

APPENDIX D

ENVIRONMENTAL JUSTICE

ANALYSIS MEMORANDUM

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HMMH

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TECHNICAL MEMORANDUM

To: Ms. Amy Hanson, Environmental Protection Specialist
Federal Aviation Administration, Great Lakes Region, Chicago Airports Division Office

From: Kurt M. Hellauer - Director, Federal Programs

Date: November 30, 2018

Subject: Environmental Justice Analysis

Reference: HMMH Project Number 307171.001.006

This memorandum outlines the analytical approach, data sources, assumptions, and results of detailed environmental justice (“EJ”) analysis of the Interim Fly Quiet Runway Rotation Plan Environmental Impact Statement’s Written Re-Evaluation. The purpose of EJ analysis is to ascertain whether adverse impacts are borne disproportionately by minority, low-income populations, or both (“EJ populations”). Communities or areas within which EJ populations reside are referred to in this memorandum as “areas of environmental justice concern.”

1. Background

As defined in FAA guidance, environmental justice is the “fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” This memo addresses the element of fair treatment, which means identifying whether groups of people bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

Executive Order 12898 and U.S. Department of Transportation (DoT) Order 5610.2(a) discuss the need to identify whether an action has the potential to have disproportionately high and adverse effects on minority or low-income populations. Title VI of the Civil Rights Act requires FAA to ensure that no person, on account of his or her race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance. The Executive Order defines a minority as a person who is:

1. Black: a person having origins in any of the black racial groups of Africa;
2. Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race;
3. Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;
4. American Indian and Alaskan Native: a person having origins in any of the original people of North America, South America (including Central America) and who maintains cultural identification through tribal affiliation or community recognition; or
5. Native Hawaiian and Other Pacific Islander: people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Low income is defined as a person whose median household income is at or below the Department of Health and Human Services poverty guidelines.¹

Results of noise modeling, performed using the Aviation Environmental Design Tool (AEDT) and undertaken for the Proposed Interim Fly Quiet, indicate the presence of potentially significant noise impacts as measured under FAA's National Environmental Policy Act (NEPA) guidance. Based on the results of the EJ screening tools available within AEDT, more detailed demographic analysis of the potentially affected populations was warranted to determine the extent, if any, to which disproportionate noise impacts on EJ populations may be present. While AEDT is useful for initial screening, a more robust geo-spatial and statistical analysis is recommended by FAA guidance to quantify the details and extent of disproportionate impact of the Proposed Interim Fly Quiet. This memorandum documents that evaluation.

It should be noted that since preliminary analysis indicates that implementation of the Proposed Interim Fly Quiet (or Revised Interim Fly Quiet 1 and 2) would alter aircraft noise exposure around O'Hare for a specific time period, this EJ memorandum addresses the approach to evaluating effects as it relates to that environmental impact category only. Other environmental impact categories examined in detail in this Re-Evaluation document include Air Quality and Climate. The Proposed Interim Fly Quiet would not change the number of aircraft operations, aircraft fleet mix, support equipment activities, surface traffic volumes, or traffic operating conditions. Its effects would be limited to a change in which runways are used during the nighttime hours for a limited number of months; changing designated runways would impact associated aircraft taxi times. This change would not have a material effect on aircraft-related emissions, as less than 15 percent of total airport operations occur during the nighttime hours when Interim Fly Quiet would be used. Therefore, based on professional judgment and FAA's Third-Party Consultant's experience with assessing airport emissions, an air quality dispersion analysis or geographic evaluations is not warranted for EJ; the change in the nighttime use of the airfield is expected to have a minimal impact on total air pollutant emissions and is not expected to cause an exceedance of the National Ambient Air Quality Standards (NAAQS) at publicly accessible receptors surrounding O'Hare. Consequently, EJ analysis was only conducted with respect to effects to noise.

2. Methodology, Data Sources, and Assumptions

Consistent with DoT Order 5610.2(a),² FAA Order 1050.1F,³ the companion 1050.1F *Desk Reference*,⁴ and guidance from the Council on Environmental Quality,^{5,6} an EJ analysis answers two basic questions:

- Would implementation of the proposed action have adverse effects that are predominantly borne by an EJ Population (for this evaluation, the term "Fifty Percent Analysis"⁷ is used)?

¹ FAA Order 1050.1F Desk Reference, July 2015, Section 12.2

² DoT Order 5610.2(a) *Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* issued May 10, 2012 (77 Federal Register 27524).

³ FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* issued July 16, 2015.

⁴ FAA 1050.1F Desk Reference July 2015.

⁵ CEQ *Environmental Justice: Guidance under the National Environmental Policy Act* issued December 10, 1997.

⁶ Federal Interagency Working Group on Environmental Justice & NEPA Committee *Promising Practices for EJ Methodologies in NEPA Reviews* March 2016.

⁷ *Ibid*, page 24; DoT Order 5610.2(a), Appendix; 1050.1F Desk Reference, page 12-11.

- Would implementation of the proposed action have adverse effects on an EJ Population that are appreciably more severe or greater in magnitude than the adverse effects that would be suffered by non-EJ populations (for this evaluation, the term “Meaningfully Greater Analysis”⁸ is used)?

An EJ analysis involves a distributional analysis of impacts experienced by the populations specifically identified in the environmental justice laws mentioned previously. The following approach was developed for this Re-Evaluation.

Throughout this memorandum, references are made to steps, such as step 2.c.vii, which refer to the text below concerning methods, data sources, and geographical extent of analysis (e.g., census block and block groups discussed on page 6).

The following text details the steps used in the process. The analysis approach relies on the analysis of demographic data for the area affected and for determining reference populations, described in the following steps a) through e), with several sub-steps.

- a) **Data Source.** Demographic data normally used for these analyses, which is readily available from the U.S. Census Bureau, is either from the most recent decennial census (the most recent being the “2010 Census”) or from the 2012-2016 *American Community Survey* (“2016 ACS”). The 2010 Census data has a finer degree of granularity (down to the census block) but does not capture income/poverty data. Beginning in 2005, a recurring five-year rolling ACS sampling program was implemented replacing the “long form” questionnaire of the 2010 Census. The ACS is a sampling, as opposed to an enumeration of all persons, and it surveys economic characteristics in addition to population counts. Prior to 2010, previous decennial census enumerations employed a “long form” questionnaire which captured income and poverty level data from approximately 15 percent of respondents. The 2015 EIS Re-Evaluation relied on the 2000 Census for its population and demographic analyses.

The most recent rolling five-year ACS dataset is from 2016; however, it lacks the degree of granularity that the 2010 census has for minority populations, only extending down to the census block group rather than to the block. **Figure 1** illustrates how the census tracts, census block groups, and census blocks relate. The smallest unit of measure is the census block; multiple census blocks are aggregated into census block groups, and ultimately census blocks are aggregated to form census tracts.

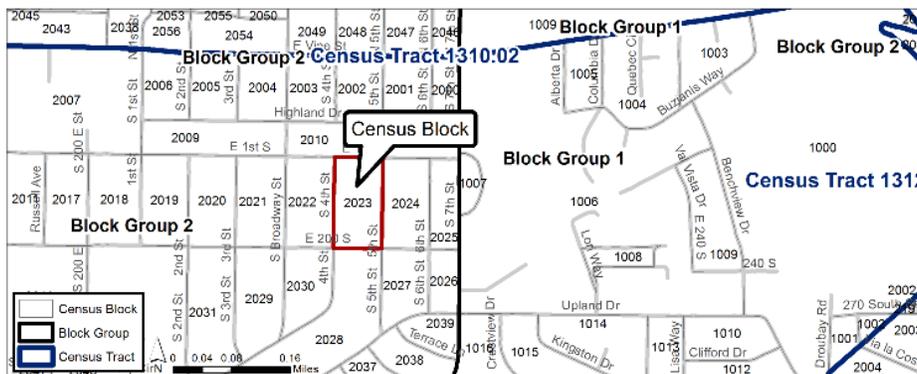


Figure 1. Examples of Census Geographical Units

⁸ Ibid, page 25; DoT Order 5610.2(a), Appendix; 1050.1F Desk Reference, page 12-11.

The AEDT uses the 2010-2014 ACS for its screening analyses of both race/ethnicity and income/poverty. For detailed EJ analysis used in this Re-Evaluation, however, other datasets and use of geo-spatial analytical tools outside of AEDT were warranted to develop a more current or more detailed population analysis than can be obtained directly from AEDT.

Additionally, DoT Order 5610.2(a) requires use of Department of Health and Human Services (HHS) “poverty guidelines” as opposed to U.S. Census Bureau “poverty thresholds.” (Both vary with family size, increasing non-linearly.) There are minor differences in the income levels that HHS uses as a poverty guideline and that U.S. Census Bureau uses as a threshold for the same sized household. As AEDT relies on Census data, the analysis contemplated under DoT Order 5610.2(a) and FAA Order 1050.1F using HHS poverty guidelines is not possible within AEDT.⁹

For the part of the EJ analysis addressing effects on race or ethnicity, HMMH used the 2010 Decennial Census dataset as it offered a greater degree of granularity. In contrast to the ACS, the 2010 Census presents race/ethnicity data down to the census block level. FAA determined that the neighborhood demographics of the area affected by 65 DNL and greater noise levels are fairly stable and the greater degree of granularity outweighed the benefit of somewhat more recent data. Additionally, use of the 2010 Census dataset is consistent with methodology employed in the 2005 EIS and its 2015 Re-Evaluation.

With respect to the EJ analysis of the effects on income/poverty, HMMH used the most recent (2012-2016) ACS dataset even though the granularity is not as fine. The 2010 Census does not include income/poverty information since that is now gathered on an ongoing, rolling basis, albeit only down to the census block level. Given that circumstance, use of the most recently available ACS data was deemed appropriate by FAA.

The poverty guidelines themselves are taken from the U.S. Department of Health and Human Services (HHS) *2016 Poverty Guidelines for the 48 Contiguous States and the District of Columbia (81 Federal Register 4036)* which are reproduced in **Table 1**. These guidelines are consistent with the EJ analysis requirements of DoT Order 5610.2(a). Since the HHS guidelines vary with household size and are reported in whole person intervals, whereas the average household size reported in a particular census block group is not, an interpolation of income values between two intervals was required for subsequent calculations. Additionally as described further below in Step 2.f below, the values were adjusted upward by 150 percent to reflect a higher cost of living in the Chicago region.

⁹ The HHS issued Poverty Guidelines are established annually each January and published in the Federal Register (FR). For 2016 they were published on January 25, 2016 at 81 FR 4036. That year’s guidelines were selected to correspond with the 2012-2016 American Community Survey demographic data.

Table 1. – U.S. Department of Health and Human Services Poverty Guidelines for the 48 Contiguous States and the District of Columbia (2016) and Proposed Interim Fly Quiet Project Area Poverty Criteria

<i>Persons in Family / Household</i>	<i>Published Poverty Guideline for 48 Contiguous States and DC (HHS 2016)</i>	<i>Guideline Increase per Family Member</i>	<i>Proposed Interim Fly Quiet Project Area Poverty Criteria (150% of HHS)</i>	<i>Proposed Interim Fly Quiet Project Area Poverty Increase per Family Member</i>
1	\$ 11,880.00		\$ 17,820.00	
2	\$ 16,020.00	\$ 4,140.00	\$ 24,030.00	\$ 6,210.00
3	\$ 20,160.00	\$ 4,140.00	\$ 30,240.00	\$ 6,210.00
4	\$ 24,300.00	\$ 4,140.00	\$ 36,450.00	\$ 6,210.00
5	\$ 28,440.00	\$ 4,140.00	\$ 42,660.00	\$ 6,210.00
6	\$ 32,580.00	\$ 4,140.00	\$ 48,870.00	\$ 6,210.00
7	\$ 36,730.00	\$ 4,150.00	\$ 55,095.00	\$ 6,225.00
8	\$ 40,890.00	\$ 4,160.00	\$ 61,335.00	\$ 6,240.00

Note: Poverty Guidelines for fractional household sizes would use the lower whole number, adding a straight line interpolation of the fractional increase per family member.

- b) **Geographical Extent of Population Analysis.** EJ analysis involves identifying two distinct population sets, each for different purposes: a Reference Community and a community of comparison.
- i. A “Reference Community” serves as an aid for determining whether Areas of EJ Concern are present and where they are situated. The Reference Community is an initial benchmark for identifying areas of EJ concern within the Project Area. The basic question is whether the EJ population affected by a project is equal to or greater than that of a suitable reference community. Identifying an appropriate Reference Community to use as a benchmark enables subsequent identification of particular EJ communities which may warrant additional analysis within a project area. For example, is the EJ population (minority or income) less than, equal to, or greater than that of the nation, state, county, and/or city? While any of the nation, state, county, and/or city populations could be chosen as a Reference Community, identification and selection of a more tailored, custom Reference Community may be appropriate.

One test described previously is whether the EJ population is greater than 50 percent of the overall population within particular geographical unit (i.e., census block for race/ethnicity or census block group for income/poverty). This test does not require identification of a Reference Community. However, even when an EJ population residing within a geographical unit is less than 50 percent, further analysis may be warranted under the relevant regulations and guidance to determine whether EJ populations bear a disproportionate impact under the “meaningfully greater” test. For that reason, an analysis and comparison of EJ population distribution to a larger Reference Community is conducted. EJ populations may tend to be clustered in a non-uniform manner around a project area, or in this case, around O’Hare (and the associated project area). Therefore, comparison of EJ population distribution within a defined project area (or within an

area where environmental effects would occur) to EJ population distribution within a broader, more regional Reference Community is appropriate.¹⁰ Consequently, for those census blocks and block groups where the EJ population represented less than 50 percent of the individual census block or block group, selection of an appropriate reference community is necessary to determine absence/presence of an EJ population.

For this analysis, the combined Cook County/DuPage County population served as the Reference Community for identifying EJ populations. Within the 2005 EIS project area, if a census block or block group had a higher percentage of EJ population than the reference community (combined Cook/DuPage Counties), then the census block or block group was identified as an “area of environmental justice concern” warranting more detailed analysis of the geographic distribution of environmental impacts with respect to those populations.

- ii. A “community of comparison” was used for assessing disproportionate impact (also known as “Meaningfully Greater”) analysis. Once populations residing within census blocks or block groups that would be “areas of environmental justice concern” – those whose EJ populations are either greater than 50 percent or are greater than those in the reference community – were identified, they were further examined to determine whether a significant impact from the Proposed Interim Fly Quiet or Revised Interim Fly Quiet 1 or 2 would occur. The comparison of significant impact was determined by comparing the Proposed Interim Fly Quiet, Revised Interim Fly Quiet 1 and Revised Interim Fly Quiet 2 to the impacts already occurring under Existing Fly Quiet.

Initial AEDT screening analysis indicates additional analysis is warranted in the areas northeast and east of O’Hare, as these areas are both within the 65 DNL contour and would experience a change of exposure of 1.5 dB or greater due to the Proposed Interim Fly Quiet or Revised Interim Fly Quiet 1 or 2. A comparison of the racial/ethnicity composition of a specific census block and the percent of households below the poverty guidelines in a census block group to the community of comparison (intersecting or within the Existing Fly Quiet 65 DNL contour) was made to assess disproportionate impacts. Census blocks and block groups whose EJ characteristics exceed that of the community of comparison by more than 10 percent would be deemed to bear a meaningfully greater share of the impacts. This is a generally accepted practice in DoT NEPA analyses, particularly for actions involving highway construction and property takings.

- c) To assist FAA in determining impact significance (i.e., context and intensity) with respect to EJ analysis, tabular data allowing for ready comparison of “reference community” and “community of comparison” populations was prepared. Data is presented in a descending hierarchy of geographical units allowing for the assessment in a variety of contexts. These include:
 - i. U.S. – provided for context
 - ii. Illinois – provided for context
 - iii. Cook County provided for context

¹⁰ Ibid.

- iv. DuPage County – provided for context
- v. Combined Cook County/DuPage County – this is the geographical extent of the proposed Reference Community
- vi. Census blocks and block groups intersecting with the 2005 EIS project area – populations within these geographic units are compared to populations in the Reference Community to identify specific areas warranting a more detailed EJ analysis of the geographic distribution environmental effects from the Proposed Interim Fly Quiet or Revised Interim Fly Quiet 1 or 2.
- vii. Census blocks and block groups within or intersecting the 65 DNL contour (for the Existing Fly Quiet, Proposed Interim Fly Quiet, and Revised Interim Fly Quiet 1 and 2) – the aggregated EJ and non-EJ populations within these units form the community of comparison. EJ populations within individual census blocks and block groups are compared to the aggregated EJ populations within community of comparison to determine if the spatial dispersion of environmental impacts within individual census blocks or block groups is meaningfully greater than the environmental impacts within the community of comparison.

Development of maps and preparation of more detailed geographical distribution impact analyses was confined to step 2.c.vi (census blocks and block groups intersecting with the 2005 EIS project area) and step 2.c.vii (census blocks and block groups within or intersecting the 65 DNL contour for those areas where a significant impact would occur [grid points showing change of exposure of 1.5 dB that are also within the 65 DNL contour]). The project area is the geographic extent used for identifying potential areas of EJ concern. Within the project area, a comparison of EJ populations within a particular census blocks or block groups is made to the EJ population of the Reference Community.

Once specific areas of EJ concern had been identified (i.e., particular census blocks or block groups), each was further assessed. The blocks or block groups are further screened to identify any which also lie within the 65 DNL contour for each alternative or which lie within the Existing Fly Quiet 65 DNL contour. For each alternative, the 65 DNL contour or the Existing Fly Quiet 65 DNL contour is the geographical extent of the community of comparison. Within each 65 DNL contour, the demographic characteristics of each identified census block or block group that has been identified as an EJ area of concern is compared the aggregated EJ and non-EJ population are compared to the characteristics within each. This “disproportionate impact” test is further described in Step (e) below.

- d) Initial results indicate that there may also be areas of EJ concern within the 65 DNL contour which would experience a beneficial impact (i.e., a noise level reduction/reduced exposure of 1.5 dB or greater). These beneficial impacts might counter other EJ populations of concern experiencing increased noise exposure of similar magnitude. Accordingly, geographical distribution impact analysis also includes beneficial impacts.
- e) For the “disproportionate impact” test, which uses the community of comparison described in step 2.c.vii (census blocks and block groups intersecting or within the Existing Fly Quiet 65 DNL contour), the analysis:

- i. First identified (at the parcel level) those instances where noncompatible residential land use lies within the 65 DNL contour and would also experience a change of exposure of 1.5 dB or greater (significant impact). Although data from the CDA that was used for this EJ analysis identifies whether a house has been sound-insulated, for purposes of EJ analysis a residential dwelling unit, even if insulated, was still deemed to be noncompatible.

To estimate and quantify the size of the EJ population, the average household size from the census block or block group within which the change of exposure grid point sits was used to estimate minority or low-income populations affected.¹¹ An initial look at the aggregated Cook County and DuPage County data indicates an average household size of 2.64 persons. (As noted in step 2.d above, it may be the case that minority and/or low-income populations would experience a significant beneficial impact, i.e., a reduced exposure to aircraft noise of 1.5 dB or greater. These are calculated as well since they might offset, to some degree, the aggregate numbers of minority/low-income populations experiencing a significant impact.) The assumption was that the demographic characteristics at the block or block group level are sufficiently uniform across either to apply to the individual parcels. For example, if a block group is 25 percent minority or low-income and 20 parcels containing dwelling units would experience a 1.5 dB increase in exposure, the approach used estimated that five minority/low income households and approximately 13 minority/low-income persons (~2.6 persons/household) would be affected.

- ii. This assessment of impact was then compared to the Existing Fly Quiet demographic characteristics to determine whether EJ populations would bear a disproportionate effect, applying the “meaningfully greater” test.¹² For this purpose, impacts to EJ populations would be “meaningfully greater” than those experienced by the “community of comparison” if the percentage of EJ population in an affected geography substantially exceeded the EJ population’s percentage of the overall community of comparison. For purpose of this analysis, the EJ population in an affected census geography would substantially exceed the EJ population of the community of comparison if the former exceeded the latter by ten percent or more. The specific comparison would be numbers of and percentages of EJ persons experiencing significant impact within particular block groups versus the numbers/percentages of EJ persons within the Existing Fly Quiet 65 DNL contour area, the community of comparison identified in 2.c.7 above.

¹¹ Census data provides both the overall population count as well as the number of households in a particular census geography (i.e., block, block group, tract, etc.). The average household size is calculated by dividing the overall population by the number of households in the same census geography.

¹² NEPA analysis, by its nature, involves a comparison of the Proposed Interim Fly Quiet/Revised Interim Fly Quiet 1 and 2 to the Existing Fly Quiet populations. The populations in the census block groups which fall in the Existing Fly Quiet 65 DNL contour would be the “community of comparison” for assessing disproportionate impact. Reference community and community of comparison can and do differ.

- f) The 2005 EIS applied a cost of living factor for Chicago of 150 percent.¹³ This factor was also applied to remain consistent with the 2005 EIS's approach. Poverty guidelines are also rounded up to the next interval at which the Census Bureau reports household income (e.g., \$29,999 or \$34,999) for estimating number of households below the poverty level.

3. Environmental Justice Community Identification

This section presents demographic information on the geographical units described in steps 2.b.i and 2.b.ii, above, focusing on those attributes that enable the comparative analysis required for EJ.

a) Proposed Interim Fly Quiet Reference Community

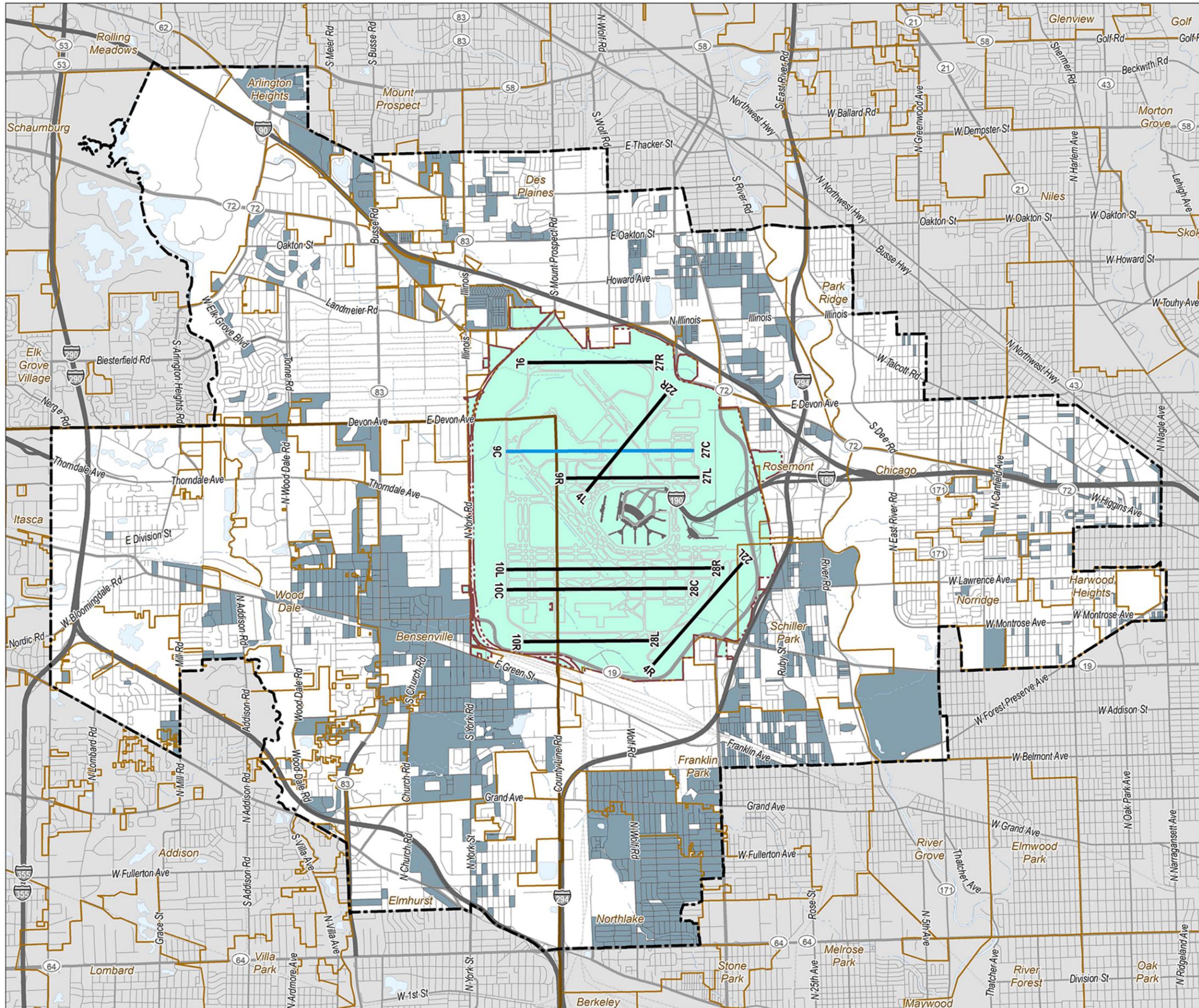
As noted earlier, demographic information for the U.S. and State are presented for context. The Proposed Interim Fly Quiet Reference Community consists of the aggregated population of those census blocks and block groups that lie within the Counties of Cook and DuPage in northeast Illinois. The project area lies partially within Cook and DuPage Counties. **Figure 2** presents the geographical extent of the project area with census blocks and block groups depicted. **Table 2** presents the demographic data of the population residing within the Reference Community with respect to race and ethnicity. **Table 3** presents demographic data of the same population with respect to income and poverty. As noted previously, the data in **Table 2** is from the 2010 Census, for which the smallest geographical unit of measure is the census block. For **Table 3**, the data is from the 2012-2016 Five Year ACS for which the smallest unit of measure is the census block group, which is larger than the census block. Since these datasets are from different time periods the population counts do not match.¹⁴ **Figures 3, 4, and 5** indicate whether a census block or block group lying within the 2005 EIS project area is an area of EJ concern with respect to race/ethnicity (**Figure 3**), income/poverty level (**Figure 4**), or both (**Figure 5**).

¹³ Federal Aviation Administration, *O'Hare Modernization Final Environmental Impact Statement*, July 2005. See §5.21.3 – Definitions, page 5.21-4 – see last paragraph in that document.

¹⁴ Additionally, the population counts for persons residing within the 65 DNL contours for Existing Fly Quiet, Proposed Interim Fly Quiet, or Revised Interim Fly Quiet 1 or 2 would not match between Tables 2 and 3. This is because the counts are based on blocks or block groups that intersect with a contour. No attempt was made to “clip” the block or block groups to the contours or otherwise adjust the population within a block or block group to reflect the proportion of the block or block group actually contained within the contour.

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Source: HMMH 2018, USCB 2016, USCB 2010, ESRI



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**Written Re-Evaluation of the
O'Hare Modernization Environmental
Impact Statement for the
Interim Fly Quiet Runway Rotation Plan**

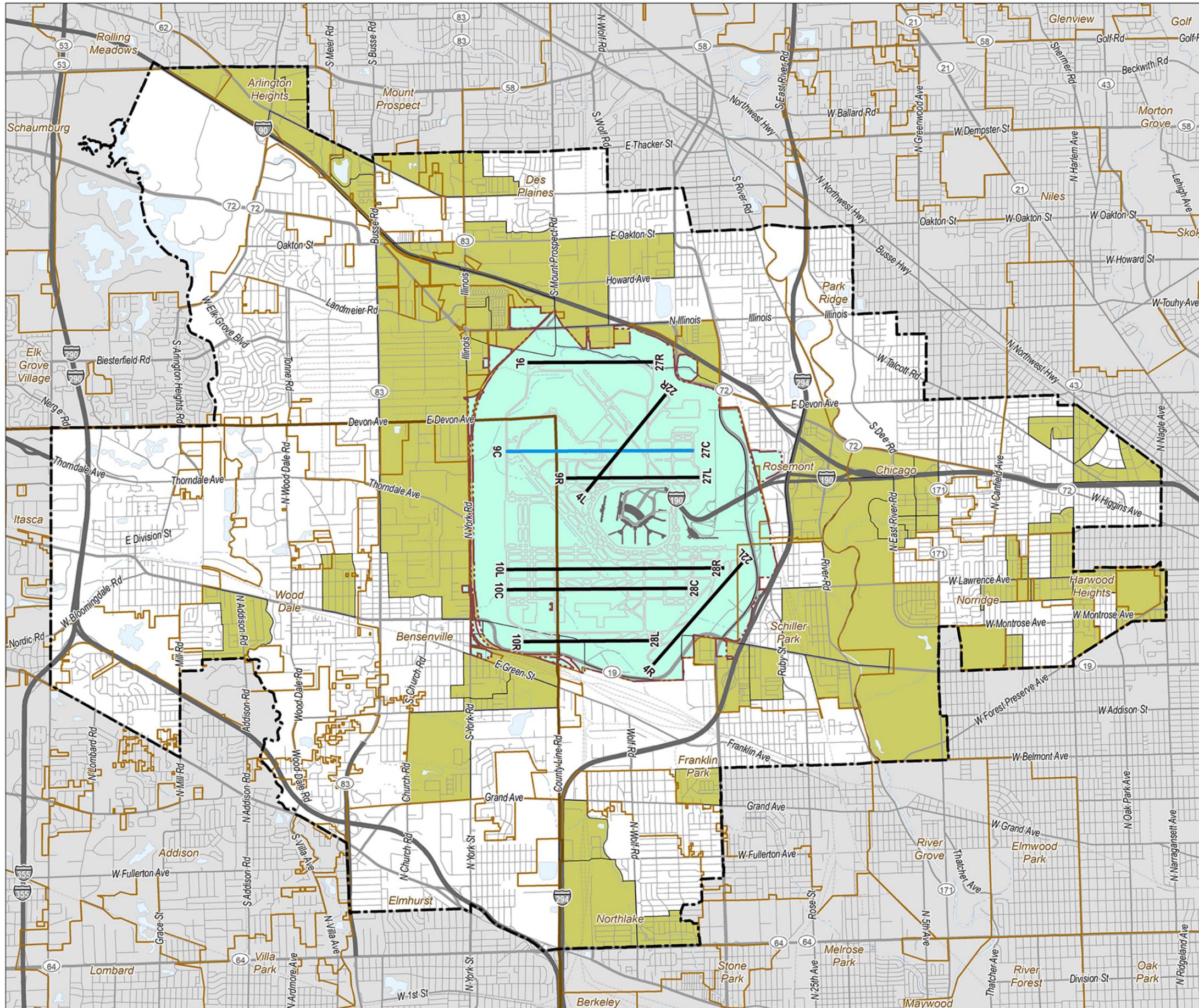
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Project Area
- Airport Boundary
- Existing Runways
- Runway 9C/27C - Opens Nov. 2020
- County Boundary
- Community Boundary
- Highway
- Primary Roads
- Secondary Roads
- Local Roads
- Railroad Lines



Areas of Environmental Justice Concern
with Respect to Race/Ethnicity within
the Project Area

► Figure 3

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Source: HMMH 2018, USCB 2016, USCB 2010, ESRI



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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

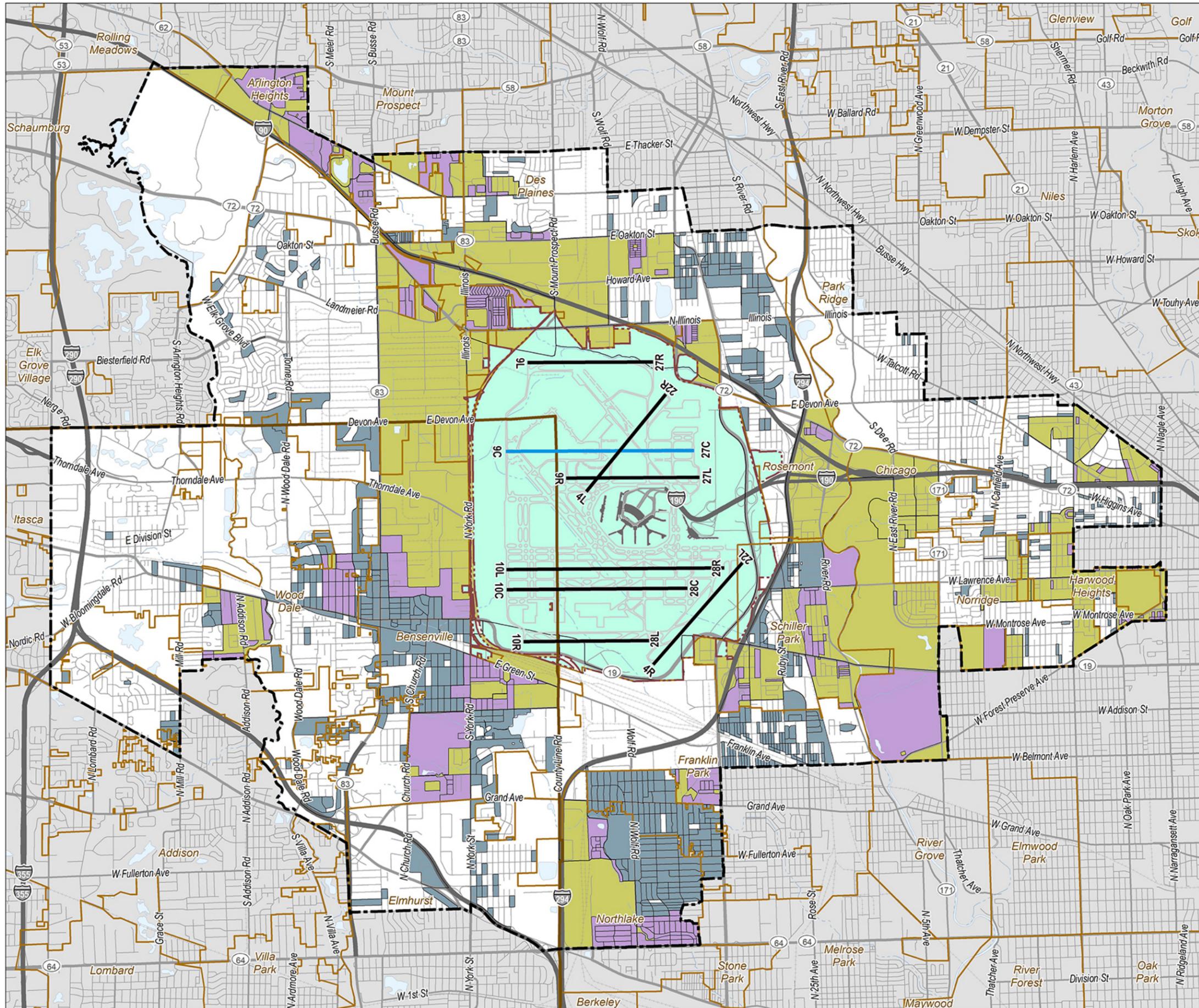
- Census Blocks Groups of Low Income/Poverty Status
- Project Area
- Airport Boundary
- Existing Runways
- Runway 9C/27C - Opens Nov. 2020
- County Boundary
- Community Boundary
- Highway
- Primary Roads
- Secondary Roads
- Local Roads
- Railroad Lines



Areas of Environmental Justice Concern
with Respect to Income / Poverty Status
within the Project Area

► Figure 4

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Source: HMMH 2018, USCB 2016, USCB 2010, ESRI



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**Written Re-Evaluation of the
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- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Census Blocks Groups of Low Income/Poverty Status
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population within Census Block Groups of Low income/Poverty Status
- Project Area
- Airport Boundary
- Existing Runways
- Runway 9C/27C - Opens Nov. 2020
- County Boundary
- Community Boundary
- Highway
- Primary Roads
- Secondary Roads
- Local Roads
- Railroad Lines



Areas of Environmental Justice Concern with Respect to Both Race/Ethnicity and Income/Poverty Status within the Project Area

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Table 2. – Selected Demographic Characteristics (Race/Ethnicity) of Proposed Interim Fly Quiet Reference Community (Cook & DuPage Counties, IL), the Project Area, and Community of Comparison (EFQ)

<i>Census Geography</i>	<i>Total Population</i>	<i>White</i>	<i>% White</i>	<i>All Other Races</i>	<i>% All Other Races</i>	<i>Hispanic</i>	<i>% Hispanic</i>	<i>Non Hispanic</i>	<i>% Non Hispanic</i>
<i>United States</i>	308,745,538	196,817,552	63.75%	111,927,986	36.25%	50,477,594	16.35%	258,267,944	83.65%
<i>Illinois</i>	12,830,632	8,167,753	63.66%	4,662,879	36.34%	2,027,578	15.80%	10,803,054	84.20%
<i>Combined Cook / DuPage County*</i>	6,111,599	2,924,488	47.85%	3,187,111	52.15%	1,366,268	22.36%	4,745,331	77.64%
<i>Cook County</i>	5,194,675	2,278,358	43.86%	2,916,317	56.14%	1,244,762	23.96%	3,949,913	76.04%
<i>DuPage County</i>	916,924	646,130	70.47%	270,794	29.53%	121,506	13.25%	795,418	86.75%
<i>Project Area</i>	228,149	151,917	66.59%	76,232	33.41%	53,964	23.65%	174,185	76.35%
<i>Existing Fly Quiet (65 DNL Contour)**</i>	21,159	12,994	61.41%	8,165	38.59%	6,711	31.72%	14,448	68.28%
<i>Proposed Interim Fly Quiet (65 DNL Contour)</i>	24,246	15,289	63.06%	8,957	36.94%	7,275	30.00%	16,971	70.00%
<i>Revised Interim Fly Quiet 1 (65 DNL Contour)</i>	24,722	15,727	63.62%	8,995	36.38%	7,335	29.67%	17,387	70.33%
<i>Revised Interim Fly Quiet 2 (65 DNL Contour)</i>	24,405	15,434	63.24%	8,971	36.76%	7,277	29.82%	17,128	70.18%
* - Reference Community (shaded) – <i>Threshold Values</i> are enclosed in box									
** - Community of Comparison (shaded)									

(bold/italic values) indicates value either is greater than threshold (% all other races or % Hispanic) established by Reference Community or exceeds 50 percent or both.

Source: U.S. Census Bureau 2010 Decennial Census.

- Notes:
- 1) Since the All Other Races population of the Reference Community (combined Cook/DuPage County) is 52.15 percent, thus exceeding the 50 percent “predominantly borne” test), identifying all census blocks whose populations are greater than 50 percent All Other Races would also necessarily identify any census blocks whose populations are greater than the threshold of the Reference Community. Any census block whose Hispanic population exceeded that of the Reference Community (22.36 percent) was also identified.
 - 2) Within the Proposed Interim Fly Quiet project area there are 3,185 census blocks, of which 589 have a population of greater than 50 percent minority. Of the 3,185 census blocks 1,065 have a Hispanic/Latino population exceed the threshold and overall 1,128 Census Block are either minority, Hispanic/Latino, or both.

Table 3. – Selected Demographic Characteristics (Income/Poverty) for the Proposed Interim Fly Quiet Reference Community (Cook & DuPage Counties, IL), the Project Area, and Community of Comparison (EFQ)

<i>Census Geography</i>	<i>Total Population</i>	<i>Total Population in Occupied Housing Units</i>	<i>Number of House holds</i>	<i>Average Household Size</i>	<i>Median Household Income</i>	<i>2016 HHS Poverty Guideline</i>	<i>Proposed Interim Fly Quiet Poverty Guideline (150%)</i>	<i># House holds Below Poverty Level</i>	<i>% House holds Below Poverty Level</i>
<i>United States</i>	318,558,162	310,482,947	117,716,237	2.64	\$55,322	\$18,670	\$28,004	32,069,412	27.24%
<i>Illinois</i>	12,851,684	12,551,035	4,802,124	2.61	\$59,196	\$18,545	\$27,818	1,232,396	25.66%
<i>Combined Cook / DuPage County*</i>	6,158,089	6,055,217	2,290,593	2.64	\$60,545	\$18,684	\$28,026	596,953	26.06%
<i>Cook County</i>	5,227,575	5,137,167	1,951,606	2.63	\$56,902	\$18,628	\$27,942	544,303	27.89%
<i>DuPage County</i>	930,514	918,050	338,987	2.71	\$81,521	\$18,959	\$28,439	52,650	15.53%
<i>Project Area</i>	214,437	212,462	78,225	2.72	\$66,797	\$19,208	\$28,812	17,575	22.47%
<i>Existing Fly Quiet (65 DNL Contour)**</i>	50,530	50,492	18,669	2.70	\$62,263	\$19,253	\$28,880	4,550	24.37%
<i>Proposed Interim Fly Quiet (65 DNL Contour)</i>	48,288	48,124	17,572	2.74	\$63,000	\$19,325	\$28,988	4,351	24.76%
<i>Revised Interim Fly Quiet 1 (65 DNL Contour)</i>	47,978	47,814	17,484	2.73	\$63,000	\$19,340	\$29,010	4,379	25.05%
<i>Revised Interim Fly Quiet 2 (65 DNL Contour)</i>	48,946	48,782	17,670	2.76	\$63,677	\$19,455	\$29,182	4,328	24.49%
* - Reference Community (shaded) -- <i>Threshold Value</i> is enclosed in box									
** - Community of Comparison (shaded)									

(bold/italic values) indicates value is greater than threshold (% Households Below Poverty Level) established by Reference Community or exceeds 50 percent.

Source: U.S. Census Bureau 2012-2016 American Community Survey.

- Notes: 1) Within the Proposed Interim Fly Quiet project area there are 155 census block groups, of which 13 have a population with a low-income percent that exceeds the threshold of the Reference Community.
 2) Poverty guidelines for a census block group are adjusted from the HHS Guidelines by multiplying them by 150 percent, consistent with the 2005 EIS, to reflect the cost of living in Chicago.
 3) Poverty guidelines are rounded up to the nearest interval (income band) in the Census data (e.g., \$29,999 or \$34,999) at which household income is reported in order to estimate number of households below the poverty level.

b) Proposed Interim Fly Quiet Community of Comparison

Once specific EJ areas of concern were identified by comparison to the reference community, the next step was to compare potential impacts experienced by specific EJ areas of concern with an identified community of comparison. For this analysis, the community of comparison was the area within the 65 DNL contour. A comparison of the demographic characteristics of those census blocks/block groups where a 1.5 dB change of noise exposure would occur was made to the aggregated characteristics of the area within the 65 DNL contour community of comparison to determine whether impacts would be disproportionately borne by areas of EJ concern. **Tables 4 and 5** present those results for Race/Ethnicity and Low-Income/Poverty Status with respect to the Proposed Interim Fly Quiet. **Tables 6 and 7** present the results with respect to Revised Interim Fly Quiet 1 and **Tables 8 and 9** present the results with respect to Revised Interim Fly Quiet 2.

For each of these tables, the population counts indicate that a census block or block group have one or more points with a change of exposure of 1.5 dB or greater. The population counts are for the entire block or block group. See **Section 4**, below, for estimates of populations (based on CDA Residential Sound Insulation Program dwelling unit data) within these blocks or block groups anticipated to experience a 1.5 dB change of exposure.

Table 4. – Demographic Characteristics (Race/Ethnicity) for Areas of EJ Concern for Race/Ethnicity Experiencing a Potentially Significant Impact from Proposed Interim Fly Quiet Compared to Proposed Interim Fly Quiet EJ Community of Comparison (Existing Fly Quiet)

Census Geography	Total Population	White	% White	All Other Races	% All Other Races	Hispanic	% Hispanic	Non Hispanic	% Non Hispanic
<i>Existing Fly Quiet (65 DNL Contour) – Community of Comparison</i>	21,159	12,994	61.41%	8,165	38.59%	6,711	31.72%	14,448	68.28%
170317706022005	32	7	21.88%	25	78.13%	25	78.13%	7	21.88%
170317706022042	122	9	7.38%	113	92.62%	113	92.62%	9	7.38%
170317708002027	82	50	60.98%	32	39.02%	21	25.61%	61	74.39%
170317708002038	177	105	59.32%	72	40.68%	44	24.86%	133	75.14%
170317708002043	7	-	0.00%	7	100.00%	7	100.00%	-	0.00%
170318065023020	129	75	58.14%	54	41.86%	41	31.78%	88	68.22%
170318066001007	110	60	54.55%	50	45.45%	25	22.73%	85	77.27%
170318104003033	62	48	77.42%	14	22.58%	14	22.58%	48	77.42%
170318104003037	3	1	33.33%	2	66.67%	-	0.00%	3	100.00%
170318104003049	52	37	71.15%	15	28.85%	15	28.85%	37	71.15%

Census blocks with bolded values indicates areas of EJ concern – i.e., % All Other Races or % Hispanic/Latino population is greater than Reference Community – whose value is also greater than threshold (% All Other Races or % Hispanic) established by community of comparison or exceeds 50 percent. The percentages in the community of comparison to which specific areas of EJ concern/Race/Ethnicity (census blocks) are compared are enclosed within a box.

Census blocks with Bolded/Italics values indicates an area of EJ concern whose value is “*meaningfully greater*” (>10 percent) than the threshold established by the community of comparison or 50 percent. . Meaningfully greater for % All Other Races would be greater than 48.59 percent and for % Hispanic/Latino would be greater than 41.72 percent.

Census blocks with non-bold/non-italic values indicate an area of EJ concern – i.e., % All Other Races or % Hispanic/Latino population is greater than Reference Community whose value is less than threshold (% All Other Races or % Hispanic/Latino) established by community of comparison and also does not exceed 50 percent.

Census blocks in black font are exposed to a 1.5 dB increase or greater; **census blocks in green font are exposed to a 1.5 dB decrease or greater.**

For the Proposed Interim Fly Quiet, the data indicates that seven census blocks (EJ areas of concern for Race/Ethnicity) would experience a potentially significant increase in noise exposure. Of these, three census blocks where the percentage of population categorized as All Other Races (i.e., populations protected under Executive Order 12898) and where that percentage is meaningfully greater than that of the community of comparison (170317706022005, 1703177006022042 and 170317708002043). These three same blocks also have a percentage of Hispanic population meaningfully greater than that of the community of comparison.

There are also three census blocks which would experience a potentially significant decrease in noise exposure. Of those census blocks experiencing a significant decrease, the percentage of All Other Races population is meaningfully greater than that of the community of comparison in one of the blocks (170318104003037).

Table 5. – Selected Demographic Characteristics (Income/Poverty) for Areas of EJ Concern for Low-Income/Poverty Status Experiencing a Potentially Significant Impact from Proposed Interim Fly Quiet Compared to Proposed Interim Fly Quiet EJ Community of Comparison (Existing Fly Quiet)

Census Geography	Total Population	Total Population in Occupied Housing Units	Number of Households	Average House hold Size	Median Household Income	2016 HHS Poverty Guideline	Proposed Interim Fly Quiet Poverty Guideline (150%)	# House holds Below Poverty Level	% Households Below Proposed Interim Fly Quiet Poverty Level
<i>Existing Fly Quiet (65 DNL Contour) – Community of Comparison</i>	50,530	50,492	18,669	2.70	\$62,263	\$19,253	\$28,880	4,550	24.37%
170317608011	2,509	2,509	1,350	1.86	\$58,529	\$15,440	\$23,161	375	27.78%
170317608012	1,616	1,616	822	1.97	\$37,386	\$15,896	\$23,844	309	37.59%
170317608021	2,503	2,503	1,107	2.26	\$55,919	\$17,096	\$25,645	303	27.37%
170317706022	2,204	2,204	619	3.56	\$45,483	\$22,478	\$33,718	282	45.56%
170317708001	2,012	2,012	763	2.64	\$55,787	\$18,670	\$28,004	257	33.68%
170317707001	689	689	329	2.09	\$37,266	\$16,393	\$24,589	130	39.51%

Census blocks with bolded values indicates an Area of EJ Concern – i.e., % Households Below Proposed Interim Fly Quiet Poverty Level – whose value is also **greater** than threshold (% Households Below Proposed Interim Fly Quiet Poverty Level) established by the community of comparison or exceeds 50 percent. The percentage in the community of comparison to which specific Areas of EJ Concern – Income/Poverty (census block groups) are compared is enclosed within a box.

Census blocks with Bolded/Italics values indicates an Area of EJ Concern whose value is **meaningfully greater (>10 percent)** than the threshold established by the community of comparison or 50 percent. Meaningfully greater for % Households Below Proposed Interim Fly Quiet Poverty Level would be greater than 35.47 percent.

Census block groups in Black Font are exposed to a 1.5 dB increase or greater; census block groups in Green Font are exposed to a 1.5 dB decrease or greater.

Source: U.S. Census Bureau 2012-2016 American Community Survey.

Notes: 1) Poverty guidelines are rounded up to the nearest interval (income band) in the Census data (e.g., \$29,999 or \$34,999) at which household income is reported in order to estimate number of households below the poverty level.

2) Census Block Group 170317608021 is anomalous in that a portion of this census block group lies within the Proposed Interim Fly Quiet 65 DNL that would experience a 1.5 dB increase and a separate portion of it lies within the Proposed Interim Fly Quiet 65 DNL that would experience a 1.5 dB decrease.

For the Proposed Interim Fly Quiet, the data indicates that two census block groups (EJ areas of concern for Income/Poverty), would experience a potentially significant increase in noise exposure and four would experience a decrease in noise exposure of similar magnitude. In one of these two census block groups experiencing the significant noise increase, the low-income population is also meaningfully greater than that of the community of comparison (170317706022). For those four census block groups anticipated to experience a significant decrease in noise exposure, the low-income population in two of them (170317608012 and 170317707001) is meaningfully greater than that of the community of comparison.

Table 6. –Demographic Characteristics (Race/Ethnicity) for Areas of EJ Concern for Race/Ethnicity Experiencing a Potentially Significant Impact from Revised Interim Fly Quiet 1 Compared to Proposed Interim Fly Quiet EJ Community of Comparison (Existing Fly Quiet)

Census Geography	Total Population	White	% White	All Other Races	% All Other Races	Hispanic	% Hispanic	Non Hispanic	% Non Hispanic
<i>Existing Fly Quiet (65 DNL Contour)</i>	21,159	12,994	61.41%	8,165	38.59%	6,711	31.72%	14,448	68.28%
170317608021014	30	23	76.67%	7	23.33%	7	23.33%	23	76.67%
170317708001000	142	67	47.18%	75	52.82%	52	36.62%	90	63.38%
170317708001002	239	141	59.00%	98	41.00%	79	33.05%	160	66.95%
170317708001003	224	117	52.23%	107	47.77%	73	32.59%	151	67.41%
170317708001004	153	95	62.09%	58	37.91%	55	35.95%	98	64.05%
170317708001005	279	179	64.16%	100	35.84%	79	28.32%	200	71.68%
170317708002000	558	396	70.97%	162	29.03%	131	23.48%	427	76.52%
170317708002010	206	119	57.77%	87	42.23%	52	25.24%	154	74.76%
170317708002027	82	50	60.98%	32	39.02%	21	25.61%	61	74.39%
170317708002038	177	105	59.32%	72	40.68%	44	24.86%	133	75.14%
170317708002043	7	-	0.00%	7	100.00%	7	100.00%	-	0.00%
170318105011001	73	52	71.23%	21	28.77%	17	23.29%	56	76.71%
170318105011003	24	18	75.00%	6	25.00%	6	25.00%	18	75.00%
170318104003033	62	48	77.42%	14	22.58%	14	22.58%	48	77.42%
170318104003037	3	1	33.33%	2	66.67%	-	0.00%	3	100.00%
170318104003049	52	37	71.15%	15	28.85%	15	28.85%	37	71.15%

Census blocks with bolded values indicates Areas of EJ Concern – i.e., % All Other Races or % Hispanic/Latino population is greater than Reference Community – whose value is also greater than threshold (% All Other Races or % Hispanic) established by community of comparison or exceeds 50 percent. The percentages in the community of comparison to which specific Areas of EJ Concern – Race/Ethnicity (census blocks) are compared are enclosed within a box.

Census blocks with Bolded/Italics values indicates an Area of EJ Concern whose value is “*meaningfully greater*” (>10 percent) than the threshold established by the community of comparison or 50 percent. Meaningfully greater for % All Other Races would be greater than 48.59 percent and for % Hispanic/Latino would be greater than 41.72 percent.

Census blocks with non-bold / non-italic values indicates an area of EJ concern – i.e., % All Other Races or % Hispanic/Latino population is greater than Reference Community—whose value is less than threshold (% All Other Races or % Hispanic) established by community of comparison and also does not exceed 50 percent.

Census blocks in black font are exposed to a 1.5 dB increase; census blocks in green font are exposed to a 1.5 dB decrease.

Source: U.S. Census Bureau 2010 Decennial Census.

For the Revised Interim Fly Quiet 1, the data indicates that 13 census blocks (EJ Areas of Concern for Race/Ethnicity), would experience a potentially significant increase in noise exposure. Of these, the percentage of All Other Races population is meaningfully greater than that of the community of comparison in two of the blocks (170317708001000 and 170317708002043). One of these same blocks (170317708002043) also has a percentage of Hispanic/Latino population that is meaningfully greater than that of the community of comparison.

There are also three census blocks which would experience a potentially significant decrease in noise exposure. Of those, the percentage of All Other Races population is meaningfully greater than that of the community of comparison in one of the census blocks (170318104003037). The percentage Hispanic/Latino population for this block, however, is not meaningfully greater than that of the community of comparison.

Table 7. – Selected Demographic Characteristics (Income/Poverty) for Areas of EJ Concern for Low-Income/Poverty Status Experiencing a Potentially Significant Impact from Revised Interim Fly Quiet 1 Compared to Proposed Interim Fly Quiet EJ Community of Comparison (Existing Fly Quiet)

Census Geography	Total Population	Total Population in Occupied Housing Units	Number of House holds	Average House hold Size	Median Household Income	2016 HHS Poverty Guideline	Proposed Interim Fly Quiet Poverty Guideline (150%)	# House holds Below Poverty Level	% Households Below Poverty Level
<i>Existing Fly Quiet (65 DNL Contour)</i>	50,530	50,492	18,669	2.70	\$62,263	\$19,253	\$28,880	4,550	24.37%
170317608011	2,509	2,509	1,350	1.86	\$58,529	\$15,440	\$23,161	375	27.78%
170317608012	1,616	1,616	822	1.97	\$37,386	\$15,896	\$23,844	309	37.59%
170317608021	2,503	2,503	1,107	2.26	\$55,919	\$17,096	\$25,645	303	27.37%
170317706022	2,204	2,204	619	3.56	\$45,483	\$22,478	\$33,718	282	45.56%
170317708001	2,012	2,012	763	2.64	\$55,787	\$18,670	\$28,004	257	33.68%
170318105012	960	822	327	2.51	\$66,369	\$18,131	\$27,197	93	28.44%
170317707001	689	689	329	2.09	\$37,266	\$16,393	\$24,589	130	39.51%

Census blocks with bolded values indicates an Area of EJ Concern – i.e., % Households Below Proposed Interim Fly Quiet Poverty Level – whose value is also **greater** than threshold (% Households Below Proposed Interim Fly Quiet Poverty Level) established by the community of comparison or exceeds 50 percent. The percentage in the community of comparison to which specific areas of EJ concern – Income/Poverty (census block groups) are compared is enclosed within a box.

Census blocks with Bolded/Italics values indicates an Area of EJ Concern whose value is “**meaningfully greater**” (>10 percent) than the threshold established by the community of comparison or 50 percent. Meaningfully greater for % Households Below Proposed Interim Fly Quiet Poverty Level would be greater than 35.47 percent.

Census blocks in black font are exposed to a 1.5 dB increase; **census blocks in green font are exposed to a 1.5 dB decrease.**

Source: U.S. Census Bureau 2012-2016 American Community Survey.

Notes: 1) Poverty guidelines are rounded up to the nearest interval (income band) in the Census data (e.g., \$29,999 or \$34,999) at which household income is reported in order to estimate number of households below the poverty level.

2) Census block group 170317608021 is anomalous in that a portion of this census block group lies within the Interim Fly Quiet 65 DNL that would experience a 1.5 dB *increase* and a separate portion of it lies within the Existing Fly Quiet 65 DNL that would experience a 1.5 dB *decrease*.

For the Revised Interim Fly Quiet 1, the data indicates that four census block groups (EJ Areas of Concern for Income/Poverty) would experience potentially significant increases in noise exposure and three would experience decreases in noise exposure of similar magnitude. In the census block groups anticipated to experience an increase, the low-income population is also meaningfully greater than that of the community of comparison in one of them (170317706022). For those three census block groups anticipated to experience a significant decrease in noise exposure, the low-

income population in two of them (170317608012 and 170317707001) is meaningfully greater than that of the community of comparison.

Table 8. –Demographic Characteristics (Race/Ethnicity) for Areas of EJ Concern for Race/Ethnicity Experiencing a Potentially Significant Impact from Revised Interim Fly Quiet 2 Compared to Proposed Interim Fly Quiet EJ Community of Comparison (Existing Fly Quiet)

<i>Census Geography</i>	<i>Total Population</i>	<i>White</i>	<i>% White</i>	<i>All Other Races</i>	<i>% All Other Races</i>	<i>Hispanic</i>	<i>% Hispanic</i>	<i>Non Hispanic</i>	<i>% Non Hispanic</i>
<i>Existing Fly Quiet (65 DNL Contour)</i>	21,159	12,994	61.41%	8,165	38.59%	6,711	31.72%	14,448	68.28%
170317608021014	30	23	76.67%	7	23.33%	7	23.33%	23	76.67%
170317708001000	142	67	47.18%	75	52.82%	52	36.62%	90	63.38%
170317708001002	239	141	59.00%	98	41.00%	79	33.05%	160	66.95%
170317708001003	224	117	52.23%	107	47.77%	73	32.59%	151	67.41%
170317708001004	153	95	62.09%	58	37.91%	55	35.95%	98	64.05%
170317708001005	279	179	64.16%	100	35.84%	79	28.32%	200	71.68%
170317708002000	558	396	70.97%	162	29.03%	131	23.48%	427	76.52%
170317708002010	206	119	57.77%	87	42.23%	52	25.24%	154	74.76%
170317708002027	82	50	60.98%	32	39.02%	21	25.61%	61	74.39%
170317708002038	177	105	59.32%	72	40.68%	44	24.86%	133	75.14%
170317708002043	7	-	0.00%	7	100.00%	7	100.00%	-	0.00%
170318066001007	110	60	54.55%	50	45.45%	25	22.73%	85	77.27%
170318105011001	73	52	71.23%	21	28.77%	17	23.29%	56	76.71%
170318105011003	24	18	75.00%	6	25.00%	6	25.00%	18	75.00%
170318104003033	62	48	77.42%	14	22.58%	14	22.58%	48	77.42%
170318104003037	3	1	33.33%	2	66.67%	-	0.00%	3	100.00%
170318104003049	52	37	71.15%	15	28.85%	15	28.85%	37	71.15%

Census blocks with bolded values indicates areas of EJ concern – i.e., % All Other Races or % Hispanic/Latino population is greater than Reference Community – whose value is also greater than threshold (% All Other Races or % Hispanic) established by community of comparison or exceeds 50 percent. The percentages in the community of comparison to which specific areas of EJ concern – Race/Ethnicity (census blocks) are compared are enclosed within a box.

Census blocks with Bolded/Italics values indicates an area of EJ concern whose value is “*meaningfully greater*” (>10 percent) than the threshold established by the community of comparison or 50 percent. “Meaningfully greater” for % All Other Races would be greater than 48.59 percent and for % Hispanic/Latino would be greater than 41.72 percent.

Census blocks with non-bold / non-italic values indicates an area of EJ concern – i.e., % All Other Races or % Hispanic/Latino population is greater than Reference Community—whose value is less than threshold (% All Other Races or % Hispanic/Latino) established by community of comparison and also does not exceed 50 percent.

Census blocks in black font are exposed to a 1.5 dB increase; **census blocks in green font are exposed to a 1.5 dB decrease.**

Source: U.S. Census Bureau 2010 Decennial Census.

For the Revised Interim Fly Quiet 2, the data indicates that 14 census blocks (EJ areas of concern for Race/Ethnicity) would experience potentially significant increases in noise exposure. Of these, the percentage of All Other Races population is meaningfully greater than that of the community of comparison in two of the census blocks (170317708001000 and 170317708002043). One of these same blocks (170317708002043) also has a percentage of Hispanic/Latino population that is meaningfully greater than that of the community of comparison.

There are also three census blocks which would experience a potentially significant decrease in noise exposure. Of those, the percentage of All Other Races population is meaningfully greater than that of the community of comparison in one of the census blocks (170318104003037).

Table 9. – Selected Demographic Characteristics (Income/Poverty) for Areas of EJ Concern for Low-Income/Poverty Status Experiencing a Potentially Significant Impact from Revised Interim Fly Quiet 2 Compared to Proposed Interim Fly Quiet EJ Community of Comparison (Existing Fly Quiet)

Census Geography	Total Population	Total Population in Occupied Housing Units	Number of House holds	Average House hold Size	Median House hold Income	2016 HHS Poverty Guideline	Proposed Interim Fly Quiet Poverty Guideline (150%)	# House holds Below Poverty Level	% House holds Below Poverty Level
<i>Existing Fly Quiet (65 DNL Contour)</i>	50,530	50,492	18,669	2.70	\$62,263	\$19,253	\$28,880	4,550	24.37%
170317608011	2,509	2,509	1,350	1.86	\$58,529	\$15,440	\$23,161	375	27.78%
170317608012	1,616	1,616	822	1.97	\$37,386	\$15,896	\$23,844	309	37.59%
170317608021	2,503	2,503	1,107	2.26	\$55,919	\$17,096	\$25,645	303	27.37%
170317706022	2,204	2,204	619	3.56	\$45,483	\$22,478	\$33,718	282	45.56%
170317708001	2,012	2,012	763	2.64	\$55,787	\$18,670	\$28,004	257	33.68%
170318105012	960	822	327	2.51	\$66,369	\$18,131	\$27,197	93	28.44%
170317707001	689	689	329	2.09	\$37,266	\$16,393	\$24,589	130	39.51%

Census blocks with bolded values indicates an area of EJ concern – i.e., % Households Below Proposed Interim Fly Quiet Poverty Level – whose value is also **greater** than threshold (% Households Below Proposed Interim Fly Quiet Poverty Level) established by the community of comparison or exceeds 50 percent.

Census blocks with Bolded/Italics values indicates an area of EJ concern whose value is “*meaningfully greater*” (>10 percent) than the threshold established by the community of comparison or 50 percent. Meaningfully greater for % Households Below Proposed Interim Fly Quiet Poverty Level would be greater than 35.47 percent.

Census block groups in black font are exposed to a 1.5 dB increase; census block groups in green font are exposed to a 1.5 dB decrease.

Source: U.S. Census Bureau 2012-2016 American Community Survey.

Notes: 1) Poverty guidelines are rounded up to the nearest interval (income band) in the Census data (e.g., \$29,999 or \$34,999) at which household income is reported in order to estimate number of households below the poverty level.

2) Census block group 170317608021 is anomalous in that a portion of this census block group lies within the Interim Fly Quiet DNL 65 contour that would experience a 1.5 dB increase and a separate portion of it lies within the Existing Fly Quiet 65 DNL contour that would experience a 1.5 dB decrease.

For the Revised Interim Fly Quiet 2, the data indicates that four census block groups (EJ Areas of Concern for Income/Poverty), would experience potentially significant increases in noise exposure and three would experience decreases in noise exposure of similar magnitude. Of the census block groups anticipated to experience an increase, the low-income population would also be meaningfully greater than that of the community of comparison in one of them (170317706022). For those three census block groups anticipated to experience a significant decrease in noise exposure, the low-income population in two of them (170317608012 and 170317707001) would be meaningfully greater than that of the community of comparison.

The following figures illustrate the geographical dispersion of potentially significant impacts detailed in the tables above. **Figures 6A** and **6B** (Corresponding to **Table 4**) and **Figures 7A** and **7B** (Corresponding to **Table 5**) show 65 DNL contours for both Existing Fly Quiet and Proposed Interim Fly Quiet, points

having a change of exposure of 1.5 dB, and areas of EJ concern for Race/Ethnicity and Low-Income/Poverty Status, respectively.

Figures 8A through 8D (Corresponding to **Table 6**) and **Figures 9A through 9D** (Corresponding to Table 7) show 65 DNL contours for both Existing Fly Quiet and Revised Interim Fly Quiet 1, points having a change of exposure of 1.5 dB, and areas of EJ concern for Race/Ethnicity and Low-Income/Poverty Status, respectively.

Figures 10A through 10D (Corresponding to **Table 8**) and **Figures 11A through 11D** (Corresponding to **Table 9**) show 65 DNL contours for both Existing Fly Quiet and Revised Interim Fly Quiet 2, points having a change of exposure of 1.5 dB, and areas of EJ concern for Race/Ethnicity and Low-Income/Poverty Status, respectively.

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

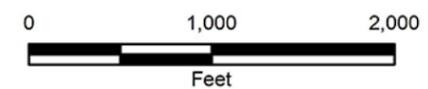
- Existing Fly Quiet 65 DNL Noise Contour
- Proposed Interim Fly Quiet 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

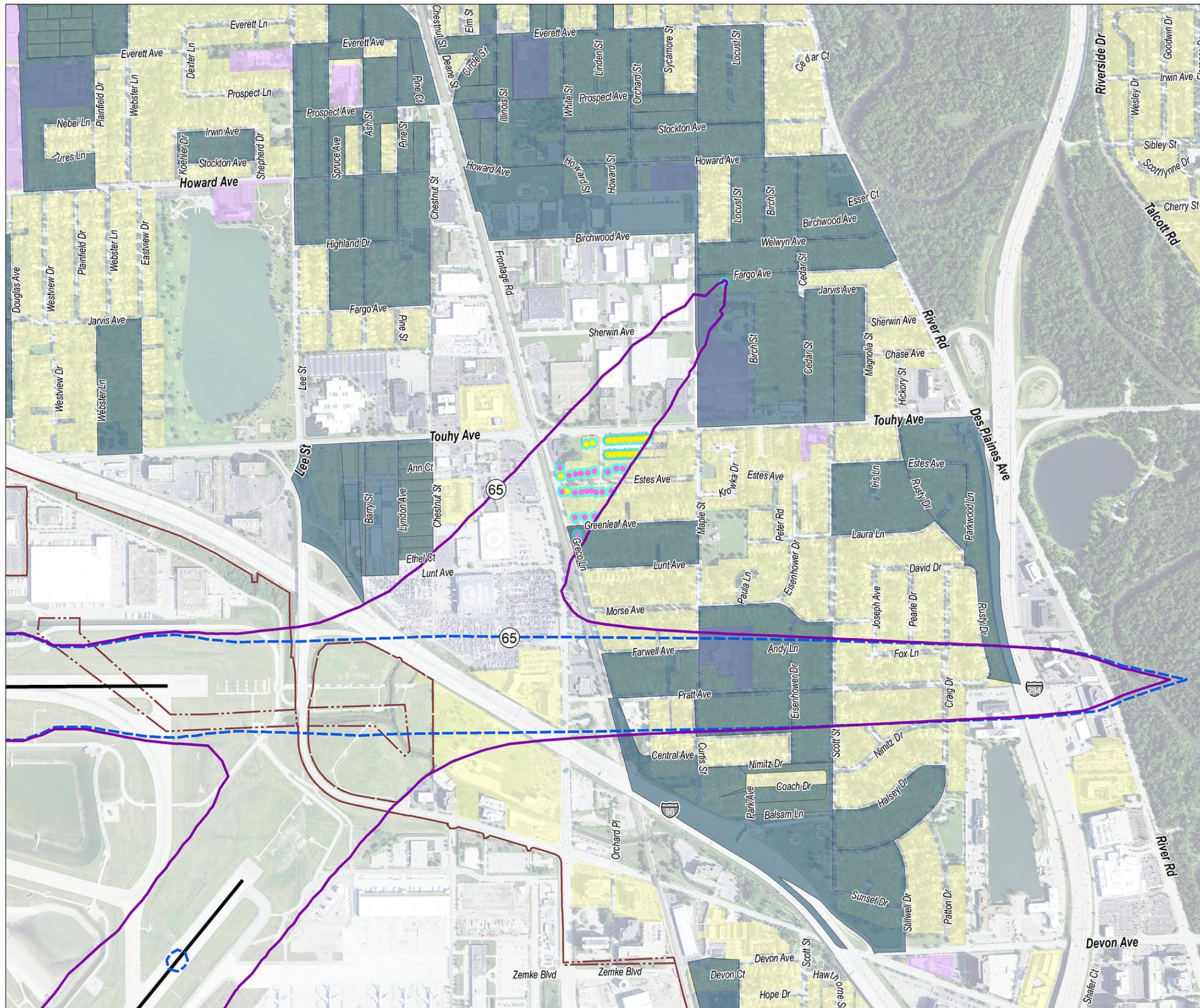
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Proposed Interim Fly Quiet
65 DNL, Points with a Change of Exposure of
1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 6A



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

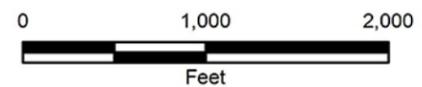
- Existing Fly Quiet 65 DNL Noise Contour
- Proposed Interim Fly Quiet 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

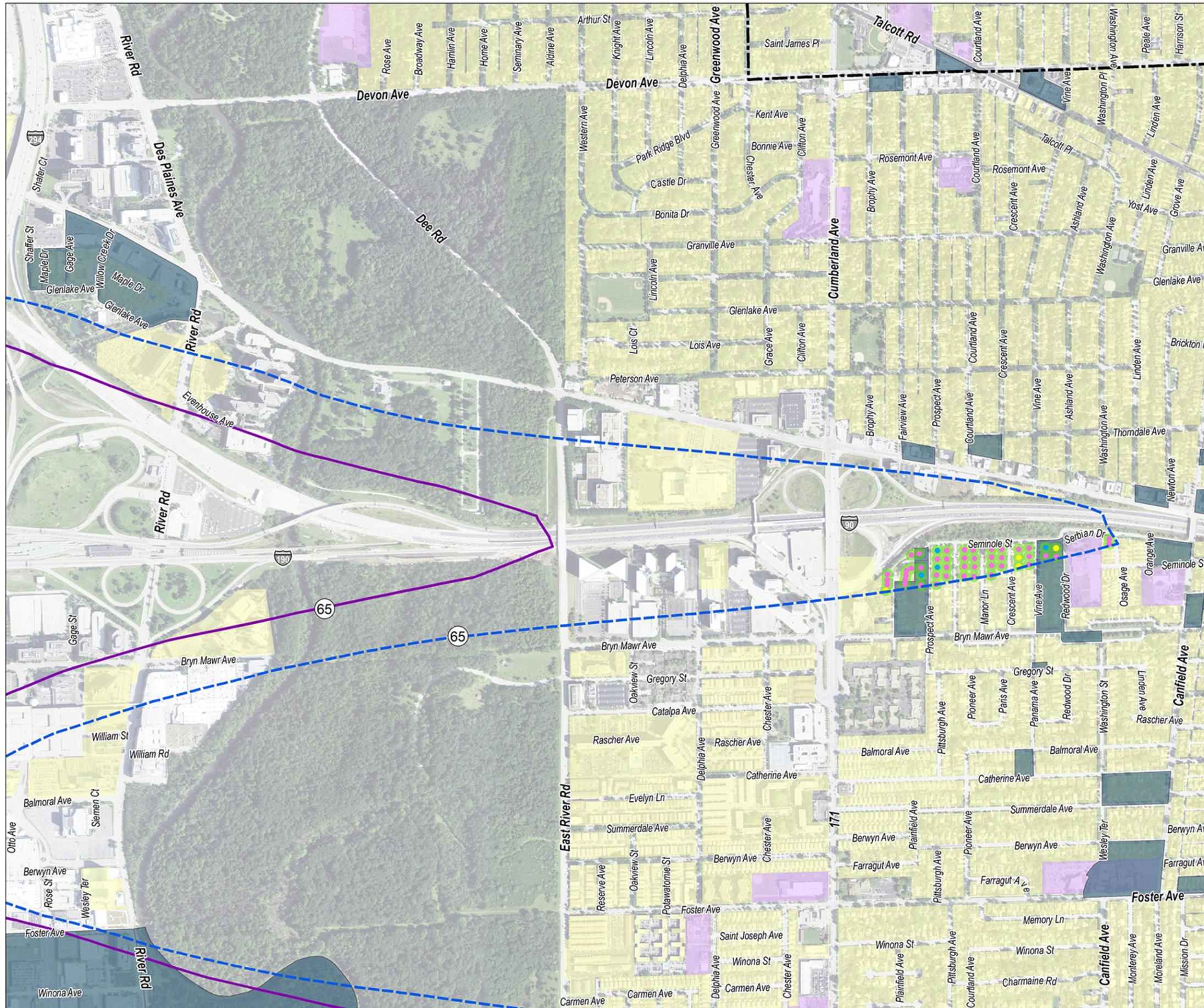
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Proposed Interim Fly Quiet
65 DNL, Points with a Change of Exposure of
1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 6B



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

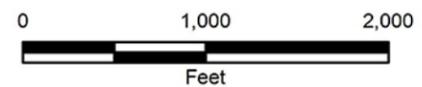
- Existing Fly Quiet 65 DNL Noise Contour
- Proposed Interim Fly Quiet 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

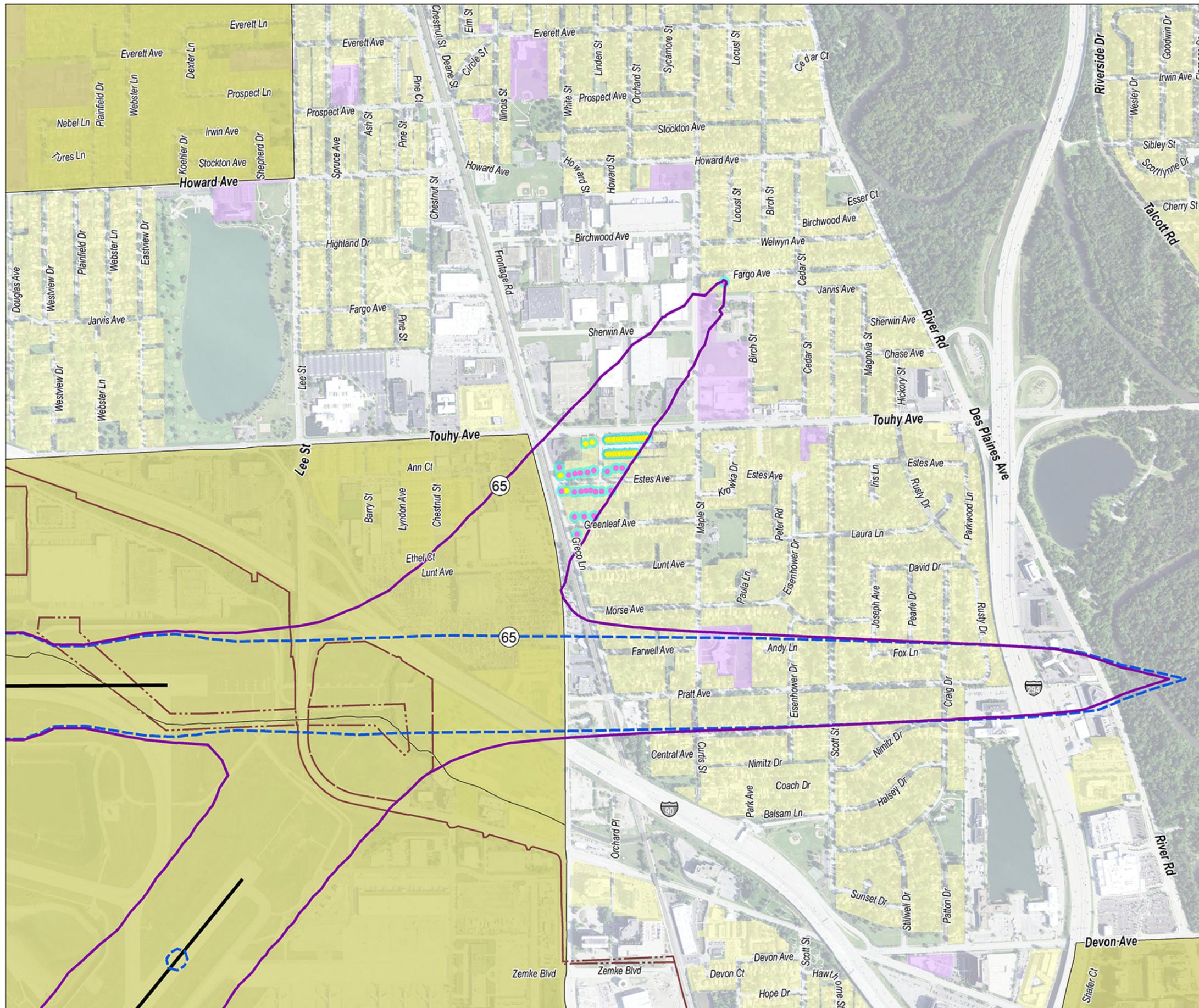
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Proposed Interim Fly Quiet 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 7A



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

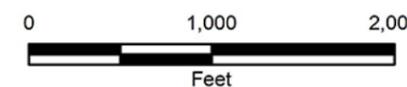
- Existing Fly Quiet 65 DNL Noise Contour
- Proposed Interim Fly Quiet 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

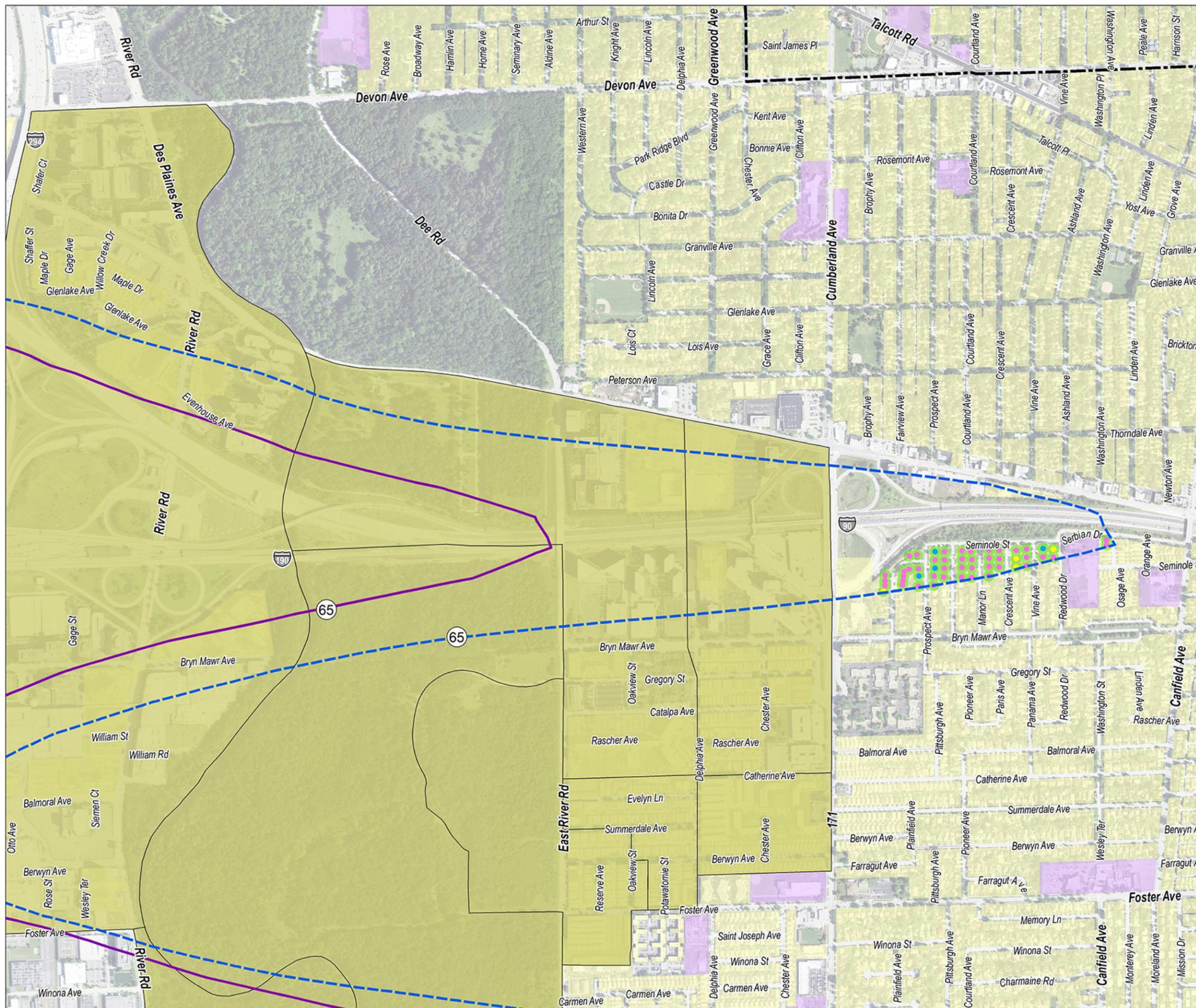
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Proposed Interim Fly Quiet 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 7B



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

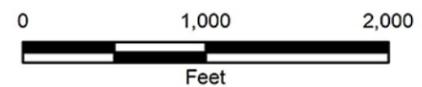
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

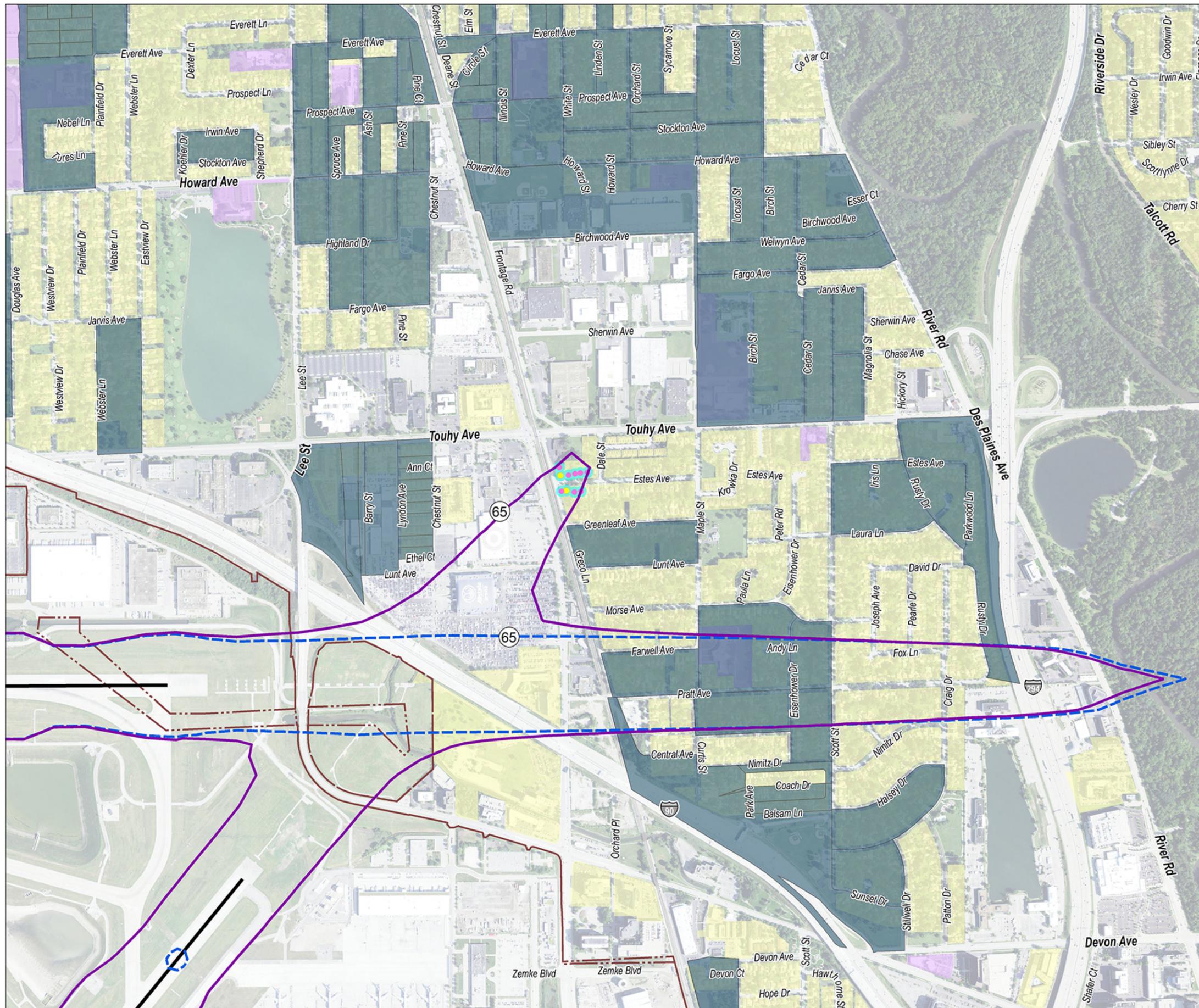
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 8A



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

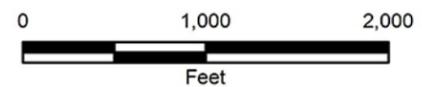
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

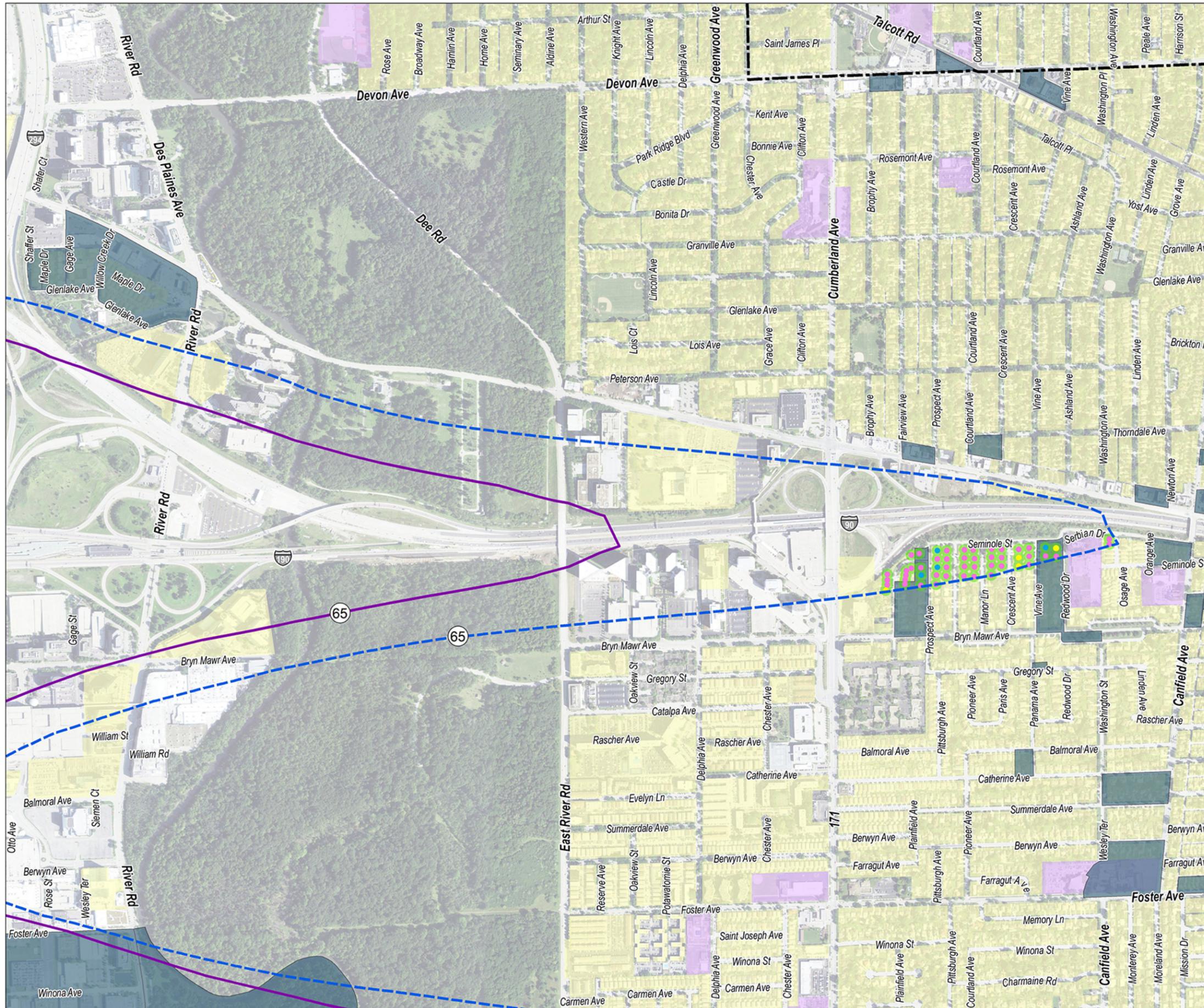
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 8B



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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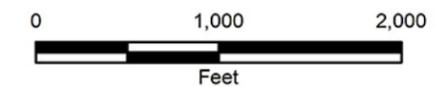
Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

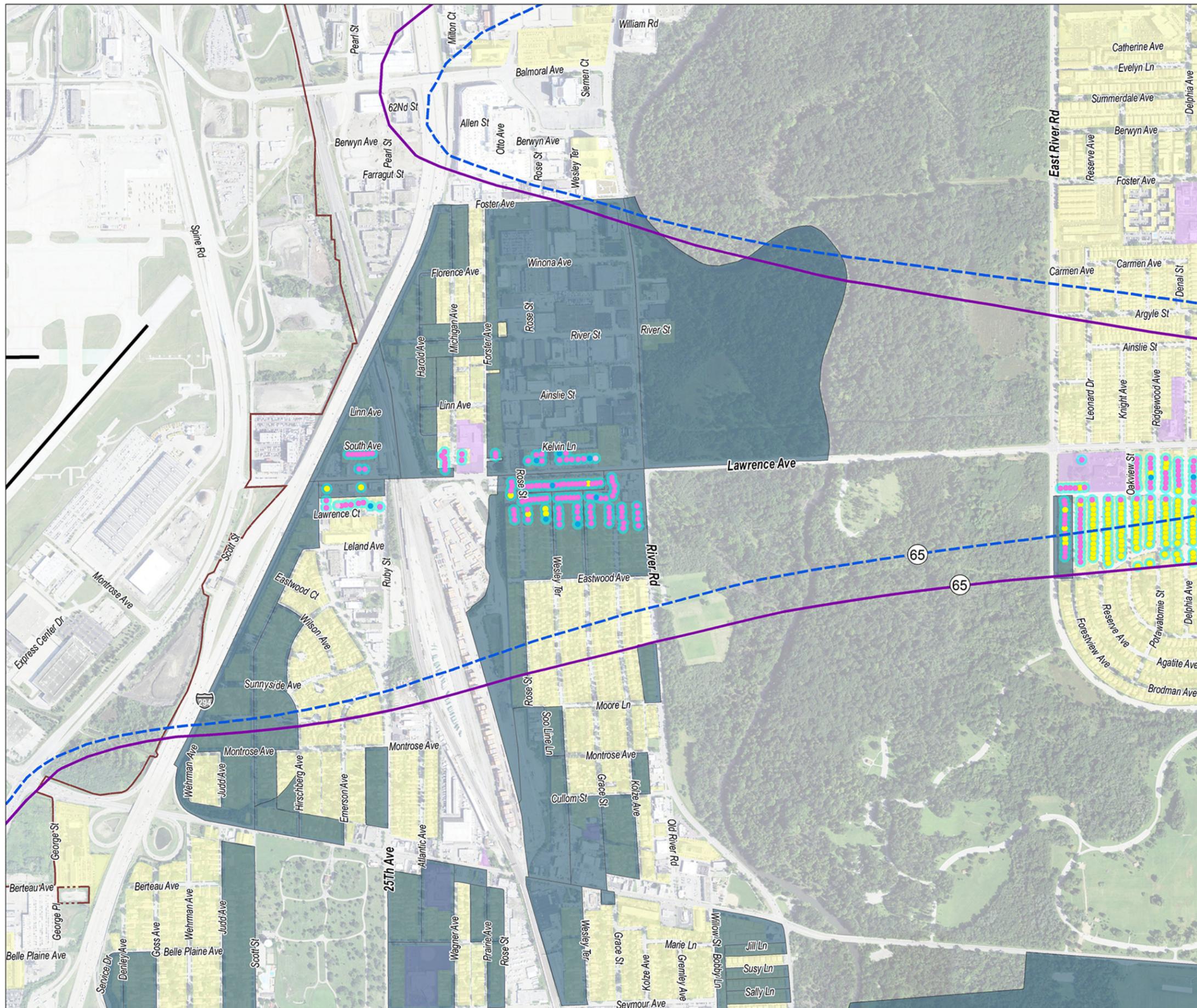
- Residential
- Public, Hospital, Institutional
- Compatible
- Water
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 8C



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

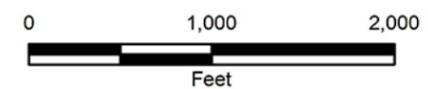
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

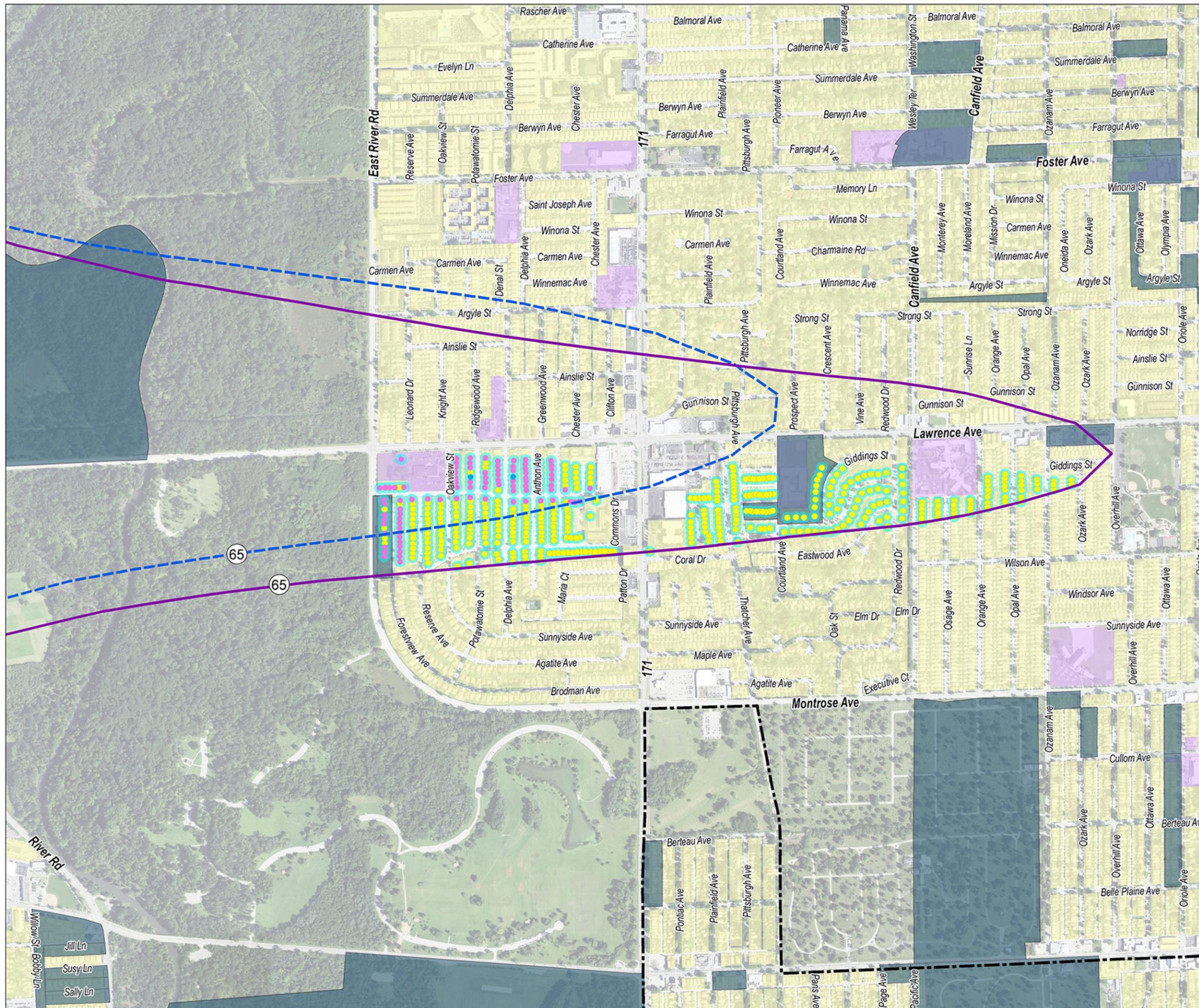
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 8D



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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

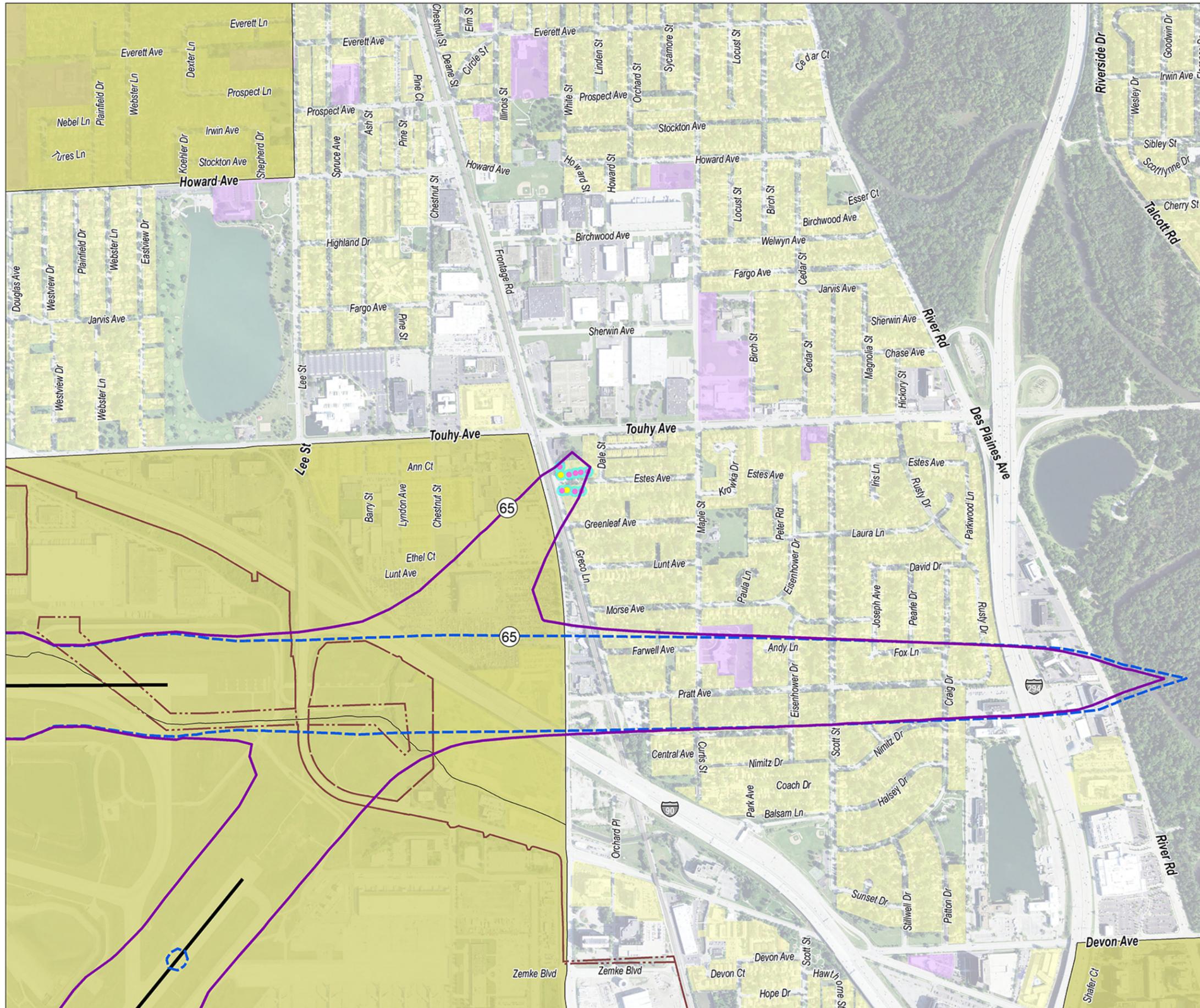
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 9A



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

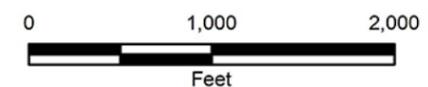
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

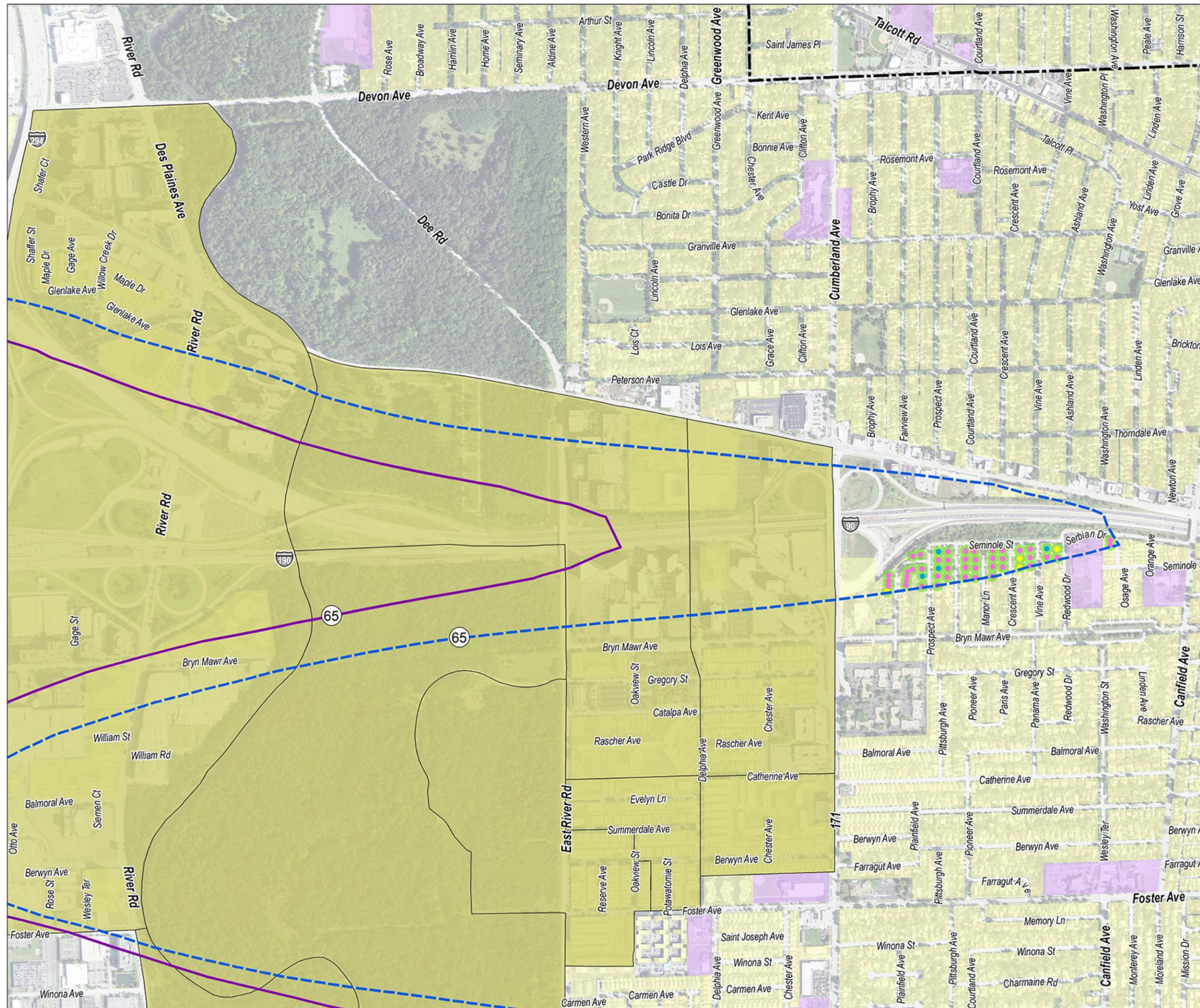
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 9B



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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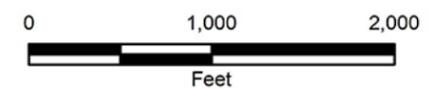
Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

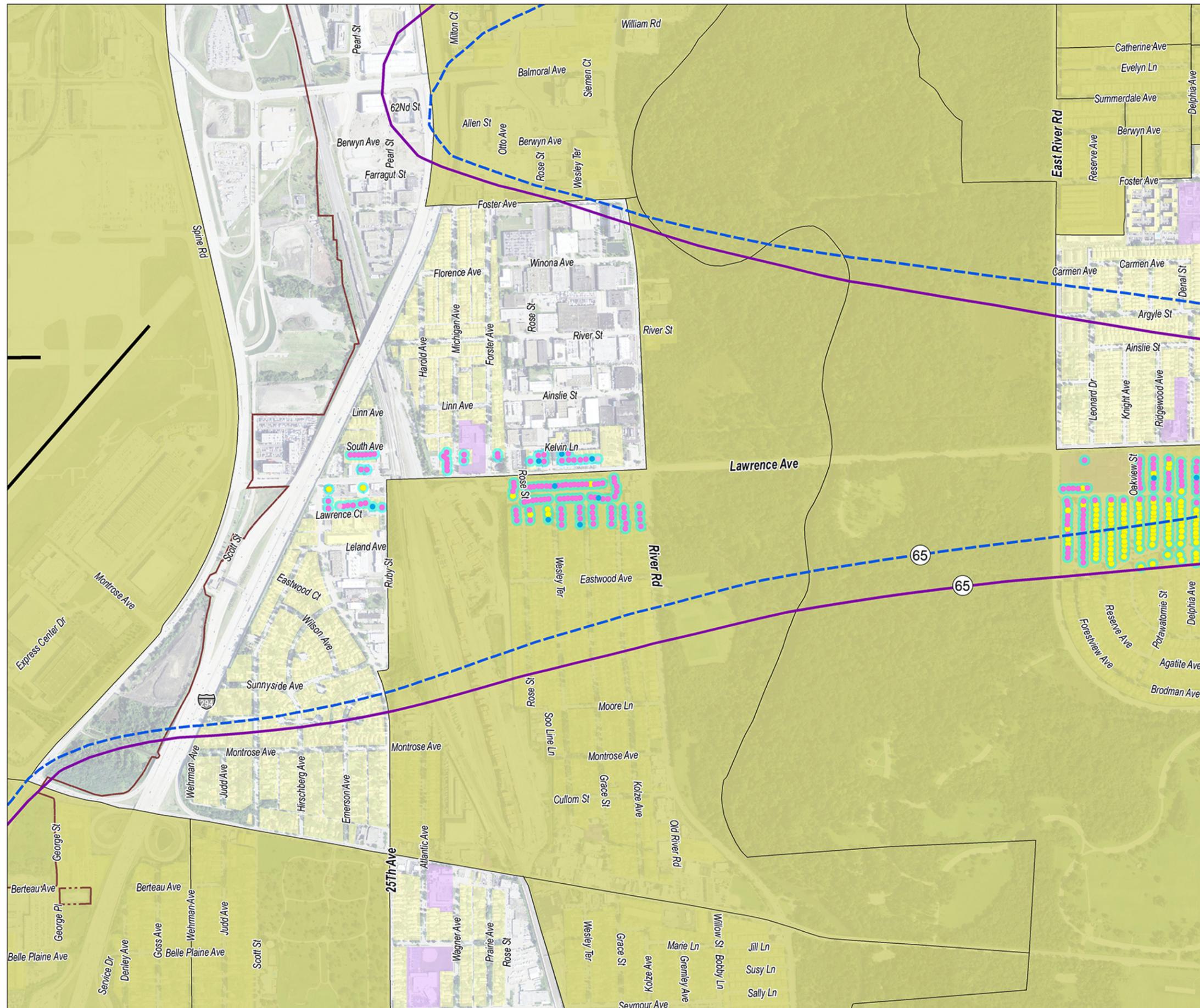
- Residential
- Public, Hospital, Institutional
- Compatible
- Water
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 9C



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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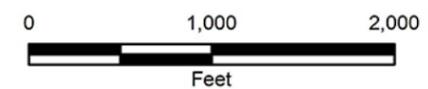
Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 1 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

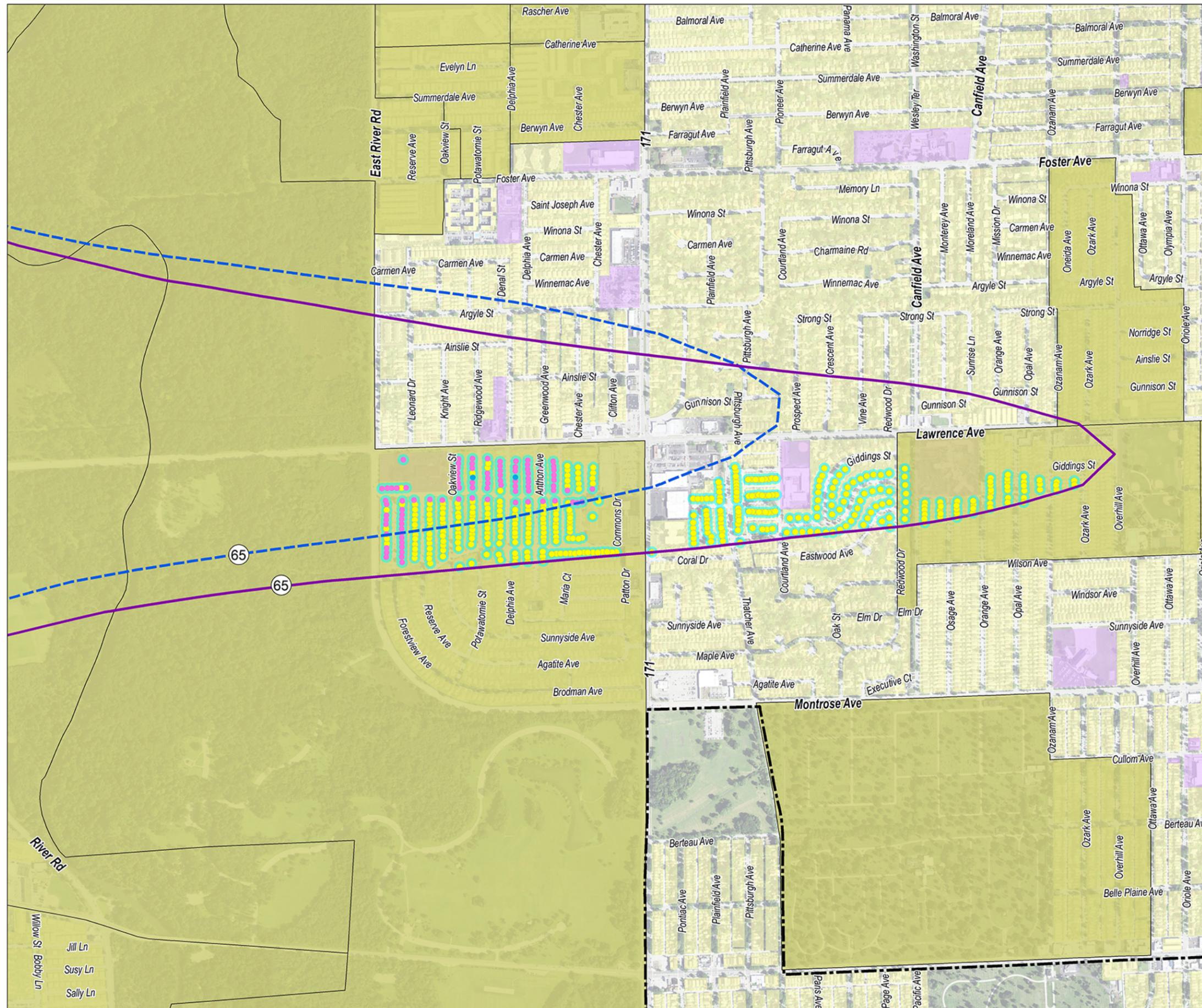
- Residential
- Public, Hospital, Institutional
- Compatible
- Water
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 1 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 9D



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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

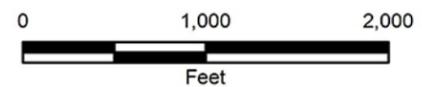
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 2 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

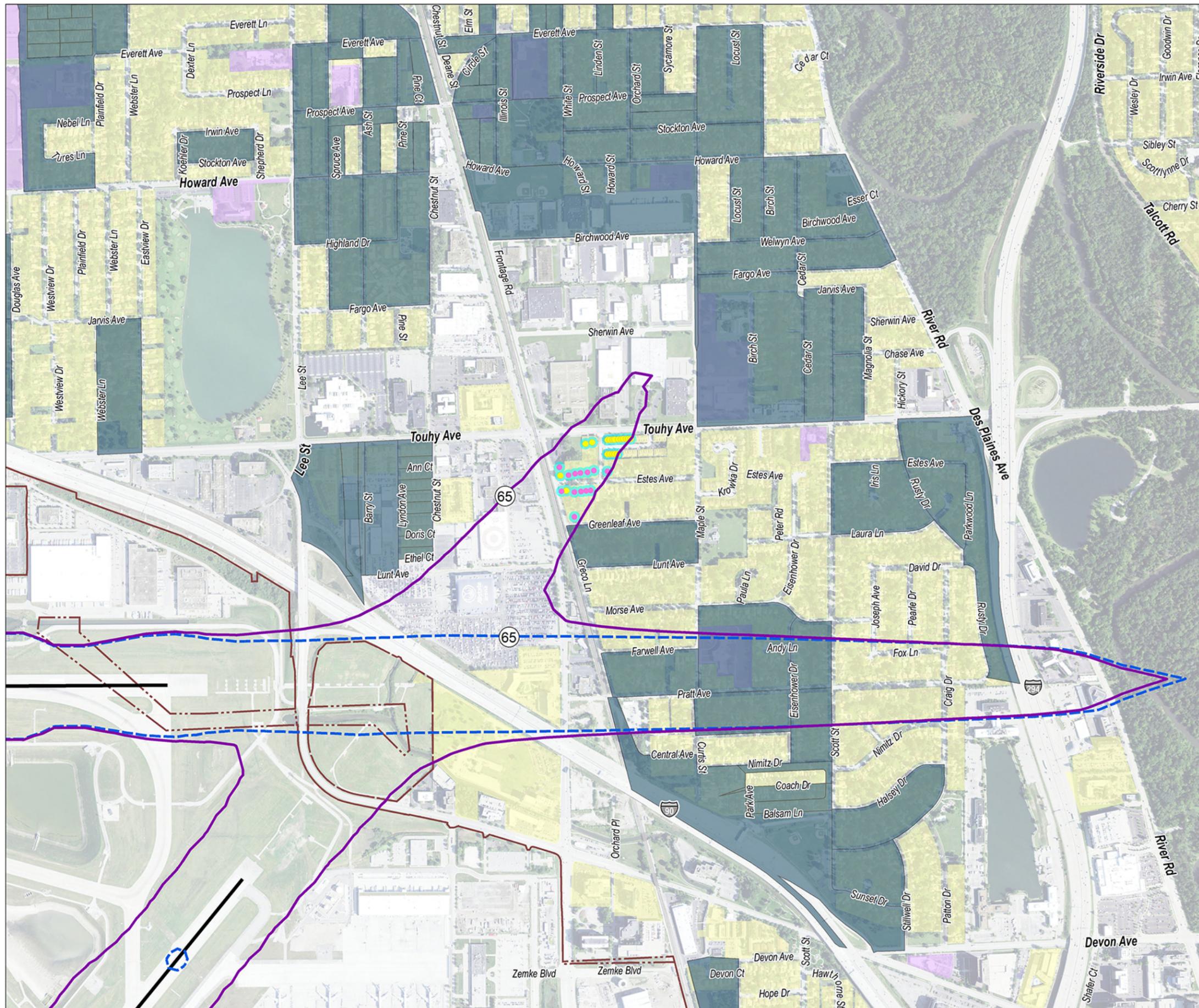
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 2 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 10A



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

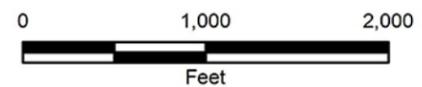
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 2 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

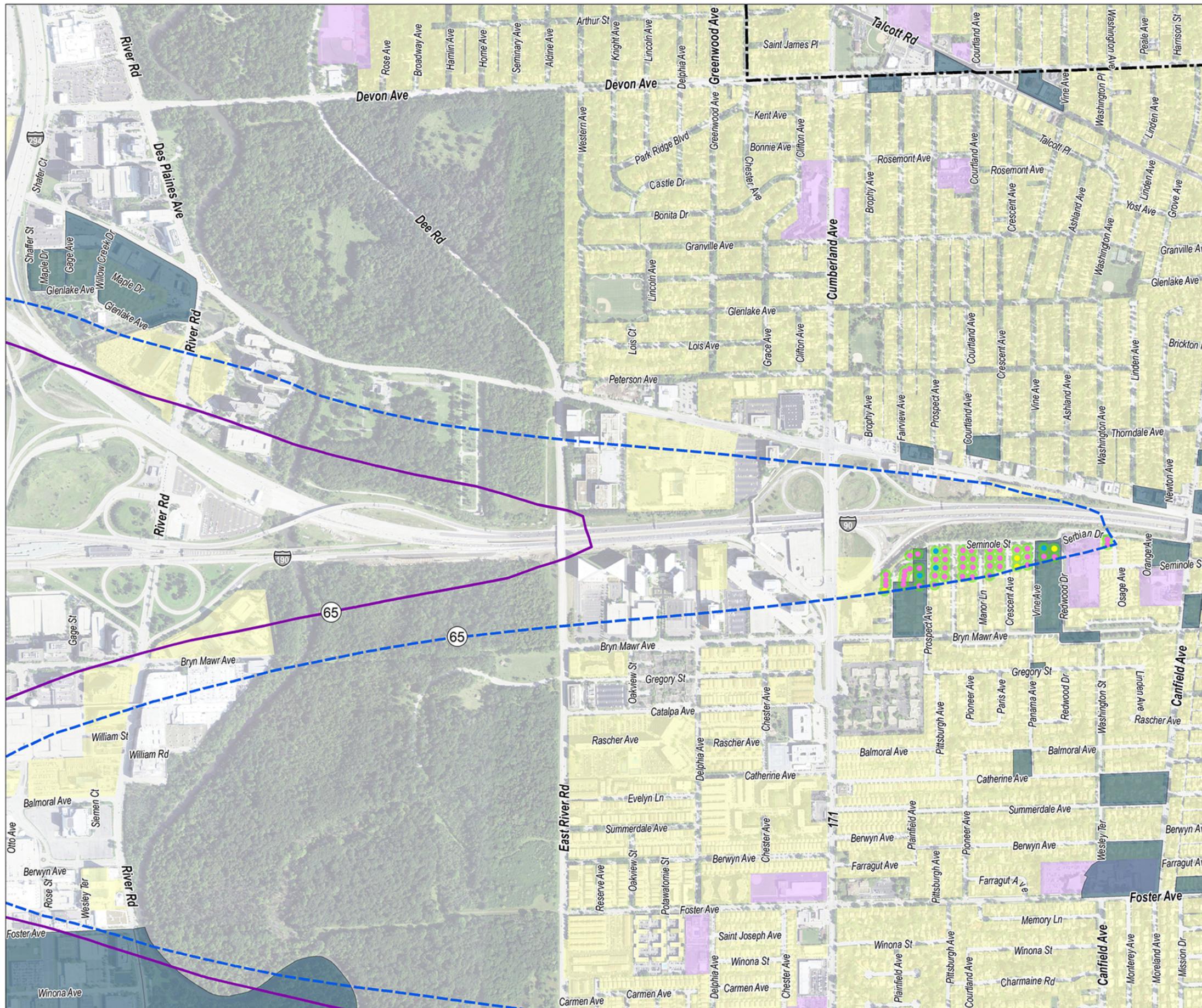
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 2 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 10B



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

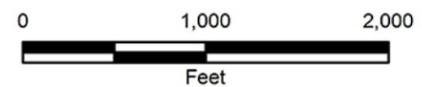
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 2 65 DNL Noise Contour
- Census Blocks with > 50% All Other Races or > 22.36% Hispanic Population
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

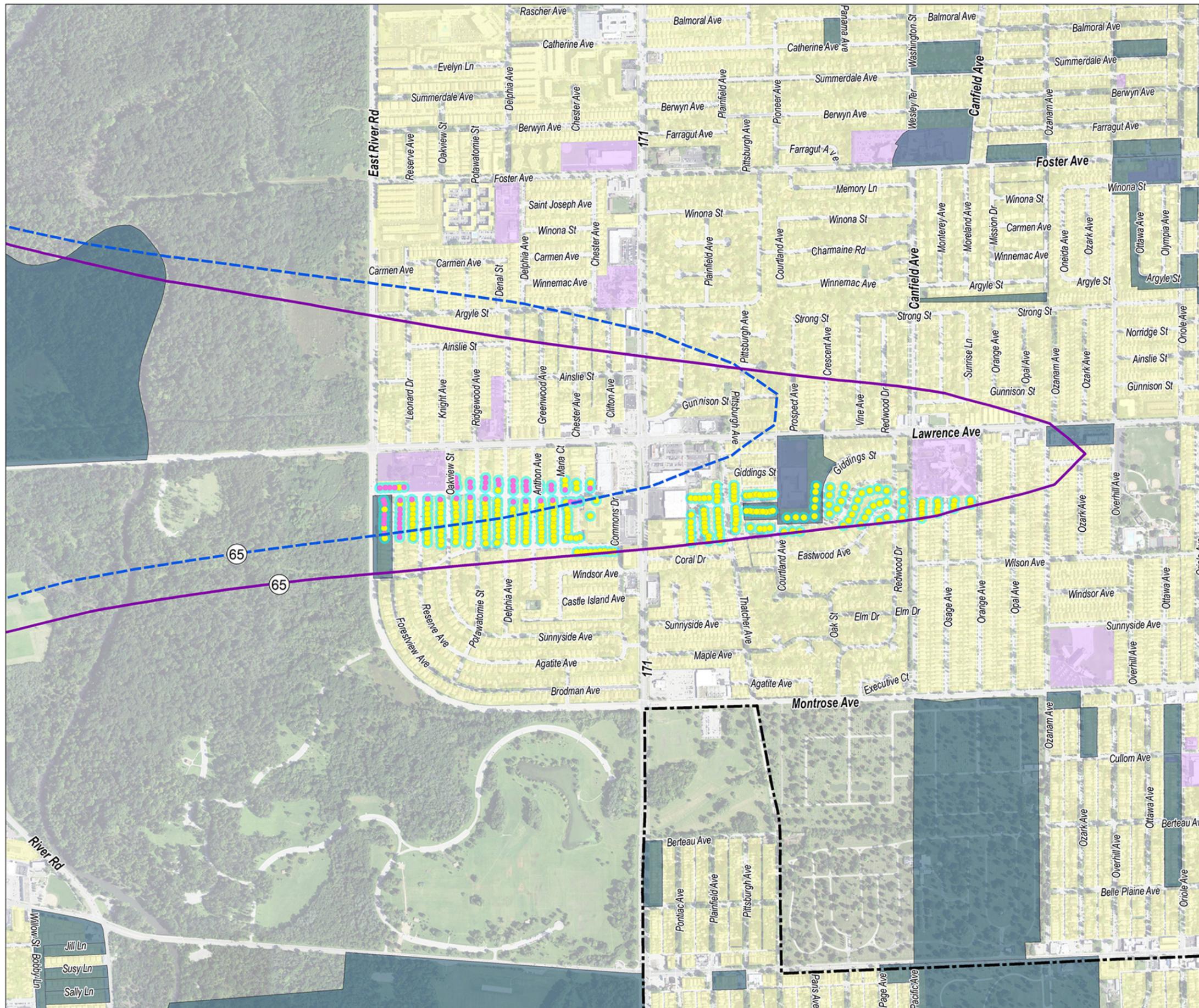
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 2 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Race/Ethnicity)

► Figure 10D



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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

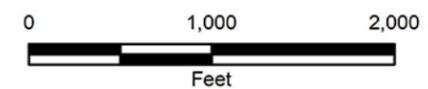
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 2 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

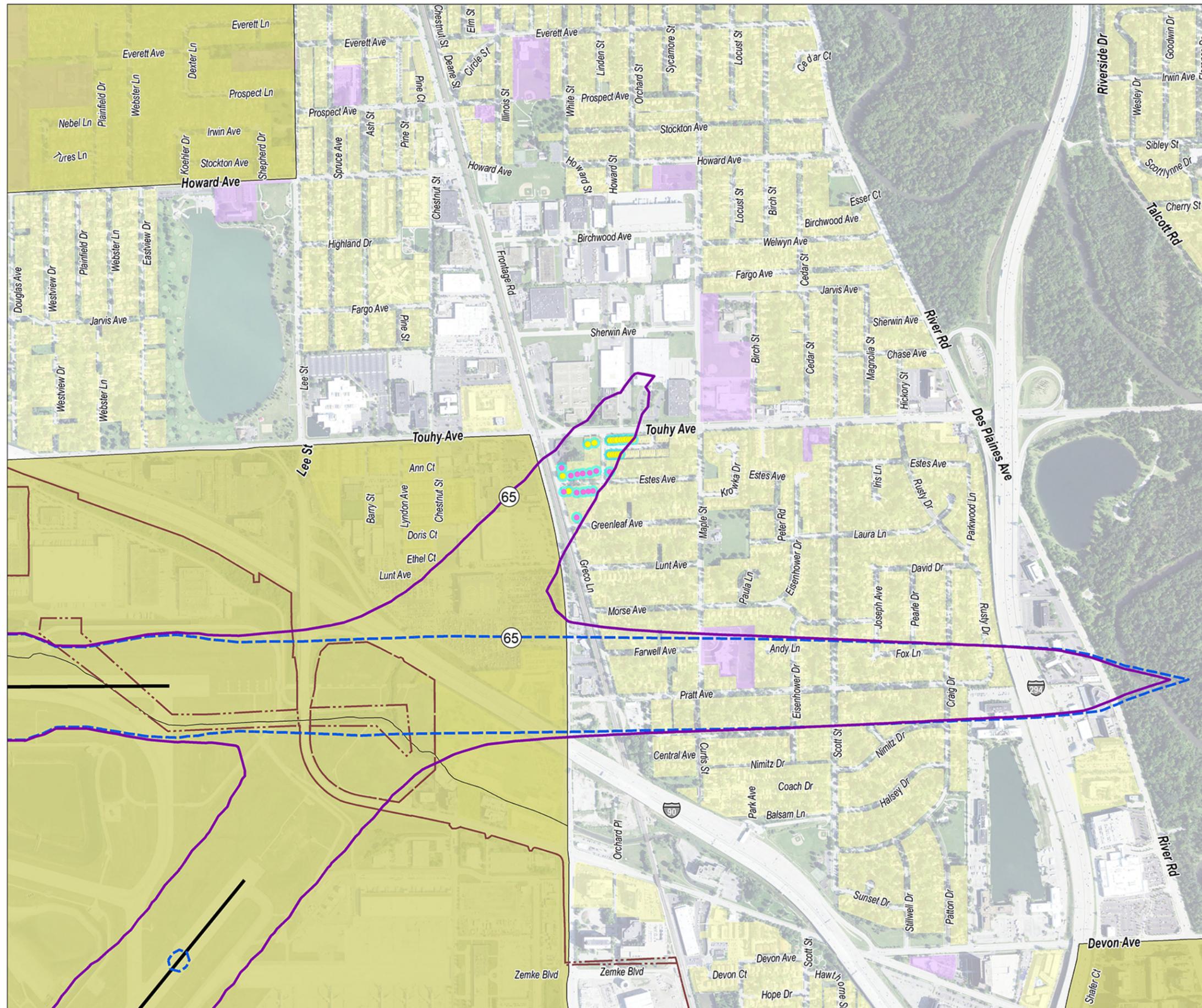
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 2 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 11A



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Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

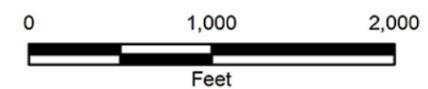
- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 2 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

- Residential
- Public, Hospital, Institutional
- Compatible
- Water

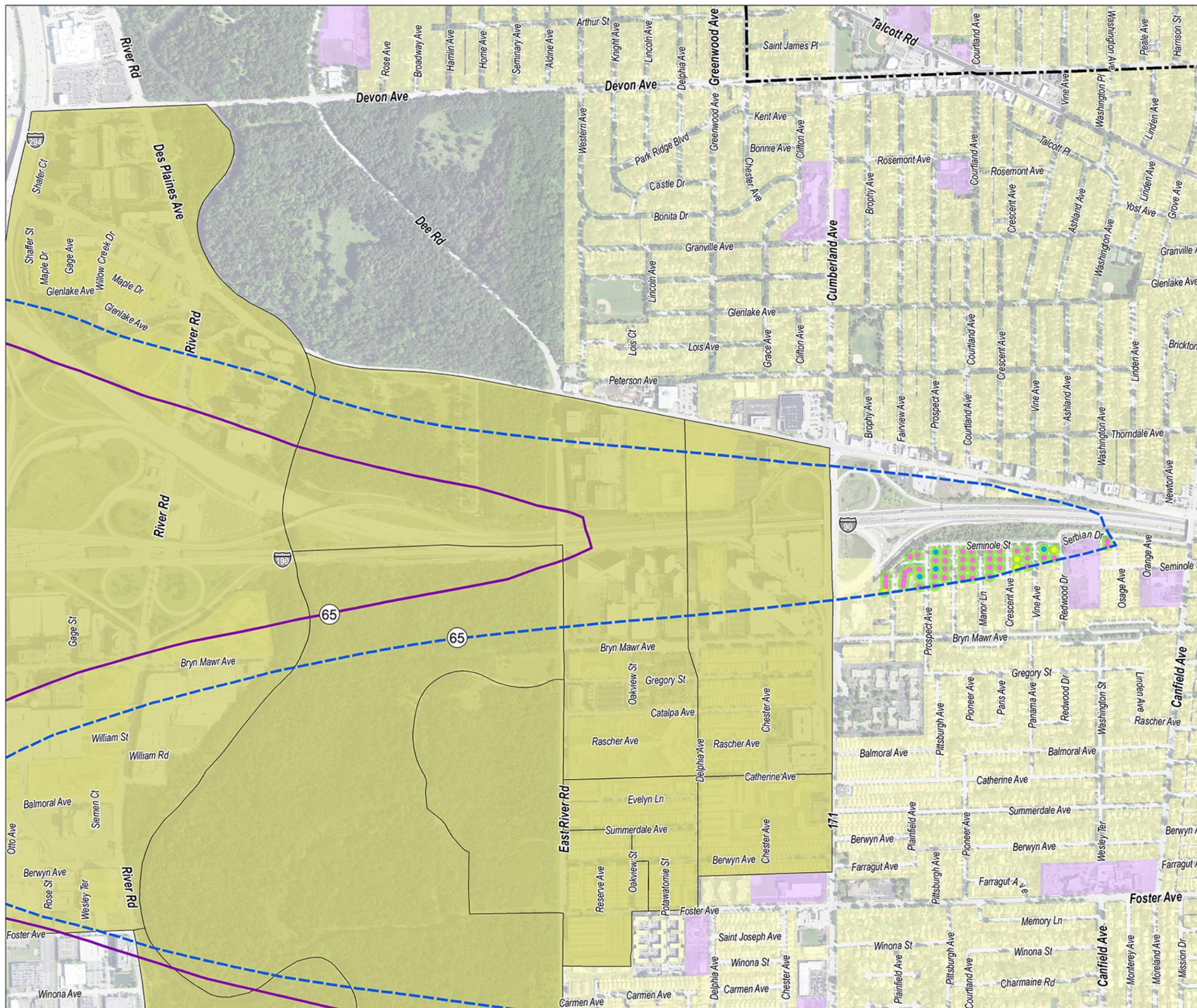
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 2 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 11B



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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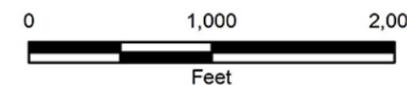
Written Re-Evaluation of the O'Hare Modernization Environmental Impact Statement for the Interim Fly Quiet Runway Rotation Plan

- Existing Fly Quiet 65 DNL Noise Contour
- Revised Interim Fly Quiet 2 65 DNL Noise Contour
- Census Block Groups of Low Income/Poverty Status
- Sound Insulated Property
- Partially Insulated Property
- Pending
- Not Insulated
- Property within 65 DNL Contour with a 1.5 dB Increase
- Property within 65 DNL Contour with a 1.5 dB Decrease

Land Use

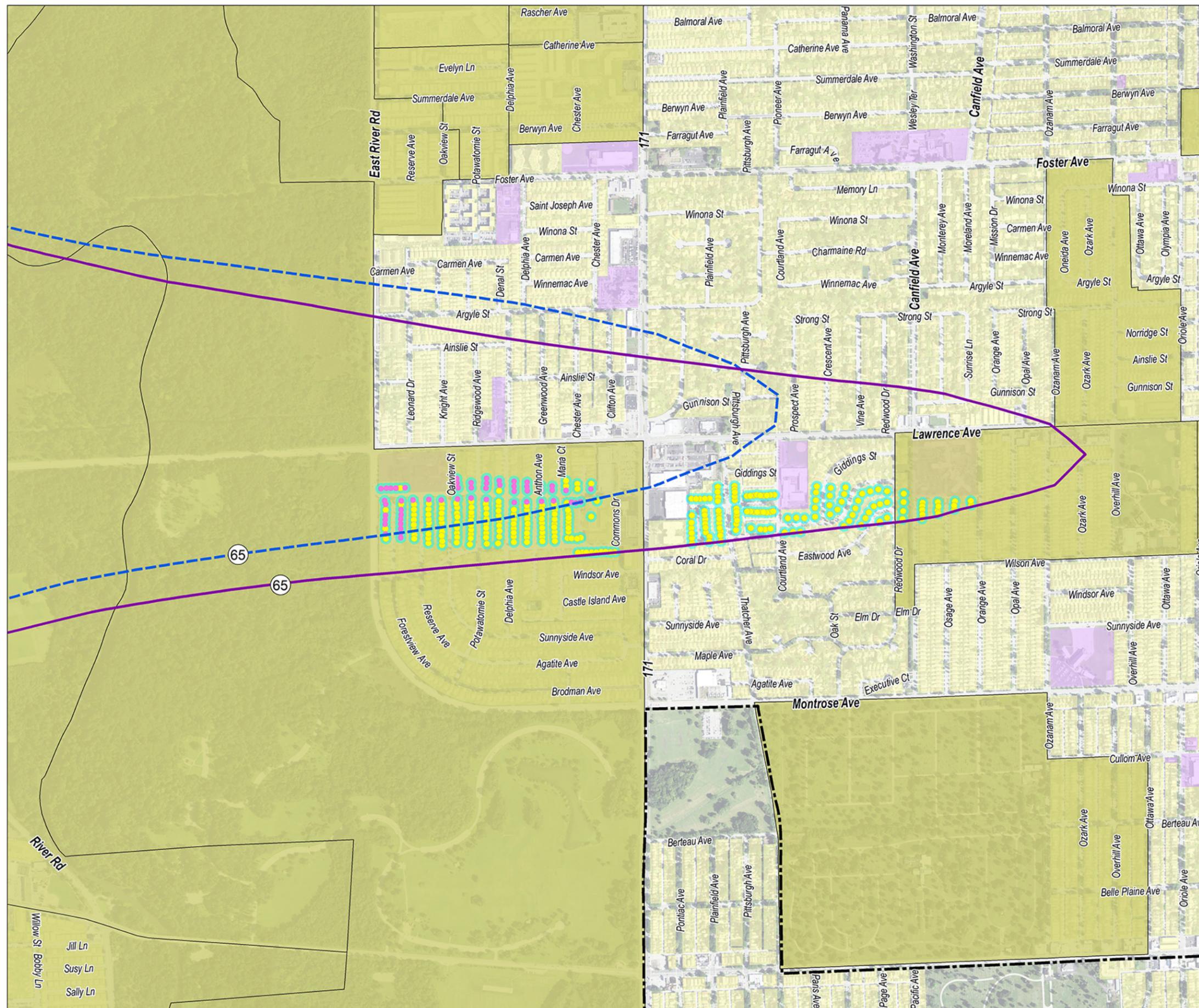
- Residential
- Public, Hospital, Institutional
- Compatible
- Water
- Airport Boundary
- Project Area
- Current Runway Pavement
- County Boundary

Note: DNL contours represent November 2019 to May 2020 and September 2020 to January 2021



Existing Fly Quiet and Revised Interim Fly Quiet 2 65 DNL, Points with a Change of Exposure of 1.5 dB, and Areas of EJ Concern (Low-Income/Poverty Status)

► Figure 11D



Source: HMMH 2018, USCB 2016, USCB 2010, ESRI

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4. Estimate of EJ Populations Experiencing a Significant Impact

Using the 2010 Decennial Census and the 2016 ACS data, an estimate of the number of persons experiencing a significant impact with respect to aircraft noise was developed. Within a census block that lies within the 65 DNL contour for the Proposed Interim Fly Quiet or Revised Interim Fly Quiet 1 or 2, the number of dwelling units experiencing an expected change of 1.5 dB was identified. The estimated aggregate population residing within these dwelling units was calculated by multiplying the average household size (from the Census data for that block group) by the number of such dwelling units. Then the demographic characteristics of the block (race/ethnicity) or block group (low-income/poverty) within which the dwelling unit is situated were applied to that estimated aggregate population to develop estimated EJ populations experiencing a significant impact. **Table 10** presents this estimate for race/ethnicity and **Table 11** presents the estimate for low-income/poverty status.

For Proposed Interim Fly Quiet, estimates indicate that 20 persons residing in areas of EJ concern (Race/Ethnicity) would experience a 1.5 dB increase in noise exposure within the 65 DNL and greater noise exposure area. Of these, it is estimated that four (4 or 20 percent) would be white, sixteen (16 or 80 percent) would be all other races, and sixteen (16 or 80 percent) would be Hispanic/Latino. For those experiencing an anticipated decrease in noise exposure, the estimated number of persons would be 28; 19 (67.9 percent) of whom would be white, 9 (32.1 percent) would be of all other races and 7 (25 percent) would be Hispanic/Latino.

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Table 10. – Comparison of Estimates for Populations Experiencing a Potentially Significant Impact from Proposed Interim Fly Quiet, Revised Interim Fly Quiet 1, Revised Fly Quiet 2, for Areas of EJ Concern for Race/Ethnicity

<i>Census Geography</i>	<i># of Dwelling Units with 1.5 dB Change</i>	<i>Average # of Persons per Dwelling Unit</i>	<i>Total # of Persons (Est.)</i>	<i># White (Est.)</i>	<i>% White</i>	<i># All Other Races (Est.)</i>	<i>% All Other Races (Est.)</i>	<i># Hispanic (Est.)</i>	<i>% Hispanic (Est.)</i>	<i># Non Hispanic (Est.)</i>	<i>% Non Hispanic (Est.)</i>
<i>Existing Fly Quiet (65 DNL Contour)</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>Proposed Interim Fly Quiet (65 DNL Contour)</i>	125	2.63	328	230	64.83%	221	35.17%	189	23.83%	262	76.17%
170317706022005	0	2.67	0	0	21.88%	0	78.13%	0	78.13%	0	21.88%
170317706022042	0	3.39	0	0	7.38%	0	92.62%	0	92.62%	0	7.38%
170317708002027	0	2.83	0	0	60.98%	0	39.02%	0	25.61%	0	74.39%
170317708002038	0	2.81	0	0	59.32%	0	40.68%	0	24.86%	0	75.14%
170317708002043	2	7.00	14	0	0.00%	14	100.00%	14	100.00%	0	0.00%
170318065023020	1	2.58	3	2	58.14%	1	41.86%	1	31.78%	2	68.22%
170318066001007	1	2.97	3	2	54.55%	1	45.45%	1	22.73%	2	77.27%
TOTAL INCREASE	4		20	4		16		16		4	
170318104003033	4	3.10	12	9	77.42%	3	22.58%	3	22.58%	9	77.42%
170318104003037	1	3.00	3	1	33.33%	2	66.67%	0	0.00%	3	100.00%
170318104003049	4	3.25	13	9	71.15%	4	28.85%	4	28.85%	9	71.15%
TOTAL DECREASE	9		28	19		9		7		21	

Table 10. – Comparison of Estimates for Populations Experiencing a Potentially Significant Impact from Proposed Interim Fly Quiet, Revised Interim Fly Quiet 1, Revised Fly Quiet 2, for Areas of EJ Concern for Race/Ethnicity (Continued)

Census Geography	# of Dwelling Units with 1.5 dB Change	Average # of Persons per Dwelling Unit	Total # of Persons (Est.)	# White (Est.)	% White	# All Other Races (Est.)	% All Other Races (Est.)	# Hispanic (Est.)	% Hispanic (Est.)	# Non Hispanic	% Non Hispanic
Revised Interim Fly Quiet 1 (65 DNL Contour)	1059	2.18	2310	1862	79.30%	657	20.70%	529	14.72%	1991	85.28%
170317608021014	13	1.88	24	19	76.67%	6	23.33%	6	23.33%	19	76.67%
170317708001000	0	2.15	0	0	47.18%	0	52.82%	0	36.62%	0	63.38%
170317708001002	62	2.63	163	96	59.00%	67	41.00%	54	33.05%	109	66.95%
170317708001003	86	2.60	224	117	52.23%	107	47.77%	73	32.59%	151	67.41%
170317708001004	33	3.00	99	61	62.09%	38	37.91%	36	35.95%	63	64.05%
170317708001005	54	2.51	136	87	64.16%	49	35.84%	38	28.32%	97	71.68%
170317708002000	123	2.20	271	192	70.97%	78	29.03%	63	23.48%	207	76.52%
170317708002010	1	2.15	2	1	57.77%	1	42.23%	1	25.24%	2	74.76%
170317708002027	10	2.83	28	17	60.98%	11	39.02%	7	25.61%	21	74.39%
170317708002038	0	2.81	0	0	59.32%	0	40.68%	0	24.86%	0	75.14%
170317708002043	2	7.00	14	0	0.00%	14	100.00%	14	100.00%	0	0.00%
170318105011001	11	2.61	29	20	71.23%	8	28.77%	7	23.29%	22	76.71%
170318105011003	13	1.88	24	19	76.67%	6	23.33%	6	23.33%	19	76.67%
TOTAL INCREASE	408		1014	629		385		305		710	
170318104003033	4	3.10	12	9	77.42%	3	22.58%	3	22.58%	9	77.42%
170318104003037	1	3.00	3	1	33.33%	2	66.67%	0	0.00%	3	100.00%
170318104003049	4	3.25	13	9	71.15%	4	28.85%	4	28.85%	9	71.15%
TOTAL DECREASE	9		28	19		9		7		21	

Table 10. – Comparison of Estimates for Populations Experiencing a Potentially Significant Impact from Proposed Interim Fly Quiet, Revised Interim Fly Quiet 1, Revised Fly Quiet 2, for Areas of EJ Concern for Race/Ethnicity (Continued)

<i>Census Geography</i>	<i># of Dwelling Units with 1.5 dB Change</i>	<i>Average # of Persons per Dwelling Unit</i>	<i>Total # of Persons (Est.)</i>	<i># White (Est.)</i>	<i>% White</i>	<i># All Other Races (Est.)</i>	<i>% All Other Races (Est.)</i>	<i># Hispanic (Est.)</i>	<i>% Hispanic (Est.)</i>	<i># Non Hispanic</i>	<i>% Non Hispanic</i>
<i>Revised Interim Fly Quiet 2 (65 DNL Contour)</i>	746	2.24	1670	1298	77.55%	405	22.45%	282	15.14%	1421	84.17%
170317608021014	9	1.88	17	13	76.67%	4	23.33%	4	23.33%	13	76.67%
170317708001000	0	2.15	0	0	47.18%	0	52.82%	0	36.62%	0	63.38%
170317708001002	51	2.63	134	79	59.00%	55	41.00%	44	33.05%	90	66.95%
170317708001003	86	2.60	224	117	52.23%	107	47.77%	73	32.59%	151	67.41%
170317708001004	27	3.00	81	50	62.09%	31	37.91%	29	35.95%	52	64.05%
170317708001005	45	2.51	113	73	64.16%	41	35.84%	32	28.32%	81	71.68%
170317708002000	64	2.20	141	100	70.97%	40	29.03%	33	23.48%	108	76.52%
170317708002010	1	2.15	2	1	57.77%	1	42.23%	1	25.24%	2	74.76%
170317708002027	3	2.83	8	5	60.98%	3	39.02%	2	25.61%	6	74.39%
170317708002038	0	2.81	0	0	59.32%	0	40.68%	0	24.86%	0	75.14%
170317708002043	2	7.00	14	0	0.00%	14	100.00%	14	100.00%	0	0.00%
170318066001007	0	2.97	0	0	54.55%	0	45.45%	0	22.73%	0	77.27%
170318105011001	8	2.61	21	15	71.23%	6	28.77%	5	23.29%	16	76.71%
170318105011003	9	2.67	24	18	75.00%	6	25.00%	6	25.00%	18	75.00%
TOTAL INCREASE	305		779	471		308		243		537	
170318104003033	4	3.10	12	9	77.42%	3	22.58%	3	22.58%	9	77.42%
170318104003037	1	3.00	3	1	33.33%	2	66.67%	0	0.00%	3	100.00%
170318104003049	4	3.25	13	9	71.15%	4	28.85%	4	28.85%	9	71.15%
TOTAL DECREASE	9		28	19		9		7		2212	

Source: U.S. Census Bureau 2010 Decennial Census, CDA ORD Residential Sound Insulation Program August 2018 database.

- NOTES:
- 1) For demographic information on aggregated census blocks and block groups for Existing Fly Quiet, see Table 4 (Race/Ethnicity) and Table 5 (Income/Poverty). No dwelling units or households can experience a change of exposure in the Existing Fly Quiet, as it is essentially the No Action Alternative against which the other alternatives are compared. Consequently, applying the demographic characteristics to a null set would result in zero persons. Therefore, the entries for Existing Fly Quiet are marked as N/A – Not Applicable.
 - 2) Numbers of persons are rounded up to the nearest whole number. Percentages are calculated based on unrounded numbers and therefore do not precisely correspond to the whole numbers presented.
 - 3) Census blocks in Black Font are exposed to a 1.5 dB increase or greater; census blocks in Green Font are exposed to a 1.5 dB decrease or greater.

For Revised Interim Fly Quiet 1, estimates indicate that 1,014 persons residing in areas of EJ concern (Race/Ethnicity) would experience a 1.5 dB increase in noise exposure within the 65 DNL noise contour. Of these, it is estimated that 629 (62 percent) would be white, 385 (38 percent) would be All Other Races, and 305 (30.07 percent) would be Hispanic/Latino. For those experiencing an anticipated decrease in noise exposure, the estimated number of persons would be 28; 19 (67.9 percent) of whom would be white, 9 (32.1 percent) would be All Other Races, and 7 would be Hispanic/Latino (25 percent).

For Revised Interim Fly Quiet 2, estimates indicate that 779 persons residing in areas of EJ concern (Race/Ethnicity) would experience a 1.5 dB increase in noise exposure. Of these, it is estimated that 471 would be white (60.5 percent), 309 would be All Other Races (39.5 percent) and 202 would be Hispanic/Latino (31.2 percent). For those experiencing an anticipated decrease in noise exposure, the estimated number of persons would be 28, of whom 19 would be white (67.9 percent), 9 would be All Other Races (32.1 percent), and 7 would be Hispanic/Latino (25.0 percent).

For Proposed Interim Fly Quiet, estimates indicate that no persons residing in areas of EJ concern (Income/Poverty) would experience a 1.5 dB increase in noise exposure, nor would any persons in areas of EJ concern (Income/Poverty) experience a 1.5 DNL decrease.

For Revised Interim Fly Quiet 1, estimates indicate that 493 persons whose income falls below the Proposed Interim Fly Quiet Poverty Level would experience a 1.5 dB increase in noise exposure. Estimates indicate that no persons in areas of EJ concern (Income/Poverty) would experience a 1.5 dB decrease in noise exposure.

For Revised Interim Fly Quiet 2, estimates indicate that 383 persons whose income falls below the Proposed Interim Fly Quiet Poverty Level would experience a 1.5 dB increase in noise exposure. Estimates indicate that no persons in areas of EJ concern (Income/Poverty) would experience a 1.5 dB decrease in noise exposure. While the 65 DNL contour for the Revised Interim Fly Quiet 2 intersects with the same census block groups as those census block groups which intersect or would be within the Revised Interim Fly Quiet 1 65 DNL contour, the manner in which they do differs between the two. Consequently, differing numbers of dwelling units experience a 1.5 dB increase and decrease between these Revised Interim Fly Quiet 1 and 2.

Table 11. – Comparison of Estimates of Populations Experiencing a Potentially Significant Impact from Proposed Interim Fly Quiet, Revised Interim Fly Quiet 1, Revised Interim Fly Quiet 2, for Areas of EJ Concern for Low-Income/Poverty

<i>Census Geography</i>	<i># of Households with 1.5 dB Change (CDA RSIP)</i>	<i>Median Household Income (USCB)</i>	<i># of Households Below Proposed Interim Fly Quiet Poverty Level (USCB)</i>	<i>% Households Below Proposed Interim Fly Quiet Poverty Level</i>	<i>Average Household Size (USCB)</i>	<i># Persons Below Poverty Level</i>
<i>Existing Fly Quiet (65 DNL Contour)</i>	N/A	N/A	N/A	N/A	N/A	N/A
<i>Proposed Interim Fly Quiet (65 DNL Contour)</i>	112	\$63,000	29	24.76%	2.74	79
170317706022	0	\$45,483	0	45.56%	3.56	0
170317708001	0	\$55,787	0	33.68%	2.64	0
TOTAL INCREASE	0		0			0
170317608011	0	\$58,529	0	27.78%	1.86	0
170317608012	0	\$37,386	0	37.59%	1.97	0
170317608021	0	\$55,919	0	27.37%	2.26	0
170317707001	0	\$37,266	0	39.51%	2.09	0
TOTAL DECREASE	0		0			0
<i>Revised Interim Fly Quiet 1 (65 DNL Contour)</i>	1,058	\$63,000	276	25.05%	2.73	753
170317608021	393	\$55,919	108	27.37%	2.26	244
170317706022	0	\$45,483	0	45.56%	3.56	0
170317708001	235	\$55,787	79	33.68%	2.64	209
170318105012	56	\$66,369	16	28.44%	2.51	40
TOTAL INCREASE	684		202			493
170317608011	0	\$58,529	0	27.78%	1.86	0
170317608012	0	\$37,386	0	37.59%	1.97	0
170317707001	0	\$37,266	0	39.51%	2.09	0
TOTAL DECREASE	0		0			0
<i>Revised Interim Fly Quiet 2 (65 DNL Contour)</i>	798	\$63,677	203	24.49%	2.76	560
170317608021	299	\$55,919	82	27.37%	2.26	185
170317706022	0	\$45,483	0	45.56%	3.56	0
170317708001	209	\$55,787	70	33.68%	2.64	185
170318105012	18	\$66,369	5	28.44%	2.51	13
TOTAL INCREASE	526		157			383
170317707001	0	\$37,266	0	39.51%	2.09	0
170317608011	0	\$58,529	0	27.78%	1.86	0
170317608012	0	\$37,386	0	37.59%	1.97	0
TOTAL DECREASE	0		0			0

(See next page for sources)

Source: U.S. Census Bureau 2012-2016 American Community Survey, CDA ORD Residential Sound Insulation Program August 2018 database.

1) For demographic information on aggregated census blocks and block groups for Existing Fly Quiet see Table 4 (Race/Ethnicity) and Table 5 (Income/Poverty). No dwelling units or households can experience a change of exposure in the Existing Fly Quiet as it is essentially the No-Action Alternative against which the other alternatives are compared. Consequently, applying the demographic characteristics to a null set would result in zero persons. Therefore the entries for Existing Fly Quiet are marked as N/A – Not Applicable.

2) Numbers of persons are rounded up to the nearest whole number. Percentages are calculated based on unrounded numbers and therefore do not precisely correspond to the whole numbers presented.

3) Census blocks in black font are exposed to a 1.5 dB increase or greater; census blocks in green font are exposed to a 1.5 dB decrease or greater.