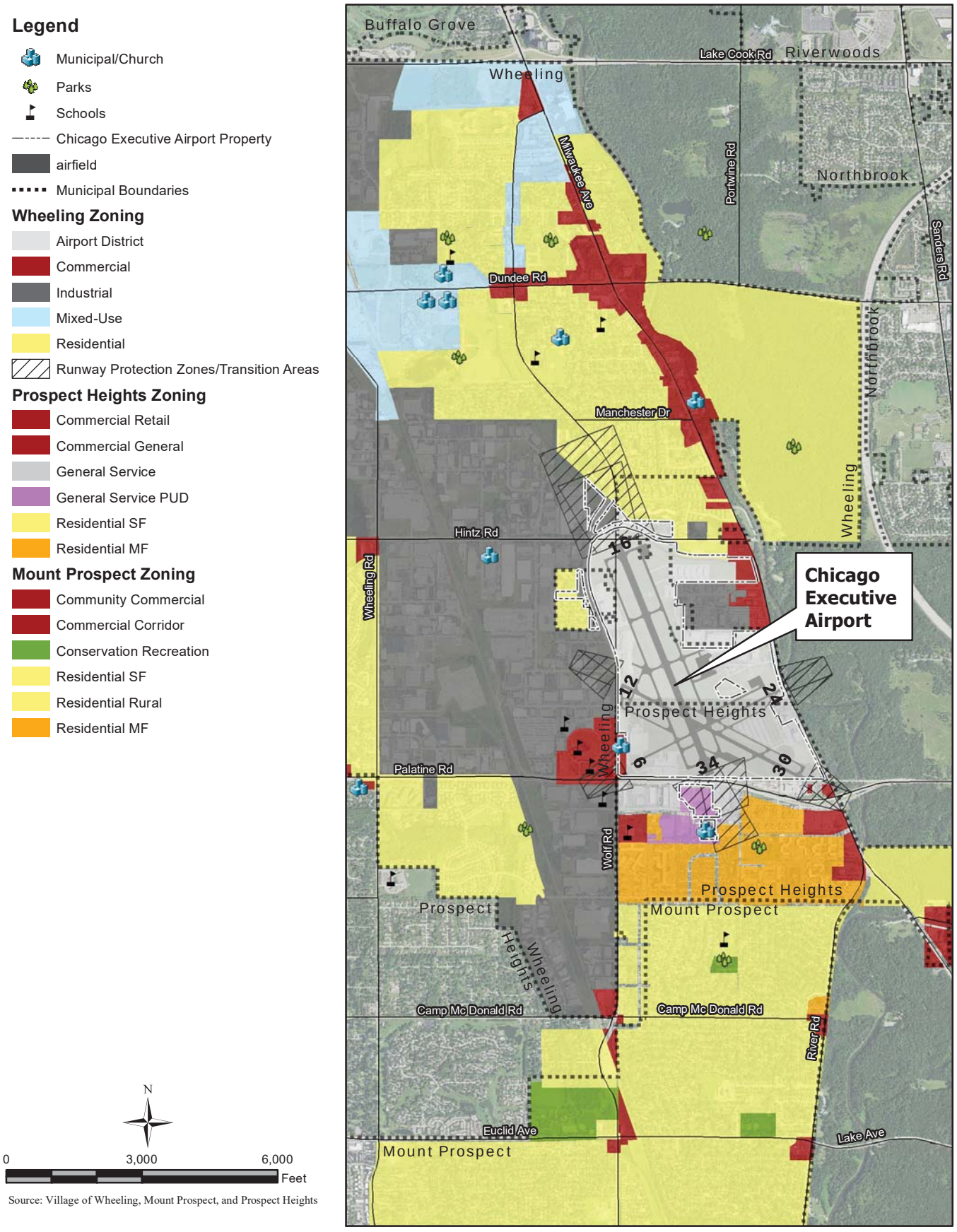


FIGURE A5 ***Generalized Future Land Use***

Zoning

Prospect Heights and the Village of Wheeling have adopted land use zoning ordinances that control the development of land within their boundaries and set criteria for types of land use to be developed within certain zones. In conjunction with zoning ordinances, Prospect Heights and Wheeling have implemented zoning maps that congregate the municipalities into individual zones consistent with local ordinances. The Airport itself has been designated as an A-P, Airport District, by the Village of Wheeling, and B-3, General Service, by Prospect Heights. South of PWK existing zoning comprises primarily commercial uses, planned urban development, and multi-family residential. Areas in northern Mount Prospect are zoned single-family residential. Areas north of PWK consist of residential, industrial and commercial zoning designations. West of the Airport are primarily industrial uses with some commercial businesses. Zoning within the vicinity of the Airport is shown in the following illustration entitled Figure A6, ZONING.



Source: Village of Wheeling, Mount Prospect, and Prospect Heights

FIGURE A6 ***Generalized Zoning***

Land Use Controls Evaluation

Land use controls and development planning offer ways in which the local jurisdictions and the Airport may achieve desired objectives. These measures involve various opportunities and options that are available for influencing, directing, managing, and controlling the nature and sequence of development within the Airport environs. The various techniques and mechanisms range from fee simple land acquisition programs to more advanced regulatory mechanisms and advisory programs. Each mechanism can be useful in accomplishing desired objectives and can be used separately or in conjunction with others as the situation dictates. The following is a discussion of the land use planning and control measures within the vicinity of the Chicago Executive Airport.

Fee Simple Land Acquisition

Fee simple land acquisition is often the most effective means that is available to an airport or community for controlling land use development and ensuring compatibility; it is also the most expensive. Land acquisition can be accomplished through negotiation and purchase from the owner or through condemnation proceedings. Although it is the most expensive option, resale for a compatible use or joint purchase with another government agency for a compatible public use may help reduce the net cost of the property.

The acquisition of property affected or potentially affected by airport operations is the most effective and efficient means of controlling land use in noise impacted areas. It is possible that compatible public use could compensate for the direct cost of purchasing the property. It should be noted that the acquisition of property is used more often than not in circumstances where the noise situation is critical for the continuation of existing uses or where such preventive measures as comprehensive planning and zoning are not working.

Zoning

Zoning is the most traditional approach, and the most common and widely used legal device to control land use development. It can be defined as “the division of a city by legislative regulation into districts and the prescription and application in each district of regulations having to do with structural and architectural design of buildings and of regulations prescribing use to which buildings within designated districts may be put.” This regulation is accomplished through the adoption of a zoning ordinance, which specifies the use, size, height, and bulk of structures within each district. The Village of Wheeling and the City of Prospect Heights have the statutory authority to adopt zoning ordinances

Zoning is a useful tool for controlling land use development and promoting compatibility while supporting private land ownership. However, zoning cannot be relied upon as a “corrective measure” as

it can only be applied proactively, not retroactively. It should also be realized that zoning is subject to shifting political conditions and situations; therefore the zoning classification of any particular tract of land can be subject to change by review of the local zoning authority.

In summary, zoning is the most widely used land use control mechanism and offers an acceptable tool for implementing a land use compatibility plan. There are several Illinois Statutes that grant zoning authority, which can have an effect on the area around Chicago Executive Airport. Zoning can be a time-consuming effort in that the designation of zoning classifications and implementation must be closely monitored to ensure continuing compatibility.

Comprehensive Planning

A comprehensive plan is an expression of the community's policies and goals toward land use and development, and serves as a guide for policy implementation. As stated earlier, The Village of Wheeling and City of Prospect Heights have adopted comprehensive plans to guide development within the Airport environs. A comprehensive plan by itself may not control development or relieve noise impacts/incompatibilities without implementation of a development plan.

Subdivision Regulations

The Village of Wheeling and City of Prospect Heights have adopted subdivision regulations pursuant to Illinois Statutes, which govern the process of changing undeveloped land to subdivisions. Subdivision regulations are an exercise by the local unit of government, as is the enactment of a zoning ordinance. To be most effective, subdivision regulations must be coordinated with the comprehensive plan and the zoning ordinance for proper implementation and goal achievement. Subdivision regulations can be used to ensure the granting of an avigation easement as part of the building permit process. In addition, the regulations can be utilized to control utility size and placement, street design and the timing of the installation of these facilities when coupled with a capital improvements program (CIP).

Easements

An easement is the right of the owner of land to make lawful and beneficial use of the land of another. It is a limited right, not an estate, or fee, in the land of another. Easements are a means of land use control.

Easements can be classified as one of two types, depending on what type of interest is involved. A positive easement is one in which the owner of the easement has the right to do something with the land, where a negative easement is one where the landowner gives up his right to do something. The right to construct an access road across someone's property is an example of a positive easement, compared to a landowner who gives up his right to build a tower, which is a negative easement.

Easements may be acquired through grant, gift, devise, acquisition, or condemnation. The purchase of an easement in some cases can be as expensive as an outright fee simple purchase. Easement acquisition by condemnation is usually restricted to certain types of easements outlined in state enabling legislation and many times noise easements are not specifically mentioned in the legislation.

Avigation easements are a common example of the type of easement commonly required within the Airport environs. An avigation easement allows aircraft to fly over the property, make noise, and may limit the height of objects on the burdened property within approach areas.

Building Codes

Building codes are regulations that govern the construction practices in any given jurisdiction and must be followed in order to obtain a building permit from the governing body. Adoption of a building code can guide noise attenuation throughout the city or county by requiring noise reduction construction practices from outside noise levels to inside noise levels.. Certain sound attenuation requirements can be included in the building code and referred to for specific areas through the zoning ordinance and subdivision regulations. The code is most easily enforced through the building permit process.

Capital Improvements Program (CIP)

The implementation of capital improvements often encourages growth and development. To avoid incompatible land uses, capital improvements should be programmed to encourage compatible development and discourage incompatible development. Any programs that may discourage noise sensitive uses should be undertaken within the established aircraft-generated noise areas. This can be particularly effective in directing industrial/commercial development to areas that would be incompatible for residential development.

Chapter B, Forecast of Aviation Activity

This chapter summarizes existing aviation activity at Chicago Executive Airport and estimates future activity. This forecast of aviation activity serves as the basis for analyzing existing aircraft noise levels and predicting future noise levels associated with aircraft activity. Forecasts, like the prediction of next month's weather, are never exact; rather, the forecast indicates, based on past conditions and available information, how activity may change in the future. In that manner, the forecast serves as a basis for evaluating how noise exposure may change in the future. The following section describes the basic methodology for developing the forecast of aircraft operations at Chicago Executive Airport. This information serves as the basis for the future fleet mix forecasts described in Chapter D, Existing and Future Baseline Noise Conditions chapter. The year 2016 is used for the existing conditions and the year 2022 is used for the future conditions for the Noise Exposure Maps (NEMs).

Background

As discussed in Chapter A, Inventory of Existing Conditions, Chicago Executive Airport has experienced a steady decline in overall operations in the past decade. Operations have decreased from approximately 112,000 in 2006 to approximately 75,000 in 2015. Table B1, *HISTORICAL OPERATIONS, 2006-2015,* shows a generalized summary of historical operations at the Airport.

Table B1, HISTORICAL OPERATIONS, 2006-2015

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Operations	112,875	114,120	98,247	85,247	89,353	84,110	84,991	79,544	76,450	75,465	78,919

Source: Air Traffic Activity System (ATADS), Report created in August 2017.

The purpose of this Study is to update the NEMs for Chicago Executive Airport, which identify the existing (2016) and future (2022) noise exposure. Note that the year 2022 was identified as the future year contour because it represents five years into the future from the date of submission of the NEMs. Both NEMs were prepared using the Federal Aviation Administration's Aviation Environmental Design Tool (AEDT) v2b. To prepare a noise exposure contour map for a particular year, the AEDT requires information concerning the number of aircraft operations, the types of aircraft (fleet mix), and the time of day (day or night) that the activity occurs.

The forecast presented in this NEM Update is taken from the Airport Master Plan Update being prepared by the Airport. No additional forecasts were prepared as part of this NEM Update. The forecasts were approved by the FAA in January, 2017. The Forecast Chapter from the Master Plan Update and the FAA approval letter are included in Appendix A.

Existing Operations and Forecasts Summary

This section presents the summary of the existing operations for the year 2016 and future operations for the year 2022. At the onset of this study, 2016 provided the last full year of data available that represented "normal" operations, prior to the rehabilitation of Runway 16/34.

According to the forecast included in the Master Plan Update, total operations at Chicago Executive Airport are predicted to increase slightly from 2016 to 2022, and to continue to increase into the future. Table B2, *SUMMARY OF ANNUAL AIRCRAFT OPERATIONS FORECAST,* depicts existing and future operations at Chicago Executive Airport broken down by aircraft type for AEDT analysis.

Table B2, SUMMARY OF ANNUAL AIRCRAFT OPERATIONS FORECAST

Year	2016	2022	2027	2032
Piston	14,898	12,246	10,307	8,668
Turbo-prop	9,657	9,935	10,189	10,463
Light Jet	6,473	6,907	7,304	7,734
Small Jet	34,702	36,412	37,993	39,733
Medium Jet	7,979	8,318	8,901	9,470
Large Jet	3,152	3,369	3,786	4,257
TOTAL	**76,860**	**77,187**	**78,480**	**80,325**

Source: Chicago Executive Airport Master Plan Update, 2016. CMT.
Note: The table shows 2016 as base year conditions. However, because the NEM Update was submitted in 2017, five year increments are accounted for after that date.

Chapter C, Background Information on Noise

Noise, by definition, is unwanted sound. Noise is perceived by and consequently affects people in a variety of ways. This chapter presents background information on the characteristics of sound and provides insight into the human perception of noise. It also provides a means to relate the sound made by aircraft operating to and from Chicago Executive Airport (PWK) to the noise in the surrounding communities. The metric (the way noise is measured or described) and methodologies used in the Part 150 Noise Exposure Map (NEM) Update to describe noise generated by aircraft operating at Chicago Executive Airport is also presented. This metric (Day Night-Noise Level) enables the characterization of existing and future noise. This chapter is divided into the following sub-sections:

- **Characteristics of Sound**. Presents properties of sound that are important for describing noise in the airport setting.
- **Factors Influencing Human Response to Sound**. Discusses sound level conditions that produce subjective perceptions and elicit a response in humans.
- **Health Effects of Noise**. Summarizes the potential disturbances and health effects of noise to humans.
- **Sound Rating Scales**. Presents various sound rating scales and how these scales are applied to assessing noise from aircraft operations.
- **Noise/Land Use Compatibility Guidelines**. Summarizes the current guidelines and regulations used to control the use of land in areas affected by aircraft noise.
- **Airport Noise Assessment Methodology**. Describes the analysis completed to measure aircraft and other noise in the vicinity of airports.

Characteristics of Sound

Sound Level and Frequency. Sound is described in terms of the sound pressure (amplitude) and frequency (similar to pitch).

Sound pressure is a direct measure of the magnitude of a sound without consideration for other factors that may influence its perception. The range of sound pressures that occur in the environment is so large that it is convenient to express them on a logarithmic scale. The standard unit of measurement for sound pressure is the Decibel (dB). One decibel is used to describe the reference point of 20 micro Pascals or about 0.000000003 pounds per square inch of energy. Thus, 65 decibels is that amount to the 65th power. A logarithmic scale is used because of the difficulty in expressing such large numbers.

Highlights of Sound

Noise by definition is unwanted sound. There are many ways to describe noise (metrics), however, the most commonly relied on metric is the decibel (dB), which uses a weighting system that most closely reflects the human ear (the A-weighted decibel – dBA).

A number of factors affect sound, including weather, ground effects, as well as human reaction to the noise source. Health effects associated with aircraft noise are typically impacts to sleep and communication that cause stress.

As required by Federal law, aircraft noise must be measured using the Day-Night Average Level (DNL), which is based on averaging dBA.

FAA and other federal agencies have established land use compatibility guidelines based on the DNL, that identify the acceptability of various types of land use with aircraft noise exposure.

On the logarithmic scale, a sound level of 70 dB has 10 times the energy as a level of 60 dB, while a sound level of 80 has 100 times as much acoustic energy as 60 dB. This differs from the human perception to noise, which typically judges a sound 10 dB higher than another to be twice as loud, 20 dB higher to be four times as loud, and so forth.

The *frequency* of a sound is expressed as Hertz (Hz) or cycles per second. The normal audible frequency range for young adults is 20 Hz to 20,000 Hz. The prominent frequency range for community noise, including aircraft and motor vehicles, is between 50 Hz and 5,000 Hz. The human ear is not equally sensitive to all frequencies, with some frequencies judged to be louder for a given signal than others. As a result, research studies have analyzed how individuals make relative judgments as to the "loudness" or "annoyance" of a sound. The most prominent of these scales includes Loudness Level, Frequency-Weighted Contours (such as the A-weighted scale), and Perceived Noise Level. Noise metrics used in aircraft noise assessments are based upon these frequency weighting scales. Below is a glossary of noise metric terminologies, which is discussed in the following paragraphs.

Loudness Level. This scale has been devised to approximate the human subjective assessment of the "loudness" of a sound. Loudness is the subjective judgment of an individual as to how loud or quiet a particular sound is perceived.

Frequency-Weighted Contours (dBA, dBB, and dBC). To simplify the measurement and computation of sound loudness levels, frequency-weighted metrics are used. These frequency-weighted contours demonstrate different aspects of noise, and are presented in Figure C1, *FREQUENCY WEIGHTED CONTOURS (dBA, dBB, and dBC*)

The most common frequency weighting is the A-weighted noise curve. The A-weighted decibel scale (dBA) focuses on frequencies approximating the sensitivity of the human ear. In the A-weighted decibel, everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Most community noise analyses are based upon the A-weighted decibel scale. Examples of various sound environments, expressed in dBA, are presented in Figure C2, *EXAMPLE OF VARIOUS SOUND ENVIRONMENTS*.

Some interest has developed in using a noise curve that measures lower frequency noise sources. For example, the C-weighted curve is used for the analysis of the noise impacts from artillery noise, which captures the low rumble that many associate with vibration.

Perceived Noise Level. Perceived noisiness was originally developed for the assessment of aircraft noise. Perceived noisiness is defined as "the subjective impression of the unwantedness of a not unexpected, non-pain or fear-provoking sound as part of one's environment," (Kryter, 1970) "Noisiness" curves differ from "loudness curves" in that they have been developed to rate the noisiness or annoyance of a sound as opposed to the loudness of a sound (i.e., perception of the noise).

As with loudness curves, noisiness curves have been developed from laboratory surveys of individuals. However, in noisiness surveys, individuals are asked to judge in a laboratory setting when two sounds are equally noisy or disturbing if heard regularly in their own environment. These surveys are more complex and are therefore subject to greater variability.

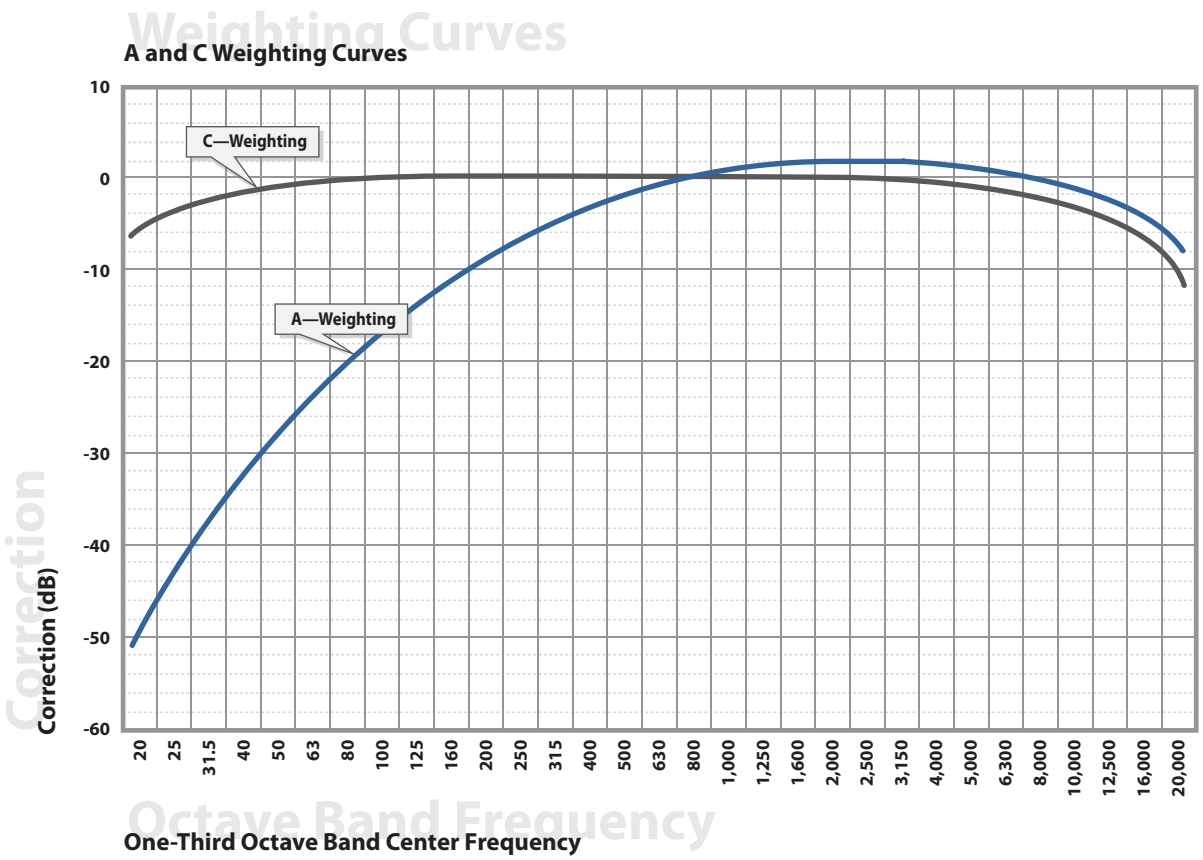


Figure C1 Frequency Weighted Contours (dBA, dBB, dBC)

SOURCE: BridgeNet International.

EXAMPLES OF VARIOUS A-WEIGHTED DECIBEL SOUND ENVIRONMENTS

dB(A)	OVER-ALL LEVEL Sound Pressure Level Approx. 0.0002 Microbar	COMMUNITY (Outdoor)	HOME or INDUSTRY	LOUDNESS Human Judgement of Different Sound Levels
130		Military Jet Aircraft Takeoff with Afterburner from Aircraft Carrier @ 50 ft. (130)	Oxygen Torch (121)	120 dB(A) 32 Times as Loud
120 110	UNCOMFORTABLY LOUD	Concorde Takeoff (113)	Riveting Machine (110) Rock and Roll Band (108-114)	110 dB(A) 16 Times as Loud
100		Boeing 747-200 Takeoff (101)		100 dB(A) 8 Times as Loud
90	VERY LOUD	Power Mower (96) DC-10-30 Takeoff (96)	Newspaper Press (97)	90 dB(A) 4 Times as Loud
80		Car Wash @ 20 ft. (89) Boeing 727 Hushkit Takeoff (89)	Food Blender (88) Milling Machine (85) Garbage Disposal (80)	80 dB(A) 2 Times as Loud
70	MODERATELY LOUD	High Urban Ambient Sound (80) Passenger Car, 65 mph @ 25 ft. (77) Boeing 757 Takeoff (76)	Living Room Music (76) TV-Audio, Vacumn Cleaner	70 dB(A)
60		Propeller Airplane Takeoff (67) Air Conditioning Unit @ 100 ft. (60)	Cash Register @ 10 ft. (65-70) Electric Typewriter @ 10 ft. (64) Conversation (60)	60 dB(A) 1/2 Times as Loud
50	QUIET	Large Transformers @ 100 ft. (50)		50 dB(A) 1/4 Times as Loud
40		Bird Calls (44) Low Urban Ambient Sound (40)		40 dB(A) 1/8 Times as Loud

"Aircraft takeoff noise measured 6,500 meters from beginning of takeoff roll
(Source: Advisory Circular AC-36-3G)"

Figure C2 Example of Various Sound Environments

SOURCE: Reproduced From Melville C. Branch And R. Dale Beland, "Outdoor Noise In The Metropolitan Environment". Published By The City Of Los Angeles. 1970.

Propagation of Noise. Outdoor sound levels decrease as a result of several factors, including increasing the distance from the sound source, atmospheric absorption (characteristics in the atmosphere that actually absorb sound), and ground attenuation (characteristics on the ground that absorb sound). Sound typically travels in spherical waves, similar to waves created from dropping a stone into water. As the sound wave travels away from the source, the sound energy is spread over a greater area, dispersing the sound power of the wave.

Temperature and humidity of the atmosphere also influence the sound levels at a particular location. These influences increase with distance and become particularly important at distances greater than 1,000 feet. The degree of absorption depends on the frequency of the sound, as well as humidity and air temperature. For example, when the air is cold and humid, and therefore denser, atmospheric absorption is lowest. Higher frequencies are more readily absorbed than the lower frequencies. Over large distances, lower frequency sounds become dominant as the higher frequencies are attenuated. Examples of the effects of temperature and humidity on sound absorption are presented in Figure C3, *ATMOSPHERIC ATTENUATION: HOW NOISE CHANGES OVER DISTANCE BASED ON HUMIDITY AND TEMPERATURE*.

Noise propagation is particularly relevant within the environs of Chicago Executive Airport due to winter weather conditions. During the winter, high humidity and cold, overcast conditions result in lowered noise attenuation, causing noise levels to remain higher farther from a noise source than would occur under standard summer conditions. Winter weather facilitates an atmospheric inversion (when the air nearest the earth is colder than the air above), which also results in higher aircraft noise than when inversion layer is not present.

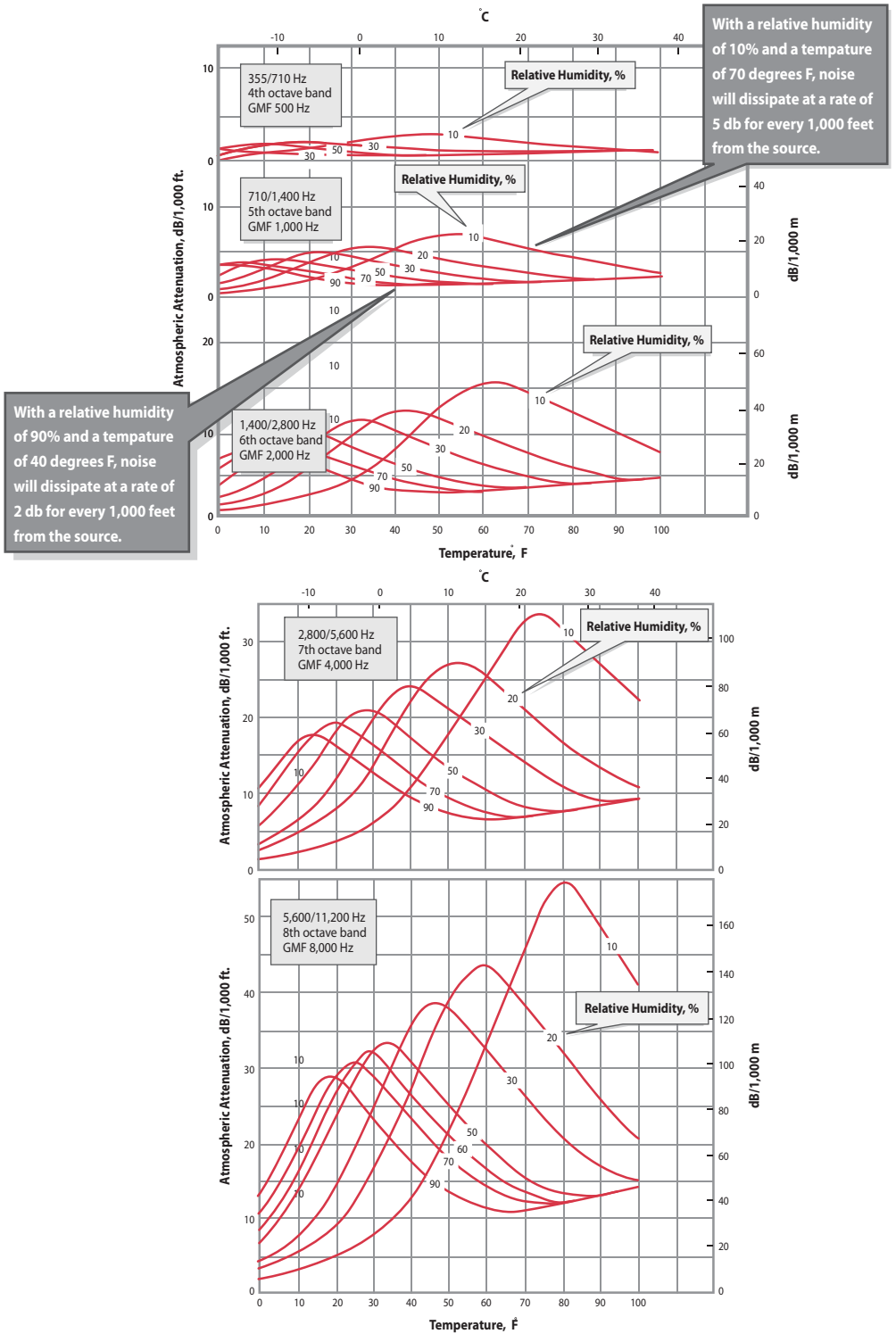


Figure C3 Atmospheric Attenuation - How Noise Changes Over Distance Based on Humidity and Temperature

SOURCE: Beranek, 1981.

Duration of Sound. Duration of a noise event is an important factor in describing sound in a community setting. The longer the noise event, the more likely the sound will be perceived as annoying. The "effective duration" of a sound starts when a sound rises above the background sound level and ends when it drops back below the background level. Studies have confirmed a relationship between duration and annoyance, and have established the amount a sound must be reduced to be judged equally annoying over an increased duration time.

This relationship between duration and noise level forms the basis of how the equivalent energy principal of sound exposure is measured. Reducing the acoustic energy of a sound by one-half results in a 3 dB reduction. Conversely, doubling the duration of the sound event increases the total energy of the event by 3 dB. This *equivalent energy principle* is based upon the premise that the potential for a noise to impact a person is dependent on the total acoustical energy content of the noise. Noise descriptors explained below (DNL, LEQ and SEL) are all based upon this *equivalent energy principle*.

Change in Noise Levels. The concept of change in sound levels is related to the reaction of the human ear to sound. The human ear detects relative differences between sound levels better than absolute values of levels. Under controlled laboratory conditions, a human listening to a steady unwavering pure tone sound can barely detect a change of approximately one decibel for sound levels in the mid-frequency region. However, when ordinary noises are heard, a young healthy ear can only detect changes of two to three decibels. A five-decibel change is noticeable while a 10-decibel change is judged by the majority of people as a doubling effect of the sound.

Masking Effect. One characteristic of sound is its ability to interfere with the listener's ability to hear another sound. This is defined as the masking effect. The presence of one sound effectively raises the threshold of audibility for the hearing of a second sound. For a sound to be heard, it must exceed the threshold of hearing for that particular individual and exceed the masking threshold for the background noise.

The masking characteristic is dependent upon many factors, including the spectral (frequency) characteristics of the two sounds, the sound pressure levels, and the relative start time of sound events. The masking effect is greatest when it is closest to the frequency of the signal. Low frequency sounds can mask higher frequency sounds; however, high frequency sounds do not easily mask low frequency sounds.

Ground Effects. This term describes the effects of vegetation on noise. As sound travels away from the source, some of it is absorbed by grass, plants, and trees. The amount of such ground attenuation (rate that noise level reduces at distances farther from the noise source) depends on the structure and density of trees and foliage, as well as the height of both the source and receiver and the frequency of the sound being absorbed. If the source and the receiver of the sound are both located below the average height of the intervening foliage, the ground covering will be most effective. If either the source or the receiver rises above the height of the ground covering, the excess attenuation will become less effective. Reflected sound, however, will still be reduced.

Factors Influencing Human Response to Sound

Many factors influence how a sound is perceived and whether or not it is considered annoying to the listener. This includes not only physical characteristics of the sound, but also secondary influences such as sociological and external factors. The "Handbook of Noise Control" describes human response to sound in terms of both acoustic and non-acoustic factors. These factors are summarized in Table C1, *FACTORS THAT AFFECT INDIVIDUAL ANNOYANCE TO NOISE.*

Sound rating scales are developed to account for human response to sound and how sounds are perceived in the community. Many non-acoustic parameters affect individual response to noise. Background sound, which is an additional acoustic factor, is important in describing sound in rural settings. Research has identified a clear association of reported noise annoyance and fear of an accident. In particular, there is firm evidence that noise annoyance is associated with: (1) the fear of an aircraft crashing or of danger from nearby surface transportation; (2) the belief that aircraft noise could be prevented or reduced by pilots or authorities related to airlines; and, (3) an expressed sensitivity to noise generally. Thus, it is important to recognize that such non-acoustic factors, as well as acoustic factors, contribute to human response to noise.

Table C1, FACTORS THAT AFFECT INDIVIDUAL ANNOYANCE TO NOISE

Primary Acoustic Factors	Sound Level
	Frequency
	Duration
Secondary Acoustic Factors	Spectral (Frequency) Complexity
	Fluctuations in Sound Level
	Fluctuations in Frequency
	Rise-time of the Noise
	Localization of Noise Source
Non-acoustic Factors	Physiology
	Adaptation and Past Experience
	How the Listener's Activity Affects Annoyance
	Predictability of When a Noise will Occur
	Whether the Noise is Necessary
	Individual Differences and Personality

Source: C. Harris, 1979

Health Effects of Noise

Noise is known to have adverse effects on people. From these effects, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. These criteria are based on effects of noise on people, such as hearing loss (not a factor with typical community noise), communication interference,

sleep interference, physiological responses, and annoyance. Each of these potential noise impacts is briefly discussed in the following points:

Hearing Loss is generally not a concern in community/aircraft noise situations, even when close to a major airport or a freeway. The potential for noise-induced hearing loss is more commonly associated with occupational noise exposure in heavy industry; very noisy work environments with long-term, sometimes close-proximity exposure; or, certain very loud recreational activities such as target shooting, motorcycle or car racing, etc. The Occupational Safety and Health Administration (OSHA) identifies a noise exposure limit of 90 dBA for 8 hours per day to protect from hearing loss (higher limits are allowed for shorter duration exposures). Noise levels in neighborhoods near airports, even in very noisy neighborhoods, do not exceed the OSHA standards and are not sufficiently loud to cause hearing loss.

Communication Interference is one of the primary concerns with aircraft noise. Communication interference includes interference with hearing, speech, or other forms of communication such as watching television and talking on the telephone. Normal conversational speech produces sound levels in the range of 60 to 65 dBA, and any noise in this range or louder may interfere with the ability of another individual to hear or understand what is spoken. There are specific methods for describing speech interference as a function of the distance between speaker, listener, and voice level. Figure C4, *QUALITY OF SPEECH COMMUNICATION IN RELATION TO THE DISTANCE BETWEEN THE TALKER AND THE LISTENER*, shows the relationship between the quality of speech communication and various noise levels.

Sleep Interference, particularly during nighttime hours, is one of the major causes of annoyance due to noise. Noise may make it difficult to fall asleep, create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages, and may cause awakenings that a person may not be able to recall.

Research has shown that once a person is asleep in his own home, it is much more unlikely that he will be awakened by a noise. Some of this research has been criticized because it has been conducted in areas where subjects had become accustomed to aircraft noise. On the other hand, some of the earlier laboratory sleep studies have been criticized because of the extremely small sample sizes of most laboratory studies and because the laboratory was not necessarily a representative sleep environment.

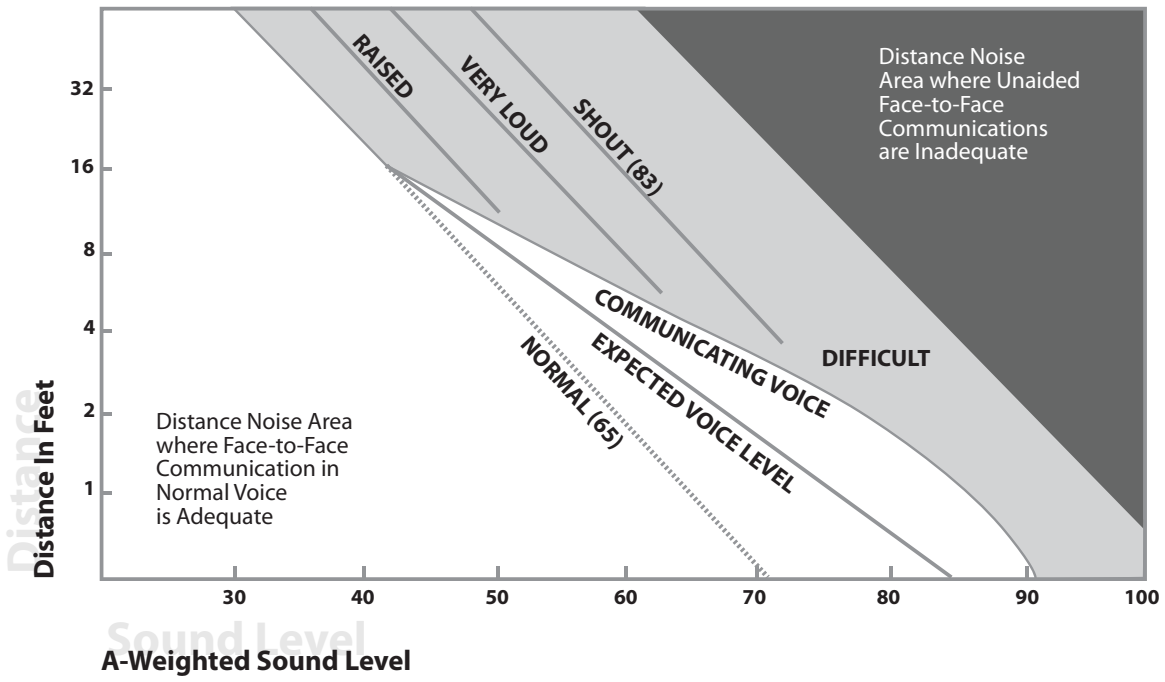


Figure C4 Quality of Speech Communication in Relation to the Distance Between the Talker and the Listener

SOURCE: Noise Effects Handbook, EPA.

An English study assessed the effects of nighttime aircraft noise on sleep in 400 people (211 women and 189 men; 20-70 years of age; one per household) living at eight sites adjacent to four United Kingdom (U.K.) airports, with different levels of night flying. The main finding was that only a minority of aircraft noise events affected sleep, and, for most subjects, that domestic and other non-aircraft factor had much greater effects. As shown in Figure C5, *CAUSES OF REPORTED AWAKENINGS*, aircraft noise is a minor contributor among a host of other factors that lead to awakening response.

Likewise, the Federal Interagency Committee on Noise (FICON) in an earlier 1992 document, entitled *Federal Interagency Review of Selected Airport Noise Analysis Issues*, recommended an interim dose-response curve for sleep disturbance based on laboratory studies of sleep disturbance. This review was updated in June 1997, when the Federal Interagency Committee on Aviation Noise (FICAN) replaced the FICON recommendation with an updated curve based on the more recent in-home sleep disturbance studies. The FICAN recommended a curve based on the upper limit of the data presented, and, therefore, considers the curve to represent the "maximum percent of the exposed population expected to be behaviorally awakened," or the "maximum awakened."

In 2008, FICAN issued a finding that supersedes its 1997 recommendation. The 2008 finding recommends using the procedure in American National Standards Institute, Inc. (ANSI) S12.9-2008, *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 6: Methods for Estimation of Awakenings Associated with Outdoor Noise Events Heard in Homes* to determine night awakenings. Prior studies relied on night awakenings being tested in a laboratory setting, or in homes that had been exposed to aircraft noise for a long period of time. The ANSI study was based on in home testing of people that had not been exposed to aircraft noise before. This study based on observations of 10,000 nights of sleep for the study participants living in close proximity to an airport in the United States and the Netherlands. ANSI S12.9-2008 developed standards on probability of awakenings from a full night of noise events.

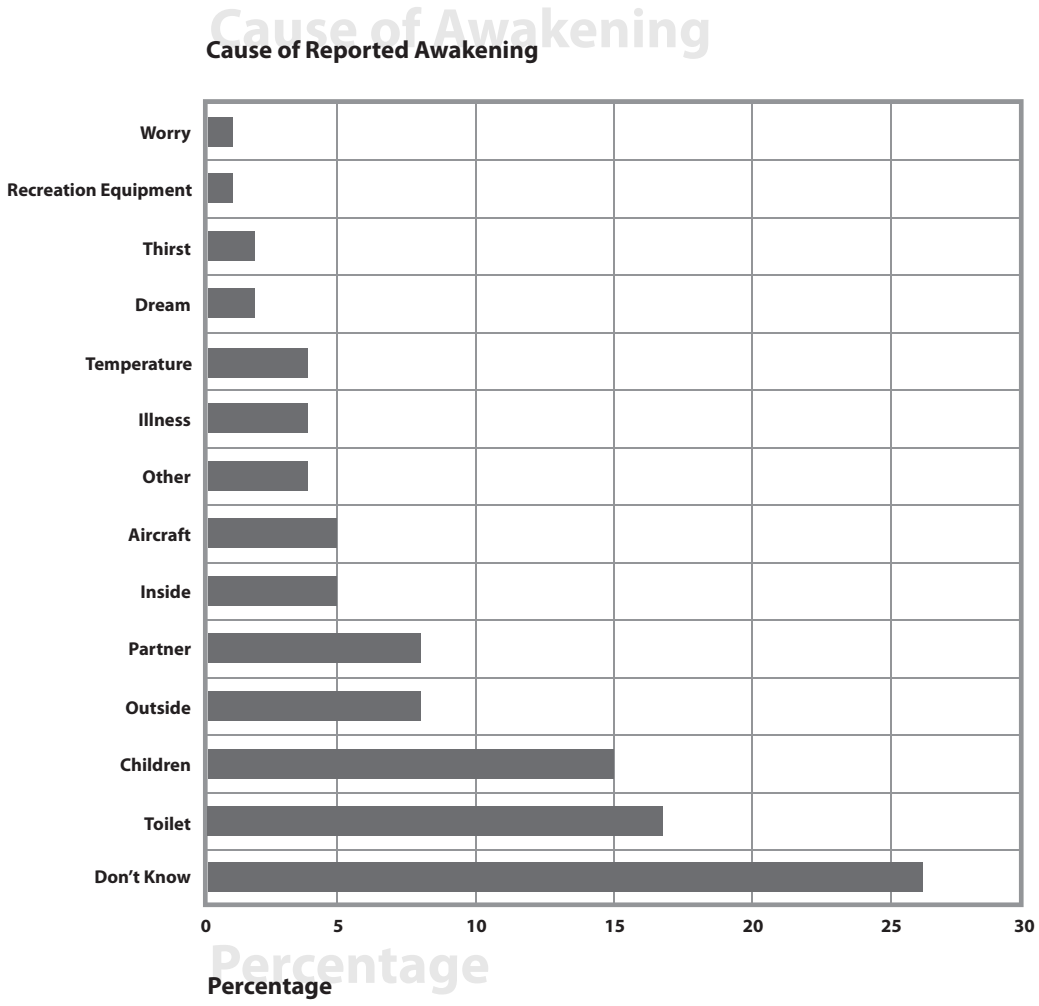


Figure C5 Causes of Reported Awakenings

SOURCE: Report Of A Field Study Of Aircraft Noise And Sleep Disturbance, 1992. London Department Of Safety.

The ANSI recommendation is shown on Figure C6, *THE PLOT OF THE SLEEP AWAKENING DATA.* This is a very conservative approach. A more common statistical curve for the data points is also reflected in Figure C6. The differences indicate, for example, a 7% awakening rate at a level of approximately 100 dB SEL, while the "maximum awakened" curve prescribed by FICAN shows the 3% awakening rate being reached at 80 dB SEL. Sleep interference continues to be a major concern to the public and an area of debate among researchers.

Physiological Responses reflect measurable changes in pulse rate, blood pressure, etc. Generally, physiological responses reflect a reaction to a loud short-term noise, such as a rifle shot or a very loud jet over flight. While such effects can be induced and observed, the extent to which these physiological responses cause harm is not known.

Annoyance is the most difficult of all noise responses to describe. Annoyance is an individual characteristic and can vary widely from person to person. What one person considers tolerable may be unbearable to another of equal hearing capability. The level of annoyance also depends on the characteristics of the noise (i.e., loudness, frequency, time, and duration), and how much activity interference (e.g., speech interference and sleep interference) results from the noise. However, the level of annoyance is also a function of the attitude of the receiver. Personal sensitivity to noise varies widely. It has been estimated that 2 to 10 percent of the population are highly susceptible to annoyance from noise not of their own making, while approximately 20 percent are unaffected by noise. Attitudes are affected by the relationship between the listener and the noise source as well (for example, is it *your* dog barking or the *neighbor's* dog?). Whether one believes that someone is trying to abate the noise will also affect their level of annoyance.

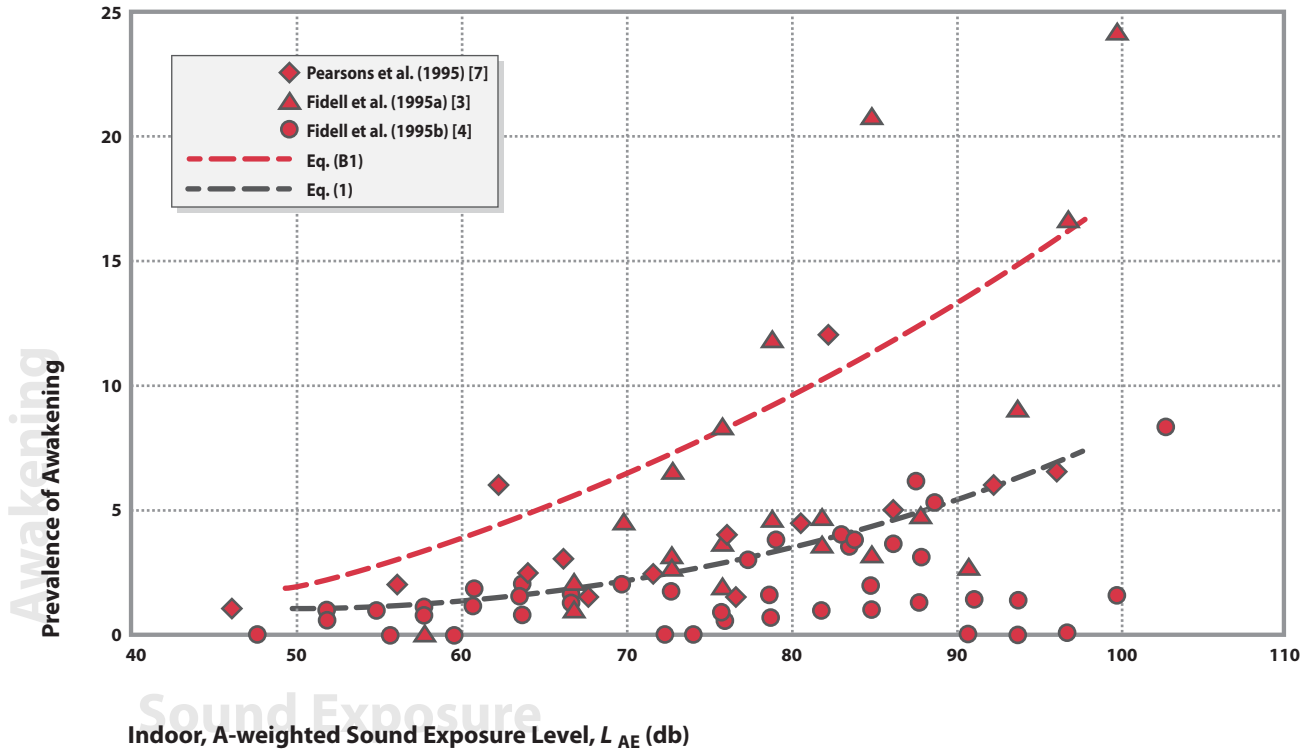


Figure C6 A Plot of the Sleep Awakening Data: Equation (1) and Equation (B1) Versus Indoor, A-weighted Sound Exposure Level

SOURCE: Acoustical Society of America, 2008.

Sound Rating Scales

The description, analysis, and reporting of community sound levels are made difficult by the complexity of human response to sound, and the myriad of sound-rating scales and metrics that have been developed for describing acoustic effects. Various rating scales have been devised to approximate the human subjective assessment of "loudness" or "noisiness" of a sound.

Noise metrics can be categorized as single event metrics and cumulative metrics. Single event metrics describe the noise from individual events, such as an aircraft flyover. Cumulative metrics describe the noise in terms of the total noise exposure throughout the day. These noise metrics are summarized below.

Single Event Metrics

A-Weighted Metrics (dBA). To simplify the measurement and computation of sound loudness levels, frequency weighted metrics have obtained wide acceptance. The A-weighting (dBA) scale has become the most prominent of these scales and is widely used in community noise analysis. This metric has shown good correlation with community response and may be easily measured. The metrics used in this study are all based upon the dBA scale.

Maximum Noise Level. The highest noise level reached during a noise event is called the "Maximum Noise Level," or Lmax. For example, as an aircraft approaches, the sound of the aircraft begins to rise above ambient noise levels. The closer the aircraft gets, the louder it is until the aircraft is at its closest point directly overhead. As the aircraft passes, the noise level decreases until the sound level settles to ambient levels. This is plotted at the top of Figure C7, *EXAMPLES OF Lmax, SEL, LEQ and DNL NOISE LEVELS*. It is this metric to which people generally respond when an aircraft flyover occurs.

Sound Exposure Level (SEL). The duration of a noise event, or an aircraft flyover, is an important factor in assessing annoyance and is measured most typically as SEL. The effective duration of a sound starts when a sound rises above the background sound level and ends when it drops back below the background level. An SEL is calculated by summing the dB level at each second during a noise event (referring again to the shaded area at the top of Figure C7, *EXAMPLES OF Lmax, SEL, LEQ, and DNL NOISE LEVELS*) and compressing

that noise into one second. It is the level the noise would be if it all occurred in one second. The SEL value is the integration of all the acoustic energy contained within the event. This metric takes into account the maximum noise level of the event and the duration of the event. For aircraft flyovers, the SEL value is numerically about 10 dBA higher than the maximum noise level. Single event metrics are a convenient method for describing noise from individual aircraft events. Airport noise models contain aircraft noise curve data based upon the SEL metric. In addition, cumulative noise metrics such as Equivalent Noise Level (LEQ) and Day Night Noise Level (DNL) can be computed from SEL data (these metrics are described in the next paragraphs).

Cumulative Metrics

Cumulative noise metrics have been developed to assess community response to noise. They are useful because these scales attempt to include the loudness and duration of the noise, the total number of noise events, and the time of day these events occur into one rating scale.

Equivalent Noise Level (LEQ). LEQ is the sound level corresponding to a steady-state A-weighted sound level containing the same total energy as a time-varying signal (noise that constantly changes over time) over a given sample period. LEQ is the "energy" average taken from the sum of all the sound that occurs during a certain time period; however, it is based on the observation that the potential for a noise to impact people is dependent on the total acoustical energy content. This is graphically illustrated in the middle graph of Figure C7, *EXAMPLES OF Lmax, SEL, LEQ, and DNL NOISE LEVELS*. LEQ can be measured for any time period, but is typically measured for 15 minutes, 1 hour, or 24 hours. LEQ for one hour is used to develop the DNL values for aircraft operations.

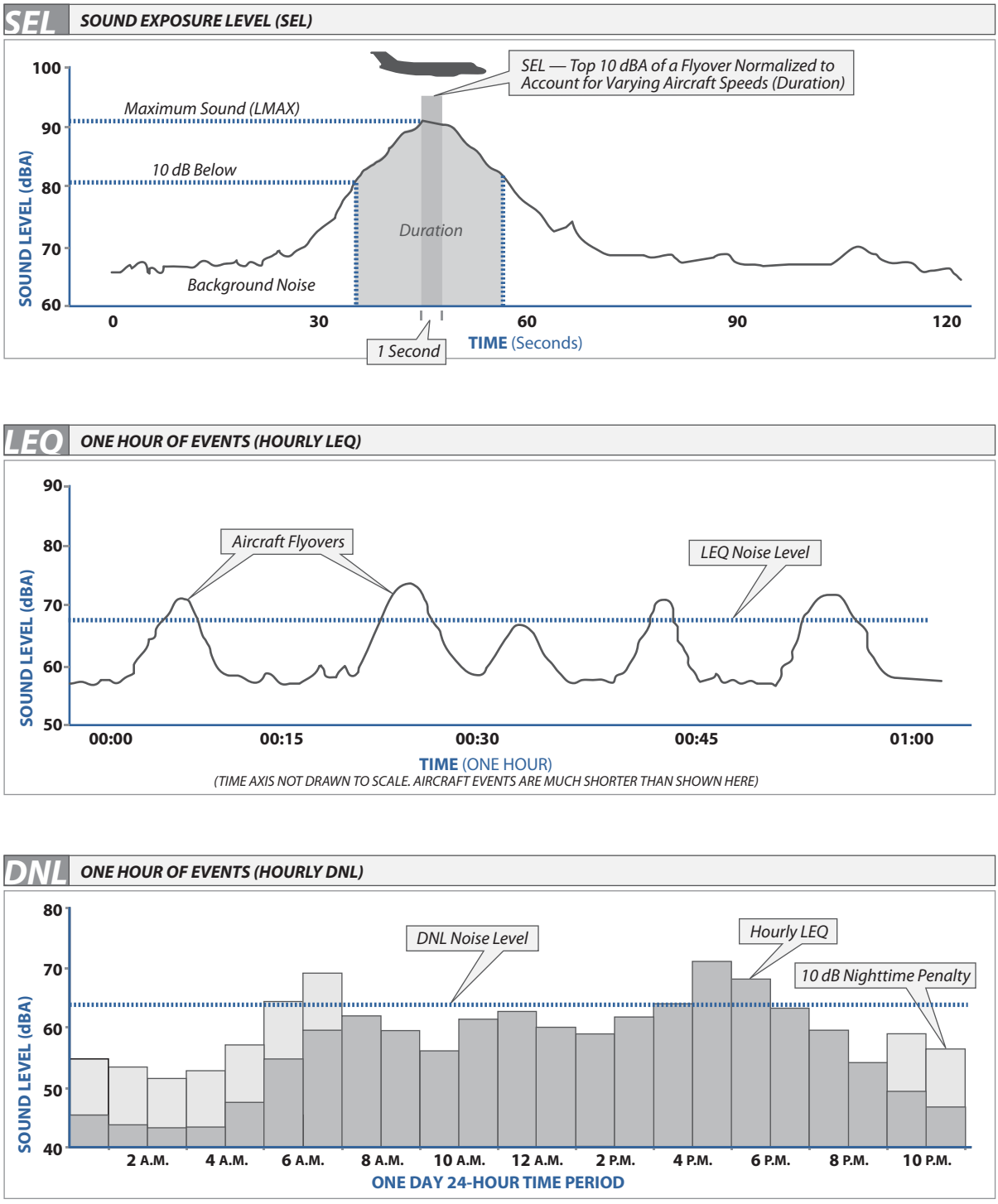


Figure C7 Examples of Lmax, SEL, LEQ, and DNL Noise Levels

Day Night Noise Level (DNL). The DNL describes noise experienced during an entire (24-hour) day. DNL calculations account for the SEL of aircraft, the number of aircraft operations, and include a penalty for nighttime operations. In the DNL scale, noise occurring between the hours of 10 p.m. to 7 a.m. is penalized by 10 dB. This penalty was selected to account for the higher sensitivity to noise in the nighttime and the expected further decrease in background noise levels that typically occur at night. *DNL is required by the FAA for the measurement of aircraft noise and in evaluating noise during a Part 150 Study.* In addition, it is used by other federal agencies including the Environmental Protection Agency (EPA), the Department of Defense (DOD), and the Department of Housing and Urban Development (HUD). DNL is graphically illustrated in the bottom of Figure C7, *EXAMPLES OF Lmax, SEL, LEQ, and DNL NOISE LEVELS*. Examples of various noise environments in terms of DNL are presented in Figure C8, *TYPICAL OUTDOOR NOISE LEVELS IN TERMS OF DNL*. The FAA, with the support of these agencies, has developed land use compatibility guidelines that identify the acceptability of various land uses with aircraft noise.

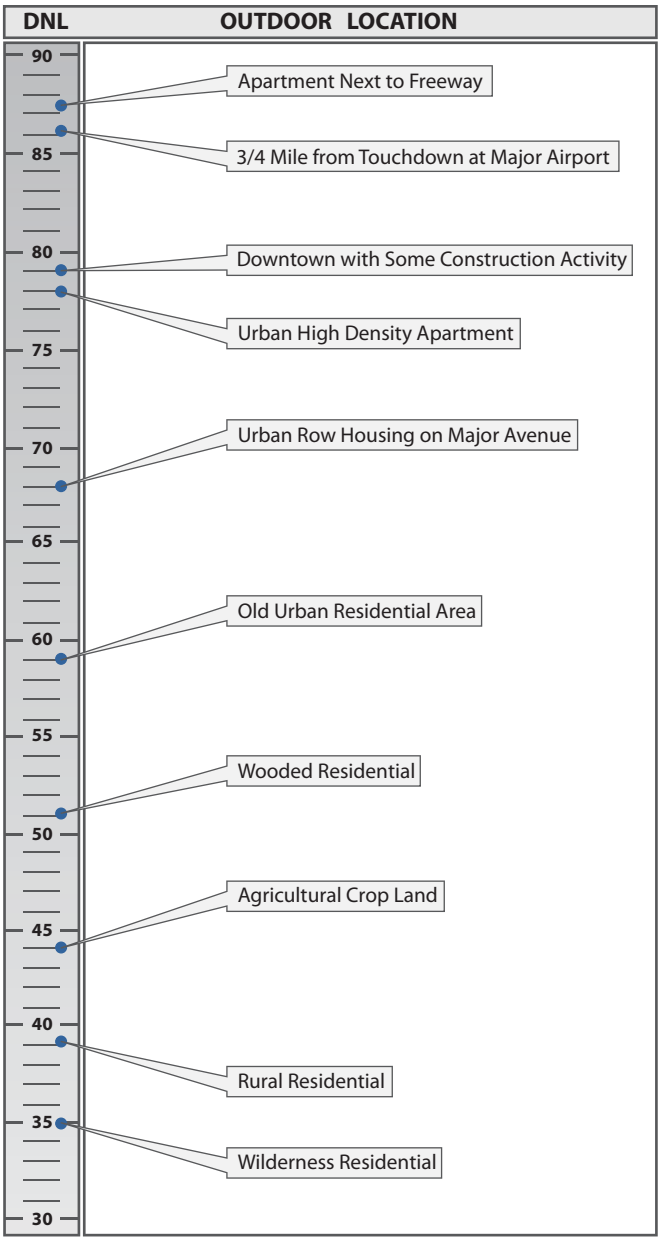


Figure C8 Typical Outdoor Noise Levels in Terms of DNL

SOURCE: EPA Levels Document, 1974.

Noise/Land Use Compatibility Standards and Guidelines

Noise metrics describe noise exposure and help predict community response to various noise exposure levels. The public reaction to different noise levels has been estimated based upon extensive research on human responses to exposure of different levels of aircraft noise. Figure C9, *EXAMPLE OF COMMUNITY REACTION TO AIRCRAFT NOISE*, relates DNL noise levels to community response. Based on human response, land use compatibility guidelines have been developed that are defined in terms of the DNL described earlier (a 24-hour average that includes a sound level weighting for noise at night). Using these metrics and surveys, agencies have developed guidelines for assessing the compatibility of various land uses with the noise environment.

Highlights of Land Use Compatibility Guidelines

FAA and other federal agencies have established land use compatibility guidelines based on the DNL that identify the acceptability of various types of land use with aircraft noise exposure.

- Residential uses are compatible with noise up to 65 DNL and up to 75 DNL with sound insulation;
- Schools are compatible with noise up to 65 DNL and up to 75 DNL with sound insulation;
- Commercial development is compatible with noise up to 75 DNL

Numerous laws have been passed concerning aircraft noise.

- ASNA: FAA required to use DNL
- Phase-out of Stage 2 aircraft >175,000 lbs. in the year 2000
- Phase-out of Stage 2 aircraft < 75,000 lbs. in December 2015
- ANCA prevents adoption of airport access restrictions (i.e., curfews, and

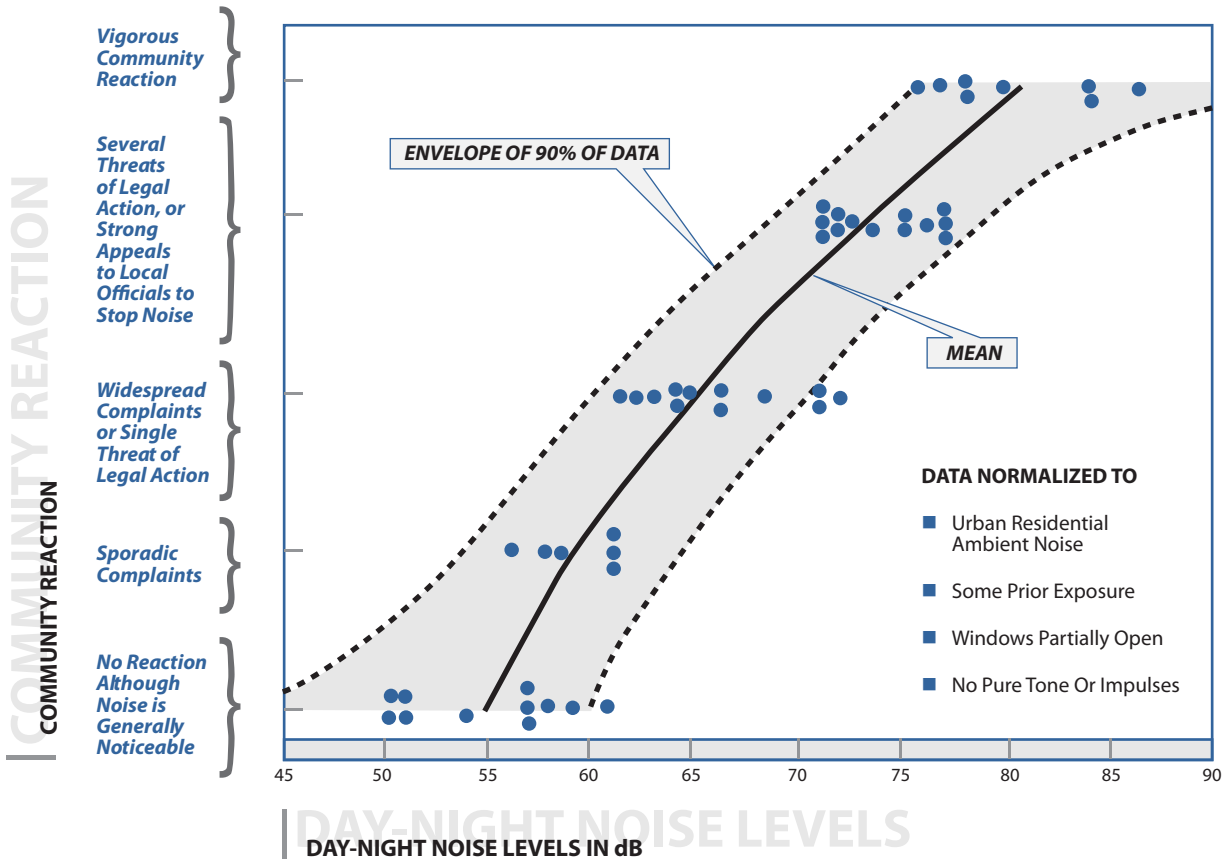


Figure C9 Example of Community Reaction to Aircraft Noise

SOURCE: EPA Levels Document, 1974.

The most common noise/land use compatibility guidelines or criteria used are 65 dBA DNL. The Schultz curve, as shown in Figure C9, predicts approximately 14% of the exposed population would be highly annoyed with exposure to the 65 dBA DNL. At 60 dB DNL, it decreases to approximately 8% of the population highly annoyed. However, recent updates to the Schultz curve, done by the U.S. Air Force, indicate that even a higher percentage of residents may experience annoyance with 65 DNL.

A summary of pertinent regulations and guidelines is presented below:

Code of Federal Regulations, Part 36, "Noise Standards: Aircraft Type and Airworthiness Certification"

Originally adopted in 1960, CFR Part 36 prescribes noise standards for issuance of new aircraft type certificates; it also limited noise levels for certification of new types of propeller-driven, small airplanes as well as for transport category, large airplanes. Subsequent amendments extended the standards to certain newly produced aircraft of older type designs. Other amendments extended the required compliance dates. Aircraft may be certificated as Stage 1, Stage 2, Stage 3, or Stage 4 (also called Chapter number outside the U.S.) aircraft based on their noise level, weight, number of engines, and, in some cases, number of passengers. Stage 1 aircraft over 75,000 pounds are no longer permitted to operate in the U.S. Stage 2 aircraft over 75,000 pounds were phased-out of the U.S. fleet effective at the start of 2000, as discussed below by the Airport Noise and Capacity Act of 1990. After December 2015, Stage 2 turbojet aircraft under 75,000 lbs. were no longer permitted to operate in the U.S. Any aircraft applying for a type certificate after 2006 must meet Stage 4 guidelines, which are cumulatively about 10 dBA lower than Stage 3 standards.

Code of Federal Regulations, Part 150, "Airport Noise Compatibility Planning"

As a means of implementing the Aviation Safety and Noise Abatement Act (ASNA), the FAA adopted Code of Federal Regulations Part 150, Airport Noise Compatibility Planning Programs. CFR Part 150 established a uniform program for developing balanced and cost effective programs for reducing existing and future aircraft noise at individual airports. Included in CFR Part 150 was the FAA's adoption of noise and land use compatibility guidelines discussed earlier. An expanded version of these guidelines/chart appears in Aviation Circular 150/5020-1 (dated August 5, 1983) and is reproduced in Figure C10**,** *FAA CFR PART 150 LAND USE COMPATIBILITY MATRIX*.

These guidelines offer recommendations for determining acceptability and compatibility of land uses. The guidelines specify the maximum amount of noise exposure (in terms of the cumulative noise metric DNL) that would be considered acceptable or compatible to people in living and working areas.

LAND USE	YEARLY DAY-NIGHT NOISE LEVEL (DNL) IN DECIBELS					
	BELOW 65	65-70	70-75	75-80	80-85	OVER 85
RESIDENTIAL						
Residential, other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
PUBLIC USE						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parentheses refer to NOTES.

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

TABLE KEY

SLUCM	Standard Land Use Coding Manual.
Y(Yes)	Land Use and related structures compatible without restrictions.
N(No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30 or 35	Land Use and related structures generally compatible; measures to achieve NLR of 25, 30 or 35 dB must be incorporated into design and construction of structure.

NOTES

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB to 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(2) Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(4) Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(5) Land use compatible provided that special sound reinforcement systems are installed.

(6) Residential buildings require an NLR of 25.

(7) Residential buildings require an NLR of 30.

(8) Residential buildings not permitted.

Figure C10 FAA CFR Part 150 Land Use Compatibility Matrix

SOURCE: FAR Part 150 Guidelines.

Federal Aviation Administration Order 5050.4B and Order 1050.1F, Appendix B., Requirements for Assessing Impacts Related to Noise and Noise-Compatible Land Use and Section 4(f) of the Department of Transportation on Act (49 U.S.C. §303)

FAA, like many other federal agencies, issues guidance for compliance with the National Environmental Policy Act (NEPA). FAA Order 1050.1F *Environmental Impacts: Policies and Procedures*, identifies the procedures for complying with NEPA for all divisions of the FAA. FAA Order 5050.4B supplements 1050.1F and identifies issues specific to the Airports Division of the FAA. These orders specify the processes for considering environmental factors when evaluating federal actions under NEPA, and include methodologies for assessing noise, as well as thresholds of significant project-related noise changes. This guidance requires the use of the FAA's Aviation Environmental Design Tool (AEDT), the preparation of noise contours showing 65 and 75 DNL, and note that a significant noise impact would occur if analysis shows that "the action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe." Noise abatement alternatives that result in shifting of noise may trigger an environmental review process, subject to one of these orders, before they can be implemented.

Airport Noise and Capacity Act of 1990 (ANCA)

The Airport Noise and Capacity Act of 1990 (PL 101-508, 104 Stat. 1388), also known as ANCA or the Noise Act, established two broad directives for the FAA: (1) establish a method to review aircraft noise, and airport use or access restriction, imposed by airport proprietors, and (2) institute a program to phase-out Stage 2 aircraft over 75,000 pounds by December 31, 1999 [Stage 2 aircraft are older, noisier aircraft (B-737-200, B-727 and DC-9); Stage 3 aircraft are newer, quieter aircraft (B-737-300, B-757, MD-80/90)]. To implement ANCA, FAA amended Part 91 to address the phase-out of large Stage 2 aircraft and the phase-in of Stage 3 aircraft. In addition, Part 91 states that all Stage 2 aircraft over 75,000 pounds were to be removed from the domestic fleet or modified to meet Stage 3 by December 31, 1999. There are a few exceptions, but only Stage 3 aircraft greater than 75,000 pounds are now in the domestic fleet. The airlines have phased out Stage 2 aircraft, and the mainland domestic fleet is now all Stage 3 and Stage 4 aircraft.

Furthermore, CFR Part 161 was adopted to institute a highly stringent review and approval process for implementing use or access restrictions by airport proprietors. Part 161 sets out the requirements and procedures for implementing new airport use and access restrictions by airport proprietors. They must use the DNL metric to measure noise effects, and the Part 150 land use guideline table, including 65 DNL as the threshold contour to determine compatibility.

ANCA applies to all local noise restrictions that are proposed after October 1990, and to amendments to existing restrictions proposed after October 1990. The FAA has approved only one completed Part 161 Study to date (for restricting Stage 2 corporate jets). Recent litigation has upheld the validity and reasonableness of that Part 161 restriction.

Federal Interagency Committee on Noise (FICON) Report of 1992

The use of the DNL metric criteria has been criticized by various interest groups concerning its usefulness in assessing aircraft noise impacts. As a result, at the direction of the EPA and the FAA, the Federal Interagency Committee on Noise (FICON) was formed to review specific elements of the assessment on airport noise impacts and to recommend procedures for potential improvements. FICON included representatives from the Departments of Transportation, Defense, Justice, Veterans Affairs, Housing and Urban Development, the Environmental Protection Agency, and the Council on Environmental Quality.

The FICON review focused primarily on the manner in which noise impacts are determined, including whether aircraft noise impacts are fundamentally different from other transportation noise impacts; how noise impacts are described; and, whether impacts outside of Day-Night Average A-Weighted Sound Level (DNL) 65 decibels (dB) should be reviewed in a National Environmental Policy Act (NEPA) document.

The committee determined that there are no new descriptors or metrics of sufficient scientific standing to substitute for the present DNL cumulative noise exposure metric. FICON determined that the DNL method contains appropriate dose-response relationships (expected community reaction for a given noise level) to determine the noise impact is properly used to assess noise impacts at both civil and military airports. The report does support agency discretion in the use of supplemental noise analysis, recommends public understanding of the DNL and supplemental methodologies, as well as aircraft noise impacts. FICON did, however, recommend that if screening analysis shows a 1.5 dB increase within a 65 DNL or a 3.0 dB increase within a 60-65 DNL, then additional analysis should be conducted.

Noise Assessment Methodology

Existing and future aircraft noise environments for airports are typically determined through computer modeling. Once reliable computer generated contours are developed for existing conditions, the computer input files are altered to reflect future conditions based on forecasts of future operations and/or proposed noise abatement aircraft operational measures. New computer generated data and contours are then developed to assess those future conditions. The following narrative provides details of this process. This section is focuses on the following information.

Highlights of Noise Assessment

Two tools were used in this NEM Update to evaluate aircraft operations:

- Aircraft radar data
- Aviation Environmental Design Tool (AEDT) computer model

FAA Part 150 Studies and NEM updates are required to model aircraft noise with the FAA AEDT computer model.

Actual noise monitoring is not required for FAA Part 150 studies. It is used to supplement the computer model and as a tool to show citizens actual noise measurements.

Noise measurements from aircraft operations were not used in this Part 150 Noise Exposure Map Update.

Aircraft radar data for all of 2016 was collected to identify the flight paths and use of the runways.

Computer Modeling

Computer modeling generates maps or tabular data of an airport's noise environment expressed in the metrics described above, such as DNL. Computer models are most useful in developing contours that depict, like elevation contours on a topography map, areas of equal noise exposure. Accurate noise contours are largely dependent on the use of reliable, validated, and updated noise models, and collection of accurate aircraft operational data.

The FAA's Aviation Environmental Design Tool (AEDT) models civilian and military aviation operations. The latest version, AEDT Version 2c, was released for use in March 2017 and is the state-of-the-art in airport noise modeling. The program includes standard aircraft noise and performance data for hundreds of aircraft types that can be tailored to the characteristics of specific individual airports. Version 2c includes many additional features such as more comprehensive aircraft noise modeling information the ability for the user to build and edit flight tracks in the model, which allows for more precise development of the noise contours in this Noise Exposure Map Update.

Chapter D, Existing and Future Baseline Noise Conditions

This chapter presents the existing (2016) and future (2022) noise conditions. The noise environment is presented in terms of noise contours. These contours are referred to as the base case or baseline noise contours, as they represent the same operational and land use conditions, with the only difference being a change in annual operations and fleet mix in the future. In addition, the future contours are the contours which the various alternatives will be compared if a Noise Compatibility Program (NCP) is prepared. DNL noise contours for this Part 150 Noise Exposure Map (NEM) Update were developed in terms of Day-Night Noise Level (DNL) noise levels using the Aviation Environmental Design Tool (AEDT) v2b, and show the 60 DNL, 65 DNL, 70 DNL, and 75 DNL contours per 14 CFR Part 150 Study guidance. (Note that the 60 DNL contour are included only for informational purposes).

Existing Baseline Noise Modeling Inputs

Existing Aircraft Operations

The existing noise environment for Chicago Executive Airport was analyzed based upon 2016 calendar year annual operational conditions. 2016 was used as the base year because it was the last full year of operations when this Study was initiated and operations are still representative of current conditions. As noted in the Inventory chapter, this year included summer closures on weekends in June, July, August, September and November. The closures are reflected in the base year noise contours. A Part 150 Noise Exposure Map Update requires that the baseline or existing noise exposure contours reflect annual conditions using a recent continuous 12-month period. The development of the baseline conditions utilizes data from a variety of sources. The sources of data for this report are listed below:

- Air Traffic Activity System (ATADS) tower counts (OPSNET);
- FAA Traffic Flow Management System Counts (TFMSC);
- Radar Fight Track Data; and
- Terminal Area Forecast Reports (TAF).

As noted earlier, the Aviation Environmental Design Tool (AEDT) v2b was used to develop the noise contours. The noise model requires a variety of operational data to model the noise environment around an airport. These data include the following information, which are discussed in detail in the following paragraphs:

- Total Aircraft Activity Levels
- Aircraft Fleet Mix Categories
- Detailed Fleet Mix
- Time of Day
- Runway Use
- Departure and Arrival Procedures
- Flight Paths and Flight Path Utilization

Total Aircraft Activity Levels

The total aircraft operational levels were derived directly from the FAA's Air Traffic Activity System (ATADS) tower counts. The ATADS data showed that for the 2016 base period, there were a total of 78,920 annual operations, or an average of 216 operations per day (an operation is one takeoff or one landing).

Aircraft Fleet Mix Categories

The categories of aircraft operations are defined relative to type of user (i.e. air taxi or general aviation) and type of aircraft (i.e. jet or propeller). The breakdown by these categories was determined from the aviation forecast for future operations. The ATADS information contained a breakdown as to Air Traffic Control (ATC) category of operations, shown in Table D1, *AIRPORT TOWER COUNTS FOR BASELINE PERIOD (2016).*

Table D1, *AIRPORT TOWER COUNTS FOR BASELINE PERIOD (2016)*

Category	Annual Operations	Average Daily Operations
ITINERANT		
*Air Carrier**	25	<1
Air Taxi	12,621	34
General Aviation	45,931	126
Military	41	<1
LOCAL		
Civil	20,295	56
Military	7	<1
TOTAL	**78,920**	**216**

Source: FAA Air Traffic Activity System, calendar year 2016

*Air carrier operations at a general aviation (GA) airport include aircraft that have more than 60 seats (which can include chartered or private aircraft operations).

Detailed Aircraft Fleet Mix Categories

The category breakdown used by ATC, shown above, is useful for air traffic purposes, but does not provide sufficient detail necessary for the noise analysis or the details that are often of interest to the general public. As a result, the breakdowns by aircraft fleet mix categories of aircraft operations are presented within this section. The categories are defined relative to type of aircraft (i.e., jet or propeller), as well as size and weight. The breakdown by these categories was determined from the different sources of operational data that were described above with the primary source being the ATADS. Table D2, *DETAILED AIRCRAFT FLEET MIX ASSUMPTIONS FOR EXISTING CONDITIONS (2016)* presents a more in-depth operational breakdown of the different categories and types of aircraft.

It is not possible to definitively categorize all of the operations into unique groups. For example, some general aviation propeller operations are actually unscheduled commuter propeller flights. Similarly, some air taxi operations are small single-engine piston aircraft that may be categorized as general aviation piston, or vice versa. But these generally define the categories of operations that occur at the Airport and will be used within this report. If an aircraft is not in the model, AEDT will assign in a noise profile that most closely matches the aircraft.

Table D2, *DETAILED AIRCRAFT FLEET MIX ASSUMPTIONS FOR EXISTING CONDITIONS (2016)*

2016 Fleet Mix Summary
Chicago Executive Airport
Period: January 1, 2016 thru December 31, 2016
Modeling Software: AEDT v. 2c SP2
Number of Days in 2016: 366

Jet Category by Max Gross Takeoff Weight (lbs)
Light Jet: <10,000
Small Jet: between 10,000 and 20,000
Medium Jet: between 20,001 and 45,000
Large Jet: >45,001

Operations Category		ICAO AC Type	ADET Modeling AC	Daily Arrivals Day	Daily Arrivals Night	Daily Departures Day	Daily Departures Night	Annual Operations
Business Jets								
	Light Jet	C510, E50P, PA47	CNA510	1.38	0.03	1.38	0.03	1,035
		EA50	ECLIPSE500	2.16	0.08	2.16	0.07	1,636
	Small Jet	C650	CIT3	0.39	0.01	0.36	0.04	291
		F900, FA50	COMJET	3.17	0.39	3.24	0.32	2,608
		BE40, C25A, C25B, C25C						
		C500, C501, C525, PRM1	CNA500	3.26	0.21	3.26	0.20	2,534
		C25A, C25C, C525	CNA525C	2.76	0.09	2.70	0.16	2,091
		C550, C551, C56X, E55P	CNA55B	5.53	0.39	5.38	0.54	4,334
		C560	CNA560U	3.79	0.38	3.76	0.40	3,051
		C56X	CNA560XL	6.30	0.40	6.28	0.41	4,900
		LJ25	LEAR 25	0.11		0.11		79
		L29B, FA10, H25C, LJ31						
		LJ35, LJ40, LJ45, LJ55	LEAR35	5.24	0.50	5.38	0.36	4,200
		MU30	MU3001	0.40	0.05	0.41	0.04	325
	Medium Jet	CL30, CL60, GALX	CL600	7.53	0.65	7.56	0.61	5,985
		C680	CNA680	4.88	0.33	4.74	0.46	3,810
		C750, F2TH, HA4T, J328						
		LJ60, LJ70, LJ75	CNA750	7.23	0.40	6.96	0.67	5,585
		H25B, FA20	FAL20	4.83	0.51	4.93	0.41	3,910
		ASTR, GALX, G150, WW24	IA1125	2.08	0.22	2.11	0.19	1,686
		SBR1, SBR2	SABR80	0.02		0.02		15
	Large Jet	E135, E145, E45X	EMB14L	0.24		0.24		177
		GLF3	GII	0.06		0.06		44
		G280, GLF4, FA7X	GIV	3.06	0.30	3.13	0.23	2,460
		GL5T, GLEX, GLF5, GLF6	GV	2.56	0.34	2.71	0.20	2,125
Business Jets (Total)								**52,882**
TurboProp								
	Multi Engine	B190	1900D	0.09		0.09		69
		AC95, C425, C441, P46T						
		PAY1, PAY2, TBM8	CNA441	1.30	0.04	1.27	0.07	979
		AC90, B350, BE10, BE20						
		BE99, BE9L, BE9T, E110						
		MU2, P180, PAT4						
		SW2, SW3, SW4	DHC6	6.24	0.41	6.22	0.43	4,871
		PA42	PA42	1.24	0.01	1.20	0.04	909
	Single Engine	B36T, C208, PC12, TBM7	CNA208	4.55	0.15	4.26	0.43	3,435
TurboProp (Total)								**10,264**
Piston Engine								
	Multi Engine	AC50, AC80, BE55, BE58						
		BE60, C310, C340, C421						
		PA23, PA31, PA34	BEC58P	5.20	0.17	5.31	0.07	3,933
		PA30, P68	PA30	0.12		0.12		89
	Single Engine	BE17, C172,	CNA172	3.68	0.15	3.77	0.05	2,801
		C182	CNA182	1.60	0.06	1.60	0.06	1,216
		C206	CNA20T	1.08	0.07	1.15		840
		SR20, SR22	COMSEP	2.59	0.12	2.62	0.09	1,986
		C150, P28A, P46T	GASEPF	0.83	0.06	0.88		646
		AT5T, PA32, TBM7	GASEPV	3.93	0.13	3.90	0.15	2,970
		P28A	PA28	1.73	0.04	1.74	0.02	1,293
Piston Engine (Total)								**15,773**
		Grand Totals		**101.14**	**6.68**	**101.06**	**6.75**	**78,920**

Source: BridgeNet International, April 2017

Time of Day

In the DNL metric, any operations that occur after 10 p.m. and before 7 a.m. are considered more intrusive and their noise levels are penalized by adding 10 dBA. The nighttime operations assumptions were determined from radar data during the base period. The overall percentage of nighttime operations at Chicago Executive Airport was determined to be 6.0 percent. The time of day assumptions used in the model were specific to each aircraft operation.

Runway Use

An additional important consideration in developing the noise exposure contours is the percentage of time each runway is utilized. The speed and direction of the wind dictate the runway direction that is utilized by an aircraft. From a safety and stability standpoint, it is desirable, and usually necessary, to arrive and depart an aircraft into the wind. When the wind direction changes, the operations are shifted to the runway end that favors the new wind direction.

Aircraft use Runway 16/34 the most, followed by Runway 12/30, then Runway 6/24. Aircraft arrive from the north on Runway 16 approximately 75% of the time and from the south on Runway 34 approximately 15% of the time. The remaining 10% of arrivals use Runway 12/30, with a minority of the arrivals utilizing the crosswind runway, Runway 6/24. For departures, aircraft predominately use Runway 16/34, departing to the south approximately 40% and to the north approximately 36% of the time. Table D3, *AIRPORT PERCENTAGE RUNWAY UTILIZATION, ARRIVALS AND DEPARTURES,* shows runway use by aircraft category. Note that runway utilization for 2016 takes into consideration runway closure periods (actual use) for the year.

Table D3, *AIRPORT PERCENTAGE RUNWAY UTILIZATION, ARRIVALS AND DEPARTURES*

Category	Arrivals, By Runway						
	16	**34**	**12**	**30**	**6**	**24**	**Total**
Business Jet	77%	20%	1%	2%	<1%	<1%	100%
Turboprop	77%	14%	2%	6%	<1%	<1%	100%
Piston Engine	69%	12%	6%	10%	1%	2%	100%

	Departures, By Runway						
	16	**34**	**12**	**30**	**6**	**24**	**Total**
Business Jet	48%	44%	6%	2%	<1%	<1%	100%
Turboprop	38%	37%	15%	9%	<1%	<1%	100%
Piston Engine	33%	26%	19%	13%	4%	5%	100%

Source: BridgeNet International, April 2017

Departure Climb Profile

The aircraft departure stage length is the distance the aircraft flies from the Airport to its first destination. The stage length of a flight can be used as a rough surrogate for the aircraft departure weight. Generally, heavier aircraft climb at a slower rate. The rate of climb of an aircraft is called the departure climb profile. The stage length assumption is used to determine the rate of climb of each of the different aircraft operating at the airport. However, this only applies to commercial service aircraft in the AEDT model.

At Chicago Executive Airport, there are no commercial service aircraft. The aircraft modeled that are of most interest are the business jets, as they conduct the majority of the operations. For business jets, AEDT assigns all aircraft the same departure stage length profile.

Flight Paths and Flight Path Utilization

The Federal Aviation Administration (FAA) along with the Airport have established paths for aircraft arriving and departing from Chicago Executive Airport. These paths are not precisely defined ground tracks, but represent a path along the ground over which aircraft generally fly. The identification of the location and use of the flight tracks is based upon the FAA's radar data. Over 16,000 flight tracks were used in the development of the AEDT flight paths, derived from all of the actual flight paths flown throughout the base period study year. Previous to this methodology used in AEDT, noise models used a system that assigned a percentage of flights to

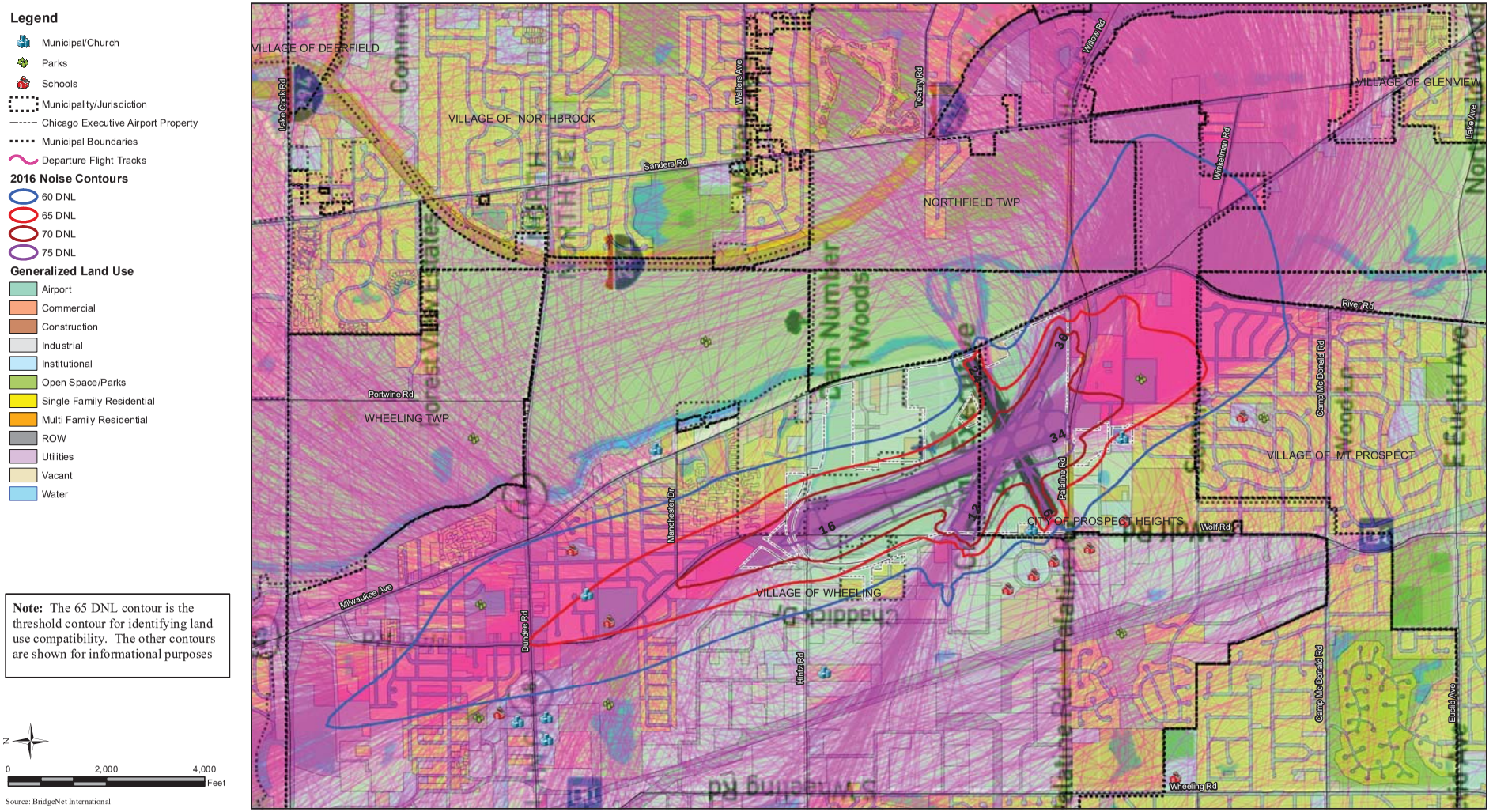
the backbone and ancillary flight tracks. For this study (using AEDT), all arrival flight tracks and departure flight tracks are mapped to identify this approximate backbone.

In the development of the existing noise contours it is important to aggregate the flight tracks into a set of generalized flight paths of aircraft operating at the Airport to allow the modeling of different alternative scenarios that may involve the shifting or redesign of the flight procedures. A flight path consists of a backbone or center flight path, and the dispersion or spread of all flights that use that backbone; this dispersion is based on radar data. The radar flight tracks used in the modeling analysis are presented in Figure D1, *ARRIVAL FLIGHT TRACKS* and Figure D2, *DEPARTURE FLIGHT TRACKS* for all arrivals and departure operations. These radar tracks show arrivals and departures, respectively, from all runways. Flight tracks are the same for both existing and future conditions.

Note: The 65 DNL contour is the threshold contour for identifying land use compatibility. The other contours are shown for informational purposes

Source: BridgeNet International

FIGURE D1 *Arrival Flight Tracks*



Note: The 65 DNL contour is the threshold contour for identifying land use compatibility. The other contours are shown for informational purposes

Source: BridgeNet International

FIGURE D2 *Departure Flight Tracks*

Existing Baseline Noise Conditions

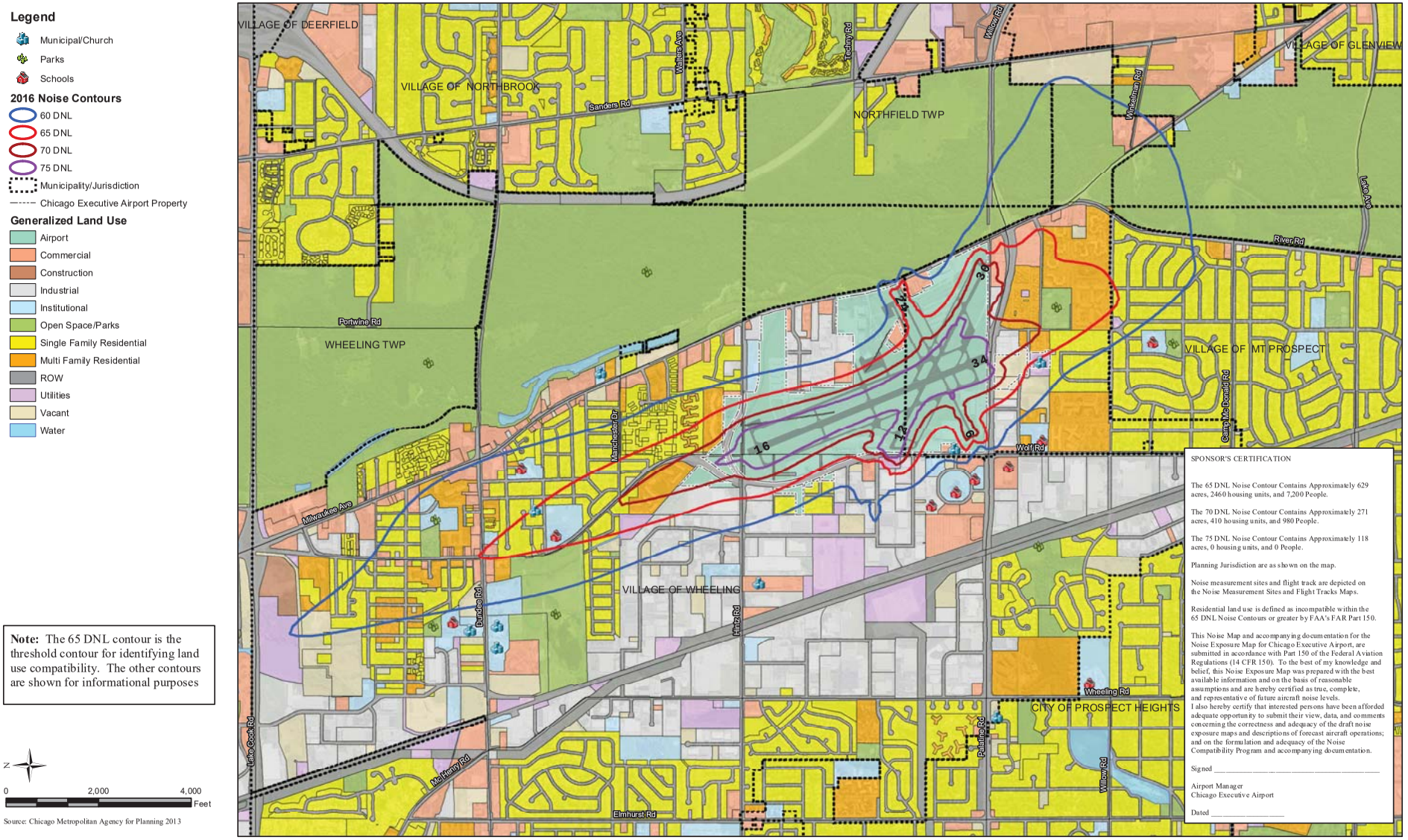
The primary noise criterion to describe the existing noise environment is the annual average day night noise level, DNL. The compiled data as described in the preceding sections is used as input to the FAA's AEDT computer model for the calculation of noise in the airport environs.

The noise contours do not represent the noise levels present on any specific day; rather they represent the daily energy-average of all 365 days of operation during the year. The noise contour pattern extends from the Airport from the runway end, reflective of the flight tracks used by all aircraft. The relative distance of the contours from the Airport along each route is a function of the frequency of use of each runway for total arrivals and departures, time of day, and the type of aircraft assigned to it.

According to *Land Use Guidance Table* in *CFR Part 150,* the 65 DNL is the threshold to determine land use compatibility.

DNL Noise Contours

Based upon the operational conditions presented previously, and the AEDT noise model, noise contours were developed. The data show that for the 2016 base period, there were a total of 78,920 annual operations. The existing annual base period 2016 DNL noise exposure contours for Chicago Executive Airport are presented in Figure D3, *EXISTING 2016 NOISE CONTOURS*. This figure presents the 60 DNL, 65 DNL, 70 DNL and 75 DNL noise exposure contours. Note that the 60 DNL contour are included only for informational purposes.



Note: The 65 DNL contour is the threshold contour for identifying land use compatibility. The other contours are shown for informational purposes

Source: Chicago Metropolitan Agency for Planning 2013

FIGURE D3 *Existing Noise Exposure Map - 2016*

Future 2022 Noise Modeling Inputs

Future Aircraft Operations

The future noise environment for Chicago Executive Airport was analyzed based upon 2022 operational conditions. The future 5-year contour (2022) is a reasonable representation of future conditions. The aircraft operational levels come directly from the approved aviation forecast from the ongoing Master Plan study. These forecast data show that for Year 2022, a total of 77,249 operations are anticipated to occur at PWK. This equates to an average of 212 operations per day (an operation is either one takeoff or one landing). Although the future total annual operations are less than 2016 operations, the reduction is primarily in the small aircraft categories, with the business jet operations actually increasing.

The noise modeling inputs for runway use, flight tracks, flight track use and time of day are the same as the base case for existing conditions.

Aircraft Fleet Mix Categories

The breakdown by categories of aircraft operations and fleet mix are presented in the next two tables. The categories of aircraft are defined relative to type of user (i.e. air taxi or general aviation) and type of aircraft (i.e. jet or propeller). The breakdown by these categories was determined from the aviation forecast. Table D4, *OPERATIONS BY AIRCRAFT CATEGORY FOR FUTURE 2022 BASE CASE CONDITIONS* presents operations for the different categories of aircraft.

Table D4, *OPERATIONS BY AIRCRAFT CATEGORY FOR FUTURE 2022 BASE CASE CONDITIONS*

Category	Annual Operations	Average Daily Operations
Business Jets	55,070	149
Turboprop	9,934	24
Piston	12,246	38
TOTAL	**77,249***	**212**

Source: PWK Master Plan

*Numbers may not add due to internal rounding.

Detailed Aircraft Fleet Mix Categories

The breakdowns by aircraft fleet mix categories of aircraft operations are presented within this section. The fleet mix categories are defined relative to type of aircraft (i.e., jet or propeller), as well as size and weight.. The breakdown by these categories was determined from the different sources of operational data that were described above with the primary source being the ATADS. Table D5, *DETAILED AIRCRAFT FLEET MIX ASSUMPTIONS FOR FUTURE YEAR BASE CASE (2022)* presents a more in-depth operational breakdown of the different types of aircraft.

Table D5, *DETAILED AIRCRAFT FLEET MIX ASSUMPTIONS FOR FUTURE YEAR BASE CASE (2022)*

2022 Fleet Mix Summary
Chicago Executive Airport
Period: January 1, 2022 thru December 31, 2022
Modeling Software: AEDT v. 2c SP2
Number of Days in 2022: 365

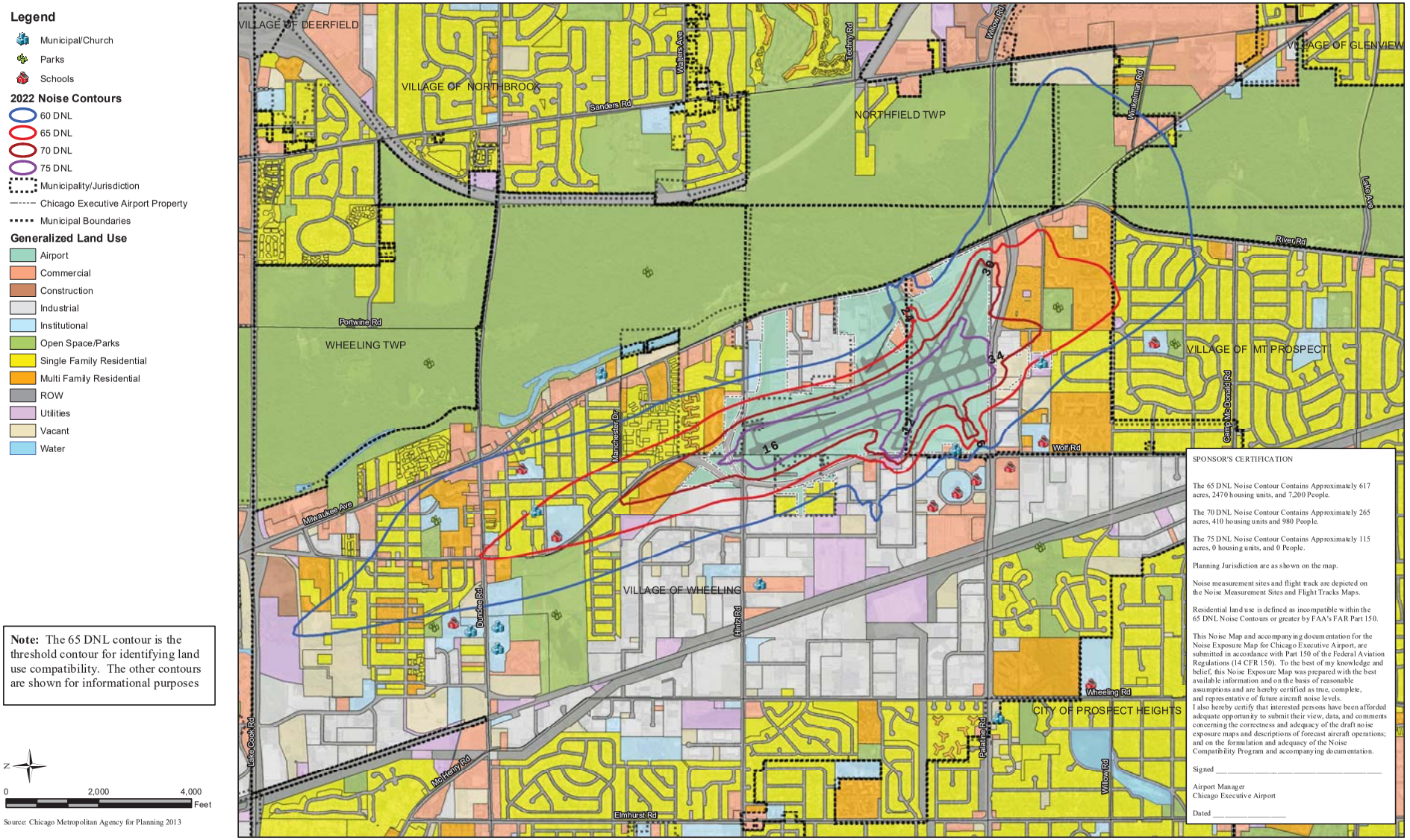
Jet Category by Max Gross Takeoff Weight (lbs)
Light Jet: <10,000
Small Jet: between 10,000 and 20,000
Medium Jet: between 20,001 and 45,000
Large Jet: >45,001

Operations Category		ICAO AC Type	ADET Modeling AC	Daily Arrivals Day	Daily Arrivals Night	Daily Departures Day	Daily Departures Night	Annual Operations
Business Jets								
	Light Jet	C510, E50P, PA47	CNA510	4.35	0.11	4.35	0.11	3,252
		EA50	ECLIPSE500	2.08	0.07	2.08	0.07	1,570
	Small Jet	C650	CIT3	0.37	0.01	0.34	0.04	276
		F900, FA50	COMJET	3.24	0.40	3.31	0.32	2,654
		BE40, C25A, C25B, C25C						
		C500, C501, C525, PRM1	CNA500	3.14	0.20	3.15	0.19	2,439
		C25A, C25C, C525	CNA525C	3.22	0.11	3.15	0.18	2,430
		C550, C551, C56X, E55P	CNA55B	5.60	0.39	5.45	0.54	4,373
		C560	CNA560U	4.37	0.44	4.35	0.47	3,514
		C56X	CNA560XL	6.39	0.40	6.38	0.42	4,962
		L29B, FA10, H25C, LJ31						
		LJ35, LJ40, LJ45, LJ55	LEAR35	5.27	0.50	5.41	0.36	4,210
		MU30	MU3001	0.38	0.05	0.39	0.04	308
	Medium Jet	CL30, CL60, GALX	CL600	7.36	0.63	7.39	0.60	5,831
		C680	CNA680	4.81	0.32	4.68	0.45	3,747
		C750, F2TH, HA4T, J328						
		LJ60, LJ70, LJ75	CNA750	7.09	0.40	6.83	0.66	5,467
		H25B, FA20	FAL20	4.66	0.49	4.76	0.40	3,766
		ASTR, GALX, G150, WW24	IA1125	2.05	0.22	2.08	0.19	1,654
	Large Jet	G280, GLF4, FA7X	GIV	3.17	0.32	3.25	0.23	2,542
		GL5T, GLEX, GLF5, GLF6	GV	2.51	0.33	2.65	0.19	2,075
Business Jets (Total)								**55,070**
TurboProp								
	Multi Engine	B190	1900D	0.06		0.06		42
		AC95, C425, C441, P46T						
		PAY1, PAY2, TBM8	CNA441	1.37	0.04	1.34	0.08	1,033
		AC90, B350, BE10, BE20						
		BE99, BE9L, BE9T, E110						
		MU2, P180, PAT4						
		SW2, SW3, SW4	DHC6	5.93	0.39	5.91	0.41	4,616
		PA42	PA42	1.35	0.01	1.31	0.04	991
	Single Engine	B36T, C208, PC12, TBM7	CNA208	4.32	0.14	4.05	0.41	3,252
TurboProp (Total)								**9,934**
Piston Engine								
	Multi Engine	AC50, AC80, BE55, BE58						
		BE60, C310, C340, C421						
		PA23, PA31, PA34	BEC58P	4.58	0.15	4.66	0.06	3,448
		PA30, P68	PA30	0.12		0.12		84
	Single Engine	BE17, C172,	CNA172	3.05	0.13	3.13	0.04	2,318
		C182	CNA182	0.84	0.03	0.84	0.03	635
		C206	CNA206	0.56	0.00	0.56	0.00	411
		C207	CNA20T	0.49	0.03	0.52	0.00	378
		SR20, SR22	COMSEP	2.44	0.12	2.48	0.08	1,869
		C150, P28A, P46T	GASEPF	0.78	0.05	0.83	0.00	607
		AT5T, PA32, TBM7	GASEPV	2.23	0.07	2.28	0.03	1,682
		P28A	PA28	1.09	0.02	1.10	0.01	813
Piston Engine (Total)								**12,246**
		Grand Totals		**99.25**	**6.57**	**99.16**	**6.66**	**77,249**

Source: BridgeNet International, April 2017

Future 2022 Base Case Noise Contours

Based upon the operational conditions presented previously, and the AEDT noise model, noise contours were developed. The data showed that for the 2022 base period, there will be a total of 77,249 annual operations; with 1,671 less operations forecasted in the future year than the existing conditions. The future base case 2022 DNL noise exposure contours for Chicago Executive are presented in Figure D4, *FUTURE 2022 NOISE CONTOURS*. This figure presents the 60 DNL, 65 DNL, 70 DNL and 75 DNL noise exposure contours. Note that the 60 DNL contour are included only for informational purposes.



Note: The 65 DNL contour is the threshold contour for identifying land use compatibility. The other contours are shown for informational purposes

Source: Chicago Metropolitan Agency for Planning 2013

FIGURE D4 *2022 Noise Exposure Map*

Chapter E, Land Use Analysis

This chapter summarizes the compatibility of various land uses with the existing (2016) and future (2022) base case noise exposure contours. One of the first steps in evaluating land use compatibility is to identify the existing and future noise exposure associated with the operation of Chicago Executive Airport. These NEMs will be compared to the recommendations within the previous Part 150 Noise Compatibility Program (2010) to determine application of these recommendations based on the updated noise contours.

Methodology

The land use and population analysis for both the existing and future "base case" noise contours and the future noise contours were derived from a variety of sources. The existing land use maps provided in the Inventory of Existing Conditions Chapter were used to determine the number of acres of different land use types. The noise contours were overlaid on these maps and a Geographical Information System (GIS) computer program was used to determine the number of acres for each land use type located within each contour. Housing units and population numbers were determined from the 2010 Census (most recently complete Census) using the same GIS program. The information was determined using the census block level data for each contour.

Existing Population Analysis/Existing Noise Contours, 2016

This section discusses the housing units and population found within the existing noise exposure contours generated by aircraft at Chicago Executive Airport. The existing noise exposure is represented by contour bands, including the 65 DNL, 70 DNL, and 75 DNL contours. A Part 150 Study and the Noise Exposure Maps use the 65 DNL contour as the threshold of significance contour for land use analysis, based on the FAA's land use compatibility guidelines. As such, the land use and population analysis will only be presented for the 65 DNL and greater noise contours.

The CFR Part 150 Land Use Guidelines, Table 1 (as referenced in the Chapter C, Background Information) states that residential uses, as well as other noise sensitive uses, are not compatible within the 65 or greater DNL noise contours. However, noise sensitive uses can be made compatible within the 65 DNL noise contour through sound attenuation programs, such as sound insulation, noise easements, or land acquisition.

The existing 2016 65 DNL and greater contour contains approximately 629 acres. There are approximately 2,459 residential housing units representing approximately 7,164 people within the 65 DNL and greater contour. Table E1, *EXISTING LAND USE WITHIN THE EXISTING NOISE CONTOURS, 2016,* summarizes the population and housing parcels within the existing 2016 noise contours. There is one school, Oliver W. Holmes Middle School, and one religious facility, Evergreen Presbyterian Church, located within the 65 DNL and greater noise contour. There are no historical sites listed on the National Register of Historic Places within the 65 DNL and greater contour. The 70 DNL and greater noise contour contains approximately 271 acres, with 409 housing units containing approximately 978 people. The 75 DNL and greater noise contour contains approximately 117 acres, but it does not contain any residences or other incompatible land uses.

Table E1, *EXISTING LAND USE WITHIN THE EXISTING NOISE CONTOURS, 2016*

Contour	**65 DNL**	**70 DNL**	**75 DNL**
Population			
Number of People	7164	978	0
Housing Units	2459	409	0
Number of Schools	1	0	0
Number of Churches	1	0	0
Land Use			
Agricultural	0.00	0.00	0.00
Commercial	18.01	1.87	0.00
Construction	0.00	0.00	0.00
Industrial	34.75	8.98	0.00
Institutional	15.56	0.00	0.00
Right-of-way	65.75	20.31	2.35
Open Space/Recreational	13.44	0.00	0.00
Multi-family Residential	91.84	19.81	0.00
Residential	62.64	2.01	0.00
Airport	302.99	212.78	114.19
Transportation/Utilities	8.62	0.79	0.05
Vacant	15.26	4.13	0.61
Water	0.00	0.00	0.00
Total Acres	628.86	270.68	117.20

Source: Chicago Metropolitan Agency for Planning (2013); 2010 Census Data

Population Analysis/Future Case Noise Contours, 2022

A review was conducted of the existing population and housing units that could be affected five years into the future. The Existing and Future Baseline Noise Conditions Chapter discusses the noise exposure contour prepared for the year 2022. This "base case" assumes no operational changes would occur at the Airport, and is reflective of the forecast operations and aircraft types explained in previous chapters.

This section discusses the housing units and population found within the future noise exposure contours generated by aircraft at Chicago Executive Airport. The future noise contours represent a slight decrease in operations, but no facility changes. The future base case noise contours are slightly smaller than the existing noise contours a result of a change in fleet mix and phasing out of older aircraft at Chicago Executive Airport. The future 65 DNL and greater contour is expected to decrease in size from approximately 629 acres in 2016 to 617 acres by 2022, and would encompass approximately 2,466 housing units representing approximately 7,185 people. This represents an increase in housing units and people affected over existing levels due to a slight shift of the 65 DNL noise contour south of the airport. Table E2, *EXISTING LAND USE WITHIN THE FUTURE NOISE CONTOURS, 2022* summarizes the population and housing parcels within the existing 2016 noise contours.

There is one school, Oliver W. Holmes Middle School and one religious facility, Evergreen Presbyterian Church, located within the 65 DNL and greater noise contour in 2022. No Historic Sites or other noise sensitive uses are located within the 65 DNL and greater contour. The 70 DNL and greater noise contour contains approximately 265 acres, with 407 housing units containing approximately 981 people. The 75 DNL and greater noise contour contains approximately 115 acres and does not contain any incompatible land uses.

Table E2, *EXISTING LAND USE WITHIN THE FUTURE NOISE CONTOURS, 2022*

Contour	**65 DNL**	**70 DNL**	**75 DNL**
Population			
Number of People	7185	981	0
Housing Units	2466	407	0
Number of Schools	1	0	0
Number of Churches	1	0	0
Land Use			
Agricultural	0.00	0.00	0.00
Commercial	16.89	1.41	0.00
Construction	0.00	0.00	0.00
Industrial	33.10	8.07	0.00
Institutional	15.62	0.00	0.00
Right-of-way	65.25	20.07	2.20
Open Space/Recreational	13.44	0.04	0.00
Multi-family Residential	91.94	19.70	0.00
Residential	62.76	1.92	0.00
Airport	294.82	209.42	112.49
Transportation/Utilities	8.38	0.68	0.02
Vacant	15.04	3.95	0.61
Water	0.00	0.00	0.00
Total Acres	617.24	265.21	115.32

Source: Chicago Metropolitan Agency for Planning (2013); 2010 Census Data

Chapter F, Consultation

This Noise Exposure Map Update involved a public participation process including a Stakeholder Input Committee, presentations at Airport Board meetings, a Public Information Open House, and a Public Hearing. An inclusive tone was set by the airport from the very beginning by requesting that the community and users be involved throughout the planning process.

Stakeholder Input Committee, Public Information Open House and Public Hearing

The NEM Update Stakeholder Input Committee comprised members from the FAA ADO, Illinois DOT, public officials and community members from the Village of Wheeling and City of Prospect Heights, and community members from other nearby jurisdictions. A Stakeholder Input Committee meeting was held at the beginning of the project on December 13, 2016. The presentation introduced the committee to the Part 150 NEM Update project, including the purpose and process of the study.

On June 28, 2017 the consultant presented the forecasts and Draft Noise Exposure Maps at a joint meeting that included the Village of Wheeling, the City of Prospect Heights and the Airport Board. The public was invited to attend. The next night, June 29, 2017, a Public Information Open House was conducted where the public was provided the opportunity to comment on the project. Informational boards guided the public through the project process. Members of the consultant team and airport staff were available for questions. Three comments were received at the open house (see Appendix 3). The meetings were advertised on the Airport's website and in the Daily Herald newspaper. Proof of Publication and sign-in sheets from the open house are found in Appendix 2.

The Public Hearing was held on November 28, 2017. The meeting included informational boards and provided the public with an opportunity to ask questions and provide comment. An option was provided for those who preferred to give a verbal comment rather than written comment. Approximately 100 people attended the Public Hearing. The official comment period was conducted from November 6, 2017 through December 8, 2017. Three people provided verbal comments (at the hearing), while 105 people provided written comments that were either submitted at the meeting, emailed, or mailed to the consultant. The public comments, along with responses, can be found in Appendix 3.

In addition to the Hearing, the Airport Board accepted the Noise Exposure Maps on XX, 2018 and directed Staff to submit the NEMs to the FAA.

Appendix 1

Chicago Executive Airport
FAA Forecast Approval

U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Great Lakes Region

2300 E. Devon Avenue
Des Plaines, Illinois 60018

January 23. 2017

Mr. Jamie Abbott, Executive Director
Chicago Executive Airport
102 South Plant Road
Wheeling, IL 60090

Chicago Executive Airport
Wheeling, Illinois
Approval of Master Plan Forecast

Dear Mr. Abbott:

The Federal Aviation Administration (FAA) is in receipt of the Chicago Executive Airport Master Plan Phase 2 Aviation Forecast, dated October 18, 2016.

Based on the information provided, the FAA approves the Table 7-1: Forecast Summary prepared by Crawford, Murphy and Tilly, Inc.

The FAA concurs with the use of the forecast contained in the above referenced forecast summary for the remainder of your current master planning efforts.

If you have any questions, please contact Mr. Gary Wilson, Program Manager in our office at (847) 294-7631 or Gary.d.wilson@faa.gov.

Sincerely,

Michael Ferry, Acting Assistant Manager
Chicago Airports District Office

cc: Mr. Paul Lo, FAA Regional Planning Specialist
Illinois Department of Transportation – Division of Aeronautics
Murphy, Crawford and Tilly, Inc.

Appendix 2

Consultation:

Stakeholder Committee Meeting
Public Information Open House
Public Hearing

Stakeholder Committee Meeting

December 16, 2016

Chicago Executive Airport

Part 150 NEM Update Stakeholder Committee

Name	Title
Amy Hanson	ADO
Jim Berganga	FAA Tower Mgr
Terrance Schaddel	IDOT Aeronautics
Andrew Jennings	Director of Community Development
Joe Wade	City Administrator
Henry Fiorentini	GA Pilot, ETC
Madeleine Monaco	GA Pilot, CEPA
CJ Barbato	Corp Pilot
Al Palicki	FBO Signature
Mike Kurgan	FBO Atlantic
David Annin	FBO Hawthorne
Steve Neff	Public Citizen
Ray Lang	Airport Board Member
Rob Mark	Airport Communications

NEM Update Meeting
December 13, 2016

Sign-In

NOISE EXPOSURE MAP UPDATE CHICAGO EXECUTIVE AIRPORT

NAME	AFFILIATION	TELEPHONE NUMBER	EMAIL ADDRESS
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Terry Schaddel	IDOT Aeronautics		Terrence.Schaddel@illinois.gov
Amy Hanson	FAA		amy.hanson@faa.gov
STEVEN YOUNG	IDOT AERONAUTICS		steve.m.young2@illinois.gov
MIKE KUEGAN	ATLANTIC		ON FILE
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Scott Berken	FAA	847 229 6001	Lester.Berkey@FAA.GOV
Pam Kavanaugh	Signature Flight Support		Pam.Kavanaugh@signatureflight.com

Thank You! Mead & Hunt

Study Input Committee Meeting

Chicago Executive Airport - Noise Exposure Map Update

Location: Chicago Executive Airport Administrative Offices
Date: December 13, 2016, 5:00 pm to 6:00 pm

Agenda:

1. Introduction to the team and roles
2. Background
3. Noise Exposure Map Update
4. What Has Changed Since the Previous CFR Part 150?
5. Why do An Update?
6. Your role in an Update

Questions/Comments

CHICAGO EXECUTIVE AIRPORT
NEM UPDATE STUDY INPUT COMMITTEE MEETING
MEETING MINUTES
TUESDAY, DECEMBER 13, 2016
1020 S. PLANT ROAD
WHEELING, IL 60090
5:00 PM

I. Call to Order and Roll Call

Executive Director Jamie Abbott called the meeting to order at 5:00 p.m. The following committee members were present: Jim Bergagna, Terrence Schaddel, Andrew Jennings, Joe Wade, Madeleine Monaco, CJ Barbato, Al Palicki, Mike Kurgan, David Annin, Steve Neff and Ray Lang, and Phil Mader.

Absent: Henry Fiorentini

Also in Attendance: Jamie Abbott – Executive Director
Jennifer Pfeifer - Recording Secretary
Bryce Walter – Assistant Airport Operations
Rob Mark – Public Relations
Amy Hanson – FAA
Brian Welker - CMT

II. Introduction to the team and roles

Jamie welcomed and introduced Ryk Dunkleberg and Jen Wolchansky, prime consultants from Mead and Hunt. Bridgenet International is a noise consulting firm, acoustical engineers and modeling experts are also involved with the study. CMT is the Master Plan consultant. Ryk summarized the purpose of the meeting and went over the agenda. He explained that the FAA and IDOT provide funding for the Noise Exposure Map (NEM) Update process. The NEM's and the Master Plan interact with each other.

Who is involved with the NEM Updates process:

- Airport Administration and staff
- FAA
- IDOT
- Airport users and tenants
- Aircraft operators

- Surrounding jurisdictions
- Other interested parties such as citizens
- The consultants

III. Background

NEM's were accepted by the FAA from PWK in 1988. In 1991 the Noise Compatibility Program (NCP) was updated. In 2010 both the NEM and the NCP were updated. A Part 150 study consists of two parts: the NEM's and the NCP's. Ryk explained that an approved Part 150 study program includes 10 Land Use Management Measures, 5 Noise Abatement Measures and 4 Program Management Measures If noise can be reduced or abated within the 65 DNL eligibility is determined for federal funding.

IV. Noise Exposure Map Update

This is a voluntary study that is done to obtain FAA funds for noise abatement or noise mitigation. A noise contour will be generated using 2016 aircraft data. The study will also identify future potential noise in the 65 DNL contour based upon forecasted fleet mix number and type. It will also identify the number of people that would be exposed to significant noise levels. Noise contours have gradually gotten smaller with each NEM update. This is common. The study has only a five-year horizon because aircraft contours are difficult to forecast further into the future. If operations increase by 15% or more or if aircraft types landing at the airport significantly change then the NEM's could be updated sooner than five years. Existing and future aircraft noise and land use are considered.

Airport sponsor (the entities that own the airport) limited ability to:

- Control aircraft in flight
- Control expenditure of funds
- Control noise emissions at source
- Implementing noise restrictions
- Must provide access to all airport users
- Can pass reasonable noise rules that do not affect user access to the airport. Cannot discriminate against any user.
- Some airports have curfews and noise limits which were passed before January 1, 2000 and are grandfathered in.
- The 65 DNL noise contour is the largest contour and is the threshold contour

for determining land use compatibility and eligibility for FAA funding.

NEM Elements

- Existing conditions such as runway length
- Forecasts of aviation activity and fleet mix
- Existing noise exposure contours
- Future noise exposure contours
- Existing and future population and land use
- Prepare the NEM's
- Public hearing
- FAA Review and Acceptance

Steve Neff asked what the impact of night flights would be. Ryk explained that from 2200 to 0700 ten decibels will be added for night flights because they are much more intrusive.

Steve Neff asked if night flights have increased then would the contour map increase in size? Ryk said that it could but it is very rare.

Steve Neff brought up the Airport Desk Reference and was told by Ryk that this document is not relevant to this study.

V. Why Do an Update?

There is a new noise model; the Airport Environmental Design Tool, a combination of aircraft noise and aircraft emissions. The aircraft fleet mixture and operations have changed. There are more business jets and less piston aircraft. The existing NEM's are out of date. Before FAA funds can be applied for, the contour must be verified. The time required will be nine to eleven months with the public hearing at the end. There will be an airport review process and it is expected that the FAA will accept the updated NEM.

Steve Neff asked how many airports have received FAA funds after a NEM Update?

Steve Neff asked if he will be able to see the daily data details? He would like to see the input data for the study. He asked if they would consider using noise monitors?

The data is not perfect and does not get every single aircraft but it gets the vast majority.

VI. Your Role in an Update

Your role in the update is to ask questions, provide the local community knowledge and perspective and identify areas of improvement.

VII. Questions and Comments

There were questions about future meetings, landing fees, voluntary noise abatement and larger community involvement.

Jamie Abbott asked what the next role for the committee is? Ryk said to present existing and future noise contours at the next meeting. There will be two or three more meetings.

Andrew Jennings from the Village of Wheeling asked if there are new tools to convert the NCP into model ordinances for land use controls. Ryk said that he could provide a model ordinance from another aiport.

Steve Neff asked for an opinion on landing fees? They are legal if they are not discriminatory. Steve spoke about other airports as examples and Ryk believes those airports were grandfathered in before the year 2000.

Phil Mader asked if there will be larger community involvement at the meetings. Yes, there will be large scope meetings in the future and the public is welcome at any of the meetings.

Steve Neff asked for an opinion on voluntary noise abatement. Ryk said that "Fly Quiet" programs can be approved by the FAA if it is a departure procedure. He spoke about the airport in Aspen, CO that sends letters annually to aircraft owners and chief pilots to remind them of the Fly Quiet program. At that airport noise is measured twice per year. This program took three years to develop.

Phil Mader asked if the Fly Quiet programs have been effective and have airports that implement such programs lost any business. Ryk replied that usually pilots who fly into such airports are very agreeable and that operations have continued to increase. He pointed out that Aspen is unique and has a congressionally mandated curfew because of the terrain and operating conditions.

Ray Lang asked if Phil and Steve would be allowed to submit times when the noise has been loud and problematic. He commented that he would like an outcome from the study that could solve some problems.

Andrew Jennings questioned how a change to the flight track of departing aircraft would change the study data.

Steve Neff questioned how the runway closures for construction would be considered.

VIII. Adjournment

The meeting was adjourned at 6:00 p.m.

Respectfully submitted,

Jennifer Pfeifer
Executive Secretary

PWK

Mead & Hunt

CHICAGO EXECUTIVE AIRPORT

NOISE EXPOSURE MAP UPDATE

INTRODUCTORY MEETING

DECEMBER 2016

Agenda

- Introduction
- Background
- Brief Explanation of Noise Exposure Map Update
- What Has Changed Since the Previous CFR Part 150
- Why do An Update?
- Your role in an Update
- Questions/Comments

Introduction

- Mead & Hunt
- BridgeNet International
- Assisted By;
  - *CMT/Master Plan Consultant, Aurora, IL*
- With Funding By;
  - *Federal Aviation Administration*
  - *Illinois Department of Transportation, Division of Aeronautics*

Who is Involved

- Airport Administration and Staff
- FAA—Airports Division and Air Traffic Division
- State of Illinois, Division of Aeronautics
- Airport Users and Tenants
- Aircraft Operators
- Surrounding Jurisdictions
- Other Interested Parties
- Consultant

Background

- Chicago Executive Airport CFR Part 150 Noise Exposure Maps Accepted in 1988
- Chicago Executive Airport CFR Part 150 Noise Compatibility Program Approved in 1991
- Chicago Executive Airport CFR Part 150 Updated Noise Exposure Maps and Noise Compatibility Program Approved in 2010
- Approved Program includes ten (10) Land Use Management Measures, Five (5) Noise Abatement Measures and Four (4) Program Management Measures

Purpose of Study

- Voluntary Noise Exposure Map preparation to obtain eligibility to receive FAA funds for noise abatement or noise mitigation
- Identify existing noise exposure, identify potential future noise exposure, and identify the number of people that would be exposed to significant aircraft noise levels in order to reduce the number of people affected by noise
- Confirm use of previously approved noise measures from the previous CFR Part 150 Study

Purpose of Study *(continued)*

- Study has a five-year planning horizon
- The Study identifies and evaluates two components: both existing and future aircraft noise and land use
- Noise Exposure Maps are Accepted by the Federal Aviation Administration

Airport Sponsor Constraints

→ **The Federal Government, through the Federal Aviation Administration, has limited the Sponsor's ability to:**

- *Control aircraft in flight*
- *Control expenditure of funds*
- *Control of noise emissions at "the source"*
- *Significantly limits airport Sponsor's implementation of noise restrictions*

Airport Sponsor Constraints *(continued)*

- *Airport Sponsor must provide access to all airport users and cannot discriminate against any user, but can pass reasonable noise rules/regulations that do not affect access to the airport.*
- *CFR Part 161 sets limits on noise rules/regulations that do not affect access to the airport*
- *FAA has identified a noise contour (DNL 65) for determining land use compatibility*

Noise Exposure Map Elements

- Inventory of Existing Conditions
- Forecasts of Aviation Activity-provided by Master Plan
- Existing Noise Exposure Contours
- Future (five-year) Noise Exposure Contours
- Existing and Predicted Future Population Exposed
- Preparation of Noise Exposure Maps
- Public Hearing
- FAA Acceptance

Study Process

1. Inventory of Existing Conditions
2. Develop Aviation Activity Forecasts
3. Generate Existing Noise Contours
4. Generate Future Noise Contours
5. Noise/Population Analysis
6. Develop Noise Exposure Maps
7. Public Hearing
8. Adoption of Noise Exposure Maps by sponsor and Submittal to the Federal Aviation Administration
9. FAA Accepts Noise Exposure Maps

Why Update Maps

- New Noise Model—noise model has changed from INM to AEDT
- Change in Fleet Mix and Operation Numbers
- Existing NEMs Out-of-Date, Future NEM represented 2012
- Before Expenditure of FAA Funds, Contour Must be Verified and Certified

Time Required for Study

- Approximately 9-11 months with public hearing at the end
- Airport review process
- Ultimate expectation of FAA Acceptance and Publication in Federal Register of Noise Exposure Maps

Your Role in an Update

- Provide local community knowledge and perspective
- Identify areas of improvement for Airport operations
- Foster engagement and understanding from local Stakeholders

Comments and Additional Information

Mead & Hunt

→ **Jen Wolchansky—Project Manager**

- *Mead & Hunt*
- *1743 Wazee Street, Suite 400*
- *Denver, CO 80202*

- *Jen.Wolchansky@meadhunt.com*

CHICAGO EXECUTIVE AIRPORT

NOISE EXPOSURE MAP UPDATE

Mead & Hunt

THANK YOU!

Public Information Open House

June 29, 2017

Public Information Open House
Thursday, June 29, 6:00pm - 7:30pm
Chicago Executive Airport - Hangar 19
1064 South Milwaukee Avenue
Wheeling, IL 60090

Sign-In

NOISE EXPOSURE MAP UPDATE

CHICAGO EXECUTIVE AIRPORT

NAME	AFFILIATION	TELEPHONE NUMBER	EMAIL ADDRESS
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PATRICIA HUDSON	WHEELING		
DAVID HUDSON			
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BOB SCHUH	MT PROSPECT	847 345-5005	
LINDA MADER	WHEELING	847-344-9149	
PHILIP MADER	WHEELING	947-459-7449	
PAUL LANGE	NEIGHBOR	847-253 3266	

Thank You! Mead & Hunt

Sign-In

NOISE EXPOSURE MAP UPDATE

Public Information Open House
Thursday, June 29, 6:00pm - 7:30pm
Chicago Executive Airport - Hangar 19
1064 South Milwaukee Avenue
Wheeling, IL 60090

CHICAGO EXECUTIVE AIRPORT

NAME	AFFILIATION	TELEPHONE NUMBER	EMAIL ADDRESS
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Martin Baumgartner	interested person	847 272-0528	Name
Del Lange	Neighbor	847-253-3266	
MARJE Berman	Resident Wheeling	847-651-4849	
~~DAVID~~			
MATRIX FINNWEIN C			
Patrick + Diana Wargo	Resident	8475203199	
Steve Berman	Wheeling Resident	8475208035	Smbfixit@hotmail.com

Thank You! Mead & Hunt

Sign-In

NOISE EXPOSURE MAP UPDATE

Public Information Open House
Thursday, June 29, 6:00pm - 7:30pm
Chicago Executive Airport - Hangar 19
1064 South Milwaukee Avenue
Wheeling, IL 60090

CHICAGO EXECUTIVE AIRPORT

NAME	AFFILIATION	TELEPHONE NUMBER	EMAIL ADDRESS
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Ronnie Wachter	Pioneer Press		rwachter@pioneerlocal.com
TOM FALLUCCA	Resident		TOMFALL99@SBCGLOBAL.NET
Ron Seymour	Newhouse & Associates		469 Buckeye Dr
JEFFREY BERMAN	Hanover Village		

Thank You! Mead & Hunt

PWK

CHICAGO EXECUTIVE AIRPORT

NOISE EXPOSURE MAP UPDATE

Mead & Hunt

PUBLIC MEETING

JUNE 2017

Agenda

- Introduction
- Purpose of Study
- What is a Noise Exposure Map Update?
- What has changed since previous maps?
- Why do an Update?
- Inventory/Forecast
- Background Information of Noise and Noise Modeling
- Draft Existing and Future Noise Exposure Maps
- Draft Land Use Analysis
- Questions/Comments

Introduction

- **Ryk Dunkelberg** – Mead & Hunt
- **Jen Wolchansky** – Mead & Hunt

Purpose of the Study

- Voluntary noise exposure map preparation to determine if an NCP update is appropriate.
- Identify existing noise exposure, identify potential future noise exposure, and identify the number of people that would be exposed to significant aircraft noise levels in order to reduce the number of people affected by noise.
- Five-year planning horizon from date of submission (2022).
- The Study identifies and evaluates two components: both existing and future aircraft noise and land use/people.
- The Noise Exposure Maps (NEMs) are accepted by the Federal Aviation Administration.

Study Process JUNE '17

Accomplished | To Be Accomplished

1 Inventory of Existing Conditions	6 Develop Noise Exposure Maps
2 Develop Aviation Activity Forecasts	7 Hold Public Meeting to Receive Comments*
3 Generate Existing Noise Contours	8 Public Hearing
4 Generate Future Noise Contours	9 Adoption of Noise Exposure Maps and Submittal of Program to the Federal Aviation Administration
5 Noise/Population Analysis	10 FAA Accepts Noise Exposure Maps

*Today's meeting

What has changed since the previous NEMs?

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- → **New Noise Model** (Aviation Environmental Design Tool) — **more accurate prediction of aircraft noise contours**
- → **Change in flight tracks**
- → **Conversion of Fleet Mix** (phasing out of older, noisier aircraft and reduction of smaller aircraft operations)

Why Update Maps

- → **Reasons presented on previous slides** (i.e., changing conditions)
- → **FAA cannot grant public funds for projects that do not meet national criteria** (65 DNL Contour)
- → **Age of existing NEM contours requires updating, as the future contour has passed**
- → **Before granting funds for noise mitigation or abatement, NEM contours must be certified**

Aircraft Operations Comparison to Current CFR Part 150 Forecast Level

Year	2016	2022	2026	2031	2036
Piston	14,898	12,246	9,525	7,582	6,011
Turbo-prop	9,657	9,935	10,125	10,391	10,679
Light Jet	6,473	6,907	7,255	7,697	8,177
Small Jet	34,702	36,412	37,766	39,523	41,462
Medium Jet	7,979	8,318	11,029	12,980	15,287
Large Jet	3,152	3,369	8,073	12,745	19,984
TOTAL	**76,860**	**77,187**	**83,774**	**90,918**	**101,599**

Source: Chicago Executive Airport Master Plan Update, 2016. CMT.

Existing (2016) Noise Contours

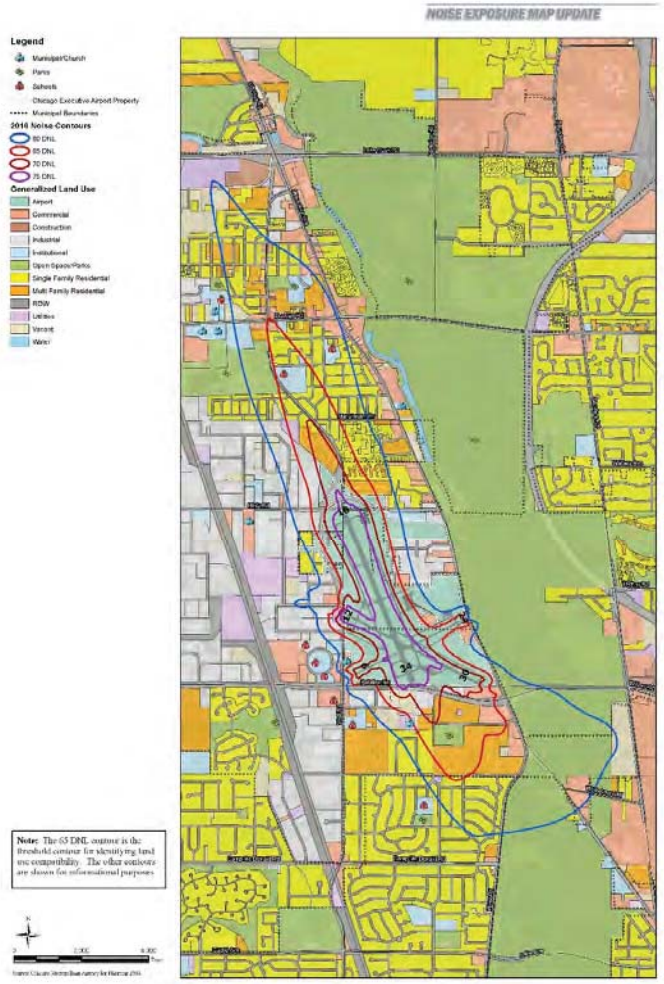

FIGURE 8.1 Existing 2016 Noise Contours

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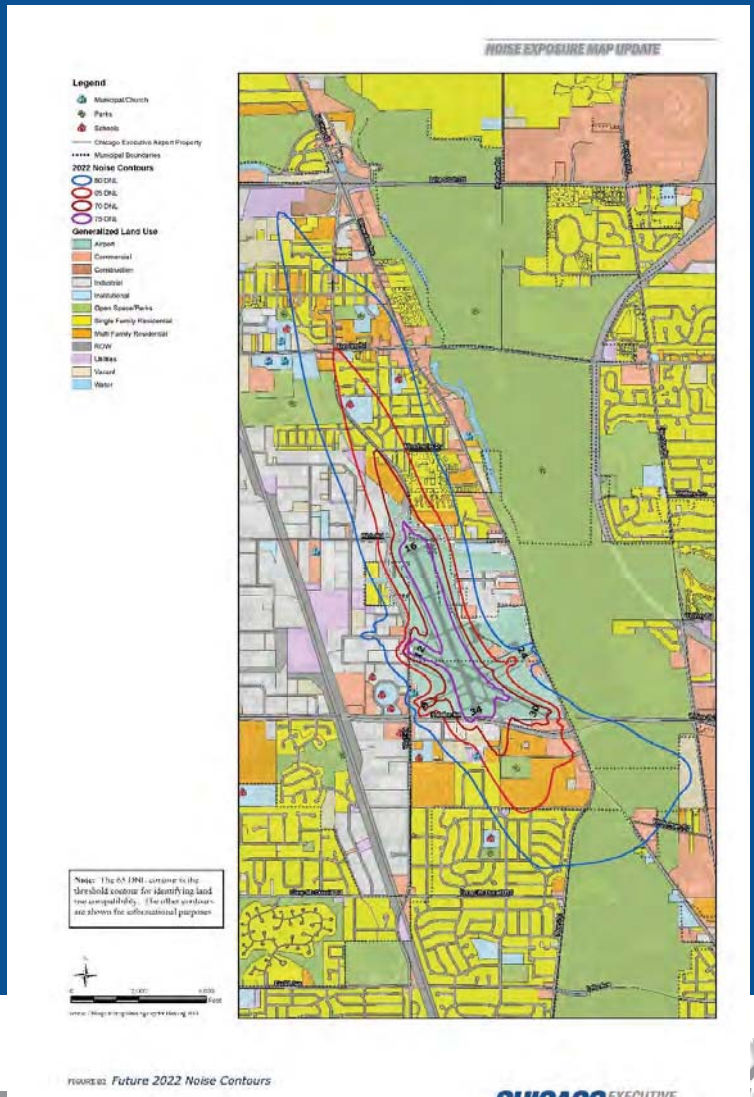
NOISE EXPOSURE M

XECUTIVE RPORT

Future (2022) Noise Contours



Future 2022 Noise Contours

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2016 & 2022: *65 DNL* Noise Contour

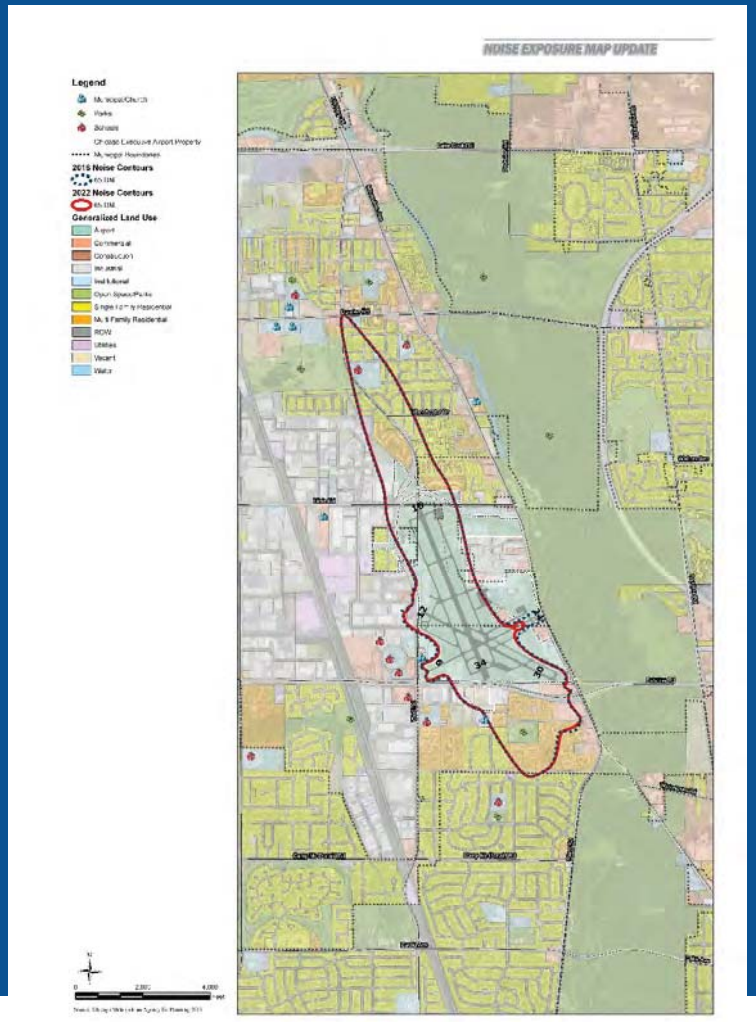

FIGURE 8.3 Comparison of 2016 & 2022 Noise Contours - 65 DNL

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Background Information on Noise

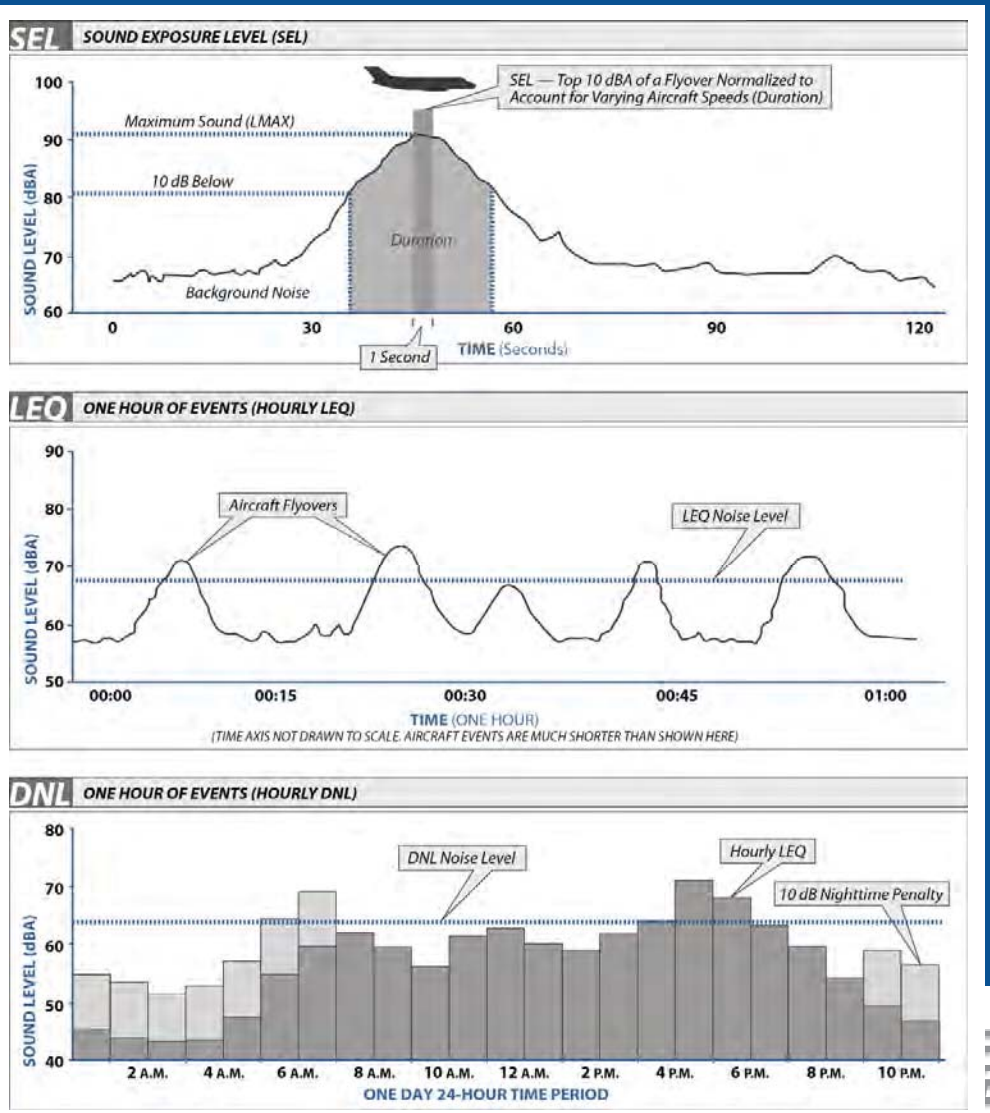
- Measuring Sound in Decibels (dB)
- Propagation of Sound in the Environment
- Development of Noise Contours
- How Are People Affected By Noise
  - *Speech/activity interference*
  - *Sleep interference*
  - *Annoyance*
- Federal Noise Policy

Examples of Various Sound Environments in dB(A)

dB(A)	OVER-ALL LEVEL Sound Pressure Level Approx. 0.0002 Microbar	COMMUNITY (Outdoor)	HOME or INDUSTRY	LOUDNESS Human Judgement of Different Sound Levels
130		Military Jet Aircraft Takeoff with Afterburner from Aircraft Carrier @ 50 ft. (130)	Oxygen Torch (121)	120 dB(A) 32 Times as Loud
120 110	UNCOMFORTABLY LOUD	Concorde Takeoff (113)	Riveting Machine (110) Rock and Roll Band (108-114)	110 dB(A) 16 Times as Loud
100		Boeing 747-200 Takeoff (101)		100 dB(A) 8 Times as Loud
90	VERY LOUD	Power Mower (96) DC-10-30 Takeoff (96)	Newspaper Press (97)	90 dB(A) 4 Times as Loud
80		Car Wash @ 20 ft. (89) Boeing 727 Hushkit Takeoff (89)	Food Blender (88) Milling Machine (85) Garbage Disposal (80)	80 dB(A) 2 Times as Loud
70	MODERATELY LOUD	High Urban Ambient Sound (80) Passenger Car, 65 mph @ 25 ft. (77) Boeing 757 Takeoff (76)	Living Room Music (76) TV-Audio, Vacumn Cleaner	70 dB(A)
60		Propeller Airplane Takeoff (67) Air Conditioning Unit @ 100 ft. (60)	Cash Register @ 10 ft. (65-70) Electric Typewriter @ 10 ft. (64) Conversation (60)	60 dB(A) 1/2 Times as Loud
50	QUIET	Large Transformers @ 100 ft. (50)		50 dB(A) 1/4 Times as Loud
40		Bird Calls (44) Low Urban Ambient Sound (40)		40 dB(A) 1/8 Times as Loud

NOISE EXP

SEQ, LEQ, DNL



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NOISE EX

ECUTIVE PORT

Runway 16:
South Departures & Arrivals

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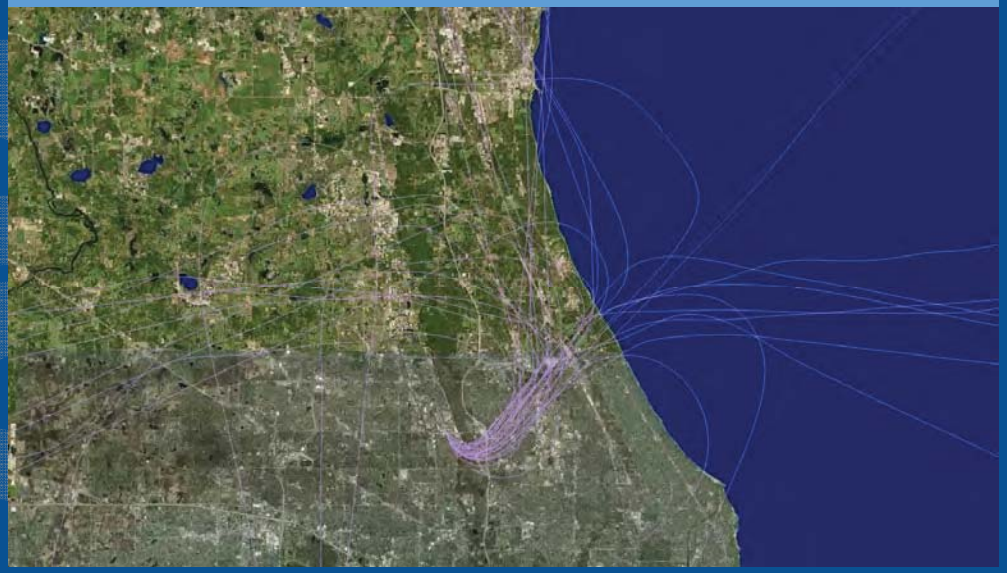
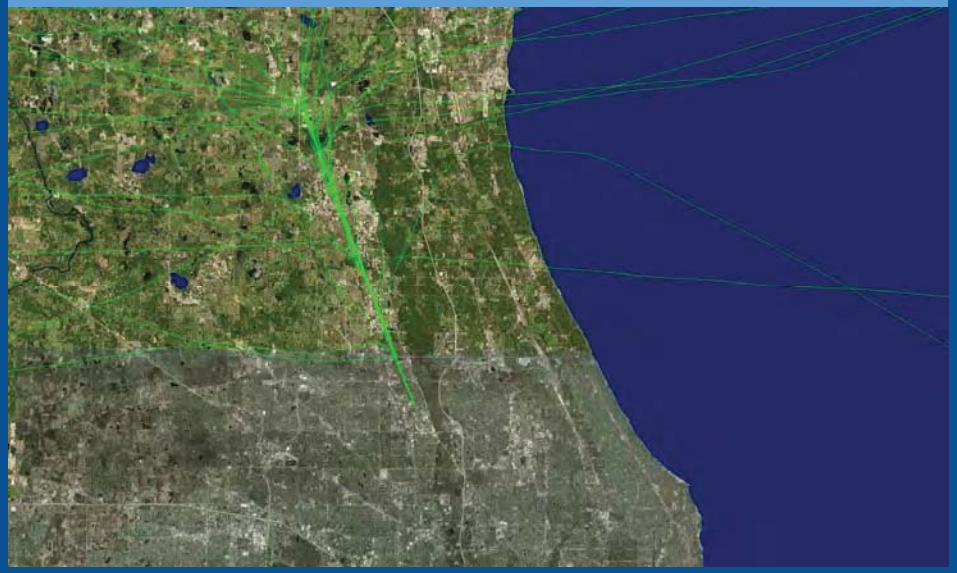
Departures



Arrivals



Note: These are actual radar flight tracks.

Runway 34:
North Departures & Arrivals

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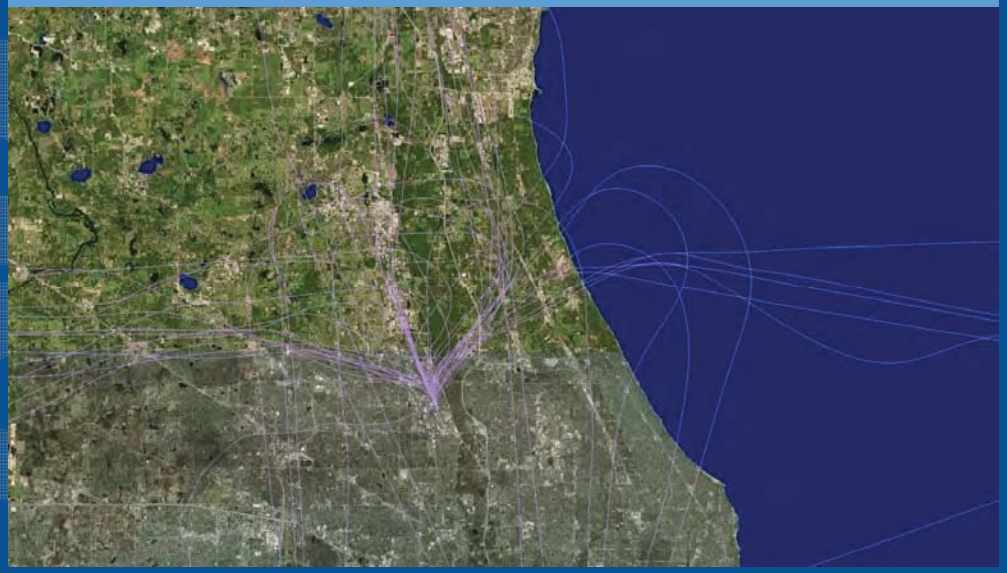
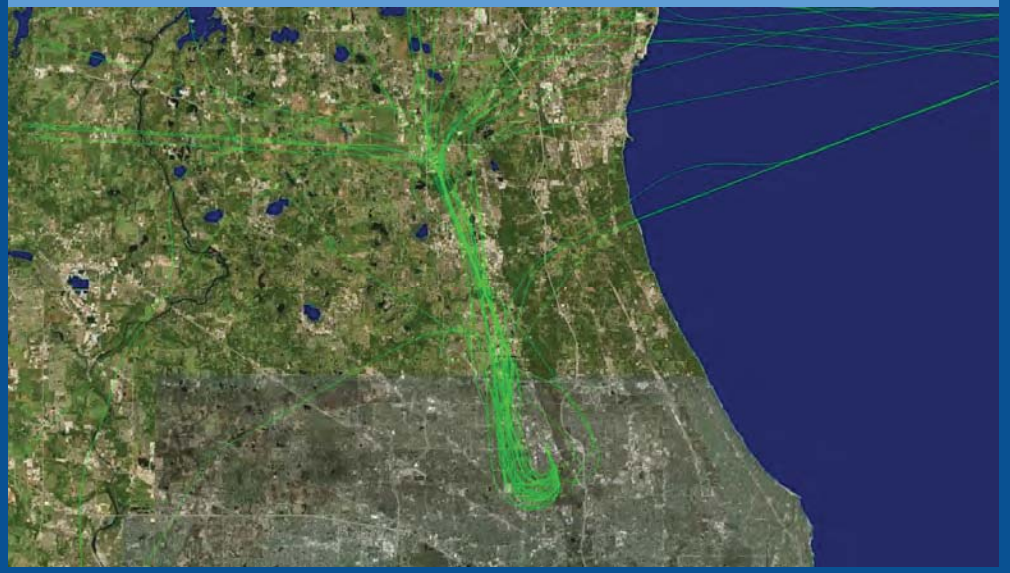
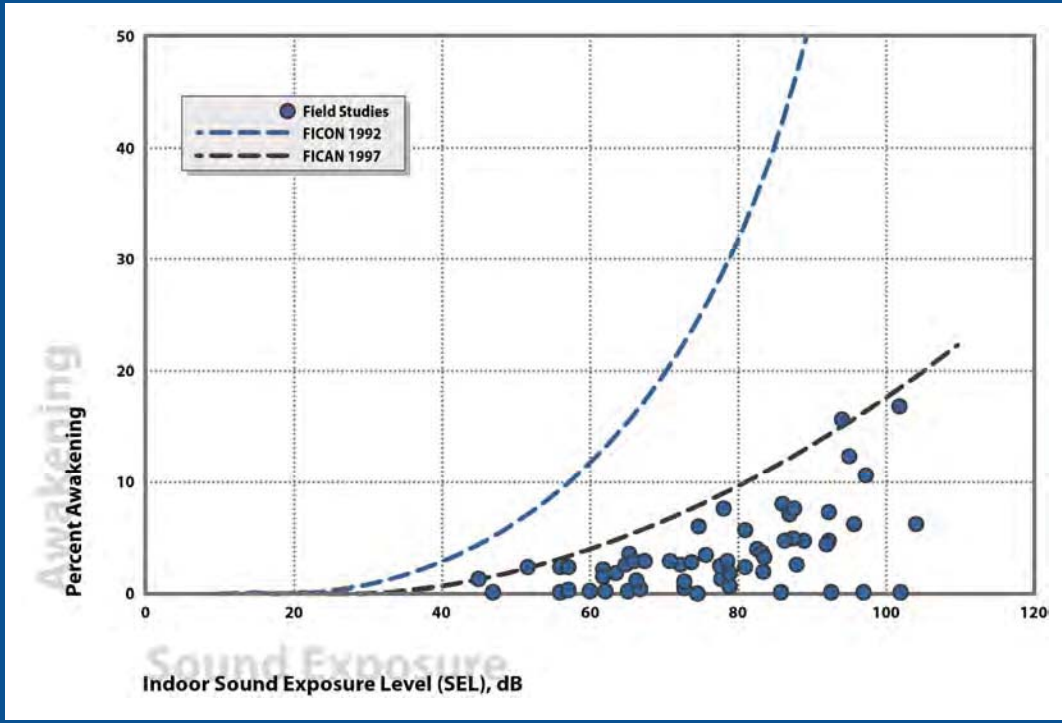
Departures



Arrivals



FICAN Recommended Sleep Disturbance Curves



Factors that Affect Individual Annoyance to Noise

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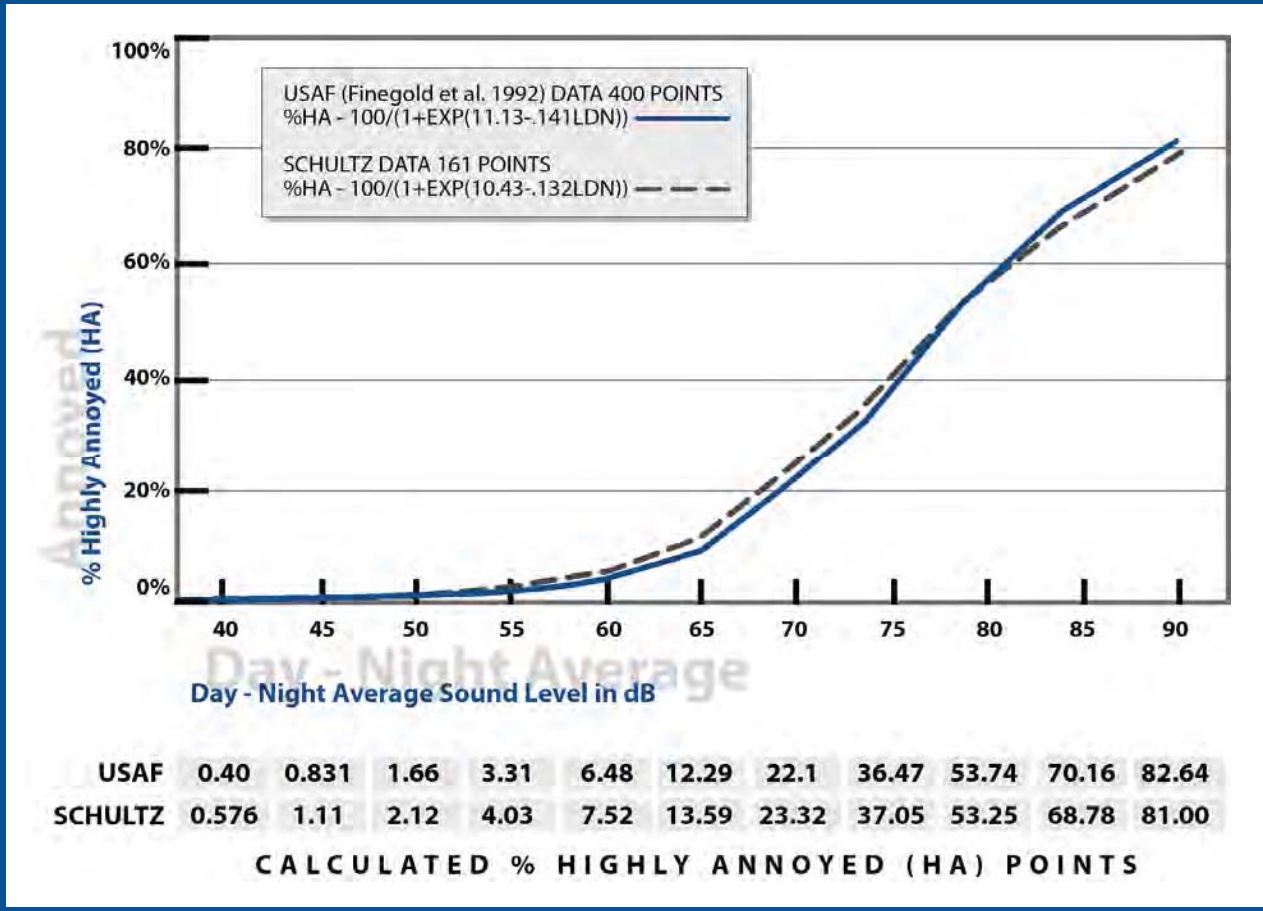
- **Primary Acoustic Factors (Sound Level)**
  - *Frequency*
  - *Duration*
- **Secondary Acoustic Factors (Spectral Complexity)**
  - *Fluctuations in Sound Level*
  - *Fluctuations in Frequency*
  - *Rise-time of the Noise*
  - *Localization of Noise Source*
- **Non-acoustic Factors (Physiology)**
  - *Adaptation and Past Experience*
  - *How the Listener's Activity Affects Annoyance*
  - *Predictability of When a Noise will Occur*
  - *Is the Noise Necessary?*
  - *Individual Differences and Personality*

Schultz Curve



USAF	0.40	0.831	1.66	3.31	6.48	12.29	22.1	36.47	53.74	70.16	82.64
SCHULTZ	0.576	1.11	2.12	4.03	7.52	13.59	23.32	37.05	53.25	68.78	81.00

CALCULATED % HIGHLY ANNOYED (HA) POINTS

Land Use and Population

- Identifies an airport's present and future noise contours and the land uses that are not compatible with those noise levels
- Residences within the 65 DNL and greater contour are considered by the FAA to be non-compatible, as are other noise-sensitive uses
- Provides baseline impacts to develop Noise Compatibility Program (NCP) to reduce the number of people affected by noise as defined by FAA (65 DNL)
- Eligibility of noise reduction programs are tied to this federal threshold

Land Use/Population

	2016			2022		
	65 DNL	70 DNL	75 DNL	65 DNL	70 DNL	75 DNL
Population & Housing (Number)						
Persons	7164	978	0	7185	981	0
Housing Units*	2459	409	0	2466	407	0
Land Use (Acres)						
Single Family	63	2	0	63	2	0
Multi-family	92	20	0	92	20	0
Total Acreage	**629**	**271**	**117**	**617**	**265**	**115**

*In addition, there is one school located within the 65 DNL or greater contours

Comments, Questions and Additional Information

Mead & Hunt

→ **Jen Wolchansky—Project Manager**

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- *Jen.Wolchansky@meadhunt.com*

CHICAGO EXECUTIVE AIRPORT

NOISE EXPOSURE MAP UPDATE

Mead & Hunt

THANK YOU!

A

Diarrhea-inducing parasite on the rise in pools

By Marissa Payne
The Washington Post

If you're planning to take a dip in a pool this summer, make sure to plug your nose and close your mouth. Any inadvertent ingestion of even chlorinated pool water could wind up giving you cryptosporidium.

More simply known as "crypto," the microscopic parasite can make otherwise healthy adults and children feel incredibly sick with stomach cramps, nausea and bouts of diarrhea that can last up to three weeks.

This isn't a new parasite, but according to the Centers for Disease Control and Prevention, the number of recorded crypto outbreaks has doubled at U.S. pools and water playgrounds in two years. In 2014, there were 16 outbreaks, according to data published by the CDC's Morbidity and Mortality Weekly Report on Thursday. In 2016, there were 32.

Ohio was one of the most heavily infected states, according to the CDC, with 1,940 people falling ill due to the infection in 2016 compared to fewer than 600 in any previous year.

Before you cancel your child's swim lessons, however, the CDC said it's not sure what accounts for the rise in recorded outbreaks.

"It is not clear whether the number of outbreaks has increased or whether better surveillance and laboratory methods are leading to better outbreak detection," it said in a press statement.

Once a pool or water playground is infected with crypto, it's easy to spread, but not easy to get rid of. It can survive up to 10 days in properly chlorinated water, and it takes just a swig to get sick. The only way to ensure the health of the water once its been infected is to close the pool and treat it with extremely high levels of chlorine.

Meanwhile, the only way to ensure your own health is to take precautions when swimming in pools or playing at water parks. The CDC recommends avoiding swallowing any water and rinsing off in the shower once you get out.

Health experts also say people can help contain the germs by avoiding the pool while sick and waiting two weeks after symptoms subside from a suspected case of crypto before going swimming.

The rise in crypto cases shouldn't necessarily deter recreational swimmers, however.

"I will continue to swim in pools," Professor Kellogg Schwab, the director of the Johns Hopkins University Water Institute, said Friday.

Italy makes 12 vaccines mandatory

Associated Press

MILAN — The Italian government on Friday made 12 vaccines mandatory for children attending school up to age 16 in an effort to combat what it characterizes as misinformation about vaccines.

The new measures followed an intense public debate over vaccines after a measles outbreak and political sniping over accusations that the 5-Star movement had emboldened anti-vaccine advocates.

Premier Paolo Gentiloni said the new rules aimed to combat "anti-scientific theories" that have lowered Italy's vaccination rates in recent years.

The government approved making 12 vaccines, including measles, rubella and chickenpox, mandatory starting this September for children attending Italian preschools through the second year of high school. Other required vaccines include tetanus, diphtheria, polio and hepatitis B.

Health Minister Beatrice Lorenzin said children will not be accepted into preschools without proof of vaccinations, while parents of children legally obliged to attend school will face hefty fines for noncompliance.

A

Jordan to cancel law shielding rapists

Associated Press

AMMAN, Jordan — A pregnant 15-year-old who had been raped by a brother-in-law decided to marry her attacker, hoping this would shield her from other male relatives who might kill her in the name of "family honor."

A young woman was taken into protective custody after being stabbed 17 times by a brother who accused her of bringing "shame" to the family for running away from an abusive husband.

Jail, forced marriage or the risk of getting killed by family members — these are some of the harsh choices still faced by victims of abuse or sexual violence in Jordan.

In a key step toward reform, the kingdom is now poised to abolish a provision that exempts a rapist from punishment if he marries his victim. Jordan's parliament is expected to do so in a special session sometime after the end of the Muslim fasting month of Ramadan next week.

Women's rights advocates say repealing Article 308 would be a victory, but that more work lies ahead in a society with deeply rooted customs of patriarchy and a legal system that often goes easy on the male perpetrators.

"It's about the patriarchal mentality in a society that never punishes the man or shames him for anything," said Asma Khader, a lawyer and activist.

The "marry the rapist" provision has been repealed in Egypt and Morocco, but remains on the books in Tunisia, Lebanon, Syria, Libya, Kuwait, Iraq, Bahrain, Algeria and the Palestinian territories, according to the international group Human Rights Watch.

ASSOCIATED PRESS

Pakistani troops leave after a shootout with militants Saturday on the outskirts of Peshawar, Pakistan. Security forces raided a militant hideout in the northwestern city of Peshawar before dawn, triggering a shootout in which three Pakistani Tailban were killed, senior police official Sajjad Khan said.

Pakistan building its own wall, with Afghanistan

The Washington Post

ISLAMABAD, Pakistan - Earlier this week, military officials announced that they are proceeding with a long-stalled plan to build a fence and heighten security measures along the entire border with Afghanistan, beginning with the mountainous, semi-autonomous tribal regions of Khyber-Paktunkhwa province in the north and gradually extending the work south through the lawless desert badlands of Baluchistan province.

This ambitious project, while unlikely to stop all traffic, is aimed at sending a tangible signal to Afghanistan, and perhaps more importantly to officials in Washington, that Pakistan is a victim rather than a perpetrator of cross-border terrorism. Building a wall, military officials here assert, is the only way to control a border that has been permeable for far too long.

On Friday, as news spread that terrorists had killed 85 people in scattered attacks across Pakistan that included suicide bombings at both ends of the border, Pakistan's military spokesman, Maj. Gen. Asif Ghafoor, sent out a terse tweet: "Security/surv[eillance] of Pak-Afg border enhanced. Stringent actions agst illegal Bdr crossers. Recent terrorist incidents linked to sanctuaries across."

Afghan officials have objected strongly to the new measures, saying they will disrupt normal, necessary cross-border traffic and unfairly punish families and communities on both sides. They also say the actions are unlikely to hinder the cross-border movement of insurgent groups sponsored by Pakistan's security agencies.

But Pakistan, which routinely denies that it shelters anti-Afghan militants, has also been trying to turn the tables by ramping up accusations against Afghanistan for harboring anti-Pakistan militants — mostly groups driven out of Pakistan by an aggressive military campaign in 2014 and 2015 — and allowing them to set up base camps in tribal areas just inside the border.

In February, when Pakistan was stunned by a blitz of terrorist attacks that killed 125 people, including a suicide bombing at a historic Sufi shrine, the government promptly focused blame on Afghanistan, closed all border crossings and launched a cross-border shelling operation against what it said were militant camps used by a group linked to the Islamic State. Now, Afghan officials are blaming Pakistani-based Taliban militants for a massive bombing in Kabul and other recent attacks.

U.K. Parliament investigating cyberattack on user accounts

Associated Press

LONDON — British officials were investigating a cyberattack Saturday on the country's Parliament after discovering "unauthorized attempts to access parliamentary user accounts."

A statement from the House of Commons said that as a precaution, remote email access for members has been disabled in order to protect the network from hackers.

"As a result, some Members of Parliament (lawmakers) and staff cannot access their email accounts outside of Westminster," it said, adding that IT services at Parliament itself are working normally.

An email sent to all those affected described a "sustained and determined attack on all parliamentary user accounts in an attempt to identify weak passwords," according to a newspaper. "These attempts specifically were trying to gain access to our emails."

Public Hearing

November 28, 2017

Sign-In

NOISE EXPOSURE MAP UPDATE

Public Hearing
Tuesday, November 28, 2017 - 6:00pm - 7:30pm
Ramada Plaza Hotel
1090 S. Milwaukee Avenue
Wheeling, IL 60090

CHICAGO EXECUTIVE AIRPORT

NAME	AFFILIATION	TELEPHONE NUMBER	EMAIL ADDRESS
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Amy HOPKINS	Neighborhood	847-215-1126	
GEORGE NIXON	Prairie Dk Resident	847-465-0584	
NICK & LUCIA	Neighborhood	(224)241-0625	
Patti Siers	Neighborhood	847-456-8338	PuckMom4@yahoo.com
Betty Cloud	Director CEA	—	
Jami Trudell	Neighborhood	847-541-3960	Htrudell@yahoo.com
KEN & CHRIS BRADY	Neighborhood Trustee	847-343-6474	
Kristen & Chad Taylor	Neighbor	8473230769	KIRSTEN@IME@gmail.com
Alex Joe	neighbor		ajoe@sd74.org
NANCY NEFF	NEIGHBOR	847-912-8490	
GEORGE LANG	NEIGHBORHOOD	847-537-7091	GLREGGAOL.COM
Roberta Schuring	Neighborhood	847-539-6554	BFSchuring@gmail.com
Winnie Franzak	50 Center Ave	847 947 2086	wfranzak@gmail.com
Jenn & Matt Ewald	Neighborhood	Colle-309-0210	
Alexander Vyatkin	Neighborhood (475 Plum creek)	847-877-4529	
Josh Philippe	Neighborhood	847-521-[illegible]	Cetco3Sh@yahoo.com
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ZBritsky	Neighborhood	(847)215-4071	mieaz49@yahoo.com

Thank You!

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Richard Panzer	Resident	8478245752	
Jo Anne Panzer	2015 Woodview Dr. Mt. Prosp.	" " "	
LaDonna Rotman	1913 Seneca Ln.		
Natalija Lipnicka	Resident		

Thank You! Mead & Hunt

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Terry Chronopoulos	1509 N. Muralt	847-299-4334	
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Sue Stem	945 Ridgefield Ln Hm/ wk 221 S Wolf	847 537 5974	
John Pfeifer	1417 Glenn Ave	847-420-7125	
STEVEN WALANKA	405 Fern Ct	847-459-3327	
PATRICIA HUDSON	475 PLUM CREEK WHEELING		

Thank You! Mead & Hunt

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WIESLAWA BAJKOWSKI	1407 COVE DR PROSPECT HP,	773-4197653	
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Thank You! Mead & Hunt

Verbal Comments.

Sign-In

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BRAD MUSINSKI	RESIDENT		

Thank You! Mead & Hunt

Verbal Comments

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SKIP GOSS	PILOT	847-2440055	sgoss@waukeganport.com
Carl Pohlmann	RESident	847) 537-8089	

Thank You! Mead & Hunt

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NOISE EXPOSURE MAP UPDATE

CHICAGO EXECUTIVE AIRPORT

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Thank You! Mead & Hunt

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CHICAGO EXECUTIVE AIRPORT

NOISE EXPOSURE MAP UPDATE

PUBLIC HEARING

NOVEMBER 2017

What is an NEM Update?

- A Noise Exposure Map identifies land uses in the vicinity of the Airport and shows the noise exposure from aircraft operations using contours similar to topographical maps.
- The maps in the PWK NEM Update depict 2016 existing conditions along with the 2022 forecast conditions.

Purpose of the Study

- Determines if a Noise Compatibility Program is appropriate.
- Identifies existing noise exposure, identifies potential future noise exposure, and identifies the number of people that would be exposed to significant aircraft noise levels in order to reduce the number of people affected by noise.
- Provides a five-year planning horizon from date of submission (2022).
- Identifies and evaluates two components: both existing and future aircraft noise and land use/people.
- The Noise Exposure Maps (NEMs) are accepted by the Federal Aviation Administration.

Study Process NOVEMEBER '17

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Accomplished | To Be Accomplished

1	Inventory of Existing Conditions	6	Develop Noise Exposure Maps
2	Develop Aviation Activity Forecasts	7	Develop Preliminary Eligibility Boundary
3	Generate Existing Noise Contours	8	Public Hearing*
4	Generate Future Noise Contours	9	Adoption of Noise Exposure Maps and Submittal of Program to the Federal Aviation Administration
5	Noise/Population Analysis	10	FAA Accepts Noise Exposure Maps

*Today's Meeting

Mead & Hunt

What has changed since the previous NEMs?

- → **New Noise Model** (Aviation Environmental Design Tool) — **more accurate prediction of aircraft noise contours**
- → **Change in flight tracks**
- → **Conversion of Fleet Mix** (phasing out of older, noisier aircraft and reduction of smaller aircraft operations)

Why Update Maps

- **Reasons presented on previous slides** (i.e., changing conditions)
- **FAA cannot grant public funds for projects that do not meet national criteria** (65 DNL Contour)
- **Age of existing NEM contours requires updating, as the future contour has passed**
- **Before granting funds for noise mitigation or abatement, NEM contours must be certified**

Aircraft Operations Comparison to Current CFR Part 150 Forecast Level

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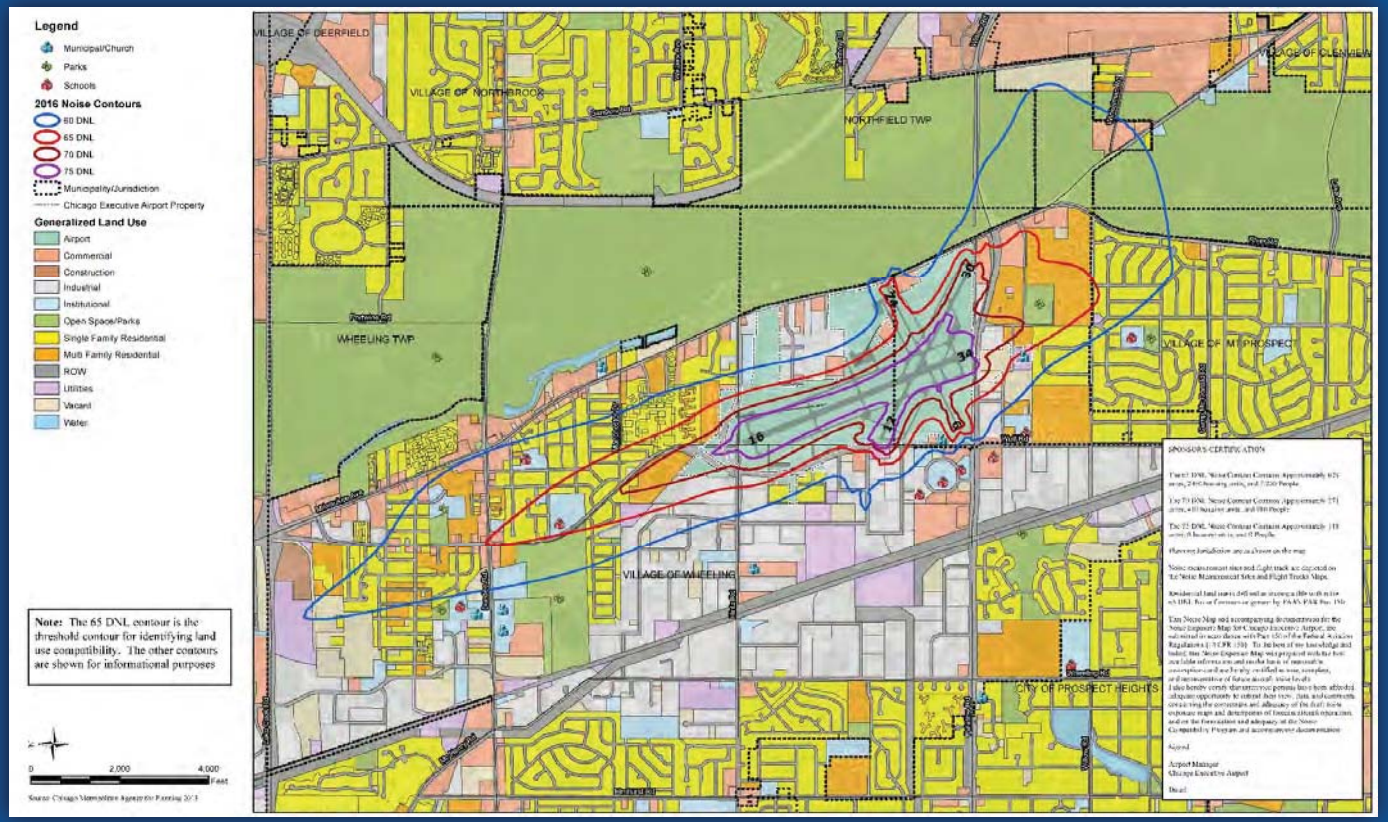
Year	2016	2022	2026	2031	2036
Piston	14,898	12,246	9,525	7,582	6,011
Turbo-prop	9,657	9,935	10,125	10,391	10,679
Light Jet	6,473	6,907	7,255	7,697	8,177
Small Jet	34,702	36,412	37,766	39,523	41,462
Medium Jet	7,979	8,318	11,029	12,980	15,287
Large Jet	3,152	3,369	8,073	12,745	19,984
TOTAL	**76,860**	**77,187**	**83,774**	**90,918**	**101,599**

Source: Chicago Executive Airport Master Plan Update, 2016. CMT.

Existing (2016) Noise Exposure Map



NOISE EXPOSURE MAP UPDATE CHICAGO EXECUTIVE AIRPORT

Future (2022) Noise Exposure Map

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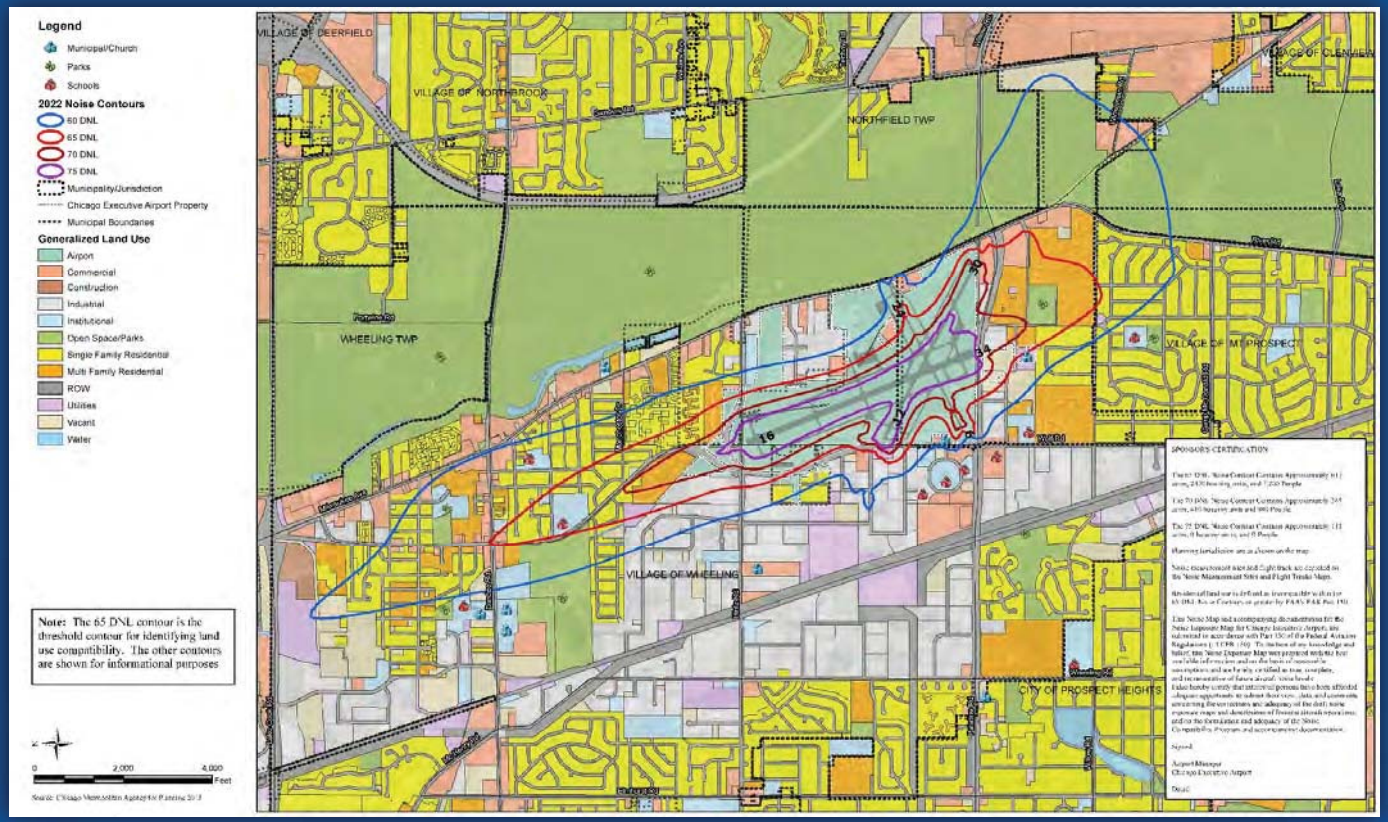

NOISE EXPOSURE MAP UPDATE CHICAGO EXECUTIVE AIRPORT

2016 & 2022: *65 DNL* Noise Contour

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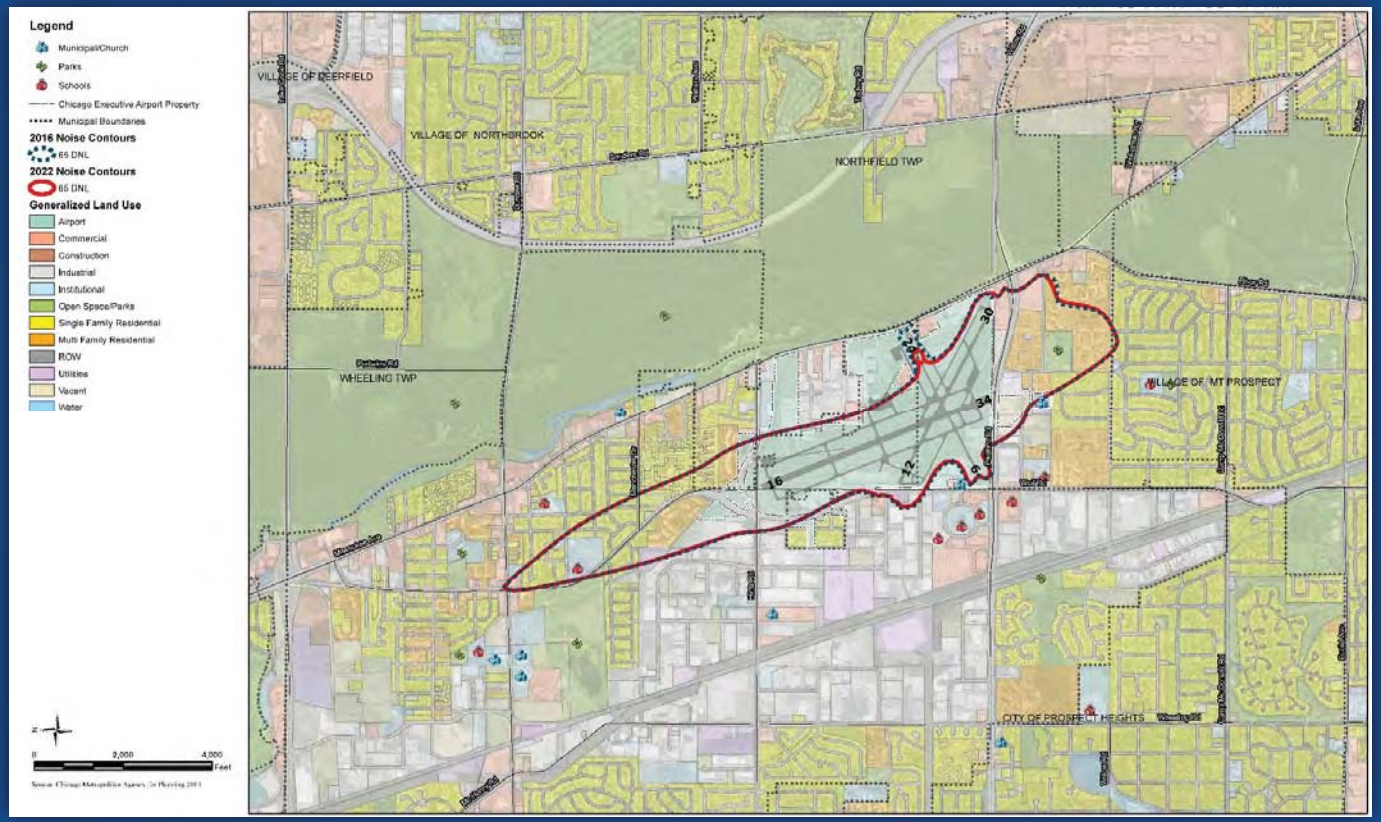


NOISE EXPOSURE MAP UPDATE CHICAGO EXECUTIVE AIRPORT

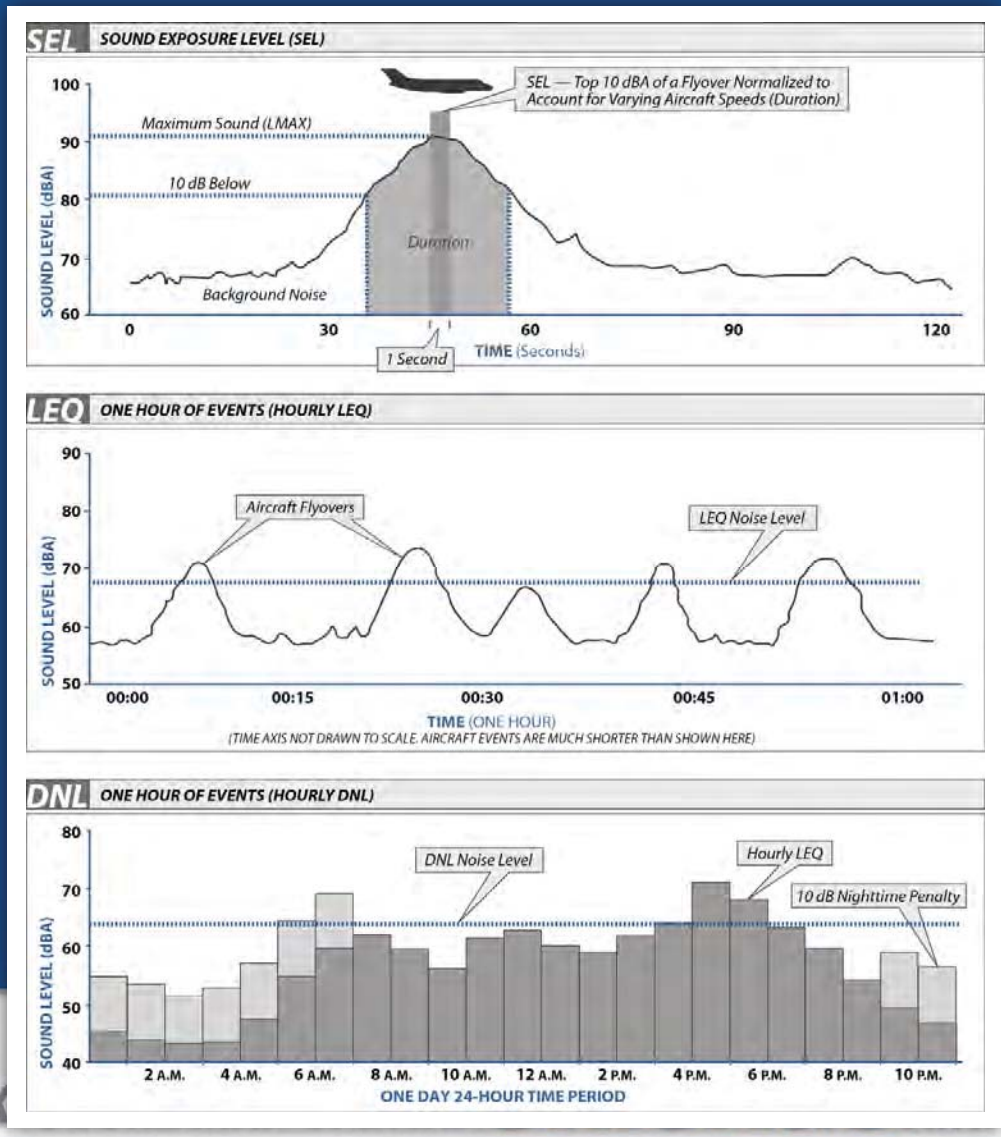
Background Information on Noise

- Measuring Sound in Decibels (dB)
- Propagation of Sound in the Environment
- Development of Noise Contours
- How Are People Affected By Noise
  - *Speech/activity interference*
  - *Sleep interference*
  - *Annoyance*
- Federal Noise Policy

Examples of Various Sound Environments in dB(A)

dB(A)	OVER-ALL LEVEL Sound Pressure Level Approx. 0.0002 Microbar	COMMUNITY (Outdoor)	HOME or INDUSTRY	LOUDNESS Human Judgement of Different Sound Levels
130		Military Jet Aircraft Takeoff with Afterburner from Aircraft Carrier @ 50 ft. (130)	Oxygen Torch (121)	120 dB(A) 32 Times as Loud
120 110	UNCOMFORTABLY LOUD	Concorde Takeoff (113)	Riveting Machine (110) Rock and Roll Band (108-114)	110 dB(A) 16 Times as Loud
100		Boeing 747-200 Takeoff (101)		100 dB(A) 8 Times as Loud
90	VERY LOUD	Power Mower (96) DC-10-30 Takeoff (96)	Newspaper Press (97)	90 dB(A) 4 Times as Loud
80		Car Wash @ 20 ft. (89) Boeing 727 Hushkit Takeoff (89)	Food Blender (88) Milling Machine (85) Garbage Disposal (80)	80 dB(A) 2 Times as Loud
70	MODERATELY LOUD	High Urban Ambient Sound (80) Passenger Car, 65 mph @ 25 ft. (77) Boeing 757 Takeoff (76)	Living Room Music (76) TV-Audio, Vacumn Cleaner	70 dB(A)
60		Propeller Airplane Takeoff (67) Air Conditioning Unit @ 100 ft. (60)	Cash Register @ 10 ft. (65-70) Electric Typewriter @ 10 ft. (64) Conversation (60)	60 dB(A) 1/2 Times as Loud
50	QUIET	Large Transformers @ 100 ft. (50)		50 dB(A) 1/4 Times as Loud
40		Bird Calls (44) Low Urban Ambient Sound (40)		40 dB(A) 1/8 Times as Loud

SEQ, LEQ, DNL



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Departure Flight Tracks

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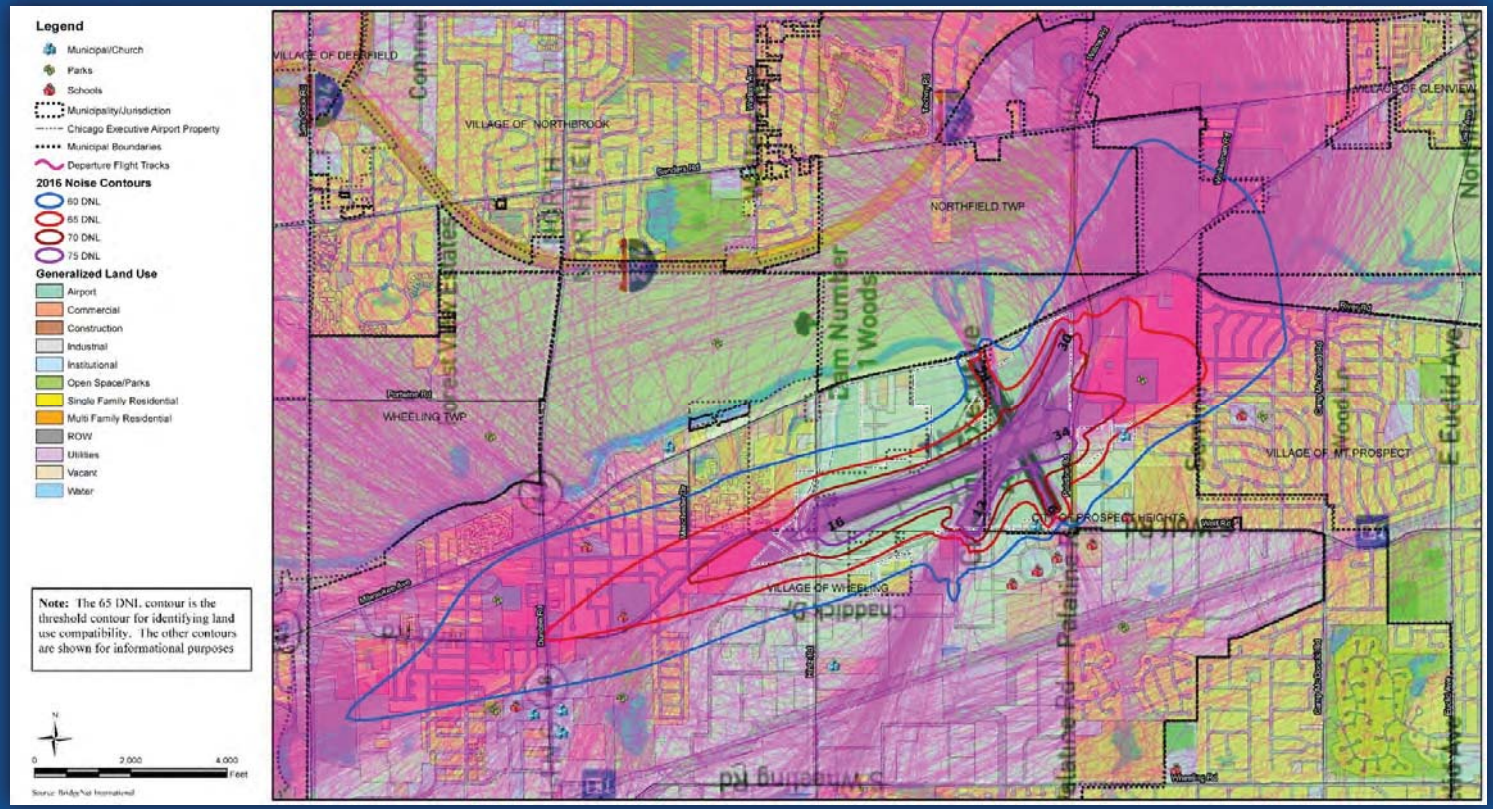

NOISE EXPOSURE MAP UPDATE CHICAGO EXECUTIVE AIRPORT

Arrival Flight Tracks

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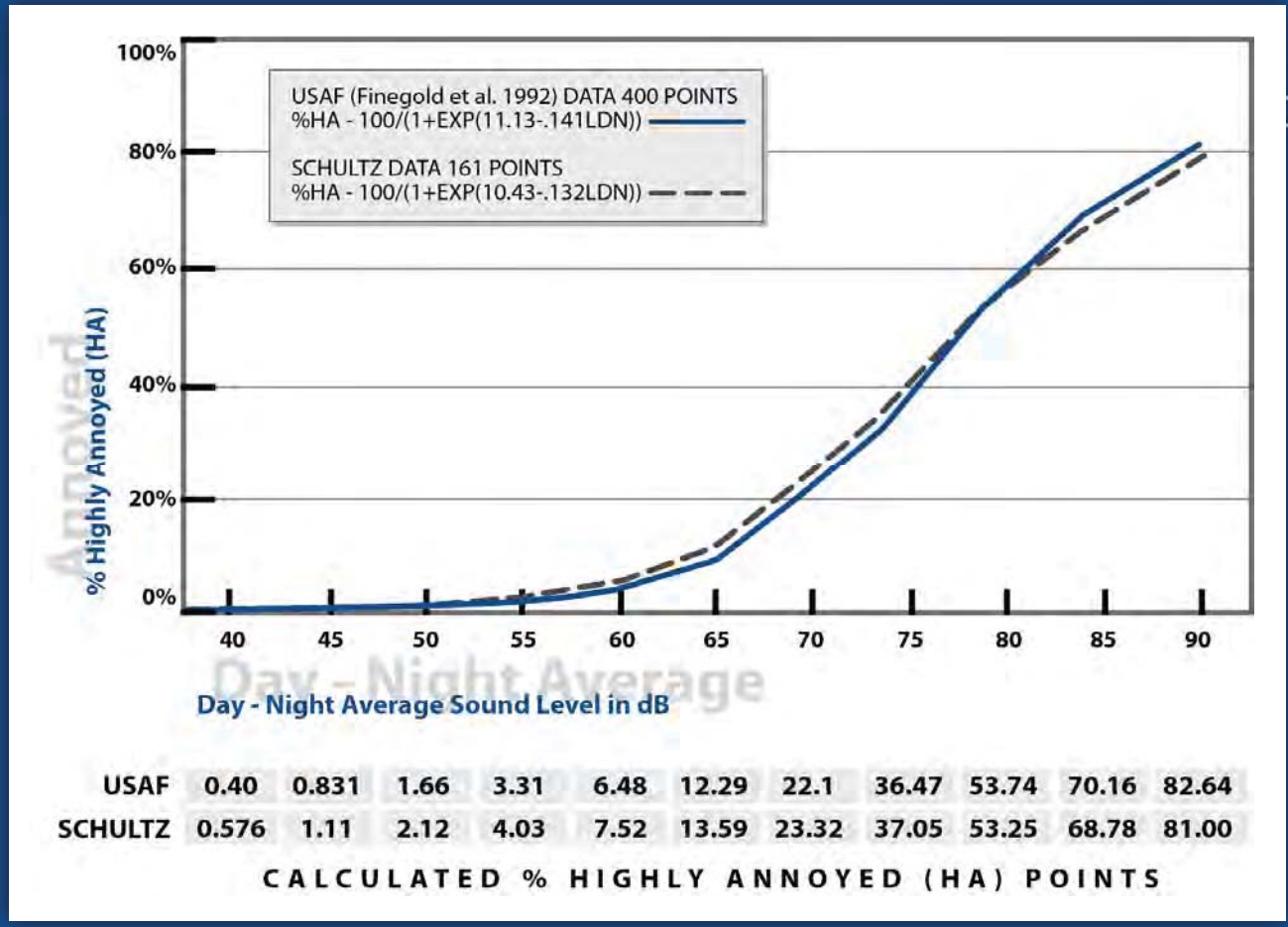
NOISE EXPOSURE MAP UPDATE CHICAGO EXECUTIVE AIRPORT

Shultz Curve



USAF	0.40	0.831	1.66	3.31	6.48	12.29	22.1	36.47	53.74	70.16	82.64
SCHULTZ	0.576	1.11	2.12	4.03	7.52	13.59	23.32	37.05	53.25	68.78	81.00

CALCULATED % HIGHLY ANNOYED (HA) POINTS

Land Use and Population

- Identifies an airport's present and future noise contours and the land uses that are not compatible with those noise levels
- Residences within the 65 DNL and greater contour are considered by the FAA to be non-compatible, as are other noise-sensitive uses
- Provides baseline impacts to develop Noise Compatibility Program (NCP) to reduce the number of people affected by noise as defined by FAA (65 DNL)
- Eligibility of noise reduction programs are tied to this federal threshold

Land Use/Population

	2016			2022		
	65 DNL	70 DNL	75 DNL	65 DNL	70 DNL	75 DNL
Population & Housing (Number)						
Persons	7164	978	0	7185	981	0
Housing Units	2459	409	0	2466	407	0
Land Use (Acres)						
Single Family	62.64	2.01	0	62.76	1.92	0
Multi-family	91.84	19.81	0	91.94	19.7	0
Total Acreage	**629**	**271**	**117**	**617**	**265**	**115**

Comments, Questions and Additional Information

Mead & Hunt

→ **Jen Wolchansky—Project Manager**

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Comments accepted until December 8, 2017

Mead & Hunt

CHICAGO EXECUTIVE AIRPORT

NOISE EXPOSURE MAP UPDATE

THANK YOU!

A

DANIEL WHITE/dwhite@dailyherald.com

Illinois Tollway Chairman Robert Schillerstrom, center, leads a ribbon cutting along with other officials including Chicago Department of Aviation Commissioner Ginger Evans, left, to open up a new stretch of Route 390. SEE THE NEW EXTENSION ON VIDEO AT DAILYHERALD.COM/MORE.

Extension: Agency leaders defend series of new tolls on Route 390

Continued from Page 1

Airlines, whose support is needed, have pushed back against the idea.

The tollway, formerly known as the Elgin-O'Hare Expressway, features four toll interchanges and three mainline collection points with tolls costing 20 to 25 cents per mile compared to an average of 6 cents per mile elsewhere on the tollway system.

That means it will cost an I-PASS driver $1.90 to travel from Lake Street in Hanover Park to Route 83 in Bensenville, a price that's too steep for some commuters such as Bob Jacobson of Schaumburg.

Those tolls "are much too high to justify its use," Jacobson said. "The only destination in that direction for me would be O'Hare, and there are surface street options at no cost with little extra hassle."

Agency leaders said higher rates are needed to pay for the $3.4 billion project that includes I-490, another toll road on the west side of O'Hare to be completed by 2025. It would connect with Route 390 in the center, the Tri-State Tollway (I-294) in Franklin Park and the Jane Addams Tollway (I-90) near Des Plaines.

Meanwhile, local mayors said new interchanges at Park Boulevard, Arlington Heights Road/Prospect Avenue/Ketter Drive, Wood Dale Road and Route 83 would be an economic boost.

"Our businesses are already showing change. Three new buildings are going up and three old ones were torn down," Wood Dale Mayor Nunzio Pulice said. "An Amazon Fresh is moving in, so there's a whole lot happening."

Hanover Park Mayor Rod Craig, who served in the U.S. Navy, said, "I've been on the Seven Seas and I've seen aircraft carriers come at me, but I've never seen anything as awesome as this road."

High costs and local opposition caused the project to linger for decades, but eventually the tollway adopted the road, converting it from a freeway to a toll road.

Chicago Department of Aviation Commissioner Ginger Evans said extending Route 390 east had the "full support of Mayor Rahm Emanuel as we work to build a better and even more efficient O'Hare.

"Today there is only one point of entry to O'Hare on the east side," she said. "Creating a new entryway will benefit airport-bound travelers as well as other commuters and communities and businesses west of O'Hare."

DuPage Chairman Dan Cronin said the county will still push for an actual terminal on the west of O'Hare.

"We don't want (United and American) overburdened, but we need to continue to bang the drum," he said. "There has to be faith (the terminal) will not only become reality but be wildly successful in terms of economic development."

American Airlines is "actively negotiating with the Chicago Department of Aviation to reach a new lease agreement, but until we reach that agreement, we won't be publicly discussing the negotiations," spokeswoman Leslie Scott said.

Schillerstrom said the tollway will move forward "to build a new seamless access to O'Hare."

An interchange connecting Route 390 and I-490 along with western access will be completed by 2022, Schillerstrom said.

Constable:

Continued from Page 1

David, died a couple of years before the Cubs became World Champions. "What these Cubs do off the field is as impressive — perhaps more so. Anthony Rizzo's Roberto Clemente Award exemplifies what they are all about. It is not something he competed for. It is something he earned by doing good."

Indeed. The Clemente Award goes to the player who best represents baseball through extraordinary character, community involvement, philanthropy and positive contributions, on and off the field. Rizzo and his Anthony Rizzo Family Foundation gave more than $4 million to Lurie Children's Hospital in Chicago, and another $650,000 to the Sylvester Comprehensive Cancer Center at the University of Miami Health System.

Rizzo visits hospitals, writes personal notes to sick kids and donates his own money and time. "As a cancer survivor, I know the challenges families face, watching loved ones fight this disease," Rizzo says. "I want to give them hope there is life after cancer. I encourage families to continue to 'Stay Strong and Dream Big.'"

But the Cubs' good deeds don't stop with Rizzo.

"Cubs players have participated in more than 100 community engagements," notes Alyson Cohen, a public relations coordinator for the Cubs.

Cubs Wives raised more than $70,000 for Cubs Charities this year. In 2016, the Cubs, Cubs Charities and Cubs Care supported charitable grants and donations of nearly $4 million and expect to give more than $6 million in 2017. The Cubs' All-Star Grant Challenge in 2017 raised $450,000 for schools in the Lakeview neighborhood near Wrigley Field.

Manager Joe Maddon's Respect 90 Foundation has raised more than $300,000 for homeless shelters in Chicago and his hometown of Hazleton, Pennsylvania, this year. Slugger Kyle Schwarber's Neighborhood Heroes campaign, which honors veterans and first responders, raised $280,000 with its inaugural block party. Outfielder Albert Almora Jr.'s Intentional Walk charity raises awareness for homeless or sheltered animals through PAWS Chicago. Pitcher Jon Lester's Never Quit (NVRQT) campaign through the Pediatric Cancer Research Foundation raised $600,000.

Relief pitcher Brian Duensing and his foundation also support families battling cancer or other serious illnesses. The Willson Contreras Foundation started by the Cubs catcher supports homeless veterans. Through its Hot Stove Cool Music concerts, Cubs President Theo Epstein's Foundation To Be Named Later has raised more than $1.1 million this year for Peter Gammons College Scholarships and partners with nonprofits that benefit urban youths and families concentrating on leadership, education and healthy development.

Other players donate to these charities and visit hospitals and veterans. Cubs fans will be able to cheer this team's efforts all year.

And, yes, we can do that a year from now even if we are watching the Cubs play in Game 7 of the 2018 World Series.

A

Travel: New rules come 120 days after laptop ban was lifted

Continued from Page 1

begin the new security interviews today, each offered different descriptions of how the procedure would take place, ranging from a form travelers would be required to fill out to being verbally quizzed by an airline employee. Other carriers insisted their operations remained the same.

"The security measures affect all individuals, international passengers and U.S. citizens, traveling to the United States from a last point of departure international location," said Lisa Farbstein, a spokeswoman for the U.S. Transportation Security Administration. "These new measures will impact all flights from airports that serve as last points of departure locations to the United States."

The new rules come at the end of a 120-day window for new U.S. safety regulations to be implemented after the lifting of the laptop ban imposed on some Mideast airlines.

They include "heightened screening of personal electronic devices" and stricter security procedures around planes and in airport terminals, Farbstein said. She did not elaborate.

Details of the new rules first became apparent in a statement by Dubai-based Emirates, which operates the world's busiest airport for international travel.

In the statement, Emirates said it would begin carrying out "pre-screening interviews" at its check-in counters for passengers flying out of Dubai and at boarding gates for transit and transfer fliers. It urged those flying through Dubai International Airport to allow extra time for flight check-in and boarding.

"These measures will work in complement with the current additional screening measures conducted at the boarding gate," it said.

Hong Kong-based Cathay Pacific Airways Ltd. said on its website that it had suspended self-drop baggage services and that passengers heading to the U.S. "will be subject to a short security interview" when checking their luggage. Those without bags would have a similar interview at their gates.

Air France said it would begin the new security interviews today at Paris Orly Airport and a week later, on Nov. 2, at Charles de Gaulle Airport. It said the extra screening would take the form of a questionnaire handed to all passengers.

U.S. carriers also will be affected by the new rules. Delta Air Lines said it was telling passengers traveling to the U.S. to arrive at the airport at least three hours before their flight and allow extra time to get through security. The International Air Transport Association, which represents 275 airlines, did not immediately respond to a request for comment. However, Vaughn Jennings of the trade group Airlines for America said that while the new rules include "complex security measures," U.S. officials have been flexible.

"The safety and security of passengers and crew is the highest priority for U.S. airlines and we remain committed to ensuring the highest levels of security are in place throughout the industry," Jennings said.

However, not all were convinced of the new measures' effectiveness.

"The part of the new measures I don't like is that airline personnel are being put back into the security screening process," said Jeffrey Price, an aviation-security expert at Metropolitan State University of Denver. "Airline ticket agents aren't always the best at conducting security measures."

This is just the latest decision by President Donald Trump's administration affecting global travel.

In March, U.S. officials introduced the laptop ban in the cabins of some Mideast airlines over concerns Islamic State fighters and other extremists could hide bombs inside of them. The ban was lifted after those airlines began using devices like CT scanners to examine electronics before passengers boarded planes heading to the U.S. Some also increasingly swab passengers' hands to check for explosive residue.

The laptop ban as well as travel bans affecting predominantly Muslim countries have hurt Mideast airlines.

NAACP says American Airlines discriminates

Associated Press

DALLAS — The NAACP is warning African-Americans that if they fly on American Airlines, they may face discrimination or even safety issues.

American's CEO said Wednesday that he was disappointed by the announcement and that American wants to discuss the matter with the civil rights group.

The NAACP said that for several months it has watched a pattern of disturbing incidents reported by African-American passengers. Among them were separate cases in which an NAACP official and another civil rights activist were kicked off flights.

New NAACP President Derrick Johnson said they are not boycotting American Airlines, but the sheer number of events made them feel like they had to issue a warning.

"We're not telling people not to fly on American," he said. "We're just saying to individuals that here is an advisory note. We have picked up a pattern of a certain behavior of this corporation and until further notice be on alert."

American Airlines issued a statement saying that it serves customers of all backgrounds and itself has a diverse group of employees.

In a memo to employees, CEO Doug Parker said American endorses the NAACP's mission statement against racial discrimination.

"We do not and will not tolerate discrimination of any kind," Parker wrote. "We have reached out to the NAACP and are eager to meet with them to listen to their issues and concerns."

ASSOCIATED PRESS/May 27, 2015

An American Airlines jet taxis to the gate at Miami International Airport, in Miami. The NAACP is warning African-Americans that if they fly on American Airlines they could be subject to discrimination or even unsafe conditions.

The NAACP highlighted four recent incidents in which African-American passengers said they were treated in a discriminatory way.

One involved the head of the North Carolina NAACP, the Rev. William Barber, who sued American after the airline summoned a police officer to remove him from a flight last year.

Barber said he had asked a flight attendant to tell two white passengers behind him to quiet down, but she was dismissive. After one of the white men said loudly that he didn't like "those people" and mocked him, Barber said he stood and turned to ask the man to stop talking about him.

Barber dropped his lawsuit against American in June.

An incident last week involved Tamika Mallory, an organizer of the Women's March on Washington in January. Mallory had changed her seat at an airport kiosk, only to be told at the gate that the seat had been assigned to another customer.

Mallory said she was treated disrespectfully by the gate agent — another African-American woman — and was outraged when a white male pilot asked if she could control herself while on the flight.

After being told she was being kicked off the plane, Mallory called the pilot a racist in a profanity-laced exchange. She took a later flight home to New York on American, then held a press conference two days later and threatened to take legal action against the airline.

The NAACP called its warning a "travel advisory," and it's only the second time it has issued one.

The first was against Missouri, which the organization announced in August after citing reports that African-Americans were more likely than whites to be stopped by law enforcement officers there, as well as other current and past racial issues in the state.

The travel advisory is part of a new, more aggressive stance for the civil rights organization, which is in the midst of reimagining itself following the rise of groups like Black Lives Matter, which have been drawing the attention of young millennials. The group ousted its previous president, Cornell William Brooks, earlier this year and hired Johnson, the vice chair of NAACP's board of directors, as its new president on Saturday.

Appendix 3

Public Comments and Responses to Comments

Public Information Open House (June 29, 2017)

Comment from Patricia Hudson: Noise level has risen considerably over the past 2 years, as has dirt and fumes. Some sort of scheduling so planes wouldn't be taking off as much between certain hours. I.E. 3:00 A.M. – 8:00 A.M. I'd probably change that to midnight – 8:00 a.m. Cannot hear our T.V. if windows are open. We live approximately one football field away from Runway34.

(Do you really care what I think/say?)

Where was coffee [and] doughnuts? After all, I have to listen to noise all day long.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

Comment from Phil Mader: Homes eligible for sound attenuation that were built before 1990 is extremely unfair to several homeowners. There are approximately 9 homes in the flight path built in 1992. And they say we are eligible!!

Response: *Thank you for your comment. According to a change issued to FAA's noise mitigation policy published on April 3, 1998, FAA deems structures eligible for remedial noise mitigation measures for non-compatible development (i.e., residences located within the 65 DNL contour) built in or before the year 1998. If a noise-sensitive use, like a house, was constructed after the year 1998, it is not eligible to use Airport Improvement Program (AIP) grants for noise abatement measures. Houses built prior to 1998 could be potentially eligible.*

Comment from Thomas Fallucca:
Hello,

My name is Tom Falluca, 1819 Apache, Mount Prospect. I have lived here since 1990. When I chose to move here I knew where the airport was and willing to live with the propeller airplanes and once in a while commercial jets from O'Hare. There is a RR nearby and I can here that too.

I recently attended an open house at the Chicago Executive Airport. I asked a question that no one there could answer. Why do most aircraft approach the airport circle over my house? This is a concern of mine and my neighbors. As you know there was a very tragic plane crash where a jet crashed into the Des Plaines River. Not sure of the date, 2014 or so. This plane crashed about 5 blocks from me. Therefore I feel it just missed crashing into homes. The pilot unfortunately died but I would like to think that he was able to guide the aircraft into the river and avoid the homes and school.

I did receive some good feedback as to why aircraft approach from the north. Stay away from O'Hare flight paths. Avoid Glenview Naval Air Station. Pilots like to make left turns for better visibility. These were all valid reasons but only avoiding O'Hare remains valid. Glenview Naval Air Station no longer exists and technology for the pilots should make right turns easier. Don't all jets use ILS? One person said that the tower asks which way the pilot would like to approach. Most pilots will choose the same old path just because of habit. You can see on the attachment that a couple of planes did make right turns into runway 34. I asked why the planes can't fly over the forest preserve. This would be much quieter and safer in case of a malfunction. Is it because flying that way would put them over Northbrook and Glenview where there are some very expensive homes. I was assured that is not the case. But I had to ask.

I think it's time to share the noise. Start having the tower tell half of pilots to approach from the east while making a right turn.

Sincerely
Tom Fallucca
1819 Apache Ln, Mt Prospect

Response: *Thank you for your comment. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

Flight tracks are generally dictated by air traffic control, but not all planes have the equipment necessary to follow precision flight paths closely (not all aircraft use Instrument Landing System). Therefore, the flight tracks are not usually in the same exact location. Chicago Executive Airport's proximity to O'Hare does greatly influence the way aircraft operate in and out of the Airport and requires some non-standard means to the basic straight-in/out approach/departure corridors typical to many airports. For example, approaches from and departures to the south (off Runway end 34) are generally constrained by the boundary of the Class B airspace at O'Hare, causing operators to either avoid it entirely by approaching from or departing to the north (off Runway end 16) or by flying under the airspace. This project only addressed updating the Noise Exposure Maps and did not address abatement recommendations.

Public Hearing (November 28, 2017)
Written Comments

Comment from George Nixon: The planes of Quincy Park Residents seem to get much louder with taking off and landing to airport. Is there a way to divert air traffic away from Quincy Park Area.

Response: *Thank you for your comment. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address abatement recommendations.*

Comment from Martha Chronopoulos: There are significant concerns regarding safety and health issues. A jet crashed in the forest preserve a few years ago (fortunately). If it crashed 1 ½ blk further east it would have been catastrophic. There have been several other incidents, thankfully no loss of life yet. This airport needs to solve these problems before they continue.

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps.*

Comment from Patricia Hudson: Buy the (our) property and stop the B.S.

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Kseniya Vyrvich: We feel that moving staging pad close to Hintz Ave and the neighboring residential area will negatively affect noise levels and overall comfort of living in the area.

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Sue Stern: Don't believe sound-proofing homes is any respectful response.

During day teaching, need to stop while planes overhead – windows open.

During Spring and track and field season, practice in fields behind Holmes, 3:45-5 – planes arriving every 2 minutes! Low! Loud!

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Steven Walanka: What is a noise compatibility program (NCP)

How will it reduce people affected by the noise

What is status of sound proofing homes

Response: *CFR Part 150 Airport Noise Compatibility Planning is the primary Federal regulation guiding and controlling planning for aviation noise compatibility on and around airports. CFR Part 150 comprises two parts: the preparation of Noise Exposure Maps (NEMs) and Airport Noise Compatibility Programs (NCPs). This project addressed only an NEM update for Chicago Executive Airport. An NCP uses information from the NEM (areas of non-compatibility for noise-sensitive uses as defined by FAA) to identify recommendations for reducing non-compatible land uses. The FAA approved an NCPs for Chicago Executive Airport in 2010. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Amy Hopkins: I have lived in this area for over 20 yrs. We had meetings every few years related to noise. The noise has diminished, but it still is loud enough at night to cause complaints. Considering the noise a plane makes, we will never have complete quiet, day or night. I am lucky as my house is close to Milwaukee Ave. and that distance seems to cut the intensity. My one idea is to place sound blocks in the neighborhoods where complaints are the most intense.

Response: *Thank you for your comment and your suggestion. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Schmidt: The noise is defining [sic] when watching TV or on the phone. We miss the dialog or the plot. The eaves and gutters are dripping with jet fuel that doesn't come off white brick. The landing lights come into our bedroom at night and at all times of day or night.

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Elwira Gross: The planes make the noise which is disturbing. Planes come more often now flying directly above our house and yard. We observed that the planes are larger. I am sure the noise and vibrations are damaging our house. We observed cracks in the ceilings.

What are the operating hours of the airport?? Planes fly as early as before 6:00 AM which should not be the case. We also noticed planes flying late at night.

How much pollutions are we being exposed to? Is there another alternative road which planes could take instead of above our neighborhood? The planes fly way too low!! Too frequently!

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. The airport is open 24 hours a day. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Patti Siers: I would like to know which specific house addresses would be included in the insulation/window project.

I'm in Harmony Village and have seen planes come down so low, they look like they're going to crash into a building.

I'm new in the area and cannot imagine larger and louder aircraft flying over.

The noise now, with widows closed, is horrible. Not to mention if I'm outside in the yard.

Response: *Thank you for your comment. the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Comment from Joh Chiappe: I noticed that are no data available on noise previous to 2016. What does the sound silencing proposal entail especially in construction specs. I noticed that planes start landing and taking off starting around 4:00 AM.

Response: *Thank you for your comment. A Part 150 Study was conducted at Chicago Executive Airport in 2010. This current NEM Update evaluated existing (2016) and future (2022) noise conditions. According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. The airport is open 24 hours a day. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comments from Terry & Martha Chronopoulos:
Unable to enjoy our Property due to the low flights at all times of the day and night
There is a layer of black "goo" that has covered my roof and yard furniture, what is it? Is it dangerous??
The unwelcome current and future noise and environmental pollution of the airport, the decreased value of the property and same time increased property taxes, makes it impossible to enjoy the few years left after retirement.

Response: *Thank you for your comment. The Airport does not have authority to prevent flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Jim Hahn: Late take-offs and landings (after 9:00 P.M.) or before 6:00 A.M. (early). During this time of day there is less traffic and construction noise. So the planes noise carries greater distances.

Thank you,
Jim Hahn

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Jerry Nylander:
The maps are oriented wrong. They should be vertical for North/South. It's confusing.
Where I live its marked as single family and its not.
The colors of the contour lines are too close together adding confusion.

If Mead and Company makes basic mistakes like these, how can we trust the rest of their information.

Response: *Thank you for your comment. We have re-arranged the maps in the report to show north as pointing upwards. The data we used to identify land use designations were provided by local jurisdictional offices. FAA provides the exact scale to which we must map the contours.*

Comment from Nancy Scharff:

Planes sit at end of runway on Hintz and Wolf side reving engine sometimes more then 10 minute before taking off.

Smell exhaust fumes.

Windows shake with bigger planes.

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Christine Dolgopol:

Expressed my concerns to several people including airport board member. Bottom line they are going to do what they want – 2 from Wheeling don't represent the residents.

I live on east Center Ave. Remediation will not cover my home and many houses on West Center won't be covered either. Can't leave windows and doors open in summer because noise is so bad. Can't have a conversation or listen to T.V.

Response: *Thank you for your comment. According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from R. Schuring:
Is the 10 and 3 departure going to be enforced when planes take off North and South? (No matter what time of day?)

Will it strictly be private planes or do you see company (like Fedex) coming in years later?

Noise level in early morning is intolerable. Wonder if the committee really does care what the citizens around airport think? Regarding landing- expansion – noise

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. The airport is a general aviation airport, which handles all civil aviation operations (i.e., cargo, private aircraft… etc.), but not scheduled air services (commercial service). The Airport has put on hold recent plans to test and implement a proposed nighttime 310 departure from Runway 34. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Karen Peten: I live at the NE corner of E Manchester Dr. and Stone Place. Lately the larger jets are flying right over the houses – when has flight pattern changed, and why now going over the houses. Before they went out over the Des Plains River.

Response: *Thank you for your comment. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. No new airspace procedures have been implemented at Chicago Executive Airport that would change flight paths.*

Comment from Wagner: We live at Manchester Dr. and Stone. The noise has gotten so bad we cannot hear TV when inside, can't hear on the phone. While outside you have to stop talking until the planes go over.

The big planes fly over at all hours midnight and early AM. Wakes us up.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from James Sylvester: Airplanes come all hours, day and night. Some come 12:00 AM and 3:00 AM. My bedroom is right over the incoming planes that come in very low and should find a different direction.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Tami Trudell:
Quincy Park Condos are not completely in the 65 DNL area. If FAA funds come through for homes within the 65 DNL area, the entire QP community should be included. There are almost 600 units in this community, and all should be handled.

Overall, it needs to be quieter! Much noise disruption when I am trying to enjoy time outside in the summer.

Response: *Thank you for your comment. According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that*

program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Comment from Barb Weder: Thank you for allowing me to make some comments regarding the airport noise. I am really concerned that the noise level is too loud now and that when I go to sell my home my value will be next to nothing. When I moved to Wheeling 48 years ago all the planes at the airport were small and not loud. Now you cannot even hear yourself think or talk to someone with the level of the noise from the planes. They do wake me up at night. Sitting in the back yard in nicer weather is actually a laughing matter. All you ever hear are the airplanes. Even with heat or A/C on and windows closed you cannot hear the television. I truly hope you will be able to reduce or eliminate this noise factor. I also get concerned because of the schools and park that are in the flight pattern. What does the noise factor do to those young ears?

Barb

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comments from Rich and JoAnne Panzer: Planes come too low over our homes. Takeoffs (noisy) during the night at times. Siding, screens, windows stained by residue from planes (jet fuel). Helicopters flying around early in the morning – Very Noisy!!

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Karen Giambalvo: According to the maps on display I am in the 60 DB ring. Which apparently means I couldn't qualify for any noise abatement funds. That is really outrageous. I can't have a phone or other conversation in my home or outside of my home.

I am consistently woken up by planes flying very, very low because I am in the direct flight path for landings. I'm really disappointed that I am being cut out of any noise abatement efforts. I hope the airport will reconsider this decision to eliminate homes in the 60 DB ring. Thanks for the opportunity to express my opinion.

Response: *Thank you for your comment. According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Tatyana Anderson: It is impossible to keep the windows open at night: too much noise from landing/taking off planes.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comments from Matt and Jen Ewald: Some planes are very loud, frequent, and seem lower than necessary given our position to the airport. We've tried submitting a complaint online but the form requires too much information when it's noisy inside my house. The air traffic also interrupts our digital antenna TV which is very annoying. We would like to relax outside or have people over in our backyard when it's nice out but the noise is too much and unpredictable.

Response: *Thank you for your comment. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Henry Hackney Jr.: Expansion of airport not fair to residents or kids. Not safe having planes flying over the school all day. A plane crash would be terrible if it hit the school. How can kids study and teacher teach with all the noise. This is a very selfish act to the community and to the kids.

Response: *Thank you for your comment. This study focused only on updating the Noise Exposure Maps and did not address potential future plans at the airport. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Ellen Atlas: Home values in Wheeling have been stunted by the ever increasing expansion of the airport and number of flights and size of planes coming and going to and from the airport here. As a realtor and resident of Wheeling, I have experienced first hand the detrimental effects of the airport expansion. All surrounding suburbs have been able to bounce back mostly from the real estate implosion of 2006-2008. The noise has continued to increase in frequency and number of hours and it is preventing sellers from being able to realize return on their investment in properties because potential buyers shy away from purchasing any property remotely close to the airport traffic. I am not in favor of future plans to expand this airport even further and increase air traffic to and from it. Also not a fan of adding additional runways. It is affecting property values adversely.

Response: *Thank you for your comment. This study focused only on updating the Noise Exposure Maps and did not address potential future plans at the airport.*

Comment from Nancy Neff: The noise level is so loud can't sleep. Even with windows closed. Can't have conversations in yard. Effects my quality of life. Environmental and pollution. Safety concerns. Need flights to stop overnight – so loud turns on motion lights by shaking house. This is not a public hearing!

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This study focused only on updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Additional comment from Nancy Neff and Steve Neff:

I dispute the methodology used when creating the NEM contour maps for Chicago Executive Airport. The 2016 baseline contained several weekends of multiple runway closures due to construction. There was no clear explanation on how closures would be accounted for. To suggest that all operations simply shifted over to a runway that can only take small B1 class jets is a stretch. What happened when all the runways were shut down? There is no transparency in the analysis despite the fact the FAA's Airport Desk Reference states the responsible FAA official should be given the input data for the said contour map. This data should be made available to the public to match up with documented noise complaints and flyovers. Also assumptions are made about piloting procedures that often are ignored. The afterhours noise, with the 10 decibel assessments, is the major trend at this airport.

Response: *Thank you for your comment. The text in the NEM Update report was changed to clarify the analysis conducted to incorporate runway and airfield closure periods in developing the 2016 baseline contour (see text below). The FAA provided the radar data and approved input data for developing the contours for the Chicago Executive Airport NEM Update. Operational procedures can be influenced by weather conditions, wind speed direction, temperature, and runway surface conditions, among other considerations. While FAA provides direction for aircraft operations, the pilot is responsible for ensuring the safety of an aircraft and, ultimately, make decisions to maintain safety. The radar data reflects the way aircraft actually fly. In addition, the FAA Desk Manual applies to NEPA documents and does not address CFR Part 150 Studies.*

Clarified text: To obtain the detailed operational assumptions, a full year of radar data was used to determine: fleet mix, runway use, time of day, flight tracks, and flight track use. This includes records of operations at PWK of the majority of all itinerant flights, the time of the operation, the type of operation (departure/arrival), runway used and type of aircraft. The radar track points for each flight were also

obtained. These inputs also served as a starting point to assess future aircraft noise levels for the future year scenario.

The existing conditions noise analysis utilize flight radar and operational logs to determine the number of operations by type and the runway utilization. Year to year operations vary depending upon user demand, weather, and airfield constraints such as construction. During the 2016 baseline time period, there were 12 weekends where there was construction that affected the accessibility of the airport. This construction period represents 451 hours of the year, or 5% of the total hours in the year. The construction would typically start at 10 pm on a Friday night and end around 3 pm on a Sunday. Two of the days ended on Saturday at around 3 pm while two other days ended at 6 pm and 7 pm on Sunday. Nine of those days involved the closure of Runway 16/34, the main runway at the airport that the majority of the jet aircraft use. Three of those days involved the closure of the airfield for all runways for fixed wing aircraft. The closure dates are summarized in Table A2. The hours that Runway 16/34 was closed represents 3.7% of the total hours in the year. The hours that the airfield was closed represents 1.4% of the total hours of the year.

Table A2, WEEKEND CONSTRUCTION CLOSURES

Weekend Starting	Closure	Approximate Start Time	Approximate End Time	Construction Hours
6/10/2016	Rwy 16/34	6/10/16 10:00 PM	6/11/16 3:00 PM	17
6/17/2016	Rwy 16/34	6/17/16 10:00 PM	6/19/16 3:00 PM	41
6/24/2016	Rwy 16/34	6/24/16 10:00 PM	6/26/16 3:00 PM	41
7/8/2016	Rwy 16/34	7/8/16 10:00 PM	7/10/16 3:00 PM	41
7/15/2016	Rwy 16/34	7/15/16 10:00 PM	7/17/16 3:00 PM	41
7/22/2016	Rwy 16/34	7/22/16 10:00 PM	7/24/16 3:00 PM	41
7/29/2016	Airfield	7/29/16 10:00 PM	7/31/16 3:00 PM	41
8/5/2016	Airfield	8/5/16 10:00 PM	8/7/16 3:00 PM	41
8/12/2016	Rwy 16/34	8/12/16 10:00 PM	8/14/16 3:00 PM	41
9/9/2016	Rwy 16/34	9/9/16 10:00 PM	9/11/16 7:00 PM	45
9/16/2016	Airfield	9/16/16 10:00 PM	9/18/16 6:00 PM	44
11/11/2016	Rwy 16/34	11/11/16 10:00 PM	11/12/16 3:00 PM	17

During the time period of the runway closure, a user may choose a number of different options. These are listed below. All are possible options and it is not possible to know what any individual operator chose to do. The radar data will provide information as to when aircraft operated, the type and which runway was used, but the data does not provide information as to whether that flight differed from "normal" operations, like if an aircraft choose to not operate or changed when they flew or if they substituted an aircraft.

1. *Use another runway*
2. *Operate the aircraft at a lower weight allowing use of a shorter runway*
3. *Use a different aircraft in their fleet that can use one of the available runways*
4. *Delay the operation until the construction is complete.*
5. *Accelerate the operation prior to the construction starts.*
6. *Not operate at the airport at all*

To operate on a runway, an aircraft performance must meet the conditions of that runway that vary with type of operation (departure vs. arrival), aircraft type, payload weight, wind speed direction temperature, and runway surface conditions. For example, an aircraft may need to operate at a lower payload to operate on a shorter runway. In some conditions, the larger corporate jets may not be able to operate on any of the other runways, even at a lower payload. Most fractional operators have a large fleet that includes different sizes and aircraft performance. Because these closures are published well in advance, these operators may have chosen to use an aircraft that could operate on one of the available runways. Note this is internal data to the operator, and the radar data does not provide any information on this.

In reviewing the 2016 base case radar flight tracks, the consultant team analyzed the data for the runway closures on all weeks of the year. During this time, weekly aircraft still operated at the about the same numbers as non-runway closure weeks, but during the construction closure hours they operated on one of the other runways (mostly on Runway 12/30). While it was determined that this small number of reduced operations would not significantly change the noise contour, the total number of closure period operations were adjusted and added in the base year 2016 DNL noise contour inputs. The operations on Runway 12/30 were also adjusted to operate on Runway 16/34 instead of Runway 12/30 as they normally would if the runway was not closed.

Note that the future year noise contour analysis is based upon the forecasts that were developed as part of the Master Plan. The future contours are the noise contours that would be used to determine the noise insulation program boundaries.

It must be remembered that the aircraft noise contours are not intended to be a perfect representation of the noise generated by the aircraft operating at an airport, but they are a reasonable representation of the aircraft generated noise (based on the constraints discussed above).

Comment from Janet Angarita:
The noise level has gone up since I moved in and has become a problem waking us up very early in the morning. They sound like rockets flying over. Our windows rattle and have a film that has become difficult to remove. The film is on our roof, windows, and cars.
There has been more plane crashes and our neighbor was actually almost runned over by a plane that crashed as he was driving on Wolf. He has 2 children, a wife, and other family that could had been effected by his lost.
Trying to have a conversation while the planes are flying by has become a thing of the past.
Our daughter has had asthma and difficulties breathing and has been ill since she was a child.

Enough is enough. No more expanding in our residential neighborhood!

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs or potential future plans at the airport.*

Comment from Eugene: Please reduce flight time in nites from 10pm to 7am!

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Winnie Franzak:
I would like to be on a window replacement list. I do not know if the previous owners (Crows) 50 Center Ave were on it. Most of my windows neon gas is gone with condensation to replace it. My home is directly over a landing runway and yes I should be calling more often to complain. I am awakened at 4:34 AM! There is always noise. I never realized these problems before I purchased my home 3 years ago!

Additional comment from Winnie Franzak:
These are my comments on the following:

Property values: I paid a high price for this ranch 3 years ago. I did not realize that I am directly over a descending runway. More planes are not going to help raise the price of my home.
Emotional tranquility: Feeling a plane 6 story above your head is not comfortable. Could the planes occasionally veer a little west & go over the park to the west??? No one lives there. We are a neighborhood that will someday be hit with a troubled plane. I had a friend that lived at River & Camp McDonald who said the noise was unbearable.
Sleep disruption: Once awake, I find it very difficult to fall back to sleep. 1:45am, 4:48am.
Conversation interference & property enjoyment: Saturday & Sundays when I can sleep later that are extremely irritating. I go out Friday & Saturday evening & do not get to sleep until 12 to 2am. I love the people that come for the weekend & steadily fly in on Friday and leave Sunday, late afternoon. My company is shocked that so many planes use this airport! Conversations are stopped as we watch them fly over. Conversations on the telephone are halted until I can hear again.
After hour flights: This subject goes along with sleep disruption.

When I chose this location I figured I am not close to O'Hare. I avoided many "for sale" homes because of noise, air pollution, location. I never suspected an airport that I have flown out of as a child with my Uncle, to be so busy and expects to be so much busier in the near future. Yes small planes are now quieter. Some are a whisper. But jets, both small, mid & larger do have large propellers and are noisy.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. Should the airport move forward with a sound*

attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Comment from John and Linda Blair: Needs to help with the plane noise. Planes are getting bigger and more traffic – Sunday nights and Monday are the worst. Have been wake up – I'm 64 years old – this need to be address. We can see inside the planes; And see the number on the planes. The windows shake. The smell of the planes. But we need help – The noises is so bad. We are the only 8 houses surrounded by industrial park. We purchased this home to be away from city. Then they built up city park, Regal show and incorporative us to Industrial. We have lived their since 1995 on 1 acre lot.

John [and] Linda Blair.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs

Comment from Iona Wassilkowsky:
I just moved to the Wheeling area (Harmony Village) 9/28/17. One of my prerequisites for moving here was a quiet neighborhood! Much to my dismay, that is not altogether true.

Since I am retired, I often go to bed late. I was surprised how late the planes arrive and depart. I love fresh air, and when it's warm, I open windows as was true during my early days here. The noise of some planes was astounding. As an intelligent, educated person, why is it not possible to restrict these arrivals and departures during early and late hours?

What about the elderly, infirm and children? I feel for these people. I sincerely hope something can be done to alleviate the problem.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Debbie Tornquist:

I have owned my home in Mount Prospect at 1721 N. Beech Rd. since 1995. For over 20 years my family has endured excessive noise from take offs and landings via Chicago Executive Airport's South runway. Our house is within one mile of this runway. Particularly at night, some planes look as though they could hit the trees in our backyard. We are forced to sleep with our windows closed, and are still awakened in the middle of the night! We strongly oppose the lengthening of any runway, or the landing of larger planes at CEA.

As a former flight attendant for 18 years with a major airline, I am very familiar with landing restrictions to protect residents from excessive noise. Our airline was required to come in at much steeper angles than I observe. Planes adhering to as they approach Chicago Executive Airport from approx. 1 mile from the runway where they are approaching close to the tree tops in our back yard.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs and did not address potential future plans at the airport.*

Comment from Melissa Sobie:

As a long time (20+ years) resident of Wheeling, the airplane noise has gotten significantly worse in the last 5+ years. The noise disrupts family dinners, picnics with neighbors, and telephone conversations with family and friends…as well as work. My family and I are routinely woken up at all hours of the night and early morning by planes…making it hard to get a good night sleep or fall back to sleep impacting health- and our productivity the next day. For every one noise I call and complain, there are at least 10 noises that I don't. I am very disappointed that the alternative proposal for takeoffs over the more industrial area wasn't put into effect. It seems any proposal to minimize noise doesn't go anywhere. The "Boeing" proposal that they (Boeing) suggested as a standard policy that may affect 2 planes per week was a weak attempt by the airport to make it seem like they were doing something to alternative noise. Shame on the airport leaders to think that would fool us.

I am strongly against ANY airport expansion. I think our village should implement restricted overnight hours – like John Wayne airport. I do not want any larger planes either.

It's ridiculous that the 10 year old noise study isn't being redone by going out and accurately measuring noise for current levels.

In addition: The planes spew dirty engine soot, etc. – easily seen by comparing my deck to the decks of the neighbors in other neighborhoods that are not under a runway. My deck is much dirtier – due to the planes … and I worry about what might be falling on the veggies in my garden.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs or potential future plans at the airport.*

Comment from Cheryl Kolcz:

This is concerning the extreme noise pollution coming from jets landing and taking off from the Chicago Executive Airport. I have lived at 316 Crescent Drive in Wheeling since 1976. When I first moved there, we did have traffic from the airport. It was piper planes. There was also a restricted fly time when Holmes Junior High School was in session. I have watched, listened and yes even smelled the increasing air traffic

for 41 years. The jets go directly over my house. It is scary. The jets have caused extreme stress to my family. When a jet is coming we all cover our ears till it passes. Conversations stop till they pass. I look up at the belly of the jets. When I have summer parties, some of my guests leave because of the airplane noise and the sight of them so low over us. The children are scared and crying so they are forced to leave. When I step out in the morning the smell of jet fuel is very strong. Yes, the jets landing and taking off from the Chicago Executive Airport have affected my life in a very negative way. I really hate them. On a petition I signed against bringing in even larger jets at the airport I invited the Village president (then Dean Argris and the board at the time) to come and just stand in my driveway to experience what I am forced to live with on a daily basis. I was not surprised no one took me up on my offer. One picture or video I think would shock people just how bad it is. I really hope things will change. But living in Wheeling so long I have realized it doesn't really matter what the residents want. Thank you for your time. I really appreciate it. Cheryl Kolcz

Response: *Thank you for your comment. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Dave Rosenberg:
Jen,

I attended last week's noise "hearing" and I'm writing to express my concerns. After looking at the noise maps I noted that my home lies just outside of what was determined to be the impacted area. After living near Camp McDonald and River Road for the past 10+ years I can tell you that at times it can be awfully noisy at my house with planes endlessly streaming in during peak hours. At night, we can be rudely awakened by the screams of rambling jets and during the day it is a constant interruption of jets landing and taking off. The possibility of noise abatement funds for those homes in the designated area will not help where I live since for some reason it's not within the deemed area. I invite you to spend a few days with me so you can see firsthand just how ridiculously loud the noise can be. And with the planned doubling of the number of medium and large jets it will only get worse.

Even if noise proofing is offered to homes in the area it won't solve all the problems that airport expansion will create. During the spring, summer and fall when windows are open we will be suffer not only with

noise but also with air pollution. When we moved in to this area the airport serviced mostly small planes and was a good neighbor. That is all changing with the airport turning its back on its neighbors in order to cater to big business. This is a residential community. Where are our rights?

I understand the desire to better serve business needs. However, it shouldn't be at the expense of the quality of life of the community's residents. There are a few ways the airport can expand without disrupting the lives of nearby residents:
Reconfigure the runways. The main runway can be shifted eastward on the south end to fly over the forest preserves rather than directly over residents' heads. And on the north side it could shift further west to avoid the neighboring apartment complex and instead fly over an industrial area. While this would be a bit costly it would lower noise complaints and have less impact on residents. If the businesses are demanding airport expansion they should pay for it instead of sacrificing the residents' quality of life. In addition, less funding would be needed for noise abatement. This is the best long-term solution that will allow the airport to expand as needed.
Alter the way planes take off and land so that fewer homes are affected. Other airports do this. I don't understand why Chicago Executive doesn't have these procedures in place.
Limit airport hours. Again, other airports that are in residential areas do this.
The best solution that will satisfy all parties is to reconfigure the runways. Property values in our area have not recovered as much as neighboring areas. Airport expansion will further devalue our properties and adversely impact our lives. If the airport is to expand it must be done properly, even if it is a slightly more costlier approach. In the long run that investment will pay off for the community and for the business and executives using the airport.

I hope the FAA and Airport Board will take these comments into consideration and protect the interests of the public rather than putting big business first.

Sincerely,
Dave Rosenberg

Response: *Thank you for your comment and suggestions. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs and did not address potential future plans at the airport.

Comment from Sheila Schultz:
I regret that I was unable to attend the November 28th meeting in person. I appreciate this opportunity to express my concerns.

Years ago, in my capacity as the Village President of Wheeling, I cast the tie breaking vote to pursue the purchase of Palwaukee Airport. I made this decision to assure that the citizens of the village would have a voice in the impact of the airport in their lives, especially as it affected the environment, and in particular, noise pollution. While the airport has continued to thrive generally, the conditions in these two areas has continued to worsen.

My home is just west of Wolf Road, directly under at the flight pattern, and I share my neighbors expectations that efforts can and will be taken to lessen the noise problems as much as possible. I was deeply disappointed that the commission has chosen not to implement the proposed "left turn departure" in favor of sound proofing homes, a project of questionable value to most of us, and with an uncertain time commitment.

I would urge the decision makers to listen to the residents, at a hearing where they could fully present their comments. After hearing them out, please take their requests seriously, and make your decision accordingly.

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Edward Bajkowski:

I am upset about the level of noise and quality of air that CEA brought to our community. Mornings, nights flights wake people up, resulting in interrupted sleep and causing people to be constantly tired. There are a lot of children in our neighborhood, afraid sometimes to go outside and play, beside that airplanes, make impossible to have a good night's rest for them. Growing noise levels coming from jets taking off is often unbearable to the point that it stops conversations creates an inability to hear TV, etc., glass shake in my cabinets, also All of the above issues are making quality of life in airport neighborhood worse and worse due to a growing air traffic. Our houses are not adjust to large jets, we would like to have a normal life like we did while only small planes were flying and quiet hours-no flights between 10 PM-7 AM. ALSO, I would like to know why the runway between industrial area & forest preserve, is not modernized and used? This would alleviate a lot of problems and headaches for everybody.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comments from Joe and Lucy Pisman:

Ms. Wolchansky,

Please allow this e-mail to serve as my family's formal opposition to Chicago Executive Airport's proposal to increase flights in and out of Chicago Executive Airport. I have lived at the same home, which is located less than 2 miles away from the airport, for over 30 years. During that time flights in and out of the airport have been a nuisance, but still bearable. An increase in flights would directly depreciate my family's quality of life.

My son recently had a daughter and is expecting another daughter in the next few months. While my son and his wife are at work my wife and I are the caregivers for the baby. On numerous occasions the noise from flights flying into and out of Chicago Executive Airport have awoken the baby. Anyone who has had to babysit knows just how much of a nuisance this creates. Undoubtedly an increase in flights would make care-giving an even harder task.

In addition, my wife and I have both recently retired. We would like to spend our time together in peace without having our conversations interrupted by noisy flights or our sleep interrupted by after hour flights. Finally, there would be a decrease in our home's property value. We don't deserve this - especially after all the time, money, and hard-work that we've put into our home.

We ask that Chicago Executive Airport not be allowed to increase the amount of flights going into and out of the airport.

Executive Airport was closed in downtown years ago, why [can't it] be done here?

Sincerely,

Joe and Lucy Pisman

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs and did not address potential future plans at the airport.*

Comment from Diane Stopka:
To Whom It May Concern:

I have been a resident of Mount Prospect since July 1, 1969. I have lived on Beech Road that entire time. When we first moved here the airport was small and had small planes departing and arriving. Over the years the planes have gotten bigger and much noisier. There are times that if you are outside you have to wait for the planes to go over before you can continue your conversation. Outside patio furniture gets covered in a black film from the planes.

If any funds become available for sound proofing I feel that the residents on Beech Road should be considered in this as we are affected by this.

This is the forgotten section of Mount Prospect hopefully not the forgotten section for airport noise complaints.
Thank you,
Diane T. Miller Stopka

Response: *Thank you for your comment. According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Cyndi McDade:
Dear Jen,

I have lived within 1 mile of the airport for almost 30 years. For the last 19 of those years, in my single family home that I own in the Meadow Brook West Subdivision in Wheeling. Prior to that, I owned a condo in Prospect Heights at Lake Run Condominiums.
Over the years, the size of aircraft, increase in air traffic, and noise of the aircraft has increased dramatically.
Not more than a day goes by without the noise of a plane or helicopter disrupting my life. Whether I'm having a face to face conversation, on the phone, watching TV, or listening to the stereo, or awakened from sleep, the aircraft noise is disruptive to my life, and those around me.
I firmly believe that any further expansion of the airport would be seriously detrimental to my quality of life, health, property values, ability to enjoy my home and yard.

Sincerely,

Cyndi McDade

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs and did not address potential future plans at the airport.*

Note that the following people submitted the same comment: Carrie Christ, Marianna Kepska-Korman, Galina Sandler, Svetlana Blasuchuk, Nina Stotland, Messiager, David Zbritskiy, Zouheir Chalouf, Rafail, Lynn Nouotny, Joanne Sauro, John Stelling, Szelipu Wioleth, Panel Mielliowski, Plotr Swiech, Emilia Sevillo, Viktoriya Rivkin, Dmitry Zactsman, Lilian Turcanu, Alexander Vyrvich, Trina Belomoina, Alla Skikhelueau, Boris and Rose Ostrovsky, Eleonora Abramsky, Emilia Ritchie, Saulle Sorbine:

I would like to express my disappointment with the levels of noise and quality of air that Chicago Executive Airport contributes to our community. The airport's growing air traffic is endangering residents' health and well-being. The air quality is becoming significantly worse as more and bigger airplanes are burning their fuel precisely at the direction of the building as they stay in line before takeoffs (sometimes continuously for a few hours). Growing noise levels coming from jets taking off is often unbearable, to the point that it stops conversations between people, creates an inability to hear TV, etc. The early morning, night and late evening flights wake people up resulting in interrupted sleep and causing people to be constantly tired. There are also a lot of young children and elderly in our building. Both need to sleep early, and the airport makes it impossible to have a good night's rest. In addition, the exhaust from the planes negatively affects the development of young children brains, sometimes cause diseases such as cancer.

All of above issues are making quality of life in airport's neighborhoods worse and worse due to a growing air traffic, and are having a bad effect on our property values.

We, the airport neighbors, are demanding from the authority the solution for this problem, such as removing all the jets' flights and limiting take off and landing times to coincide with Village of Wheeling quiet hours – no flights between 10pm and 8 am. We would like to have a normal life, like we did while only small planes were flying.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Note that the following people submitted the same comment: Dorota Staron, Bajkowski Wieslana, Jadwiga Dabrowiecka, Marta Osmolska, George Nixon, V Sergey Maragulov, Elena Huculak, Halina Chmura, Luz Reyes, Kathleen Bennett, Oskana Sivolova, Darek Szpir, Maragulov Serge, Roman, Marinela Toticava, Patricia Gaiser, Ludmila Zoub, Anna Lidecki, Jozef Lidecki, Barsicl Anna:

Property values, emotional tranquility, sleep disruptions, task interference classroom disruption, conversation interference quality of life, property enjoyment after hours flights.

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We, the airport neighbors, are demanding from the authority the solution for this problem, such as removing all the jets' flights and limiting take off and landing times to coincide with Village of Wheeling quiet hours – no flights between 10pm and 8 am. We would like to have a normal life, like we did while only small planes were flying.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Linda Mader:

Dear Ms. Wolchansky,

We wanted to take the time to express our concerns about the validity of Noise Exposure Study completed by Mead and Hunt. We do understand the need for the study; however we feel that the study from a science perspective is completely flawed, inaccurate and purely fiction because the input data was provided by airline manufacturers and that pilot flying patterns and methods vary significantly from pilot to pilot.

Furthermore, the FAA, airport and its owners continually try to downplay the actual changes to the airport to mitigate the damage from noise and air pollution that they are creating for the surrounding communities. If you want accurate data, true sound monitoring needs to be implemented in order to show the devastation that the airport is causing in the surrounding communities.

It is clear that Amy Hanson has little regard for the communities that surround the airport as well as her caustic personality as indicated by many of the people from the airport and public who have dealt with her. She continues to be a road block to the needed sound mitigation of all surrounding communities.

Additionally, the public was a bit thrown off by the term “Public Hearing” most were under the impression that their voices would be heard; however that obviously wasn’t the intent.

If you have any further comments or questions regarding my comments, we would be happy to discuss the roadblocks that Ms. Hanson has created for the airport.

My husband’s (Phil) direct e-mail is tinymader@comcast.net.

Thank you.

Linda Mader

***Response**: Thank you for your comment. The FAA provided the radar data approved input data for developing the contours for the Chicago Executive Airport NEM Update.*

The noise model used to predict the aircraft noise contours is an FAA approved model that has the certificated noise levels for the majority of the aircraft flying in the United States. Neither the Airport nor the consultant is allowed to adjust or change any of the individual aircraft noise levels in the model. You are correct, each pilot may fly his aircraft in a different manner - that is why ACTUAL aircraft flight track radar data was used to depict the aircraft operations. The noise contours are not intended to be 100% accurate, but are a reasonable representation of the aircraft generated noise.

Recent activities at the airport are accounted for in the model (i.e., construction periods in 2016). According to the FAA, the 65 Day Night Noise Level (DNL) contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. DNL is a cumulative noise metric that describes noise experienced during an entire (24-hour) day. The calculation of DNL accounts for number of aircraft operations, the loudness and duration of the noise, the total number of noise events, and the time of day of these events (including a penalty for nighttime operations). The DNL calculation differs from single-event metrics, which would be measured by sound monitoring, as you described.

The purpose of the Public Hearing was to provide information on the project and to solicit public input.

Comment from Aneta Kulig:
Property Address:
16-18 E. Old Willow Rd., Prospect Heights, Illinois 60070
Lake Run Condominiums

It's like a snooze button that won't go off in early morning hours. Takeoffs and landings interfere with my sleep and quality of life. I hear the airplanes every day as they fly over our neighborhood. The intensity has gotten worse, and the frequency has gotten worse. I am concerned about air traffic pollution and how it will affect my family's health. Whether you're on your balcony, patio or inside-the noise does not go

away. These planes are flying right above our buildings. I think it's a terrible and perverse approach. It's an accident waiting to happen.
12/8/17

Aneta Kulig

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Mike Putz:
Airplane traffic has significantly increased since we bought our home in 1999. Recently late night [and] early morning landings have become a particular issue with our family. What are the potential remedies for negatively impacting airport neighbors in this way?

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Iwona Klincewicz:
I am leaving at 1399 Quaker Ln Prospect Hts Ill 60070 and all planes are flying just above my roof. At spring, summer and fall I can't keep my windows open because is big noise whole day late at night or early in the morning. From the beginning we was tell they will be not flying at night. 24 hours I smell fuel in the air this is unhealthy air to breathe . Some times they are flying so law so my glasses shaking in the cabinets and I don't hear may television. Leaving in the. Quincy Park right now is like leaving in the HELL. Our property value is going down because of the noise. On the weekends is difficult to sleep because every 5 minutes house is shaking. Those buildings was not build for this type of noise. Please let me know if you plan to replace our windows so we ken leave comfortable in our houses.

Iwona Klincewicz

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Comment from Lucas Johnson:

In response to public hearing on the new NEM and attending my first CEA board meeting:
We are a young, mid-to-upper income family that moved to Wheeling in the spring of 2017 to start and grow our family. When selecting a community we did our due diligence and were aware of the proximity to the airport. By summertime we realized that the frequency and noise issues were way more than we could have ever anticipated and appear to get worse with each passing month. We live in a beautiful community with a number of schools and parks (near Heritage Park) and it is a shame that the quality of life is deteriorating so quickly around us, especially when you consider the amount of investment being made by the Wheeling Township to make the area more attractive to younger families (Heritage Park, New Town Center, etc.). Unfortunately, all of the progress being made by the City is being tarnished by the noise pollution from progressively larger jets. As a result of the above, we are in the process of considering selling our home and searching for a new community that has a less noise pollution and a higher quality of life.

Being new to the concept of NEM, I have one simple observation. All of the noise pollution appears to be concentrated to the North and South of the airport. Given the frequency at my new home (at least one plane an hour on average), I would assume that more than 90% of air traffic and related noise runs north/south putting a heavy burden on the more diverse communities in the area.

It is very clear that we should consider redesigning and rotating air traffic to more evenly distribute noise (similar to other airports). There appears to be a good deal of common sense (low effort-high impact) opportunity by simply changing/rotating flight patterns etc. especially when you consider most areas E/W of airport are industrial vs. residential/schools where the majority on noise pollution is experienced today. Both the CEA and Wheeling Township should be diligent in pursuing noise redistribution/abatement ideas to save the communities that support them. Especially when it relates to quality of life for young, diverse families, which are critical to the future growth of this community.

Thank you
Lucas Johnson

Response: *Thank you for your comment and suggestion. Most aircraft use Runway 16/34 (the north-south runway) at Chicago Executive Airport. Aircraft arrive from the north on Runway 16 approximately 75% of the time and from the south on Runway 34 approximately 15% of the time. For departures, aircraft predominately use Runway 16/34, departing to the south approximately 40% and to the north approximately 36% of the time. Table D3 in this report shows runway use by aircraft category.*
The speed and direction of the wind dictate the runway direction that is utilized by an aircraft. From a safety and stability standpoint, it is desirable, and usually necessary, to arrive and depart an aircraft into the wind. When the wind direction changes, the operations are shifted to the runway end that favors the new wind direction.

The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Comment from Mayor Arlene A. Juracek:
On Behalf of the Village of Mount Prospect, Illinois

Regarding the 2017 CFR Part 150 Noise Exposure Map Update at Chicago Executive Airport (CEA)

The Village of Mount Prospect is a home rule community of more than 54,000 residents located directly south of CEA. We do not have an ownership interest in CEA, as do our neighbors Prospect Heights and

Wheeling. However, Mount Prospect homeowners and one elementary school in the village (District 21's Frost Elementary School) are impacted by both departure and arrival flight tracks under both current and projected year 2022 conditions. We are appreciative that Mount Prospect Village Trustee Richard Rogers, who resides in the affected area, is a member of the CEA Airport Noise Committee. We are filing these comments today because it is also important that the interests of Mount Prospect stakeholders be officially recognized in the record of this Noise Exposure Map update proceeding. The November 28 Public Hearing unfortunately coincided with a meeting of the Mount Prospect Village Board, necessitating these post-hearing written comments.

The Village of Mount Prospect is a long-standing member of the O'Hare Noise Compatibility Commission (ONCC), of which I currently serve as chair. While the comments herein are not those of the ONCC, I believe that my ONCC service and experience provide important context. Mount Prospect recognizes the importance of the United States air transportation system to our economy, particularly its direct local benefits to our residents and businesses. We also recognize the challenge in mitigating the noise impacts on our residents and students as a result of airport operations. The ONCC has been championing and experimenting with an overnight Fly Quiet runway rotation program, designed so that no one geographic area bears the burden of necessary flight operations, especially during overnight hours. While sharing the burden of airport noise can create winners and losers, it allows for opportunities for noise relief and predictability that can be beneficial to the region in the long run. I understand that the challenges faced by CEA are not the same as those faced by O'Hare; however, I encourage the board of CEA to continue to explore creative approaches to noise mitigation such as the 310-Departure strategy.

The noise contour maps in the draft FAR Part 150 NEM Update clearly show the area of Mount Prospect affected by departure and arrival noise. While the 65 DNL contour affects a miniscule geographic area in the village, a larger area is within the 60 DNL contour. Frost Elementary School is arguably outside even the 60 DNL contour, yet that contour is directly adjacent to the District 21 property. The criterion for the O'Hare School Sound Insulation Program is 60 DNL so I would ask that any consideration of school sound insulation include Frost Elementary. The FAA is currently conducting research on the 65/60 DNL noise metric as a threshold measure for mitigative programs such as residential and school sound insulation programs. It is my understanding that we could see results of this research sometime in 2018. The ONCC administers one of the largest sound insulation programs in the United States, if not the world, and no one appreciates more than I the need for a bright line when allocating limited resources. However, before conclusions are drawn as to eligible areas for any future sound insulation programs, recognition that the criteria may be in flux is important to assure our residents and students that we are looking out for their best interests. For this reason, I am appreciative that the 60 DNL contour is shown in the document and

its proximity to Frost School is evident. Since the issue of funding would need to be considered subsequent to any change to the DNL threshold metric, or even implementation using the current threshold metrics, this is likely to be a very long-run discussion on a national as well as local level prior to any implementation at CEA, which makes options like the 310-Departure more important to effect near term relief for residents, whether in Mount Prospect or not.

In conclusion, I thank you for the opportunity to submit these comments on behalf of the residents and students in Mount Prospect and respectfully urge the CEA board foster a creative approach to noise mitigation strategies.
Respectfully submitted,

Arlene A. Juracek
Mayor, Village of Mount Prospect

Response: *Thank you for your comment. As chair of the O'Hare Noise Compatibility Commission, you are well-aware of existing regulations and ongoing discussions regarding the use of the 65 DNL noise metric as a threshold measure for determining eligibility for noise mitigation programs. Should the airport move forward with a sound attenuation program, the timing of the program would be determined by the airport. Further, the exact boundaries for sound attenuation would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Margaret Boehning:
My husband and I lived a half mile from the airport at 15 W Jeffery Ave and Wolf Road, and ever since 1990 there has been an increase of air traffic up until this past year with more than 10 jets leaving and taking off (every am and pm, sometimes more) before and after every weekend. Many at lower altitudes than allowed, not to mention the reek of jet fuel that would sometimes mist our house and yard. The jets get larger all the time and they take off and fly directly over my house. In fact, they take off in every direction even though I was told once that they were supposed to sort of follow Wolf Rd for a distance, then veer off.
I do not think Wheeling needs a bigger airport. Too many people and homes would be effected. Look for other ways for the Village to make $$.
Thank you, M. Boehning

Response: *Thank you for your comment. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs and did not address potential future plans at the airport.*

Comment from Cheng Chi and Ming Mei Hsu:

Dear Officer,

Although we couldn't make for the hearing, we strongly oppose the idea to Noise Exposure Chicago Executive Airport. Please take serious concern and consideration of the voices of residents. We are residents here in Wheeling for over 25 years. We don't want more noises to disrupt our right of sleeping. It will interfere [with] our tasks of daily life. It will damage our emotional tranquility and mostly our quality of life. After hours of flights not only decreases our own property enjoyment, and most hurting to our property values!!!

Thanks for listening, Residents of Wheeling, IL, Cheng Chi and Ming-Mei Hsu

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Cyndi Kraft-Tagliere:

I have been attending airport meetings for 2 years, and the Board repeats and repeats with no new agendas that pertain to the affected residents to the south of CEA. When we moved in in 2010 it was still Palwaukee Airport, we had no knowledge it would be transformed into a busy executive airport.

There was no representation from Mt. Prospect, so I called the Mayor. She got someone for the next mtg. After speaking to him after a meeting he flat out said "You should have surveyed the area before buying." Another resident to the north of the airport was told by the Board "perhaps you should take Ambien." Those two solutions are unacceptable – jets are flying (per Rob Marks) 400 ft above our roof! The jets go sometimes til 1:45, interrupting sleep and quality of life. I worked as a cyber technician during surgeries. I couldn't/can't get the sleep one needs to concentrate. I retired early, and I'm home a lot, the day time noise is just as bad!

We would not be able to list our home without considering days and flights. We have a koi pond in our backyard, the past two summers have been impossible to enjoy our yard and have guests over with the constant interruption of conversation. Not one Board member can relate to a jet 400' above their home, so they could care less.

There was talk about window abatement for those in direct approach to the landing strip, as well as those on take off side. I was told the FAA granted $79,000, but CEA will not match funds. I'm not sure what "after hours" are, but I was dumbfounded to learn the CEA tower has no human in it after 10:00pm – that it's monitored by O'Hare! If all neighbors knew this I'm sure it would be more of a heated discussion.

I want to hear about results and action. When we can't have our windows open due to noise pollution, or watch TV without pausing – something needs to be done. Rob Marks says they're going to replace windows, etc. While that's nice to hear – 2 yrs is ridiculous. And we're told as residents NOT to contact the FAA, that would only make matters worse. How is that? How is that tower not manned 24/7 (with several plane crashes)? Mt. Prospect does not get consideration, like Prospect Heights, Wheeling, yet we're on the southern border. There was talk by residents of a class action law suit. The airport needs to act upon this matter ASAP.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. The Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne, as they are chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

There are approximately 5,100 public use airports in the United States. Of those 5,100 public use airports, approximately 520 have airport traffic control towers. As can be seen, the vast majority of public use airports DO NOT have control towers. For those airports that do have control towers, it is not unusual for them to be unmanned during the nighttime hours. Therefore, Chicago Executive Airport is not unique in this respect.

According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program,

the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Comment from Stan Kulaga:

When my wife and I purchased the home back in 1994 the airport did not seem a concern because of the type of aircraft using Palwaukee. They were just prop type of aircraft. When the airport changed to a more corporate facility (AKA Chicago Executive) the noise level and air traffic changed dramatically!!! It is almost non-stop!!! Besides that part of it, is there any issue of air quality, we don't know and that is my biggest concern for my family!

Response: *Thank you for your comment. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Robert Mozdznki:

The jets are really loud. I can hear them at all hours of the day and night. My kids attend Holmes Middle School. The jets fly right over the school. The noise is very distracting to the teachers and students. Right outside the school you cannot have a conversation while a jet is flying over. There should be curfews or have the jets use a different runway. It does not seem right that the noise problem continues to get worse.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from David Skarosi:

Two issues related to main runway and northwest runway

Northwest runway – single engine, recreational aircrafts are too low at 1.5/2 miles out and are allowed to follow a glide path that doesn't vary and aircraft fly over the same properties consistently creating noise pollution over home and subdivision. This includes corporate jets when using alternate northwest runway.

North-south runway – corporate jets fly low and near home – backyard and front yard when landing to north – from a north to south flight path. Again, noise pollution that interferes with normal conversation, property values, property enjoyment and quality of life. The low level of all flights on approach to either runway is also considered unsafe
Recommendations – approaches to runways should vary at higher elevation/descent needs to be more abrupt than gradual to lessen noise pollution.
Thank you 12/4/2017

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Comment from Kenneth and Marilyn Sprague:
Late hour flights and daily are impossible to live with.
We'll have to sell our custom retirement home we built living in Wheeling 75 years.
Our children, grandchildren, great-grandchildren have been in grade school, middle and high school, some are in school now. Whitman, Holmes, and Wheeling High. It has come quite apparent children don't count!! When did "money" come before children? We can't even enjoy our own backyard for family picnics or talk on a phone!! (and an attempt to fly east-west could make our children safe "Hooray!!") We all know it can be done.
Jen, thank you for your time. Marilyn L. Sprague

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

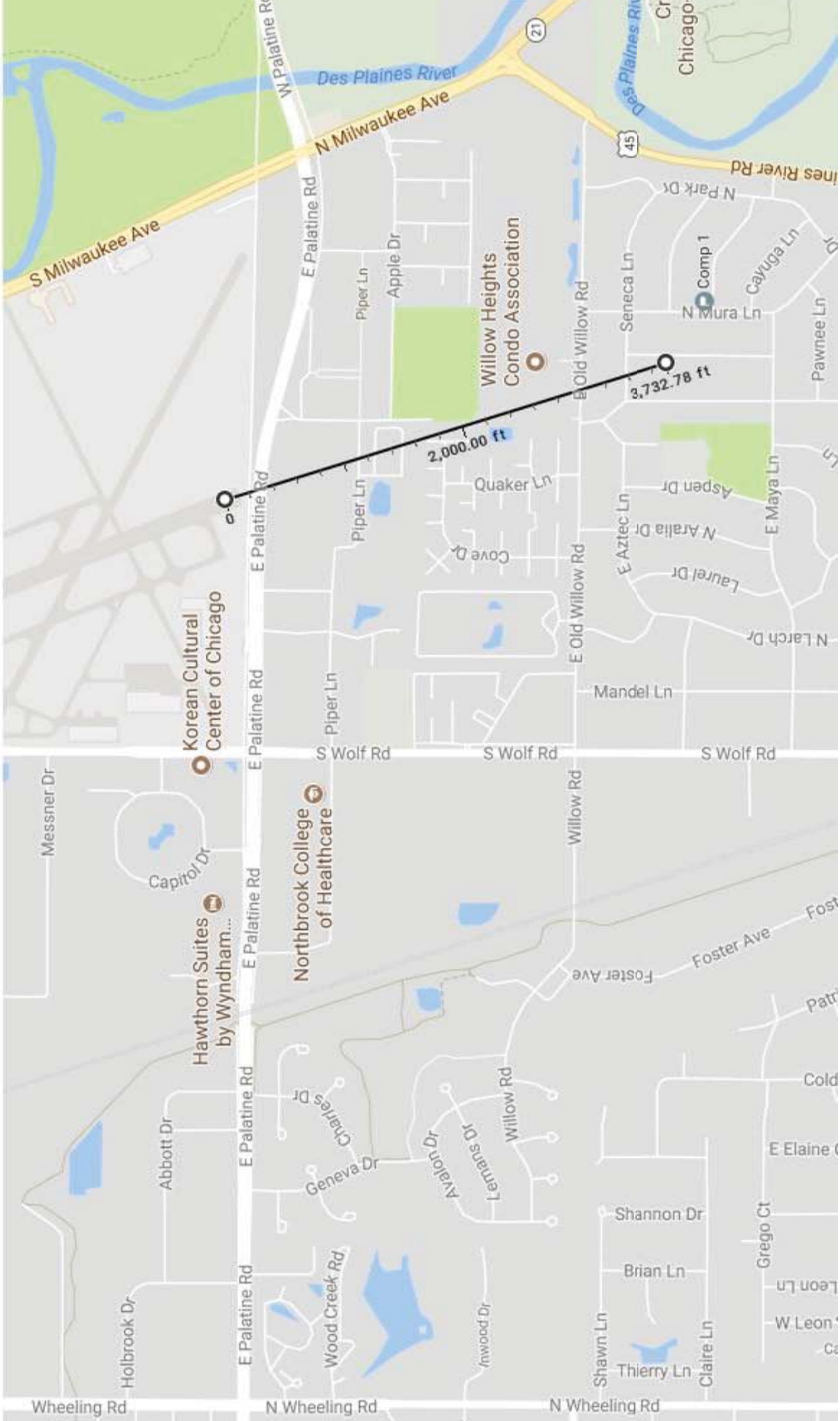
Comment from Jean Shriber (note that Ms. Shriber's attachments are included after this comment):
Hi!

We have lived on Beech Rd in Mount Prospect since 1997. Since that time, the airplanes have become much larger and because of that, much louder. Our street is directly lined up with the large runway and is approx. 3700 feet from it. (See attached Google map). Based on the current map, we are not in the 'red' noise area but because of our specific location, we should get consideration if noise reduction funds become available. Please see attached pictures.

During the short time it has taken me to write this email, three jets have landed!

Response to Jean Shriber: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

According to the FAA, the 65 DNL contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. The airport understands that that does not mean that noise will not be bothersome to people outside of this contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs. Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.


Des Plaines River
W Palatine Rd
N Milwaukee Ave
S Milwaukee Ave
E Palatine Rd
Piper Ln
Apple Dr
Willow Heights Condo Association
E Old Willow Rd
Seneca Ln
Comp 1
Cayuga Ln
N Mura Ln
Pawnee Ln
3,732.78 ft
2,000.00 ft
0
Quaker Ln
Cove Dr
E Aztec Ln
Aspen Dr
N Aralia Dr
Laurel Dr
E Maya Ln
N Larch Dr
Mandel Ln
Korean Cultural Center of Chicago
S Wolf Rd
Messner Dr
Capitol Dr
Hawthorn Suites by Wyndham...
Northbrook College of Healthcare
Willow Rd
Foster Ave
Abbott Dr
Charles Dr
Geneva Dr
Avalon Dr
Lemans Dr
Shannon Dr
Brian Ln
Grego Ct
Holbrook Dr
Wood Creek Rd
Shawn Ln
Thierry Ln
Claire Ln
Wheeling Rd
N Wheeling Rd

11:07 AM Exemplar, 08/04/2017

Taken from the front of our house, looking out and up at the parkway where the trees line the street. Commercial plane.

Time Flow

All photo files have time stamps and most have GPS location

11:53 AM Exemplar, 08/04/2017

Taken from the front of our house.

Note plane turning down N Beech RD in the Picture on the left. This shows that the plane is lining up with final Approach over N. Beech Rd. Identical pattern as plane 12:06 PM, which is east to west, cumulating in a right hand turn making the transition to Final Approach. Tail numbers for this plane are on the plane's vertical stabilizer. Commercial / Corporate plane

Time Flow

All photo files have time stamps and most have GPS location

12:06 PM Exemplar, 08/04/2017

Taken from the front of our house.

<--- Plane 3 just finished turning right from crosswind to line up on final approach, thus lining up over N. Beech Rd. You can tell because of the angle of the wings are greater than the same plane picture taken seconds later on the right →

This is an identical pattern to the plane at 11:53 AM. While the previous plane had the tail numbers on the vertical stabilizer, THIS plane, has tail number N506Q5.

Corporate or Commercial Jet

Time Flow

All photo files have time stamps and most have GPS location

12:29 PM Exemplar, 08/04/2017

Taken from the front of our house.

Taken from the front of our house. Notice the T-tail of the plane to differentiate from planes 11:53 AM and 12:06 PM
This is a Corporate or Commercial Jet.

All photo files have time stamps and most have GPS location

12:35 PM Exemplar, 08/04/2017

Taken from the front of our house.

Note this is a propeller plane, T-Tail Commercial plane

All photo files have time stamps and most have GPS location

1:32 PM Exemplar, 08/04/2017

Taken from the front of our house.

- Though hard to tell, this is a larger jet than some of the others.
- We call this a jet-quake, as it wakes everyone, causes glasses in the pantry to shake, and causes pets to shake in fear.
- Clearly, a Corporate or Commercial Jet

All photo files have time stamps and most have GPS location

1:34 PM Exemplar, 08/04/2017

Taken from the front of our house.

- This is an example of a plane that flew its crosswind portion of its approach pattern west to east, unlike all the previous examples given
- Therefore, it makes a LEFT turn to set up final approach – right OVER our house as this picture clearly demonstrates
- This also shows that from either direction, N Beech RD is used as the final approach landmark and that the distance used to make the turn from crosswind to final is approximately 1.14 Km (3,700 ft) from the end of the primary runway at Chicago Executive Airport
- Commercial plane

All photo files have time stamps and most have GPS location

1:36 PM Exemplar, 08/04/2017

Taken from the front of our house.

<--- Plane 3 just finished turning right to line up on final approach, thus lining up over N. Beech Rd. You can tell because of the angle of the wings are greater than the same plane picture taken seconds later on the right →

This is an identical pattern to the plane at 11:53 AM. While the previous plane had the tail numbers on the vertical stabilizer, THIS plane, has tail number N506Q5.

Commercial Jet

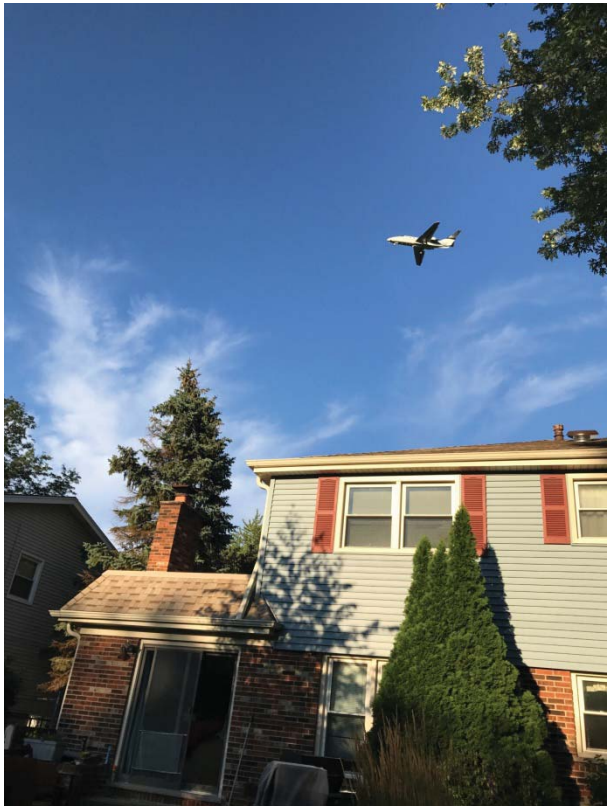
Time Flow

All photo files have time stamps and most have GPS location

7:01 PM Exemplar, 08/04/2017

Taken from the back of our house.

- This gives a better idea of how close these planes are from our house.
- Tail number on plane is N497TM
- If this is a private jet, I'd like one too. Most likely, Corporate – but then you could find out!!!



All photo files have time stamps and most have GPS location

Sometimes this plane comes in revving Its RPM as it flies over our house. I am thinking of buying a certified sound dB meter. Cargo plane – magazines I've heard.

`

- Some planes come in so low and fast, there is no time to get a camera on them
- Understand just how low they are.
- AND how loud they are
- Here are a couple of those examples
- (As before, taken from our front or back yard), no photo editing done)

- This plane came in on final approach over our immediate next door neighbors house and overflew ours

Comment from Barbara Fallmer (note that Ms. Fallmer's attachments are included after this comment):
Dear Jen –
I've attached numerous sheets of paper listing the noise from the flights and also my correspondence with Robb Mark. Robb has tried to be of help but, from what I gather from him is that a lot of the flights are dictated by O-Hare Airport and which direction the flights will go.
There are days when it is impossible to be outside and carry on a conversation because of the noise. It used to be so peaceful and quiet around here.

Response (to Barbara Fallmer): *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

Chicago Executive Airport's proximity to O'Hare does greatly influence the way aircraft operate in and out of the Airport and requires some non-standard means to the basic straight-in/out approach/departure corridors typical to many airports. For example, approaches from and departures to the south (off Runway end 34) are generally constrained by the boundary of the Class B airspace at O'Hare, causing operators to either avoid it entirely by approaching from or departing to the north (off Runway end 16) or by flying under the airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Chicago Executive Airport
Public Hearing 11/28/17

If you were unable to attend the CEA Public Noise Hearing and would like to submit your comments, enclosed is a comment sheet from the hearing.

All comments will be part of the permanent record that will be reviewed by the FAA and Illinois Environmental specialist.

Those adversely affected by unwelcomed current and future airport noise are strongly encouraged to submit a comment!

Suggestions for comments include:

Property values,
Emotional tranquility,
Sleep disruptions,
Task interference,
Classroom disruption,
Conversation interference,
Quality of life,
Property enjoyment,
After hour flights

Written comments can be submitted to the below address until December 8, 2017.

All comments can be emailed to:

Jen.Wolchansky@meadhunt.com, or mailed to:
Jen Wolchansky
Mead & Hunt, Inc.
1743 Wazee Street, Ste 400
Denver, CO 80202

DEC 1 - 2017

AIRPORT NOISE

Date	Time	Type of Aircraft	
10/18/2015	2:31 PM	Jet	
10/18/2015	4:49 PM	Helicopter White with Red Tail	
10/19/2015	5:24 PM	Helicopter - unable to see markings as he was in the trees	
10/20/2015	8:05 AM	Helicopter - Blue & White Multi-Passenger	Incoming
10/20/2015	8:10 AM	Same Helicopter	Outgoing
10/21/2015	6:31 AM	Jet	
10/21/2015	2:35 PM - 3:54 PM	3 Jets	
10/21/2015	5:50 PM	Jet	Outgoing
10/22/2015	6:15 PM	Jet	Outgoing
10/22/2015	6:19 PM	Jet	Outgoing
10/22/2015	7:52 PM	Helicopter	Incoming
10/23/2015	6:53 AM	Helicopter	Incoming
10/23/2015	7:01 AM	Small Plane	Incoming
10/23/2015	4:09 PM	Helicopter	Incoming
10/23/2015	4:14 PM	Helicopter Red & White	Outgoing
10/28/2015	4:35 PM	Helicopter Blue	Outgoing
10/28/2015	5:19 PM	Helicopter	Incoming
10/29/2015	8:02 PM	Helicopter	
10/29/2015	8:08 PM	Helicopter	Incoming

AIRPORT NOISE		
Date	Time	Type of Aircraft
10/29/2015	8:12 PM	Helicopter
10/30/2015	3:18 PM	Helicopter
10/30/2015	3:38 PM	Helicopter
10/30/2015	6:20 PM	Helicopter Incoming
11/1/2015	1:20 PM	Jet Incoming
11/2/2015	6:15 PM	Helicopter
11/2/2015	6:59 PM	Helicopter
11/3/2015	6:45 AM	Helicopter
11/3/2015	4:12 PM	Helicopter
11/5/2015	5:38 PM	Helicopter
11/6/2015	5:28 PM	Helicopter
11/8/2015	6:28 AM	Jet
11/10/2015	6:23 AM	Helicopter
11/10/2015	6:30 PM	Helicopter Incoming
11/11/2015	7:11 AM	Helicopter
11/16/2015	5:38 PM	Helicopter Incoming
11/23/2015	4:45 PM	Helicopter Incoming
11/25/2015	6:40 PM	Helicopter Incoming
11/25/2015	7:57 PM	Helicopter
11/30/2015	4:27 PM	Helicopter Outgoing
12/1/2015	6:44 PM	Helicopter Incoming
12/2/2015	5:14 PM	Helicopter Incoming

AIRPORT NOISE			
Date	Time	Type of Aircraft	
12/2/2015	6:34 PM	Helicopter	Incoming
12/8/2015	5:18 AM	Jet	Outgoing
12/8/2015	5:25 PM	Helicopter	Incoming
12/11/2015	6:37 PM	Helicopter	Incoming
12/14/2015	5:19 PM	Helicopter	Incoming
12/17/2015	6:15 PM	Helicopter	Incoming
12/18/2015	6:37 PM	Helicopter	Incoming
12/22/2015	3:12 PM	Helicopter	Incoming
12/22/2015	4:25 PM	Helicopter	Outgoing
12/22/2015	5:25 PM	Helicopter	
12/23/2015	5:18 PM	Helicopter	Incoming
12/29/2015	5:28 PM	Helicopter	Incoming
12/29/2015	6:01 PM	Helicopter	Outgoing
12/31/2015	11:51 AM	Helicoper	Incoming
12/31/2015	6:27 PM	Helicopter	Incoming
1/4/2016	6:54 AM	Helicopter	Incoming
1/4/2016	4:49 PM	Helicopter	Incoming
1/4/2016	5:23 PM	Helicopter	Incoming Right over top of house
1/6/2016	6:43 PM	Helicopter	Incoming
1/6/2016	8:12 PM	Helicopter	Incoming
12/2/2017	5:31 AM	Helicopter	Incoming
			12.04.2017

BARBARA FALLMER

To: Robert Mark

From: Barb Fallmer

Date: November 23, 2015
Fax Number: 537.8183

Subject: Aircraft Noise
Number of Pages, Including Cover: 3

☐ URGENT ☐ REPLY ASAP ☐ PLEASE COMMENT ☐ PLEASE REVIEW ☐ FOR YOUR INFORMATION

COMMENTS:

Hi, Mr. Mark—

Since our telephone conversation on October 18th things have quieted down – thank goodness! I've attached two sheets that have listings of the comings and goings of aircraft. The helicopter fella is probably the biggest nuisance. If he gets down any lower he's going to end up snagging my antenna.

The other issue I'm noticing over, say the past six months or so, is the glop/film/haze (or whatever you want to call it) on my windows. Normally I have the windows cleaned once or twice a year. I just had them cleaned in July or August and they need to be cleaned again. It's about $200.00 every time I have the window washers here. I spoke to one of the gals I work with at a client's office (she lives by O'Hare) and she said the dirt on the windows is from the planes and jets. I really can't afford to be cleaning the windows every three to four months. You know a cheap window washer?

Thank you for stifling some of the noise – it's a welcome relief! I/we, really appreciate it.

Barbara

fax cover

Barbara Fallmer
2825 Vogay Lane - Northbrook, IL 60062
847.509.8064 | fax: 847.509.8064
reggl2825@comcast.net |

BARBARA FALLMER

To: Robert Mark	From: Barb Fallmer
Date: December 24, 2015	Subject: Helicopter Noise
Fax Number: 537.8183	Number of Pages, Including Cover: 3

❑ URGENT ❑ REPLY ASAP ❑ PLEASE COMMENT ❑ PLEASE REVIEW ❑ FOR YOUR INFORMATION

COMMENTS:

Hi, Mr. Mark—

Sorry to bother you, again, but the new fella at your airport is getting to be as bad as Chicago Helicopter Express was. I've attached two updated sheets showing the times of his comings and goings – he likes the 4:00 PM to 7:00 PM hours. Why, oh, why, must he fly right over our houses??????????? This is getting nutsville again with him. PLEASE, can you talk to him and try to get him to fly north or south of our houses – NOT RIGHT OVER OUR ROOF TOPS???? One of these days he's going to take my roof antenna with him.

Thanks for your help.

I hope you have a Wonderful Holiday!

Barbara

fax cover

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BARBARA FALLMER

To: Robert Mark	From: Barb Fallmer
Date: June 20, 2016	Subject: Air Traffic Noise
Fax Number: 537.8183	Number of Pages, Including Cover: 1

☐ URGENT ☐ REPLY ASAP ☐ PLEASE COMMENT ☐ PLEASE REVIEW ☐ FOR YOUR INFORMATION

COMMENTS:

Hi, Mr. Mark---

It's been awhile – we're getting bombarded with the jets AND helicopters again. Sunday morning a jet went peeling out at 8:45 A.M. – so much for sleeping in. Thursday and Friday afternoons/evenings are usually the worst – one jet right after the other. There's also the Sunday afternoon/evening flights. And, of course, the jets and the helicopters just have to fly RIGHT OVER THE HOUSES. The outgoing flights are worse than the incoming for noise since they are really "pouring on the coals" to get up and out.

I have checked out your Flight Aware that you told me about and sometimes when I look at it, it appears that we're going to have a major pile up. There are so many aircraft in the air, it's unbelievable. Do we have anything we can do here again to please tone down some of the noise and also TRY TO AVOID FLYING RIGHT OVER THE HOUSES? Some of the jets come in so low you can easily read their markings and I'm waiting for one of them to end up crashing into the trees in the forest preserve. It can get a little unnerving at times because they are so low. If you need for me to start keeping track of all the flights again, please let me know and I'll do it. If they could just aim closer to north of Willow or south towards Milwaukee would be a big help.

Thanks much,

Barbara

fax cover

Barbara Fallmer
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9/8/16 fw
Called back

BARBARA FALLMER

To: Robert Mark	From: Barb Fallmer
Date: September 4, 2016	Subject: Air Traffic Noise
Fax Number: 537.8183	Number of Pages, Including Cover: 1

☐ URGENT ☐ REPLY ASAP ☐ PLEASE COMMENT ☐ PLEASE REVIEW ☐ FOR YOUR INFORMATION

COMMENTS:

Hi, Mr. Mark---

It's "the pest", again. We're getting bombarded with the jets. Friday, Saturday and today have been just lovely with the windows open. I think it was Thursday or Friday morning – 1:33 A. M. a jet came roaring out of the airport right over the house. So much for getting any sleep. Happened again, I think, on Saturday morning at 3:13 A. M. Fortunately, the helicopters have been relatively quiet – Thank God!

This really is getting sort of out of hand with the jets "screaming" right over the houses at these hours of the morning. Last time I talked to you I said I would try to get some pictures. "Lucky" here, if I go out with the camera nobody flies over – if I don't have the camera, here comes 4 or 5 jets right in a row.

Especially with the windows open now, do we have anything we can do here **again** to please tone down some of the noise and also TRY TO AVOID FLYING RIGHT OVER THE HOUSES? The noise isn't as bad (but, boy, you can still here the jets) if the air is on but this also effects my electric bill, big time. Brian, next door, just leaves his air on 24/7 to stifle some of the noise and he has a really nice big electric bill.

Thanks much,

fax cover

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BARBARA FALLMER

To: Robert Mark

Date: September 11, 2016
Fax Number: 537.8183

From: Barb Fallmer

Subject: Our Noise This Morning
Number of Pages, Including Cover: 4

☐ URGENT ☐ REPLY ASAP ☐ PLEASE COMMENT ☐ PLEASE REVIEW ☐ FOR YOUR INFORMATION

COMMENTS:

Hi, Robb---

I know you're not at the airport today. This morning has been so much fun I don't know what to do with myself. Forget about sitting outside this morning and having my coffee and reading the paper. Got driven inside with the noise and one right after the other, bam, bam, bam!

If I'm reading your Flight Aware website correctly, I think I found the fella who came through again this morning at 1:33 AM according to my clock. Supposedly he was scheduled to arrive at 1:54 AM. Right now, it's a little quiet (11:32 AM) but if I look at the arrivals and departures, we're due to be bombarded some more today.

Great day to be outside, BUT.....

Thanks much,

Barb

fax cover

Barbara Fallmer
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Via Fax to 847.537.8183

August 18, 2013

CHICAGO EXECUTIVE AIRPORT
1020 South Plant Road
Wheeling, IL 60090

Attention: Jamie

RE: Red Helicopters – Persistent Noise and Disturbance

Dear Jamie:

When we spoke back on June 14th and 18th I thought we had put somewhat of a slow down or stop to the constant helicopter flights at all hours of the day and night. Obviously, this fella does not slow down or stop with the flights. I have attached three handwritten sheets showing flight times for the helicopter(s). This fella is driving all of us absolutely nuts and everyone in our area is in a total uproar with the constant flights. He's picked my house and Brian's house next door as his line up target for the airport – right over the house!

When we spoke, I told you that I've lived here for about eleven/twelve years and have never had any complaints with your airport or the flights in and out. Now, at this time, I (we) have BIG complaints about the airport and the helicopter flights and noise. I have several mornings during the week when my day starts at 4:00 A. M. As a result, I go to bed very early. Guess what, here he comes, right over the house at 9:30 P. M., 9:03 P. M., 8:46 P. M., etc. Well, forget about getting any sleep, that just woke me up!

As you can see, the flights are almost constant and one right after the other. Stop Already! With the weather being so nice it's a welcome relief to leave the windows open and let in some fresh air but this is just about an impossibility with the continual helicopter noise.

My Dad spent his life with the CAA and the FAA and I only wish he was around now, as knowing my Dad, he would probably be able to fix this problem in short order. Something has to be, must be done about this fella and his constant trips back and forth and his hours of flight time – preferably – go away – far, far away!

I don't know if you can be of any help or not – we're desperately hoping so, so that we can all regain our sanity and peace and quiet.

Thank you for your assistance. If you need any further information, please be sure to give me a call – **anything you can do will be greatly appreciated.**

Sincerely,

Barbara Fallmer

Attachments

cc: Federal Aviation Administration
Washington, DC

Verbal Comments

Verbal Comment from Maryann Liguiori:

I am a homeowner of the Wolf Run Estates neighborhood which is located directly across the street from Atlantic Airlines. I'm here to hopefully influence the FAA and the Chicago Executive Board of Directors in consideration of some sound proofing to our neighborhood as well. We are the closest residential neighborhood to any of the Chicago Executive FBOs and my understanding is that we do not qualify for soundproofing in our homes. We've just missed the line. And it's my understanding, it's my belief that the information is not exactly accurate. I came two years ago to ask them, who were doing the study, I came to the board two years ago to request that actual noise monitors be placed so they get the actual facts of the helicopters at 5:30 in the morning, the planes that land at 3:00 in the morning and they take off whenever they want to. Part of my issue specifically is I have a son who has chronic pain and the Rehab Institute of Chicago, they are number one in the country, their recommendation is sleep hygiene and sleep. And so, when you don't achieve the full sleep that is necessary, and you don't achieve that because you are awoken or wakened at 2:00 in the morning, 12 midnight, at 5:00 in the morning. The sleep is very important to pain control. We have a huge issue at our home and I think we are entitled to the peace and serenity that others are entitled to. The airport has grown. I bought the house over 20 years ago. The airport has grown and it's only going to continue to grow. I believe it needs to be taken into consideration the ground noise that is emulated through, especially through Atlantic, and the flyover noise. These are computer generated models which do not depict the true story of the noise that we have to endure. So, because of that I am in hopes that it is considered, because ground noise is covered and fly over noise is covered and none of that is depicted in the study that was actually done with these computer-generated models. I believe that this needs to be considered. I turn my phone off at the movies to have peace to everyone else, so they can enjoy the movies. This is my home and I believe that I am entitled to, as well as my family, to peace and serenity along with everyone else.

Response: *Thank you for your comment. According to the FAA, the 65 Day Night Noise Level (DNL) contour (as depicted in Figure D3 of this study) identifies areas of non-compatibility for noise-sensitive uses, such as residences, and delineates areas as potentially eligible for federal sound abatement programs. DNL is a cumulative noise metric that describes noise experienced during an entire (24-hour) day. The calculation of DNL accounts for number of aircraft operations, the loudness and duration of the noise, the total number of noise events, and the time of day of these events (including a penalty for nighttime operations). The DNL calculation differs from single-event metrics, which you described.*

The airport understands that this does not mean that noise will not be bothersome to people outside of the 65 DNL contour. However, under the FAA's required thresholds, the area outside of the 65 DNL contour is considered compatible with aircraft noise and therefore not eligible for federal sound attenuation programs.

Should the airport move forward with a sound attenuation program, the exact boundaries would be delineated as part of that program. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.

Verbal Comment from Kimberly Pohlmeier:

I have two comments and I'm telling you I've got a horrible headache right now I pulled myself out of my sick bed today just now to get here at 7:00. I just wanted, I thought of two things. I have a neighbor who has a little boy and every time they step out the front door he has to cover his ears. And after about a month of that the mother said we can't stay in this neighborhood, Kim, the airplanes are too much, they bother his ears. So, they had to move out of that pathway. And the other thing is I am sick, I have rheumatoid arthritis and I do get flare-ups and I need to lay down and rest and it's like virtually impossible it's very inconvenient because I go to lay down and all I hear is these jets flying overhead and they are so loud. And I notice it less now than in summertime. In the summertime when I'm on the patio with a couple of girlfriends with iced tea it is so loud we just have to stop talking. It's horrible. And I could just go on and on. There's one other thing I thought of and I've just lost my train of thought. It's just really, I think it's a hassle for a lot of people to live in my neighborhood because they fly so low. OK, I remember, my husband and I were sitting out there for lunch cuz he comes home for lunch and we found this little piece of, a chunk of metal, it was really. I said it fell from a plane. We heard it like whoosh and it like clipped off a branch and then it hit the fence and it almost could have hit my husband's head. And were like what is this? Do you think it fell from an airplane? I still have it. I've been looking forward to coming here tonight and I've looked for it, it's outside somewhere and I couldn't find it but this nice gal that I'm sitting with if she ever wants to see it I've got it and I thought that is really weird. He said it could have been the lawnmower guy and it hit the blade and it flung it into our backyard. I don't know but I'm like I hope there's not pieces falling off of these airplanes. You know that's kind of scary. But my main complaint is that I'm sick and I can't lay down and rest cuz of these airplanes and I wanted to get over here tonight to put my two cents in and like I said it's worse in the summer time for some reason. I'm not noticing it as much in the colder months. So, thank you for listening to me and I got my say in.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace. This project only addressed updating the Noise Exposure Maps and did not address Noise Compatibility Programs.*

Verbal Comment from Steve Neff:

OK I'm a long-suffering resident of Wheeling as it relates to jet aircraft flying over my property they're even setting off my motion lights in my yard now, in my driveway they're comin' on. If you're outside a lot of these jets are ear splitting so anything we can do to abate noise would be a win. Such as departure headings, usage of other runways. I'm concerned about my property values. I'm getting woken up in the middle of the night on a regular basis. Early in the morning, sometimes I'm just trying to go to sleep and I don't think that's fair, maybe we could get some of these guys to use alternate runways after hours if they have small jets let them know that runway 12/30 is available. I have a big concern about the transparency regarding the noise contour maps. I look at the airport desk manual and it says that a record should be made available to the responsible FAA official regarding all of the data that went into this model, so I can look up the flights and I can look up the dates and times and how they correspond to my noise complaints. I have some issues with this other study that just came out. I want to know, it's not very clear, in how it was described to me on how the runway closures in 2016 would be incorporated into the model. I need some clarification on that. I don't know if Ryk can call me. But I'm looking in here and I was told that you would take an average from the days that the airport was open, and it looks like you were using the traffic, was moved over to runway 12/30 so that's what you are using. The runway only accommodates up to 25,000 pounds, so what happened to all the big jets, I'm just concerned about the model. I just want everything to be fair and I want it to be transparent. I'm wondering, you know, maybe you can answer the question, do the little Cessnas bring down the average or do they increase the average? That's a question that one of my neighbors had. So, the more Cessnas does it go up or does it bring the average down? On your windshield survey, did you not notice that there's a church in my neighborhood on Highland? Did you not see the middle school cuz it wasn't mentioned? And also, there's a lot of houses on the west side of the street that seemed to have showed up on the contour map which were demolished they are not there anymore. I'm wondering if the run ups are used in the contour maps and when they use their reverse thrust for landing, did that get put into the model? I will spare you any more questions for now cuz there's people waiting. Alright, that's it, over and out. Thanks.

Response: *Thank you for your comment. The Airport does not have authority to prevent nighttime flights arriving to or departing from the Airport. Additionally, the Federal Aviation Administration has sole responsibility for directing aircraft once they are airborne. The FAA is chiefly concerned with maintaining the safe and efficient use of the Nation's airspace.*

With regard to the question regarding smaller aircraft (Cessnas). The DNL metric is more influenced by louder single-events, so a greater number of smaller aircraft would have less effect on contour size than large jet noise.

Holmes Middle School is identified on all maps and is mentioned in the NEM report. The Presbyterian Church has been added to the map and the report.

Take-off run-ups are built into model.

The text in the NEM Update report was changed to clarify the analysis conducted to incorporate runway and airfield closure periods in developing the 2016 baseline contour (see text below).

Clarified text: To obtain the detailed operational assumptions, a full year of radar data was used to determine: fleet mix, runway use, time of day, flight tracks, and flight track use. This includes records of operations at PWK of the majority of all itinerant flights, the time of the operation, the type of operation (departure/arrival), runway used and type of aircraft. The radar track points for each flight were also obtained. These inputs also served as a starting point to assess future aircraft noise levels for the future year scenario.

The existing conditions noise analysis utilize flight radar and operational logs to determine the number of operations by type and the runway utilization. Year to year operations vary depending upon user demand, weather, and airfield constraints such as construction. During the 2016 baseline time period, there were 12 weekends where there was construction that affected the accessibility of the airport. This construction period represents 451 hours of the year, or 5% of the total hours in the year. The construction would typically start at 10 pm on a Friday night and end around 3 pm on a Sunday. Two of the days ended on Saturday at around 3 pm while two other days ended at 6 pm and 7 pm on Sunday. Nine of those days involved the closure of Runway 16/34, the main runway at the airport that the majority of the jet aircraft use. Three of those days involved the closure of the airfield for all runways for fixed wing aircraft. The

closure dates are summarized in Table A2. The hours that Runway 16/34 was closed represents 3.7% of the total hours in the year. The hours that the airfield was closed represents 1.4% of the total hours of the year.

Table A2, WEEKEND CONSTRUCTION CLOSURES

Weekend Starting	Closure	Approximate Start Time	Approximate End Time	Construction Hours
6/10/2016	Rwy 16/34	6/10/16 10:00 PM	6/11/16 3:00 PM	17
6/17/2016	Rwy 16/34	6/17/16 10:00 PM	6/19/16 3:00 PM	41
6/24/2016	Rwy 16/34	6/24/16 10:00 PM	6/26/16 3:00 PM	41
7/8/2016	Rwy 16/34	7/8/16 10:00 PM	7/10/16 3:00 PM	41
7/15/2016	Rwy 16/34	7/15/16 10:00 PM	7/17/16 3:00 PM	41
7/22/2016	Rwy 16/34	7/22/16 10:00 PM	7/24/16 3:00 PM	41
7/29/2016	Airfield	7/29/16 10:00 PM	7/31/16 3:00 PM	41
8/5/2016	Airfield	8/5/16 10:00 PM	8/7/16 3:00 PM	41
8/12/2016	Rwy 16/34	8/12/16 10:00 PM	8/14/16 3:00 PM	41
9/9/2016	Rwy 16/34	9/9/16 10:00 PM	9/11/16 7:00 PM	45
9/16/2016	Airfield	9/16/16 10:00 PM	9/18/16 6:00 PM	44
11/11/2016	Rwy 16/34	11/11/16 10:00 PM	11/12/16 3:00 PM	17

During the time period of the runway closure, a user may choose a number of different options. These are listed below. All are possible options and it is not possible to know what any individual operator chose to do. The radar data will provide information as to when aircraft operated, the type and which runway was used, but the data does not provide information as to whether that flight differed from "normal" operations, like if an aircraft choose to not operate or changed when they flew or if they substituted an aircraft.

1. *Use another runway*
2. *Operate the aircraft at a lower weight allowing use of a shorter runway*
3. *Use a different aircraft in their fleet that can use one of the available runways*
4. *Delay the operation until the construction is complete.*
5. *Accelerate the operation prior to the construction starts.*

6. Not operate at the airport at all

To operate on a runway, an aircraft performance must meet the conditions of that runway that vary with type of operation (departure vs. arrival), aircraft type, payload weight, wind speed direction temperature, and runway surface conditions. For example, an aircraft may need to operate at a lower payload to operate on a shorter runway. In some conditions, the larger corporate jets may not be able to operate on any of the other runways, even at a lower payload. Most fractional operators have a large fleet that includes different sizes and aircraft performance. Because these closures are published well in advance, these operators may have chosen to use an aircraft that could operate on one of the available runways. Note this is internal data to the operator, and the radar data does not provide any information on this.

In reviewing the 2016 base case radar flight tracks, the consultant team analyzed the data for the runway closures on all weeks of the year. During this time, weekly aircraft still operated at the about the same numbers as non-runway closure weeks, but during the construction closure hours they operated on one of the other runways (mostly on Runway 12/30). While it was determined that this small number of reduced operations would not significantly change the noise contour, the total number of closure period operations were adjusted and added in the base year 2016 DNL noise contour inputs. The operations on Runway 12/30 were also adjusted to operate on Runway 16/34 instead of Runway 12/30 as they normally would if the runway was not closed.

Note that the future year noise contour analysis is based upon the forecasts that were developed as part of the Master Plan. The future contours are the noise contours that would be used to determine the noise insulation program boundaries.

It must be remembered that the aircraft noise contours are not intended to be a perfect representation of the noise generated by the aircraft operating at an airport, but they are a reasonable representation of the aircraft generated noise (based on the constraints discussed above).

Mead & Hunt