



Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study 2020 and 2025 Noise Exposure Maps Update



*Prepared for the City of
Hawthorne, California*



14 CFR PART 150 NOISE COMPATIBILITY PLANNING STUDY

HAWTHORNE MUNICIPAL AIRPORT Hawthorne, California

Prepared for:
The City of Hawthorne

Prepared by:



And



June 2021

The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration (FAA) as approved under the Airport and Airway Improvement Act of 1982, as amended. The contents of this report do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein, nor does it indicate that the proposed development is environmentally acceptable in accordance with applicable public laws.



Hawthorne Municipal Airport

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Hawthorne Municipal Airport

Sponsor's Certificate



SPONSOR'S CERTIFICATION

The Noise Exposure Maps (NEMs) for Hawthorne Municipal Airport, hereby submitted in accordance with Title 14 CFR Part 150, were prepared with the best available information and are certified as true and complete under penalty of 18 U.S.C. 1001.

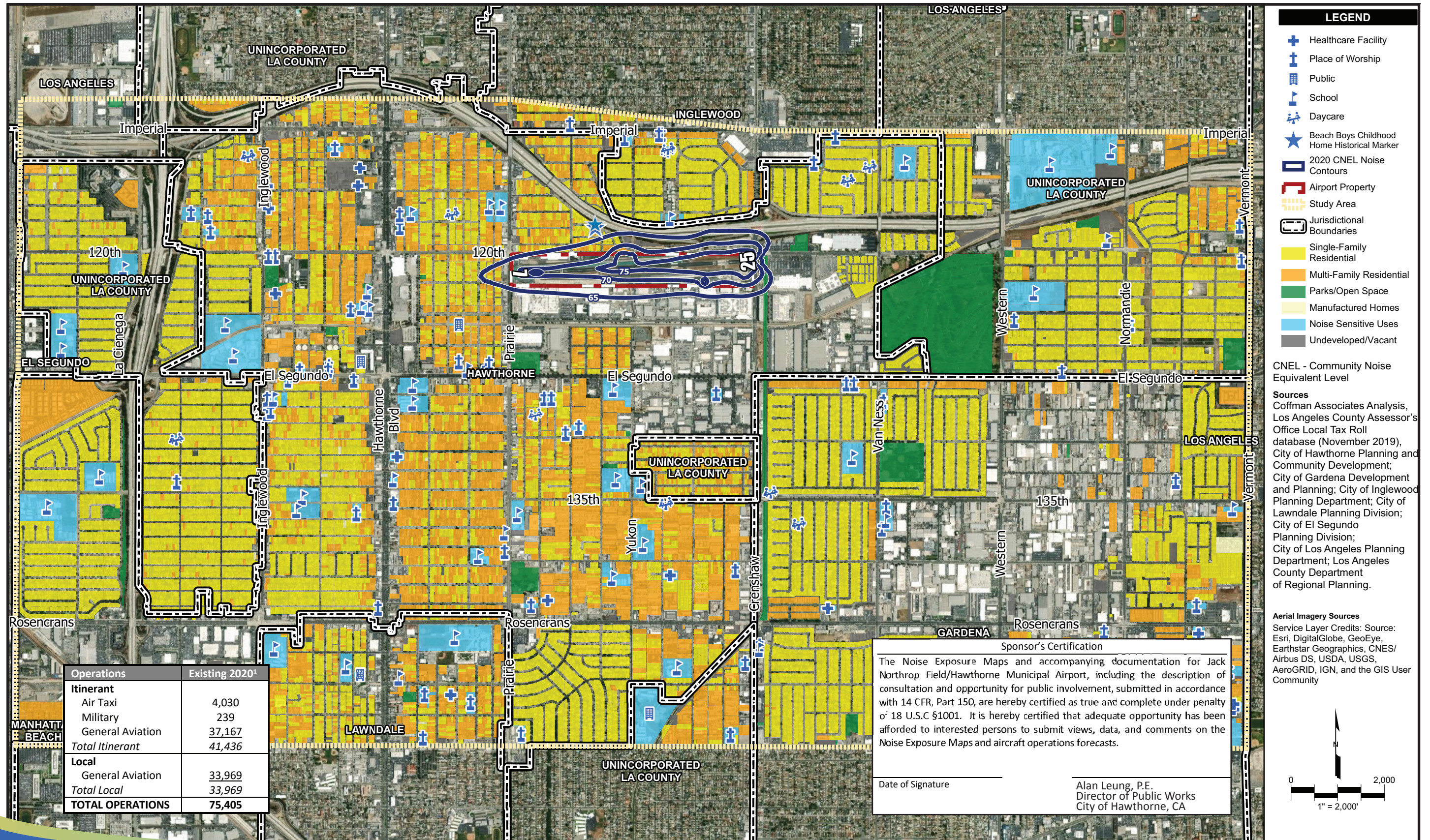
The Noise Exposure Maps contained herein represent the noise exposure from aircraft operations at Hawthorne Municipal Airport in 2020 and 2025 and have been prepared with the best available information and are hereby certified as true. The data used to develop the 2020 Noise Exposure Map are representative of existing conditions (2020) and the data used to develop the 2025 Noise Exposure Map are representative of the five-year aircraft operations forecast condition (2025).

The NEMs were prepared in consultation with officials of the state and public and planning agencies whose area, or any portion of whose area, or jurisdiction is within the CNEL contour depicted on the NEMs. The consultation also included Federal officials having local responsibility and regular aeronautical users of the Airport. It is further certified that adequate opportunity has been afforded interested persons to submit their views, data, and comments concerning the correctness and adequacy of the NEMs and the supporting documentation and aircraft operations forecasts.

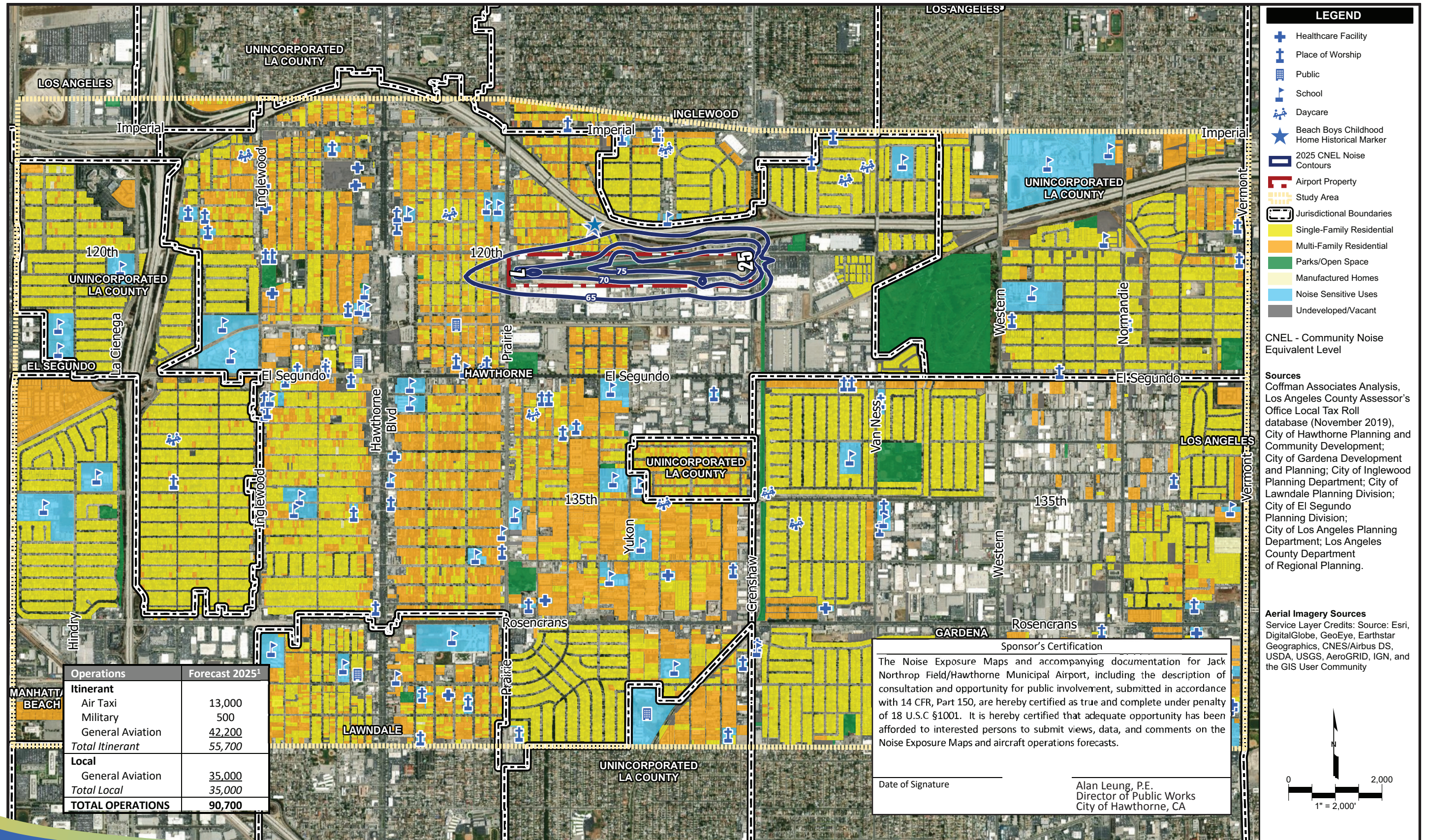
Date of Signature

Alan Leung, P.E.
Director of Public Works
City of Hawthorne, CA

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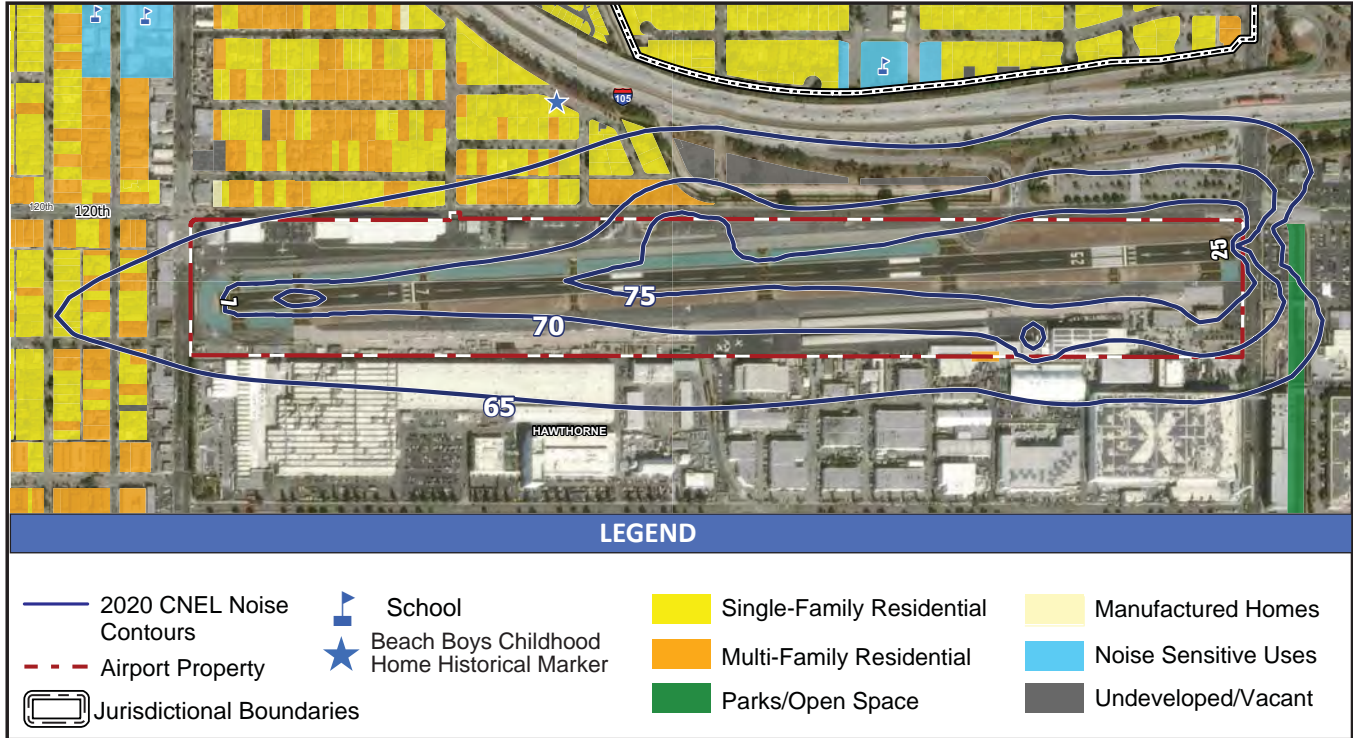
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2020 NOISE EXPOSURE MAP WITH LAND USE



	65-70 CNEL	70-75 CNEL	75+ CNEL
Parcels/Dwelling (d.u.)			
Single Family Residential	34 parcels, 34 d.u.	0	0
Multi-Family Residential	18 parcels, 69 d.u.	0	0
Noise-Sensitive Institutions	0	0	0
Total Parcels/ Dwelling Units	52 parcels, 103 d.u.	0	0
Estimated Population			
Single Family Residential	101	0	0
Multi-Family Residential	204	0	0
Total Estimated Populated	305	0	0

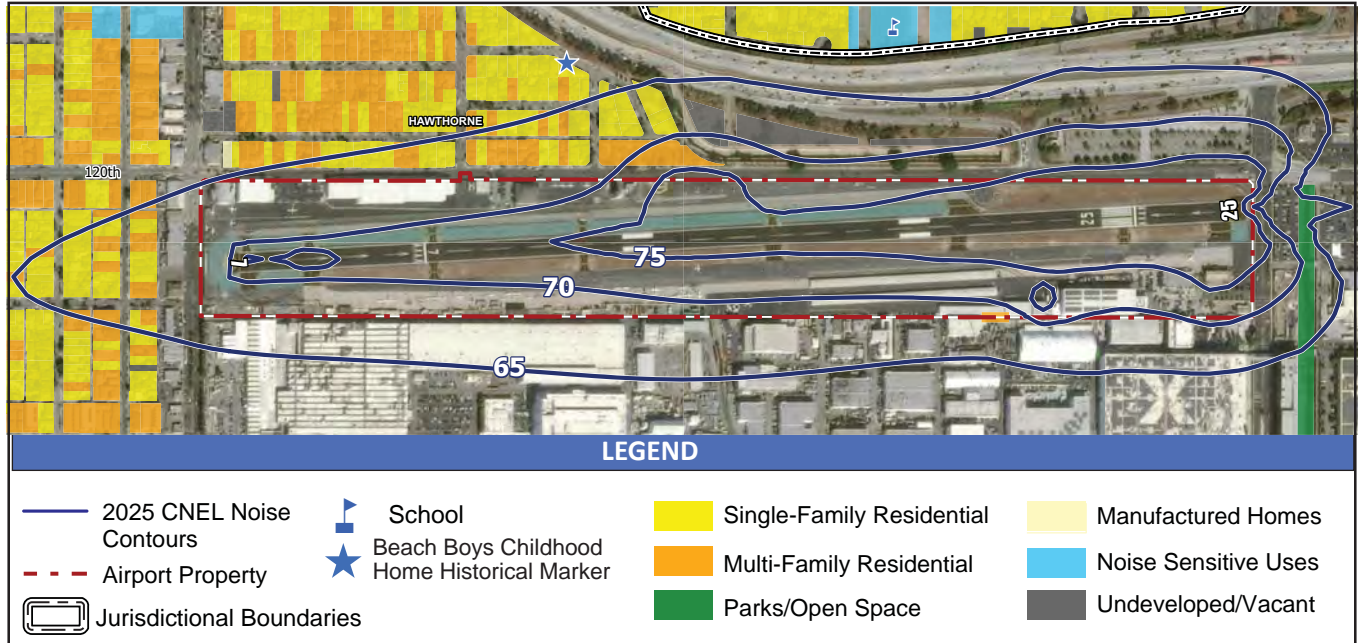
Source: Coffman Associates' analysis

Es. mated populated is calculated by multiplying the number of dwelling units for residential land uses by the number of persons per household. Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household. <https://www.census.gov/quickfacts/-fact/table/hawthornecitycalifornia/HSD310218>, accessed May 2020.





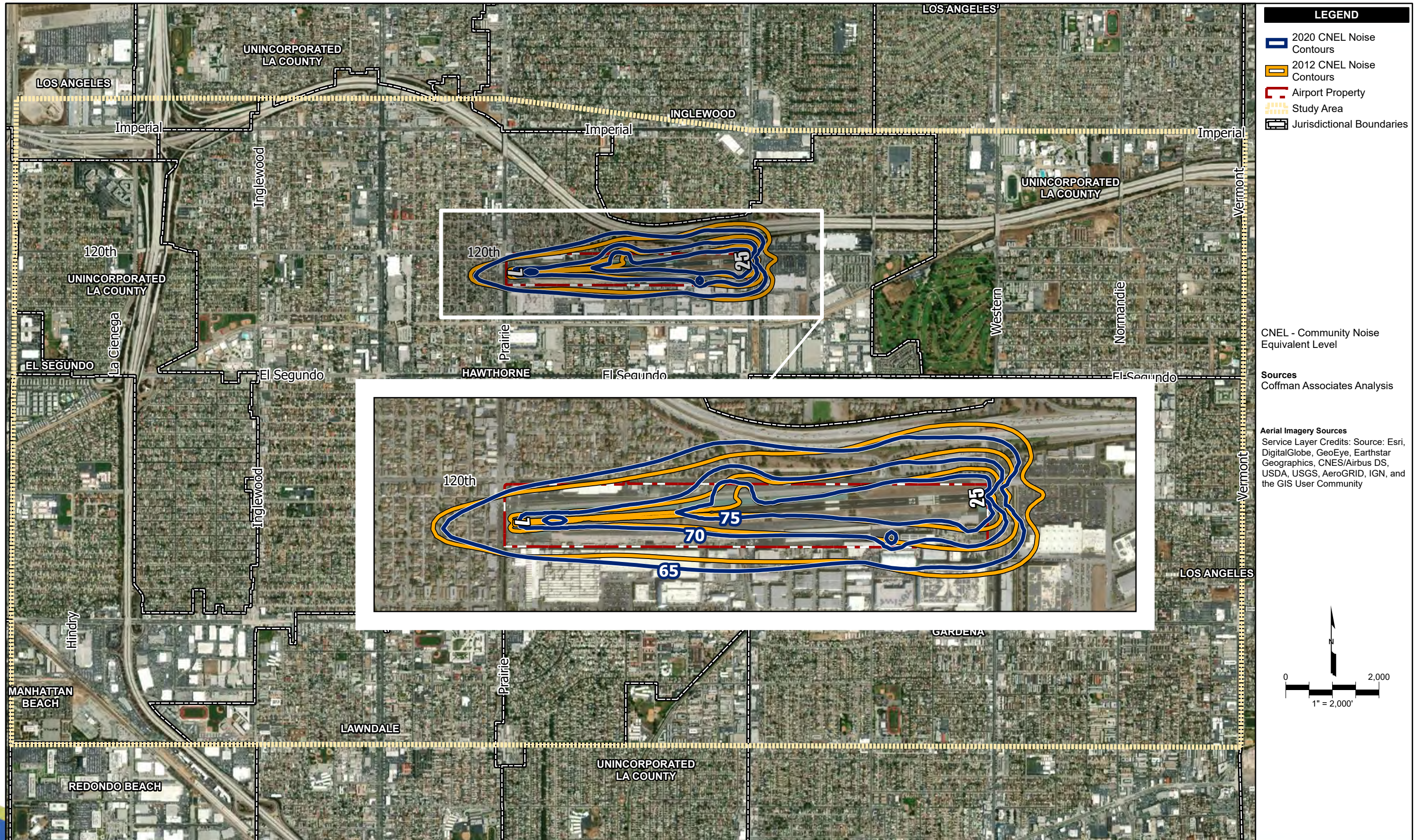
2025 NOISE EXPOSURE MAP WITH LAND USE



	65-70 CNEL	70-75 CNEL	75+ CNEL
Parcels/Dwelling (d.u.)			
Single Family Residential	60 parcels, 61 d.u.	0	0
Multi-Family Residential	31 parcels, 81 d.u.	1 parcel, 21 d.u.	0
Noise-Sensitive Institutions	0	0	0
Total Parcels/ Dwelling Units	91 parcels, 142 d.u.	1 parcel, 21 d.u.	0
Estimated Population			
Single Family Residential	181	0	0
Multi-Family Residential	240	62	0
Total Estimated Populated	421	62	0
Source: Coffman Associates' analysis Es. mated populated is calculated by multiplying the number of dwelling units for residential land uses by the number of persons per household. Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household. https://www.census.gov/quickfacts/fact/table/hawthornecitycalifornia/HSD310218 , accessed May 2020.			

NOISE-SENSITIVE LAND USE IMPACT SUMMARY

	65-70 CNEL	70-75 CNEL	75+ CNEL
Noise-Sensitive Land Uses			
2012	50 parcels, 104 d.u.	0	0
2017	13 parcels, 39 d.u.	0	0
2020	52 parcels, 103 d.u.	0	0
2025	91 parcels, 142 d.u.	1 parcel, 21 d.u.	0
Population			
2012	304	0	0
2017	115	0	0
2020	305	0	0
2025	421	62	0
Source: Coffman Associates' analysis			



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Hawthorne Municipal Airport

Introduction





Introduction

HAWTHORNE MUNICIPAL AIRPORT (HHR) NOISE EXPOSURE MAPS UPDATE

The goal of Title 14 of the Code of Federal Regulations Part 150 Noise Compatibility Study (14 CFR Part 150) for the Jack Northrop Field/Hawthorne Municipal Airport (KHHR) is to identify and reduce the impact of aircraft noise and encourage land use compatibility in the area immediately surrounding the airport. Before discussing the preparation of a Part 150 study, it is important to understand what this study does and does not do:

A Part 150 Study:

- Identifies the current and projected annualized aircraft noise levels at Hawthorne Municipal Airport using the Community Equivalent Noise Level (CNEL) noise metric.
- Identifies impacts to reduce the noise impacts from aircraft operating to and from Hawthorne Municipal Airport through changes in aircraft operations or airport facilities.

A Part 150 Study does not:

- Encourage future land uses which are compatible with aircraft noise, such as commercial or industrial in undeveloped areas.
- Determine methods to reduce the adverse impacts of noise above 65 CNEL in existing residential areas.
- Establish a procedure to implement, review, and update the program.
- Evaluate aircraft operations from other area airports.

- Consider other types of impacts (air quality, accidents, etc.).
- Use noise metrics other than CNEL to determine noise impacts.
- Provide justification for airport expansion.

Preparation of this Noise Compatibility Planning Study is guided by 14 CFR Part 150 regulations. These regulations outline the required components of such studies. Part 150 states that the study must:

- be developed in consultation with state and public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the 65 CNEL contour, Federal Aviation Administration (FAA) regional officials, other Federal officials having local responsibility for land uses depicted on the map, and regular aeronautical users of the airport¹;
- afford interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the noise exposure map and noise compatibility program;
- use CNEL for the analysis and characterization of multiple aircraft noise events and for determining the cumulative exposure of individuals to noise around airports²;
- include future noise exposure contours based on forecast aircraft operations at the airport for a forecast period that is at least five years in the future;
- be based on reasonable assumptions concerning future type and frequency of aircraft operations, number of nighttime operations, flight patterns, airport layout, including any planning airport development, planned land use changes, and demographic changes in the surrounding areas;
- include, to the extent practicable, an informal agreement from FAA based on proposed new or modified flight procedures;
- include analysis of the alternative measures considered in developing the program;
- include measures proposed to reduce or eliminate present and future noncompatible land uses and a description of the relative contribution of each of the proposed measures to the overall effectiveness of the program; and
- document the actual or anticipated effect of the program on reducing noise exposure to individuals and noncompatible land uses.³

The Noise Exposure Map (NEM) document is an evaluation of the existing and future noise conditions at the airport used as a baseline analysis for the study. This results in the development of Noise Exposure Maps that illustrate the existing and future noise exposure contours for Hawthorne Municipal Airport.

¹ §A150.101 Noise contours and land usages, (d) For the purpose of compliance with this part, all land uses are considered to be compatible with noise levels less than 65 DNL/CNEL. Local needs or values may indicate further delineation based on local requirements or determinations.

² In California, the Community Noise Equivalent Level (CNEL) metric is used in place of DNL.

³ §150.23 Noise compatibility programs, (e)(5) The actual or anticipated effect of the program on reducing noise exposure to individuals and noncompatible land uses and preventing the introduction of additional noncompatible uses within the area covered by the noise exposure map. The effects must be based on expressed assumptions concerning the type and frequency of aircraft operations, number of nighttime operations, flight patterns, airport layout, including planned airport development, planned land use changes, and demographic changes within the 65 DNL/CNEL noise contours.

Noise exposure contours identify those areas most adversely impacted by aircraft noise from Hawthorne Municipal Airport based on 14 CFR Part 150 requirements. Previous NEMs were completed in 1988, 1993, and 2012. This report is an update of the 2012 study. Three Chapters are included in this updated NEM document.

- *Chapter One, Inventory*, presents an overview of the airport, airspace, aviation facilities, existing land uses, and local land use policies and regulations.
- *Chapter Two, Aviation Noise*, explains the methodology used to develop aircraft noise contours. It also describes the key input assumptions used for noise modeling.
- *Chapter Three, Noise Impacts*, presents updated existing and forecast aircraft noise exposure contours based on the assumption of no additional noise abatement.

COORDINATION, CONSULTATION, AND PUBLIC INVOLVEMENT

As part of the planning process, the public, airport users, and local, state, and federal agencies were given an opportunity to review and comment on the Noise Exposure Map (NEM) and supporting documentation. Project materials were made available for local review and discussion throughout the process via physical hand-outs and a dedicated project website.

Consultation per the requirement of 14 CFR Part 150, Sections 150.21(b) and A150.105(a), were primarily conducted through a study committee, the Planning Advisory Committee (PAC), formed to provide input and feedback on the NEM. The PAC included local residents, airport users, community officials and planning staff with jurisdiction within or in the vicinity of the 65 CNEL noise exposure contours, local business representatives, California Department of Transportation (Caltrans), and the FAA. PAC members are listed in **Table 1** and **Appendix A**. The PAC reviewed and commented on the working papers throughout the study process.

The PAC met twice in-person during the preparation of the NEM: on November 14, 2019 and February 20, 2020. Due to the COVID-19 pandemic of 2020 and 2021, a third PAC meeting was held virtually on February 11, 2021. Following each PAC meeting, the public was invited to participate in a series of Public Information Workshops. These workshops were structured informally, in an open house format, using display boards to present information throughout the meeting room.

In-person community workshops were also held on November 14, 2019 and February 20, 2020. Due to the COVID-19 pandemic, the third public workshop was held virtually over a series of three days, allowing participants to log-in online to review the information and ask questions. These meetings convened on February 11, 2021, February 18, 2021, and February 25, 2021. Organized by the airport, the purpose of these meetings was to give the public additional opportunities to provide feedback on noise issues near the Hawthorne Municipal Airport, as well as provide comments to the consultants regarding the Part 150 Study.



TABLE 1
Planning Advisory Committee
Hawthorne Municipal Airport

Name	Representing
Ms. Edvige Mbakoup	Federal Aviation Administration , Environmental Protection Specialist, Western Pacific Region
Mr. Philip Crimmins	California Department of Transportation – Division of Aeronautics , Aviation Noise Regulations and Environmental Review
Mr. Greg Tsujiuchi	City of Hawthorne Planning and Community Development , Director of Planning
Ms. Olivia Valentine	City of Hawthorne , Mayor Pro Tem
Mr. Gary Avery	Hawthorne Control Tower , Air Traffic Manager
Mr. Phil Derner	National Business Aviation Association, Inc.
Ms. Melissa McCaffrey	Airport Owners and Pilots Association , Regional Manager
Ms. Amy J. Bodek	Los Angeles County Regional Planning , Director
Ms. Kathleen Teal	City of Gardena
Mr. Patrick Carey	Wolfe Air , Pilot Resource Manager
Mr. Drew Boyles	City of El Segundo , Mayor
Mr. Donny Sandusky	Hawthorne Airport, LLC/Jet Center LA
Mr. Richard Montgomery	City of Manhattan Beach , Mayor Pro Tem
Ms. Laura Emdee	City of Redondo Beach , City Council Member District 5
Mr. Melvin Wagner	Holly Park Homeowner's Association
Ms. Julie DeCoste	Hollyglen Neighborhood Association
Ms. Carolyn Ficklin	Ramona Neighborhood Association
Mr. Bob Hawks	Wiseburn Watch Neighborhood Watch Group

Written comments were received as part of the public consultation processes described above. These comments are on file with the FAA Western-Pacific Region Airports Division Manager. Additional information regarding coordination, consultation, and public involvement may be found in **Appendix B**, which includes copies of meeting notices, meeting notes, sign-in sheets, and written comments received.



Hawthorne Municipal Airport

Chapter One Inventory





Federal, state, and local governments each have specific responsibilities to reduce or limit aviation noise impacts. The following sections provide an overview of each level of government’s responsibility in airport land use compatibility planning. Additional information on this topic is included in the Federal Aviation Noise Regulations of the Resource Library, located in **Appendix C**.

FEDERAL GOVERNMENT

The FAA’s statutory mission is to ensure the safe and efficient use of navigable airspace in the United States. Additionally, the FAA provides noise reduction support through the following efforts:

- Implementation and Enforcement of Aircraft Operational Procedures – Where and how aircraft are operated is under the complete authority of the FAA. This includes pilot responsibilities, compliance with air traffic control instructions, flight restrictions, and monitoring the careless and reckless operation of aircraft.
- Management of the Air Traffic Control System – The FAA is responsible for the control of navigable airspace and review of any proposed alterations in-flight procedures for noise abatement.
- Pilot Licensing – Individuals licensed as pilots are trained under strict guidelines concentrating on safe and courteous aircraft operating procedures.

- Certification of Aircraft – The FAA requires the reduction of aircraft noise through certification, modification of engines, or aircraft replacement as defined in 14 Code of Federal Regulations (CFR) Part 36. Additionally, 14 CFR Part 91 outlines the phase-out of aircraft not meeting requirements under Part 36.
- Airport Noise Compatibility Planning – The FAA collaborates with aircraft sponsors to fund and evaluate Noise Compatibility Studies and Noise Exposure Map Updates in accordance with 14 CFR Part 150 regulations.

14 CFR PART 36, FEDERAL AIRCRAFT NOISE REGULATIONS

The FAA requires the reduction of aircraft noise with the regulations adopted under 14 CFR Part 36. Part 36 prohibits the escalation of noise levels from small, piston-driven aircraft, civil turbojet, and transport aircraft. Part 36 also requires new aircraft types to be markedly quieter than earlier models by limiting the noise emissions allowed by newly certified aircraft. To achieve this, Part 36 has a four-stage certification process, each with a progressively more stringent noise threshold. These regulations apply only to civilian fixed-wing aircraft and helicopters, and do not address noise generated by military aircraft or other non-stage aircraft (for example, former military aircraft, such as jet warbirds and other World War II-era aircraft).

The 1977 Amendment to Part 36 introduced a three-stage classification system to provide terminology that differentiates between the original and revised standards. The stages are classified as follows:

- Stage 1: aircraft have never been shown to meet any noise standards, either because they have never been tested, or because they have been tested and failed
- Stage 2: aircraft meet original noise limits, set in 1969
- Stage 3: aircraft meet more stringent limits, established in 1977

Amendments in 2005 created a fourth stage of certification. Stage 4 noise limits are defined as a cumulative 10 effective perceived noise level (EPNdB) less than those for Stage 3. Additionally, FAA published a Final Rule on November 3, 2017, created Stage 5 noise standards. Stage 5 noise standards apply to new aircraft designs with a maximum certified takeoff weight of 121,254 lbs or more submitted on or after December 31, 2017, or with a maximum certified takeoff weight of less than 121,254 lbs on or after December 21, 2020. As noted in the Final Rule, the change sets a lower noise limit for these aircraft and does not affect either the operation of the current U.S. fleet or new type designs submitted before the applicable compliance date for Stage 5.¹

¹ Federal Register Vol. 82, No. 191, October 4, 2017, Pages 46123-46132 (<https://www.federalregister.gov/documents/2017/10/04/2017-21092/stage-5-airplane-noise-standards>); October 2019.

Federal law required the phase-out of civil subsonic jet aircraft with a maximum weight of 75,000 lbs or less that do not comply with Stage 3 standards by December 31, 2015.² Additional restrictions or phase-out dates have not been adopted for Stage 3, Stage 4, or Stage 5 aircraft. **Exhibit 1A** illustrates examples of common aircraft that operate at Hawthorne Municipal Airport.

Helicopter noise is also addressed within Part 36; however, these aircraft are only classified as Stage 1 and Stage 2. The Stage 2 certification date for helicopters was March 6, 1986. In contrast to fixed-wing aircraft, the Part 36 noise requirements for helicopters has not been reduced in a similar manner.

The 1974 amendment to Part 36 added noise standards for propeller-driven small aircraft (ie., less than 12,500 lbs), which is prior to the creation of the aforementioned stages. To this day, these small aircraft, such as a Cessna 172 or PC 12 aircraft, are only termed certified or uncertified versus being assigned a noise stage. The noise standards for small aircraft are evaluated in terms of A-weighted decibel (dBA) limits for level flyover 1,000 feet above ground level (AGL).

14 CFR PART 91, SUBPART I, OPERATING NOISE LIMITS

14 CFR Part 91, Subpart I prescribes operating noise limits and related requirements to the operation of civilian aircraft in the U.S. This section of the Federal Code ties back to 14 CFR Part 36, previously discussed, and specifically applies to civil subsonic jet (turbojet) aircraft with a maximum weight of 75,000 pounds (lbs) operating within the U.S. Also known as the “Fleet Noise Rule,” 14 CFR Part 91, Subpart I mandated that Stage 1 aircraft were to be retired, retrofitted with hush kits, or have engines replaced for quieter ones by January 1, 1988.

Amendments passed in 1990 established a deadline of December 31, 1999, requiring Stage 2 aircraft exceeding 75,000 lbs to be discontinued from service. Per § 91.858 of 14 CFR Part 91³, Stage 2 aircraft over 75,000 lbs may continue nonrevenue service under the following circumstances:

- Sell, lease, or scrap of the aircraft;
- modify aircraft to comply with Stage 3, Stage 4, or Stage 5 noise levels;
- obtain scheduled heavy maintenance or significant modifications;
- deliver the aircraft to a lessee or return to seller;
- to park or store aircraft;
- prepare the aircraft for any of the aforementioned events; and
- operate under an experimental airworthiness certificate.

² 49 USC §47534, February 14, 2012

³ 14 CFR 91, Subpart I, § 91.858 *Special Flight Authorizations for Non-Revenue Stage 2 Operations* (July 15, 2002, amended October 4, 2017).



SINGLE ENGINE PISTON

**C172 - Cessna
Skyhawk172/Cutlass**



**S22T - Cirrus SR-22 Turbo
SR22 -Cirruc SR 22**



BE36 - Beech Bonanza 36



SINGLE ENGINE PISTON

SR20 - Cirrus SR-20



SINGLE ENGINE TURBOPROP

PC12 - Pilatus PC-12



C182 - Cessna Skylane 182



TWIN ENGINE TURBOPROP

B350 - Beech Super King Air 350



BE20 - Beech 200 Super King



Helicopter

**R22 - Robinson R-22
Mariner (helicopter)**



JET

E55P - Embraer Phenom 300



**CL30 - Bombardier (Canadair)
Challenger 300**



C25B - Cessna Citation CJ3



**C56X - Cessna Excel/XLS
C525 - Cessna CitationJet/CJ1**



**PRM1 - Raytheon Premier
1/390 Premier 1**



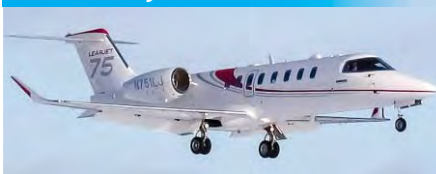
LJ45 - Bombardier Learjet 41



**CL60 - Bombardier
Challenger 600/601/604**



LJ75 - Learjet 75



E50P - Embraer Phenom 100



**C560 - Cessna
Citation V/Ultra/Encore**



C680 - Cessna Citation Sovereign



A phase-out date of December 31, 2015, was established for Stage 2 aircraft weighing less than 75,000 lbs within the *FAA Modernization and Reform Act of 2012*. No additional restrictions or phase-out dates have been established for Stage 3 or Stage 4 aircraft.

14 CFR PART 150, AIRPORT NOISE COMPATIBILITY PLANNING

A 14 CFR Part 150 Noise Compatibility Planning Study (Part 150 Study) is a voluntary process which results in the preparation of two official documents for participating airports: Noise Exposure Maps (NEM) and Noise Compatibility Program (NCP). The NEM document is the baseline analysis for the noise conditions at the airport and includes existing and forecast noise exposure contours. The NCP is the second phase of a complete Part 150 study that provides an analysis of alternatives to reduce or eliminate airport noise impacts identified in the NEM and concludes with a plan to effectively mitigate noise impacts. Additional information regarding the responsibilities of the airport operator and local, state, and federal governments to reduce airport impacts can be found in the Federal Aviation Noise Regulation section of the Resource Library, located in **Appendix C**.

Noise Exposure Maps

In addition to the baseline information included in this chapter, a Part 150 Study details the existing and projected noise conditions (i.e., the NEMs) based on operational variables discussed in Chapter Two. The scope of the noise environment at the airport is defined as those areas within the noise exposure maps for the existing condition and at least a five-year forecast. These noise contours are overlain on local land use maps to identify areas of existing or potential non-compatible land uses. Supporting information is provided within the document to explain the methods used to develop noise exposure contours and land use analysis.

14 CFR Part 150 outlines the methodology and noise metrics to be used in analyzing and describing airport noise. It also establishes guidelines to identify land uses that are incompatible with varying noise levels. Airport proprietors are required to update noise exposure contours when changes in the operations at the airport would create any new, substantial, non-compatible use. The most widely used measure to determine this change is an increase in the yearly day-night average sound level (DNL) of 1.5 decibels (dB), over non-compatible land uses. In California, the Community Noise Equivalent Level (CNEL) metric is used in place of DNL.

A limited degree of legal protection can be afforded to the airport proprietor through the preparation of NEMs. The re-codified *Aviation Safety and Noise Abatement Act of 1979* (ASNA), provides that:

A person acquiring an interest in property...in an area surrounding an airport for which a noise exposure map has been submitted...and having actual or constructive knowledge of the existence of the map may recover damages for noise attributable to the airport only if, in addition to any other elements for recovery of damages the person shows that:

- (1) after acquiring the interest, there was a significant*
 - (A) change in the type or frequency of aircraft operations at the airport;*
 - (B) change in the airport layout;*
 - (C) change in flight patterns;*
 - (D) increase in nighttime operations; and*
- (2) the damages resulted from the change or increase.^{4, 5}*

Additionally, Part 150 defines a change in the operation of an airport as an increase in the yearly DNL or 1.5 dB (or, in California, 1.5 CNEL) or greater in either a land area which was formerly compatible but is thereby made incompatible under 14 CFR Part 150 Appendix A, Table 1, or in a land area which was previously determined to be incompatible under that table and whose incompatibility is now significantly increased.⁶

Upon completion of the NEM document and local adoption, it is submitted to the FAA for review. FAA review concludes with a determination as to whether the NEMs were prepared in a manner consistent with Part 150 regulations. The NEMs produced with this study will be the fourth iteration for Hawthorne Municipal Airport. Previous NEMs were completed in 1988, 1993, and 2012.

Pursuant to FAA regulations, the revised NEM maps are subject to public review and comment. Public comments regarding this study are located in **Appendix B** and are on file with the Los Angeles FAA Airport District Office manager.

Noise Compatibility Program

A Noise Compatibility Program includes an evaluation of various noise abatement and land use alternatives. The result of this planning effort can include a plan with recommendations for the abatement of aircraft noise through aircraft operating procedures, air traffic control procedures, airport regulations, or airport facility modifications. The plan may also include recommendations for land use compatibility planning and actions to mitigate the impact of noise on non-compatible land uses. Additionally, regulations state that the program should contain provisions for updates and periodic revisions. Two criteria are of particular importance when considering noise abatement recommendations: the airport proprietor may take no action that imposes an undue burden on interstate or foreign commerce; nor may the proprietor unjustly discriminate between different categories of airport users.

In a similar process to the NEM document review, the NCP is submitted to the FAA for evaluation. The FAA responds with a Record of Approval stating which program measures comply with Part 150 criteria.

⁴ "Constructive knowledge" shall be attributed to any person if a copy of the noise exposure map was provided to him or her at the time of property acquisition, or notice of the existence of the noise exposure map was published three times in a newspaper of general circulation in the airport area.

⁵ 49 USC §47506, the re-codified *Aviation Safety and Noise Abatement Act of 1979* (ASNA)

⁶ 47 USC §47506

With an approved Noise Compatibility Program, an airport proprietor becomes eligible for funding through the federal Airport Improvement Program (AIP) to implement the qualified components of the program. In some cases, a Part 150 Study will not have qualified components due to a lack of impacts within federally prescribed noise thresholds. In these situations, measures are frequently adopted which ensures future impact does not occur.

FAA policy discourages development of new non-compatible land uses within the airport environs. The FAA will not approve Noise Compatibility Program measures proposing correcting noise mitigation actions for non-compatible development that could occur in the vicinity of airports after October 1, 1998. Additionally, funding for these projects will not be available from the AIP noise set-aside fund.

The current NCP for Hawthorne Municipal Airport was finalized and approved by the FAA in 2017.⁷ The first NCP for the airport was completed in 1994.

STATE AND LOCAL

Control of land use in noise-impact areas around airports is a key tool in limiting the number of land uses exposed to noise. The federal government has no direct legal authority to regulate land use; this responsibility rests exclusively with state and local governments. However, as outlined in FAA Order 5190.6B, *FAA Airport Compliance Manual*, the airport sponsor's role with regard to noise abatement and land use planning is "to reduce the effect of noise on residents of the surrounding area. Such actions include optimal site location, improvements in airport design, noise abatement ground procedures, land acquisition, and restrictions on airport use that do not unjustly discriminate against any user, impede the federal interest in safety and management of the air navigation system, or unreasonably interfere with interstate or foreign commerce."⁸ Additionally, upon receipt of FAA grant funding, the airport sponsor agrees to take appropriate action, including the adoption of zoning laws, to the extent reasonable to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations in accordance with FAA Grant Assurance 21, *Compatible Land Use*.⁹

The State of California legislates the authority of land use regulation to local governments. This regulation is accomplished through zoning ordinances and General Plans. The state has also established airport noise standards, noise insulation standards, and requirements for the establishment of Airport Land Use Commissions (ALUCs).

⁷ Coffman Associates, Inc 14 CFR Part 150 Airport Noise Compatibility Study for Hawthorne Municipal Airport Noise Compatibility Program (June 2017).

⁸ As noted in FAA Order 5190.6B, Section 13.2(2), sponsor actions are, "subject to constitutional prohibitions against creation of an undue burden on interstate and foreign commerce, and unreasonable, arbitrary, and unjust discriminatory rules that advance the local interest, other statutory requirements, and interference with exclusive federal regulatory responsibilities over safety and airspace management."

⁹ FAA Grant Assurances (https://www.faa.gov/airports/aip/grant_assurances/media/airport-sponsor-assurances-aip.pdf); December 2019.

ZONING ORDINANCE

The State of California gives local jurisdictions, such as cities and counties, the authority to regulate the use of buildings, structures, and land through the adoption and administration of a zoning ordinance or code.¹⁰ While land use plans, such as the General Plan, are intended to establish policies and goals to guide future development and land use, municipalities control land use through zoning ordinances and development codes.

Zoning helps control development in two primary land uses: residential and non-residential. Residential zoning classifications establish the number and type of dwelling units that can be constructed on a piece of land. Density, or the number of dwelling units per acre of land, is important in airport noise and land use compatibility planning. Increased density can increase the population in an area. If that area is exposed to high levels of airport noise, a greater impact can result. Limiting the density near an airport can help improve compatibility and limit the number of impacts on surrounding land uses. Two residential categories are used in the analysis: single-family residential and multi-family residential. As indicated by the classification name, each zone limits the number of residences allowed on a parcel.

Non-residential land use classifications, such as commercial and industrial, are typically considered to be compatible with airport operations because of their inherent noise characteristics. Commercial and industrial categories include areas zoned for manufacturing, business parks, and retail services. However, some specific noise-sensitive non-residential land uses, such as hospitals, libraries, child care facilities can be permitted in residentially zoned districts. On the other hand, residential-type uses, such as senior living and group home facilities, can be permitted either by right or by conditional use in non-residential districts.

GENERAL PLAN

The State of California requires each local jurisdiction to develop a “*long-range General Plan for the development of the city or county*” which “*shall consist of a statement of development policies and shall include diagrams and text setting forth objectives, principles, standards, and plan proposals.*” Of the seven mandatory elements in the General Plan, two are especially important to the Part 150 Study – land use and noise.¹¹

The land use element of the General Plan typically designates the proposed general distribution and intensity of land uses. This element serves as a framework for the plan and is intended to correlate all land use issues into a set of development policies. The land use element must include standards of population density and building intensity.

¹⁰ California Civil Code (CCC) Title 7, Chapter 4, §§65800-65850; October 2019.

¹¹ CCC Title 7, Chapter 4, §65302; October 2019.

The noise element identifies and evaluates the noise situation in the community. The projected noise levels are calculated and mapped for airports and other major noise sources, such as highways. Projected noise levels are used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of residents to excessive noise.

NOISE INSULATION STANDARDS

Part 2, volume 1, Chapter 12, Section 1206.4 of the 2019 California Code of Regulations states that “interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room.” The California Code of Regulations uses a day-night average sound level (L_{dn}) or the Community Noise Equivalent Level (CNEL) to be consistent with the noise element of the local general plan. According to the *California Airport Land Use Planning Handbook* (handbook),¹² the interior noise level resulting from exterior noise is equally important as exterior noise levels as a determinant of acceptable noise levels, which is subjective in nature. In residential circumstances, the determining factor is speech interference and sleep disruption.

The handbook states that while insulation methods are available, that should not be a mitigation measure for highly noise-impacted areas, and sound insulation should be reserved for existing land uses. For new development, the best form of noise mitigation is good land use planning and insulation measures should be used as a final course of action.

AIRPORT LAND USE COMMISSION

The establishment of an Airport Land Use Commission (ALUC) is required for any county containing a public use airport served by regular commercial airline service. ALUCs do not have the authority to govern operations at any given airport. One role of the ALUC is to formulate a comprehensive plan that will provide for the orderly growth at each public-use airport and the area surrounding the airport within the jurisdiction of the commission.¹³ These plans are typically referred to as Comprehensive Land Use Plan (CLUPs) or Airport Land Use Compatibility Plans (ALUCPs). Once adopted, local agencies must amend their General Plans, zoning ordinances, and other land use regulations to be consistent with the ALUCP or CLUP within 180 days as outlined in California Code §65302.3. The ALUC also reviews and provides recommendations concerning certain projects within the ALUC planning area in accordance with the policies outlined within the CLUP or ALUCP.

¹² California Department of Transportation *California Airport Land Use Planning Handbook* (<https://dot.ca.gov/programs/aeronautics/airport-land-use-planning>).

¹³ State of California Public Utilities Code §21675

LOCAL LAND USE PLANNING POLICIES AND REGULATIONS

It is important to note the distinction between primary land use concepts used in evaluating development with the airport environs and existing land use, comprehensive plan, and zoned land use. Existing land use refers to property improvements as they exist today.

Zoning identifies the type of land use permitted on a given piece of property, according to the city and county zoning ordinances and maps. Local governments are required to regulate the subdivision of all lands within their corporate limits. Zoning ordinances should be consistent with the General Plan, where one has been prepared. In some cases, the land use prescribed in the zoning ordinance or depicted in the general plan may differ from the existing land use.

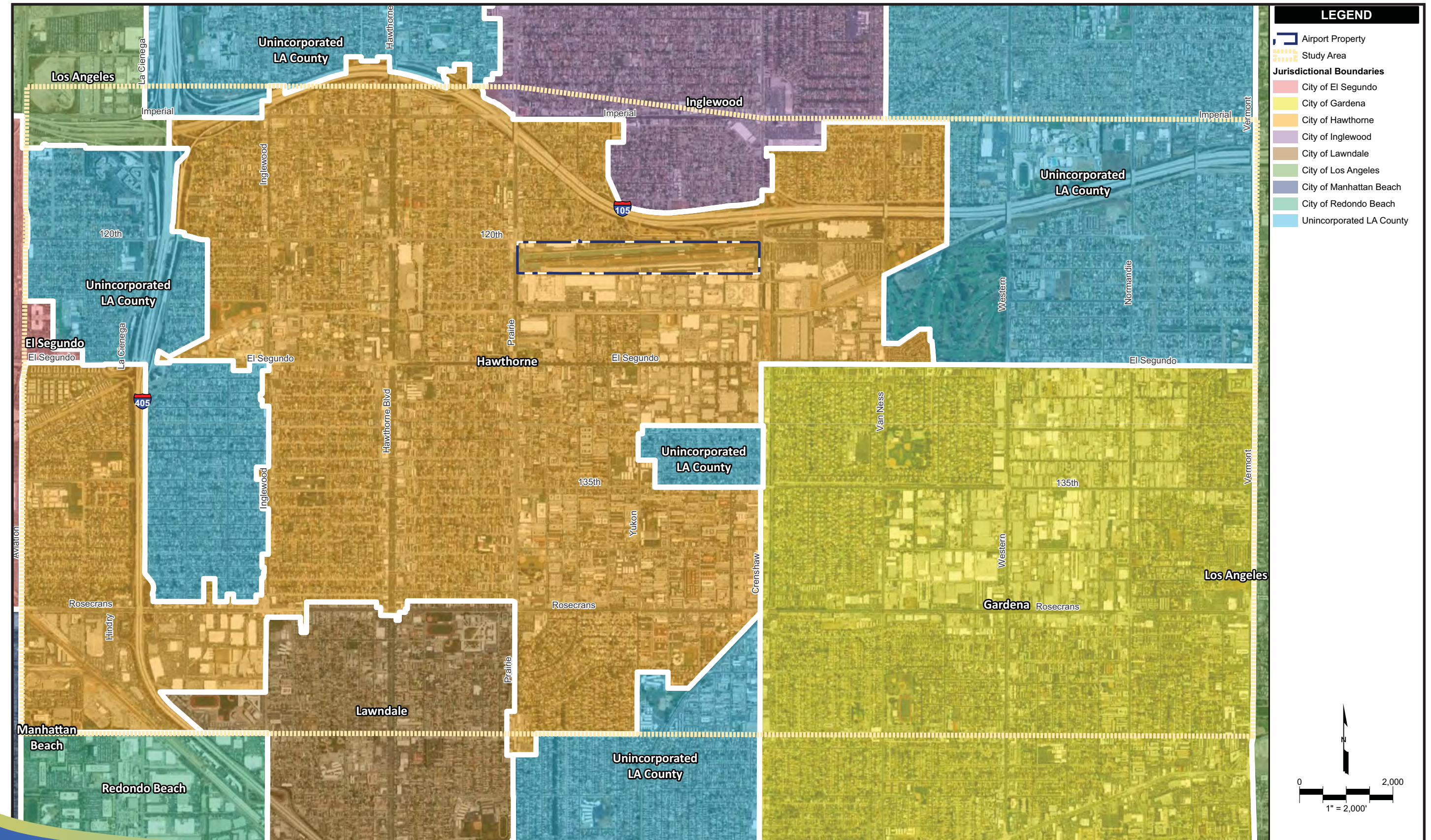
For the purpose of this study, the study area encompasses land within the following responsible jurisdictions: City of Hawthorne, City of Los Angeles, City of Inglewood, City of Gardena, City of El Segundo, City of Lawndale, and County of Los Angeles. The jurisdictional limits of each are depicted in **Exhibit 1B**. The location of Hawthorne Municipal Airport, specifically, is shown in **Exhibit 1C**.

The General Plan land use identifies the projected or future land use, according to the goals and policies established in the locally adopted General Plan. This document guides future development within the city and county planning area and provides the basis for zoning designations. In some cases, the land use allowed in the zoning ordinance or depicted on the General Plan may differ from the existing land use.

EXISTING LAND USE

An evaluation of the existing land uses surrounding the airport is necessary to understand if impacts result from noise exposure per Part 150 guidelines. **Exhibit 1D** illustrates existing land uses within the study area, including noise sensitive locations, such as schools, religious facilities, and hospitals. The study area is the property near the airport where detailed land use information has been obtained, depicted in a black dashed line on **Exhibit 1D**. For comparative purposes, the total area for each land use category is presented in **Table 1A**. The areas of each land use category are based on parcels identified in **Exhibit 1D**.

The study area, as identified in **Table 1A**, is approximately 8,201.5 acres, 80.1 acres of which belong to the airport (1.0 percent of the study area). Single-family residential comprises the largest portion of land area, covering over 28 percent of the study area. The second majority of land consists of right-of-way, which is almost 25 percent. A significant portion of the right-of-way in the study area includes Interstate 105 and Interstate 405, as well as the arterial, collector, and local roads. Over 22 percent of the study area is comprised of commercial, industrial, transportation, and utility uses. Examples of uses within this category include local and regional shopping areas, light industrial warehousing, the rail line for LA Metro regional transportation system, and utility substations. These three land use categories account for approximately 76 percent of the study area or over 6,200 acres.



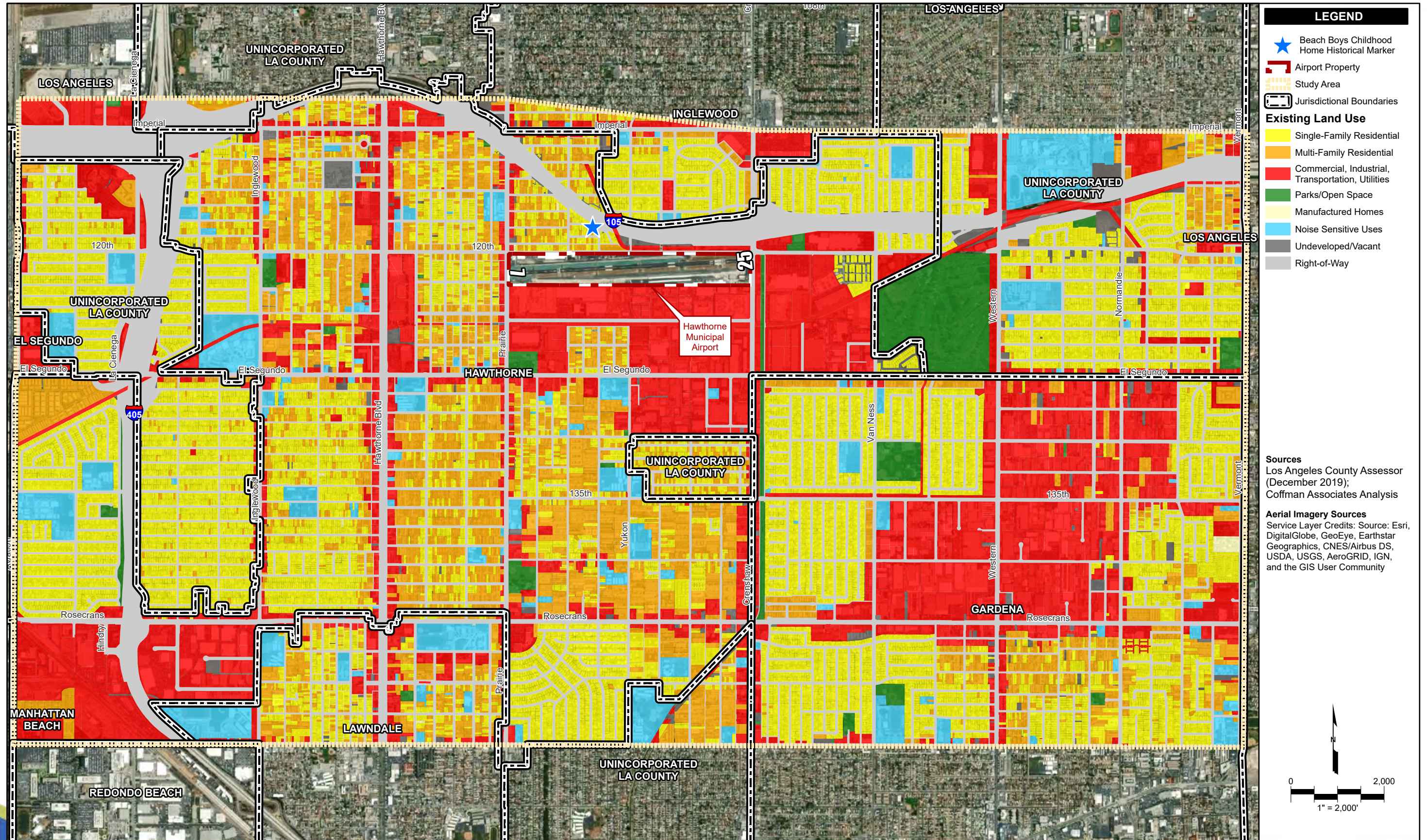
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TABLE 1A
Existing Land Uses

Land Use Type	Area (Acres)	Percentage of Study Area
Airport Property	80.1	1.0%
Single-Family Residential	2,321.8	28.3%
Multi-Family Residential	1,126.5	13.7%
Commercial, Industrial, Transportation, and Utilities	1,869.5	22.8%
Parks/Open Space	204.5	2.5%
Manufactured Homes	6.9	0.1%
Noise-Sensitive Uses	439.5	5.4%
Undeveloped/Vacant Parcels	106.7	1.3%
Right-of-Way	2,046.0	24.9%
Total	8,201.5	100.0%

Source: Los Angeles County Assessor's Office Local Tax Roll database (November 2019); Google Earth aerial photography (May 2019); Coffman Associates analysis and windshield survey from November 2019.

Historic Resources

According to the National Park Service's National Register of Historic Places (NRHP) database, there are no sites listed on the NRHP within the Part 150 Study area.¹⁴ The California State Park's Office of Historic Preservation database was also consulted to determine if there are any California Historic Landmarks present within the study area. A review of the database determined that the site of the childhood home of the Beach Boys (Site No. 1041)¹⁵ is located 0.10 miles north of the airport adjacent to Interstate 105. While the home is no longer standing, a historic marker has been placed identifying the former home location.

ZONING

The cities of Hawthorne, Gardena, Inglewood, Lawndale, El Segundo, and Los Angeles, as well as Los Angeles County, have authority over the land uses in the study area around Hawthorne Municipal Airport and have adopted zoning ordinances which establish a variety of zones to control land use within all areas of their respective jurisdictions.

For the purpose of this Part 150 Study, the zoning districts have been generalized to provide a uniform display of the zoning districts from the communities affected by Hawthorne Municipal Airport air traffic. **Table 1B** represents the classification of zoning districts for each jurisdiction and how those zoning districts fit into a generalized zoning land use category.

¹⁴ National Park Service's National Register of Historic Places (<https://www.nps.gov/subjects/nationalregister/database-research.htm>); October 2019).

¹⁵ California State Parks Office of Historic Preservation (<http://ohp.parks.ca.gov/>); October 2019.

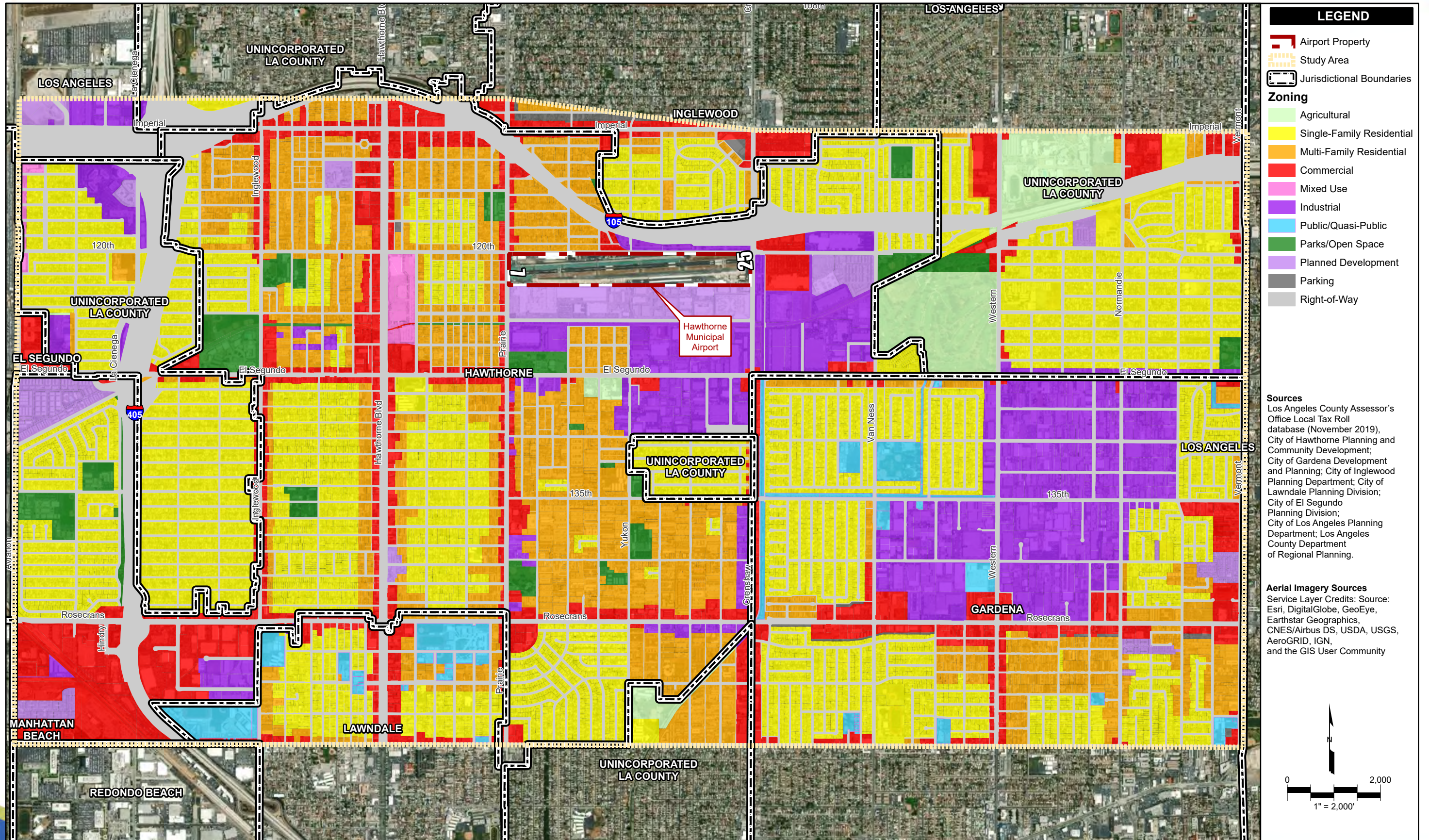
TABLE 1B
Classification of Zoning Districts

Generalized Zoning Category	City of Hawthorne	City of Gardena	City of Inglewood	City of Lawndale	City of El Segundo	City of Los Angeles	Los Angeles County
Agricultural	H						A-1
Single-Family Residential (Low-Density)	R-1	R1	R-1	R-1			R-1
Multi-Family Residential (Medium-Density)	R-2	R2, R3	R-2, R-3	R-2, R-3			R-2, R-3
Multi-family Residential – Apartment/Condo Residential (High-Density)	R-3, R-4	R4		R-4			
Commercial (including Office and Professional)	C-2, C-3, CR	C2, C3, C4, CP	C-2		C-3, CO		C-1, C-2, C-3, C-3-DP
Mixed-Use	CM						MXD
Planned Development	SP						RPD
Industrial	M-1, M-2	M1, M2		M-1		LAX, M-2	C-M, C-M-DP, M-1, MPD, B-1
Public/Quasi-Public		O		I		PF	
Parks/Open Space	UOS						O-S, C-R
Parking	P		P-1				

Sources: City of Hawthorne Planning and Community Development; City of Gardena Development and Planning; City of Inglewood Planning Department; City of Lawndale Planning Division; City of El Segundo Planning Division; City of Los Angeles Planning Department; Los Angeles County Department of Regional Planning; Coffman Associates analysis.

Table 1C and **Exhibit 1E** present the generalized zoning districts in the study area.

Single-family residential accounts for over 28 percent of the study area (28.3 percent). Another one-quarter of the study area is the rights-of-way, which consists of Interstates 105 and 405, as well as the arterial, collector, and local road network. Other predominant zoning districts include multi-family residential (13.9 percent), commercial (10.8 percent), and industrial zoning districts (10.7 percent). Other zoning districts include agricultural (2.9 percent), mixed-use (0.4 percent), public/quasi-public (2.0 percent), parks/open space (2.2 percent), planned development (2.6 percent), and parking (0.3 percent). Note that there are no areas zoned to be vacant.



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TABLE 1C
Generalized Zoning within the Study Area

Land Use Type	Acreage	Percentage of Study Area
Hawthorne Municipal Airport Property	80.1	1.0%
Agricultural	237.7	2.9%
Single-Family Residential	2,321.8	28.3%
Multi-Family Residential	1,137.6	13.9%
Commercial	889.1	10.8%
Mixed-Use	33.6	0.4%
Industrial	874.1	10.7%
Public/Quasi-Public	163.4	2.0%
Parks/Open Space	181.2	2.2%
Planned Development	216.4	2.6%
Parking	21.4	0.3%
Right-of-Way	2044.9	24.9%
Total	8,201.5	100.0%

Sources: Los Angeles County Assessor's Office Local Tax Roll database (November 2019), City of Hawthorne Planning and Community Development; City of Gardena Development and Planning; City of Inglewood Planning Department; City of Lawndale Planning Division; City of El Segundo Planning Division; City of Los Angeles Planning Department; Los Angeles County Department of Regional Planning; Coffman Associates analysis.

GENERAL PLAN

The land use element of a General Plan designates the proposed general land use distribution and intensity in a jurisdiction. The land use element serves as a framework for the plan and is intended to correlate all land use issues into a set of development policies. The land use element should reflect the community's vision on the distribution of land use and align with other general plan elements.¹⁶

The future land use designations from the following sources are identified on **Exhibit 1F** with the total area for each land use category presented in **Table 1D**.

- City of Hawthorne – *City of Hawthorne General Plan* (Amended May 2018)
- City of El Segundo – *The City of El Segundo General Plan* (1992)
- City of Gardena – *Gardena General Plan 2006* (April 2006)
- City of Inglewood – *City of Inglewood General Plan* (Amended September 2016)
- City of Lawndale – *City of Lawndale General Plan* (Amended August 2016)
- City of Los Angeles – *The Los Angeles City General Plan* (February 1999)
- Los Angeles County – *Los Angeles County 2035 General Plan* (October 6, 2015)

¹⁶ *State of California General Plan Guidelines 2017*, Chapter 4, State of California Governor's Office of Planning and Research (<http://www.opr.ca.gov/planning/general-plan/guidelines.html>).

TABLE 1D
General Plan Land Use

Land Use Type	Acreage	Percentage of Study Area
Airport Property	80.1	1.0%
Single-Family Residential	2,514.5	30.7%
Multi-Family Residential	1,028.9	12.5%
Commercial	970.3	11.8%
Mixed-Use	23.6	0.3%
Industrial	922.0	11.2%
Public/Quasi-Public	583.9	7.1%
Parks/Open Space	192.1	2.3%
Right-of-Way	1,886.2	23.0%
Total	8,201.5	100.0%

Sources: Los Angeles County Assessor's Office Local Tax Roll database (November 2019), City of Hawthorne Planning and Community Development; City of Gardena Development and Planning; City of Inglewood Planning Department; City of Lawndale Planning Division; City of El Segundo Planning Division; City of Los Angeles Planning Department; Los Angeles County Department of Regional Planning; Coffman Associates analysis.

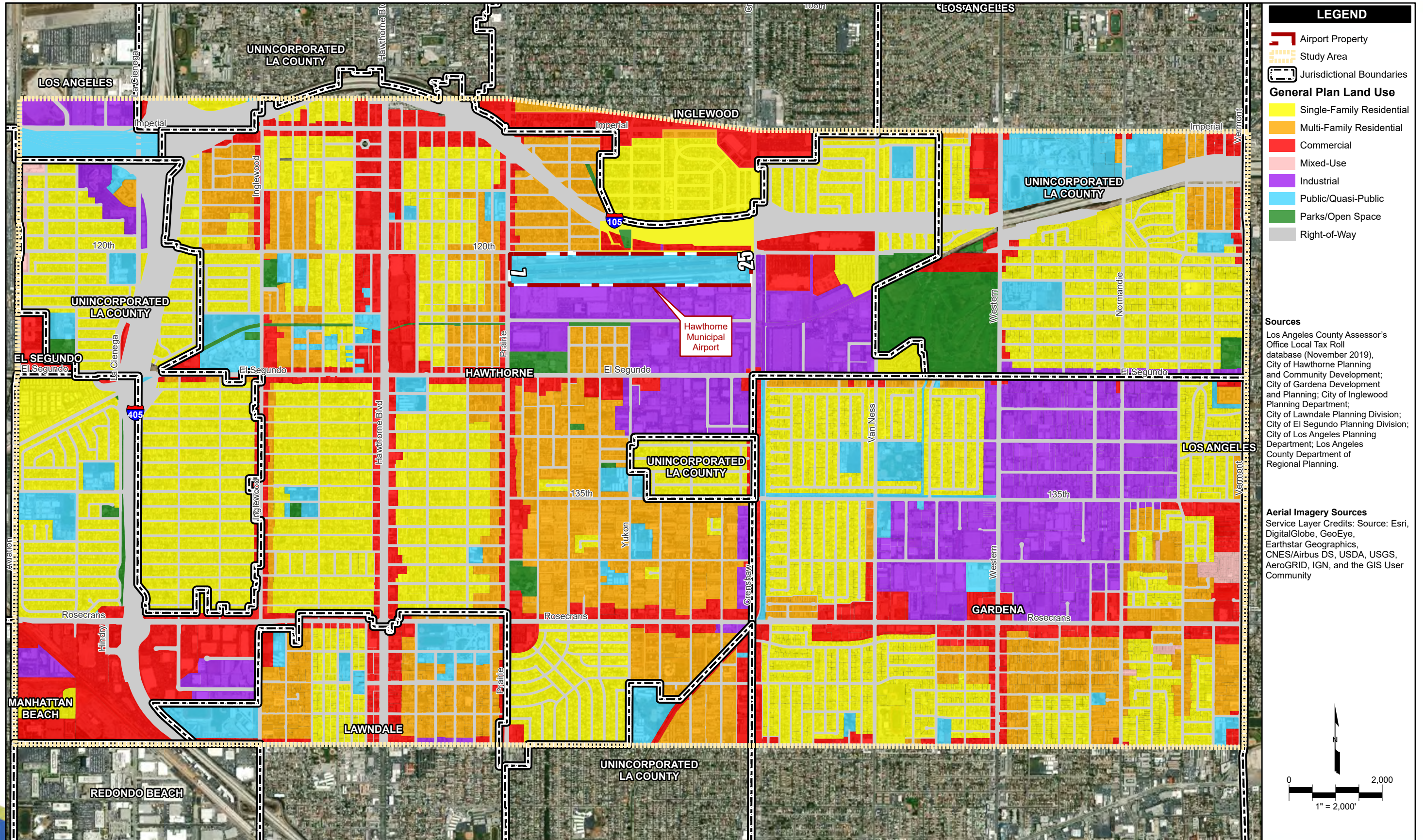
In the general plan land use designations of the above jurisdictions, single-family residential accounts for over 30 percent of the planned land use within the study area (30.7 percent). The right-of-way accounts for an additional 23 percent of planned land use, although not all jurisdictions will include rights-of-way in the future land use. Single-family residential and rights-of-way combined account for over 50 percent of the planned land use in the study area (53.7 percent). Other significant general plan land uses include multi-family residential (12.5 percent), commercial (11.8 percent), industrial (11.2 percent), and public/quasi-public (7.1 percent). Mixed-use and parks/open space account for less than five percent each. The airport is not anticipated to change in acreage in the general plan land use designation. Note that no areas are planned to be vacant.

AREA SPECIFIC PLANS

Downtown Hawthorne Specific Plan

The Downtown Hawthorne Specific Plan (DHSP) was approved by the City Council on February 3, 2016 in an attempt to solidify a conception of the corridor as it rebuilds after the impacts of the 2008 Recession and is the vision for how the corridor will function in the future. Hawthorne Boulevard is a north/south arterial located approximately 0.50 miles west of the airport and was part of the original town established in the 1880s. The DHSP centers around the mix of uses along a two-mile road segment starting at Interstate 105 south to the City of Lawndale city limits. The plan addresses goals, strategies, projects, and implementation actions for retail, office, hospitality, employment, housing, and civic/public spaces along the boulevard. A set of six goals were vetted, to which strategies of the DHSP were identified.

- **Goal 1:** Provide a clear vision and flexible strategies framework that will help spur the future evolution of Downtown Hawthorne.



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- **Goal 2:** Ensure an economically vibrant, safe, healthy, and sustainable Downtown Hawthorne that supports a range of users, including residents, business owners, workers, and visitors.
- **Goal 3:** Capitalize on key transformative projects that will be catalysts for future public and private investment and positive change.
- **Goal 4:** Identify opportunities to develop and expand plazas, parks, and open space areas to support a livable and healthy downtown.
- **Goal 5:** Foster strong connectivity, access, and circulation for pedestrians, bicyclists, transit, and automobiles.
- **Goal 6:** Engage the entire community in robust, creative, and ongoing engagement and participation process.

The DHSP planning area is illustrated in **Exhibit 1G**.

Westchester – Playa del Rey Community Plan (2004)

Currently, the City of Los Angeles maintains 35 community plans, which are neighborhood-specific goals and implementation strategies to achieve *The Los Angeles City General Plan*. These community plans compile the overall General Plan's land use element for the City of Los Angeles. The *Westchester-Playa del Rey Community Plan* (WPRCP) includes a limited portion of the Part 150 Study area (**Exhibit 1G**), located in the western portion of the Los Angeles Basin adjacent to the cities of Culver City, Inglewood, El Segundo, and the unincorporated areas of Del Aire, Ladera Heights, Lennox, and Marina del Rey. The WPRCP is approximately 5,766 net acres, of which 2,357 net acres (or about 41 percent) is residential. The portion of the WPRCP planning area that falls within this Part 150 Study area is planned to be light industrial and public/quasi-public (as a major transportation corridor for public right-of-way and the Los Angeles Metro rail line). Goals outlined in the WPRCP with respect to these two land uses are as follow:

- **Goal 3:** Provide sufficient land for limited and light industrial uses with employment opportunities that are safe for the environment and workers, and which have minimal adverse impact on adjacent uses.
- **Goal 11:** To the extent feasible and consistent with the *Mobility Plan 2035's* and Community Plan's policies promoting multi-modal transportation and safety, a system of freeways and streets that provides a circulation system which supports existing, approved, and planned land uses while maintaining acceptable levels of service at intersections, where feasible.
- **Goal 14:** Develop additional public transit services which improve mobility with efficient, reliable, safe, convenient alternatives to automobile travel.
- **Goal 15:** Encourage alternative modes of transportation to reduce single-occupancy vehicular trips.

The WPRCP, along with three other community plans (Palms - Mar Vista - Del Rey, Venice, and West Los Angeles) impacting west Los Angeles, is currently undergoing a plan update and anticipated to be completed in late 2020 or early 2021. The WPRCP is currently in the second stage of the planning process.

West Athens/Westmont Community Plan (1990)

Adopted in March 1990, the *West Athens/Westmont Community Plan* (WAW) is an area community plan incorporated into the Los Angeles County's land use element of the General Plan. The purpose of this plan is to establish a framework of goals, policies, and programs on a local scale to direct the pattern, density, and character of development in the West Athens and Westmont communities. The WAW planning area (identified on **Exhibit 1G**) is located in unincorporated Los Angeles County and is comprised of approximately 3.1 square miles (approximately 1,984.09 acres) east of the Hawthorne Municipal Airport. The WAW planning area consists primarily of residential land uses. The portion of the planning area that falls in the Part 150 Study area is planned to be primarily single-family residential, commercial, recreational, and public/quasi-public uses.

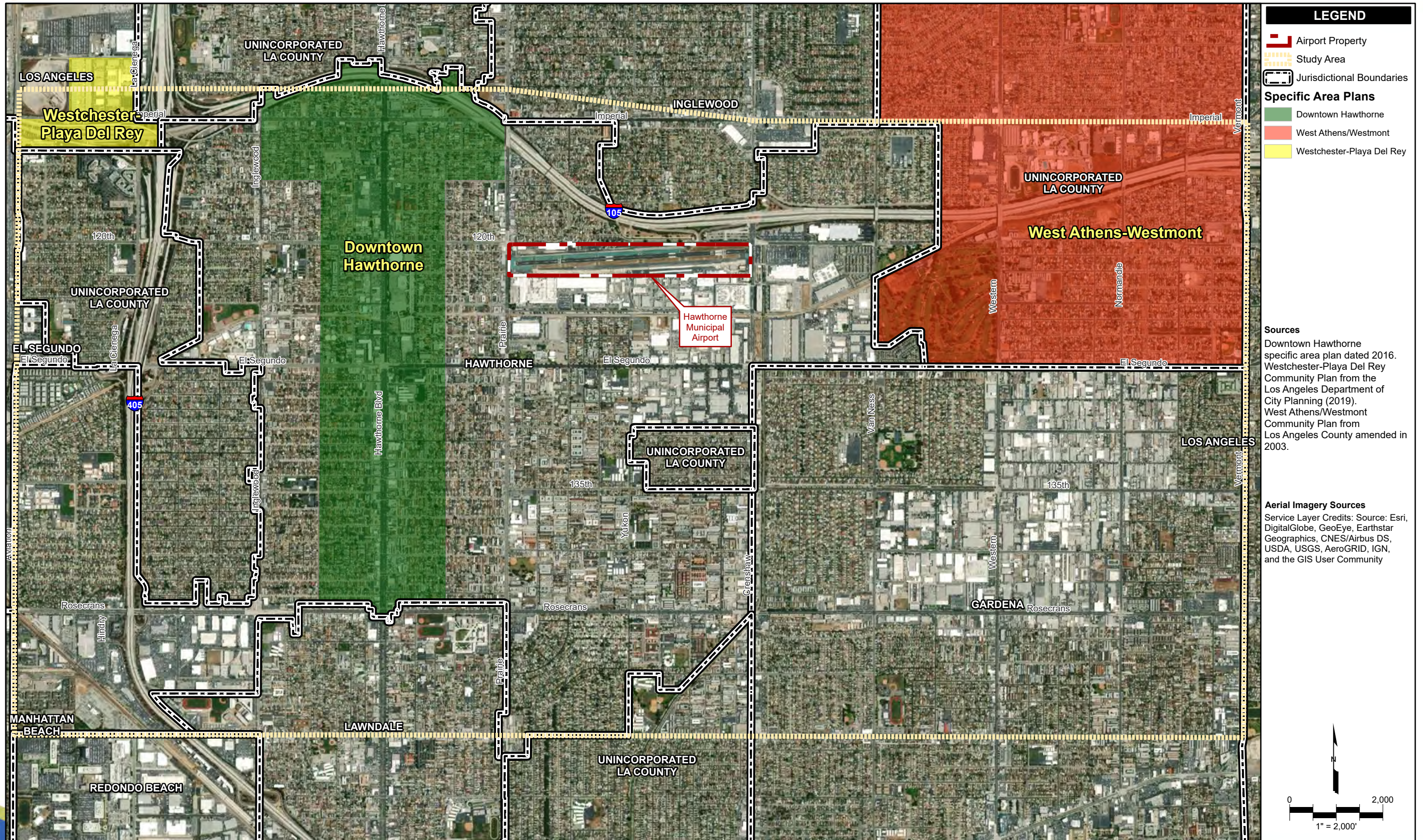
Some of the general land use policies identified in the plan include:

- Allow for the development of residential, commercial, recreational, public and supportive land uses, at varying densities and intensities.
- Encourage the elimination of nonconforming use and buildings.
- Coordinate and monitor the impact and intensity of land uses on the existing transportation and circulation systems so they are able to provide for the efficient movement of people and goods with the least interference.
- Foster inter-governmental cooperation and coordination in order to maximize the effectiveness of land use policies.
- Promote the preservation, maintenance, and enhancement of existing residential neighborhoods.
- Mitigate traffic congestion and unacceptable levels of noise, odors, and dust which affect residential use.

STUDY AREA GENERAL PLANS

In 1976, the State of California required a noise element addressing specific guidelines to be incorporated into local general plans. These guidelines are outlined in Appendix D of the *State of California General Plan Guidelines*¹⁷, issued by the Governor's Office of Planning and Research (OPR). The essential goals of the noise element outlined in Appendix D of OPR's *General Plan Guidelines* are:

¹⁷ *State of California General Plan Guidelines 2017*, Chapter 4, State of California Governor's Office of Planning and Research (<http://www.opr.ca.gov/planning/general-plan/guidelines.html>); November 2019.



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- To provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process, therefore lending a foundation for a community noise ordinance to address noise complaints.
- To develop strategies for abating excessive noise exposure through cost-effective mitigation techniques combined with zoning ordinances to avoid incompatible land uses.
- To protect existing regions of a planning area where the noise environment is determined to be acceptable, while also protecting those locations determined to be “noise sensitive.”
- To utilize the definition of the CNEL or L_{dn} noise contour for local compliance with the State Noise Insulation Standards, which require specified levels of outdoor-to-indoor noise reduction for new multi-family residential construction in locations where the outdoor noise exposure exceeds CNEL 60 dB.¹⁸

According to the OPR *General Plan Guidelines*, the noise element of a general plan should apply the most up-to-date and detailed information available to reflect that community’s noise environment, including stationary sources, predicted levels of noise, and the impacts of noise to local residents. California Government Code (CGC) §65302(f)(1)¹⁹ requires a noise element to “identify and appraise noise problems in the community and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels...” for several sources outlined in the code, including “commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test standards, and all other ground facilities and maintenance functions related to airport operations” (CGC §65302(f)(1)(F)).

The following sections provide excerpts from the previously discussed planning documents that offer land use planning guidance addressing noise for areas around the airport.

City of Hawthorne General Plan

The City of Hawthorne General Plan discusses Hawthorne Municipal Airport and noise in the Circulation Element and the Noise Element of the plan.

Circulation Element

Policy 1.7: The city shall encourage that adequate mitigation measures be pursued with regard to the potential noise and safety impacts associated near Hawthorne Municipal Airport.

¹⁸ Title 24, California Code of Regulations and Chapter 35 of the Uniform Building Code

¹⁹ California Government Code Title 7, Division 1, Chapter 3, Article 5 *Authority for and Scope of General Plans* (<https://leginfo.legislature.ca.gov>); November 2019.

Noise Element

Policy 1.1: Provide for measures to reduce noise impact from transportation noise sources. These measures include:

- Reduce transportation noise through proper design and coordination of routing.
- Mitigate potential impact for existing or proposed helicopter operations.
- Explore noise control programs as part of the Hawthorne Municipal Airport Master Plan to minimize noise levels from these operations.
- The City of Hawthorne completed a 14 CFR Part 150 Study (Part 150) Noise Compatibility Study in 1990; the Part 150 Study was updated in 2016. A complete study update is needed periodically to respond to changing conditions in the local area and in the aviation industry. The Hawthorne Municipal Airport Part 150 Study should be updated every seven to 10 years or as noise conditions warrant.

Policy 2.1: Incorporate noise considerations into land use planning decisions. These measures will be achieved through the following programs:

- Establish acceptable limits of noise for various land uses throughout the community. Zoning changes should be consistent with the compatibility of the projected noise environment.
- Ensure acceptable noise levels near schools, hospitals, convalescent homes, and other noise-sensitive areas.
- Establish standards for all types of noise not already governed by local ordinances or permitted by state or federal law.
- Encourage acoustical design in new construction.




Policy 3.2: The city shall establish a new Community Noise Ordinance to mitigate noise conflicts.

Policy 3.4: Establish and maintain coordination among the city agencies involved in noise abatement.

Policy 3.5: The city shall evaluate the development of noise-sensitive uses within the vicinity of the Hawthorne Municipal Airport using noise exposure contours developed as part of the airport's 14 CFR Part 150 Study and the compatibility criteria presented in the land use compatibility guidelines. See **Table 1E** below for the City of Hawthorne's land use compatibility table found in the General Plan.

TABLE 1E
Hawthorne Municipal Airport Land Use Compatibility Table

Land Use Category	Community Noise Exposure Level				
	55	60	65	70	75
Residential					
Educational Facilities					
Commercial					
Industrial					
Agriculture					
Recreation					

-  Satisfactory.
-  Caution. Review noise insulation needs.
-  Avoid land use unless related to airport services.

Source: Table 3, Noise Element of The City of Hawthorne General Plan (Amended May 2016)

The Noise element provides a list of standards deemed as acceptable limits of noise for various land uses. These standards are designed to provide the basis of development in the city to ensure there is no conflict between land uses and acceptable noise levels. **Exhibit 1H** outlines the land use and what CNEL noise level is compatible. The city policies, depicted in **Exhibit 1J**, relate to land uses and acceptable interior and exterior noise levels.














The City of El Segundo General Plan

The City of El Segundo General Plan addresses noise in two elements: land use element and noise element. In the Land Use element, new commercial development is required to meet seismic standards and air quality, noise, water, and environmental regulations. The Noise Element generally focuses on noise abatement for Los Angeles International Airport (LAX), and the goals and policies identified in the plan focus mitigating noise impacts attributed to LAX. **Goal N1** and subsequent objectives and policies are derived from the Noise Element section of the General Plan that potentially address Hawthorne Municipal Airport.

Noise Element

- **Goal N1: Provision of a Noise-Safe Environment**
 - **Objective N1-1:** It is the objective of the City of El Segundo to ensure that city residents are not exposed to mobile noise levels in excess of the interior and exterior noise standards or the single event noise standards specified in the El Segundo Municipal Code.



LAND USE		COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)						
		Below 55	55-60	60-65	65-70	70-75	Over 75-80	Over 80
Residential								
	Single Family, Duplex, Multiple Family	A	A	B	B	C	D	D
	Mobile home	A	A	B	C	C	D	D
Commercial Use								
	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
	Commercial Retail, Bank, Restaurant, Movie Theater	A	A	A	A	B	B	C
	Office Building, Research and Development, Professional Offices, City Office Building	A	A	A	B	B	C	D
	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
Institutional								
	Auditorium, Meeting Hall	B	B	C	C	D	D	D
	Hospital, Church, Library, School Classroom	A	A	B	C	C	D	D
Agriculture								
	Agriculture	A	A	A	A	A	A	A
Recreational								
	Amphitheater, Concert Hall	B	B	C	C	D	D	D
	Children's Amusement Park, Miniature Golf Course, Go-Cart Track, Equestrian Center, Sports Club	A	A	A	B	B	D	D
Open Space								
	Parks	A	A	A	B	C	D	D
	Golf Course, Cemetery, Nature Center, Wildlife Reserve, Wildlife Habitat	A	A	A	A	B	C	C
Interpretation								
Zone A Clearly Compatible		Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.						
Zone B Normally Compatible		New construction or development should be undertaken only after detailed analysis of noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will suffice.						
Zone C Normally Incompatible		New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and necessary noise insulation features included in the design.						
Zone D Clearly Incompatible		New construction or development should generally not be undertaken.						

Source: City of Hawthorne, CA General Plan (amended May 2018) - Noise Element





LAND USE CATEGORIES		Energy Average CNEL	
Categories	Uses	Interior ¹	Exterior ²
Residential	Single Family, Duplex, Multiple Family	45 ³	65
	Mobile home	--	65 ⁴
Commercial Industrial Institutional	Hotel, Motel, Transient Lodging	45	65 ⁵
	Commercial Retail, Bank, Restaurant	55	--
	Office Building, Research and Development, Professional Offices, City Office Building	50	--
	Amphitheater, Concert Hall Auditorium, Meeting Hall	45	--
	Gymnasium (Multipurpose)	50	--
	Sports Club	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
	Movie Theaters	45	--
Institutional	Hospital, School Classroom	45	65
	Church, Library	45	--
Open Space	Parks	--	65

Interpretation

1. Indoor environmental excluding: bathrooms, toilets, closets, corridors.
2. Outdoor environment limited to: Private yard of single family, multi-family private patio or balcony served by a means of exit from inside, mobile home park, hospital patio, park picnic area, school playground, hotel and motel recreation area.
3. Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of the Uniform Building Code.
4. Exterior noise level should be such that interior noise level will not exceed 45 CNEL.
5. Except those areas affected by aircraft noise.

Source: City of Hawthorne, CA General Plan (amended May 2018) - Noise Element



- Policy N1-1.1: Continue to work for the elimination of adverse noise sources, especially from LAX West Imperial Terminal, and from helicopter and aircraft flyovers.
 - Policy N1-1.4: Consider noise impacts from traffic arterials and railroads, as well as aircraft, when identifying potential new areas for residential land use.
 - Policy N1-1.9: Require review of all new development projects in the city for conformance with California Airport Noise Regulations and California Noise Insulation Standards (CCR Title 24) to ensure interior noise will not exceed acceptable levels.
 - Policy N1-1.10: Continue to develop and implement city programs to incorporate noise reduction measures into existing residential development where interior noise levels exceed acceptable standards.
- **Objective N1-3:** It is the objective of the City of El Segundo that the city maintains inter-governmental coordination and public information programs which are highly efficient in their noise abatement efforts.
 - Policy N1-3.1: Encourage site planning to be consistent with the existing and future noise environment and promote development standards in which noise-sensitive projects and residences are mitigated from major noise sources. Short-term and long-term noise control measures should be formulated in a manner compatible with community needs and expectations.
 - Policy N1-3.2: Work to remove non-conforming land uses (mixed usage such as residential uses in commercial or industrial land use designations) which result in noise incompatibility.
 - Policy N1-3.3: Employ effective noise mitigation techniques through appropriate provisions in the building code, subdivision procedures, and zoning and noise ordinances.
 - Policy N1-3.5: Support a continuous effort to evaluate noise levels in the City of El Segundo and to reduce unacceptable noise levels through the planning process.
 - Program N1-3.5A: The city shall join adjacent jurisdictions (e.g. City of Los Angeles, City of Hawthorne, City of Manhattan Beach) and other agencies involved in noise mitigation in a cooperative effort to lessen adverse impacts and reduce noise incompatibilities across city boundaries.

Gardena General Plan 2006

The City of Gardena last updated the General Plan in 2006 which is anticipated to guide the city through the vision of development over the next 15-20 years. The *Gardena General Plan 2006* addresses noise in the Noise Element, Land Use, and Circulation elements of the plan. Noise goals and policies addressed in the Land Use and Circulation elements; however, focus on minimizing truck traffic and commercial/industrial development.

The following goals and policies are included in the Noise Element of the General Plan.

Noise Element

- **N Goal 1:** Use noise control measures to reduce the impact from transportation noise sources.
 - Policy N1.14: Participate in the planning and impact assessment activities of the County Airport Land Use Commission and other regional or state agencies relative to any proposed expansion or change in flight patterns at the Hawthorne Municipal Airport or the Compton Airport.
- **N Goal 2:** Incorporate noise considerations into land use planning decisions.
 - Policy N2.1: Promote noise regulations that establish acceptable noise standards for various land uses throughout Gardena.
 - Policy N 2.2: Require noise/land use compatibility standards to guide future planning and development.
 - Policy N2.3: Promote compliance with the state's noise insulation standards in the conversion of existing apartments into condominiums wherever feasible.

City of Inglewood General Plan

The City of Inglewood's General Plan Noise Element was last updated in 1987. The concerns regarding noise addressed in the Noise Element pertain to LAX, but those concerns are indicative regarding general aviation-related noise. The following goal statements establish the city's vision to control community noise:

- **Goal 1:** *Provide for the reduction of noise where the noise environment represents a threat to public health and welfare.* In those areas where the environment represents a threat to the public health and welfare, it is the objective of the city to reduce environmental hazards to levels consistent with the protection of the public health and welfare.
- **Goal 2:** *Reduce noise impact in degraded areas.* In those areas where the environment is degraded, but not to an extent that represents an immediate hazard to public health and welfare, it is the objective of the city to reduce environmental degradation as much as feasible and practical within the limits imposed by conflicting objectives.
- **Goal 3:** *Protect and maintain those areas having acceptable noise environments.* In those areas where a quality environment now exists, it is the objective of the city to prevent degradation of that environment.
- **Goal 4:** *Provide sufficient information concerning the community noise levels so that noise can be objectively considered in land use planning decisions.* Noise and land use incompatibilities can be avoided for new developments when noise is properly considered in the planning and design of the project. It is the objective of the city to prevent future land use and noise conflicts through the planning process.



Important policies as a result of these goals include the following:

- **Policy 4.2:** *Incorporate noise considerations into land use planning decisions*, by establishing acceptable limits of noise for land uses in the community and ensuring acceptable noise levels for noise-sensitive land uses.
- **Policy 4.5:** *Reduce noise conflicts at the receiver*, such as encourage development patterns to minimize conflicts through the long-range planning process and extending state insulation requirements to single-family residential development to establish a 45 dB CNEL as an indoor noise standard.

City of Lawndale General Plan

The closest airport to the City of Lawndale is Hawthorne Municipal Airport, which is located approximately 1.5 miles north of the city limits. According to the *City of Lawndale General Plan*, the city is well outside the 60 dB CNEL contour and is not significantly impacted by airport noise. Additionally, the city's *General Plan* does not address airport noise specifically in the Noise Element's goals and policies.

Noise Element

- **Noise Goal 1:** To achieve and maintain an environment which is free from excessive or harmful noise through identification, control, and abatement.
 - Policy 1a: Control and abate undesirable sounds through the development of land use compatibility guidelines and a noise ordinance.
 - Policy 1c: Discourage development of noise-sensitive land uses in areas impacted by high noise levels.
 - Policy 1d: Ensure that sensitive land uses are not subjected to inappropriate noise levels resulting from transportation systems.
 - Policy 1e: Maintain coordination of noise control policies and standards with surrounding cities and the California Department of Transportation (Caltrans).

Land Use Element

- **Goal 4 – Public Health and Safety.** The distribution and uses of land should consider the health, safety, and welfare of the community
 - Policy 4b: The use of land shall not subject people to potential sources of objectionable noise, light, or other emissions or to exposure to toxic or other dangerous materials.

The Los Angeles City General Plan

Due to the complexity of the Los Angeles metroplex, *The Los Angeles City General Plan* is continually updated to reflect the city's ever-changing needs and demographics. The Los Angeles General Plan includes 11 elements: air quality, conservation, health, housing, infrastructure systems, land use, mobility, noise, public facilities and services, open space, and safety. The Land Use element incorporates 35 community plans to establish neighborhood-specific goals and implementation strategies to achieve the broad objective of the city's general plan. The *Westchester-Playa del Ray Community Plan* was addressed in a previous section.

Noise Element

In 1975, the City of Los Angeles added the noise element to the general plan to provide noise management strategies. The plan generally addresses noise generated by the aviation industry as it relates to LAX and other regional airports within the city. Hawthorne Municipal Airport is outside of the Los Angeles city limits, and due to flight patterns in and out of the airport, it is unlikely the City of Los Angeles is impacted by aircraft noise generated by Hawthorne Municipal Airport. However, the following goal, objective, and policy are generalized as they relate to aviation.

- **Goal:** A city where noise does not reduce the quality of life.
 - Objective 1: Reduce airport and harbor related noise impacts.
 - Policy 1.1: Incompatibility of airports declared by Los Angeles County to be “noise problem airports” (identified as LAX, Van Nuys, and Burbank in the general plan) and land uses shall be reduced to achieve zero incompatible uses within the 65 CNEL airport noise exposure area.

Los Angeles County General Plan 2035

Unincorporated areas of Los Angeles County consist of over 2,500 square miles and over one million people. The *Los Angeles County General Plan 2035* (LACGP) is the base document for providing foundational principles for the county and community plans. The LACGP identifies 11 area community plans for the county. The Del Aire opportunity area²⁰ is located along the western boundary of the Hawthorne Municipal Airport study area. There is no community plan in place for Del Aire, although it is identified with a transit center and corridor.²¹

²⁰ An “opportunity area” is significant activity node in Los Angeles County, such as a transit center, a neighborhood center, a corridor, an industrial flex district or industrial opportunity area, or a rural town center; *Los Angeles County General Plan 2035*, Part II, Department of Regional Planning (<http://planning.lacounty.gov/generalplan/generalplan>); November 2019.

²¹ *Los Angeles County General Plan 2035*, Figure 5.37; Department of Regional Planning - November 2014 (<http://planning.lacounty.gov/generalplan/figures2015>); November 2019.

In the LACGP, noise is addressed in three elements: Noise Element, Land Use Element, and Mobility Element.

Noise Element

- **Goal N 1:** The reduction of excessive noise impacts.
 - Policy N1.1: Utilize land uses to buffer noise-sensitive uses from sources of adverse noise impacts.
 - Policy N1.2: Reduct exposure to noise impacts by promoting land use compatibility.
 - Policy N1.4: Enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards and other applicable noise standards.
 - Policy N1.5: Ensure compliance with the jurisdictions of State Noise Insulation Standards, such as noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or L_{dn}) noise exposure contours.
 - Policy N1.9: Require construction of suitable noise attenuation barriers on noise-sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.
 - Policy N1.10: Orient residential units away from major noise sources (in conjunction with applicable building codes).
 - Policy N1.12: Decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.

Land Use Element

- **Goal LU 1:** A General Plan that serves as the constitution for development and a Land Use Policy Map that implements the General Plan's Goals, Policies, and Guiding Principles.
 - Policy LU 1.6: In the review of a project-specific amendment(s) to convert lands within the Employment Protection District Overlay to non-industrial land use designations, ensure that the project-specific amendment(s):
 - Is located on a parcel that adjoins a parcel with a comparable use, at a comparable scale and intensity;
 - Will not negatively impact the productivity of neighboring industrial activities;
 - Is necessary to promote the economic value and the long-term viability of the site; and
 - Will not subject future residents to potential noxious impacts, such as noise, odors or dust or pose significant health and safety risks.



- **Goal LU 7:** Compatible land uses that complement neighborhood character and the natural environment.
 - Policy LU 7.6: Ensure that proposed land uses located within Airport Influence Areas are compatible with airport operations through compliance with airport land use compatibility plans.
 - Policy LU 7.7: Review all proposed projects located within Airport Influence Areas for consistency with policies of the applicable airport land use compatibility plan.

Mobility Element

- **Goal M 6:** The safe and efficient movement of goods.
 - Policy M 6.2: Support the modernization of aviation systems, including LAX.
 - Policy M 6.4: Minimize noise and other impacts of goods movement, truck traffic, deliveries, and staging in residential and mixed-use neighborhoods.
 - Policy M 6.6: Preserve property for planned roadway and railroad rights-of-way, marine and air terminals, and other needed transportation facilities.

ZONING

Runway Protection Zone Overlay – Chapter 17.22(B) City of Hawthorne Municipal Code

Chapter 17.22(B) of the City of Hawthorne Municipal Code²² introduces a Runway Protection Zone Overlay (RPZ), approved in 2017, a trapezoid-shaped area off the east end of the runway to minimize exposure to safety hazards that could result from new or redeveloped land uses and structures within the runway protection zone (RPZ) east of the airport. The overlay zone was also established to protect the airport from potential encroachment of land uses and structures that impair the planned use and development of the airport, to create consistency with the Airport Master Plan, and to establish permitted uses and development standards within the RPZ. Prohibited uses include:

- | | |
|--|--|
| • Churches | • Schools |
| • Hospitals | • Shopping centers |
| • Office and retail buildings | • Major above-ground utilities |
| • Parking meters and charging stations | • Any use or structure that conflicts with the Airport Master Plan |
| • Public assembly uses | |

²² City of Hawthorne, California Municipal Code, Chapter 17.22(B) *Runway Protection Overlay Zone* (<http://www.cityofhawthorne.org/zoning-information>); November 2019.

Airport Overlay Zone – Chapter 17.22(C) City of Hawthorne Municipal Code

The Airport Overlay Zone (AOZ) was added to the Hawthorne Municipal Code in 2018 to implement the airport’s master plan and Noise Compatibility Program approved by the FAA. The purpose of the AOZ is to ensure proposed land uses and development around the airport within the AOZ are consistent with the NCP. Additionally, the AOZ is to prohibit the introduction of new noise-sensitive development and require noise attenuated construction. Noise-sensitive development includes:

- Residential dwellings (both single- and multi-family)
- Hotels or motels
- Hospitals and nursing homes
- Places of worship
- Meeting halls
- Mortuaries
- Schools and libraries
- Museums

Within the AOZ, real estate disclosures are required to be provided by the seller of real property at the time a sales contract is executed, alerting the purchaser that the property is subject to some of the “annoyances and inconveniences associated with airport operations, such as noise, vibration, or odors.”

AIRPORT FACILITY INVENTORY

AIRSIDE FACILITIES

Hawthorne Municipal Airport has a single runway (oriented at 73/253 degrees magnetic) measuring 4,884 feet (ft) long by 100 ft wide. Runway 25 is characterized by a 460 ft displaced landing threshold, non-precision runway markings, omni-directional approach lighting, and both VASI-4 and REIL visual approach aids. Runway 7 has a 905 ft displaced landing threshold, basic runway markings, and a VASI-2 visual approach aid. The runway is outfitted with medium intensity runway lights (MIRL).

The taxiway system consists of full-length parallel Taxiway S located 150 ft south of the runway (centerline-to-centerline separation), and partial parallel Taxiway N located 150 ft north of the runway centerline.

There are eight entrance/exit taxiways (A through H) between the runway and parallel Taxiway S providing access to the airfield system and apron areas. The convergence of Taxiways A-4, A-5, and A-6 at midfield is considered a “hot spot” by the FAA under its current airfield design standards. There are six taxiway exits between the runway and partial parallel Taxiway N.

Three published instrument approaches are available for Runway 25. These include a localizer (LOC), RNAV (GPS), and VOR. None of the approaches are available if/when in certain weather conditions and only the RNAV (GPS) is available when the Hawthorne ATCT is closed. Each approach provides visibility minimum down to one mile and cloud ceilings of 600 ft. **Table 1F** below summarizes the basic airfield facility information.²³

²³ Coffman Associates, Inc *Hawthorne Municipal Airport Airport Layout Plan Update and Narrative Report* (December 2019)

TABLE 1F
Airside Facilities Data
Hawthorne Municipal Airport

	Runway 7	Runway 25
Length (ft)	4,884	4,884
Width (ft)	100	100
Displaced Thresholds (ft)	905	460
Pavement Surface	Asphalt	Asphalt
Pavement Strength (lbs)		
Single-Wheel Loading	30,000	
Dual-Wheel Loading	60,000	
Dual Tandem	90,000	
Edge Lighting	MIRL	MIRL
Pavement Markings	Basic	Non-Precision
Visual Approach Aids	VASI-2	VASI-4 REILs ODALS
Instrument Approach Procedures	Circling Only	VOR RNAV (GPS) LOC
Air Traffic Control	ATCT (6:00 a.m. – 10:00 p.m.)	
Weather Reporting	ASOS-3	ASOS-3
Fixed-Wing Aircraft Traffic Pattern	Right	Left

Acronyms:

ASOS - Automated Surface Observation Station
ATCT - Air Traffic Control Tower
GPS - Global Positioning System
LOC - Localizer
MIRL - Medium Intensity Runway Lighting
ODALS - Omni-Directional Approach Lighting Systems
REILs - Runway End Identifier Lights
RNAV - Area Navigation
VASI - Visual Approach Slope Indicators
VOR - Very High-Frequency Omni-Directional Range

LANDSIDE FACILITIES

Landside facilities include all airport elements other than the runway/taxiway system and navigational aids: terminal, storage hangars, apron, vehicle parking lots, and fuel farms.

Hawthorne Municipal Airport has a two-story, 19,500 square-foot terminal building located in the south-east corner of the airport. The terminal houses airport administration, a meeting room, flight planning room, pilot's lounge, lobby/waiting area, aviation business offices, restaurant, restrooms, line service, storage, and equipment. JetCenter leases space in the building and Surf Air maintains a small passenger check-in counter located in the lobby/waiting area.

The airport has a wide mix of aircraft hangars including large conventional hangars, box hangars, and T-hangars. A portion of the north side of the airfield was recently redeveloped with 73,440 square feet of new hangar space. Aircraft apron parking is provided in multiple locations around the airfield totaling approximately 31,000 square yards.

The ATCT is located near midfield on the north side of the airfield. The tower is open daily from 6:00 a.m. to 10:00 p.m. and is operated through the FAA's Contract Tower Program.

AIRPORT OPERATIONS

Due to the close proximity to LAX, departing flights using Runway 25 use a left-handed traffic pattern to not encroach into LAX airspace. Because Hawthorne Municipal Airport is less than three miles southeast of LAX, Hawthorne Municipal Airport typically operate in the same traffic flow direction as LAX. If LAX must reverse flow due to emergency or weather, Hawthorne Municipal Airport will also reverse flow and use Runway 7 for departures to the east. For typical visual departures, aircraft are directed to fly to the west until either an attitude of 500 ft AGL is achieved or to Hawthorne Mall, located $\frac{1}{4}$ mile west of the airport. To proceed to the south, pilots are to make a 205 degree turn to the southwest to stay out of LAX airspace. To go to the east, aircraft make the same turn over the Hawthorne Mall, turn south down Hawthorne Boulevard, and then east over El Segundo Boulevard.

To aid with noise abatement over sensitive land uses, visual flight rules (VFR) flights below 2,500 ft mean sea level (MSL) are discouraged west of Interstate 405 and Hawthorne Boulevard, and VFR flights below 1,500 ft MSL are discouraged east of Interstate 405 and Hawthorne Boulevard, with the exception to take-off and landing movements.

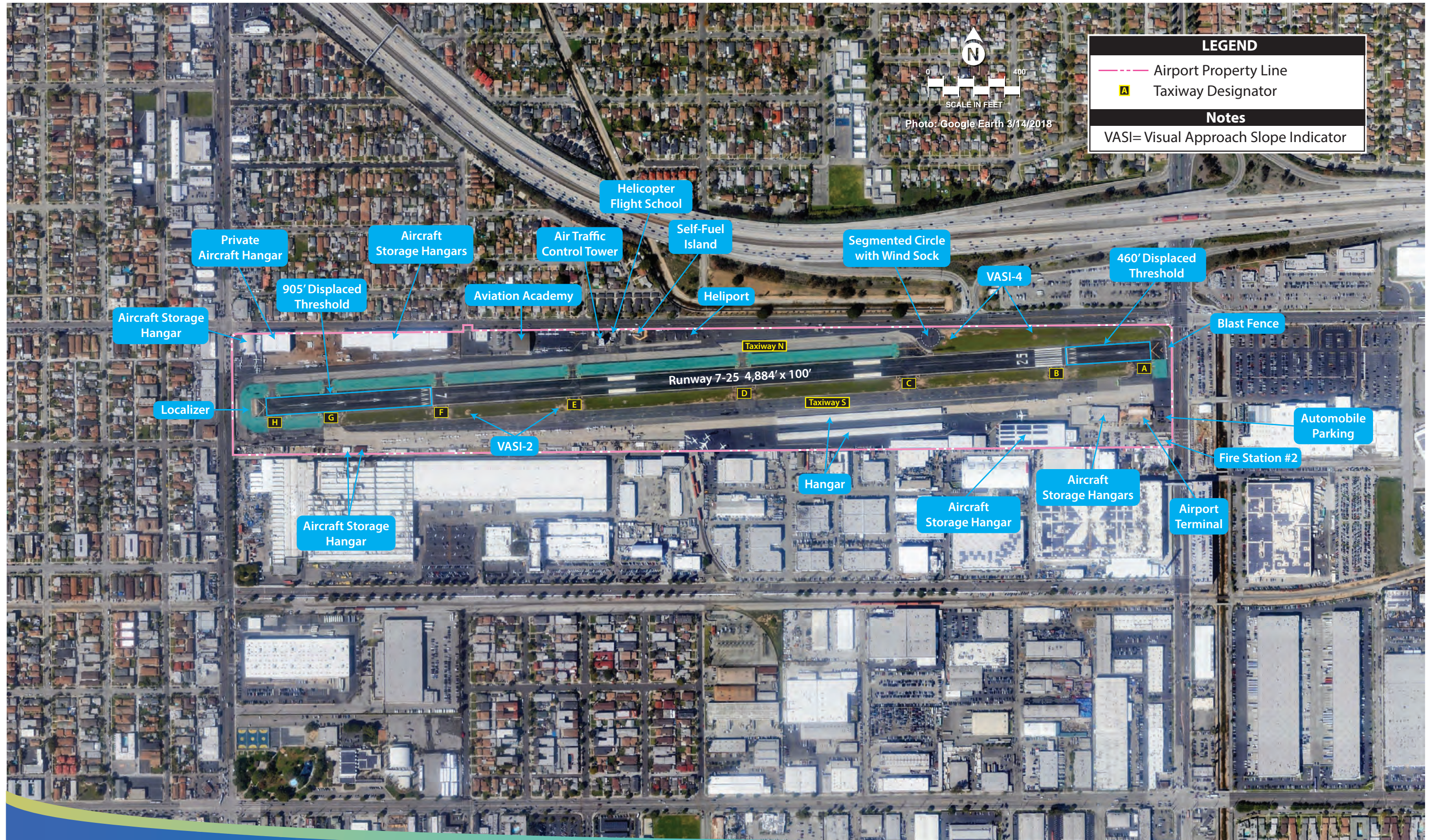
Touch-and-go operations are available between 10:00 a.m. and 5:00 p.m. daily, depending on the tower workload. Touch-and-goes or stop-and-goes are not permitted after 6:00 p.m. Tower authorization is requested for touch-and-goes and these operations are typically only approved for single-engine aircraft. Multi-engine aircraft must make full-stop landings.

Both airside and landside facilities are depicted in **Exhibit 1K**.

NOISE ABATEMENT PROCEDURES

Due to the proximity of noise-sensitive land uses to Hawthorne Municipal Airport, voluntary Noise Abatement Procedures have been adopted that provides several recommended noise abatement measures. Those measures include:

- Touch-and-go operations available 10:00 a.m. to 5:00 p.m. local daily, and on a Hawthorne tower workload basis. Tower authorization required. No touch-and-go's or stop-and-go's for any reason after 6:00 p.m. local.



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- Touch-and-go's are restricted to single-engine aircraft. Runway 7 and Runway 25 pilots should be airborne prior to Taxiway D intersection. Multi-engine aircraft must make full-stop landings.
- All takeoffs shall be made from the beginning of the active runway using the approved takeoff surface prior to the displaced threshold.
- Runway 25 intersection takeoffs are only authorized from Taxiway B and Taxiway C intersections and only available at tower's discretion.
- No intersection takeoffs are authorized from Runway 7.
- Helicopter hover practice on the runway nor north taxiway, when approved by the tower, should be conducted east of Taxiway D and west of Taxiway C intersections.
- Helicopter takeoffs and landing should be from the area prior to the fixed distance markers of each runway. Exceptions must be approved by the tower.
- During non-tower hours of operation, the helicopter traffic should be flown over the 105 Freeway north of the airport to avoid the flow of fixed-wing aircraft, and at an altitude of at least 700 ft MSL (634 ft AGL).
- No pattern work from 10:00 p.m. local to 8:00 a.m. local weekdays, and 10:00 p.m. to 10:00 a.m. local weekends and holidays.
- Jet and high-performance turboprop aircraft are requested to use manufacturer's best noise abatement takeoff performance procedures.
- When possible, and at a safe altitude, pilots are requested to adjust propeller pitch to reduce propeller noise.
- Formation takeoffs and landings are prohibited unless authorized in writing by the Hawthorne Airport Manager.
- On crosswind departures Runway 25, avoid flying over homes west or east of Hawthorne Boulevard until above 1,500 ft AGL.
- All IFR departures on the HHR Obstacle Departure Procedure (ODP) must turn to the assigned heading at 400 ft AGL, and should climb at best angle, or Blue Line²⁴ until above 1,000 ft AGL.

Additional flight pattern information is provided on a pilot guide available in print and online line by the airport (**Exhibit 1L**). The pilot guide also outlines the noise abatement procedures previously listed. The airport requests that all pilots adhere to the noise abatement program outlined above. The flight schools at the airport stick to a flight schedule to ensure no early or late flights impact neighboring noise-sensitive uses. The voluntary noise abatement procedures are published both in print and on the city's website, and pilots are routinely directed to both and requested to abide by them.

²⁴ The "blue line" refers a blue mark on the airspeed indicator depicting the best rate-of-climb for single-engine aircraft or minimum rate-of-sink in light twin-engine aircraft with one engine inoperative – Federal Aviation Administration *Pilot's Handbook of Aeronautical Knowledge* (2016).

The airport has established a noise complaint form on the City of Hawthorne website where complaints can be filed, logged, and tracked.

INSTRUMENT APPROACH PROCEDURES

Instrument approach procedures are a series of predetermined maneuvers established by the FAA using electronic navigational aids to assist pilots in locating and landing at an airport. The capability of an instrument approach is defined by the visibility and cloud ceiling minimums associated with the approach. Visibility minimums define the horizontal distance that the pilot must be able to see to initiate the approach. Cloud ceilings, in some cases, define the lowest level of cloud layer (defined in feet above the ground) can be situated for a pilot to initiate the approach.

Instrument approach procedures are only available to Runway 25, the details of which are shown in **Table 1G**. The best LNAV approach to Runway 25 provides for 580-ft cloud ceiling heights and $\frac{3}{4}$ -mile visibility minimums. These procedure minimums, however, are only available to Category A and B aircraft. The lowest minimums available to Category C and D aircraft are 571-ft cloud ceilings and 1.5-mile visibility.

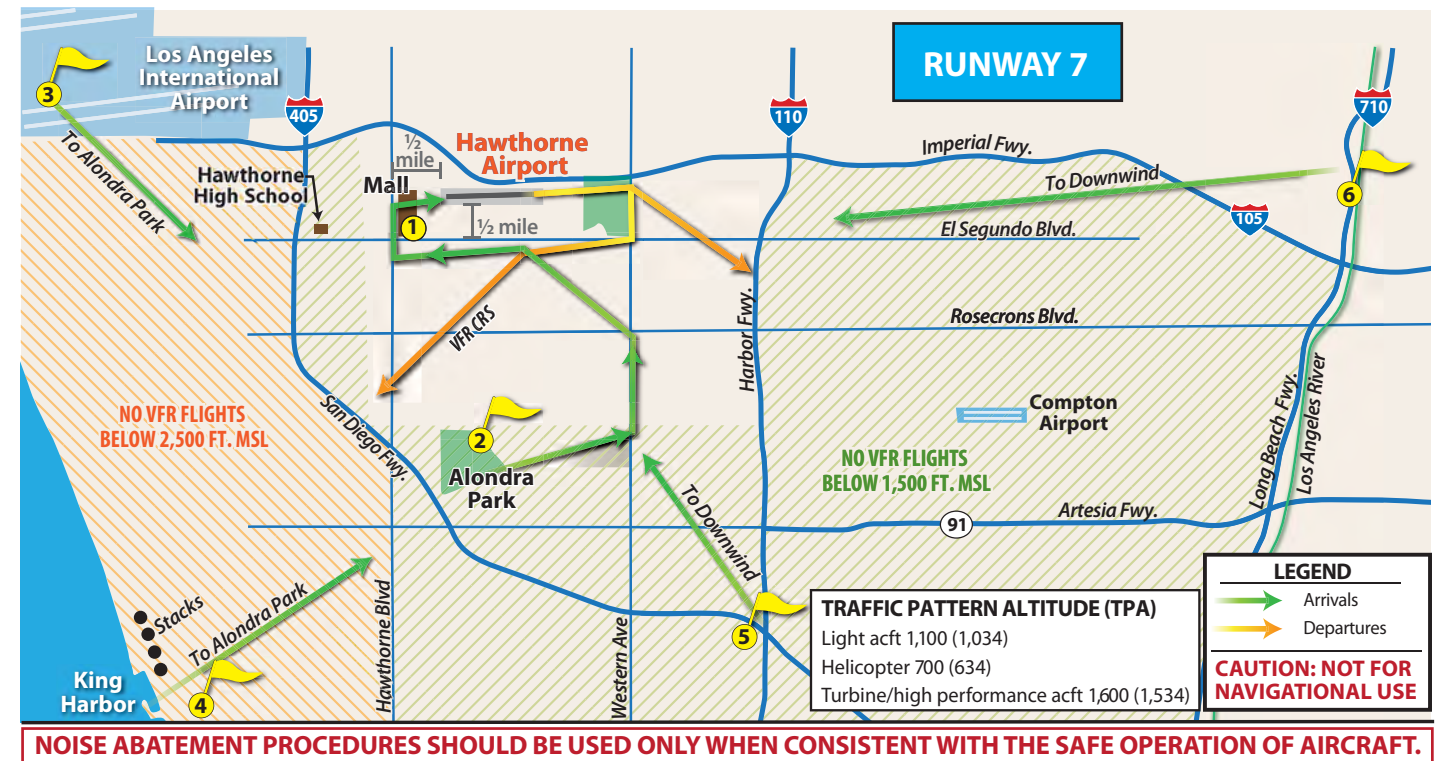
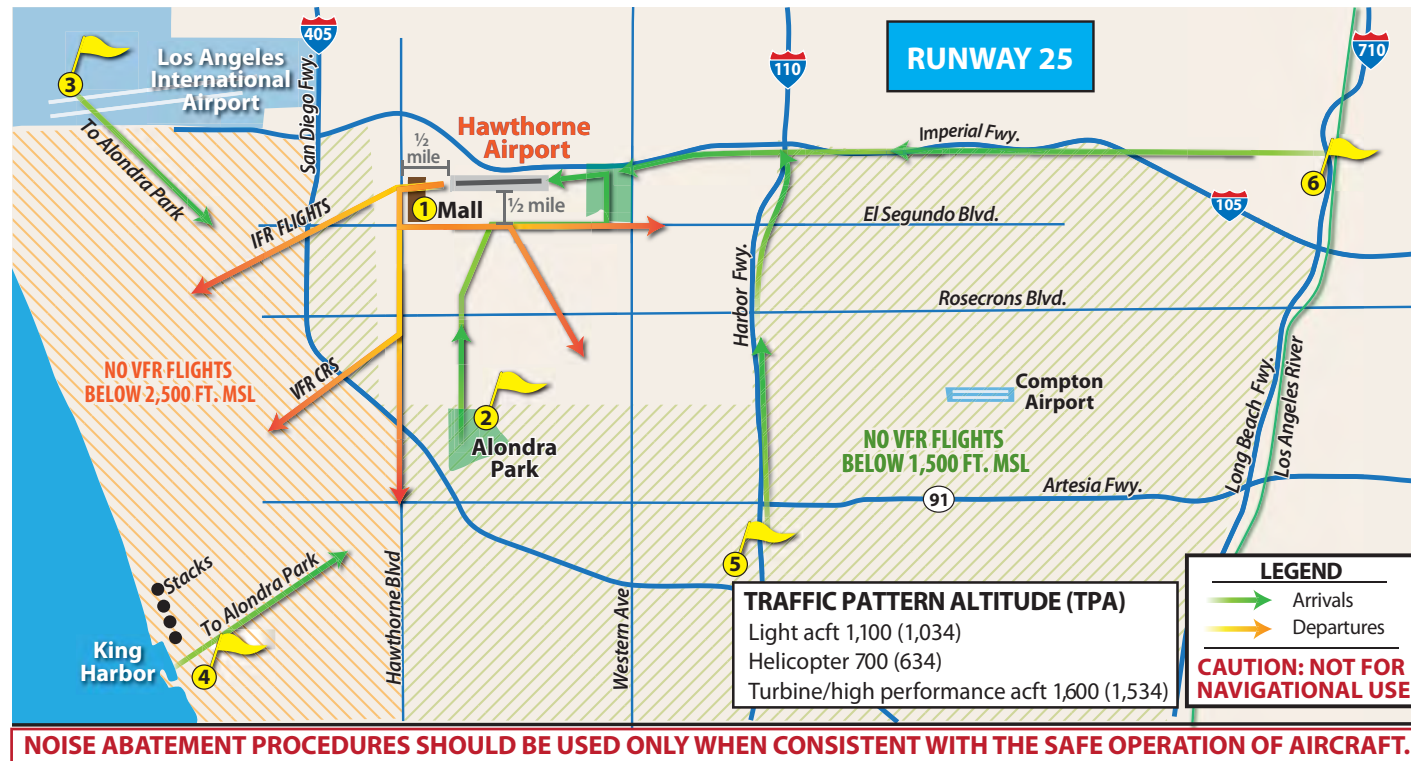
TABLE 1G
Instrument Approach Data
Hawthorne Municipal Airport

	Weather Minimum by Aircraft Approach Category					
	Category A & B		Category C		Category D	
	Cloud Ht.	Visibility	Cloud Ht.	Visibility	Cloud Ht.	Visibility
RNAV (GPS) RWY 25						
LPV DA	571'	1.5 mi	571'	1.5 mi	571'	1.5 mi
LNAV/VNAV DA	653'	1.875 mi	653'	1.875 mi	653'	1.875 mi
LNAV MDA	580'	0.75 mi	580'	1.375 mi	580'	1.375 mi
Circling	620'	1.0 mi	780'	2 mi	780'	2.25 mi
LOC RWY 25						
Straight-in	580'	0.75 mi	580'	1.375 mi	580'	1.375 mi
Circling	620'	1.0 mi	780'	2 mi	780'	2.25 mi
VOR RWY 25						
Straight-in	600'	1.0 mi	600'	1.5 mi	600'	1.75 m
Circling	600'	1.0 mi	620'	1.5 mi	620'	2.0 mi

Source: U.S. Terminal Procedures effective October 10, 2019 through December 5, 2019.

AIRSPACE AND AIR TRAFFIC CONTROL

The *Federal Aviation Administration Act of 1958* established the FAA as the responsible agency for the control and use of navigable airspace within the United States. The FAA has established the National Airspace System (NAS) to protect persons and property on the ground and to establish a safe and



DEPARTURE

Standard:

IFR

- The IFR obstacle departure procedure for Runway 25 is a published immediate left turn to the heading issued in the IFR clearance. Turns should be made at 400 ft. AGL. Failure to follow this procedure may result in a loss of separation with arrivals to LAX Runway 25L, and possible pilot deviation.

VFR

- Fly runway heading until reaching the Hawthorne Mall 1 1/4 mile west of the airport. Closed traffic should turn downwind parallel to and over El Segundo Blvd. VFR Standard departures should turn southwest-bound prior to reaching Alondra Park, 2 climbing above 1,000 ft. prior to turning.

Crosswind:

- Turn 90° left, remain over Hawthorne Blvd.
- After crossing Rosecrans 2 miles south of Airport at or above 1,500 ft. MSL, turn to exit Hawthorne Class D southwest bound.
- No south-bound turns before reaching the runway end.

Downwind:

- Climb downwind until reaching 1,500 ft. MSL or the east boundary of the airport.
- No turns before passing the east boundary of the airport.

TRAFFIC PATTERN

Procedure:

- Fly runway heading until reaching 500 ft. AGL or the Hawthorne Mall 1 1/4 mile west of the airport.
- Crosswind, remain over Hawthorne Blvd.
- Downwind, remain over El Segundo Blvd. at 1,100 ft. MSL.
- Turn base to fly and remain over golf course within 1 mile of the east boundary of the airport (traffic permitting).

ARRIVAL

From 2:

- Cross Alondra Park at or above 1,500 ft. MSL.
- Descend to 1,100 ft. MSL prior to entering downwind.

From 3 and 4:

- Proceed directly to Alondra Park and remain at or above 2,500 ft. MSL until east of the 405 Fwy. During Tower hours of operation, contact HHR Tower as soon as practical after leaving the transition routes over LAX and departing King Harbor.

From 5:

- Remain east of the 110 Fwy at or above 1,500 ft. MSL until turning final.

From 6:

- Remain at or above 1,500 ft. MSL until crossing the 110 Fwy. Remain south of the 105 Fwy.

DEPARTURE

Standard:

IFR

- The IFR obstacle departure procedure for Runway 7 includes a published immediate right turn to the heading issued in the IFR clearance. Turns should be made at 400 ft. AGL. If possible and still in visual conditions, plan to turn mid golf course.

VFR

- After takeoff, adjust upwind to the right to remain over the Lowe's parking lot east of the airport.
- Above 500 ft. AGL and over the golf course, turn right 45° and depart southeast-bound to avoid possible IFR arrivals from the east. Closed traffic should turn downwind upon reaching El Segundo Blvd. to a course of 250° and fly parallel to Runway 25.

Downwind:

- Departing the pattern on the downwind should begin midfield southwest-bound on a course of 210°.
- Above 1,500 ft. MSL, resume own navigation or as directed by the Hawthorne Tower. Avoid flying over the homes in the southwest corner of the golf course. Use caution for aircraft transiting the 110 Fwy at 1,500 ft. MSL.
- Climb downwind to 1,500 ft. MSL at best rate of climb.
- Abeam midfield, depart southwest toward King Harbor (210).

TRAFFIC PATTERN

Procedure:

- After takeoff, adjust upwind to the right to remain over the Lowe's parking lot east of the airport and remain south of 120th Street until mid golf course.
- Turn crosswind over the golf course and fly on the east edge of the golf course.
- Closed traffic should turn downwind upon reaching El Segundo Blvd. to a course of 250° and fly parallel to Runway 25.
- Right base should be flown over Hawthorne Blvd. to mask noise, and turn should not be over Hawthorne High School located 1 mile west of Hawthorne Blvd.
- If unable to fly over Hawthorne Blvd. and align with Runway 7, pilots should climb immediately and go around east-bound over Runway 7, continue in the traffic pattern, and return for another attempt.
- Under no circumstances should pilots fly over Hawthorne High School 1 mile west of the Airport.
- Fly downwind after crossing El Segundo Blvd. parallel to the runway.
- Turn base leg to fly over Hawthorne Blvd. and the Hawthorne Mall 1 west of the airport.

ARRIVAL

From 2:

- Cross Alondra Park at or above 1,500 ft. MSL.
- Expect to fly east to arrive on a 45° entry leg.
- Descend to 1,100 ft. MSL prior to entering downwind.

From 3 and 4:

- Proceed directly to Alondra Park and remain at or above 2,500 ft. MSL until east of the 405 Fwy.

From 5:

- Proceed on a 45° entry leg to midfield downwind.
- Descend to 1,100 ft. MSL prior to entering a right downwind over El Segundo Blvd. south of the airport.

From 6:

- Remain at or above 1,500 ft. MSL until crossing the 110 Fwy.
- Enter downwind directly parallel to the runway.
- VFR arrivals from the east should plan to arrive from over the I-710 and I-105 intersection and contact HHR Tower prior to the intersection, using caution to avoid IFR arrivals on the HHR LOC and RNAV 25 approaches. HHR Tower will sequence VFR and IFR traffic from the east during Tower hours of operation.
- When the Tower is closed, VFR traffic should proceed to the I-405 and I-110 5 intersection and plan to enter right standard traffic, landing to the east on Runway 7, and follow uncontrolled airport procedures.

Source: Hawthorne Municipal Airport Pilot's Guide

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efficient airspace environment for civil, commercial, and military aviation. The NAS covers the common network of U.S. airspace, including air navigation facilities; airports and landing areas; aeronautical charts; associated rules, regulations, and procedures; technical information; and personnel and material. Hawthorne Municipal Airport has no direct control over airspace management or ATCT for aircraft operating at the airport. These functions are handled by the FAA and the local ATCT staff.

The Hawthorne ATCT is located north of Runway 7-25, just west of midfield. The tower is open 16 hours daily, from 6:00 a.m. – 10:00 p.m. Operating conditions for aircraft at Hawthorne Municipal Airport are also influenced by aircraft at other airports within the Los Angeles basin, most notably LAX. **Exhibit 1M** shows radar flight track data for arrivals and departures over a 24-hour period for the following airports within the Los Angeles basin:

- Bob Hope Airport
- John Wayne-Orange County Airport
- Los Angeles International Airport
- Ontario International Airport
- San Bernardino International Airport
- Van Nuys Airport

AIRSPACE STRUCTURE

FAA has established a standardized airspace system to regulate the use of airspace for all airports within the U.S. Within the FAA's system, airspace is broadly classified as either controlled or uncontrolled. The difference between controlled and uncontrolled airspace relates primarily to requirements for pilot qualifications, ground-to-air communications, navigation and air traffic services, and weather conditions. Six classes of airspace have been designated in the U.S. **Exhibit 1N** shows the airspace structure classifications and terminology established by the FAA. Airspace designated as Classes A, B, C, D, or E is considered controlled airspace. Aircraft operating within controlled airspace are subject to varying requirements for positive air traffic control. **Exhibit 1P** illustrates the airspace within the Los Angeles basin, including Hawthorne Municipal Airport and other surrounding airports.

- Class A airspace is controlled airspace and includes all airspace from 18,000 feet mean sea level (MSL) to Flight Level 600 (approximately 60,000 feet MSL).
- Class B airspace is controlled airspace surrounding high activity commercial service airports, such as Los Angeles International Airport. Class B airspace is individually tailored and consists of a surface area and two or more layers. Immediately east of Hawthorne Municipal Airport, airspace is classified as Class B from the surface to 10,000 feet MSL. Class B exists north of the airport, influencing where aircraft turn when departing to the north.
- Class C airspace is airspace that is within 30 nautical miles (nm) of primary airports of Class B airspace and within 10 nm of designated airports. The normal radius of the outer limits of Class C airspace is 10 nm.



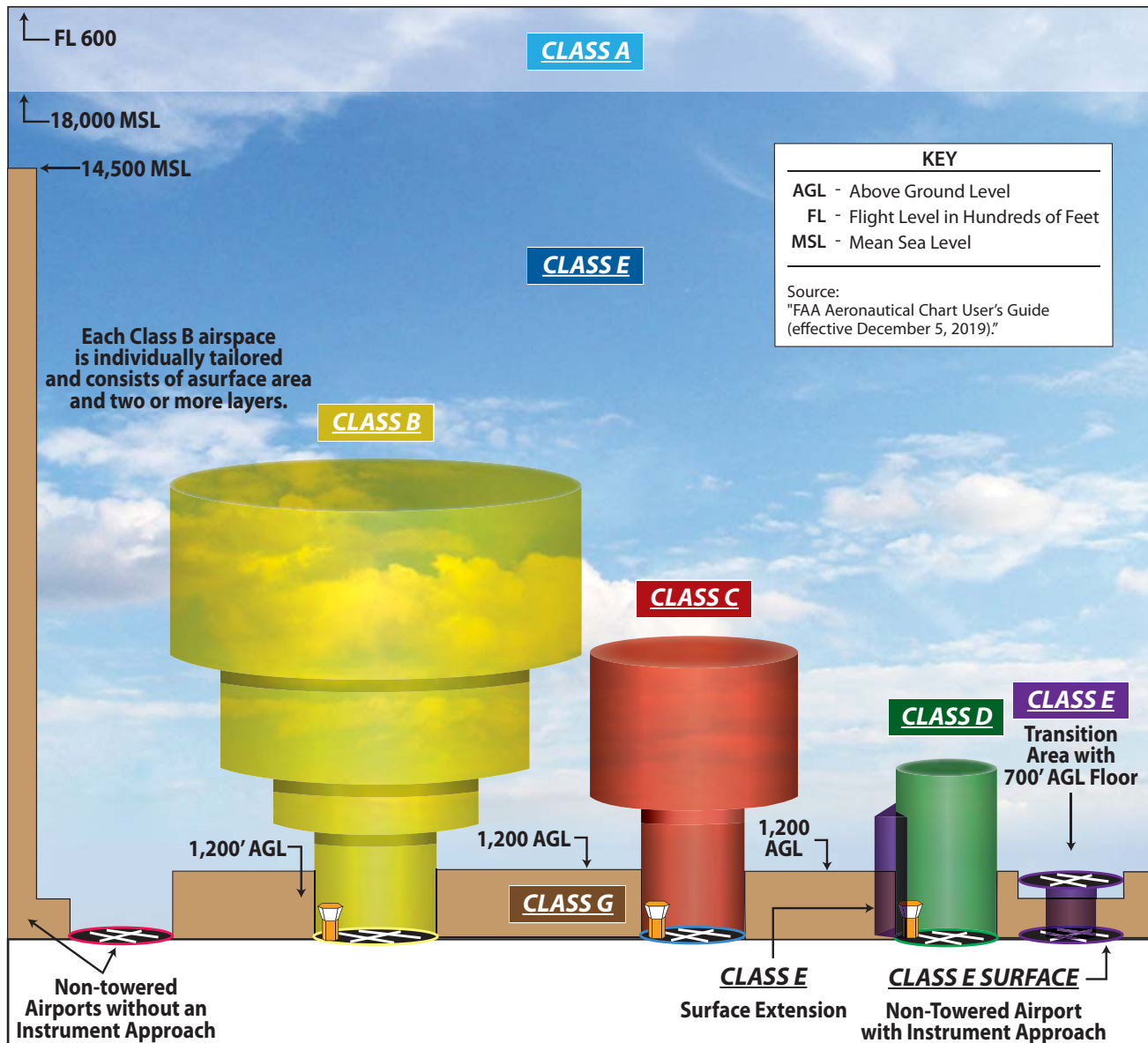
- Class D airspace is controlled airspace surrounding low-activity commercial service or general aviation airports with an ATCT. Hawthorne Municipal Airport airspace is classified as Class D from the surface to 2,500 feet MSL for approximately five nautical miles to the west and south of the airport. Class D airspace is only effective during the time that the ATCT is operational (6:00 a.m. to 10:00 p.m.).
- Class E airspace is controlled airspace surrounding an airport that encompasses all instrument approach procedures and low altitude federal airways. Only aircraft conducting instrument flights are required to be in contact with air traffic control when operating in Class E airspace. While aircraft conducting visual flights in Class E airspace are not required to be in radio contact with air traffic control, visual flight can only be conducted if minimum visibility and cloud ceilings exist.
- Class G airspace is uncontrolled airspace that does not require communication with an ATCT. Since the Class D airspace for Hawthorne Municipal Airport is only effective when the ATCT is operational, when the tower is closed between 10:00 p.m. and 6:00 a.m., the Class D airspace reverts to Class G airspace.

SUMMARY

The information presented in this chapter provides a foundation upon which the remaining elements of the planning process will be constructed. Information on current airport facilities and utilization serves as a basis for the development of the aircraft noise analysis during the next phase of the study. The information found of the airport environs in this inventory section will allow the assessment of airport noise impacts.



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DEFINITION OF AIRSPACE CLASSIFICATIONS

CLASS A

Generally airspace above 18,000 feet MSL up to and including FL 600.

CLASS B

Generally multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports. Each Class B airspace is individually tailored and consists of a surface area and two or more layers.

CLASS C

Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control.

CLASS D

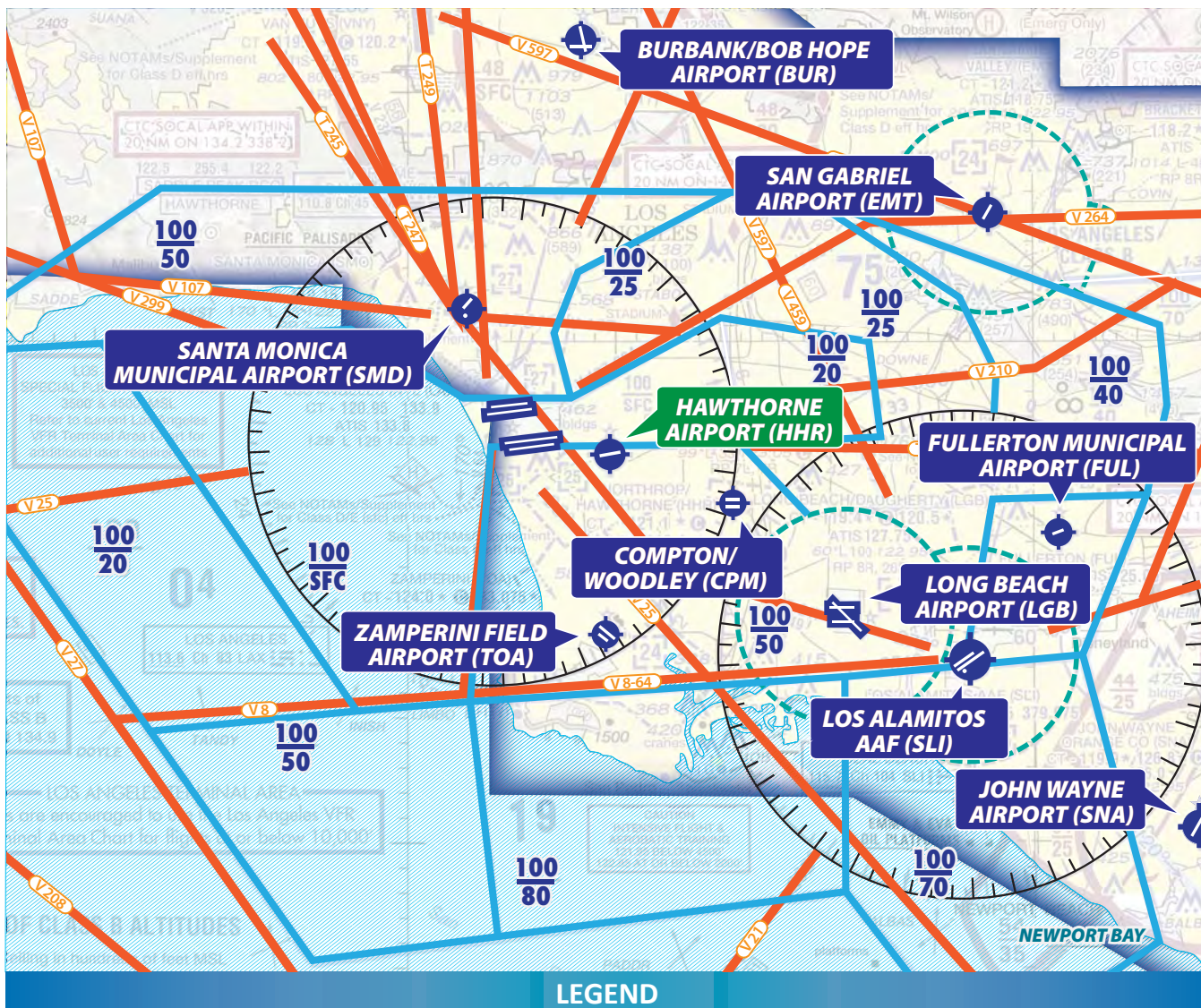
Generally airspace from the surface to 2,500 feet AGL surrounding towered airports.










CLASS E

Generally controlled airspace below 14,500 feet MSL that is not Class B, Class C, or Class D.

CLASS G

Generally uncontrolled airspace below 14,500 feet MSL that is not Class B, Class C, Class D, or Class E.



- | | | | |
|---|---|---|---|
|  | Airport with hard-surfaced runways
1,500' to 8,069' in length |  | Class B Airspace |
|  | Airports with hard-surfaced runways
greater than 8,069' or some multiple
runways less than 8,069' |  | Class D Airspace |
|  | Compass Rose |  | Class E (sfc) Airspace |
|  | Victor Airways |  | Class E Airspace with floor 700'
above surface |
|  | Wilderness Areas | | |



NOT TO SCALE

Source: Los Angeles Sectional Charts, US Department of Commerce, National Oceanic and Atmospheric Administration June 20, 2019



Hawthorne Municipal Airport

Chapter Two Aviation Noise





Chapter Two

Aviation Noise

As part of the voluntary Part 150 noise compatibility study process, the Federal Aviation Administration (FAA) requires that the prevailing noise conditions at an airport be defined using a computer noise simulation model. FAA has approved the use of the Airport Environmental Design Tool (AEDT) for use in noise compatibility studies. This software replaces the Integrated Noise Model (INM) used to prepare the noise contours for the 2014 Noise Exposure Maps for Hawthorne Municipal Airport. The current version used for the purposes of this study is AEDT, Version 3c. AEDT is designed to predict annual average aircraft noise conditions at a given geographic location. The purpose of the noise model is to produce noise exposure contours which are overlain on a map of the airport and vicinity to graphically represent aircraft noise conditions. With the use of existing land use, zoning, and general plan maps presented in Chapter One, the noise exposure contours are used to identify areas that currently are, or have the potential to be, exposed to significant aircraft noise levels per FAA guidance.

To achieve an accurate representation of an airport's noise conditions, the AEDT incorporates a combination of industry standard information and user-supplied inputs specific to the airport.¹ The software provides noise characteristics, standard flight profiles, and manufacturer-supplied flight procedures for aircraft within the U.S. civil and military fleets, including those which commonly operate at Hawthorne Municipal Airport. As each aircraft has different design and operating characteristics (number and type of engines, weight, and thrust levels), each aircraft emits different noise levels. The most common way to spatially represent the noise levels emitted by an aircraft is with a noise exposure contour.

¹ The AEDT accepts user-provided input for aircraft profiles and aircraft characteristics, although the FAA reserves the right to accept or deny the use of such data depending on its statistical validity. Any user characteristics must be approved by FAA prior to completion of the analysis.

Based on AEDT-provided and user inputs, the 24-hour aircraft sound exposure within a grid covering the airport and surrounding areas is calculated. The grid values, represented with the community noise equivalent level metric or CNEL, at each intersection point on the grid represent a noise level for that geographic location. To create the noise contours, a line linking equal values, similar to those on a topographic map, is drawn which connects points of the same CNEL noise value. In the same way that a topographic contour represents the same elevation, the noise contour identifies equal noise exposure. For more information regarding the CNEL noise metric, consult the **Resource Library**, located in the appendices.

Airport specific information, including runway configuration, flight paths, aircraft fleet mix, runway use distribution, elevation, atmospheric conditions, and numbers of daytime, evening, and nighttime operations are also used as modeling inputs. **Exhibit 2A** depicts the various AEDT input categories for developing noise exposure contours. Specific modeling assumptions for Hawthorne Municipal Airport are discussed in the following sections.

AIRCRAFT NOISE MODELING ASSUMPTIONS

AIRPORT INFORMATION

Airport-specific information is needed to model noise exposure conditions. **Table 2A** summarizes modeling assumptions for runways, temperature, relative humidity, and airport elevation. As discussed in Chapter One, Hawthorne Municipal Airport has one runway, Runway 7-25, which is 4,884 feet long and is not anticipated to change during the time horizon for this study; therefore, this condition was used for both the 2020 and 2025 conditions. The elevations of the runway ends (65 feet for Mean Sea Level (MSL) for Runway 7 and 61 feet MSL for Runway 25) were input to indicate the altitude at which the flight tracks originate and terminate. AEDT adjusts noise calculations based on atmospheric conditions specific to the airport's location and elevation. As outlined in the AEDT User Guide, local temperature, relative humidity, and atmospheric pressure values, which affect atmospheric absorption of noise, are adjusted according to the methods specified in the Society of Automotive Engineers' "Application of Pure-Tone Atmospheric Absorption Losses to One-Third Octave Band Data," SAE-ARP-5534.

TABLE 2A
AEDT Input Assumptions
Hawthorne Municipal Airport

AEDT Input	Model Value
Runway 7-25	4,884 feet x 100 feet
Average Annual Temperature	64.2°F
Relative Humidity	61.6
Runway End Elevations	Runway 7 – 65 feet, Runway 25 – 61 feet

AEDT: Airport Environmental Design Tool

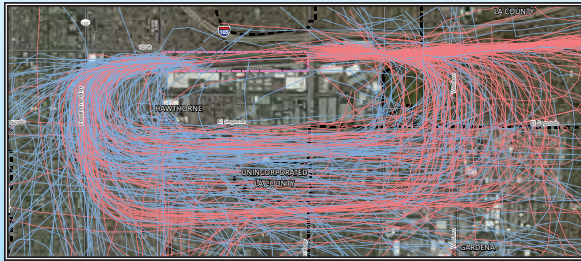
MSL: Mean sea level

Source: Aviation Environmental Design Tool, Version 3c Airport Database, 722956- KHHR

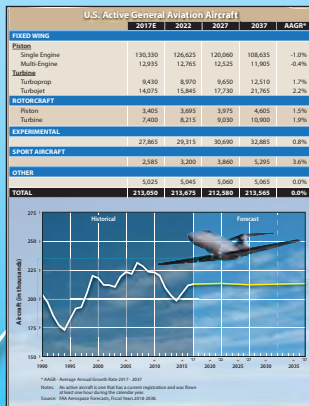


AEDT PROCESS

Flight Tracks



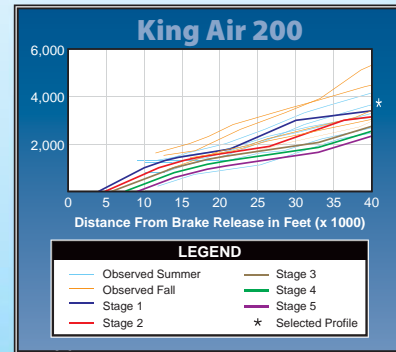
Existing & Forecast Operations/Fleet Mix



Time of Day

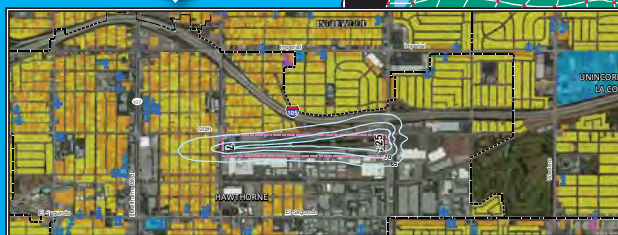


Profile Analysis

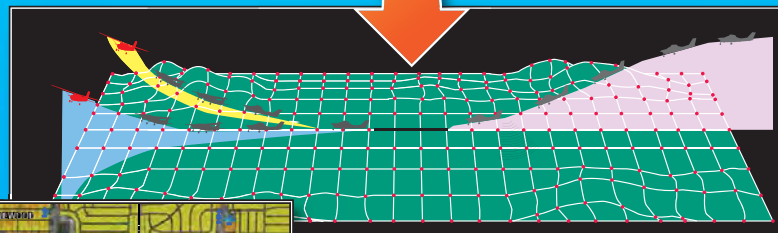


Terrain Data

AIRPORT ENVIRONMENTAL DESIGN TOOL (AEDT)



Noise Contours



Grid Point Analysis

OPERATIONAL FLEET MIX AND DATABASE SELECTION

The Hawthorne Municipal Airport Noise Exposure Maps (NEMs) were prepared for two study periods: existing condition (2020) and at least a five-year forecast (2025) in accordance with Title 14, Code of Federal Regulations (CFR), Part 150 (14 CFR Part 150 or Part 150). Operations totals used in the modeling are presented in **Table 2B**. As indicated in the table, existing condition (2020) operations are based on FAA's Traffic Flow Management System Counts for Hawthorne Municipal Airport Traffic Control Tower (ATCT) reports from January 2019 through December 2019. The 2025 operations are based on the FAA-approved forecasts from the *2019 Hawthorne Municipal Airport Layout Plan Update and Narrative Report*. See **Appendix E**.

TABLE 2B
Annual Operations Summary
Hawthorne Municipal Airport

Operations	Existing 2020 ¹	Forecast 2025 ²
Itinerant		
Air Taxi	4,030	13,000
Military	239	500
General Aviation	<u>37,167</u>	<u>42,200</u>
<i>Total Itinerant</i>	<i>41,436</i>	<i>55,700</i>
Local		
General Aviation	33,969	35,000
<i>Total Local</i>	<i>33,969</i>	<i>35,000</i>
TOTAL OPERATIONS	75,405	90,700

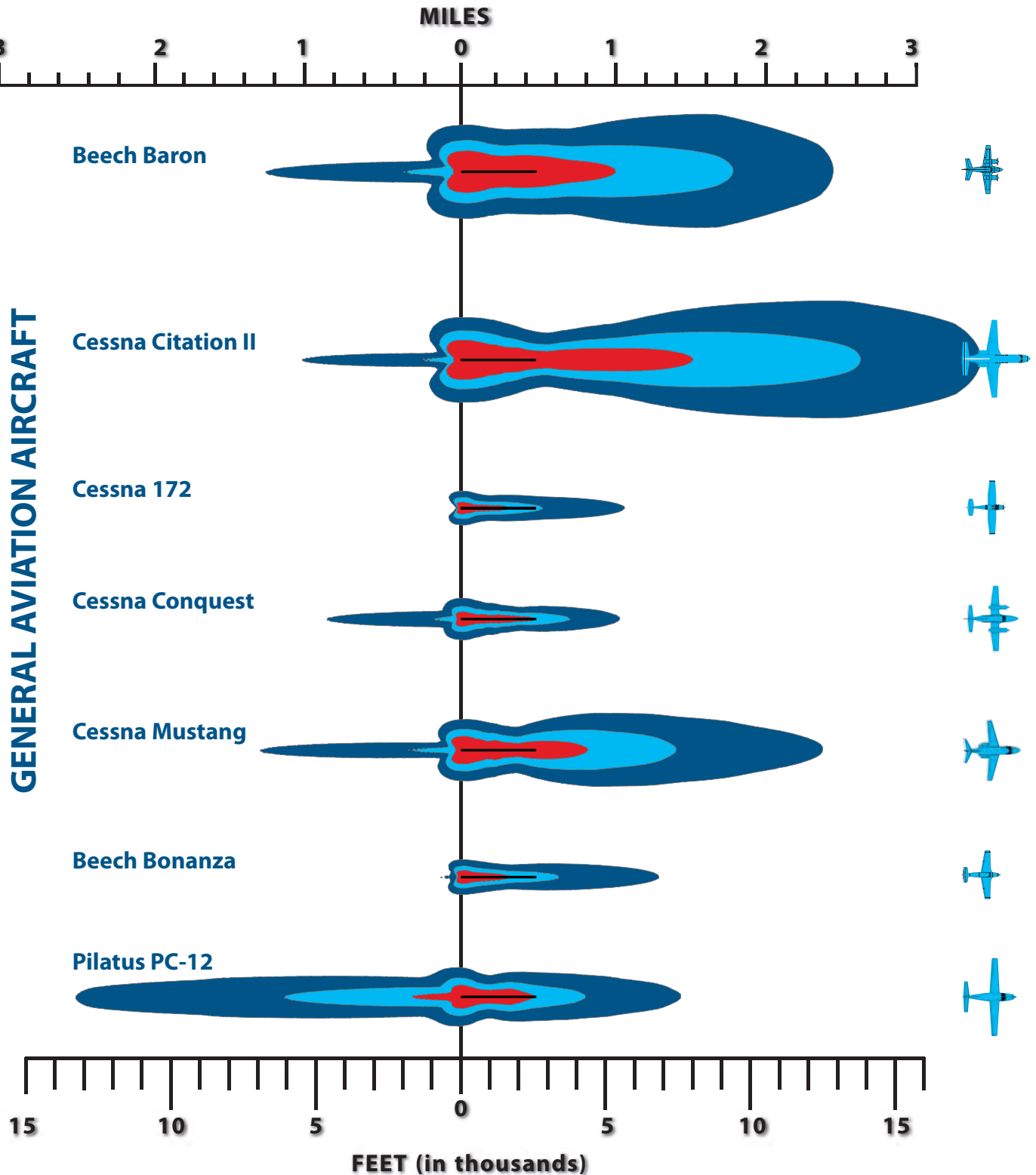
¹ FAA Traffic Flow Management System Counts (TFMSC) Hawthorne Municipal Airport, Calendar Year 2019 with an adjustment factor of 5.0 percent added to general aviation itinerant operations to account for when the ATCT is closed.

² *2019 Hawthorne Municipal Airport Layout Plan Narrative Report*. FAA determined the forecasts are consistent with the FAA's Terminal Area Forecast (TAF). See Appendix E.

Based on the annual operations levels presented in **Table 2B**, a detailed fleet mix, or summary of the types of aircraft operating at Hawthorne Municipal Airport, was prepared. The fleet mix presents the total number of operations by aircraft type for the existing condition and forecast years. For each aircraft, an AEDT noise designator was selected to provide representative noise exposure during the modeling process. The AEDT aircraft fleet database includes approximately 3,000 airframe and engine combinations.

A fleet mix is a summary of the types of aircraft that operate at an airport.

Each aircraft type in the AEDT has a unique noise footprint which can be depicted spatially. To illustrate this concept, single event noise contours generated by one departure and one arrival of a given aircraft type are present on **Exhibit 2B**. In contrast to the CNEL noise contours used for the Noise Exposure Maps, these contours depict the sound exposure level (SEL) for aircraft that operate at Hawthorne Municipal Airport. The sound exposure level is used when computing an aircraft's acoustical contribution to a cumulative noise metric such as CNEL. The noise footprint of an aircraft is influenced by a variety of factors, including the shape of the airframe, engine type, and aircraft weight. In addition



The contours represent sound exposure levels (SEL) of 85, 90 and 95 dB for one arrival and one departure of each aircraft type. The outer contour represents 85 dB SEL. The inner contour represents 95 dB SEL.

to the amount of noise an aircraft generates, it is also important to note that not all aircraft sound alike. Although this information is not available from the AEDT and therefore not included in the noise contours, aircraft may have differing pitches (higher or lower) and the sound emitted from jet engines is typically a constant sound, whereas a propeller engine emits a series of rapid tones.

The types of aircraft operating at the airport were identified using FAA's Traffic Flow Management System Counts (TFMSC) and FAA's instrument flight rule database and were then grouped based on similar noise characteristics. In cases where a specific aircraft is not available within AEDT, designators were selected based on FAA's approved list of substitutes. No user-defined aircraft or profiles requiring FAA approval were used in the AEDT modeling. **Table 2C** summarizes the operational fleet mix assumptions.

As indicated in the table, single engine piston itinerant general aviation operations are divided into two categories based on the propeller type: variable pitch and fixed pitch. The GASEPV represents many single engine general aviation aircraft, including the Cessna 206, Piper PA-24 Comanche, and Piper PA-32 Cherokee Six. The general aviation single engine fixed pitch propeller model, the GASEPF, also represents several single engine general aviation aircraft. These include the Cessna 150 Series and the Piper PA-28 Cherokee Series.

The AEDT fleet database identifies the BEC58P, the Beech Baron light twin-engine aircraft, as a comparable aircraft to the Beech 55 Baron, Beech 58 Baron, Beech 60 Duke, Piper PA-34 Seneca, Cessna 310, Cessna 340, and Cessna 402, among others. The Piper PA-31 (PA31) designator was used to model this aircraft.

Itinerant general aviation twin-engine turboprop operations, including the Cessna 441 Conquest and Beech King Air, were modeled using the CNA441 (Cessna 441). Smaller single engine turboprop aircraft were modeled using CNA206 (Cessna 206). The AEDT fleet database includes the Cessna 208 airframe to model operations of the Cessna 208 Caravan and Socata TBM-7. Additionally, the Cessna 208 airframe, when combined with a Pratt and Whitney model PT6A-67 engine, specifically represents the Pilatus PC-12 aircraft in the AEDT. Larger twin engine turboprop aircraft, such as the Piaggio P-180 Avanti, were modeled using the SD330 identifier (Short 330).

Business jet operations are based on FAA's TFMSC reports and were modeled as follows: Eclipse 500 (ECLIPSE500), Cessna Citation I and II (CNA500), Cessna Excel (CNA55B), Cessna Citation III (CIT3), Lear 31, 35, 45, 75, Raytheon Premier (LEAR35), Bombardier Challenger 600 (CL600), Bombardier Challenger 601 (CL601), Cessna Citation X (CNA750), and Gulfstream V and Gulfstream 650 (GV).

Additionally, itinerant helicopters were modeled using the Robinson R22 (R22) and Robinson R44 (R44). The Coast Guard also conducts operations at the airport using the HH-65 Dolphin, which is represented in the model as the SA365N.

Local operations were modeled with the previously discussed GASEPF, GASEPV, R22, and R44 aircraft.

TABLE 2C
Operational Fleet Mix
Hawthorne Municipal Airport

Aircraft Type ¹	AEDT Designator ²	2020 Operations ³	2025 Operations ⁴
GA Itinerant Operations			
Single Engine Piston – fixed	GASEPF	8,261	11,070
Single Engine Piston – variable	GASEPV	8,261	11,070
Multi-Engine Piston	BEC58P	3,091	4,140
Helicopter (Small)	R22	10,740	14,390
Helicopter (Medium)	R44	1,193	1,599
Single Engine Turboprop, Small	CNA206	108	145
Single Engine Turboprop, Small	CNA208	291	390
Turboprop Multi-Engine, Small	CNA441	2,350	3,149
Single Engine Turboprop Large	CNA208/Pilatus PC-12	2,497	3,346
Turboprop Multi-Engine, Large	SD330	106	142
Turbojet, Small	ECLIPSE500	461	617
Turbojet, Small	CNA500	505	676
Turbojet, Medium	CNA560U	144	193
Turbojet, Medium	CIT3	445	597
Turbojet, Medium	LEAR35	880	1,179
Turbojet, Medium	CNA55B	837	1,121
Turbojet, Large	CL600	376	504
Turbojet, Large	CL601	252	338
Turbojet, Large	CNA750	263	352
Turbojet, Large	GV	136	182
GA Itinerant Total Operations		41,197	55,200
Military Itinerant Operations			
Helicopter	SA365N	239	500
Total Military Operations		239	500
GA Local Operations			
Single Engine Piston – fixed	GASEPF	15,965	16,450
Single Engine Piston – variable	GASEPV	15,965	16,450
Multi-Engine Piston	BEC58P	1,020	1,050
Helicopter (Small)	R22	679	700
Helicopter (Medium)	R44	340	350
GA Local Total Operations		33,969	35,000
Total Operations		75,405	90,700

¹ Coffman Associates' analysis. No user-defined aircraft or profiles requiring FAA approval were used in the AEDT modeling.

² FAA Traffic Flow Management System Counts (TFMSC), Hawthorne Municipal Airport, Calendar Year 2019 with an adjustment factor of 5.0 percent added to general aviation itinerant operations to account for when the ATCT is closed.

³ 2019 Hawthorne Municipal Airport Layout Plan Narrative Report. FAA determined the forecasts are consistent with the FAA's Terminal Area Forecast (TAF). See Appendix E.

⁴ Coffman Associates' analysis.

TIME-OF-DAY

The CNEL noise metric, which is required for Part 150 studies in the State of California, weighs operations occurring during the evening hours (7:00 p.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) more heavily. In calculating aircraft noise exposure, the AEDT increases the noise levels for evening operations by 4.77 decibels and nighttime operations by 10 decibels. For the purposes of this study, time-of-day assumptions for activity are based on interviews with ATCT staff, and a review of tower records. **Table 2D** summarizes the time-of-day percentages for all operation types assumed for this study. The evening and nighttime percentages were also applied to the 2025 scenario.

TABLE 2D
Time-of-Day Operations Percentages
Hawthorne Municipal Airport

Aircraft Category	2020			2025		
	Day	Evening	Night	Day	Evening	Night
Air Taxi and Business Jet	91%	6%	3%	91%	6%	3%
Itinerant General Aviation	91%	6%	3%	91%	6%	3%
Itinerant Military	91%	6%	3%	91%	6%	3%
Local	97%	2%	1%	97%	2%	1%

Day = 7:00 a.m. to 7:00 p.m.

Evening = 7:00 p.m. to 10:00 p.m.

Night = 10:00 p.m. to 7:00 a.m.

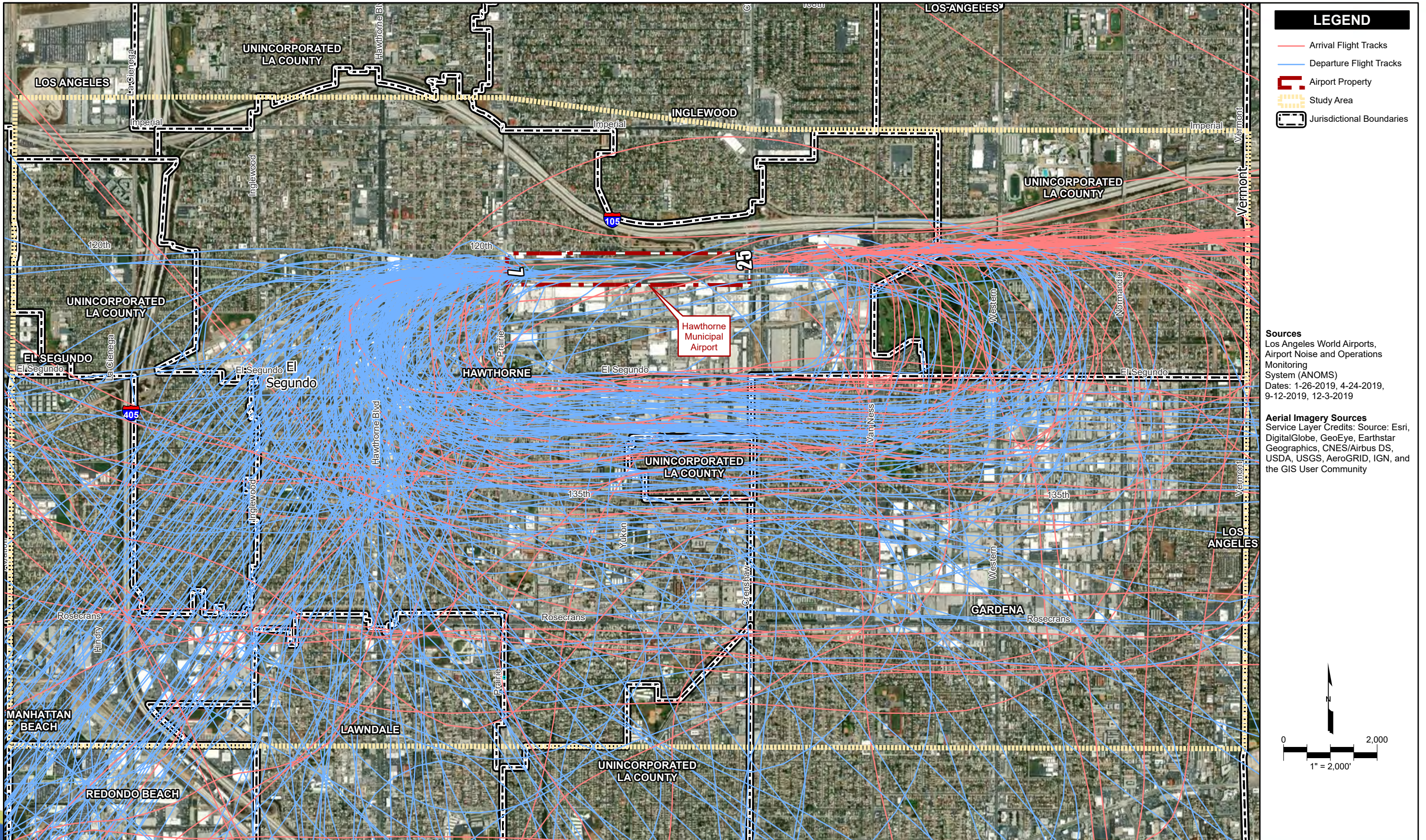
Source: Communication with ATCT staff and Coffman Associates analysis

RUNWAY USE

Runway use is generally influenced by the prevailing wind direction, as aircraft normally land and takeoff into the wind. Based on communication with airport and ATCT staff, and a review of radar flight track data, it is assumed that Runway 25 is used 99 percent of the time, while Runway 7 is used one percent of the time. This results in aircraft arriving to the airport from the east and departing to the west before making any turns. These assumptions were used for the existing and future conditions.

FLIGHT TRACKS

Flight patterns can be categorized within the following types: arrivals, departures, and local, or touch-and-go. Arrivals and departures correspond to itinerant traffic traveling to or from the airport, while local operations represent those operations conducted within the local traffic pattern. The touch-and-go nomenclature refers to an aircraft landing briefly on the runway and then resuming flight. Pilots use this technique to practice landings or other procedures. These paths are included in the model to indicate where each aircraft type operates. The AEDT arrival, departure, and local flight tracks for this study are based on radar flight track data obtained from Los Angeles International Airport for four randomly selected days, one from each quarter of calendar year 2019. The dates of the radar data are January 26, 2019; April 27, 2019; September 12, 2019; and December 3, 2019. **Exhibit 2C** depicts a radar



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24-hour flight track data sample from this time period. The ATCT staff was also consulted regarding typical flight patterns for the airport.

Exhibits 2D and 2E illustrate the existing and future condition arrival and departure flight tracks, based on radar flight track data for fixed wing aircraft, which includes all aircraft operating at the airport, except helicopters. AEDT allows for flight tracks to be dispersed accounting for variances in flight paths due to wind conditions and/or pilot technique. Only the backbone, or center track, is shown as the dispersed tracks are not an output option from AEDT.

Existing and future condition flight tracks for local activity and helicopters are illustrated on **Exhibit 2F**. The local activity and helicopter flight tracks were also dispersed, as indicated with the bold and thin lines on the exhibit. As indicated on the exhibit, much of the activity occurs on the south side of the runway. This is due to the proximity of Hawthorne Municipal Airport to Los Angeles International Airport. The primary arrival/departure corridor for Los Angeles is located immediately north of Interstate Highway 105. In some air traffic conditions, helicopter training does occur on the north side of the airport between Interstate Highway 105 and Runway 7-25.

As illustrated on the exhibits, fixed wing arrivals and departures on both ends of the runway represent various flight paths depending on the aircraft's origin or destination. The flight tracks delineated in Exhibits 2D, 2E, and 2F for existing and future conditions are the same.

The 2020 and 2025 noise exposure contours are based on the existing flight paths at Hawthorne Municipal Airport. No additional noise abatement procedures are assumed in the development of the contours.

Flight Track Assignments

The previously discussed operational conditions and runway utilization are used to assign aircraft activity to each of the tracks. Ultimately, this information determines the geographic distribution of the noise generated by operations at the airport. Based on an evaluation of aircraft operating characteristics, runway utilization, and flight track data, percentages were assigned to each consolidated flight track. The total number of operations for each aircraft is distributed among the available flight tracks to represent the operating conditions at the airport.

AEDT OUTPUT

In accordance with 14 CFR Part 150, noise exposure contours were calculated using the AEDT at the 65, 70, and 75 dB levels for the 2020 and 2025 conditions. As outlined in FAA Order 5100.38D, *Airport Improvement Program Handbook*, the FAA recognizes CNEL (community noise equivalent level) as an alternative noise metric for California.



The extent and shape of the noise contours is influenced by the previously discussed modeling assumptions. For comparative purposes, the contour area for each range and timeframe is presented in **Table 2E**. Additionally, **Table 2F** presents the total acres for each contour that extends off airport property.

TABLE 2E
Comparative Areas of Noise Exposure
Hawthorne Municipal Airport

	Area (Acres)	
	2020	2025
65-70 CNEL	89.3	99.3
70-75 CNEL	40.9	45.6
75+ CNEL	25.2	29.7
Total	155.4	174.6

Notes:

1. Acreages represent only those areas between the stated contour ranges.

Source: Coffman Associates' analysis

The following sections present the noise contours for the 2020 and 2025 scenarios. As illustrated on the exhibits, the area of noise exposure is greatest near the runway ends, which reflects the typical flight procedures at all airports. In some cases, the contours may extend off airport property. Additionally, depending on airport operating characteristics, sideline noise, represented by the portion of the contour running parallel to the runway, may also extend off airport property.

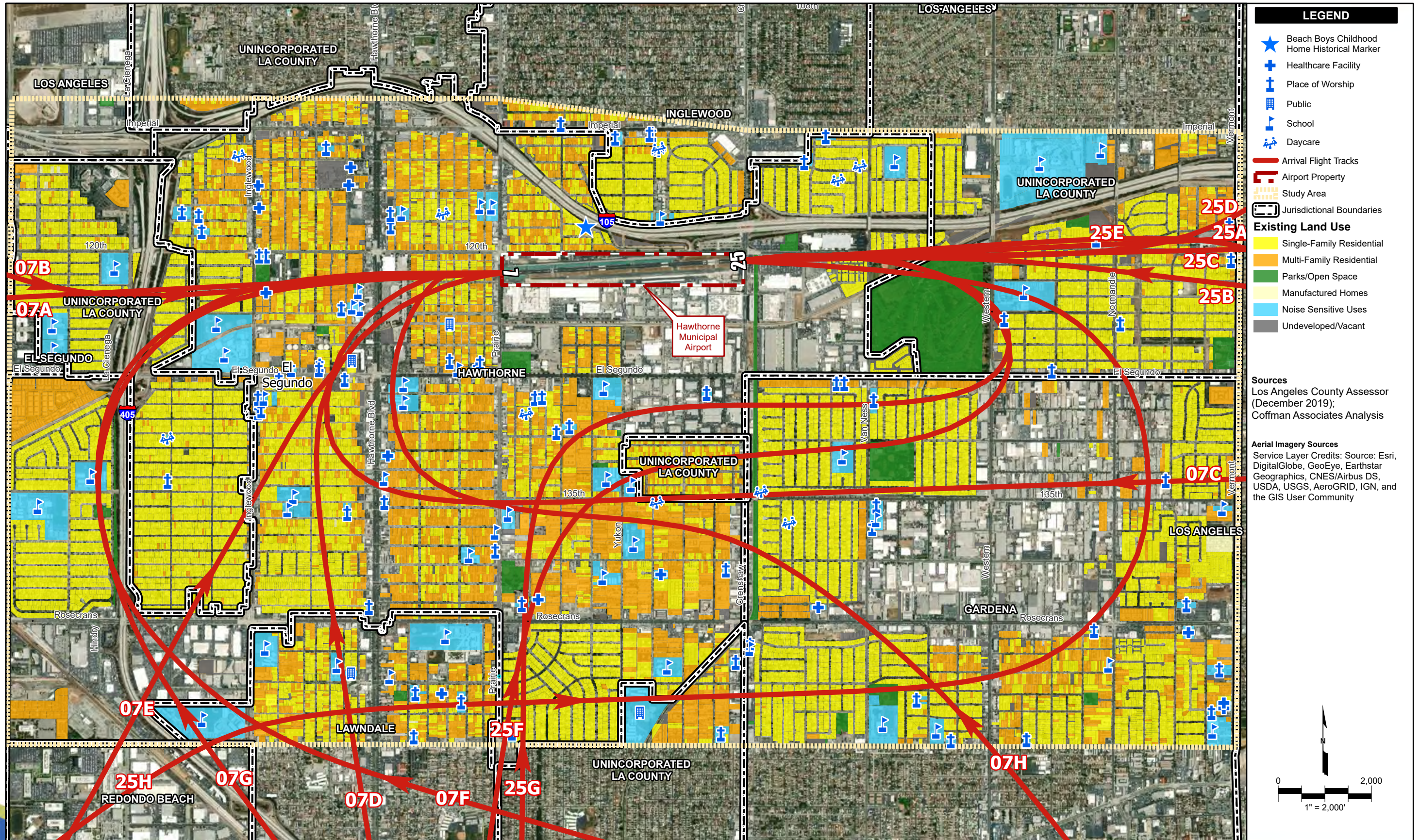
TABLE 2F
Contour Area Extending Off Existing Airport Property
Hawthorne Municipal Airport

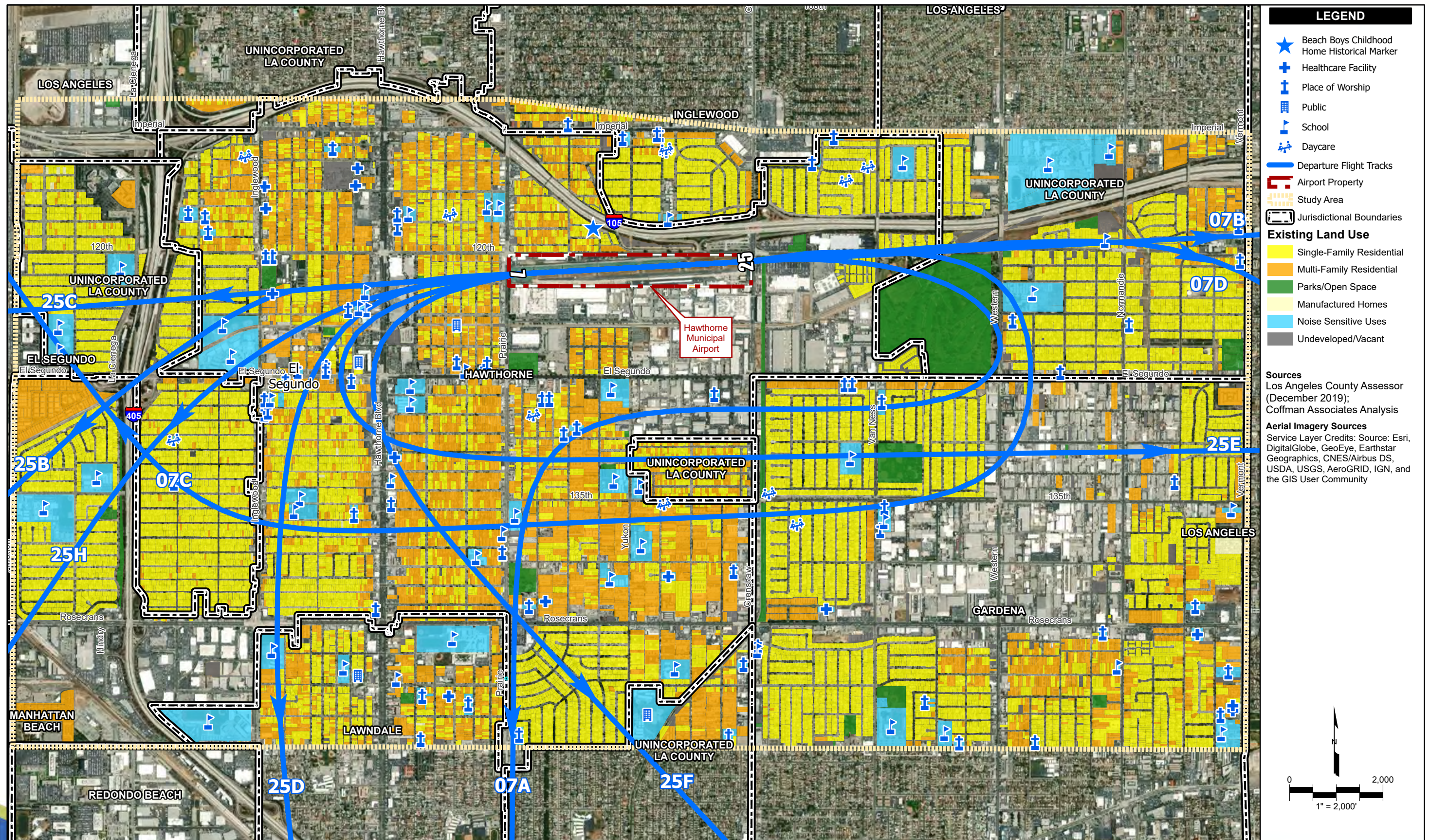
	Area (Acres)	
	2020	2025
65-70 CNEL	61.7	76.9
70-75 CNEL	12.2	14.7
75+ CNEL	1.8	2.9
Total	75.6	94.4

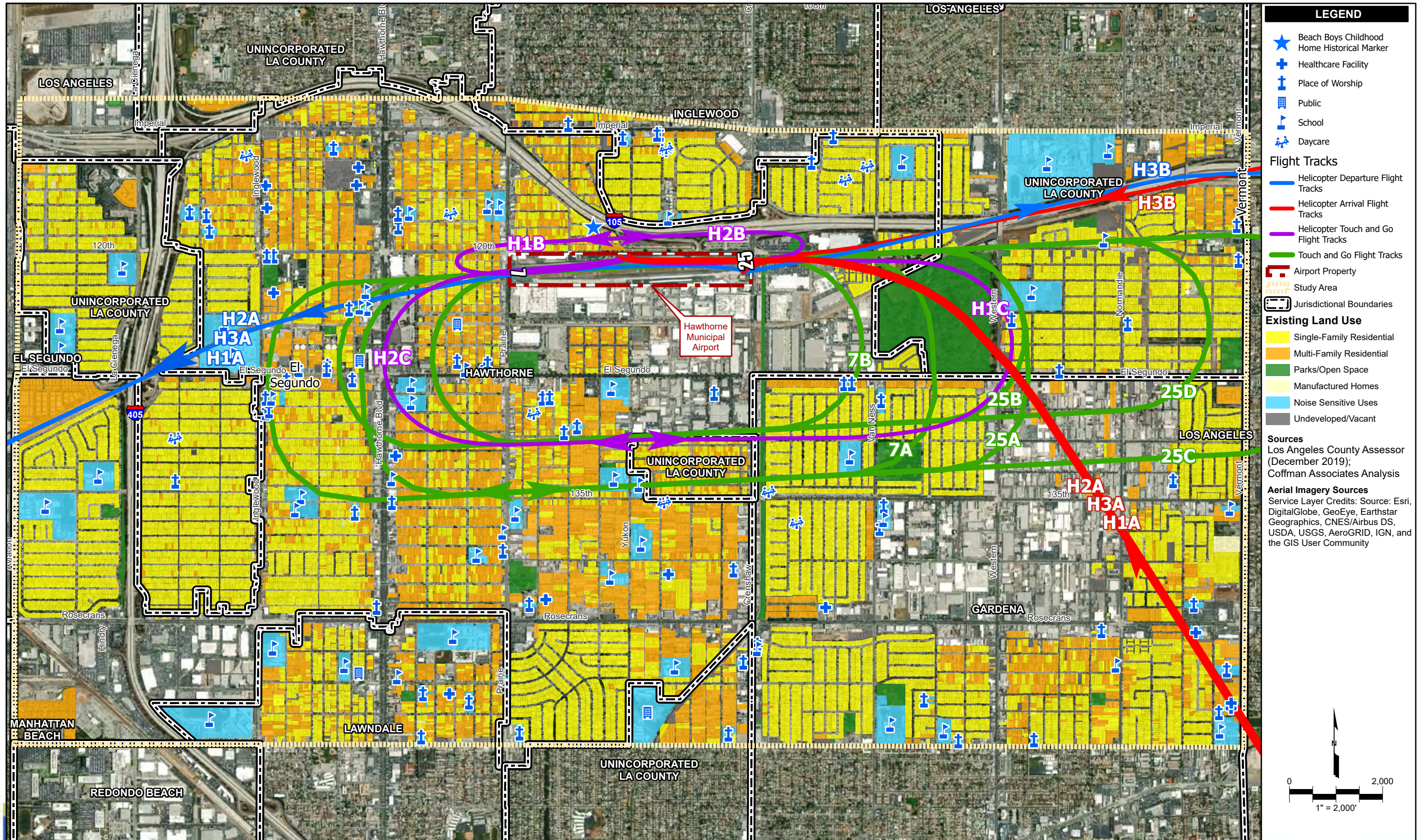
Notes:

1. Acreages represent only those areas between the stated contour ranges.

Source: Coffman Associates' analysis







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2020 NOISE EXPOSURE CONTOURS

As indicated on **Exhibit 2G** and **Table 2F**, the 65, 70 and 75 CNEL noise contours extend off airport property.

Typically, departure spool-up noise is the loudest component of aircraft operations; therefore, as shown on the exhibit, the contours are widest from east near the Runway 25 end, resulting from a majority (99%) of aircraft departing on Runway 25 to the west. The width of the contours on the north side of the airport near W. 120th Street is influenced by helicopter activity. Two helipads are located in this area. To the west, the contour elongates, which is indicative of departure noise as an aircraft gains altitude after leaving the ground.

As indicated in **Table 2F**, the total area of the 2020 noise contours located off airport property is 75.6 acres.

2025 NOISE EXPOSURE CONTOURS

The 2025 noise exposure contours are depicted on **Exhibit 2H**. The shape of the contours is similar to the 2020 scenario discussed previously. When compared to the 2020 scenario, the 65, 70, and 75 CNEL noise contours are slightly larger. This is likely due to projected increases in operations as presented in **Table 2C**. The contours are similarly influenced by a majority of departures to the west and helicopter activity.

As indicated in **Table 2F**, the total area of the 2025 noise contours located off airport property is 94.4 acres.

AIRCRAFT NOISE MEASUREMENT PROGRAM

Noise measurements were conducted near Hawthorne Municipal Airport beginning on February 17, 2020 and concluding on February 23, 2020. The measurement program was designed and undertaken to provide field-collected data for comparison with the computer-predicted values generated with AEDT, which only represent noise associated with Hawthorne Municipal Airport operations.

It should be noted that when comparing field measurements to computer-generated noise levels, discrepancies may exist. The 24-hour field measurements represent noise conditions for individual days, while the computer model represents the average annual condition for the measurement site. As a result, field-measured noise levels may be greater or less than the average condition represented by the model. These differences can be attributed to a number of variables, including the number and type of aircraft operations, operations from other area airports, interference from non-aviation noise, and climatic conditions.

Information collected during the noise monitoring program includes 24-hour measurements at eight different sites, ranging in durations of 24 hours to 72 hours for comparison with computer-generated CNEL. CNEL is a measure of cumulative sound energy during a 24-hour period. As with the AEDT, all

noise events occurring from 7:00 p.m. to 10:00 p.m. are assigned a 4.77 dB penalty, and noise events occurring between 10:00 p.m. to 7:00 a.m. are assigned a 10 decibel (dB) penalty to account for the potentially greater annoyance caused by evening and nighttime noise.

In addition to the cumulative noise data, information was collected for single event measurements. This information is used as an indicator of typical dB and sound exposure levels (SEL) within the airport area. All procedures and equipment involved in the aircraft noise measurement program were performed pursuant to guidelines set forth by Part 150, § A150.3.

ACOUSTICAL MEASUREMENTS

Four (4) Larson Davis Model 831 sound level meters were used to collect data during the noise measurement program. Each unit was equipped with an external microphone and a weatherproof case to protect the equipment from inclement weather.

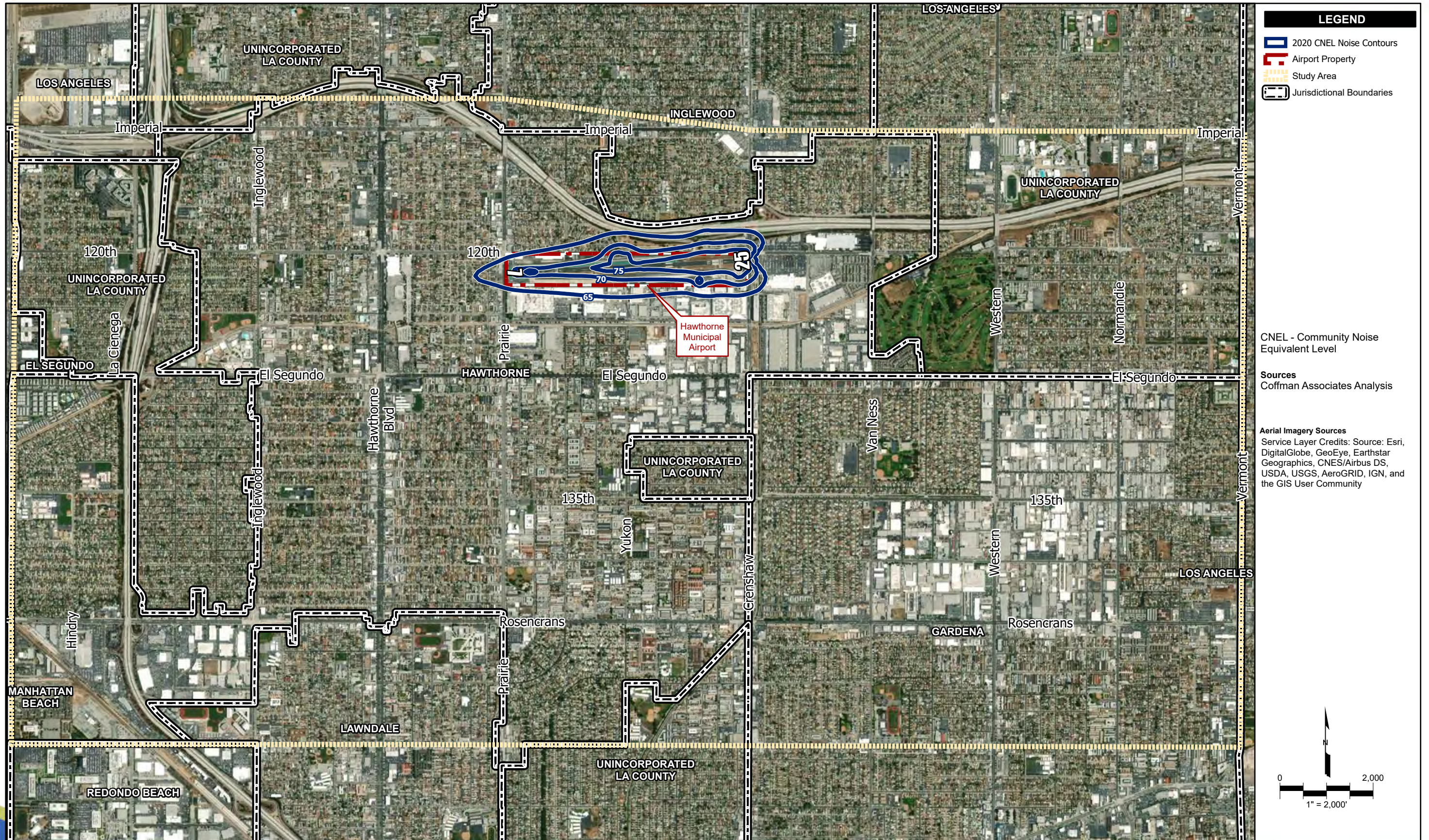
To ensure consistency between measurement locations, each unit was calibrated with a Larson Davis calibration device. A calibrator, with an accuracy of 0.5 decibels (dB), was used for all instruments. At the completion of each field measurement, the monitors were re-calibrated.

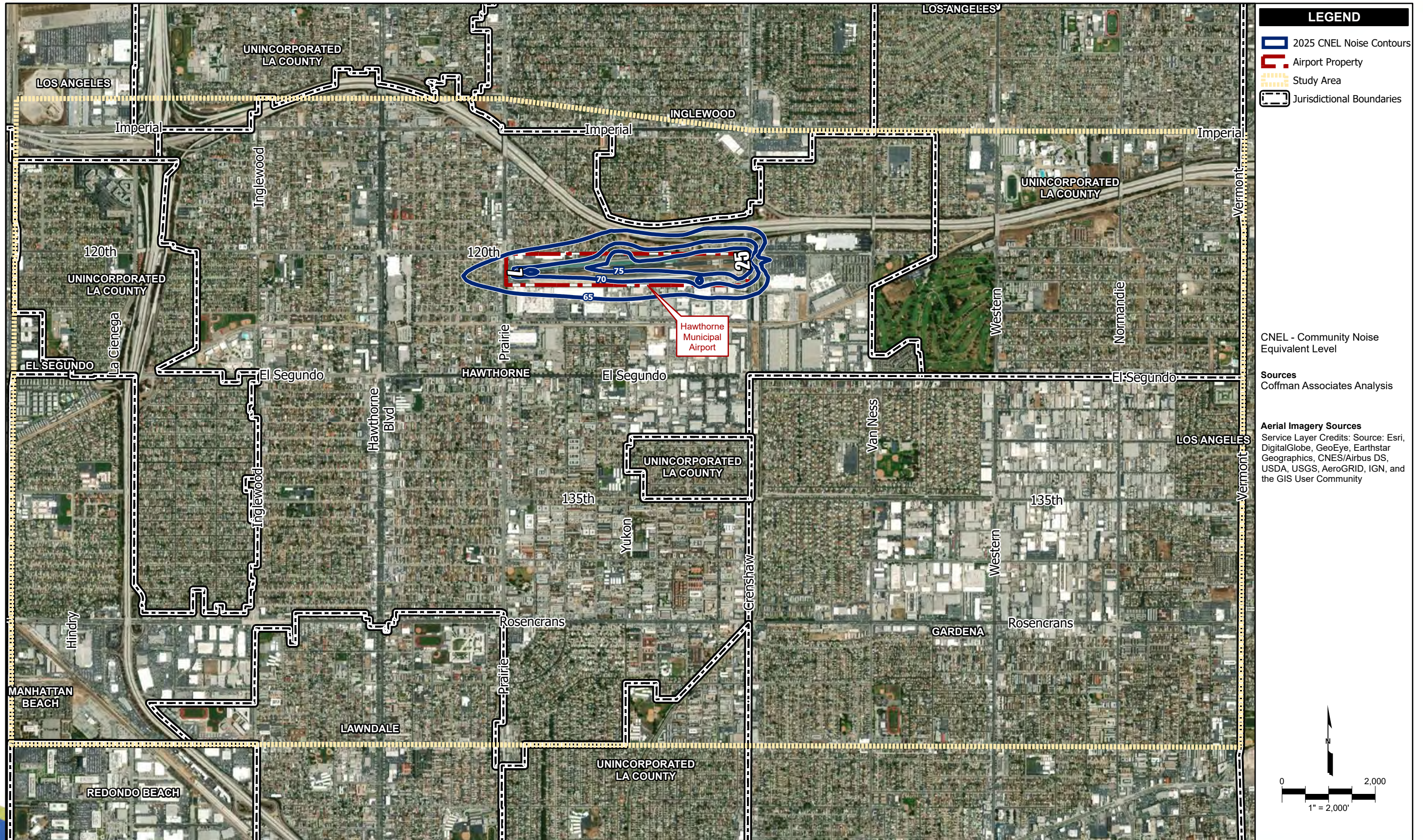
Logged noise data was retrieved from the monitors during routine site visits and stored on a laptop computer. The raw data from each unit is included in the analysis discussed later in this section.

Measurement Procedures

To minimize the potential for non-aircraft noise measurements, thresholds for noise levels and duration were established. These thresholds are programmed as part of the initial setup for the noise monitoring equipment. A minimum threshold of approximately 5 to 10 dB greater than the ambient level was established for the noise measurements. This excluded any noise event below the threshold. Additionally, a minimum event duration of five seconds was set to ensure that brief events (door slam, dog barking, etc.) were not recorded. These two thresholds limit the single noise events logged by the noise monitor. Only those events which exceed both thresholds were noted as noise events and included as part of the raw data.

Single events that met both criteria were retained and analyzed to consider all noise present at the site, regardless of its level, and provide hourly summations of equivalent noise levels (Leq). Also, the equipment optionally provided information on SEL values for each event which exceeded the preset threshold and duration, and distributions of decibel levels throughout the measurement period. The Larson Davis Model 831 sound level meters are equipped to make a digital recording of an event that exceeds the programmed thresholds. This feature aids the user in identifying aviation-related events when calculating noise exposure for the location. A 15-second sound file is saved within the instrument's memory and is downloaded during routine site visits. This 15-second sound file can then be used to identify the source of the noise event.





Weather Information

Weather can influence aviation activity at an airport. Severe weather, such as strong thunderstorms, is likely to reduce the number of operations at an airport, while unseasonably warm weather may increase the number of operations at an airport. **Table 2G** summarizes the weather observed during the noise measurement program as reported from the Los Angeles International Airport weather station. As indicated in the table, daily high temperatures ranged between 64 and 79 degrees F, while low temperatures ranged between 48 and 58 degrees F. In comparison to the monthly average for February, the daily high and low temperatures were above and below the averages of 69.8 F (average high) and 52.3 F (average low). Average wind speeds ranged from 2.2 to 5.1 miles per hour, with maximum wind speeds of up to 22 miles per hour. There were only trace amounts of precipitation on two of the monitoring days. No severe weather events were recorded during the noise measurement program. The weather during the noise measurement program indicates favorable conditions for aviation activity.

TABLE 2G
Noise Measurement Program Weather Conditions
Hawthorne Municipal Airport

	February Daily Average	Date						
		2/17	2/18	2/19	2/20	2/21	2/22	2/23
Mean Temperature (°F)	61.0	57	62	61	66	65	62	60
Maximum Temperature (°F)	69.8	66	69	66	79	75	65	64
Minimum Temperature (°F)	52.3	48	55	56	52	55	58	55
Precipitation (in)	>0.01	0	0	0	0	T ¹	0	T ¹
Average Wind Speed (MPH)	6.6	3.1	4.6	3.0	2.2	3.8	5.1	3.5
Wind Direction	NNW	SW	SW	SW	W	SW	SW	SW
Maximum Wind Speed (MPH)	36	14	18	15	22	18	20	17

¹ T = indicates a trace amount of precipitation recorded on that date

Source: Los Angeles International Airport Weather Reporting Station, February 17 – 23, 2020

<http://w2.weather.gov/climate/getclimate.php?wfo=mtr>

Aircraft Noise Measurement Sites and Summary

Monitors were positioned in locations that did not include unusual terrain characteristics, such as berms, or other loud non-aviation noise sources which could adversely affect the quality of the measurements. Examples of non-aviation noise sources include trains, automobiles, landscaping equipment, construction activities, and air conditioner units. Prior to selecting the sites, the Planning Advisory Committee was contacted to solicit input on potential locations for the monitors. The original program included eight sites; however, based on input from the Planning Advisory Committee, the City of Hawthorne arranged to have monitoring at three additional sites within Hermosa Beach, Manhattan Beach, and Redondo Beach.

While multiple sites met the desired criteria for monitoring, the selected sites fulfill the above criteria and provide a representative sampling of the varying noise conditions in the airport vicinity. The location



of the noise monitor sites is depicted on **Exhibit 2J** and the sites are summarized below in **Table 2H**. As indicated in the table, eight of the measurements were conducted at residential locations within communities near the airport. Additionally, two monitors were placed at Hawthorne Municipal Airport and one was placed at the Hawthorne Memorial Center.

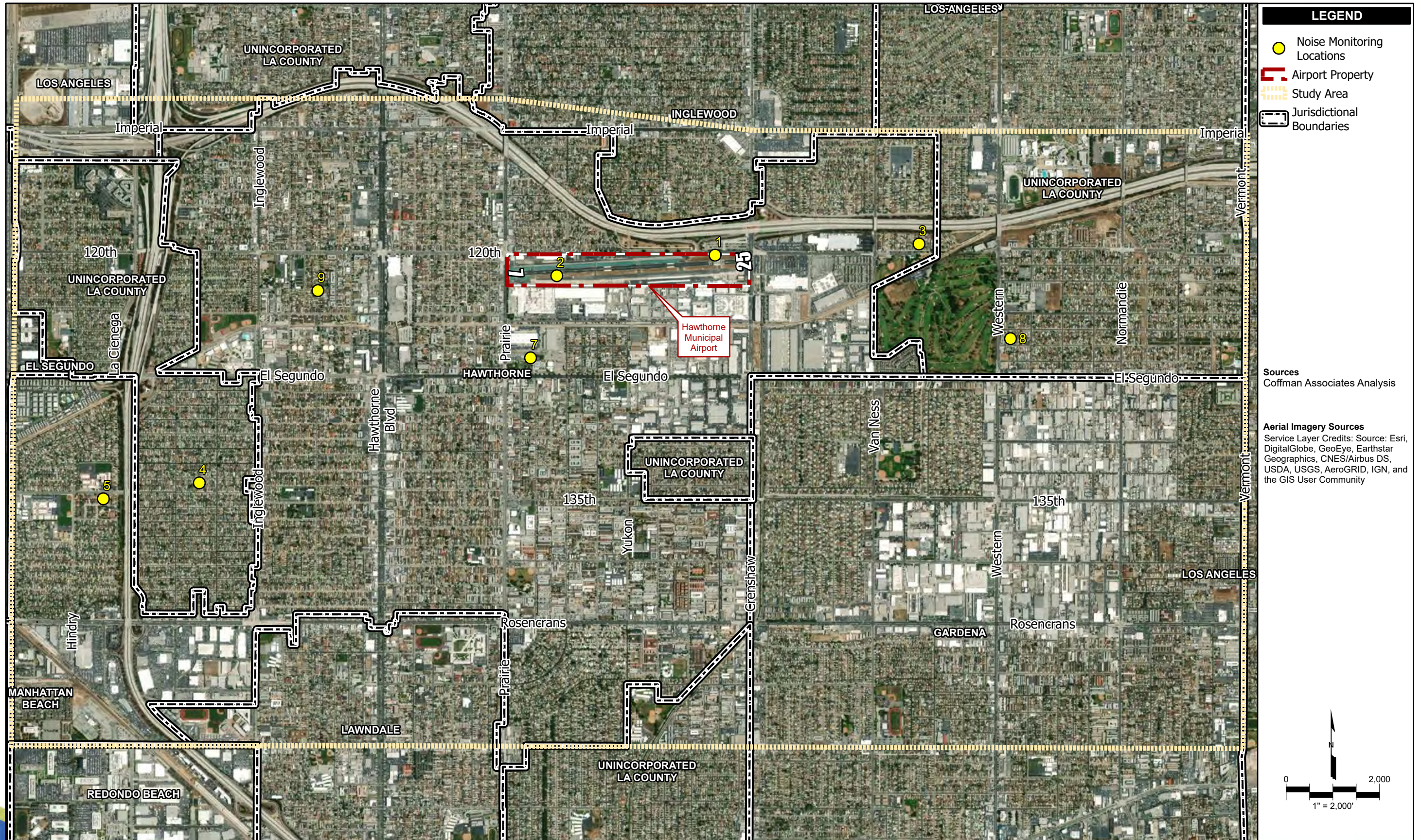
TABLE 2H
Noise Measurement Sites
Hawthorne Municipal Airport

Site	Location	Duration (hours)
1	Hawthorne Municipal Airport – Runway 25 end	72
2	Hawthorne Municipal Airport – Runway 7 end	72
3	Residence near Tarron Avenue and W. 120 th St., Hawthorne	48
4	Residence near W. 134 th Place and Shoup Avenue, Hawthorne	48
5	Residence near W. 135 th Street and Isis Avenue, Hawthorne	48
6	Residence near 15 th Street and Harkness Street, Manhattan Beach	48
7	Hawthorne Memorial Center, Hawthorne	24
8	Residence near W. 126 th Street and Western Avenue, Hawthorne	24
9	Residence near W. Broadway and Ramona Avenue, Hawthorne	48
10	Residence near Dow Avenue and Manhattan Beach Boulevard, Redondo Beach	48
11	Residence near 30 th Street and Ardmere Avenue, Hermosa Beach	48

A summary of the single event noise data collected during the measurement period is presented in **Table 2J**. This information includes:

- Maximum recorded noise level in dB (L_{max});
- Longest single event duration in seconds (Max Duration);
- Total number of events above 60 dB SEL;
- Number of single events within the ranges of 60-70 dB, 70-80 dB, 80-90 dB, 90-100 dB, and above 100 dB SEL; and
- Number of events identified as aircraft operations based on audio recordings of the events.

As indicated in **Table 2J**, the maximum recorded sound level (L_{max}) for all measurement periods ranged between 74.4 dB at Site 6 near 15th Street and Harkness Street, Manhattan Beach, and 104.2 dB at Site 2 on airport property. Of the 11 sites, five had L_{max} values attributed to aircraft operations and seven (Sites 1, 3, 5, 6, 7, 10, and 11) had L_{max} values identified as non-aviation noise (motorcycle, dog barking, birds, emergency vehicles, and automobile traffic). As noted in the table, the maximum duration of events at the sites ranged between 28.9 seconds and 3,424.8 seconds. It is important to note that in many cases, the L_{max} and maximum duration are from different events. It is important to note that, based on available information, the event duration of 3,424.8 seconds was not solely created by aircraft noise. While it is possible that overflight contributed to the extended period of elevated noise, other non-aircraft events are accountable for the extended noise event.



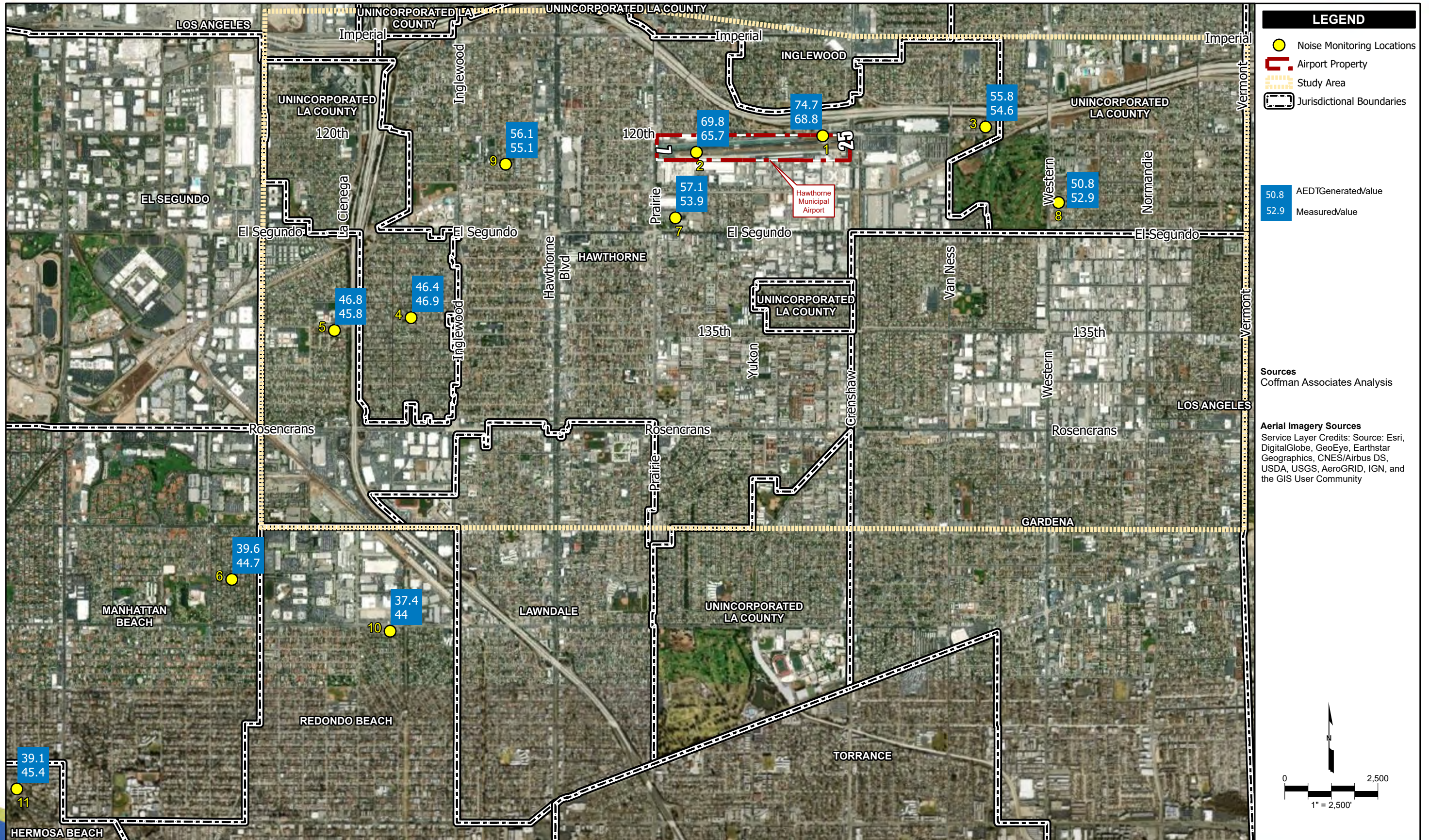


TABLE 2J
Noise Measurement Single Event Data Summary
Hawthorne Municipal Airport

			Sound Exposure Level Event Summary						
Site/Day	L _{max}	Max Duration (sec)	Below 60 dB	60-70 dB	70-80 dB	80-90 dB	90-100 dB	100+ dB	Aircraft Events
Site 1 – Hawthorne Municipal Airport – Runway 25 end									
Day 1	103.9	144	0	0	0	50	68	16	107
Day 2	98.9 ¹	35.8	0	0	0	28	39	3	50
Day 3	106	412.9	0	0	0	72	91	14	149
Site 2 – Hawthorne Municipal Airport – Runway 7 end									
Day 1	103.2	347.9	0	0	32	75	49	4	145
Day 2	94.9	160	0	0	12	28	24	1	54
Day 3	104.2	160	0	0	41	99	44	9	170
Site 3 – Residence near Tarron Avenue and W. 120 th St., Hawthorne									
Day 1	88.4 ²	42.4	0	32	43	33	5	0	81
Day 2	89.5 ²	28.9	0	27	26	22	1	0	22
Site 4 – Residence near W. 134th Place and Shoup Avenue, Hawthorne									
Day 1	77.9	271.7	1	112	61	12	0	0	97
Day 2	79.8	1,906	158	296	80	16	1	1	100
Site 5 – Residence near W. 135th Street and Isis Avenue, Hawthorne									
Day 1	81.2 ²	3,424.8	0	66	71	21	1	0	41
Day 2	77.2	1,183.5	0	153	145	20	2	0	64
Site 6 – Residence near 15th Street and Harkness Street, Manhattan Beach									
Day 1	74.4	98.8	3	143	57	5	0	0	77
Day 2	92.5 ³	519.1	4	191	79	14	5	3	122
Site 7 – Hawthorne Memorial Center, Hawthorne									
Day 1	82.0 ⁴	1,018.9	0	419	441	68	4	0	176
Site 8 – Residence near W. 126th Street and Western Avenue, Hawthorne									
Day 1	89.6	2,591.2	50	268	49	8	2	1	115
Site 9 – Residence near W. Broadway and Ramona Avenue, Hawthorne									
Day 1	86.5	165.3	20	778	140	43	13	0	138
Day 2	86.7	354.2	27	655	98	34	9	0	104
Site 10 - Residence near Dow Avenue and Manhattan Beach Boulevard, Redondo Beach									
Day 1	77.7	319.3	3	275	59	7	0	0	109
Day 2	76.1 ⁵	96.4	3	241	69	2	0	0	92
Site 11 - Residence near 30th Street and Ardmore Avenue, Hermosa Beach									
Day 1	86.7 ²	464.6	243	265	44	9	3	0	145
Day 2	87.9 ²	312.9	297	167	50	7	4	0	171

Note: L_{max} and Maximum Duration may be from different events.

¹ Noise value generated by a motorcycle.

² Noise value generated by a dog barking.

³ Noise value generated by birds.

⁴ Noise value generated by emergency vehicles.

⁵ Noise value generated by passing traffic.

Source: Coffman Associates' analysis.

Table 2K includes a summary of the cumulative data collected for each site, which includes the 24-hour LEQ, CNEL(24), and CNEL(24t) for each site. The LEQ metric is derived by accumulating all noise events logged during a given period and logarithmically averaging it. It is similar to the CNEL metric except that no extra weight is attached to nighttime or evening noise events. The CNEL(24) value represents the noise condition from all noise sources logged with the sound level meter. The CNEL(24t) is a reasonable approximation of the CNEL attributable to aircraft noise alone. Only those events identified as aircraft noise, based on sound recordings, are included in the CNEL(24t) calculation. In some cases, CNEL(24t) may include noise from operations associated with airports other than Hawthorne Municipal Airport. For sites with multiple 24-hour measurements, a logarithmic average of each individual 24-hour period is provided as an estimate of the average overall measurement for that site.

As indicated in the table, the sites with the greatest LEQ(24), CNEL(24), and CNEL(24t) values are those located on airport property at Sites 1 and 2. The sites with the greatest LEQ(24), CNEL(24), and CNEL(24t) values are those located on airport property at Sites 1 and 2. Off airport, the greatest LEQ(24) and CNEL(24) measurements were measured at Site 6 (residence near 15th Street and Harkness Street, Manhattan Beach) and the greatest CNEL(24t), which is noise attributed only to aircraft events, was measured at Site 9 (W. Broadway and Ramona Avenue, Hawthorne).

COMPARATIVE MEASUREMENT ANALYSIS

The CNEL values derived from the field noise measurements have been compared to the computer-modeled noise values for the same geographic locations. In doing this, it is important to note the distinction between the two values. The computer-modeled CNEL values are analogous to the climate of an area and represent the noise levels on an average day of the period under consideration. In contrast, the field measurements reflect only the noise levels on the specific days of measurement. With this understanding in mind, it is useful to evaluate the comparative aircraft CNEL levels of the measurement sites. As previously discussed, the CNEL(24t) was used as it is a reasonable approximation of the CNEL attributable to aircraft noise alone.

CNEL Comparison

This analysis provides a direct comparison of the measured and predicted values for each noise measurement site. To facilitate such a comparison, it is necessary to ensure that the computer model input is representing the observed reality as accurately as possible within the capabilities of the model. The differences between the modeled and measured CNEL(24t) values are depicted on **Exhibit 2J** and within **Table 2M**. A positive number in the difference column represents a modeled value which is greater than the measured value, while a negative number in the column indicates a modeled value which is less than the measured value.

TABLE 2K
Noise Measurement Cumulative Data Summary
Hawthorne Municipal Airport

Site/Day	LEQ(24)	CNEL(24)	CNEL(24t)
Site 1 – Hawthorne Municipal Airport – Runway 25 end			
Day 1	69.5	70.7	69.5
Day 2	62.2	66.1	63.4
Day 3	70.8	71.5	70.7
Average	68.8	70.0	68.8
Site 2 – Hawthorne Municipal Airport – Runway 7 end			
Day 1	65.5	66.9	66.8
Day 2	59.9	63.4	63.3
Day 3	65.8	66.8	66.3
Average	64.4	66.0	65.7
Site 3 – Residence near Tarron Avenue and W. 120th St., Hawthorne			
Day 1	53.9	56.4	56.1
Day 2	51.9	54.4	52.3
Average	53.1	55.5	54.6
Site 4 – Residence near W. 134th Place and Shoup Avenue, Hawthorne			
Day 1	47.4	49.7	47.4
Day 2	59.1	59.4	46.8
Average	56.4	56.9	47.1
Site 5 – Residence near W. 135th Street and Isis Avenue, Hawthorne			
Day 1	51.2	59.0	44.8
Day 2	53.1	62.0	46.7
Average	52.3	60.8	45.8
Site 6 – Residence near 15th Street and Harkness Street, Manhattan Beach			
Day 1	45.1	45.9	43.5
Day 2	64.2	73.1	45.6
Average	61.2	70.1	44.7
Site 7 – Hawthorne Memorial Center, Hawthorne			
Day 1	57.1	62.5	53.9
Site 8 – Residence near W. 126th Street and Western Avenue, Hawthorne			
Day 1	54.5	55.3	52.9
Site 9 – Residence near W. Broadway and Ramona Avenue, Hawthorne			
Day 1	57.0	58.1	56.7
Day 2	55.2	56.7	52.2
Average	56.2	57.4	55.1
Site 10 – Residence near Dow Avenue and Manhattan Beach Boulevard, Redondo Beach			
Day 1	46.5	48.2	44.9
Day 2	45.3	47.7	42.7
Average	46.0	48.0	44.0
Site 11 – Residence near 30th Street and Ardmore Avenue, Hermosa Beach			
Day 1	52.2	52.5	42.7
Day 2	52.4	53.0	47.1
Average	52.3	52.8	45.4

Source: Coffman Associates' analysis

TABLE 2L
Noise Measurement vs. AEDT Predicted CNEL Values
Hawthorne Municipal Airport

Site/Day	Measured (CNEL[24t] ¹)	AEDT Predicted 2020 ²	Difference ³
Site 1 – Hawthorne Municipal Airport – Runway 25 end			
	68.8	74.7	5.8
Site 2 – Hawthorne Municipal Airport – Runway 7 end			
	65.7	69.8	4.4
Site 3 – Residence near Tarron Avenue and W. 120th St., Hawthorne			
	54.6	55.8	1.3
Site 4 – Residence near W. 134th Place and Shoup Avenue, Hawthorne			
	46.9	46.4	-0.5
Site 5 – Residence near W. 135th Street and Isis Avenue, Hawthorne			
	45.8	46.8	1.0
Site 6 – Residence near 15th Street and Harkness Street, Manhattan Beach			
	44.7	39.6	-5.0
Site 7 – Hawthorne Memorial Center, Hawthorne			
	53.9	57.1	3.3
Site 8 – Residence near W. 126th Street and Western Avenue, Hawthorne			
	52.9	50.8	-2.1
Site 9 – Residence near W. Broadway and Ramona Avenue, Hawthorne			
	55.1	56.1	1.1
Site 10 – Residence near Dow Avenue and Manhattan Beach Boulevard, Redondo Beach			
	44.0	37.4	-6.5
Site 11 – Residence near 30th Street and Ardmore Avenue, Hermosa Beach			
	45.4	39.1	-6.3

¹ May include events from airports other than Hawthorne Municipal Airport, including Chino Airport, Long Beach Airport, Los Angeles International Airport, Santa Monica Airport, Torrance Airport, and Van Nuys Airport.

² 2020 noise exposure contours based on 207 daily operations.

³ A positive number in the difference column represents a modeled value that is greater than the measured value, while a negative number in the column indicates a modeled value that is less than the measured value.

Source: Coffman Associates' analysis

As indicated in **Table 2L**, many of the AEDT modeled values are greater than the individual 24-hour measurements and logarithmic averages for each of the sites. These differences indicate that the model is predicting more noise at each site when compared to the measured noise.

This may be attributed to the number of operations occurring at Hawthorne Municipal Airport during the measurement period. As stated in **Table 2C**, the 2020 contours are based on 75,405 annual operations, which equates to approximately 207 daily operations. In comparison, based on radar flight track data obtained for the noise measurement period, daily operations totals presented in **Table 2M** for the five-day measurement period ranged between 57 and 172, which represents 27.5 to 83 percent of modeled operations.

TABLE 2M
Daily Operations During Noise Measurement Program
Hawthorne Municipal Airport

Date	Operations Estimated from LAX Radar Flight Track Data
February 17, 2020	128
February 18, 2020	57
February 19, 2020	146
February 20, 2020	135
February 21, 2020	155
February 22, 2020	68
February 23, 2020	172
AEDT Average Day	207

*Note: Operations represent counts starting at 12:00 a.m. on the stated date, which differs from the 24-hour measurement periods that varied by site. Equipment placement times at each location generally ranged from 8:00 a.m. to 1:00 p.m.; therefore, a direct comparison of the number of airport events presented in **Table 2J** is not possible.*

Source: Los Angeles World Airports, Airport Noise and Operations Monitoring System (ANOMS), Coffman Associates' analysis

Measured levels at Sites 4, 6, 8, 10, and 11 were sites where modeled noise was less than the measured noise. This may be a result of multiple factors, such as contamination from airport activity from airports other than Hawthorne Municipal Airport, passing traffic, thunderstorms, or ambient neighborhood noise (i.e., dogs barking, children playing, or passing friendly conversation). To determine whether aircraft noise contributed to modeled noise for each of these sites, a half-mile buffer was drawn around the site for comparison to radar flight track data for the specific monitoring. Within each of these buffered areas, the number of operations to or from Hawthorne Municipal Airport were counted for comparison to the number of operations not associated with Hawthorne Municipal Airport. The results of this analysis are presented in **Table 2N**. As noted in the table, the number of operations associated with airports other than Hawthorne Municipal Airport were within one-half mile of Sites 4, 6, 10, and 11. Based on a review of the flight track information associated with these tracks, aircraft overflying these areas are associated with Chino Airport, Long Beach Airport, Los Angeles International Airport, Santa Monica Airport, Torrance Airport, and Van Nuys Airport. Aircraft associated with these operations include Airbus A320, Boeing 737, Lear 45, Gulfstream 650, Beechcraft Bonanza, Cessna 172, Cirrus SR22, and Mooney M20.

To illustrate the potential for the presence of aircraft from other airports within the vicinity of the noise monitors, **Exhibit 2K** depicts the traffic from Hawthorne Municipal Airport and from other airports within one half mile of Sites 6, 10, and 11 for February 19-22, 2020. As depicted, these areas are frequently overflown by aircraft traveling to or from airports other than Hawthorne Municipal Airport. Eliminating events associated with airports other than Hawthorne Municipal Airport from the calculations would likely decrease the measured noise for these sites. However, sufficient detail, specifically the time at which the aircraft passed over the noise monitor, is not available from the radar data obtained to accurately correlate the measured noise events to the flight tracks. The radar flight track data only approximates the time at which an aircraft arrives or departs from an airport. Additionally, given that these sites are more than three miles away from the airport and the airspeed of these aircraft is unknown, the time at which the aircraft were near cannot be calculated with certainty.

TABLE 2N
Operations within One-Half Mile of Noise Monitors
Hawthorne Municipal Airport

Operations within One-Half Mile of Noise Monitoring Site							
Site	Date	Hawthorne Municipal Airport Operations	Percentage of Hawthorne Municipal Airport Operations	Other Airport Operations	Percentage of Other Airport Operations	Total Operations	Measurement vs. AEDT
4	February 17, 2020	37	51.4%	35	48.6%	72	-0.5
4	February 22, 2020	18	66.7%	9	33.3%	27	-0.5
6	February 19, 2020	28	20.0%	112	80.0%	140	-5.0
6	February 20, 2020	17	10.1%	151	89.9%	168	-5.0
8	February 20, 2020	80	81.6%	18	18.4%	98	-2.1
10	February 21, 2020	13	9.6%	122	90.4%	135	-6.5
10	February 22, 2020	6	6.7%	84	93.3%	90	-6.5
11	February 21, 2020	21	30.4%	48	69.6%	69	-6.3
11	February 22, 2020	17	35.4%	31	64.6%	48	-6.3

*Note: Operations represent counts starting at 12:00 a.m. on the stated date, which differs from the 24-hour measurement periods that varied by site. Equipment placement times at each location generally ranged from 8:00 a.m. to 1:00 p.m.; therefore, a direct comparison of the number of airport events presented in **Table 2J** is not possible.*

A positive number in the Measurement vs. AEDT column represents a modeled value that is greater than the measured value, while a negative number in the column indicates a modeled value that is less than the measured value.

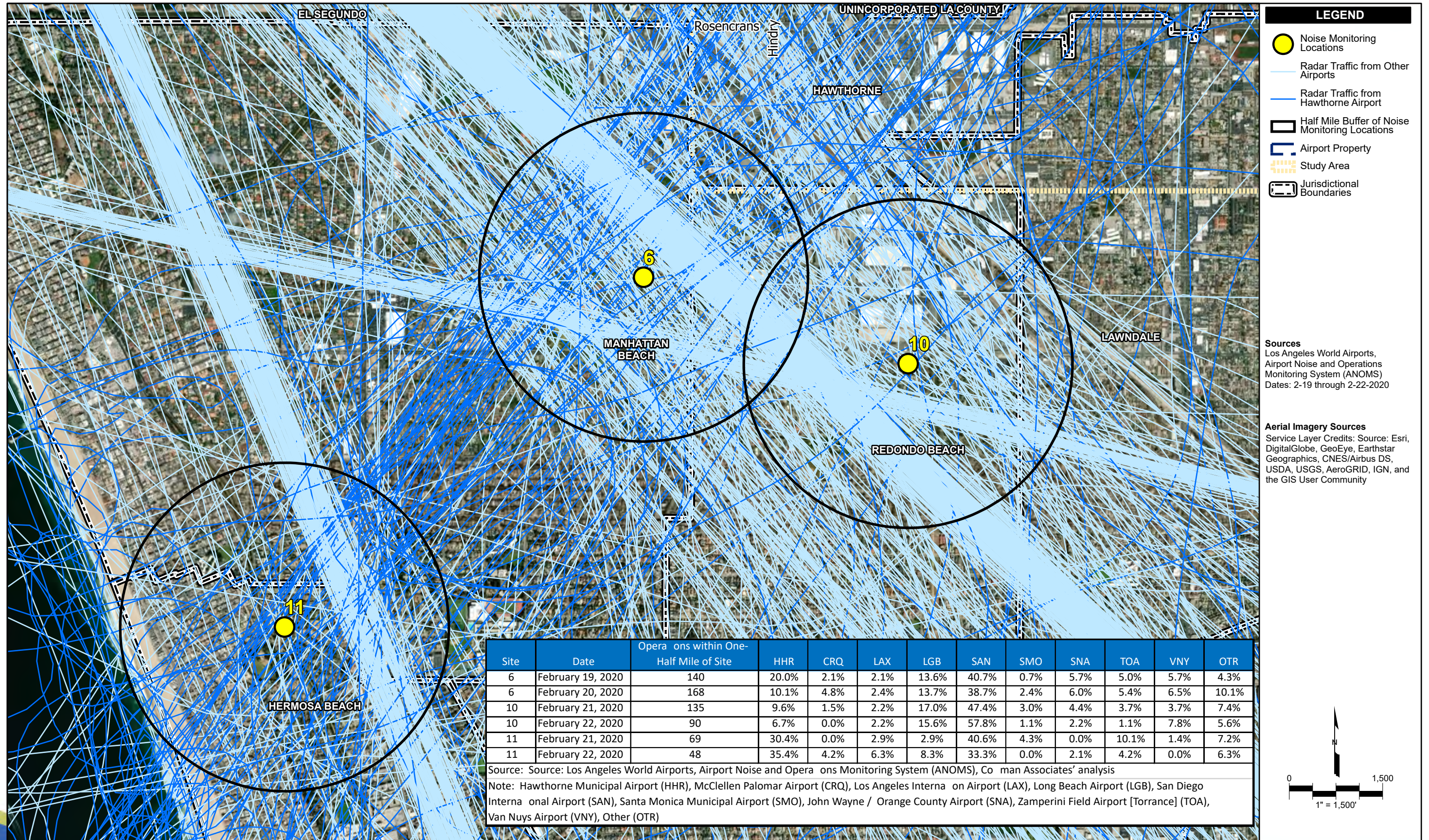
Source: Los Angeles World Airports, Airport Noise and Operations Monitoring System (ANOMS), Coffman Associates' analysis

SUMMARY

The information presented in this chapter defines the noise patterns for current and future activity at Hawthorne Municipal Airport. These contours do not include additional noise abatement measures in use at the airport. It does not attempt to evaluate or otherwise include activity over which the airport has no control, such as other aircraft transiting the area and not stopping at the airport.

It should be emphasized that the CNEL noise contour lines drawn on the maps do not represent absolute boundaries of acceptability in personal response to noise, nor do they represent the actual noise conditions on any specific day, but rather the conditions of an average day derived from annual information.

The 2020 and 2025 65 CNEL and greater noise exposure contours developed in this chapter will be used in Chapter Three to identify the areas impacted by airport noise based on federal guidance.



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Hawthorne Municipal Airport

Chapter Three Noise Impacts





























Chapter Three

Noise Impacts

FAA has established guidelines, codified within 14 CFR Part 150, that identify suitable land uses for development near airport facilities, to standardize the assessment of airport land use compatibility. The Part 150 compatibility guidelines, summarized in **Exhibit 3A**, are based on previous studies and recommendations by federal agencies.

Additional information regarding this topic can be found in the Noise and Land Use Compatibility Guidelines section of the **Resource Library**, located in **Appendix C**, and within §A150.101(a) and (d), and the explanatory note in Table 1 of 14 CFR Part 150. It should be noted that although FAA provides the Part 150 land use compatibility guidelines, land use planning is a local decision made by the city or county with jurisdiction over a specific property. However, upon receipt of FAA grant funding, airport sponsors agree to take appropriate action, including the adoption of zoning laws, to the extent reasonable to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations in accordance with FAA Grant Assurance 21 Compatible Land Use. Hawthorne Municipal Airport is owned and operated by the City of Hawthorne. As discussed in Chapter One, there are several communities near the airport which have land use planning jurisdictions over these areas. Therefore, the City of Hawthorne must coordinate with these communities to maintain compatible land uses within the immediate vicinity of the airport to comply with this FAA grant provision. The study area includes portions of City of Hawthorne, City of Los Angeles, City of Inglewood, City of Gardena, City of El Segundo, City of Lawndale, and County of Los Angeles. If non-compatible land uses are identified within these areas, the City of Hawthorne would need to coordinate with the specific jurisdiction to resolve the issue.



LAND USE		Yearly Day-Night Average Sound Level (DNL) in Decibels					
		Below 65	65-70	70-75	75-80	80-85	Over 85
Residential							
	Residential, other than mobile homes and transient lodgings	Y	N ¹	N ¹	N	N	N
	Mobile home parks	Y	N	N	N	N	N
	Transient lodgings	Y	N ¹	N ¹	N ¹	N	N
Public Use							
	Schools	Y	N ¹	N ¹	N	N	N
	Hospitals and nursing homes	Y	25	30	N	N	N
	Churches, auditoriums, and concert halls	Y	25	30	N	N	N
	Government services	Y	Y	25	30	N	N
	Transportation	Y	Y	Y ²	Y ³	Y ⁴	Y ⁴
	Parking	Y	Y	Y ²	Y ³	Y ⁴	N
Commercial Use							
	Offices, business and professional	Y	Y	25	30	N	N
	Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y ²	Y ³	Y ⁴	N
	Retail trade-general	Y	Y	25	30	N	N
	Utilities	Y	Y	Y ²	Y ³	Y ⁴	N
	Communication	Y	Y	25	30	N	N
Manufacturing and Production							
	Manufacturing, general	Y	Y	Y ²	Y ³	Y ⁴	N
	Photographic and optical	Y	Y	25	30	N	N
	Agriculture (except livestock) and forestry	Y	Y ⁶	Y ⁷	Y ⁸	Y ⁸	Y ⁸
	Livestock farming and breeding	Y	Y ⁶	Y ⁷	N	N	N
	Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational							
	Outdoor sports arenas and spectator sports	Y	Y ⁵	Y ⁵	N	N	N
	Outdoor music shells, amphitheaters	Y	N	N	N	N	N
	Nature exhibits and zoos	Y	Y	N	N	N	N
	Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
	Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

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



KEY

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

NOTES

1. Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB, respectively, should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
2. Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
3. Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
4. Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
5. Land use compatible provided special sound reinforcement systems are installed.
6. Residential buildings require an NLR of 25.
7. Residential buildings require an NLR of 30.
8. Residential buildings not permitted.

Source: **14 CFR Part 150**, Appendix A, Table 1.

14 CFR PART 150 GUIDELINES

FAA Order 5100.38D, Criteria for Funding Eligibility Outside the 65 CNEL

- The airport operator must adopt a designation of non-compatibility different from federal guidelines;
- The Noise Exposure Maps (NEMs) and Noise Compatibility Program (NCP) must identify areas as non-compatible; and
- Measures proposed for mitigation within the area must meet Part 150 criteria.

Table 1 of 14 CFR Part 150 and an airport's corresponding noise contours are used as the basis for identifying areas within which noise compatibility projects, such as sound insulation or property acquisition, may be eligible for federal funding. Following the completion of a Part 150 study, projects that may qualify are recommended by the airport sponsor for funding from the noise set-aside portion of the FAA's Airport Improvement Program (AIP). In general, noise compatibility projects must be within the 65 CNEL noise contour to be eligible for federal funding. According to the FAA's AIP Handbook, "Noise compatibility projects usually are in areas where aircraft noise exposure is significant, as measured in day-night average sound level (DNL) (Community Noise Equivalent Level [CNEL]) in California] of 65 decibels (dB) or greater." However, projects may also be approved and may be eligible in areas exposed to noise of less than 65 CNEL, which is considered to have a moderate effect, if certain criteria are met, as listed to the left.

The FAA guidelines summarized in **Exhibit 3A** indicate that all land uses are acceptable in areas below 65 CNEL. At the 65 CNEL threshold, residential land uses without acoustic treatment, mobile homes, and transient lodging are all incompatible in areas of noise exposure above 65 CNEL. The table notes that homes of standard construction and transient lodging may be considered compatible where local communities have determined these uses are permissible; however, acoustic treatment of these structures is recommended to meet noise level reduction thresholds when comparing the outdoor noise level to the indoor noise level. Schools and other public use facilities are also generally considered to be incompatible with noise exposure above 65 CNEL. As with residential development, communities can make a policy decision that these uses are acceptable with appropriate sound attenuation measures. Hospitals and nursing homes, places of worship, auditoriums, and concert halls are structures generally compatible if measures to achieve noise level reduction are incorporated into design and construction of structures. Outdoor music shells and amphitheaters are not compatible and should be prohibited within the 65 CNEL noise contour. Additionally, agricultural uses and livestock farming are generally considered compatible except for related residential components of these uses which should incorporate sound attenuation measures.

Within the 70-75 CNEL noise contour range, residences, transient lodging, and schools have the same sound attenuation recommendations as within the 65-70 CNEL range. Additionally, as the noise levels increase, the following land uses identified in the table are recommended to have sound attenuation: governmental services, transportation, parking, offices, wholesale and retail, utilities, communication, manufacturing, photographic and optical, golf courses, riding stables, and water recreation. In addition to those identified within the 65-70 CNEL contour range, the table recommends that the following land uses be prohibited within the 70-75 CNEL contour range: nature exhibits and zoos. Beyond the 75 CNEL contour, the land use recommendations are increasingly more stringent as the noise levels increase.

In addition to the land uses outlined in Table 1 of 14 CFR Part 150, historic properties must also be considered within a Part 150 study. In general, historic properties are not any more sensitive to noise than are other properties of similar uses; however, federal regulations require that noise effects on these uses be considered when evaluating the effects of an action, such as a noise abatement or land use management procedure.

The strictest of these requirements is the Department of Transportation (DOT) Act. Section 4(f) of the DOT Act provides that the U.S. Secretary of Transportation shall not approve any program, such as a Part 150 Noise Compatibility Program, or project which requires the use of any historic site of national, state, or local significance unless there is no feasible and prudent alternative to the use of such land. The FAA is required to consider the direct physical taking of eligible property, such as acquisition and demolition of historic structures, and the indirect use of, or adverse impact to, eligible properties, such as noise exposure within the 65 CNEL noise contour. When evaluating the effects of the noise abatement and land use management alternatives later in this report, it will be necessary to also identify whether the proposed action conflicts with or is compatible with the normal activity or aesthetic value of any historic property not already significantly affected by noise. FAA's review and acceptance of an airport's Noise Exposure Map (NEM) contours are not evaluated under Section 4(f).

LAND USE GUIDELINES AT HAWTHORNE MUNICIPAL AIRPORT

For the purposes of the Part 150 Noise Compatibility Study at Hawthorne Municipal Airport, the FAA's land use compatibility guidelines established in 14 CFR Part 150 will be used to make determinations about land use compatibility in the airport area.

AIRPORT NOISE LAND USE ANALYSIS

To evaluate the impact of noise within the vicinity of Hawthorne Municipal Airport, the 2020 and 2025 contours discussed in Chapter Two, Aviation Noise, will be compared to the existing land use patterns, and areas of incompatibility will be identified based on the previously discussed Part 150 land use compatibility recommendations. Additionally, consideration will be given to the potential for growth of noise-sensitive land uses within the 2025 noise contours.

LAND USES AND POPULATION EXPOSED TO 2020 NOISE

The 2020 condition noise exposure contours are depicted on **Exhibit 3B**. As indicated on the exhibit, portions of each contour range extend off airport property. **Table 3A** summarizes the acreages of each existing land use type, based on the information provided in Chapter One, encompassed by the noise contours.

TABLE 3A
Land Uses Exposed to 2020 Aircraft Noise above 65 CNEL
Hawthorne Municipal Airport

	Area (Acres)		
	65-70 CNEL	70-75 CNEL	75+ CNEL
Compatible Land Uses			
Airport Property	27.6	28.8	23.4
Commercial, Industrial, Transportation, and Utilities	30.0	4.6	0.2
Open Space	0.8	0.0	0.0
Right of Way	21.2	7.0	1.6
Undeveloped ¹	2.5	0.0	0.0
Noise-Sensitive Land Uses			
Single Family Residential	4.2	0.0	0.0
Multi-Family Residential	2.9	0.6	0.0
Public Buildings	0.0	0.0	0.0
Public Institutions	0.0	0.0	0.0
Historic Properties	0.0	0.0	0.0
Total	89.3	40.9	25.2

¹ Undeveloped land consists of portions of multiple parcels.

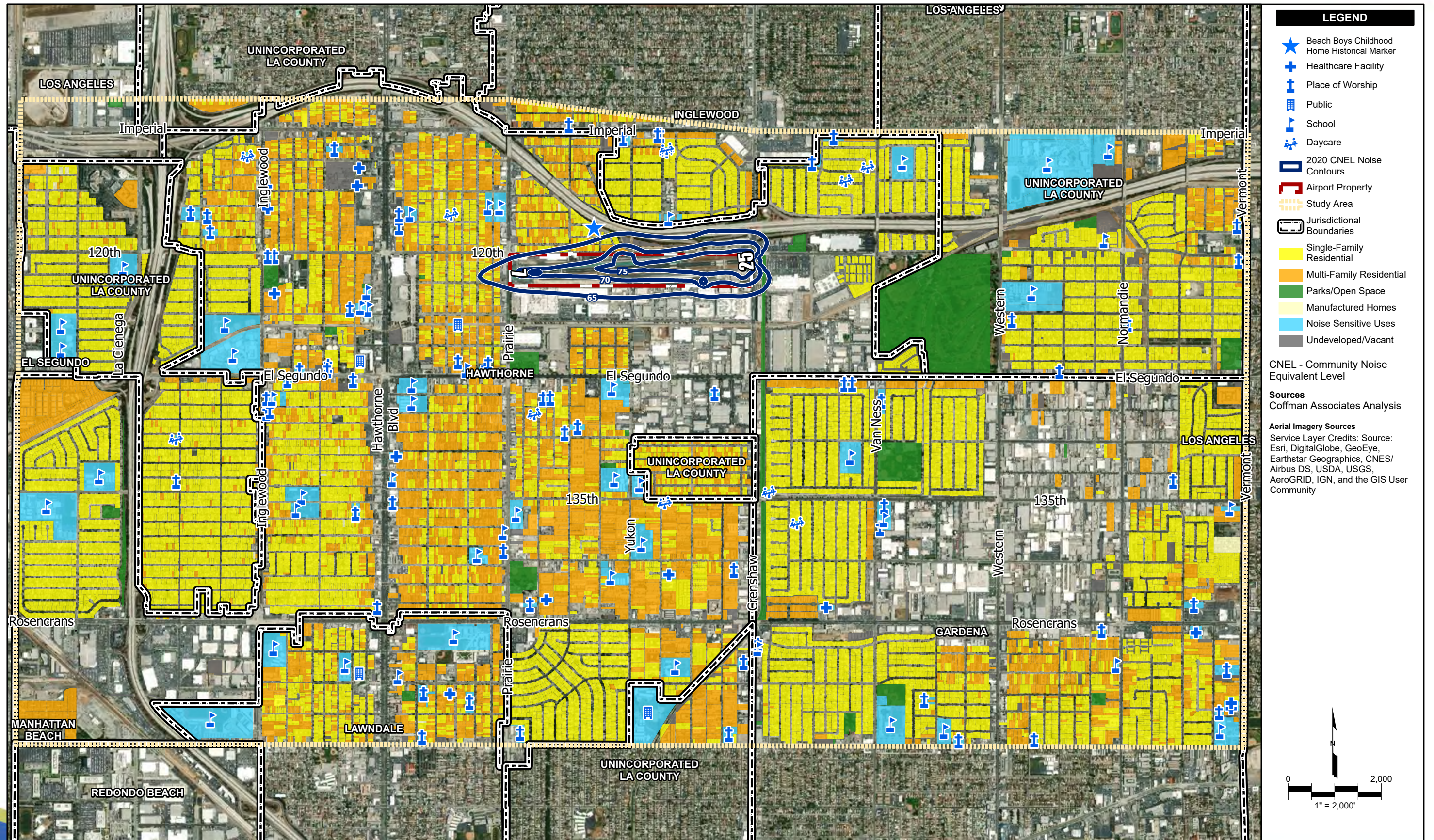
Source: Coffman Associates' analysis

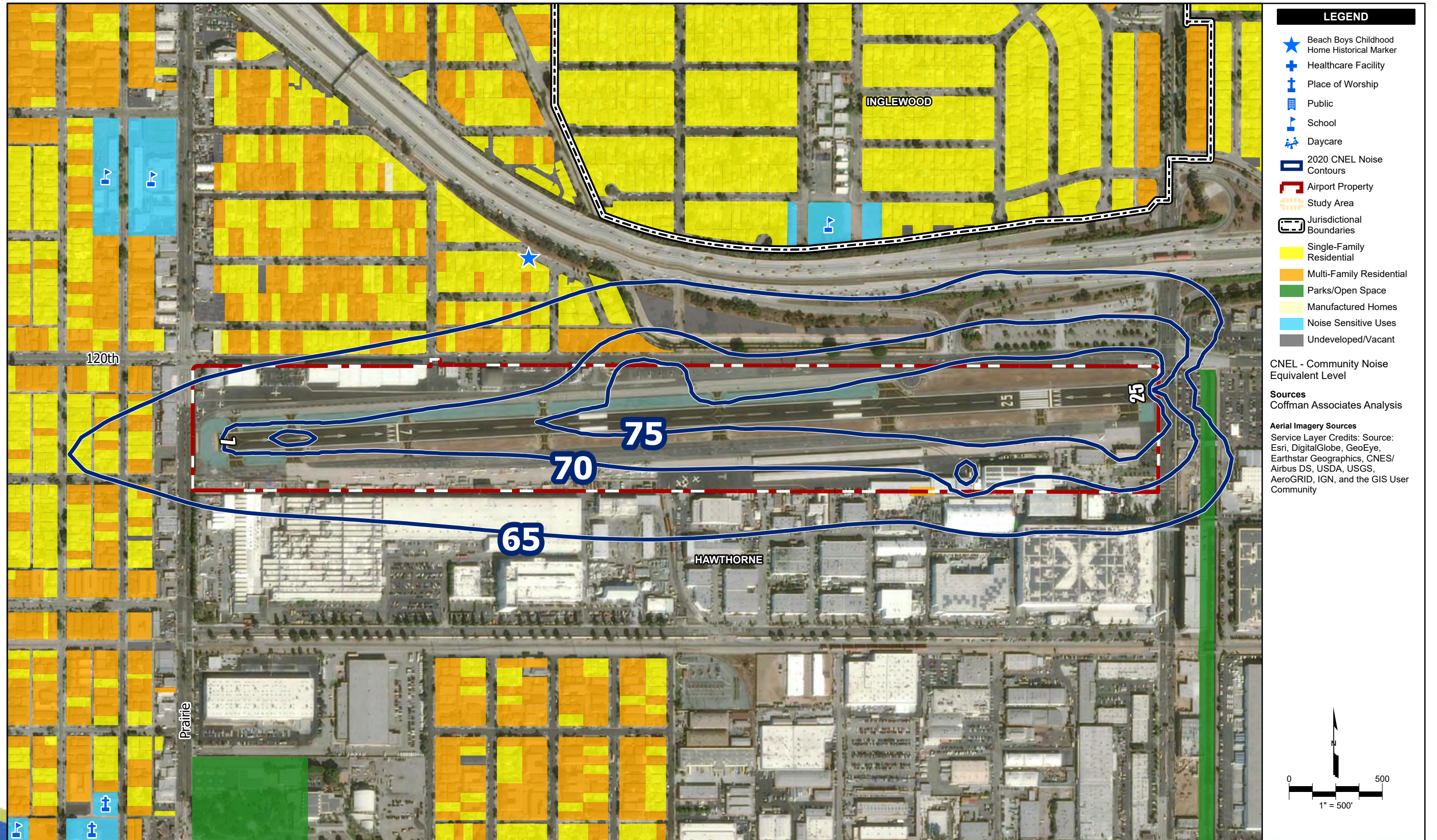
For portions of the noise contour encompassing non-compatible residential land uses, the number of dwelling units within the noise contours was determined using digital mapping files of the parcels available from Los Angeles County. **Table 3B** summarizes the number of dwelling units within the 2020 noise exposure contours. As indicated in the table, a total of 52 parcels with residential land uses are located within the 65-70 CNEL contour range. This includes 34 single family detached residences and 18 multi-family parcels with 69 units. There are no residential land uses within the 75 and greater contour range.

The estimated population within the contours was calculated by multiplying the number of dwelling units within the noise contour by an average household population of 2.96.¹ As shown in **Table 3B**, it is estimated that a total of 305 people currently reside within the 65-70 CNEL contour range. Additionally, there are no noise-sensitive institutions, such as schools, hospitals, historic properties, or daycare facilities, within any of the 2020 noise contours.

¹ Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household.

(<https://www.census.gov/quickfacts/fact/table/hawthornecitycalifornia/HSD310218>), accessed May 2020.





**TABLE 3B****Noise-Sensitive Land Uses and Estimated Population Exposed to 2020 Aircraft Noise
Hawthorne Municipal Airport**

	65-70 CNEL	70-75 CNEL	75+ CNEL
Parcels/Dwelling Units (d.u.)			
Single Family Residential	34 parcels, 34 d.u.	0	0
Multi-Family Residential	18 parcels, 69 d.u.	0	0
Noise-Sensitive Institutions	0	0	0
Total Parcels/ Dwelling Units	52 parcels, 103 d.u.	0	0
Estimated Population			
Single Family Residential	101	0	0
Multi-Family Residential	204	0	0
Total Estimated Population	305	0	0

Estimated population is calculated by multiplying the number of dwelling units for residential land uses by the number of persons per household. Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household.

<https://www.census.gov/quickfacts/fact/table/hawthornecitycalifornia/HSD310218>, accessed May 2020.

Source: Coffman Associates' analysis

LAND USES AND POPULATION EXPOSED TO 2025 NOISE

The 2025 condition noise exposure contours are depicted on **Exhibit 3C**. As indicated on the exhibit, portions of each contour range extend off airport property. **Table 3C** summarizes the acreages of each existing land use type, based on the information provided in Chapter One, encompassed by the noise contours.

For portions of the noise contour encompassing non-compatible residential land uses, the number of dwelling units within the noise contours was determined using digital mapping files of the parcels available from Los Angeles County. **Table 3D** summarizes the number of dwelling units within the 2025 noise exposure contours. As indicated in the table, a total of 39 dwelling units are within the 65-70 CNEL contour range. This includes a mix of single family detached and multi-family units. Within the 70-75 CNEL noise contour range, there is one parcel with 21 dwelling units. There are no noise-sensitive land uses within the 75 CNEL or greater noise contours.

TABLE 3C
Land Uses Exposed to 2025 Aircraft Noise above 65 CNEL
Hawthorne Municipal Airport

	Area (Acres)		
	65-70 CNEL	70-75 CNEL	75+ CNEL
Compatible Land Uses			
Airport Property	22.5	30.9	26.8
Commercial, Industrial, Transportation, and Utilities	36.2	5.8	0.5
Open Space	1.3	0.0	0.0
Right of Way	25.8	7.9	2.4
Undeveloped	2.3	0.2	0.0
Noise-Sensitive Land Uses			
Single Family Residential	7.3	0.0	0.0
Multi-Family Residential	3.9	0.8	0.0
Public Buildings	0.0	0.0	0.0
Public Institutions	0.0	0.0	0.0
Historic Properties	0.0	0.0	0.0
Total	99.3	45.6	29.7

Source: Coffman Associates' analysis

The estimated population within the contours was calculated by multiplying the number of dwelling units within the noise contour by an average household population of 2.96.² As shown in **Table 3D**, it is estimated that a total of 421 people currently reside within the 2025 65-70 CNEL contour range and 62 reside within the 2025 70-75 CNEL contour range. There are no noise-sensitive institutions, such as schools, hospitals, historic properties, or daycare facilities, within any of the 2025 noise contours.

TABLE 3D
Noise-Sensitive Land Uses and Estimated Population Exposed to 2025 Aircraft Noise
Hawthorne Municipal Airport

	65-70 CNEL	70-75 CNEL	75+ CNEL
Parcels/Dwelling Units (d.u.)			
Single Family Residential	60 parcels, 61 d.u.	0	0
Multi-Family Residential	31 parcels, 81 d.u.	1 parcel, 21 d.u.	0
Noise-Sensitive Institutions	0	0	0
Total Parcels/ Dwelling Units	91 parcels, 142 d.u.	1 parcel, 21 d.u.	0
Estimated Population			
Single Family Residential	181	0	0
Multi-Family Residential	240	62	0
Total Estimated Population	421	62	0

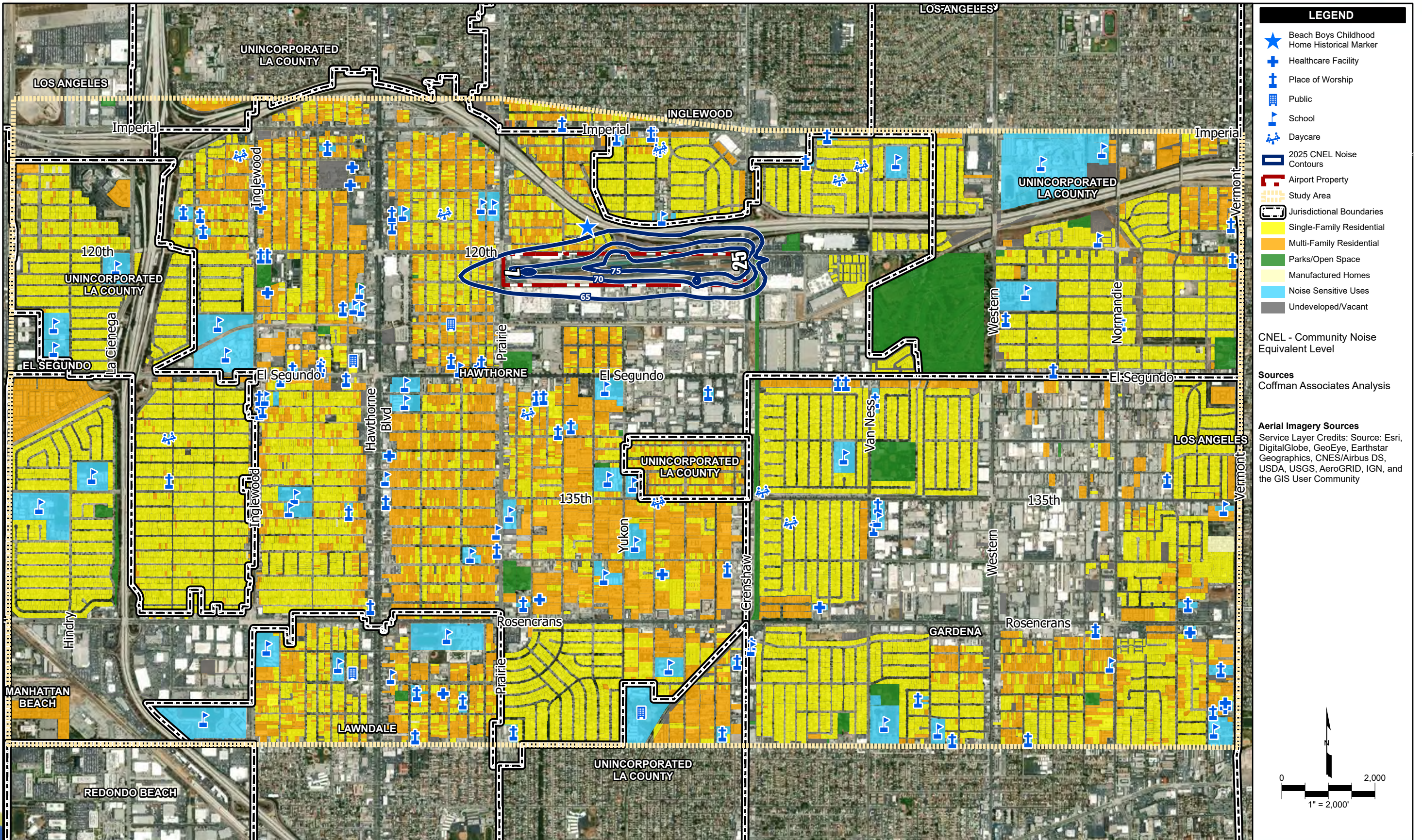
Estimated population is calculated by multiplying the number of dwelling units for residential land uses by the number of persons per household. Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household.

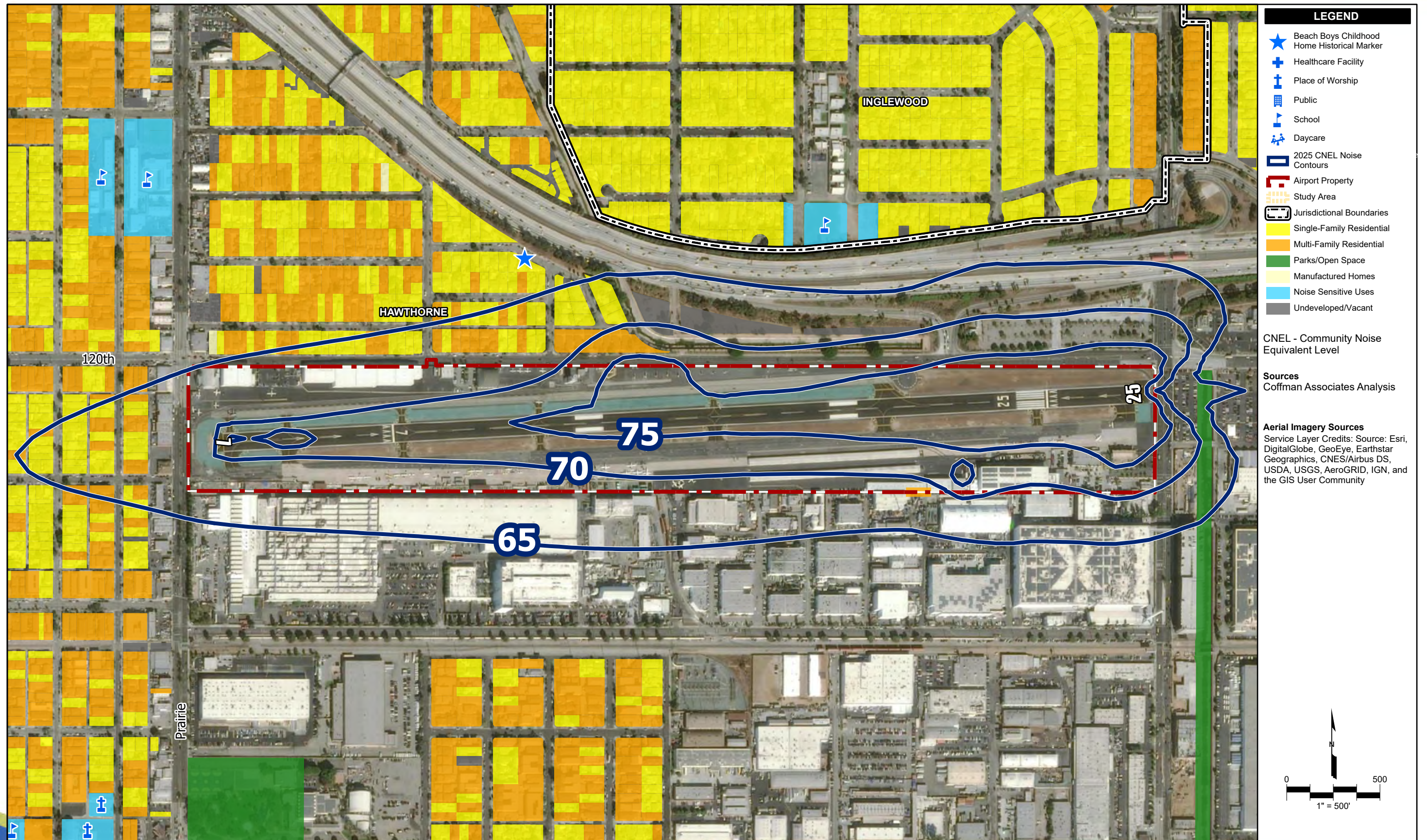
<https://www.census.gov/quickfacts/fact/table/hawthornecitycalifornia/HSD310218> accessed May 2020.

Source: Coffman Associates' analysis

² Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household.

<https://www.census.gov/quickfacts/fact/table/hawthornecitycalifornia/HSD310218>, accessed May 2020





GROWTH RISK ANALYSIS

For the 2025 scenario, consideration is given to the potential for noise-sensitive land uses to be developed on the land encompassed by the noise exposure contours. This is done by evaluating the locally adopted zoning (Exhibit 1E) and general plan (Exhibit 1F) designations for those parcels encompassed by the noise contours to determine if noise-sensitive land uses could be developed on these areas given the current zoning or future land use plan designations, which typically specify the preferred density, or number of dwelling units per acre, for each classification. As discussed in Chapter One, the general plan land use designation identifies the *projected or future* land use for a property according to the locally adopted general plans. This document guides future development within the community planning area and provides the basis for zoning designations. The zoning ordinance identifies the type of land use *permitted on* a given piece of property and should be consistent with the general plan. However, in many communities, the zoning and future land use designations are not the same; therefore, an evaluation of each is necessary for the growth risk analysis.

The following example describes the method for calculating the growth risk of an area:

If a 10-acre area encompassed by the 65 CNEL noise contour is zoned for single-family residential development and the single-family residential zoning allows for development of one single-family residence per acre, the growth risk analysis would indicate the potential for 10 residences to be built within the 65 CNEL noise contour given the current zoning.

Similar calculations can be made based on the general plan land uses to determine if noise-sensitive land uses are planned for areas forecast to be exposed to aircraft noise. This information can be used to guide land use planning decision efforts to maximize airport/land use compatibility.

This analysis assumes that on-airport property will not be developed with noise-sensitive land uses in accordance with the sponsor's FAA grant assurances. Therefore, only those off-airport properties, classified as undeveloped within the 2025 noise contours, are included in the growth risk calculations. As indicated in **Table 3E**, an approximate total of 2.4 acres within 2025 contours are classified as undeveloped. This acreage includes part or all of five parcels located north of the airport as indicated on **Exhibit 3D**. **Table 3E** summarizes the total acreage for each of the parcels and the acreage of each parcel located within the noise contour.

Based on a review of the City of Hawthorne's zoning map and general plan future land use map, these parcels are zoned Heavy Industrial (M-2) and planned as Regional Commercial and Parks/Open Space.



TABLE 3E

Growth Risk Parcels

Hawthorne Municipal Airport

Parcel	Zoning Designation	General Plan Designation	Area within 2025 65-70 CNEL Noise Contour (acres/square feet)		Area within 2025 70-75 CNEL Noise Contour (acres/square feet)	
1	M-2	OS	0.033	1,437	0.000	0.000
2	M-2	OS	0.510	22,216	0.085	3,703
3	M-2	OS	0.000	0.000	0.032	1,394
4	M-2	RC	1.155	50,312	0.024	1,045
5	M-2	RC	0.519	22,608	0.032	1,394
Total			2.217	96,573	0.173	7,536

M-2 – Heavy Industrial

OS – Parks/Open Space

RC – Regional Commercial

Note: No portion of the parcels referenced above are outside the 2025 noise contours

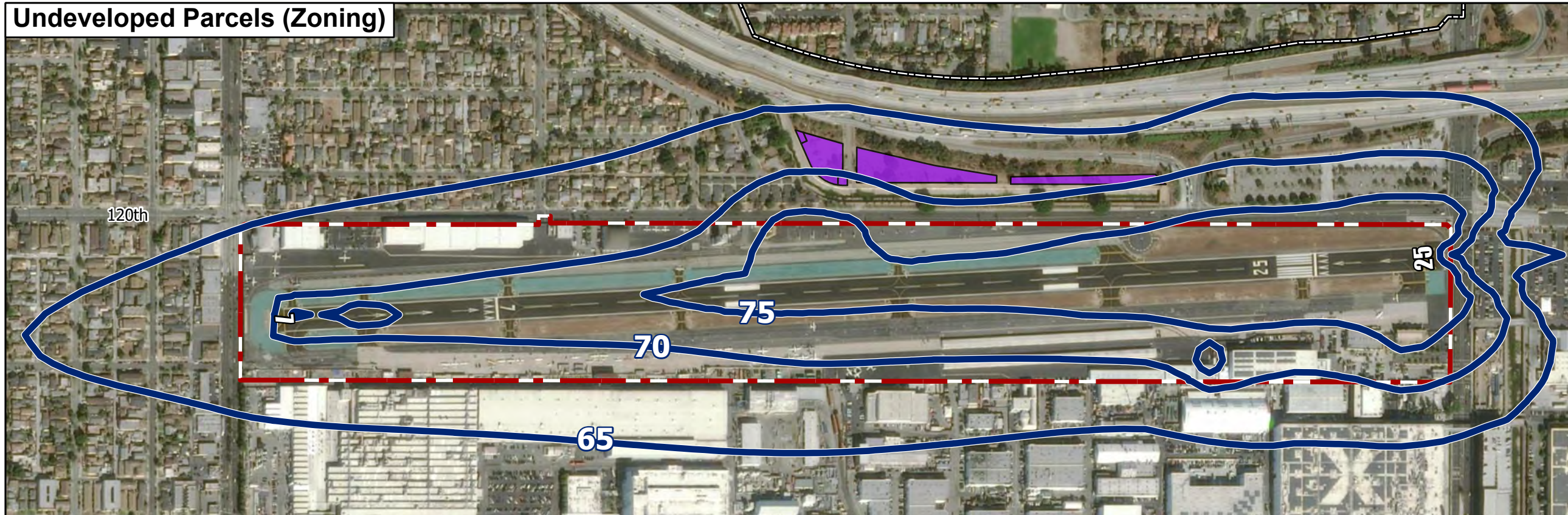
Source: Coffman Associates' analysis

As the zoning and general plan designations for each parcel under consideration are inconsistent, different development standards apply. Therefore, the growth risk potential from the zoning and general plan designation will not be equivalent. As summarized in **Appendix F**, the following noise-sensitive land uses, under Part 150 guidelines, are permitted to be developed within the M-2 zone:

- Daycare facilities, subject to approval of a conditional use permit;
- Hospitals;
- Live-work units, subject to approval of a conditional use permit;
- Movie theaters, subject to approval of a conditional use permit;
- Medical-dental buildings and clinics, subject to approval of a conditional use permit;
- One single-family residential unit as an accessory use to a principal industrial use when located on the same lot as the principal use, utilized as a site manager or caretaker, and the parcel is not less than one acre; and
- Schools, elementary, junior high and high schools (public or nonprofit private), all such uses subject to a conditional use permit.

Regional Commercial Areas adjacent to Century Freeway (I-105) and San Diego Freeway (I-405)/Rosecrans Avenue offer significant development potential for land uses requiring accessibility and visibility. Such uses include major retail goods and services involving comparison purchasing decisions. The Land Use Element defines such areas and includes policies to stimulate such commercial development.

Undeveloped Parcels (Zoning)



LEGEND

- 2025 CNEL Noise Contours
- Airport Property
- Jurisdictional Boundaries

Zoning

- Industrial

General Plan Land Use

- Commercial
- Parks/Open Space

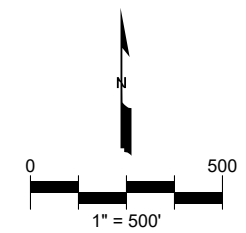
CNEL - Community Noise Equivalent Level

Undeveloped Parcels (Planned Land Use)



Sources
Coffman Associates Analysis
City of Hawthorne
Department of Planning and Community Development

Aerial Imagery Sources
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Date of Aerial: 11-10-2018



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The Parks and Open Space land use designation is reserved for those limited places within the City of Hawthorne which provide recreational opportunities for public use that need to be developed and maintained.

The Regional Commercial future land use designation is intended to accommodate commercial uses with primary orientation to freeway accessibility. Allowable uses within this designation include business parks, offices, restaurants, auto centers, along with other general commercial uses. The Floor Area Ratio³ for this type of development may go as high as 3.5.

As indicated on **Exhibit 3D**, the parcels identified within the growth risk analysis are located in the area between the Glenn Anderson Freeway (I-105) exit ramp and the drainage canal located north of 120th St. Due to the limited accessibility of the parcels and proximity to the freeway exit ramp, these parcels have been dismissed from the growth risk analysis and will not be considered further. Based on the growth risk considerations discussed above, there is no potential growth risk within the 2025 CNEL noise contours.

SUMMARY

Table 3F summarizes the noise impacts for the 2020 and 2025 noise scenarios based on the present land use development patterns. Noise-sensitive institutions, although not quantified, have the potential for development based on the current zoning and general plan designations.

As indicated in the table for the 2020 scenario, there are 103 dwelling units within the 65-70 CNEL noise contours, and the estimated population residing within these contours is 305. For the 2025 scenario, 142 dwelling units are within the 65-70 CNEL noise contour range and 21 dwelling units are within the 70-75 CNEL contour range, which equates to an estimated population of 483 individuals.

TABLE 3F
Noise-Sensitive Land Use Impact Summary
Hawthorne Municipal Airport

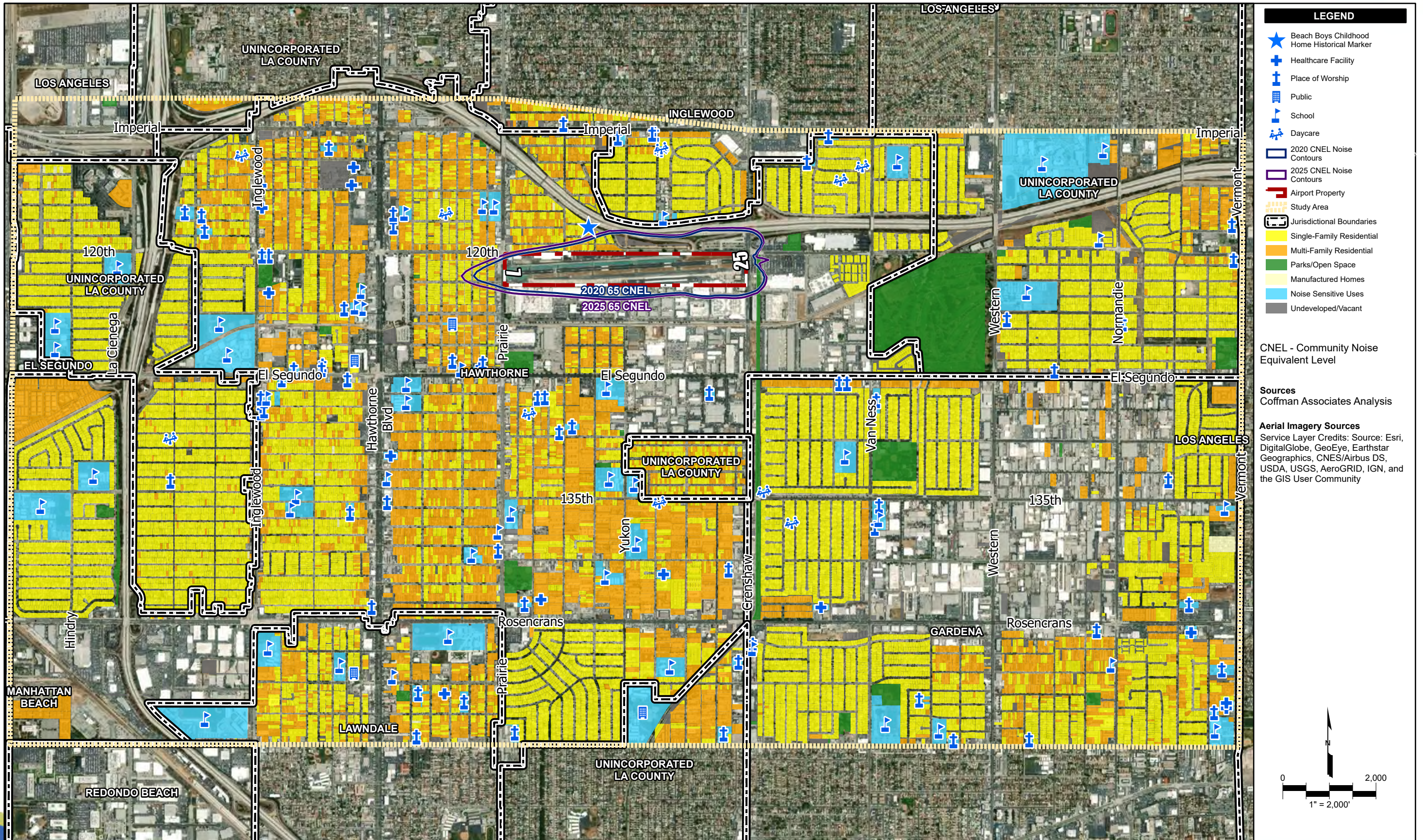
	65-70 CNEL	70-75 CNEL	75+ CNEL
Noise-Sensitive Land Uses			
2020	52 parcels, 103 d.u.	0	0
2025	91 parcels, 142 d.u.	1 parcel, 21 d.u.	0
Population			
2020	305	0	0
2025	421	62	0

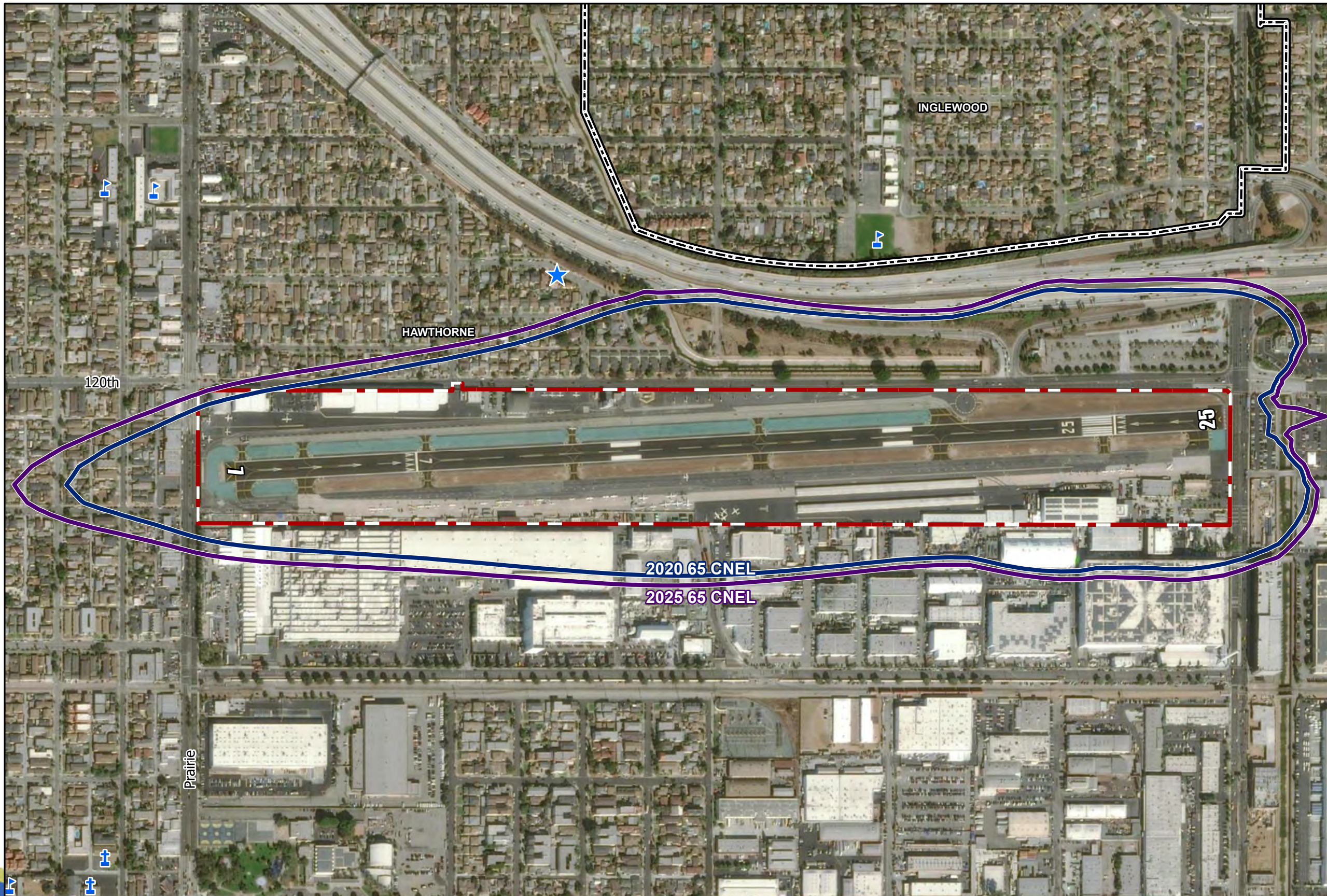
Source: Coffman Associates' analysis

Exhibit 3E provides a comparison of the 65 CNEL noise exposure contours from the 2020 and 2025 Noise Exposure Maps. As indicated on the exhibit and summarized on **Table 3F**, the 2020 CNEL contour is closer to the airport boundary, encompassing 52 residential parcels north and west of the airport. Due to projected operations increases outlined in Chapter Two, the 65 CNEL noise contour for 2025 expands, encircling an additional 39 residential parcels, for a total of 91 parcels.

³ Floor area ratio is the mathematical relationship between the volume of a building and unit of land, originally designed to regulate the bulk of a building, along with other land use control measures, such as setbacks and maximum height. The floor area ratio is calculated by dividing the total floor area of a building by the total square feet of land (American Planning Association).

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LEGEND

- Beach Boys Childhood Home Historical Marker
- 2020 CNEL Noise Contours
- 2025 CNEL Noise Contours
- Airport Property
- Study Area
- Jurisdictional Boundaries

CNEL - Community Noise Equivalent Level

Sources
Coffman Associates Analysis

Aerial Imagery Sources
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Hawthorne Municipal Airport

Appendix A Planning Advisory Committee



Appendix A**PLANNING ADVISORY COMMITTEE****Noise Exposure Map Update****Jack Northrup Field/Hawthorne Municipal Airport**

HAWTHORNE MUNICIPAL AIRPORT 14 CFR PART 150 NOISE COMPATIBILITY STUDY NOISE EXPOSURE MAPS UPDATE PLANNING ADVISORY COMMITTEE (PAC)	
Ms. Edvige Mbakoup, Environmental Protection Specialist Federal Aviation Administration – Western Pacific Region 424-405-7283 edvige.b.mbakoup@faa.gov	Philip Crimmins, Aviation Noise Regulations and Environmental Review California Department of Transportation (Caltrans) – Division of Aeronautics philip.crimmins@dot.ca.gov
Greg Tsujiuchi, Director of Planning City of Hawthorne, CA Planning and Community Development	Gary Avery Air Traffic Manager Hawthorne Control Tower gavery@serco-na.com
Phil Derner National Business Aviation Association, Inc Western Region Representative pderner@nbaa.org	Melissa McCaffrey, Regional Manager Airport Owners and Pilots Association (AOPA) melissa.mccaffrey@aopa.org
Amy J. Bodek, Director Los Angeles County Regional Planning 213-974-6401 abodek@planning.lacounty.gov	Kathleen Teal City of Gardena, CA 213-304-4548 Kathy.cramlet@gmail.com

Patrick Carey, Pilot Resource Manager Wolfe Air 310-800-4284 dpepatcarey@gmail.com	Drew Boyles, Mayor City of El Segundo, CA 310-524-2302 dboyles@elsegundo.org
Donny Sandusky Hawthorne Airport, LLC/Jet Center LA 310-334-9736 dsandusky@jetcenterla.com	Olivia Valentine, Mayor Pro Tem City of Hawthorne, CA oivalentine725@gmail.com ovalentine@cityofhawthorne.org
Richard Montgomery, Mayor Pro Tem City of Manhattan Beach, CA rmontgomery@citymb.info	Laura Emdee, City Council Member District 5 City of Redondo Beach, CA 310-318-0669 laura.emdee@redondo.org
Melvin Wagner Holly Park Homeowner's Association 323-418-1038 wagner2573@roadrunner.com	Julie DeCoste Hollyglen Neighborhood Association 310-308-2831 decosterealestate@gmail.com
Carolyn Ficklin Ramona Neighborhood Association cdficklin@raytheon.com	Bob Hawks Wiseburn Watch Neighborhood Watch Group 310-991-6908 bobvalhawks@yahoo.com



Hawthorne Municipal Airport

Appendix B Coordination, Consultation, and Public Involvement



Appendix B

COORDINATION, CONSULTATION, AND PUBLIC INVOLVEMENT

Noise Exposure Map Update Jack Northrup Field/Hawthorne Municipal Airport

As part of the planning process, the public, airport users, and local, state, and federal agencies were given the opportunity to review and comment on the updated Noise Exposure Map (NEM) and supporting documentation. Project materials were made available for local review and discussion throughout the process via physical hand-outs and a dedicated project website.

Local coordination was primarily conducted through a study committee, the Planning Advisory Committee (PAC), formed to provide input and feedback on the NEM. The PAC included local residents, airport users, community officials and staff, and the Federal Aviation Administration (FAA). The PAC reviewed and commented on the working papers throughout the study process. Comments from the PAC were received during group discussion at the PAC, as well as through written comments, all of which were appropriately incorporated into this document or otherwise addressed. A list of the PAC members is included in **Appendix A**.

The PAC met three times during the preparation of the updated NEM.

- **PAC Meeting #1:** The first meeting was held on November 14, 2019, to discuss the study process and proposed meeting schedule, the role and responsibilities of the PAC, and a current issues discussion.
- **PAC Meeting #2:** The second meeting was held on February 20, 2020, to present a draft of Chapter One – Inventory and a discussion of NEM inventory, the status of the Noise Compatibility Program (NCP), the noise modeling process, and the noise measurements conducted.
- **PAC Meeting #3:** The third and final meeting for the NEM study was held via Zoom® due to the COVID-19 pandemic. This meeting was held on February 11, 2021, to discuss the results of the 2020 noise monitoring efforts, the updated noise contours based on 2020 operations and Hawthorne Municipal Airport and projected operations in 2025, impacted land uses, and next steps with the NCP.

Following each PAC meeting, the public was invited to participate in a series of Public Information Workshops. The first two workshops were structured informally, in an in-person open-house format, using display boards to present information throughout the meeting room. These two meetings allowed interested participants to acquire information about the 14 Code of Federal Regulations (CFR) Part 150 Study process, noise abatement, compatible land use planning, and program implementation. Participants could also ask questions and express concerns.

Due to the COVID-19 pandemic, the third Public Information Workshop was conducted virtually over the course of three weeks by a series of Zoom® meetings to allow for small groups to review presentation materials using a PowerPoint presentation and to ask questions in a relaxed, open-discussion environment. Prior to the Public Information Workshop, the public was encouraged to watch a pre-recorded video with the materials which were going to be presented during the Public Information Workshop. The pre-recorded video was made available on the project website and YouTube for viewing. The public was also

able to review the draft report and appendices. As participants signed up for the workshops, they were sent a link to the pre-recorded video and working papers at the same time their registration was confirmed.

The meeting dates for the Public Information Workshop were scheduled for February 11, 2021; February 18, 2021; and February 25, 2021. Members of the public were requested to preregister for a timeslot via a project-specific email address starting seven days prior to the first meeting. Times for the Public Information Workshop were advertised multiple times via the city's television station, the city's website, Facebook, and the local newspaper. **Table B1** reflects the dates and times of the public meetings, the number of participants who signed up, and the number of people who attended.

On February 11, 2021, a total of four, 30-minute evening sessions were initially scheduled from 6:00 PM Pacific Standard Time (PST) to 8:00 PM PST. Three participants signed up for the first session; however, only two attended. One participant signed up for the last session at 7:30 PM, who did not attend. There were no participants who signed up for either the 6:30 or 7:00 PM sessions.

After the February 11, 2021 workshop, it was determined a 30-minute session was not a sufficient amount of time to present materials and answer questions. Therefore, it was decided that the remaining sessions would be 40 minutes in length. The project website was updated to reflect this information.

On February 18, 2021, three sessions were held: 2:00 PM, 2:45 PM, and 3:30 PM. Participants signed up for the first and third sessions. The first session had four participants signed up, with only two attending; and the last session had two sign-ups, with only one attending. No one signed up for the 2:45 PM session.

Three sessions were scheduled for the final Public Information Workshop on February 25, 2021: 6:00 PM, 6:45 PM, and 7:30 PM. Five participants signed up for the 6:00 session; however, three attended. For the 6:45 PM session, there were three participants signed up, but two attended. No one signed up for the 7:30 PM session.

In all, a total of 17 participants signed up for the workshops and 11 attended, for a 65 percent attendance rate.

Working papers were made available on a project-specific website for the duration of the study process: <http://hawthornenoise.airportstudy.com/>.

This appendix includes documentation of meeting announcements, meeting agendas, meeting minutes, sign-in sheets, meeting advertisements, and written comments received.

TABLE B1
Participation for the
Public Information Workshops.

Time	Number of Participants Signed up for Session	Number of Attendees
February 11, 2021		
6:00 PM	2	3
6:30 PM	0	0
7:00 PM	0	0
7:30 PM	1	0
February 18, 2021		
2:00 PM	4	2
2:45 PM	0	0
3:30 PM	2	1
February 25, 2021		
6:00 PM	5	3
6:45 PM	3	2
7:30 PM	0	0

Note: All times are in Pacific Standard Time (PST)



Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

Agenda

- 1. Welcome and Introductions**
 - Guido Fernandez, Airport Supervisor
- 2. Study Process and Proposed Meeting Schedule**
 - Dave Fitz, Coffman Associates
- 3. PAC Roles and Responsibilities**
 - Dave Fitz, Coffman Associates
- 4. Noise Exposure Maps Overview**
 - Kory Lewis, Coffman Associates
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 - Michelle Kriks, Coffman Associates
- 6. PAC Members' Issues Discussion**
 - Christine Eberhard, CommuniQuest

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Noise Exposure Maps Update

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**Hawthorne Municipal
Airport**

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update


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14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

PAC ROLE AND RESPONSIBILITIES

- Sounding Board
- Linkage to the Community
- Resource
- Critical Review

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14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

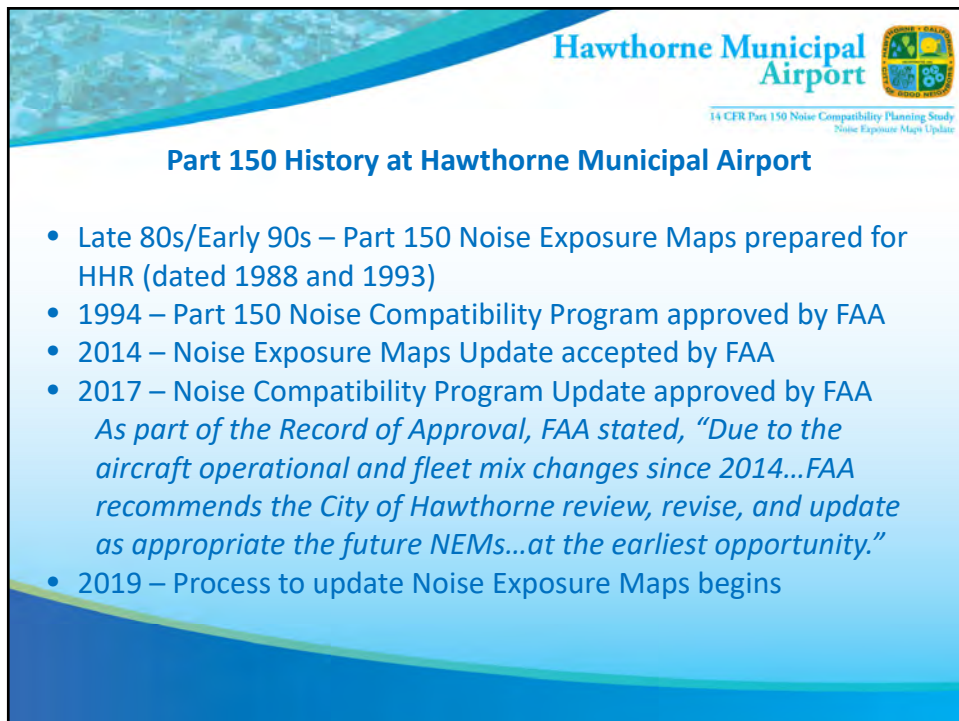
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Hawthorne Municipal Airport					
14 CFR Part 150 Noise Compatibility Planning Study Noise Exposure Maps Update					
Measure	Cost to Airport or Government	Timing	Lead Responsibility	Potential Funding Sources	FAA Action ¹
NOISE ABATEMENT ELEMENT – Measures from 1994 NCP					
1. Continue to implement Hawthorne Municipal Airport Fix Quality pilot and public education program.	Administrative, \$15,000 for pilot guide revisions	Ongoing	City of Hawthorne, Public Works Dept.	City of Hawthorne Operating Budget	Approved
2. Continue to use existing ground noise map areas on the south side of the airport.	Administrative	Ongoing	City of Hawthorne, Public Works Dept.	City of Hawthorne Operating Budget	Approved
LAND USE MANAGEMENT ELEMENT – Measures from 1994 NCP					
1. Support the land use compatibility guidelines for project review found in the City of Hawthorne and implement Noise Elements of the General Plan.	None	Ongoing	City of Hawthorne, Planning Dept.	None	Approved
NOISE MITIGATION ELEMENT – New Measures					
2. The City of Hawthorne should amend its Noise Element to include monitoring and updating the Part 150 Noise Compatibility Study.	Administrative	2017	City of Hawthorne, Planning Dept.	City of Hawthorne Operating Budget	Approved contingent upon NEM update
3. Incorporate the Hawthorne Municipal Airport 65 CNEL noise contour into the City of Hawthorne General Plan Map.	Administrative	2017	City of Hawthorne, Planning Dept.	City of Hawthorne Operating Budget	Approved contingent upon NEM update
4. The City of Hawthorne should adopt formal project review guidelines addressing noise compatibility issues.	Administrative	2017	City of Hawthorne, Planning Dept.	City of Hawthorne Operating Budget	Approved
5. The City of Hawthorne should establish an Airport Overlay Zone.	Administrative, ALUC, filing fee (variable amount)	2017	City of Hawthorne, Planning Dept.	City of Hawthorne Operating Budget	Approved
NOISE MITIGATION ELEMENT – New Measures					
1. Establish a voluntary residential property acquisition and redevelopment program to remove noise-sensitive land uses within the 2017 65 CNEL noise contour.	\$7,886,000, Administrative	2017-2021	City of Hawthorne, Public Works Dept.	FAA, City of Hawthorne Operating Budget	Approved contingent upon NEM update
PROGRAM MANAGEMENT ELEMENT – Measures from 1994 NCP					
1. Continue use of the Airport's noise complaint handling system.	Administrative	Ongoing	City of Hawthorne, Public Works Dept.	City of Hawthorne Operating Budget	Approved
PROGRAM MANAGEMENT ELEMENT – New Measures					
2. Update Noise Exposure Maps and Noise Compatibility Program.	\$300,000	2022	City of Hawthorne, Public Works Dept.	FAA, City of Hawthorne Operating Budget	Approved contingent upon NEM update
3. Monitor implementation of the updated Part 150 Noise Compatibility Program.	Administrative	Ongoing	City of Hawthorne, Public Works Dept.	City of Hawthorne Operating Budget	Approved
NEM – Noise Exposure Map ¹ Record of Approval effective December 18, 2017.					

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Hawthorne Municipal Airport	
14 CFR Part 150 Noise Compatibility Planning Study Noise Exposure Maps Update	
A NOISE EXPOSURE MAP UPDATE:	
<ul style="list-style-type: none"> Identifies the current and projected annualized aircraft noise levels at Hawthorne Municipal Airport using the Community Equivalent Noise Level (CNEL) noise metric. Identifies impacts to noise-sensitive land uses in the airport environs. 	
A NOISE EXPOSURE MAP UPDATE DOES NOT:	
<ul style="list-style-type: none"> Evaluate aircraft operations from other area airports. Consider other types of impacts (air quality, accidents, etc.). Use noise metrics other than CNEL to determine noise impacts. Provide justification for airport expansion. Evaluate strategies to reduce the noise impacts above 65 CNEL. Encourage future land uses which are compatible with aircraft noise, such as commercial or industrial in undeveloped areas. Determine methods to reduce the adverse impacts of noise above 65 CNEL in existing residential areas which are expected to remain impacted by noise. Establish procedures to implement, review, and update the program. 	

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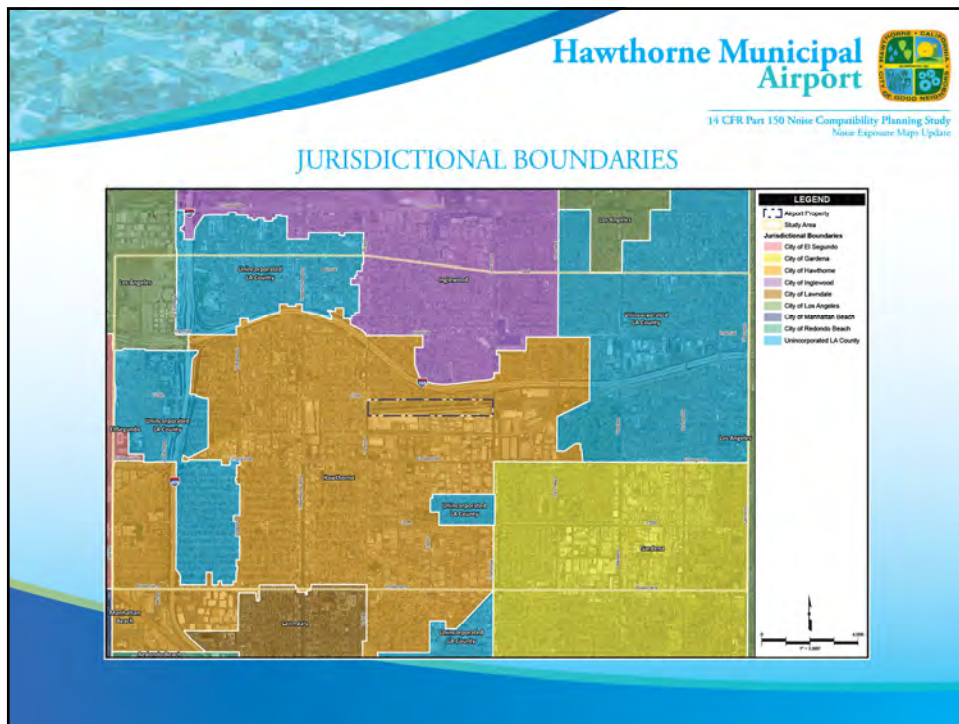
Hawthorne Municipal Airport 

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

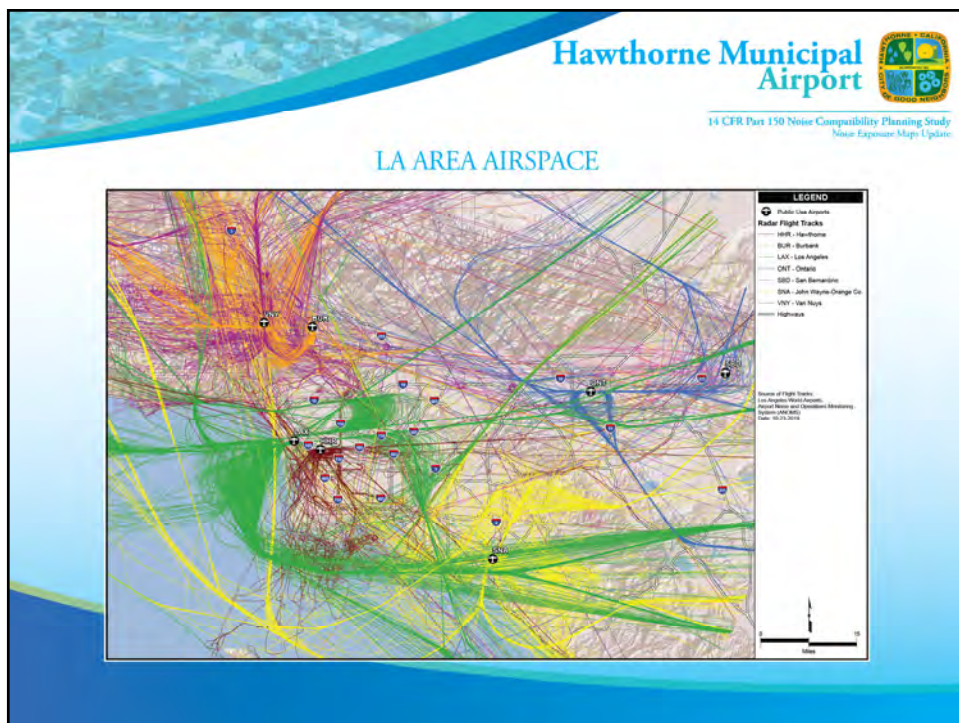
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Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update



Hawthorne Municipal Airport

PUBLIC INFORMATION WORKSHOP
Regarding the 14 CFR Part 150 Noise Exposure Map Update to evaluate aircraft noise exposure

Thursday, November 14, 2019
6:00 - 8:00 P.M.

City of Hawthorne Memorial Center - Polaris Room
3901 W. El Segundo Blvd., Hawthorne, CA

EVERYONE WELCOME!

OPEN HOUSE FORMAT....DROP IN ANYTIME

For more information, please contact:
Guido Fernandez at (310) 349-1636
gfernandez@cityofhawthorne.org
<http://hawthornenoise.airportstudy.com/>

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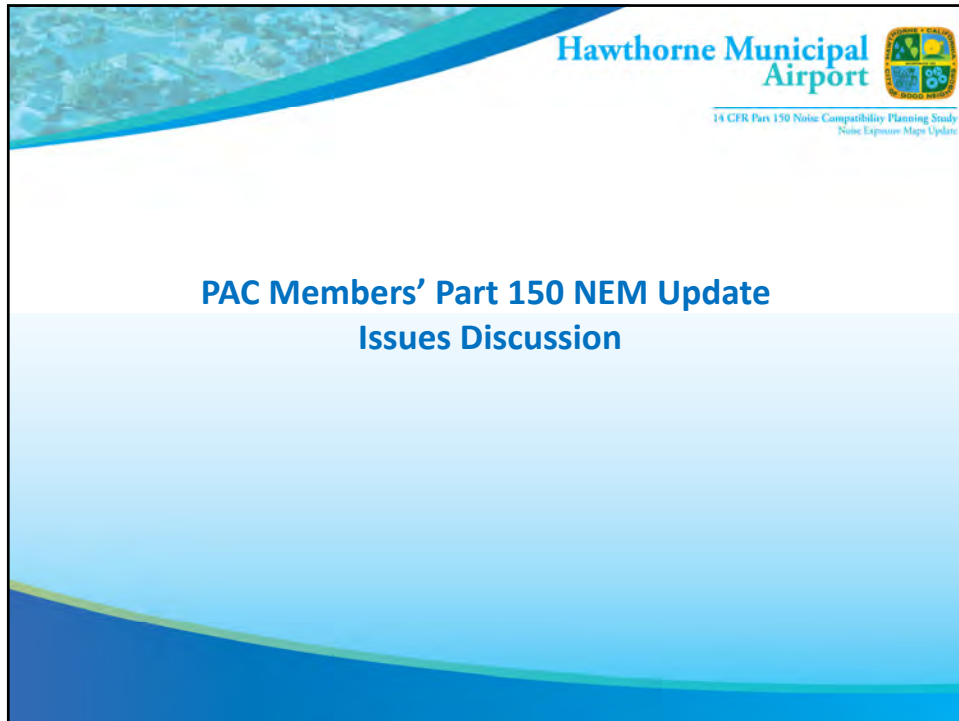
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14 CFR Part 150 Noise Compatibility Planning Study
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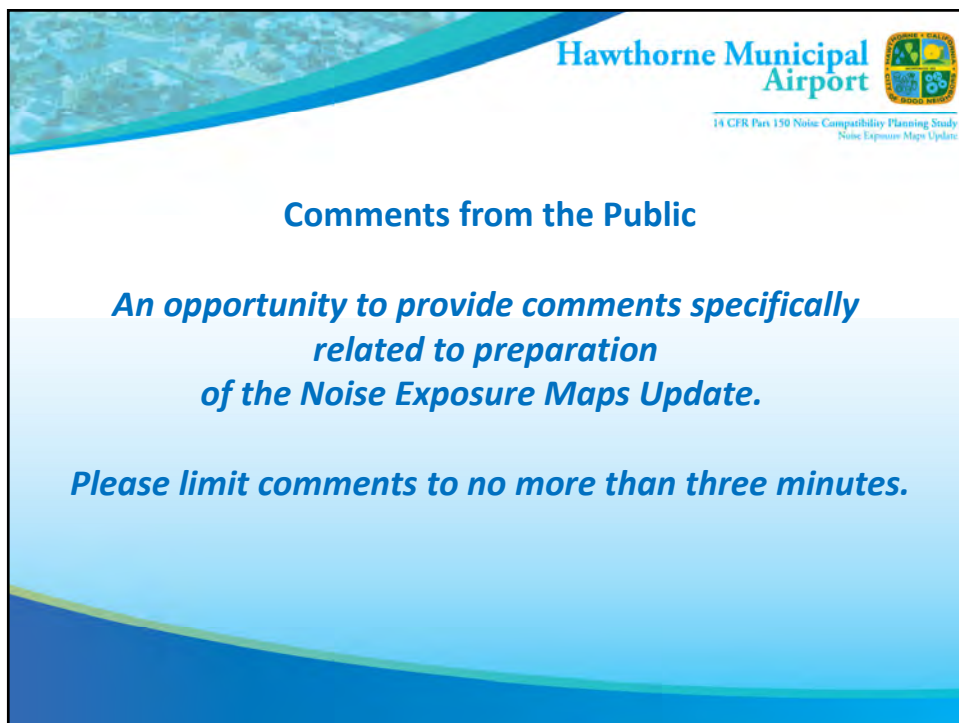
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PLANNING ADVISORY COMMITTEE MEETING ATTENDANCE RECORD

Meeting: PAC Meeting #1Date: November 14, 2019 Time: 2:00 p.m.Place: Hawthorne Memorial Center -Polaris Room

Please Print Neatly

NAME	REPRESENTING	PHONE # / E-MAIL
1. Guido Fernandez	Hawthorne Airport	Phone #: (310) 344-1631 E-mail: g.fernandez@cityofhawthorne.org
2. Bob HAWKS	WISE BURN/HAWTHORNE	Phone #: 310 991 6908 E-mail: BOBVALHAWKS@YAHOO.COM
3. Kathy Teal	City of Gardena	Phone #: 213 304 4548 E-mail: kathy.cramlet@gmail.com
4. Julie DeCOSTE	Hollyglen Neighborhood Assn	Phone #: 310 308-2831 E-mail: DeCOSTERealEstate@gmail.com
5. Edvige Mbakoup	FAA - LA Airport District Office	Phone #: (424) 405-7283 E-mail: edvige.b.mbakoup@faa.gov
6. PHIL DERNER	NATIONAL BUSINESS AVIATION ASSN	Phone #: 202-567-4061 E-mail: PDERNER@NBAA.ORG
7. Carolyn Ficklin	Ramona Neighborhood Assoc	Phone #: (310) 686-4652 (cell) E-mail: ceficklin@raytheon.com
8. Melvin Wagner	Holly Park Neighborhood Assoc	Phone #: 310-486-1602 E-mail: wagner2573@roadrunner.com
9. Patrick T. CAREY	WOIFF AIR & HAWTHORNE AIRPORT	Phone #: (310) 800-4284 E-mail: dpatrickcarey@gmail.com
10. GARY AVERY	HAWTHORNE FCT	Phone #: (310) 675-1010 E-mail: gavery1@serco-na.com
11. Olivia Valentine	City of Hawthorne	Phone #: (818) 517-0848 E-mail: o.j.valentine726@gmail.com
12. Laura Emdee	City of Redondo Beach	Phone #: 310 370 0200 E-mail: Laura.Emdee@Redondo.org
13. Alyson Stewart	LA County Regional Planning Airport Land Use Commission	Phone #: 213 974-6432 E-mail: astewart@planning.lacounty.gov
14. Richard Montgomery	CITY OF MANHATTAN BEACH	Phone #: 424-390-3629 E-mail: R.MONTGOMERY@CITYMB.INFO
15. MARY CAMPBELL	HERMOSA BEACH	Phone #: 310-214-0048 E-mail: mcampbell@hermosabeach.gov
16.		Phone #: E-mail:
17.		Phone #: E-mail:
18.		Phone #: E-mail:
19.		Phone #: E-mail:
20.		Phone #: E-mail:



PLANNING ADVISORY COMMITTEE MEETING ATTENDANCE RECORD

Meeting: Public WorkshopDate: November 14, 2019 Time: 6:00 p.m.-8:00 p.m.Place: Hawthorne Memorial Center -Polaris Room

Please Print Neatly

NAME	REPRESENTING	PHONE # / E-MAIL
1. MIKE NEVEAUX	Common Quest	Phone #: E-mail:
2. DAVID MCSULCA		Phone #: 424 789 0506 E-mail: MACK11NJ@YAHOO.COM
3. Peng Shillings	homeowner	Phone #: E-mail: rshillings322@gmail.com
4. Roxanne Ferdepe	Redondo Beach	Phone #: E-mail:
(2) 5. BOB HAWKS	WISEBURN	Phone #: 310 640 0474 E-mail:
6. Valerie Hawks	Wiseburn	Phone #: E-mail:
7. Guido Fernandez	Hawthorne Airport	Phone #: (310) 349-1637 E-mail: gfernandez@cityofhawthorne.org
8. Patrick T. Carey	Hawthorne Airport	Phone #: (310) 800-4284 E-mail: dpatrickcarey@gmail.com
9. LAURELIA WALKER	Homeowner	Phone #: E-mail:
10. Alex Mackie	West Athens	Phone #: E-mail:
11. DARRY BUSH	WISEBURN	Phone #: E-mail:
12. Bishop Mary Hernandez	Home owner	Phone #: 323 742 9184 E-mail:
13. John Pestka	Hawthorne	Phone #: 424-646-3041 E-mail:
14. Mary Ceaser	LA County Home owner	Phone #: 323-777-1842 E-mail:
15. Lorett E Kelly Denkin	Homeowner	Phone #: E-mail: 323-696-9444
(2) 16. ALTON FASTOL	HOME OWNER	Phone #: 323 896-1195 E-mail:
17. Kate Buckner	Homeowner	Phone #: 310 944 4395 E-mail: NHC A90250@calico.com
18. Reuben Sandoz	North Hawthorne	Phone #: 310 625 6567 E-mail: remimo@hotmail.com
19. Renald Medina	INGLEWOOD	Phone #: 858-820-7712 E-mail: Joe@JoeCollinsforCongress.com
20. Joe Collins	South Los Angeles	



PLANNING ADVISORY COMMITTEE MEETING ATTENDANCE RECORD

Meeting: Public WorkshopDate: November 14, 2019 Time: 6:00 p.m.-8:00 p.m.Place: Hawthorne Memorial Center -Polaris Room

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NAME	REPRESENTING	PHONE # / E-MAIL
1. DAVID FITZ	Coffman Associates	Phone #: E-mail: <u>dfitz@Coffman-associates.com</u>
2. Christine Eberhard	CommuniQuest	Phone #: E-mail: <u>communiquest@me.com</u>
3. Lynda Anderson	West Athens	Phone #: E-mail: <u>landerson-amp-la-fy@</u>
4. Eiro Wee Sit	Homeowner / Sase Technologies	Phone #: <u>yahoo.com</u> E-mail: <u>eweessit@sasctechnologies.com</u>
5. Maria Flores Acosta	Wiseburn	Phone #: <u>310.344.8728</u> E-mail: <u>mariflor1974@yahoo.com</u>
6. SHUNYAA TURNER	HOMEOWNER	Phone #: <u>"</u> E-mail: <u>BIG-YAA@HOTMAIL.COM</u>
7. JACKIE POON	HAWTHORNE	Phone #: E-mail: <u>kakit86@gmail.com</u>
8. GEOFFREY GALAM	HAWTHORNE	Phone #: E-mail: <u>gigalam@gmail.com</u>
9. NEIL WHITE	HAWTHORNE	Phone #: E-mail: <u>NPLW1@ATT.NET</u>
10. Patricia Maduke	Homeowner	Phone #: E-mail: <u>"</u>
11. Ruby C.	Homeowner	Phone #: E-mail: <u>RUBYCOHENS@MSN.COM</u>
12. STEVE DEBAETS	HOMEOWNER	Phone #: E-mail: <u>DEBAETS@AOL.COM</u>
13. Bill Brang	Homeowner	Phone #: E-mail: <u>billbrang@gmail.com</u>
14. Leroy Landry	LA County	Phone #: E-mail: <u>"</u>
15. Rebecca Henderson	homeowner	Phone #: <u>8</u> E-mail: <u>rebeccakay16@gmail.com</u>
16. Edvige Mbakoup	Nearby resident	Phone #: E-mail: <u>"</u>
17. Rich Rinaldi	Homeowner	Phone #: <u>310 795 7225</u> E-mail: <u>richrinaldi@gmail.com</u>
18.		Phone #: E-mail: <u>"</u>
19.		Phone #: E-mail: <u>"</u>
20.		Phone #: E-mail: <u>"</u>



14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

Agenda

1. **Welcome and Introductions**
- Guido Fernandez, Airport Supervisor
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14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

A NOISE EXPOSURE MAP UPDATE:

- Identifies the current and projected annualized aircraft noise levels at Hawthorne Municipal Airport using the Community Equivalent Noise Level (CNEL) noise metric.
- Identifies impacts to noise-sensitive land uses in the airport environs.

A NOISE EXPOSURE MAP UPDATE DOES NOT:

- Evaluate aircraft operations from other area airports.
- Consider other types of impacts (air quality, accidents, etc.).
- Use noise metrics other than CNEL to determine noise impacts.
- Provide justification for airport expansion.
- Evaluate strategies to reduce the noise impacts above 65 CNEL.
- Encourage future land uses which are compatible with aircraft noise, such as commercial or industrial in undeveloped areas.
- Determine methods to reduce the adverse impacts of noise above 65 CNEL in existing residential areas which are expected to remain impacted by noise.
- Establish procedures to implement, review, and update the program.

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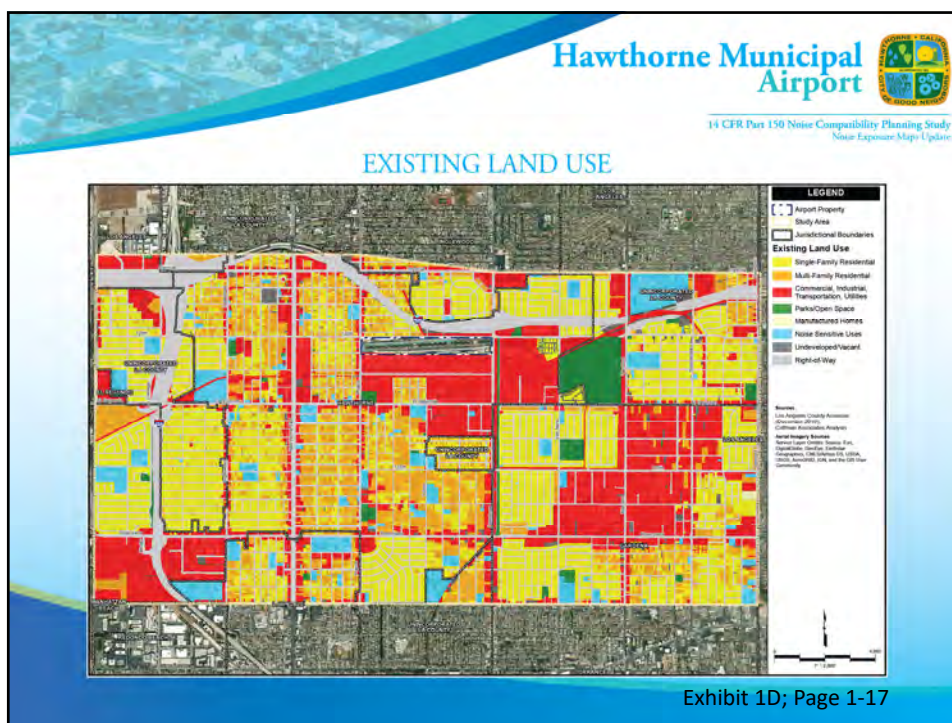


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Noise Exposure Maps Update

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Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update


EXISTING LAND USE

Land Use Type	Area (Acres)	Percentage of Study Area
Airport Property	80.1	1.0%
Single-Family Residential	2,321.8	28.3%
Multi-Family Residential	1,126.5	13.7%
Commercial, Industrial, Transportation, and Utilities	1,869.4	22.8%
Parks/Open Space	204.5	2.5%
Manufactured Homes	6.9	0.1%
Noise-Sensitive Uses	439.5	5.4%
Undeveloped/Vacant Parcels	106.8	1.3%
Right-of-Way	2,046.0	24.9%
Total	8,201.5	100.0%

Source: Los Angeles County Assessor's Office Local Tax Roll database (November 2019); Google Earth aerial photography (May 2019); Coffman Associates analysis and windshield survey from November 2019.










Table 1A; Page 1-12

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Hawthorne Municipal Airport 

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

PART 150 NOISE COMPATIBILITY GUIDELINES











LAND USE		Yearly Day-Night Average Sound Level (DNL) in Decibels					
		Below 65	65-70	70-75	75-80	80-85	Over 85
Residential							
	Residential, other than mobile homes and transient lodgings	Y	N ¹	N ¹	N	N	N
	Mobile home parks	Y	N	N	N	N	N
	Transient lodgings	Y	N ¹	N ¹	N ¹	N	N
Public Use							
	Schools	Y	N ¹	N ¹	N	N	N
	Hospitals and nursing homes	Y	25	30	N	N	N
	Churches, auditoriums, and concert halls	Y	25	30	N	N	N
	Government services	Y	Y	25	30	N	N
	Transportation	Y	Y	Y ²	Y ³	Y ⁴	Y ⁵
	Parking	Y	Y	Y ²	Y ³	Y ⁴	N

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Hawthorne Municipal Airport 

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

PART 150 NOISE COMPATIBILITY GUIDELINES

LAND USE		Yearly Day-Night Average Sound Level (DNL) in Decibels					
		Below 65	65-70	70-75	75-80	80-85	Over 85
Commercial Use							
	Offices, business and professional	Y	Y	25	30	N	N
	Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y ²	Y ³	Y ⁴	N
	Retail trade-general	Y	Y	25	30	N	N
	Utilities	Y	Y	Y ²	Y ³	Y ⁴	N
	Communication	Y	Y	25	30	N	N
Manufacturing and Production							
	Manufacturing, general	Y	Y	Y ²	Y ³	Y ⁴	N
	Photographic and optical	Y	Y	25	30	N	N
	Agriculture (except livestock) and forestry	Y	Y ⁶	Y ⁷	Y ⁸	Y ⁸	Y ⁸
	Livestock farming and breeding	Y	Y ⁶	Y ⁷	N	N	N
	Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

PART 150 NOISE COMPATIBILITY GUIDELINES

LAND USE		Yearly Day-Night Average Sound Level (DNL) in Decibels					
		Below 65	65-70	70-75	75-80	80-85	Over 85
Recreational							
	Outdoor sports arenas and spectator sports	Y	Y ⁵	Y ⁵	N	N	N
	Outdoor music shells, amphitheaters	Y	N	N	N	N	N
	Nature exhibits and zoos	Y	Y	N	N	N	N
	Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
	Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N
KEY							
Y (Yes)		Land Use and related structures compatible without restrictions.					
N (No)		Land Use and related structures are not compatible and should be prohibited.					
NLR		Noise Level Reduction (outdoor-to-indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.					
25, 30, 35		Land Use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.					

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update


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<div>  Hawthorne Municipal Airport </div> <div> 14 CFR Part 150 Noise Compatibility Planning Study Noise Exposure Maps Update </div>		
SUMMARY OF NOISE COMPATIBILITY PROGRAM		
Program Measure	Description	Status
NOISE ABATEMENT MEASURES		
1	Continue to implement Hawthorne Municipal Airport Fly Quietly pilot and public education program.	Completed. The airport provides a noise abatement procedure handbook to pilots operating at Hawthorne Municipal Airport. This handbook is also available on the City of Hawthorne's website (https://www.cityofhawthorne.org/airports). Finally, the airport has inconsistent signage adjacent to the runway reminding pilots to follow noise abatement procedures prior to take-off.
2	Continue to use the exiting ground run-up area on the south side of the airport.	Partially completed. FAA's airport facility directory entry for Hawthorne Municipal Airport identifies an engine maintenance ramp location on the south side of the runway, 300 feet west of the runway end. Engine maintenance run-up locations are also identified in the abatement materials available on the airport's website: http://www.cityofhawthorne.com/legis/publicworks/airport/noise_abatement.asp . No formal engine maintenance restriction has been established.
LAND USE PLANNING MEASURES		
1	Support the land use compatibility guidelines for project review found in the City of Hawthorne and Inglewood Noise Elements of the General Plan.	Completed. Both the City of Hawthorne and City of Inglewood have incorporated into the Noise Element of their respective General Plans a Land Use Compatibility Matrix and a Land Use Compatibility Table outlining those land uses compatible to acceptable noise levels.
2	The City of Hawthorne should amend its Noise Element to include monitoring and updating the Part 150 Noise Compatibility Study.	Completed. In May 2018, Goal 1.0, Policy 1.1 of the General Plan Noise Element was updated to reflect the airport's role to monitor and update the Part 150 Noise Compatibility Study every seven to 10 years, or as noise conditions warrant.
3	Incorporate the Hawthorne Municipal Airport 65 CNEL noise contour into the City of Hawthorne General Plan Maps.	Completed. In May 2018, the 2017 65 CNEL noise contour was incorporated into the Noise Element of the City of Hawthorne General Plan map (Figure 5B, Noise Element).
4	The City of Hawthorne should adopt formal project review guidelines addressing noise compatibility issues.	Completed. In May 2018, the following policy (Policy 3.5) was incorporated into Goal 3.0: "The City shall evaluate the development of noise-sensitive uses within the vicinity of Hawthorne Municipal Airport using the noise exposure contour developed as part of the airport's 14 CFR Part 150 Study and the compatibility criteria provided in the land use compatibility guidelines presented in Exhibit 2c."
5	The City of Hawthorne should establish an Airport Overlay Zone.	Completed. In February 2018, the zoning map for the City of Hawthorne was amended to include an Airport Overlay Zone.
NOISE MITIGATION MEASURE		
1	Establish a voluntary residential property acquisition and redevelopment program to remove noise-sensitive land uses within the 2017 65 CNEL contour.	Ongoing. A voluntary residential property acquisition and redevelopment program is pending the outcome of the Part 150 Study Noise Exposure Map update.
PROGRAM MANAGEMENT MEASURES		
1	Continue use of the airport's noise complaint handling system.	Ongoing. Hawthorne Municipal Airport Staff has a formal system to receive, track, record, and respond to airport noise complaints.
2	Update noise exposure maps and Noise Compatibility Program.	Ongoing. New noise exposure maps will be generated upon completion of the Part 150 Study Noise Exposure Map update.
3	Monitor implementation of updated Part 150 Noise Compatibility Program.	Ongoing. Upon completion of the Part 150 Study Noise Exposure Map update, the airport will monitor compliance with the Noise Compatibility Program.

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<div>  Hawthorne Municipal Airport </div> <div> 14 CFR Part 150 Noise Compatibility Planning Study Noise Exposure Maps Update </div>	
Program Measure	Description
NOISE ABATEMENT MEASURES	
1	Continue to implement Hawthorne Municipal Airport Fly Quietly pilot and public education program.
2	Continue to use the exiting ground run-up area on the south side of the airport.


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Hawthorne Municipal Airport 

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

LAND USE PLANNING MEASURES	
1	Support the land use compatibility guidelines for project review found in the City of Hawthorne and Inglewood Noise Elements of the General Plan.
2	The City of Hawthorne should amend its Noise Element to include monitoring and updating the Part 150 Noise Compatibility Study.
3	Incorporate the Hawthorne Municipal Airport 65 CNEL noise contour into the City of Hawthorne General Plan Map.
4	The City of Hawthorne should adopt formal project review guidelines addressing noise compatibility issues.
5	The City of Hawthorne should establish an Airport Overlay Zone.

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Hawthorne Municipal Airport 

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

NOISE MITIGATION MEASURE	
1	Establish a voluntary residential property acquisition and redevelopment program to remove noise-sensitive land uses within the 2017 65 CNEL contour.

PROGRAM MANAGEMENT MEASURES	
1	Continue use of the airport's noise complaint handling system.
2	Update noise exposure maps and Noise Compatibility Program.
3	Monitor implementation of updated Part 150 Noise Compatibility Program.

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

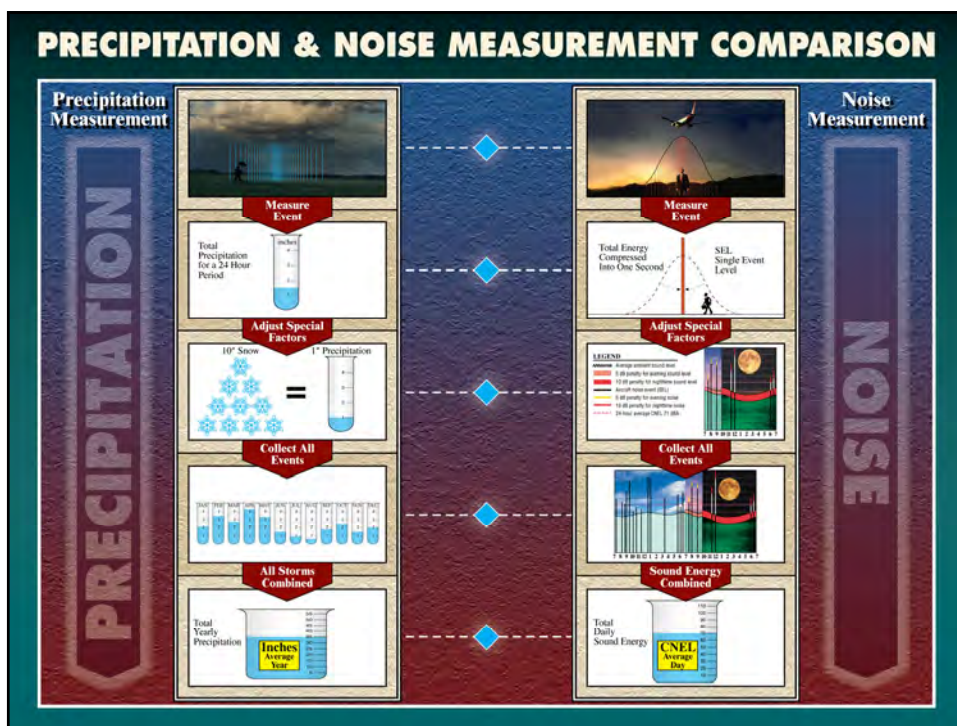
Agenda

1. Welcome and Introductions
- Guido Fernandez, Airport Supervisor
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- Dave Fitz, Coffman Associates
3. Noise Exposure Maps Inventory
- Michelle Kriks, Coffman Associates
4. Noise Compatibility Plan Status
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5. **Noise Modeling and Monitoring Overview**
- Kory Lewis, Coffman Associates
6. PAC Members' Issues Discussion
- Christine Eberhard, CommuniQuest

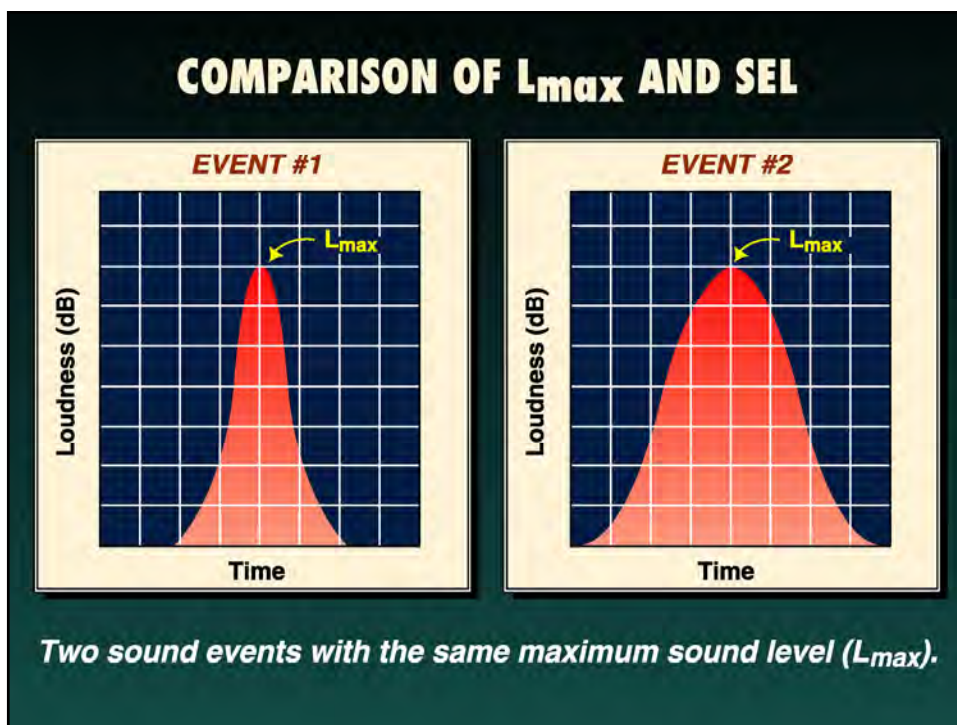
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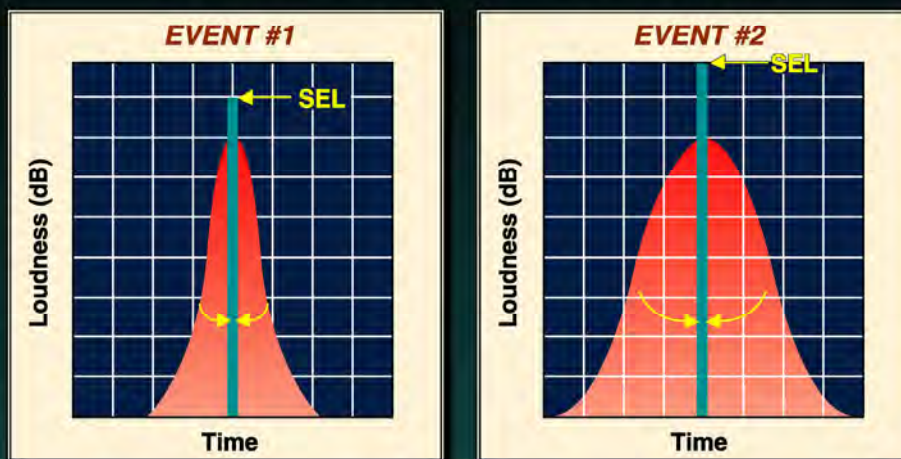


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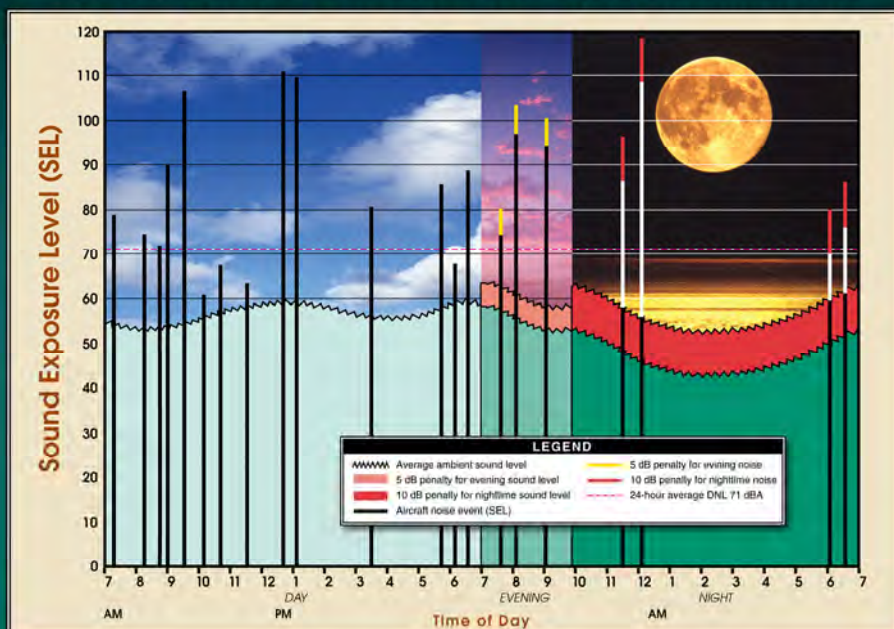
COMPARISON OF L_{max} AND SEL



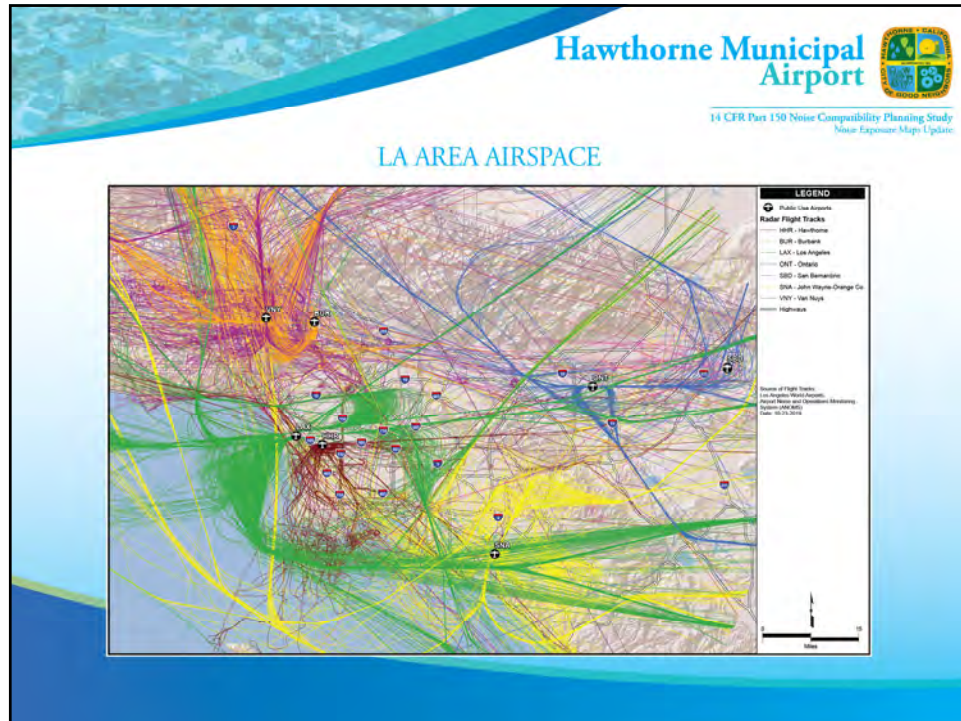
Different sound exposure levels (SEL) for two sound events with the same L_{max} .

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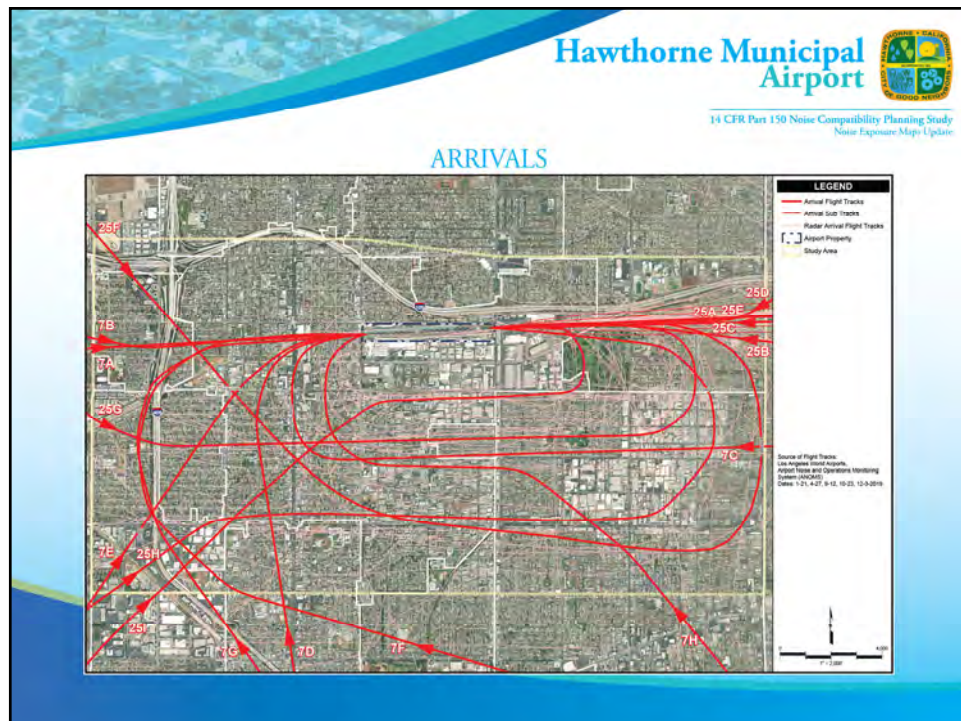
TYPICAL NOISE PATTERN AND CNEL SUMMATION



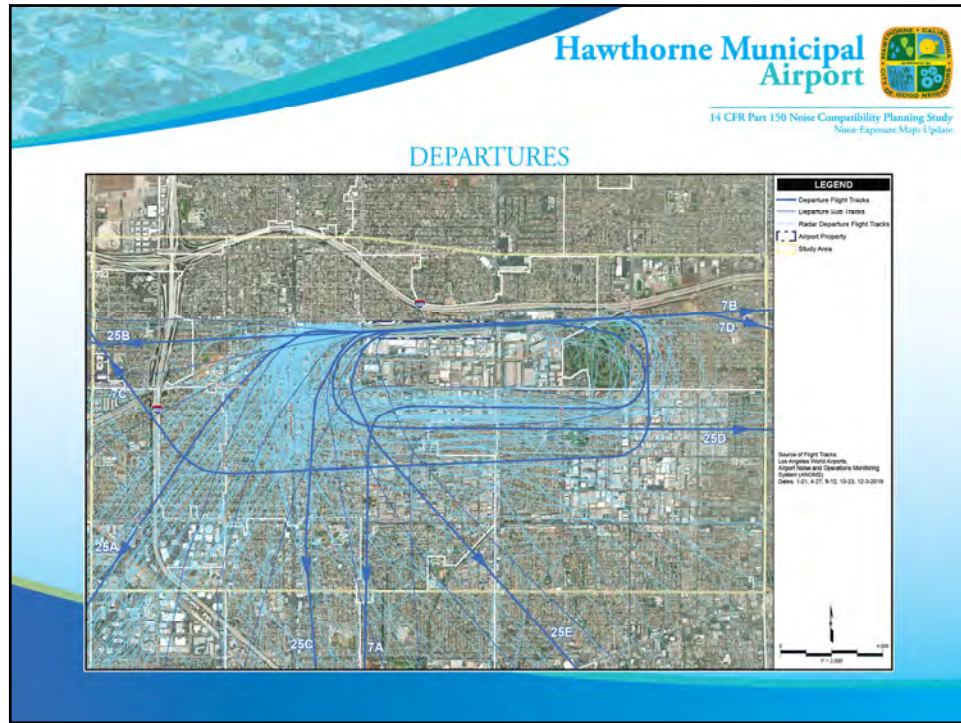
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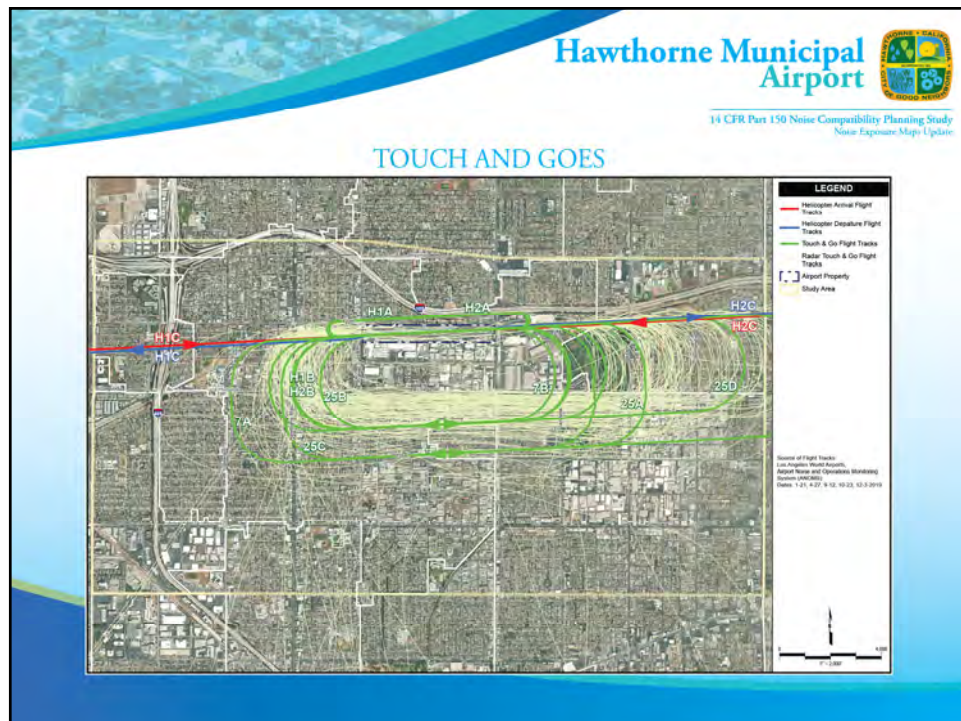
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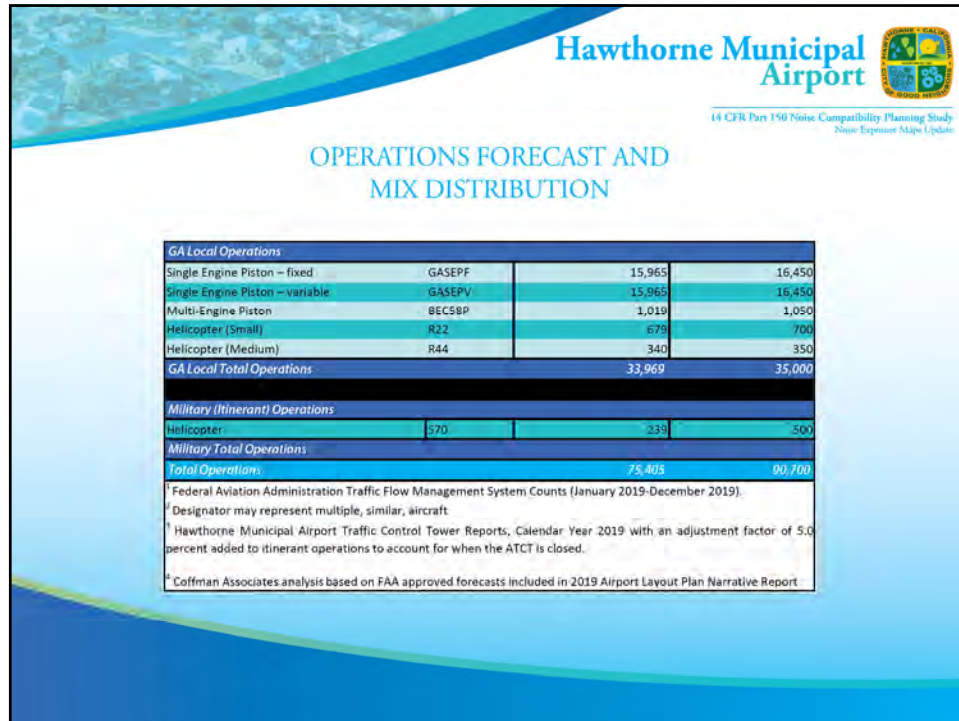
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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

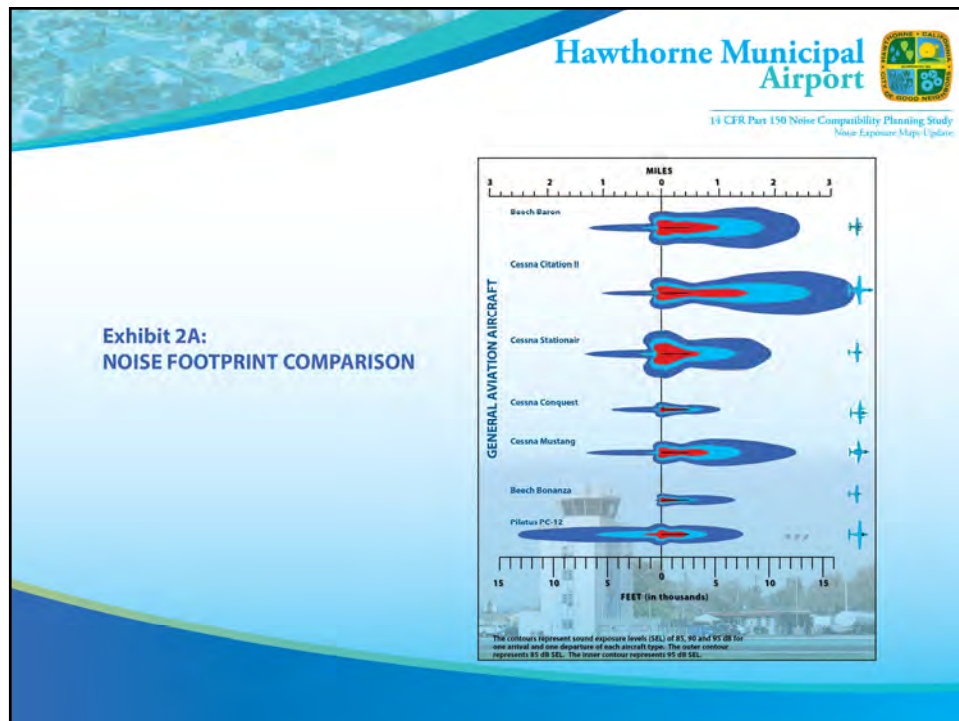
OPERATIONS FORECAST AND MIX DISTRIBUTION

Aircraft Type ¹	AEDT Designator ²	2020 Operations ³	2025 Operations ⁴
GA Itinerant Operations			
Single Engine Piston – fixed	GASEPF	8,261	11,070
Single Engine Piston – variable	GASEPV	6,261	11,070
Multi-Engine Piston	BEC58P	3,090	4,140
Helicopter, Small	R22	10,740	14,390
Helicopter, Medium	R44	1,193	1,599
Single Engine Turbo-prop, Small	CNA206	108	145
Single Engine Turbo-prop, Small	CNA208	291	390
Turboprop Multi-Engine, Small	CNA441	2,350	3,148
Single Engine Turbo-prop Large	Pilatus PC-12	2,497	3,346
Turboprop Multi-Engine, Large	SD330	106	142
Turbojet, Small	ECLIPSES00	461	617
Turbojet, Small	CNA500	505	676
Turbojet, Medium	CNA560U	144	193
Turbojet, Medium	CJT3	445	597
Turbojet, Medium	LEAR35	880	1,179
Turbojet, Medium	CNA55B	837	1,121
Turbojet, Large	CL600	376	504
Turbojet, Large	CL601	252	338
Turbojet, Large	CNA750	263	352
Turbojet, Large	GV	136	182
GA Itinerant Total Operations		41,197	55,200

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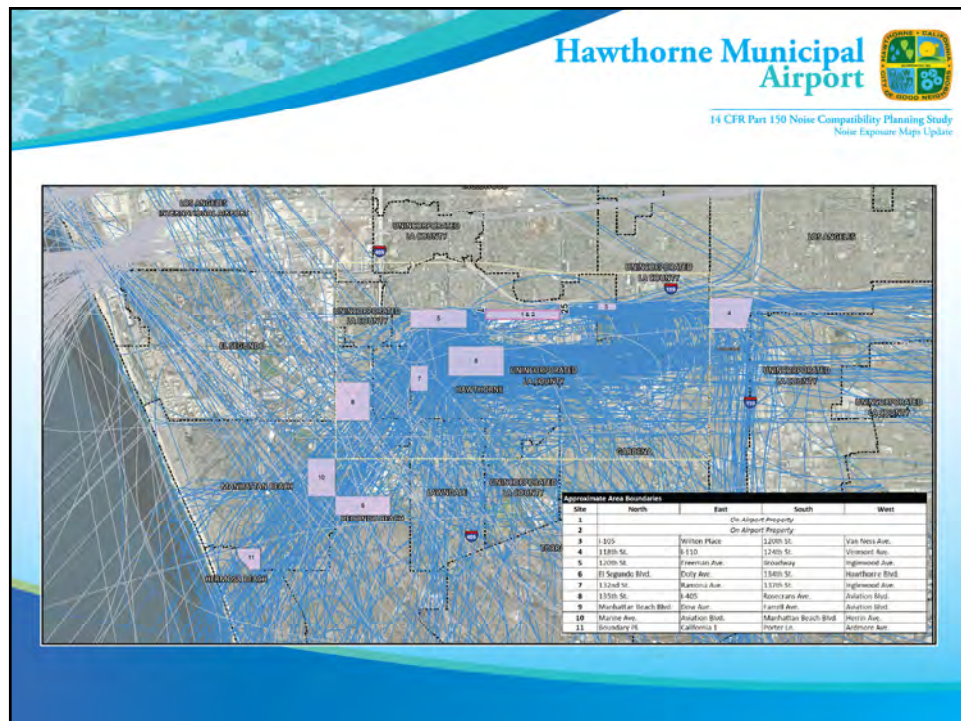
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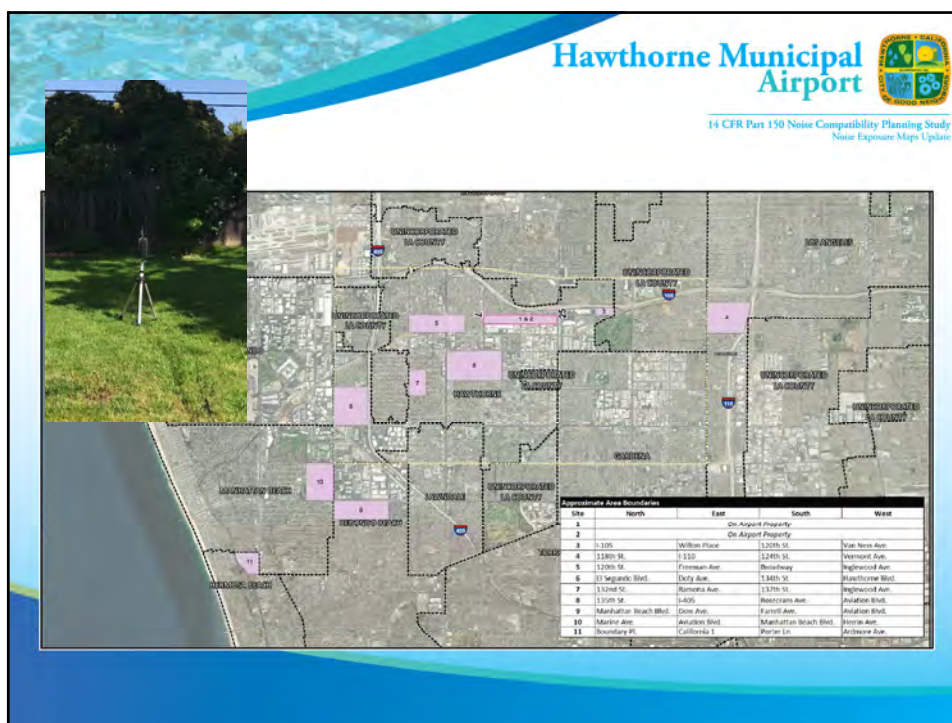
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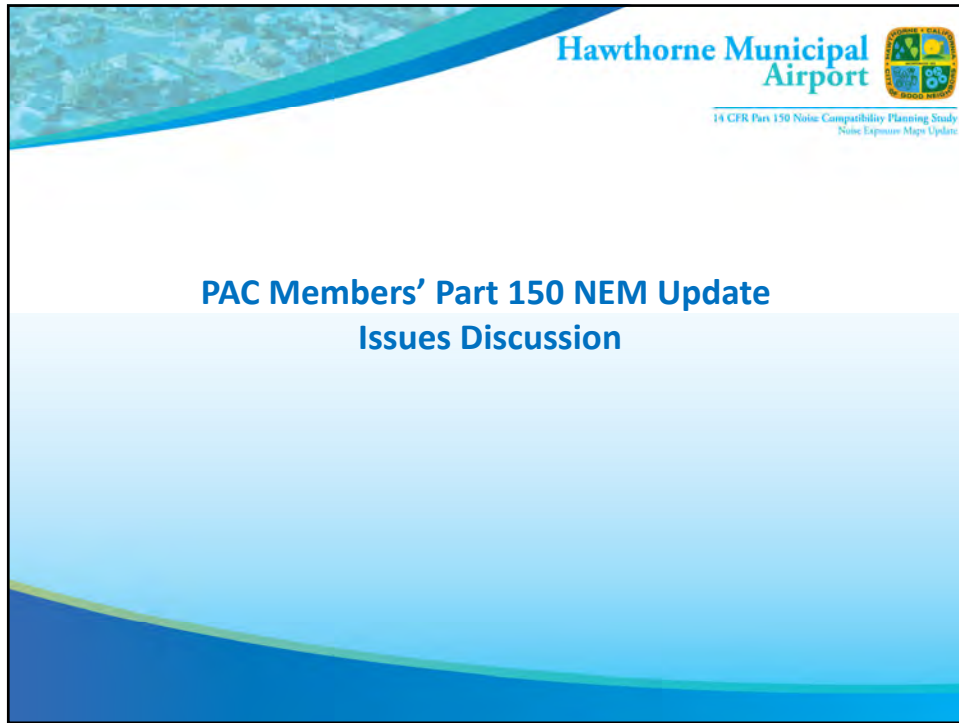
35

Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

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1. **Welcome and Introductions**
- Guido Fernandez, Airport Supervisor
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- Dave Fitz, Coffman Associates
3. **Noise Exposure Maps Inventory**
- Michelle Kriks, Coffman Associates
4. **Noise Compatibility Plan Status**
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14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Map Update



Hawthorne Municipal Airport

PUBLIC INFORMATION WORKSHOP
Regarding the 14 CFR Part 150 Noise Exposure
Map Update to evaluate aircraft noise exposure
Thursday, February 20, 2020
6:00 - 8:00 P.M.
City of Hawthorne Memorial Center - Polaris Room
3901 W. El Segundo Blvd., Hawthorne, CA
EVERYONE WELCOME!
OPEN HOUSE FORMAT....DROP IN ANYTIME
For more information, please contact:
Guido Fernandez at (310) 349-1636
gfernandez@cityofhawthorne.org
<http://hawthornenoise.airportstudy.com/>

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14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Map Update

Thank you!

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PLANNING ADVISORY COMMITTEE MEETING ATTENDANCE RECORD

Meeting: PAC Meeting #2

Date: February 20, 2020 Time: 2:00 p.m.

Place: Hawthorne Memorial Center -Polaris Room

Please Print Neatly

NAME	REPRESENTING	PHONE # / E-MAIL
1. <i>Michael Eberhard</i>	<i>Community Trust</i>	Phone #: 908-501-8466 E-mail: <i>communitytrust@me.com</i>
2. <i>Guido Fernandez</i>	<i>City of Hawthorne/Airport</i>	Phone #: (310) 349-1637 E-mail: <i>gfernandez@cityofhawthorne.org</i>
3. <i>Alyson Stewart</i>	<i>LA County DRP</i>	Phone #: (213) 974-6432 E-mail: <i>astewart@planning.lacounty.gov</i>
4. <i>Roxanne Forebee</i>	<i>Redondo Beach</i>	Phone #: <i>760-707-1000</i> E-mail: <i>roxxox.horne@gmail.com</i>
5. <i>BOB HAWKS</i>	<i>WISK BURN</i>	Phone #: 310 640 0477 E-mail: <i>BOB@ALHAWKS21000</i>
6. <i>Greg T. Sullivan</i>	<i>CITY OF HAWTHORNE</i>	Phone #: 310- E-mail: <i>greg.sullivan@cityofhawthorne.org</i>
7. <i>Mahmud Wazir</i>	<i>Holly Park Home ownership</i>	Phone #: <i>714-257-9000</i> E-mail: <i>wazir2579000@roadrunner.com</i>
8. <i>Linda Brown</i>	<i>Holly Park Neighborhood</i>	Phone #: <i>714-257-9000</i> E-mail: <i>Lindabw.2@roadrunner.com</i>
9. <i>Dimitrios Chamizid</i>	<i>Star Helicopters</i>	Phone #: <i>310-368-2831</i> E-mail: <i>dimitris@star-helicopters.com</i>
10. <i>Julie DeCoste</i>	<i>Holly Glen Neighborhood</i>	Phone #: <i>310-368-2831</i> E-mail: <i>DeCoste@realstates.com</i>
11. <i>Chynia Valente</i>	<i>Hawthorne</i>	Phone #: E-mail:
12. <i>Chris Palmer</i>	<i>Hawthorne</i>	Phone #: E-mail:
13. <i>Laura Emdee</i>	<i>Redondo Beach</i>	Phone #: E-mail:
14. <i>Silverio Chavez</i>	<i>City of Hawthorne</i>	Phone #: 614 677 7996 E-mail: <i>scavaz@cityofhawthorne.org</i>
15.		Phone #: E-mail:
16.		Phone #: E-mail:
17.		Phone #: E-mail:
18.		Phone #: E-mail:
19.		Phone #: E-mail:
20.		Phone #: E-mail:

PUBLIC INFORMATION WORKSHOP **MEETING ATTENDANCE RECORD**

Meeting: Public WorkshopDate: February 20, 2020 Time: 6:00 p.m.-8:00 p.m.Place: Hawthorne Memorial Center -Polaris Room

Please Print Neatly

NAME	REPRESENTING	PHONE # / E-MAIL
1. W.J. MEYERS	PANAMA NEIGHBORHOOD	Phone #: 310.561-4605 E-mail: DEMYERS@AOL.COM
2. DARRY BUSH	WISBURN	Phone #: 310 978-4074 E-mail:
3. Maria Flores Acosta	Wiscburn	Phone #: 310.344.8728 E-mail: mariflor1974@yahoo.com
4. Guido Fernandez	Hawthorne Airport	Phone #: (310) 349-1637 E-mail: gfernandez@cityofhawthorne.org
5. Roxanne Ferder	Redondo Beach	Phone #: E-mail: NICKROX.HOME@GMAIL.COM
6. Bob Hawks	WISCBURN	Phone #: 310 640 474 E-mail: BOB@HAWKSSA.YAHOO.COM
7. Bonnie Valent-Spright	SELF	Phone #: E-mail: BVALANTSPRIGHTE@YAHOO.COM
8. Stacey Amato	Hermosa Beach	Phone #: E-mail: Sarmato@hermosabeach.gov
9. Hamilton Cloud	Cong Maxine Waters	Phone #: 323 757-8900 E-mail: hamilton.cloud@mail.house.gov
10. NEIL WHITE	SELF	Phone #: E-mail: NWHITE@ART-NET
11. Kory Lewis	Coffman Associates	Phone #: E-mail:
12. Silverio Chavez	Hawthorne Airport	Phone #: E-mail:
13. Michelle Kriks	Coffman Associates	Phone #: E-mail: mkriks@coffmanassociates.com
14. Roger Lyght	SELF	Phone #: (310) 374-1221 E-mail: Roger.Lyght@gmail.com
15. PAUL FITZ	Coffman Associates	Phone #: E-mail: pfitz@coffman-associates.com
16.		Phone #: E-mail:
17.		Phone #: E-mail:
18.		Phone #: E-mail:
19.		Phone #: E-mail:
20.		Phone #: E-mail:



PLANNING ADVISORY COMMITTEE MEETING ATTENDANCE RECORD

Meeting: Public WorkshopDate: November 14, 2019 Time: 6:00 p.m.-8:00 p.m.Place: Hawthorne Memorial Center -Polaris Room

Please Print Neatly

NAME	REPRESENTING	PHONE # / E-MAIL
③ 1. Celeste Jara	myself + family	Phone #: 310-259-2371 E-mail: jara.celeste@gmail.com
2. Linda Brown	myself	Phone #: 310-323-418-1038 E-mail: lindabrown12@roadrunner.com
3. Dimitrios Chmizidis	Star Helicopters	Phone #: E-mail: dimitris@star-helicopters.com
4. Bobbie Berne	Home owner	Phone #: 323 392-4621 E-mail: burnette@usc.edu
2 5. Donald Burnett	Home Owner	Phone #: 313 5008360 E-mail: burnette@usc.edu
6. Debbie Hanna	Homeowner	Phone #: E-mail: hanna@hannaassociates.com
7. Michelle Keiks	Coffman Associates	Phone #: E-mail: mkeiks@coffmanassociates.com
8. Erik Martin	Ramona Tract	Phone #: E-mail: erik.martin3333@gmail.com
9.		Phone #: E-mail:
10.		Phone #: E-mail:
11.		Phone #: E-mail:
12.		Phone #: E-mail:
13.		Phone #: E-mail:
14.		Phone #: E-mail:
15.		Phone #: E-mail:
16.		Phone #: E-mail:
17.		Phone #: E-mail:
18.		Phone #: E-mail:
19.		Phone #: E-mail:
20.		Phone #: E-mail:




Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

Welcome!


- Zoom meeting is being recoded
- Please mute and turn off your video
- To ask a questions during the presentation, please use the hand raising or chat feature

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Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update



*Prepared for the City of
Hawthorne, California*

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14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

Agenda

1. Welcome and Introductions
 - Guido Fernandez, Airport Supervisor
2. Study Process and Project Synopsis
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 - Kory Lewis, Coffman Associates
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5. Noise Contour Results and Land Use Impact Summary
 - Michelle Kriks, Coffman Associates
6. PAC Members' Issues Discussion
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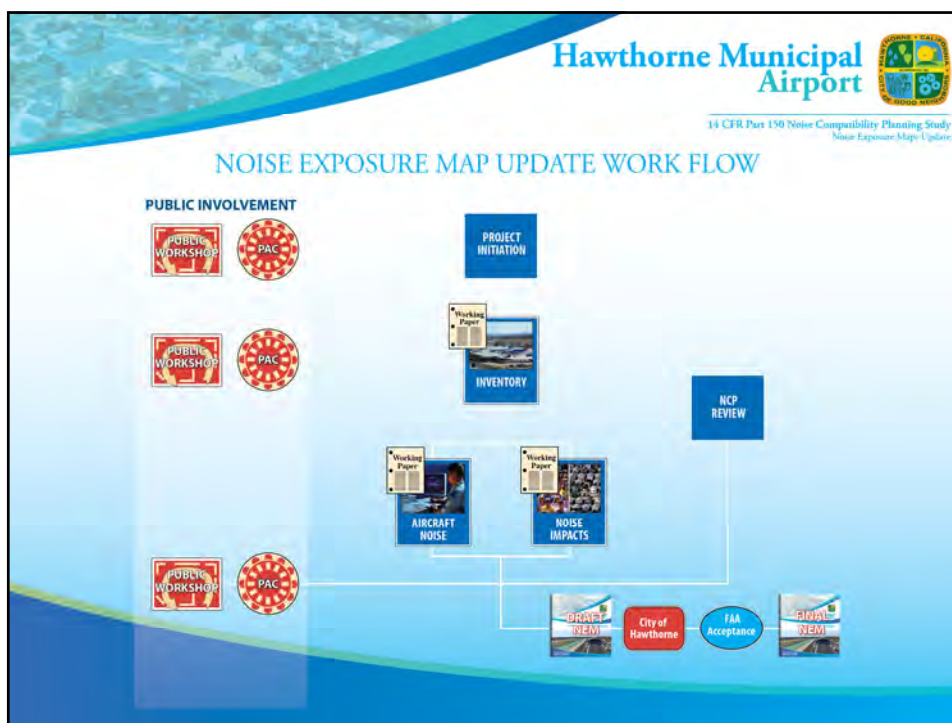


14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

Since Our Last Meeting

- **COVID-19**
- **Coordination with FAA on draft NEM materials and development of public participation plan**
- **FAA released the Neighborhood Environmental Survey**
https://www.faa.gov/regulations_policies/policy_guidance/noise/survey/

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

OPERATIONS FORECAST AND MIX DISTRIBUTION

Aircraft Type ¹	AEDT Designator ²	2020 Operations ³	2025 Operations ⁴
GA Itinerant Operations			
Single Engine Piston – fixed	GASEPF	8,261	11,070
Single Engine Piston – variable	GASEPV	8,261	11,070
Multi-Engine Piston	BEC58P	3,090	4,140
Helicopter, Small	R22	10,740	14,390
Helicopter, Medium	R44	1,193	1,599
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Single Engine Turbo-prop, Small	CNA208	291	390
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Single Engine Turbo-prop Large	Pilatus PC-12	2,497	3,346
Turboprop Multi-Engine, Large	SD330	106	142
Turbojet, Small	ECLIPSE500	461	617
Turbojet, Small	CNA500	505	676
Turbojet, Medium	CNA560U	144	193
Turbojet, Medium	CIT3	445	597
Turbojet, Medium	LEAR35	880	1,179
Turbojet, Medium	CNA558	837	1,121
Turbojet, Large	CL600	376	504
Turbojet, Large	CL601	252	338
Turbojet, Large	CNA750	263	352
Turbojet, Large	GV	136	182
GA Itinerant Total Operations		41,197	55,200

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

OPERATIONS FORECAST AND MIX DISTRIBUTION

GA Local Operations			
Single Engine Piston – fixed	GASEPF	15,965	16,450
Single Engine Piston – variable	GASEPV	15,965	16,450
Multi-Engine Piston	BEC58P	1,019	1,050
Helicopter (Small)	R22	679	700
Helicopter (Medium)	R44	340	350
GA Local Total Operations		33,969	35,000
Military (Itinerant) Operations			
Helicopter	570	235	500
Military Total Operations			
Total Operations		75,405	90,700

¹ Federal Aviation Administration Traffic Flow Management System Counts (January 2019-December 2019).
² Designator may represent multiple, similar, aircraft.
³ Hawthorne Municipal Airport Traffic Control Tower Reports, Calendar Year 2019 with an adjustment factor of 5.0 percent added to itinerant operations to account for when the ATCT is closed.
⁴ Coffman Associates analysis based on FAA approved forecasts included in 2019 Airport Layout Plan Narrative Report.

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

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Hawthorne Municipal Airport
14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

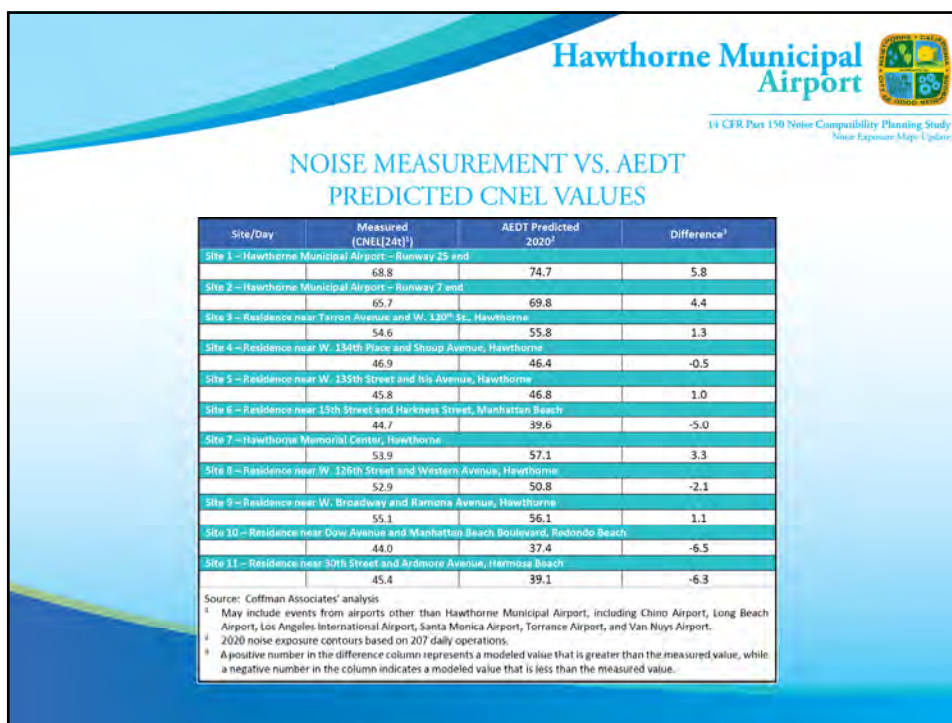
DAILY OPERATIONS DURING NOISE MEASUREMENT PROGRAM

Date	Operations Estimated from LAX Radar Flight Track Data
February 17, 2020	128
February 18, 2020	57
February 19, 2020	146
February 20, 2020	135
February 21, 2020	155
February 22, 2020	68
February 23, 2020	172
AEDT Average Day	207

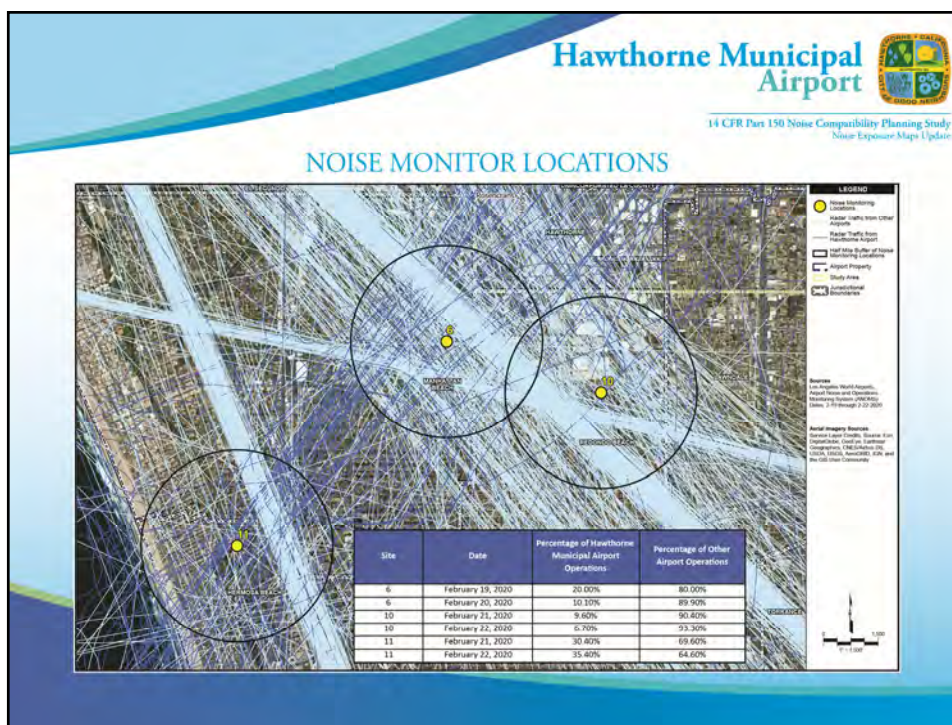
Source: Los Angeles World Airports, Airport Noise and Operations Monitoring System (ANOMS), Coffman Associates' analysis

Note:
Operations represent counts starting at 12:00 a.m. on the stated date, which differs from the 24-hour measurement periods that varied by site, generally ranging from 8:00 a.m. to 1:00 p.m.; therefore, a direct comparison of the number of airport events.

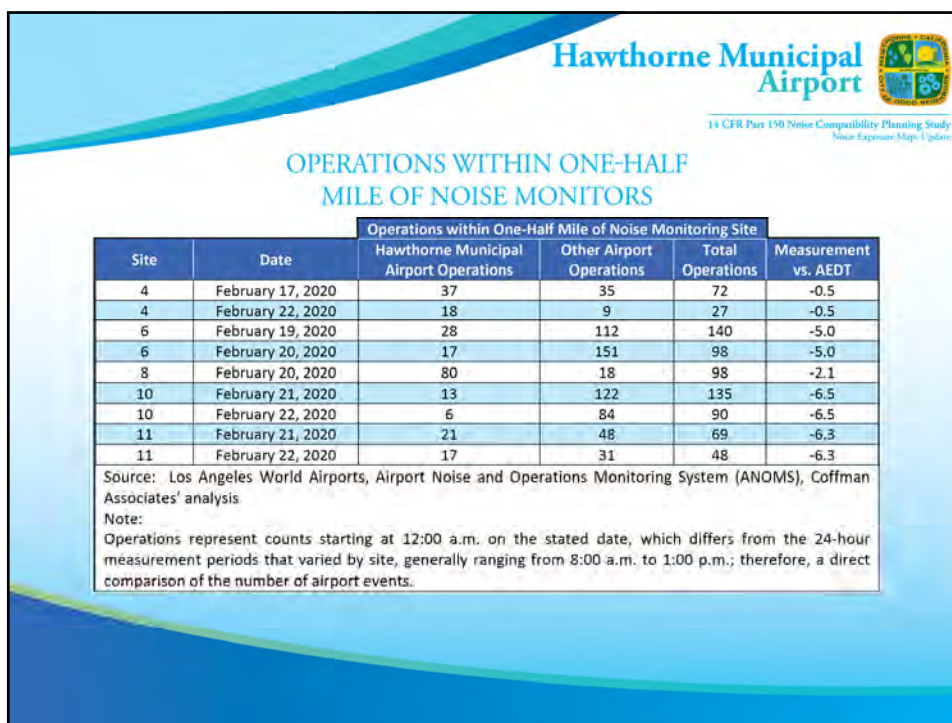
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Hawthorne Municipal Airport 

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

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Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

PART 150 NOISE COMPATIBILITY GUIDELINES

LAND USE	Noise Level (Day-Night Average Sound Level - DNL) or Day-Night Average Sound Level (DNL)					
	65+	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodging	Y	N	N	N	N	N
Mobile home parks	Y	N	N	N	N	N
Seasonal lodgings	Y	N	N	N	N	N
Public Use						
Schools	Y	N	N	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Restaurants	Y	Y	Y	Y	Y	Y
Police	Y	Y	Y	Y	Y	Y
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail selling establishments	Y	Y	Y	Y	Y	Y
Auto repair and maintenance	Y	Y	25	30	N	N
Libraries	Y	Y	Y	Y	Y	Y
Communications	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y	Y	Y	N
Photography and optical	Y	Y	25	30	N	N
Agriculture (except livestock and forestry)	Y	Y	Y	Y	Y	Y
Forestry (except logging and harvesting)	Y	Y	Y	Y	Y	Y
Mineral and quarrying, extraction, production and utilization	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports areas and game areas	Y	Y	Y	Y	Y	N
Outdoor music, dance, amusements	Y	25	N	N	N	N
Seasonal outdoor areas	Y	Y	N	N	N	N
Amusement, parks, resorts, and camps	Y	Y	Y	Y	Y	N
Full country, riding, fishing, and water recreation	Y	Y	25	30	N	N

KEY

Y (Yes) Land Use and related structures compatible without restrictions.

N (No) Land Use and related structures are not compatible and should be prohibited.

NLR Noise Level Reduction (outdoor-to-indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.


25, 30, 35 Land Use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

NOTES

- Where the community determines that residential or school use must be allowed, measures to achieve outdoor-to-indoor Noise Level Reduction (NLR) of at least 25 dB and 40 dB, respectively, should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.
- Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of those buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
- Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of those buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
- Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of those buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
- Land use compatible provided special sound reinforcement systems are installed.
- Residential buildings require an NLR of 25.
- Residential buildings require an NLR of 30.
- Residential buildings not permitted.

Source: 14 CFR Part 150, Appendix A, Table 1.

25



Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

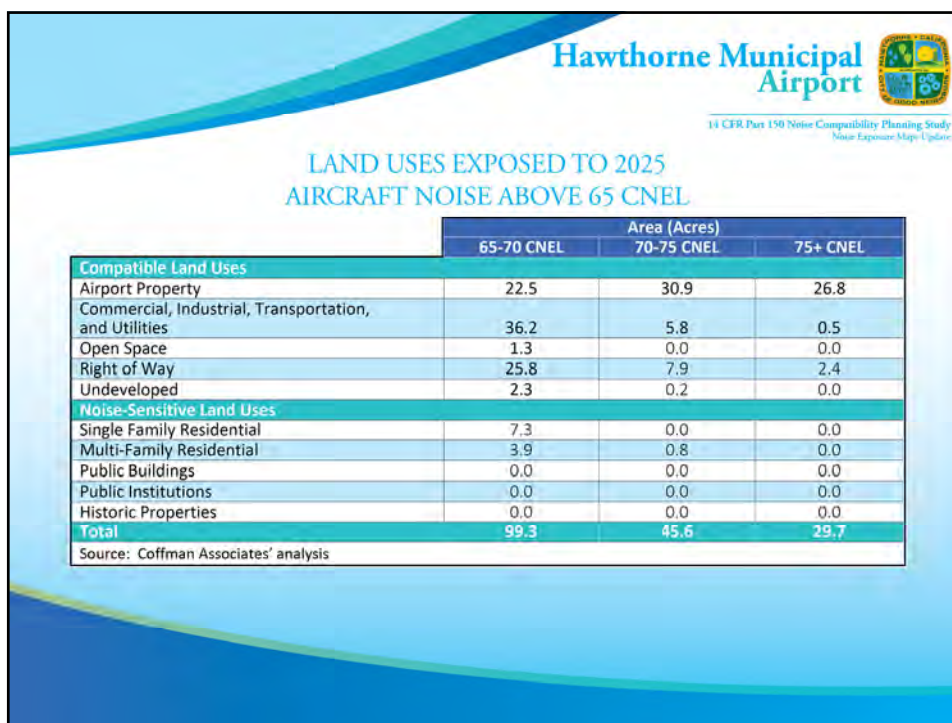
LAND USES EXPOSED TO 2020 AIRCRAFT NOISE ABOVE 65 CNEL

	Area (Acres)		
	65-70 CNEL	70-75 CNEL	75+ CNEL
Compatible Land Uses			
Airport Property	27.6	28.8	23.4
Commercial, Industrial, Transportation, and Utilities	30.0	4.6	0.2
Open Space	0.8	0.0	0.0
Right of Way	21.2	7.0	1.6
Undeveloped ¹	2.5	0.0	0.0
Noise-Sensitive Land Uses			
Single Family Residential	4.2	0.0	0.0
Multi-Family Residential	2.9	0.6	0.0
Public Buildings	0.0	0.0	0.0
Public Institutions	0.0	0.0	0.0
Historic Properties	0.0	0.0	0.0
Total	89.3	40.9	25.2

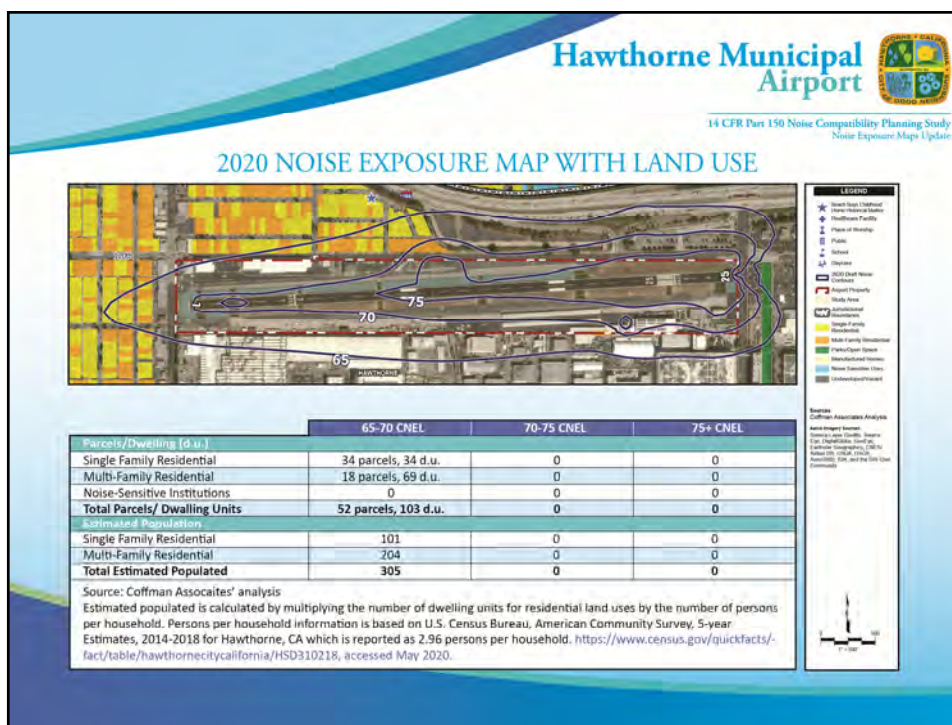
Source: Coffman Associates' analysis

¹ Undeveloped land consists of portions of multiple parcels.

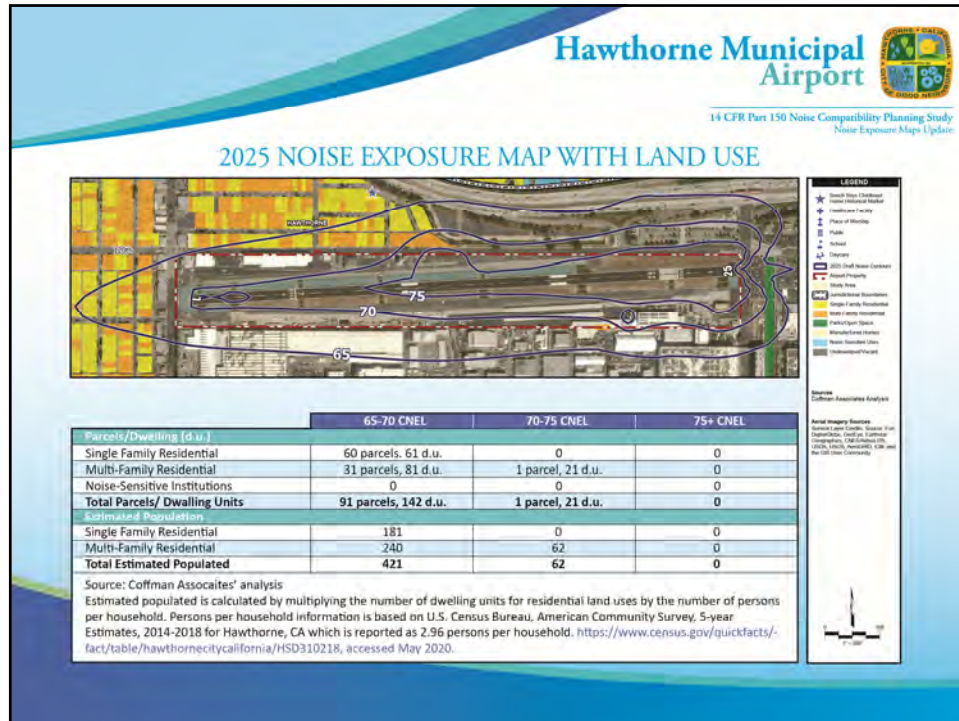
26



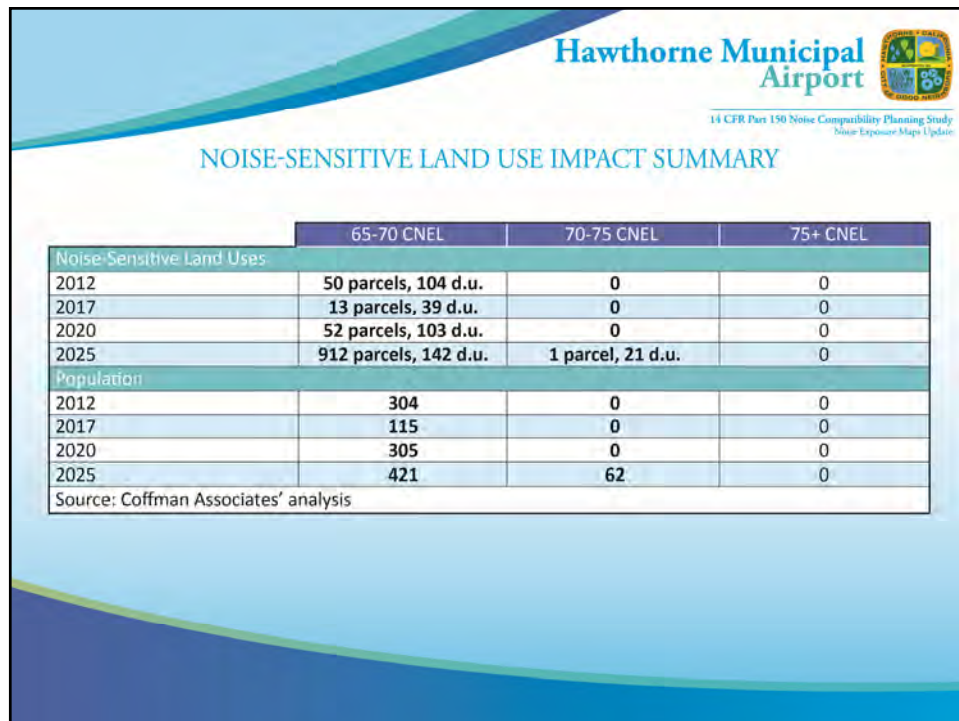
27



28



29



30



Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update



Hawthorne Municipal Airport

**VIRTUAL PUBLIC
INFORMATION WORKSHOPS**
Regarding the 14 CFR Part 150 Noise Exposure Map Update

Thursday, February 11, 2021 - 6:00 - 8:00 P.M.
Thursday, February 18, 2021 - 2:00 - 4:00 P.M.
Thursday, February 25, 2021 - 6:00 - 8:00 P.M.

Multiple small group sessions will be held during the virtual workshops. To sign up for a time, please visit the project website.

EVERYONE WELCOME!

For more information, or if you do not have access to the Internet and want to find out more about the study, please contact:
Guido Fernandez at (310) 349-1637
gfernandez@cityofhawthorne.org
<http://hawthornenoise.airportstudy.com/>

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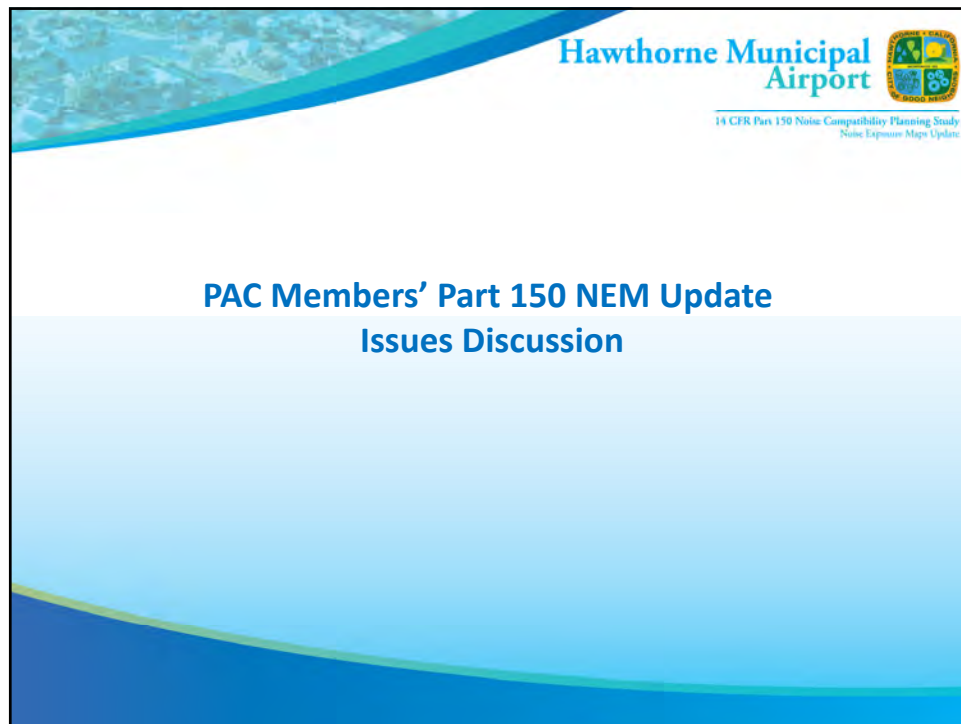
Hawthorne Municipal Airport

14 CFR Part 150 Noise Compatibility Planning Study
Noise Exposure Maps Update

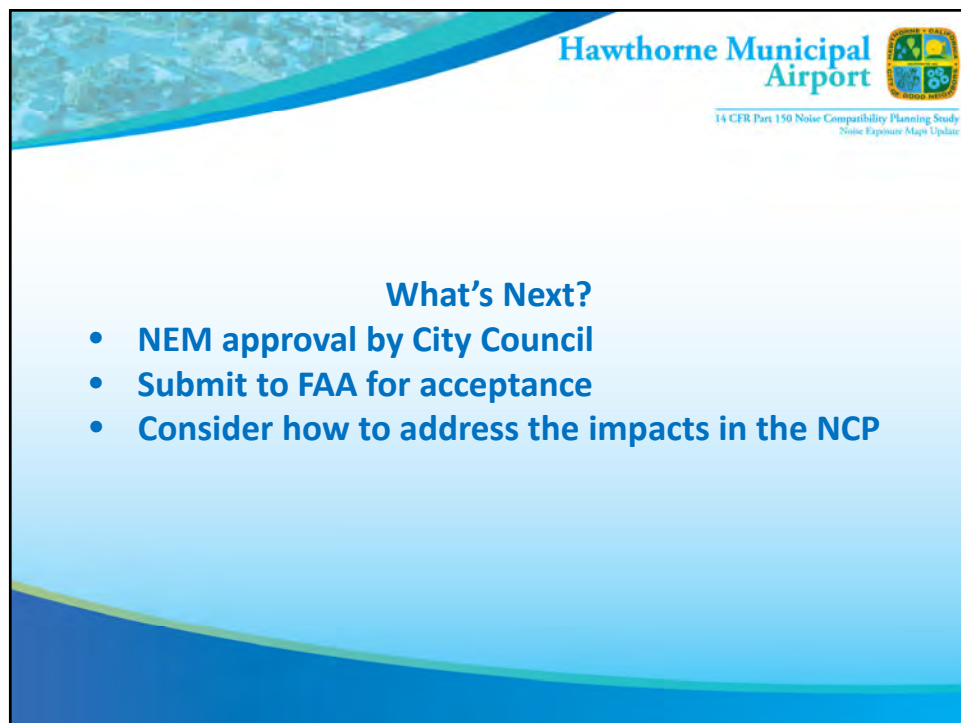
Agenda

1. Welcome and Introductions
 - Guido Fernandez, Airport Supervisor
2. Study Process and Project Synopsis
 - Dave Fitz, Coffman Associates
3. Noise Modeling Summary
 - Kory Lewis, Coffman Associates
4. Noise Monitoring Summary
 - Kory Lewis, Coffman Associates
5. Noise Contour Results and Land Use Impact Summary
 - Michelle Kriks, Coffman Associates
6. PAC Members' Issues Discussion
 - Christine Eberhard, CommuniQuest

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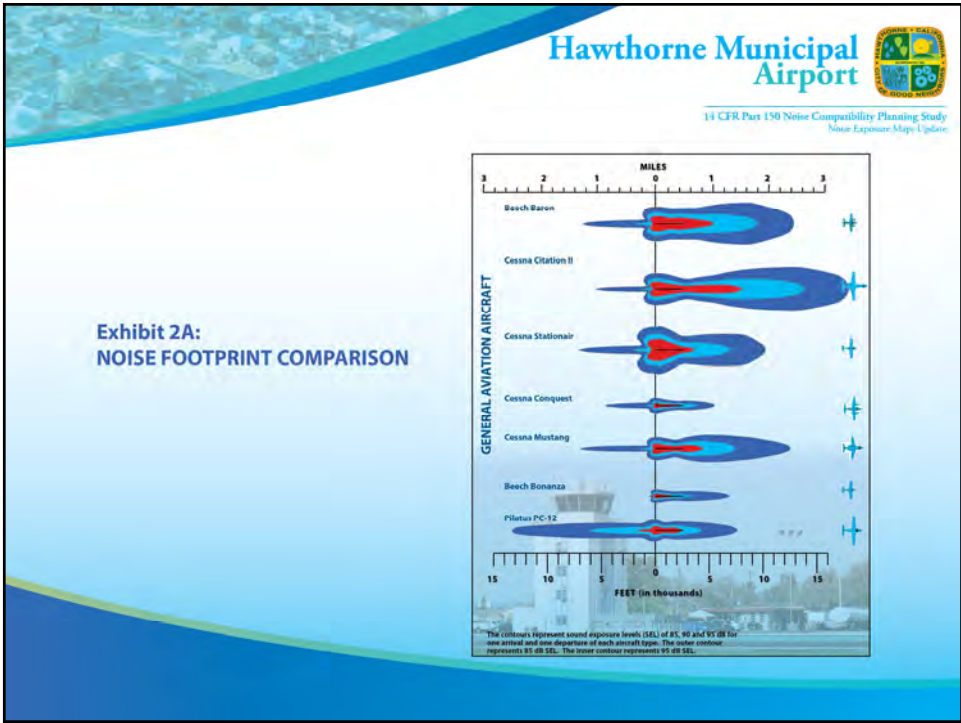
33



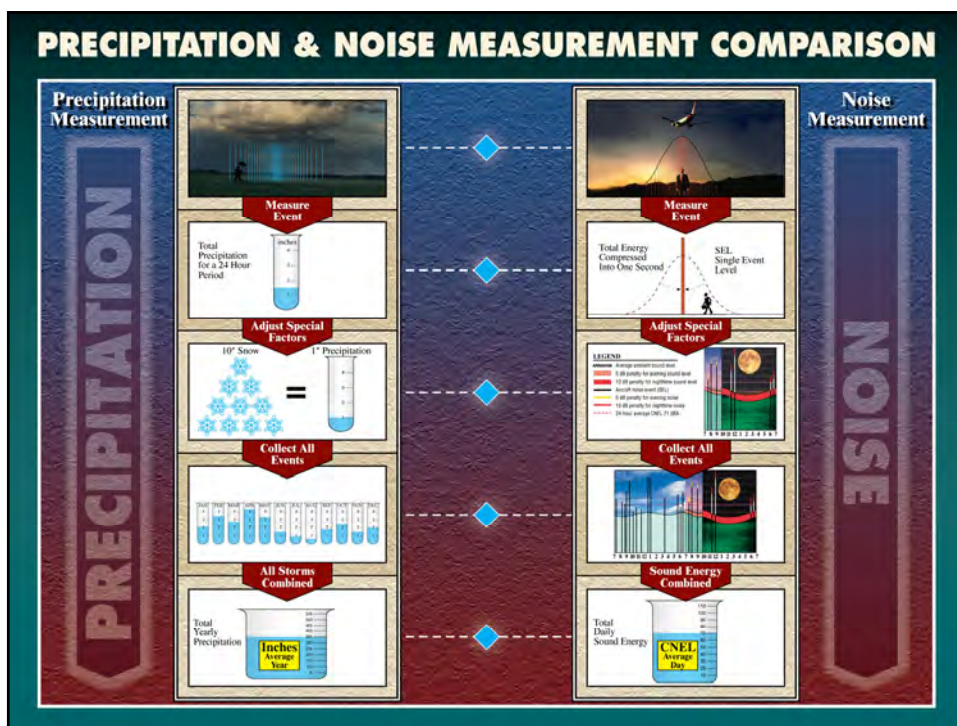
34



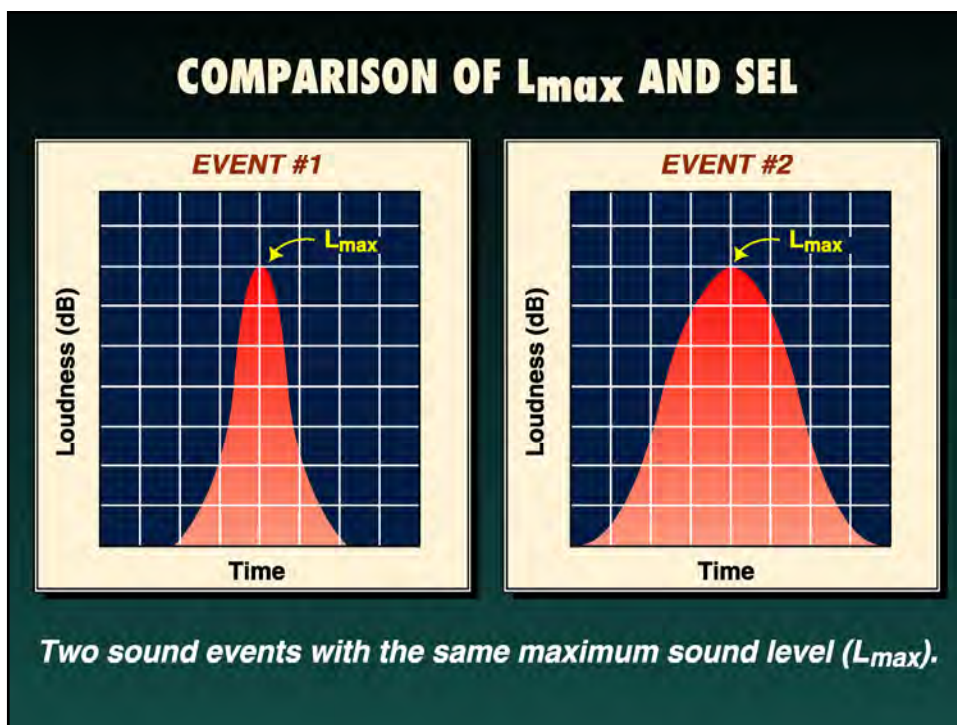
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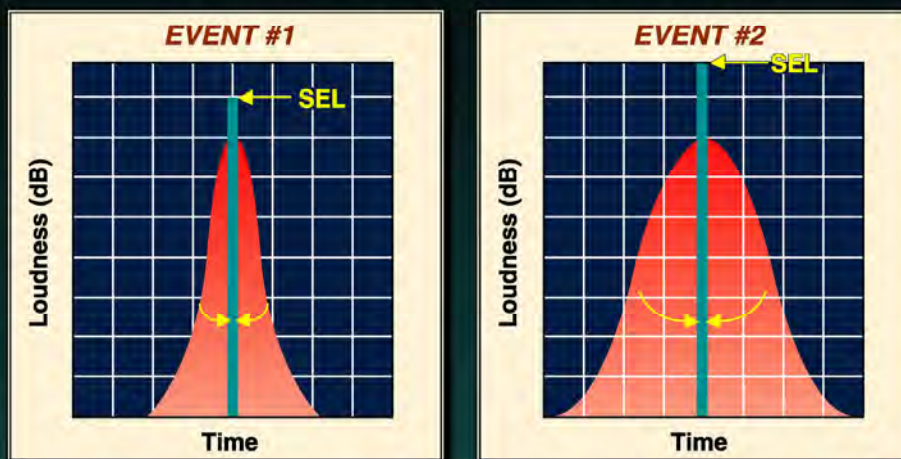


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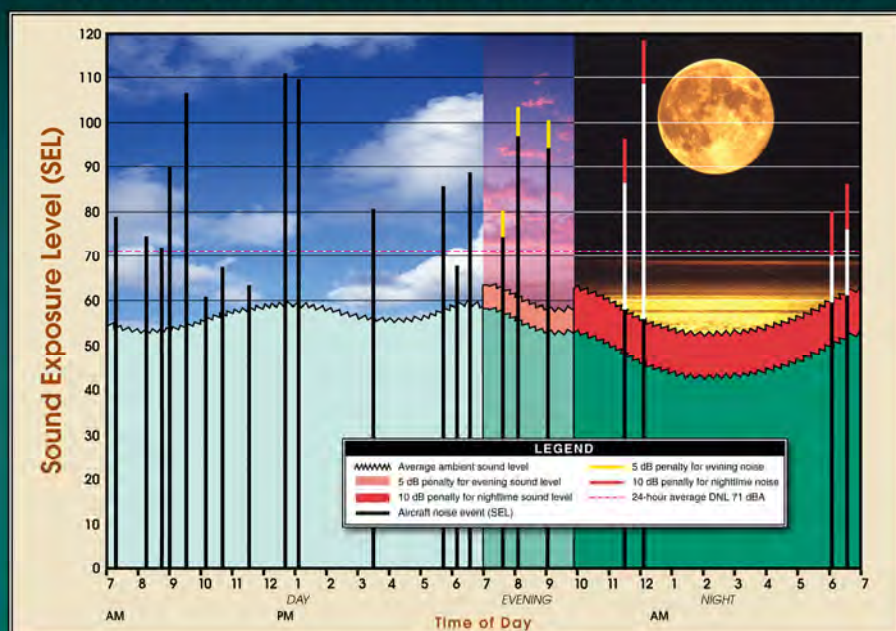
COMPARISON OF L_{max} AND SEL



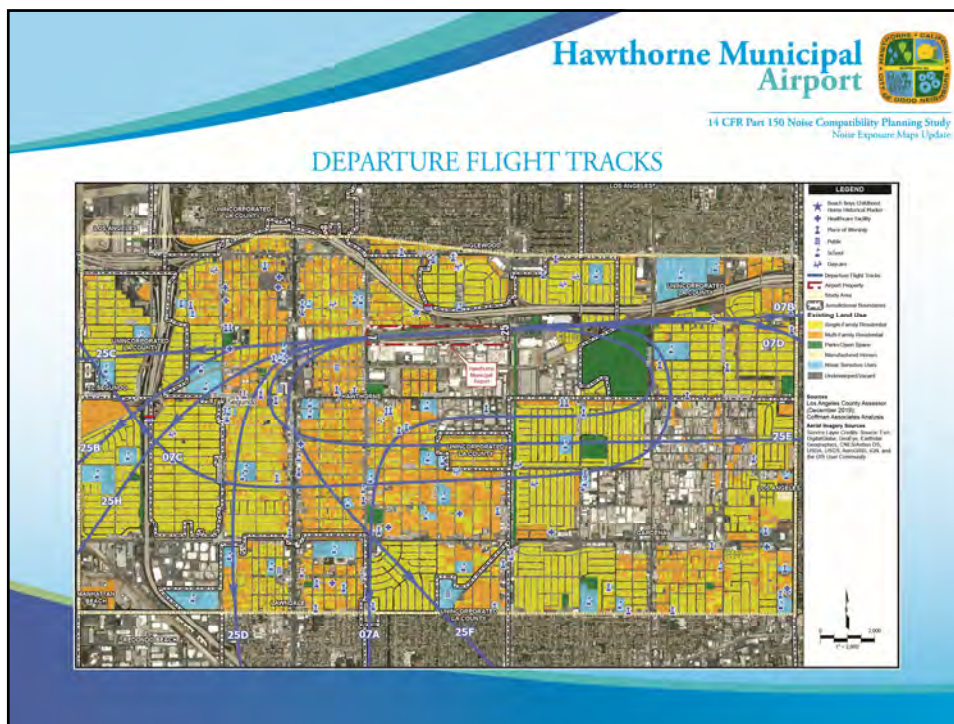
Different sound exposure levels (SEL) for two sound events with the same L_{max} .

39

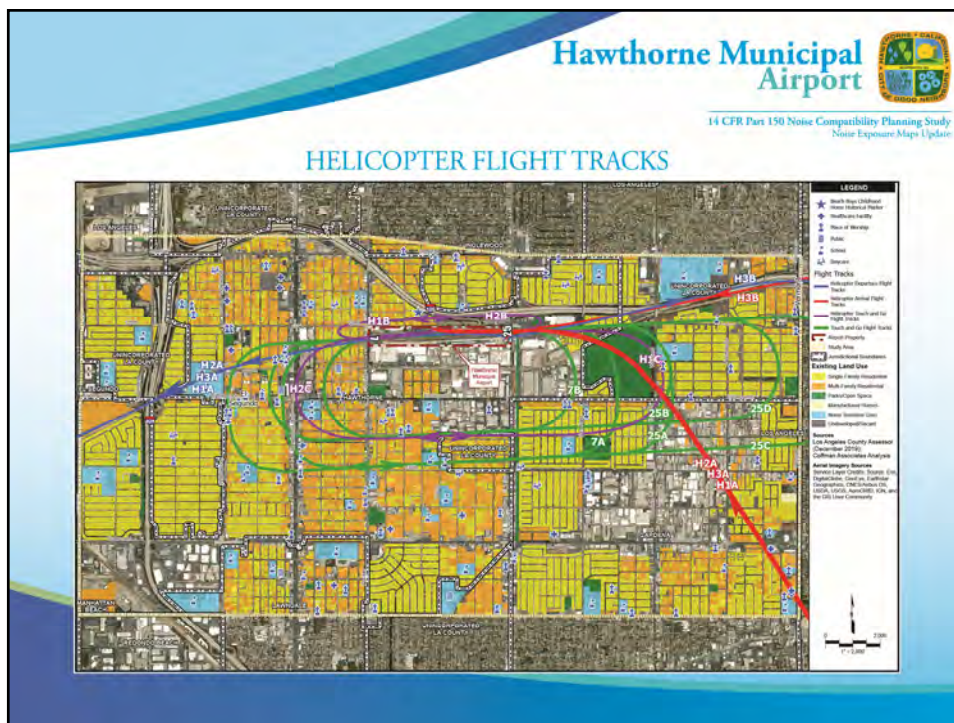
TYPICAL NOISE PATTERN AND CNEL SUMMATION



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ATTENDANCE RECORD

Planning Advisory Meeting, via Zoom

February 11, 2021 at 2:00 P.M.

Edvige Mbakoup, Federal Aviation Administration
Gary Avery, Hawthorne Control Tower
Adam Williams, Airport Owners and Pilots Association
Kathleen Teal, City of Gardena, CA
Patrick Carey, Wolfe Air
Donny Sandusky, Hawthorn Airport LLC/Jet Center LA
Laura Emdee, Redondo Beach, CA
Stacy Armato, City of Hermosa Beach, CA
Melvin Wagner, Holly Park Homeowner's Association
Julie DeCoste, Hollyglen Neighborhood Association
Carolyn Ficklin, Ramona Neighborhood Association
Bob Hawks, Wiseburn Watch Neighborhood Watch Group
Guido Fernandez, Hawthorne Municipal Airport
Dave Fitz, Coffman Associates, Inc.
Kory Lewis, Coffman Associates, Inc.
Michelle Kriks, Coffman Associates, Inc.
Christine Eberhard, CommuniQuest

Third Public Information Workshop - Public Participation Tracking Spreadsheet; February 2021

Public Workshop #1 - February 11, 2021		
Session #1 - 6:00 P.M. - 6:25 P.M.		
Name	Accommodations	Attended
1 Lauren Franklin	No special accommodations	
2 Maroun Aboutanos	No special accommodations	X
3 Marilyn Grant		X
4		
5		
Session #2 - 6:30 P.M. - 6:55 P.M.		
Name		
1		
2		
3		
4		
5		
Session #3 - 7:00 P.M. - 7:25 P.M.		
Name		
1		
2		
3		
4		
5		
Session #4 - 7:30 P.M. - 7:55 P.M.		
Name		
1 Samantha Holman		
2		
3		
4		
5		

Public Workshop #2 - February 18, 2021		
Session #1 - 2:00 P.M. - 2:40 P.M.		
Name	Accommodations	Attended
1 Erik Martin	No special accommodations	
2 Marilyn Grant		
3 Kim Moore	No special accommodations	X
4 Maria Flores Acosta		X
5		
Session #2 - 2:45 P.M. - 3:25 P.M.		
Name		
1		
2		
3		
4		
5		
Session #3 - 3:30 P.M. - 4:10 P.M.		
Name	Accommodations	Attended
1 Paulette Francis		
2 Arthur Brown and Anna Lee	No special accommodations	X
3		
4		
5		

Public Workshop #3 - February 25, 2021		
Session #1 - 6:00 P.M. - 6:40 P.M.		
Name	Accommodations	Attended
1 Marilyn Grant		
2 Tricia Maduke		
3 Michelle Daricek		x
4 Joanne Varga	No special accommodations	x
5 Bob Hawks		x
Session #2 - 6:45 P.M. - 7:25 P.M.		
Name	Accommodations	Attended
1 Leticia Castillo / Rudolph Varga	No special accommodations	x
2 Michael Jenkins		x
3 Olivia Valentine		
4		
5		
Session #3 - 7:30 P.M. - 8:10 P.M.		
Name	Accommodations	Attended
1		
2		
3		
4		
5		

**Hawthorne Municipal Airport
PUBLIC INFORMATION WORKSHOP**

**Regarding the 14 CFR Part 150 Noise Exposure
Map Update to evaluate aircraft noise exposure**



**Thursday, November 14, 2019
6pm - 8pm**

**City of Hawthorne Memorial Center - Polaris Room
3901 W. El Segundo Blvd.**

**FOR MORE INFORMATION, PLEASE CONTACT GUIDO FERNANDEZ
(310) 349-1636 OR GFERNANDEZ@CITYOFHAWTHORNE.ORG**

<http://hawthornenoise.airportstudy.com/>

[Home](#)[About](#)[Photos](#)[Reviews](#)[Videos](#)[Events](#)**City Of Hawthorne - Government**

Yesterday at 7:52 AM •

Hawthorne Municipal Airport Public Information Workshop



The poster features a blue and white color scheme. At the top, there is a photograph of a small white propeller plane on a runway. Below the photo, the text 'Hawthorne Municipal Airport' is written in a large, blue, serif font. To the right of this text is the City of Hawthorne seal. Below the title, the words 'PUBLIC INFORMATION WORKSHOP' are written in a bold, blue, sans-serif font. This is followed by the text 'Regarding the 14 CFR Part 150 Noise Exposure Map Update to evaluate aircraft noise exposure' in a smaller, blue, sans-serif font. The date and time 'Thursday, November 14, 2019 6:00 - 8:00 P.M.' are displayed in a bold, blue, sans-serif font. The location 'City of Hawthorne Memorial Center - Polaris Room 3901 W. El Segundo Blvd., Hawthorne, CA' is written in a blue, sans-serif font. A bold, blue, sans-serif font line reads 'EVERYONE WELCOME!'. Below this, a blue banner contains the text 'OPEN HOUSE FORMAT....DROP IN ANYTIME' in white, sans-serif font. At the bottom of the banner, contact information is provided: 'For more information, please contact: Guido Fernandez at (310) 349-1636 gfernandez@cityofhawthorne.org http://hawthornenoise.airportstudy.com/'.

Hawthorne Municipal Airport

PUBLIC INFORMATION WORKSHOP
Regarding the 14 CFR Part 150 Noise Exposure
Map Update to evaluate aircraft noise exposure

Thursday, November 14, 2019
6:00 - 8:00 P.M.

City of Hawthorne Memorial Center - Polaris Room
3901 W. El Segundo Blvd., Hawthorne, CA

EVERYONE WELCOME!

OPEN HOUSE FORMAT....DROP IN ANYTIME

For more information, please contact:
Guido Fernandez at (310) 349-1636
gfernandez@cityofhawthorne.org
<http://hawthornenoise.airportstudy.com/>

Felice Yoly Lopez and 7 others

5 Shares

Sign Up



PUBLIC NOTICES

NOTICE OF PETITION TO ADMINISTER ESTATE OF:

ALBERT J. RAYMOND
CASE NO. 19STPB00572

To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the WILL, or estate, or both of ALBERT J. RAYMOND.

A PETITION FOR PROBATE has been filed by JOE RAYMOND in the Superior Court of California, County of LOS ANGELES.

THE PETITION FOR PROBATE requests that JOE RAYMOND be appointed as personal representative to administer the estate of the decedent.

THE PETITION requests authority to administer the estate under the Independent Administration of Estates Act. (This authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions, however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action.) The independent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.

A HEARING on the petition will be held in this court as follows: 11/25/19 at 8:30AM in Dept. 39 located at 111 N. HILL ST., LOS ANGELES, CA 90012. IF YOU OBJECT to the granting of the petition, you should appear at the hearing and state

your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney.

IF YOU ARE A CREDITOR or a contingent creditor of the decedent, you must file your claim with the court and mail a copy to the personal representative appointed by the court within the later of either (1) four months from the date of first issuance of letters to a general personal representative, as defined in section 58(b) of the California Probate Code, or (2) 60 days from the date of mailing or personal delivery to you of a notice under section 9052 of the California Probate Code.

Other California statutes and legal authority may affect your rights as a creditor. You may want to consult with an attorney knowledgeable in California law.

YOU MAY EXAMINE the file kept by the court. If you are a person interested in the estate, you may file with the court a Request for Special Notice (form DE-154) of the filing of an inventory and appraisal of estate assets or of any petition or account as provided in Probate Code section 1220. A Request for Special Notice form is available from the court clerk. Attorney for Petitioner: ANDREA G. VAN LEESTEN - SBN 152328 VAN LEESTEN LAW CORP. 6101 W. CENTINELA AVENUE, SUITE 302 CULVER CITY, CA 90230 1024, 1031, 11/17/19 CNS-3305150# Hawthorne Press Tribune Pub. 1024, 1031, 11/17/19 HH-26606

NOTICE OF PETITION TO ADMINISTER ESTATE OF:

DENNIS P. CUDIA
CASE NO. 19STPB00979

To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the WILL, or estate, or both of DENNIS P. CUDIA.

A PETITION FOR PROBATE has been filed by SHANE F. CUDIA in the Superior Court of California, County of LOS ANGELES.

THE PETITION FOR PROBATE requests that SHANE F. CUDIA be appointed as personal representative to administer the estate of the decedent.

THE PETITION requests the decedent's WILL and codicils, if any, be admitted to probate. The WILL and any codicils are available for BIDDERS: if you file kept by the court.

THE PETITION requests authority to administer the estate under the Independent Administration of Estates Act. (This authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions, however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action.) The independent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.

A HEARING on the petition will be held in this court as follows: 11/14/19 at 8:30AM in Dept. 41 located at 111 N. HILL ST., LOS ANGELES, CA 90012.

IF YOU OBJECT to the granting of the petition, you should appear at the hearing and state your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney.

IF YOU ARE A CREDITOR or a contingent creditor of the decedent, you must file your claim with the court and mail a copy to the personal representative appointed by the court within the later of either (1) four months from the date of first issuance of letters to a general personal representative, as defined in section 58(b) of the California Probate Code, or (2) 60 days from the date of mailing or personal delivery to you of a notice under section 9052 of the California Probate Code.

Other California statutes and legal authority may affect your rights as a creditor. You may want to consult with an attorney knowledgeable in California law.

YOU MAY EXAMINE the file kept by the court. If you are a person interested in the estate, you may file with the court a Request for Special Notice (form DE-154) of the filing of an inventory and appraisal of estate assets or of any petition or account as provided in Probate Code section 1220. A Request for Special Notice form is available from the court clerk. Attorney for Petitioner: JON A. SAN JOSE - SBN 151892 LAW OFFICE OF JON SAN JOSE 1024, 1031, 11/17/19 CNS-330621# LAINDALE NEWS Lawndale Tribune Pub. 1024, 1031, 11/17/19 HH-26608

PUBLISH YOUR PUBLIC NOTICES HERE

ABANDONMENTS: \$125.00
ABC NOTICES: \$125.00
DBA (Fictitious Business Name) \$75.00
NAME CHANGE: \$200.00
Other type of notice? Contact us and we can give you a price.

NOTICE OF PRIVATE SALE

The following property will be sold by written bid by 5:00 a.m. MST on November 5, 2019 2014 Kenworth T800 AUWARS95339322 To inquire about this item please call Bret Swenson at 801-624-5864. Transportation Alliance Bank 1185 Harrison Blvd. Salt Lake City, UT 84103 Hawthorne Press Tribune Pub. 1031, 11/17/19 HH-26611

PUBLISH YOUR PUBLIC NOTICES HERE

NOTICE OF TRUSTEE'S SALE TS No. CA-19-863949-BF Order No. 8756678 YOU ARE IN DEFAULT UNDER A DEED OF TRUST DATED 4/22/2006. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY, IT MAY BE SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROCEEDING AGAINST YOU, YOU SHOULD CONTACT A LAWYER. A public auction sale to the highest bidder for cash, cashier's check drawn on a state or national bank, check drawn by state or federal credit union, or a check drawn by a state or federal savings and loan association, or savings association, or savings bank specified in Section 5102 of the Financial Code and authorized to do business in this state, will be held by duly appointed trustee. The sale will be made, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by the Deed of Trust, with interest and late charges thereon, as provided in the note(s), advances, under the terms of the Deed of Trust, interest thereon, fees, charges and expenses of the Trustee for the total amount (at the time of the initial publication of the Notice of Sale) reasonably estimated to be set forth below. The amount may be greater on the day of sale. **BENEFICIARY MAY ELECT**

TO BID LESS THAN THE TOTAL AMOUNT DUE. FREDRICK D. MATHER, A MARRIED PERSON AND ELIZABETH D. MATHER, A WIDOW AS JOINT TENANTS Recorded: 9/12/2005 as Instrument No. 05 2187313 of Official Records in the office of the Recorder of LOS ANGELES County, California, Book 151212019 at 10:00 AM. Place of Sale: Behind the fountain located in Civic Center Plaza, located at 400 Civic Center Plaza, Pomona CA 91766 Amount of unpaid balance and other charges: \$114,627.87 The purported property address is: 3813 MANHATTAN BEACH BLVD, LAWDALE, CA 90260 Assessor's Parcel No. 4073-029-028 NOTICE TO POTENTIAL BIDDERS: If you are considering bidding on this property lien, you should understand that there are risks involved in bidding at a trustee auction. You will be bidding on a lien, not on the property itself. Placing the highest bid at a trustee auction does not automatically entitle you to free and clear ownership of the property. You should also be aware that the lien being auctioned off may be a junior lien. If you are the highest bidder at the auction, you are or may be responsible for paying off all liens senior to the lien being auctioned off, before you can receive clear title to the property. You are encouraged to investigate the existence,

priority, and size of outstanding liens that may exist on this property by contacting the county recorder's office or a title insurance company, either of which may charge you a fee for this information. If you consult either of these resources, you should be aware that the same lender may hold more than one mortgage or other lien on the property. **NOTICE TO PROPERTY OWNER:** The sale date shown on this notice of sale may be postponed one or more times by the mortgage, beneficiary, trustee, or a court, pursuant to Section 2924g of the California Civil Code. The law requires that information about trustee sale postponements be made available to you and to the public, as a courtesy to those not present at the sale. If you wish to learn whether your sale date has been postponed, and, if applicable, the rescheduled time and date for the sale of this property, you may call 916-939-0772 for information regarding the trustee's sale or visit this Internet Web site: <http://www.qualiityloan.com>, using the file number assigned to this foreclosure by the Trustee: CA-19-863949-BF. Information about postponements that are very short in duration or that occur close in time to the scheduled sale may not immediately be reflected in the telephone information or on the Internet Web site. The best way to verify postponement information is to attend

the scheduled sale. The undersigned Trustee disclaims any liability for any inaccuracy of the property address or other common designation, if any shown, whether by no street address or other common designation is shown, directions to the location of the property may be obtained by sending a written request to the beneficiary within 10 days of the date of first publication of this Notice of Sale. If the sale is set aside for any reason, including if the Trustee is unable to convey title, the Purchaser at the sale shall be entitled to a return of the monies paid to the Trustee. This shall be the Purchaser's sole and exclusive remedy. The purchaser shall have no further recourse against the Trustee, the Trustee, the Beneficiary, the Beneficiary's Agent, or the Beneficiary's Attorney. If you have previously been discharged through bankruptcy, you may have been released of personal liability for the loan in which this date is intended to exercise the note holders rights against the real property only. Date: **Quality Loan Service Corporation 2763 Camino Del Rio South, San Diego, CA 92108 619-445-7711 For NON SALE information only Sale Line: 916-939-0772 Or Login to: <http://www.qualiityloan.com> Reinstatement Line: (866) 645-7711 Ext.5318 Quality Loan Service Corp. TS No. CA-19-863949-BF EDPub#01517626 10/31/2019 11/17/2019 11/14/2019 Lawndale Tribune Pub. 1031, 11/17/19 HH-26612**

TS# No. 8756760 TS No. CA1900285416 APN: 4050-029-040 Property Address: 13426 & 13428 CORDARY AVENUE HAWTHORNE, CA 90250 NOTICE OF TRUSTEE'S SALE YOU ARE IN DEFAULT UNDER A DEED OF TRUST, DATED 12/01/2009. UNLESS YOU TAKE ACTION TO PROTECT YOUR PROPERTY, IT MAY BE SOLD AT A PUBLIC SALE. IF YOU NEED AN EXPLANATION OF THE NATURE OF THE PROCEEDING AGAINST YOU, YOU SHOULD CONTACT A LAWYER. On 12/10/2019 at 10:00 AM, First American Title Insurance Company, as duly appointed Trustee under and pursuant to Deed of Trust, dated 12/01/2009, as Instrument No. 20100033392, in book, page 1, of Official Records in the office of the County Recorder of LOS ANGELES County, State of California, Executed by: ALMA FOSTER, A SINGLE WOMAN, WILL SELL AT PUBLIC AUCTION TO HIGHEST BIDDER FOR CASH, CASHIER'S CHECK, CASH, OR EQUIVALENT or other form of payment authorized by 2524(h)(6). (Payable at time of sale in lawful money of the United States) Behind the fountain located

in Civic Center Plaza, 400 Civic Center Plaza, Pomona CA 91766 All right, title and interest conveyed to and now held by I under said Deed of Trust in the property situated in said County and State described as: AS MORE FULLY DESCRIBED IN THE ABOVE MENTIONED DEED OF TRUST APN# 4050-029-040. The street address and other common designation, if any, of the real property described above is purported to be 13426 & 13428 CORDARY AVENUE, HAWTHORNE, CA 90250 The undersigned Trustee disclaims any liability for any inaccuracy of the street address and other common designation, if any, shown herein. Said sale will be made, but without covenant or warranty, expressed or implied, regarding title, possession, or encumbrances, to pay the remaining principal sum of the note(s) secured by said Deed of Trust, with interest thereon, as provided in said note(s), advances, under the terms of said Deed of Trust, fees, charges and expenses of the Trustee and of the trustee created by said Deed of Trust. The total amount of the unpaid balance of the obligation secured by the property to be sold and reasonable estimated

costs, expenses and advances at the time of the initial publication of the Notice of Sale is \$ 486,713.40. The beneficiary under said Deed of Trust has deposited documents evidencing the obligations secured by the Deed of Trust and has declared all sums secured thereby immediately due and payable, and has caused a written Notice of Default and Election to Sell to be executed. The undersigned caused said Notice of Default and Election to Sell to be recorded in the County where the real property is located. **NOTICE TO POTENTIAL BIDDERS:** If you are considering bidding on this property lien, you should understand that there are risks involved in bidding at a trustee auction. You will be bidding on a lien, not on the property itself. Placing the highest bid at a trustee auction does not automatically entitle you to free and clear ownership of the property. You should also be aware that the lien being auctioned off may be a junior lien. If you are the highest bidder at the auction, you are or may be responsible for paying off all liens senior to the lien being auctioned off, before you can receive clear title to the property. You

are encouraged to investigate the existence, priority, and size of outstanding liens that may exist on this property by contacting the county recorder's office or a title insurance company, either of which may charge you a fee for this information. If you consult either of these resources, you should be aware that the same lender may hold more than one mortgage or other lien on the property. **NOTICE TO PROPERTY OWNER:** The sale date shown on this notice of sale may be postponed one or more times by the mortgage, beneficiary, trustee, or a court, pursuant to Section 2924g of the California Civil Code. The law requires that information about trustee sale postponements be made available to you and to the public, as a courtesy to those not present at the sale. If you wish to learn whether your sale date has been postponed, and, if applicable, the rescheduled time and date for the sale of this property, you may call (916) 939-0772 or visit this Internet Web site: <http://search.hawthornepostings.com> Property Search Terms.aspx, using the file number assigned to this case: CA1900285416 Information about postponements that are very

short in duration or that occur close in time to the scheduled sale may not immediately be reflected in the telephone information or on the Internet Web site. The best way to verify postponement information is to attend the scheduled sale. If the sale is set aside for any reason, the Purchaser at the sale shall be entitled only to a return of the deposit paid. The Purchaser shall have no further recourse against the Mortgagee, the Mortgagee or the Mortgagee's attorney, Date: First American Title Insurance Company 4755 Regent Blvd, Mail Code 1011-F Irving, TX 75063 First American Title Insurance Company MAY BE ACTING AS A DEBT COLLECTOR. ATTEMPTING TO COLLECT ON A DEBT. ANY INFORMATION OBTAINED MAY BE USED FOR THAT PURPOSE FOR TRUSTEES SALE INFORMATION PLEASE CALL (916) 939-0772 OR VISIT THIS Internet Web site: <http://www.hawthornepress-tribune.com> 11/07/2019, 11/14/2019 Hawthorne Press Tribune Pub. 1031, 11/17/19 HH-26616

NOTICE OF FUNDING AVAILABLE - HOME FUNDS

NOTICE IS HEREBY GIVEN of the availability of HOME Investment Partnerships Program (HOME) funds to be allocated to eligible Community Housing Development Organizations (CHDOs) for eligible activities. The City of Hawthorne will receive applications for qualified CHDOs for the development of affordable rental housing projects. Eligible activities under the NOFA are limited to the acquisition and/or rehabilitation of rental housing units serving income eligible individuals, veterans, homeless or households with developmental disabilities. As appropriate, financial assistance to selected projects will be made in the form of direct grant and/or deferred payment loans. The rates and terms of the loans shall be subject to negotiation on a project-by-project basis. All loans will be secured by a first or second lien on the property.

Applications are available by contacting Kimberly Mack at (310) 349-1603 or at kmack@cityhawthorne.org. Any questions regarding the NOFA shall be made in writing via e-mail to kmack@cityhawthorne.org, Housing Manager, at kmack@cityhawthorne.org. Applications are due to the City of Hawthorne

no later than **3:00 PM, December 5, 2019**. A completed application must be submitted to:

Attention: City Clerk
Office of the City Clerk
4455 W. 126TH Street
Hawthorne, CA 90250
Late and incomplete applications and/or applications which are not submitted in the proper format will not be considered. PLEASE DO NOT E-MAIL NOFA RESPONSES.
Proposals and CHDO applications will be reviewed for compliance with the HOME Program regulations and the terms of this NOFA. Projects and CHDO Certification applications that are determined to comply with both the HOME Program Regulations and the NOFA will be evaluated according to the established NOFA Evaluation Criteria. The City reserves the right to request additional information and/or to reject any or all proposals.
Staff recommendations for funding will be made to the City Council in a Public Hearing in January 2019. City Council funding decisions will be final. All applicants will be notified of the Council's funding decision.
Hawthorne Press Tribune Pub. 11/17/19 HH-26619

City of Hawthorne Hosts Public Workshop for Airport Noise Study Update

HAWTHORNE - November 4, 2019 - On Thursday, November 14, 2019, the public is invited to attend the first of three community workshops on the federal 14 CFR Part 150 Noise Exposure Map Update. The City of Hawthorne is conducting a Hawthorne Airport Noise Study. This is an update to Noise Exposure Maps which were last updated in 2014. Funding for the Noise Update is provided by the Federal Aviation Administration and the City of Hawthorne. The workshop will run from 6:00 to 8:00 p.m. at the Potlucks Room at the Hawthorne Memorial Center, 3801 W. El Segundo Blvd, Hawthorne, CA 90250. The workshop will be conducted in an open house format and include a variety of displays that explain and summarize the Noise Exposure Map Update process, the project schedule, and technical details related to the development of the NEM. Comment forms will be available at the workshop. The workshop will allow citizens to talk with the consultants and airport staff to express their concerns, provide input, and learn more about the process of developing the Noise Exposure Maps for Hawthorne Municipal Airport, said Alan Leung, Public Works Director. The federal NEM Update, which when finalized, will be submitted to the FAA for approval, is an element of a "Part 150" study after the section of the Federal code under which it is

authorized. The NEM will consider the noise situation at Hawthorne Municipal Airport and detail the operation of aircraft-related noise exposure and land uses around the airport and surrounding communities. The study will be conducted over the next 12 months. While 14 CFR Part 150 of the Federal code requires that the public be consulted, the required, in addition to three public workshops, the Hawthorne Municipal Airport staff and consultants have reached out to a broad base of stakeholders in Hawthorne, including a Planning Advisory Committee (PAC) to provide input and feedback to the study process and technical study material. The PAC is expected to meet three times throughout the study and is comprised of local residents, homeowner associations, local planning agencies, airport users, representatives from the aviation and business community, as well as state and federal agencies. A project website, <http://hawthornenoiseairportstudy.com> is available for the community to stay informed and download project documentation and meeting notices. The Potlucks Room at the Hawthorne Memorial Center is an accessible facility. For special accommodations at any meeting associated with this project, please contact the City at (310) 349-1603 at least 72 hours prior to the meeting. For more information, visit the project website or call Guido Fernandez, Airport Supervisor, Hawthorne Municipal Airport at 310-349-1636 or email gmf@hawthorne.org or cityhawthorne.org Hawthorne Press Tribune Pub. 11/17/19 HH-26619

NOTICE OF PUBLIC HEARING TO AMEND HAWTHORNE MUNICIPAL CODE REDUCING THE NUMBER OF CERTIFIED APPLICANTS APPLYING FOR A CITY FIREWORKS PERMIT FROM EIGHT TO SIX

NOTICE IS HEREBY GIVEN that on Tuesday, November 12, 2019, at 6:00 PM, a Public Hearing will be held in the City of Council Chambers, 4455 West 126th Street, Hawthorne, California, 90250 to consider all protests or objections to the proposed amendment to the Hawthorne Municipal Code sections 8.34.030 and 8.34.060, reducing the number of certified applicants applying for fireworks permit from eight to six, those desiring to be heard in favor of or in opposition to the item will be given an opportunity to do so during such hearing to be conducted at the above address or by writing to the City of Hawthorne at the above address prior to the said hearing date. Please reference hearing title and date of hearing in any correspondence. The staff report and the proposed draft ordinance may be obtained at the above address and 10510 City of Hawthorne's web site: www.cityofhawthorne.org at least 72 hours ahead of the meeting. If you challenge the subject matter of this hearing in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing. Hawthorne Press Tribune Pub. 11/17/19 HH-26610

PUBLISH YOUR PUBLIC NOTICES HERE

ABANDONMENTS: \$125.00
ABC NOTICES: \$125.00
DBA (Fictitious Business Name) \$75.00
NAME CHANGE: \$200.00
Other type of notice? Contact us and we can give you a price.

Life is short, enjoy every moment! - Mom

From: [Fernandez, Guido](#)
To: [Kory Lewis](#)
Cc: [Dave Fitz](#); [Michelle Kriks](#); [Christine Eberhard](#)
Subject: FW: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm
Date: Wednesday, October 30, 2019 1:27:11 PM
Attachments: [IMG_2820.PNG](#)
[IMG_7988.HEIC](#)

Kory,

Attached is proof of the advertisement for the Public Information Workshop on 11-14-19 on the City's Facebook and on our cable channel. Below is also an email from the production supervisor of our cable channel, Mr. Erick Chavez.

Guido Fernandez
Airport Supervisor
Hawthorne Municipal Airport
(310) 349-1636

From: Chavez, Erick <EChavez@cityofhawthorne.org>
Sent: Wednesday, October 30, 2019 11:20 AM
To: Fernandez, Guido <GFernandez@cityofhawthorne.org>
Subject: Re: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

Here's a screen grab from the city's Facebook, the file of the graphic I made for TV purposes (1920x1080) and the graphic showing up on our channel 22 and channel 3. I also sent it to the City Clerk to put up on the city's Next Door and its also on the city's website on their main page.

Erick Chavez
Production Supervisor – HCTV
City of Hawthorne
4455 W. 126th St.
Hawthorne, CA 90250
(310) 349-1628 - office
(310) 403-4467 - cell
email: echavez@hawthorneca.gov
facebook.com/hawthornecommunitytelevision
instagram.com/hawthornecommunitytelevision
www.youtube.com/hawthornecommunitytelevision

PRIVILEGED AND CONFIDENTIAL COMMUNICATION

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sender and delete the electronic message. Any disclosure, copying, distribution, or use of the contents of information received in error is strictly prohibited.

From: Fernandez, Guido
Sent: Wednesday, October 30, 2019 10:14 AM
To: Chavez, Erick
Subject: RE: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

Hi Erick,

Can you send me proof of the ad for the public workshop being placed on our channel such as a screenshot?

I need to send proof to our consultant because the FAA requires proof of the public outreach. Thanks.

Also, do you happen to know if our city has a TDD (Telecommunications Device for Deaf) number?

Guido Fernandez
Airport Supervisor
Hawthorne Municipal Airport
(310) 349-1636

From: Chavez, Erick <EChavez@cityofhawthorne.org>
Sent: Tuesday, October 29, 2019 8:44 AM
To: Shadbehr, Arnie <AShadbehr@cityofhawthorne.org>; Holt, Peggy <Peggy@cityofhawthorne.org>
Cc: Fernandez, Guido <GFernandez@cityofhawthorne.org>; Leung, Alan <ALeung@cityofhawthorne.org>; Armstrong, Josh <JArmstrong@cityofhawthorne.org>; Ishii, Michael <MIshii@cityofhawthorne.org>; Olivia Valentine (ojvalentine725@gmail.com) <ojvalentine725@gmail.com>; Miyahira, Russell <RMiyahira@cityofhawthorne.org>
Subject: RE: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

Working on it right now. I have to recreate it to TV size specs. It will be up shortly.

Erick Chavez
Production Supervisor – HCTV
City of Hawthorne
4455 W. 126th St.

Hawthorne, CA 90250
(310) 349-1628 - office
(310) 403-4467 - cell
email: echavez@hawthorneca.gov
facebook.com/hawthornecommunitytelevision
instagram.com/hawthorne_community_television
www.youtube.com/hawthornecommunitytelevision

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From: Shadbehr, Arnie
Sent: Monday, October 28, 2019 5:21 PM
To: Holt, Peggy <Peggy@cityofhawthorne.org>; Chavez, Erick <EChavez@cityofhawthorne.org>
Cc: Fernandez, Guido <GFernandez@cityofhawthorne.org>; Leung, Alan <ALeung@cityofhawthorne.org>; Armstrong, Josh <JArmstrong@cityofhawthorne.org>; Ishii, Michael <MIshii@cityofhawthorne.org>; Olivia Valentine (ojvalentine725@gmail.com) <ojvalentine725@gmail.com>; Miyahira, Russell <RMiyahira@cityofhawthorne.org>
Subject: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

Dear Peggy and Erick,

Please go ahead and post the attached flyer on our website and broadcast on channel 22.

Arnie

From: [Fernandez, Guido](#)
To: [Kory Lewis](#)
Cc: [Dave Fitz](#); [Michelle Kriks](#); [Christine Eberhard](#)
Subject: FW: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm
Date: Wednesday, October 30, 2019 2:41:15 PM
Attachments: [image005.png](#)

Hi Kory,

I have additional proof below of the posting of the ads for the Public Workshop.

Guido Fernandez
Airport Supervisor
Hawthorne Municipal Airport
(310) 349-1636

From: Holt, Peggy <Peggy@cityofhawthorne.org>
Sent: Wednesday, October 30, 2019 12:00 PM
To: Fernandez, Guido <GFernandez@cityofhawthorne.org>
Subject: RE: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

Web – Community News & Events



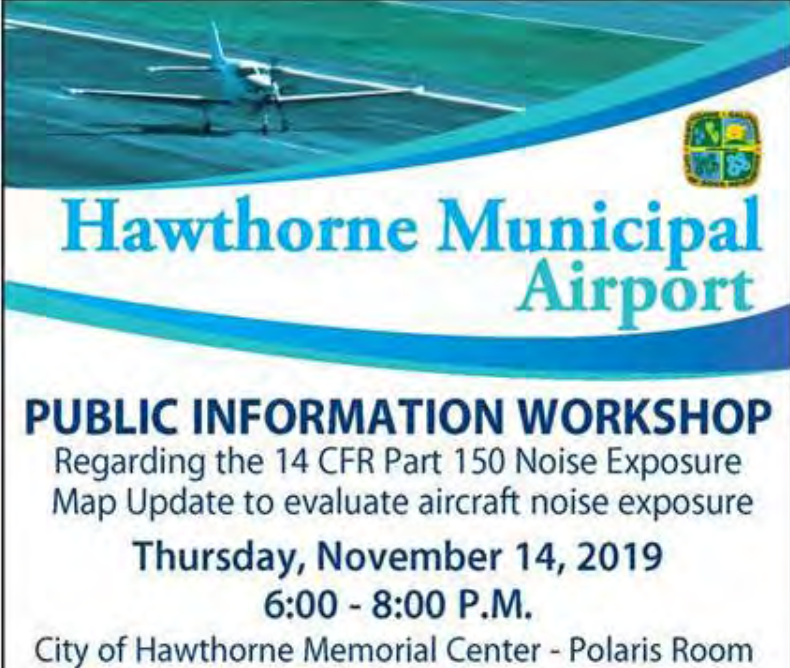
Web - Calendar

[← BACK TO ALL EVENTS](#)

Hawthorne Municipal Airport Public Information Workshop

Thursday, November 14, 2019
6:00 PM – 8:00 PM

[Google Calendar](#) - [ICS](#)



The poster features a blue and white color scheme. At the top, there is a photograph of a small white propeller plane on a runway. Below the photo, the text "Hawthorne Municipal Airport" is written in a large, blue, serif font. To the right of this text is a small, square, yellow and blue logo. Below the airport name, the words "PUBLIC INFORMATION WORKSHOP" are written in a bold, black, sans-serif font. Underneath this, the text "Regarding the 14 CFR Part 150 Noise Exposure Map Update to evaluate aircraft noise exposure" is written in a smaller, black, sans-serif font. The date and time, "Thursday, November 14, 2019 6:00 - 8:00 P.M.", are written in a bold, black, sans-serif font. At the bottom, the location "City of Hawthorne Memorial Center - Polaris Room" is written in a black, sans-serif font.

**Hawthorne Municipal
Airport**

PUBLIC INFORMATION WORKSHOP
Regarding the 14 CFR Part 150 Noise Exposure
Map Update to evaluate aircraft noise exposure
Thursday, November 14, 2019
6:00 - 8:00 P.M.
City of Hawthorne Memorial Center - Polaris Room

[Facebook](#)

Posts

 **City Of Hawthorne - Government**
Published by Webster Hawthorne [?] - Yesterday at 7:52 AM · 🌐

Hawthorne Municipal Airport Public Information Workshop



The poster features a blue and white color scheme. At the top, there is a photograph of a small white propeller plane on a runway. Below the photo, the text 'Hawthorne Municipal Airport' is written in a large, blue, serif font. To the right of this text is the City of Hawthorne seal. Below the title, the words 'PUBLIC INFORMATION WORKSHOP' are in a bold, blue, sans-serif font. The following text is in a smaller, black, sans-serif font: 'Regarding the 14 CFR Part 150 Noise Exposure Map Update to evaluate aircraft noise exposure'. The date and time are listed in a bold, black, sans-serif font: 'Thursday, November 14, 2019' and '6:00 - 8:00 P.M.'. The location is given in a black, sans-serif font: 'City of Hawthorne Memorial Center - Polaris Room' and '3901 W. El Segundo Blvd., Hawthorne, CA'. A bold, italicized, black, sans-serif font line reads 'EVERYONE WELCOME!'. Below this, a blue banner contains the text 'OPEN HOUSE FORMAT....DROP IN ANYTIME' in white, sans-serif font. At the bottom of the banner, contact information is provided in white, sans-serif font: 'For more information, please contact:', 'Guido Fernandez at (310) 349-1636', 'gfernandez@cityofhawthorne.org', and 'http://hawthornenoise.airportstudy.com/'.

Hawthorne Municipal Airport

PUBLIC INFORMATION WORKSHOP
Regarding the 14 CFR Part 150 Noise Exposure
Map Update to evaluate aircraft noise exposure
Thursday, November 14, 2019
6:00 - 8:00 P.M.
City of Hawthorne Memorial Center - Polaris Room
3901 W. El Segundo Blvd., Hawthorne, CA
EVERYONE WELCOME!
OPEN HOUSE FORMAT....DROP IN ANYTIME
For more information, please contact:
Guido Fernandez at (310) 349-1636
gfernandez@cityofhawthorne.org
<http://hawthornenoise.airportstudy.com/>

Peggy Holt
Information Technology
City of Hawthorne
(310) 349-1621

From: Fernandez, Guido <GFernandez@cityofhawthorne.org>

Sent: Wednesday, October 30, 2019 10:12 AM

To: Holt, Peggy <Peggy@cityofhawthorne.org>

Subject: RE: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

Hi Peggy,

Can you send me screen shots of the ad for the public workshop on the web calendar, events page, and Facebook?

I need to send proof of the advertisement to our consultant because it is a requirement of the FAA to show proof of the public outreach. Thanks.

Guido Fernandez
Airport Supervisor
Hawthorne Municipal Airport
(310) 349-1636

From: Holt, Peggy <Peggy@cityofhawthorne.org>
Sent: Tuesday, October 29, 2019 7:55 AM
To: Shadbehr, Arnie <AShadbehr@cityofhawthorne.org>; Chavez, Erick <EChavez@cityofhawthorne.org>
Cc: Fernandez, Guido <GFernandez@cityofhawthorne.org>; Leung, Alan <ALeung@cityofhawthorne.org>; Armstrong, Josh <JArmstrong@cityofhawthorne.org>; Ishii, Michael <MIshii@cityofhawthorne.org>; Olivia Valentine (oivalentine725@gmail.com) <oivalentine725@gmail.com>; Miyahira, Russell <RMiyahira@cityofhawthorne.org>
Subject: RE: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

The bulletin has been added to the web calendar, Community News & Events page and to Facebook

Peggy Holt
Information Technology
City of Hawthorne
(310) 349-1621

From: Shadbehr, Arnie <AShadbehr@cityofhawthorne.org>
Sent: Monday, October 28, 2019 5:21 PM
To: Holt, Peggy <Peggy@cityofhawthorne.org>; Chavez, Erick <EChavez@cityofhawthorne.org>
Cc: Fernandez, Guido <GFernandez@cityofhawthorne.org>; Leung, Alan <ALeung@cityofhawthorne.org>; Armstrong, Josh <JArmstrong@cityofhawthorne.org>; Ishii, Michael <MIshii@cityofhawthorne.org>; Olivia Valentine (oivalentine725@gmail.com) <oivalentine725@gmail.com>; Miyahira, Russell <RMiyahira@cityofhawthorne.org>
Subject: Ad for Public Information Workshop for Noise Exposure Map Update / November 14, 2019 at 6:00 pm

Dear Peggy and Erick,

Please go ahead and post the attached flyer on our website and broadcast on channel 22.

Arnie



Public Information Workshop

**Regarding the 14 CFR Part 150 Noise Exposure
Map Update to evaluate aircraft noise exposure**

Thursday, February 20, 2020

6:00 - 8:00 P.M.

Polaris Room of the
City of Hawthorne Memorial Center
3901 W. El Segundo Blvd., Hawthorne, CA

EVERYONE WELCOME

OPEN HOUSE FORMAT....DROP IN ANYTIME

For more information, please contact:
Guido Fernandez at (310) 349-1636
gfernandez@cityofhawthorne.org
<http://hawthornenoise.airportstudy.com/>





Hawthorne Municipal Airport

PUBLIC INFORMATION WORKSHOP

Regarding the 14 CFR Part 150 Noise Exposure
Map Update to evaluate aircraft noise exposure

Thursday, February 20, 2020
6:00 - 8:00 P.M.

City of Hawthorne Memorial Center - Polaris Room
3901 W. El Segundo Blvd., Hawthorne, CA

EVERYONE WELCOME!

OPEN HOUSE FORMAT....DROP IN ANYTIME

For more information, please contact:
Guido Fernandez at (310) 349-1636
gfernandez@cityofhawthorne.org
<http://hawthornenoise.airportstudy.com/>



Herald Publications
312 E. Imperial Ave.
El Segundo, CA 90245
(310) 322-1830 • Fax (310) 322-2787

PROOF OF PUBLICATION

(2015.5 C.C.P.)

STATE OF CALIFORNIA,
County of Los Angeles,

I declare, that I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk responsible for accepting, formatting and publishing legal notices in the **Hawthorne Press Tribune**, a newspaper of general circulation, printed and published weekly in the City of **Hawthorne**, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the date of **July 31, 1959**, Case Number **187530**; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

2/13/2020

All in the year **2020**

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at **Hawthorne**, California,

this **13** day of **February 2020**

.....
Signature

Code # HH-26704

This space is for the County Clerk's Filing Stamp

Proof of Publication of:

NEWS RELEASE
For Immediate Release
Contact: Guido Fernandez
Hawthorne Municipal Airport
(310) 349-1637

City of Hawthorne Hosts Public Workshop for Airport Noise Study Update
HAWTHORNE – February 11, 2020 – On Thursday, February 20, 2020 the public is invited to attend the second of three community workshops on the federal 14 CFR Part 150 Noise Exposure Map (NEM) Update that the City of Hawthorne is conducting at Hawthorne Municipal Airport. Funding for the NEM Update is provided by the Federal Aviation Administration and the City of Hawthorne.

The workshop will run from 6:00 to 8:00 p.m. at the Polaris Room at the Hawthorne Memorial Center, 3901 W. El Segundo Blvd, Hawthorne, CA 90250. The workshop will be conducted in an open house format and include a variety of displays that explain and summarize the Noise Exposure Map Update process, the project schedule, the inventory phase and noise modeling assumptions that will be used to run the noise contours.


"This workshop will allow citizens to talk with the consultants and airport staff to express their concerns, provide input, and learn more about the process. There will be information available about the technical aspects and requirements of noise modeling related to the development of the Noise Exposure Map for Hawthorne Municipal Airport," said Alan Leung, Public Works Director.

The federal NEM Update, which when finalized, will be submitted to the FAA for approval, is an element of a "Part 150" study after the section of the Federal code under which it is authorized. The NEM will consider the noise situation at Hawthorne Municipal Airport and detail the operation of aircraft-related noise exposure and land uses around the airport and surrounding communities.

While 14 CFR Part 150 of the Federal code does not specify the types of public outreach required, in addition to three public workshops, the Hawthorne Municipal Airport staff and consultants have reached out to a broad base of stakeholders to form a Planning Advisory Committee (PAC) to provide input and feedback to the study process and technical study material. The PAC is expected to meet three times throughout the study and is comprised of local residents, homeowner associations, local planning agencies, airport users, representatives from the aviation and business community, as well as state and federal agencies. A project website, www.hawthornenoise.airportstudy.com, is available for the community to stay informed and download project documentation and meeting notices.

The Polaris Room at the Hawthorne Memorial Center is an accessible facility. For special accommodations at any meeting associated with this project, please contact the City at (310) 349-1640 at least 72 hours prior to the meeting. For more information, visit the project website or call Guido Fernandez, Airport Supervisor, Hawthorne Municipal Airport at 310-349-1637 or email him at GFernandez@cityofhawthorne.org.
Hawthorne Press Tribune Pub. 2/13/20

HH-26704



Hawthorne Municipal Airport

VIRTUAL PUBLIC INFORMATION WORKSHOPS

Regarding the 14 CFR Part 150 Noise Exposure Map Update

Thursday, February 11, 2021 - 6:00 - 8:00 P.M.

Thursday, February 18, 2021 - 2:00 - 4:00 P.M.

Thursday, February 25, 2021 - 6:00 - 8:00 P.M.

Multiple small group sessions will be held during the virtual workshops. To sign up for a time, please visit the project website.

EVERYONE WELCOME!

For more information, or if you do not have access to the Internet and want to find out more about the study, please contact:

Guido Fernandez at (310) 349-1637

gfernandez@cityofhawthorne.org

<http://hawthornenoise.airportstudy.com/>

Joe Cariati

pipe. At this point, most mass manufacturer's process stops. This goes into a mold, and it is produced to scale.

Cariati takes the next step. His glass is not mold-blown. It is free-blown, meaning it can't be replicated or copied by being blown into a mold. He then transfers the bubble onto another rod called a punty, which holds the glass from the bottom so that he can mold the top of the vessel, be it a long neck or a folded down lip.

Cariati also distinguishes himself as a designer/maker in production style, not a glass artist. As he explains, glass blowing has largely always been about production. Say, for example, a high powered citizen commissions a glass design for their dinnerware in Europe in the 16th century. The glass blower creates a design, and the client asks for one hundred. The glass blower's job is then to make one hundred of the same piece, using their knowledge, muscle memory, and skill.

Glass artists appeared around the 1960s and 70s as ceramic artists began experimenting and subsequently teaching. Eventually, Pilchuck Glass School was opened in Seattle, known as one of the pinnacle schools for anyone in the glass community. After the creation of Pilchuck, students were on to making bigger furnaces and traveling the world to discover how glass is made and designed in different countries.

Cariati blows in the Venetian style, which is free-blown on a workbench, very clear, clean, thin, and precise. At one time, Italy was the world leader in glass craft, having created the first clear glass, and they made it illegal for masters to reveal their secrets to any foreign country, lest they incur the death sentence. Other countries would try and steal the Italian

his story sta
"There's d
things in the
dimensions,
tools, his gra
mother taught
he was neve
the most pa



Joe Cariati at work in his studio.

masters, and some of them defected to other countries, where they went into hiding. In 1976, an Italian master named Lino came to the United States to teach his work.

Glass blowing, as Cariati describes it, is a kind of niche community in which everyone knows everyone, and familiar faces can be seen at most events. As to how he got into it,

three dimen
In 1992,
University,
glass, and d
was traveling
In 2005, he
studio, and b
"Before th

PUBLIC NOTICES

City of Hawthorne Hosts Public Workshop for Noise Exposure Map Update

In February 2021, the public is invited to participate in an online community workshop on the Noise Exposure Map (NEM) Update the City of Hawthorne is conducting at Hawthorne Municipal Airport. Funding for the noise study is provided by the Federal Aviation Administration (FAA) and the City of Hawthorne. This will be the third and final public workshop for this planning effort.

Due to the COVID-19 pandemic, the final public workshop will be conducted virtually over the course of three weeks by a series of Zoom meetings, which will be scheduled for small groups to review the presentation boards and to ask questions. Members of the public will need to preregister for a timeslot online starting seven days prior to the meeting. All meeting dates will be published on the project website so participants can schedule a time accordingly. Meeting dates and times are as follows:

- February 11, 2021 from 6:00 p.m. to 8:00 p.m.
- February 18, 2021 from 2:00 p.m. to 4:00 p.m.
- February 25, 2021 from 6:00 p.m. to 8:00 p.m.

To sign up for a date to attend, please go to the project website at <http://hawthornenoise.airportstudy.com/> to select a 25-minute session. Participants will receive an email with the Zoom link and password. If special accommodations

are required, please request during the online sign-up process.

If you are unable to attend one of the public workshops, a pre-recorded presentation will be available to review on the project website. Additionally, digital copies of the NEM materials will be available at the project website. Comments regarding the study may be submitted through the project website.

If you do not have internet access, the following accommodations are available:

- To listen to the pre-recorded presentation, computer will be available at the airport. Please contact (310) 349-1637 to make an appointment.
- For those who cannot attend online but wish to participate in one of the Zoom sessions, please contact the airport at (310) 349-1637 and you will be provided a call-in number.
- Printed copies of the NEM materials will be available at the airport for public review. Please contact the airport at (310) 349-1637 to make an appointment.

The public is encouraged to submit project comments via mail, email (hawthorne@coffmanassociates.com), and in person. The mailing address is:
Hawthorne Municipal Airport
Attention: Guido Fernandez, Airport Manager
12101 S. Crenshaw Blvd, Ste #300
Hawthorne, CA 90250

While 14 CFR Part 150 of the Federal code does not specify the types of public outreach required, in addition to three public workshops, the Hawthorne Municipal Airport staff and consultants have reached out to a broad base of stakeholders to form a Planning Advisory Committee (PAC) to provide input and feedback on the technical study material. The PAC is comprised of local residents, homeowner associations, local planning agencies, Airport users, representatives from the aviation and business community, as well as state and federal agencies.

The project website is available for the community to stay informed and download project documentation and meeting notices. The website is available at: <http://hawthornenoise.airportstudy.com/>.

For more information, visit the project website or call Guido Fernandez, Airport Manager, Hawthorne Municipal Airport at (310) 349-1637. Hawthorne Press Tribune Pub. 24, 2/11, 2/18/21

HH-27021

Visit us online: www.heraldpublications.com

Website Text

In the month of February 2021, the public is invited to participate in an online community workshop on the Noise Exposure Map (NEM) Update the City of Hawthorne is conducting for Hawthorne Municipal Airport. This will be the third and final public workshop for this planning effort. Previous in-person public workshops were conducted in November 2019 and February 2020.

Due to the COVID-19 pandemic, the third and final public workshop will be conducted virtually over the course of three weeks by a series of Zoom meetings that will be scheduled for small groups to walk through the presentation boards and ask questions. Members of the public will need to pre-register online for a timeslot starting seven days prior to the meeting. All meeting dates will be published on the project website so participants can schedule a time accordingly.

Meeting dates and times are as follows:

Public Workshop Meeting #1 - February 11, 2021, from 6:00 p.m. to 8:00 p.m.

- Session 1: 6:00 P.M. – 6:25 P.M.
- Session 2: 6:30 P.M. – 6:55 P.M.
- Session 3: 7:00 P.M. – 7:25 P.M.
- Session 4: 7:30 P.M. – 7:55 P.M.

Public Workshop Meeting #2 - February 18, 2021, from 2:00 p.m. to 4:00 p.m.

- Session 1: 2:00 P.M. – 2:25 P.M.
- Session 2: 2:30 P.M. – 2:55 P.M.
- Session 3: 3:00 P.M. – 3:25 P.M.
- Session 4: 3:30 P.M. – 3:55 P.M.

Public Workshop Meeting #3 - February 25, 2021, from 6:00 p.m. to 8:00 p.m.

- Session 1: 6:00 P.M. – 6:25 P.M.
- Session 2: 6:30 P.M. – 6:55 P.M.
- Session 3: 7:00 P.M. – 7:25 P.M.
- Session 4: 7:30 P.M. – 7:55 P.M.

To sign up for a date to attend, please send an email to hawthorne@coffmanassociates.com to request a timeslot. Please include:

- Name
- Public Workshop meeting and session
- A back-up workshop meeting and session
- Any special accommodations needed

Participants will receive an email with the Zoom link and password.

If you are unable to attend one of the public workshops, a pre-recorded presentation will be available to review on the project website beginning on February 12, 2021. Copies of the NEM materials will be available online and comments regarding the study may be submitted through the project website.

If you do not have internet access, the following accommodations are available:

- To listen to the public presentation, you may do so at the airport using a City of Hawthorne provided computer after making an appointment. Please contact the airport at (310) 349-1637 to make an appointment.
- For those who cannot attend online but wish to participate in one of the Zoom sessions, please contact the airport at (310) 349-1637 and you will be provided a call-in number.
- Printed copies of the NEM materials will be available at the airport for public review. Please contact the airport at (310) 349-1637 to make an appointment.

The public is encouraged to submit project comments via email at hawthorne@coffmanassociates.com, or by regular mail at:

Hawthorne Municipal Airport
12101 S. Crenshaw Blvd
Hawthorne, CA 90250
Attn: Guido Fernandez, Airport Manager

Written comments may also be provided in person at the airport as long as prior arrangements made by telephone. Please call the airport at (310) 349-1637 to do so.

Public Workshop

February 2021 Public Information Workshop Presentation

Due to the COVID-19 pandemic, a video presentation is included as part of the third Public Information Workshop originally scheduled as part of our outreach efforts. Please view video below, or watch directly on YouTube.



Presentation available at: <http://hawthornenoise.airportstudy.com/public-meetings/>

From: [Eric Pfeifer](#)
To: [Kory Lewis](#); [Michelle Kriks](#); [Dave Fitz](#)
Cc: [Jean Burbank](#); [Chris Riffle](#)
Subject: FW: hawthornenoise.airportstudy.com - comments
Date: Thursday, November 21, 2019 9:12:57 AM

FYI – Jean/Chris, I think the Hawthorne Part 150 site needs to be updated so that comments go to Kory, Michelle, and Dave.

Eric Pfeifer, C.M., LEED Green Associate | Associate

Coffman Associates, Inc. | 237 NW Blue Parkway, Suite 100, Lee's Summit, MO 64063

816-524-3500 | coffmanassociates.com

Planning for Your Success!

From: Steven Benson <sbenson@coffmanassociates.com>

Sent: Thursday, November 21, 2019 9:09 AM

To: Eric Pfeifer <epfeifer@coffmanassociates.com>; Jim Harris <jmharris@coffmanassociates.com>

Subject: RE: hawthornenoise.airportstudy.com - comments

Eric,

This was generated from the Part 150 website. Kory, Michelle, and Dave should be getting these?

Steven G. Benson, P.E. | Chief Executive Officer

Coffman Associates, Inc. | 237 NW Blue Parkway, Suite 100, Lee's Summit, MO 64063

816-524-3500 | 816-524-2575 (fax) | coffmanassociates.com

Planning for Your Success!

From: Eric Pfeifer <epfeifer@coffmanassociates.com>

Sent: Thursday, November 21, 2019 9:06 AM

To: Steven Benson <sbenson@coffmanassociates.com>; Jim Harris <jmharris@coffmanassociates.com>

Subject: FW: hawthornenoise.airportstudy.com - comments

FYI

Eric Pfeifer, C.M., LEED Green Associate | Associate

Coffman Associates, Inc. | 237 NW Blue Parkway, Suite 100, Lee's Summit, MO 64063

816-524-3500 | coffmanassociates.com

Planning for Your Success!

From: Airport Study Comment Form <noreply@airportstudy.com>

Sent: Wednesday, November 20, 2019 8:49 PM

To: Mike Dmyterko <miked@coffmanassociates.com>; Eric Pfeifer <epfeifer@coffmanassociates.com>; Tim Kahmann <tkahmann@coffmanassociates.com>

Subject: hawthornenoise.airportstudy.com - comments

Name
Allan Mason
Email
silvermason@verizon.net
Address
625 MONTEREY BLVD HERMOSA BEACH, California 90254 United States Map It
Subject
Motorized Hang Gliders and Private Aviation
Your Comments
<p>I have an issue in general with private aviation, which allows for the pleasure of a few at the expense of countless thousands below. But I am particularly annoyed by the motorized hang gliders that I believe originate at your airport and regularly fly over Hermosa Beach. I have numerous photographs of them blatantly flying at too-low altitudes. I believe that any moves to expand private aviation will come at the expense of the many below who have to deal with the noise and annoyance. I can think of no other leisure activity that has such a high negative cost/benefit ratio. I urge you to limit it to any extent possible. Thank you.</p>

From: [Airport Study Comment Form](#)
To: [Dave Fitz](#); [Kory Lewis](#); [Michelle Kriks](#)
Subject: hawthornenoise.airportstudy.com - comments
Date: Thursday, February 6, 2020 2:56:45 PM

Name

Erik Martin

Email

erik.martin3333@gmail.com

Address

Ramona Tract
United States
[Map It](#)

Subject

Ramona Tract noise

Your Comments

Hello, the Ramona Tract gets lots of noise from the airport. Planes that try to make the the quick left and fly over Hawthorne Blvd often miss that turn and go over the Ramona Tract pass Ramona Ave (heading west) and then make the turn and come back over Ramona Ave to head east. We get twice the noise.

The newer planes go right over the Ramona Tract (diagonally from Northeast to Southwest) - we don't understand why they don't follow El Segundo Blvd. Thank you.

From: [Airport Study Comment Form](#)
To: [Dave Fitz](#); [Kory Lewis](#); [Michelle Kriks](#)
Subject: hawthornenoise.airportstudy.com - comments
Date: Thursday, February 6, 2020 6:30:44 PM

Name

ramiro Martin

Email

ramiromartin86@gmail.com

Address

12126 Menlo Ave.
Hawthorne, California 90250
United States
[Map It](#)

Subject

Noise Complaint

Your Comments

Hello,

I see there is an open house coming soon but would neighbors get to weigh in on where the flight patterns will take place? I live directly under the path and I have a newborn coming soon and we are concerned about the noises. They're getting louder and happen any time of the day and night.

Will we get to decide or has this been decided?

Thank you,

Ramiro

From: [Kory Lewis](#)
To: [Dave Fitz](#); [Michelle Kriks](#)
Subject: FW: KHHR Noise Monitoring Area Map Proposal
Date: Friday, February 14, 2020 7:38:20 AM

Response received from a resident located east of the Hawthorne Airport.

Kory

From: NW <npw@att.net>
Sent: Thursday, February 13, 2020 5:25 PM
To: Kory Lewis <klewis@coffmanassociates.com>
Cc: 'Guido Fernandez' <Gfernandez@cityofhawthorne.org>
Subject: RE: KHHR Noise Monitoring Area Map Proposal

Hello Mr. Lewis,

Thank you for your response to my prior inquiry. I certainly appreciate your time and effort spent on my behalf.

I do not understand the point you are trying to make regarding your references to certain provisions in the Central Park (a.k.a. Parkside Village) Specific Plan approved on February 27, 2007, by the City of Hawthorne ("Specific Plan"). Respectfully, it seems to me the Specific Plan is irrelevant regarding the City of Hawthorne's need to conduct ongoing, meaningful airport noise studies and the need to consider the fully developed and fully occupied community of Parkside Village when conducting those studies.

I assure you I already am fully aware of the Specific Plan, I have had a copy of it for years, and I have read it many times. I also clearly knew that KHHR existed, and was aware of its location, before I purchased my residence. I have not in any manner asserted that I, nor anyone at Parkside Village, was somehow unaware of KHHR or its proximity to Parkside Village. Thus, with due respect, your references to provisions of the Specific Plan that disclose the existence of the airport seems a bit misplaced, unnecessary, and not germane to the issue I wrote to you about – which is the upcoming Part 150 noise compatibility study.

The pre-existence of the airport before Parkside Village was developed does not in any manner negate or obviate the City's obligations to conduct ongoing, meaningful airport noise studies and consider the effects of the airport on Parkside Village. After all, KHHR was opened in 1942, which was 78 years ago. The airport pre-exists most current residential ownership within the City of Hawthorne. I suspect it is a safe bet to say that probably 80% to 90% of the homes in Hawthorne and in all surrounding neighborhoods and communities are owned by people who acquired title after 1942. Therefore, the fact that Parkside Village may be one of the newest developments built does not in any manner justify or allow the City, or any of its airport consultants, to consider the concerns of Parkside Village residents with any less weight than the concerns of residents who live elsewhere in Hawthorne or in the surrounding neighborhoods.

As you know, whether the airport pre-existed any particular resident's acquisition of

property, or the development of any particular neighborhood, has no significant bearing on issues arising due to adverse material changes in the quantity and type of air traffic after a property was acquired or a neighborhood developed. As I am sure you also know, changes in the mere frequency of airport operations is not the only factor that must be considered. Changes in the TYPE of aircraft also is a significant factor that must be considered.

For example, with regards to Parkside Village where homes were initially sold in 2014 and 2015, those sales took place based on the now-outdated Part 150 Noise Compatibility Study conducted by Coffman Associates in March 2014. While some people involved with KHHR recently have made the questionable claim that operations at the airport have not increased at all since 2014, there is no doubt that the TYPE of aircraft utilizing KHHR has clearly changed significantly since the 2014 study. As I pointed out to you in my email below where I excerpted language from Coffman Associates' 2014 Noise Compatibility Study, legitimate issues may exist and must be addressed if there has been a significant change in "the type or frequency of aircraft operations at the airport" since the time a property was acquired.

In other words, Mr. Lewis, I respectfully suggest no one should appear to be dismissing the legitimate concerns of any residents, whether from Parkside Village or another neighborhood, merely based on a theory that a property owner knew the airport was here first so nothing else matters.

With that said, I again request you and the City to consider the now-completed and fully occupied 176 residences at Parkside Village when conducting the upcoming noise study and the placement of noise monitoring devices. As you noted in your email below regarding the areas suggested by Coffman Associates for placing noise monitors: "Although there are many areas overflowed by aircraft operating at Hawthorne Municipal Airport, the suggested areas generally encompass the locations with the highest density of flight tracks." Certainly, you would not dispute that Parkside Village must have one of the highest density of flight tracks into and out of KHHR. This is why I again respectfully request you to give serious consideration to placing a noise monitoring device within Parkside Village.

I also again respectfully request that Coffman Associates look into the commercial operations that are now being conducted at KHHR. As I previously pointed out in my prior email, and as I am sure you are fully aware, KHHR is designated by the FAA as a General Aviation Airport, not a Commercial Airport. One of the primary factual distinctions between a General Aviation Airport and a Commercial Airport is that a General Aviation airport may not conduct operations where pre-scheduled flights are offered to the public. However, it is an easy task to verify that airlines and services now operating out of KHHR do offer pre-schedule flights to the public. I, personally, have gone to websites of operators like Taos Air and have been able to look at calendars with pre-scheduled flights and then go through the process of booking a pre-scheduled flight online. The efforts by these commercial airline operators to refer to themselves as a scheduling service or charter service is a very transparent charade to avoid FAA restrictions. Two of the commercial airline operators who offer pre-scheduled flights even promote a benefit of flying with them will avoid TSA security screening at KHHR. Of course, one of the other important distinctions of the FAA's various airport classifications is that a Commercial Airport, with pre-scheduled flights offered to the public, is required to have TSA security screening.

Needless to say, the 30-passenger jets now flown into KHHH by commercial operators like Taos Air also are obviously a type significantly different than the aircraft that were in operation at KHHH when Coffman Associates conducted its 2014 Noise Compatibility Study. A significant change in the type of aircraft is an important element that airport studies are intended to address.

I again thank you for your time and efforts in conducting a meaningful noise study which considers the full spectrum of issues arising from the City's push to grow KHHH over the past few years, as well as considers all impacted Hawthorne neighborhoods regardless of when they were built.

Kind regards,

Neil

NEIL P. WHITE
npw@att.net
T: 323-455-0057

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From: Kory Lewis <kLewis@coffmanassociates.com>
Sent: Tuesday, February 11, 2020 2:56 PM
To: NW <npw@att.net>
Cc: Guido Fernandez <GFernandez@cityofhawthorne.org>
Subject: RE: HHR Noise Monitoring Area Map Proposal

Mr. White,

Thank you for your input regarding the location of noise monitors for the Hawthorne Municipal Airport Part 150 study. The City of Hawthorne's goal is to collect as many data points as possible when monitoring aircraft noise for comparison to the noise contour modeling results, which is the primary focus of the Part 150 study. Using radar data information from LAX, we have identified the suggested noise monitor areas on the exhibit distributed to the Planning Advisory Committee. Although there are many areas overflowed by aircraft operating at Hawthorne Municipal Airport, the suggested areas generally encompass the locations with the highest density of flight tracks. Please keep in mind that these areas will be the starting point for our search for suitable locations and the final noise monitor locations will be determined after reviewing the sites for potential sources of non-aviation noise such as vehicles or dogs.

Regarding Parkside Village, we wanted to share some information that is included in the Central Park (Parkside Village) Specific Plan related to aircraft noise. The following excerpts

are from the Specific Plan, adopted by the City of Hawthorne. As indicated in the plan, the Parkside Village area is subject to the following measures which are intended to alert property owners of the location of the airport and the potential that noise from the airport may be experienced. Additionally, the plan includes a provision for construction methods that will allow the structure to meet interior noise attenuation standards and also an easement to protect flight paths to Hawthorne Municipal Airport.

(Page 5) 2.1.2 Airport Proximity

The Specific Plan addresses issues associated with airport proximity by: providing residential noise standards (Section 4.6) including noise attenuating construction (Section 4.6.2); providing for noise disclosures (Section 4.6.3); providing for airport navigation easements (Section 4.6.4); and requiring City review of any changes to building locations or uses which impact the RPZ or other airport proximity issues, including changes to the building footprint in the commercial portion of the Specific Plan area (Sections 4.2 and 5.2.1).

(Page 22) 4.6.2 Noise Attenuating Construction

All residential structures shall be constructed with noise attenuating measures including but not limited to window glazing, central air conditioning, carpeting and insulation designed to ensure interior noise levels of no more than 45 dBA CNEL.

(Page 22) 4.6.3 Noise Disclosure

All residential sale contracts will include sufficient disclosures to alert buyers of the proximity of the dwelling units to the Hawthorne Municipal Airport and the railroad right of way and the potential noise impacts from aircraft and trains.

(Page 22) 4.6.4 Navigation Easement

Prior to the recordation of the final tract map, a navigation easement protecting the flight paths over the site for the benefit of the Hawthorne Municipal Airport (approved by the City Attorney) shall be recorded.

Thank you for your interest in the Hawthorne Municipal Airport Part 150 study and we'll look forward to meeting with you on February 20.

Sincerely,

Kory Lewis

From: NW <npw@att.net>

Sent: Wednesday, January 29, 2020 2:35 PM

To: Kory Lewis <kewis@coffmanassociates.com>

Cc: Guido Fernandez <GFernandez@cityofhawthorne.org>

Subject: HHR Noise Monitoring Area Map Proposal

Hello Mr. Lewis,

I am a homeowner in the City of Hawthorne; within the community of Parkside Village to be more precise. I met both you and David Fitz at the public HHR Airport Noise Study Workshop conducted in November 2019.

I, as well as many other homeowners in the City of Hawthorne, have become aware of the proposal recently submitted for the location of the noise monitoring devices in connection with the upcoming HHR airport noise study. For your convenience, that proposal is attached.

It is clearly obvious and rather odd that a noise monitoring device is not being placed within the Parkside Village community, which is located at the immediate east end of the airport. While most of the monitoring locations indicated on the proposal may or may not have aircraft flying over them at various times depending on where the aircraft is flying from or flying to, the community of Parkside Village, on the other hand, has every single fixed-wing aircraft fly over it on approaches to HHR (and also on departures when winds change and operations are reversed). Yet, oddly, no sound monitoring equipment is being located within that community – a community which is perhaps the most affected by constant aircraft noise.

Parkside Village consists of 176 homes, is one of the larger communities in very close proximity to HHR, and the construction of that development (including its location) was fully reviewed, vetted, and approved by the City of Hawthorne less than a decade ago. It has now been fully constructed and is fully occupied since the time Coffman Associates conducted prior noise studies. Therefore, I suggest it is a rather noticeable oversight for the City of Hawthorne, HHR, and/or Coffman Associates now to ignore the existence of this fully approved and completed development when any future studies involving the airport, including noise studies, are being conducted. I suggest that, perhaps, simply relying on the past locations of monitoring devices when prior noise studies are conducted is no longer reasonably appropriate given the changes in the City of Hawthorne over time, including the completion and occupancy of the 176 homes at Parkside Village.

There are ample common areas within the community of Parkside Village where a noise monitoring device could be located. I could easily assist you and your office work with the Parkside Village Board to discuss and locate an appropriate location for a sound monitoring device.

As I am sure you are fully aware, the Federal Aviation Safety and Noise Abatement Act of 1979 (49 USC Section 47506) and 14 CFR Part 150 require airports to update their noise exposure contours and conduct noise studies – meaningful noise studies – if a change in operations of the airport will create a substantial change in existing use. A change in use includes not just the frequency of aircraft, but also the type of aircraft. Clearly, there has been a dramatic change in the TYPE of aircraft operating out of HHR over the last few years. This dramatic change includes not only the use of many more louder jets (in place of smaller, quieter, piston engine aircraft) and larger regional aircraft (such as the large 30-passenger aircraft flown by Taos Air), but it also includes HHR allowing the operations of commercial airlines with pre-established and publicly published flight schedules (airlines that attempt to camouflage the nature of their actual operations by calling themselves a charter service or a software-based scheduling service). This dramatic change has

occurred in just the last four or five years, after the development and construction of Parkside Village was fully approved by the City of Hawthorne and completed – and after many homeowners bought their property based on the usage outlined in the past, now-outdated noise study.

Thus, including a noise monitoring device within the community of Parkside Village seems almost mandatory at this point in time, and I respectfully suggest it verges on negligence not to place one there. (By the way, allowing operations at HHR of commercial airlines who use publicly published flight schedules and allow anyone in the public to reserve a ticket online also seems to violate the FAA's official designation of HHR as a general aviation airport and not a commercial airport, regardless of what these operators attempt to call themselves.)

As was noted on pages 1-4 and 1-5 of the 2014 noise study conducted by Coffman Associates:

“Airport proprietors are required to update noise exposure contours when changes in the operations at the airport would create any new, substantial, non-compatible use. The most widely used measure to determine this change is an increase in the yearly day-night average sound level (DNL) of 1.5 decibels (dB), over non-compatible land uses. In California, the Community Noise Equivalent Level (CNEL) metric is used in place of DNL.

....49 USC § 47506, the re-codified Aviation Safety and Noise Abatement Act of 1979 (ASNA), provides that: A person acquiring an interest in property after February 18, 1980, in an area surrounding an airport for which a noise exposure map has been submitted...and having actual or constructive knowledge of the existence of the map may recover damages for noise attributable to the airport only if...the person shows that (1) after acquiring the interest, there was a significant (A) change in the type or frequency of aircraft operations at the airport; (B) change in the airport layout; (C) change in flight patterns; (D) increase in nighttime operations; and (2) the damages resulted from the change or increase.”

As a homeowner, I welcome the opportunity to discuss this further with you, and I appreciate your efforts on behalf of all homeowners in the City of Hawthorne in connection with the upcoming noise study.

Kind regards,

NEIL P. WHITE
npw@att.net
T: 323-455-0057

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From: [Dave Fitz](#)
To: [Kory Lewis](#); [Michelle Kriks](#)
Subject: FW: Flight N111FD
Date: Monday, March 2, 2020 4:09:54 PM
Attachments: [ATT00001.txt](#)

FYI

-----Original Message-----

From: Laura Emdee <Laura.Emdee@redondo.org>
Sent: Monday, March 2, 2020 3:49 PM
To: 9-awp-noise@faa.gov; Guido Fernandez <GFernandez@cityofhawthorne.org>; Dave Fitz <dfitz@coffmanassociates.com>
Subject: Flight N111FD

Here is an example of a very noisy flight.

From
Laura Emdee
2910 Perkins Lane
Redondo Beach
310-370-0200

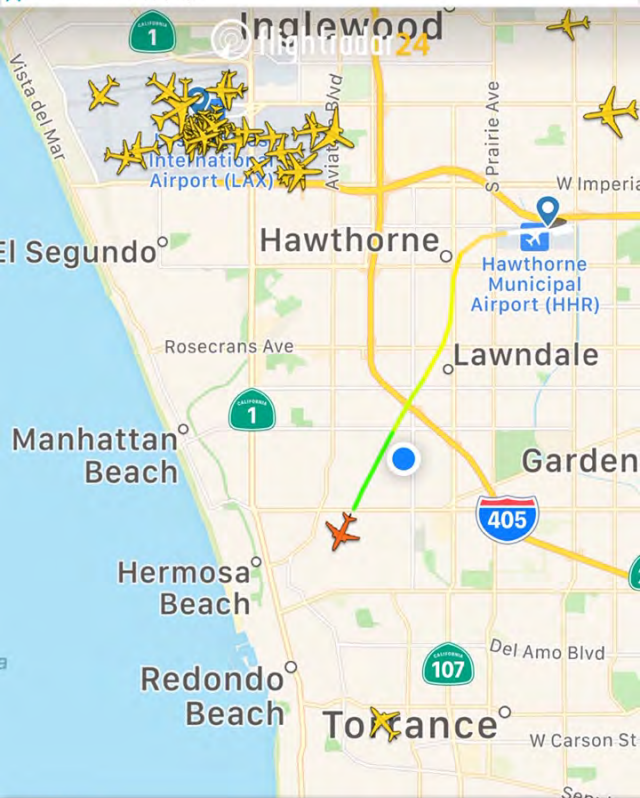
Flight N111FD from Hawthorne
<https://fr24.com/N111FD/240dcc5e>
Approx 1:45pm

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\$1,800 in the first month

Make \$1,800 in your first month, guaranteed. Choose the reliable way to earn. Terms apply. Lyft

APPLY NOW



N111FD

HHR
HAWTHORNE



N/A

Departed 0:02 ago

CALIBRATED ALT.
2,819 ft
GROUND SPEED
133 kts

REG: N111FD

3D view

Route

More info

Follow

Share

From: [Airport Study Comment Form](#)
To: [Dave Fitz](#); [Kory Lewis](#); [Michelle Kriks](#)
Subject: hawthornenoise.airportstudy.com - comments
Date: Sunday, March 29, 2020 4:01:53 PM

Name

David Miller

Email

gordonmiller01@gmail.com

Address

1460 9th St
Manhattan Beach, California 90266
United States
[Map It](#)

Subject

Noise complaint - 2:03 AM 3/29/2020 very loud Low flying aircraft

Your Comments

I'd like to file Noise complaint of very loud..... low flying jet directly overhead at 2:03 AM this morning 3/29/2020.
My flight trac- only identified the aircraft as G-6 no other information was given.

From: [Ron Siegel](#)
To: outreach@jetcenterla.com
Cc: gfernandez@cityofhawthorne.org; [Michelle Kriks](#)
Subject: Hawthorne Airport Noise
Date: Friday, July 3, 2020 7:34:05 PM
Attachments: [image.png](#)
[image.png](#)
[image.png](#)

Please ask this asshole to stop flying low over our community in Hermosa...Enough already...tell him to take that noisy experimental plane back to Texas.

 Sprint LTE

4:23 PM

70% 



N117PV



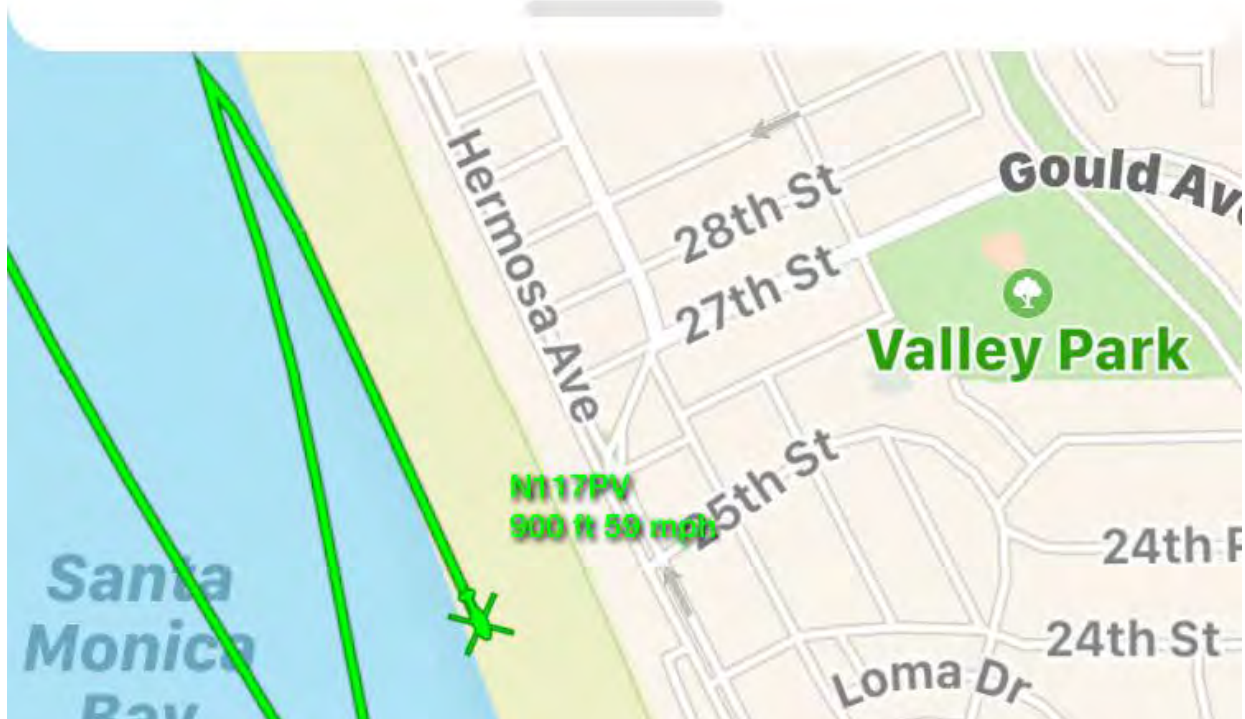
En Route

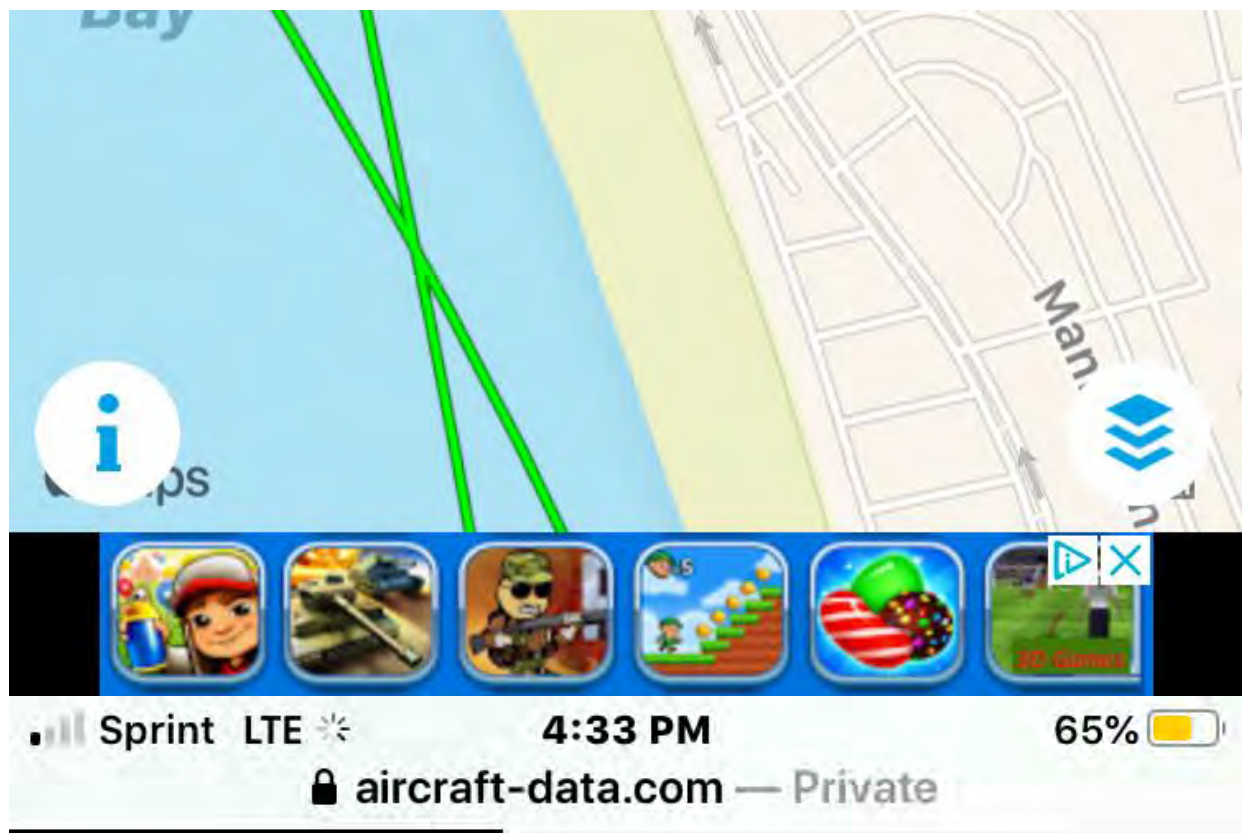
07/03/2020

04:13PM PDT

HHR

Hawthorne Municipal
Hawthorne, CA





Aircraft Information

Tail Number / N-Number N117PC


Manufacturer [BELL HELICOPTER](#)
[TEXTRON CANADA](#)

Model [407](#)

Manufacturer's Serial Number 54713

Aircraft Type Rotorcraft

Category	Land
Builder Certification	Type Certificated
Number of Seats	8 seats
Weight Class	CLASS 1 (Up to 12,499 pounds gross take off weight)
Number of Engines	1 engine

 Sprint LTE

4:33 PM

64% 

 aircraft-data.com — Private

Registration Information

Type of Registrant	Individual
Owner Name	CHISUM KENNETH J
Street	687 COUNTY ROAD 207

City	VALLEY VIEW
State	TX
Zip Code	76272-3385
County	Salt Lake County
Country	US
Airworthiness Classification	Experimental
Airworthiness Date	1985-02-06
Certificate Issue Date	2005-08-18
Last Action Date	2009-03-17
Last Status	Registration Expired
Cancellation Date	2010-07-10

From: [Dave Fitz](#)
To: [Kory Lewis](#); [Michelle Kriks](#)
Subject: FW: Hawthorne Airport Study : Noise Complaint and Pollution
Date: Thursday, October 29, 2020 1:56:50 PM

FYI



From: Leticia Castillo <leticia.castillo4119@gmail.com>
Sent: Thursday, October 29, 2020 1:24 PM
To: gfernandez@cityofhawthorne.org; Dave Fitz <dfitz@coffmanassociates.com>;
haidar@haidarhawthorne.com; DJakubowski@cityofhawthorne.org; atvargas34@yahoo.com;
mtalleda@aol.com; amonteiro@hawthorneca.gov
Subject: Hawthorne Airport Study : Noise Complaint and Pollution

Good Morning,

We purchased a home across Hawthorne Airport in March of 2020. After joining my local neighborhood group, I noticed everyone was complaining about the noise levels that are interrupting everyone's daily life. 32 Passenger jets arriving at 3am, several attempts to report to the FAA with no success. I would like to know what are the plans for the airport and reducing the noise levels / pollution? I am aware I live by an airport, however, I grew up in Westchester, CA, on Kittyhawk to be exact, and not once did we ever get the disruption we do now. Mind you, LAX is an international airport with Jumbo Jets.

Our community that lives along 120th Street is very concerned since Santa Monica Airport closed, and with the new stadium being built that we will suffer with many more jets coming into Hawthorne. Most of the people that bought their houses in the area have had them for over twenty years and the amount of traffic that is present was never like this in the past. The City of Inglewood and Westchester replaced those people's windows. So we want to know what is the plan that is to be made for the homeowners that live in this area. There are people like myself who are working from home on some days and I am constantly being distracted by the noise. I get courtesy wake up calls at 3am from a fancy G6, even though I have to be physically at work on some days at 8am. This is getting out of hand and I want to hear of real solutions the city is planning.

I look forward to hearing from you all.

Best regards,

Leticia Castillo

From: [Dave Fitz](#)
To: [Kory Lewis](#); [Michelle Kriks](#)
Subject: FW: Hawthorne Airport Study : Noise Complaint and Pollution
Date: Monday, November 30, 2020 4:32:32 PM

FYI



From: Leticia Castillo <leticia.castillo4119@gmail.com>
Sent: Monday, November 30, 2020 4:24 PM
To: Fernandez, Guido <GFernandez@cityofhawthorne.org>
Cc: Jakubowski, Debbie <DJakubowski@cityofhawthorne.org>; Monteiro, Alex <amonteiro@cityofhawthorne.org>; atvargas34@yahoo.com; Dave Fitz <dfitz@coffmanassociates.com>; haidar@haidarhawthorne.com; mtalleda@aol.com
Subject: Re: Hawthorne Airport Study : Noise Complaint and Pollution

Good Afternoon Guido,

After two loud arrivals at Hawthorne airport, I feel it is extremely necessary to write and follow up. From our last email exchange, there is a Zoom meeting that is scheduled for this month. May you please provide me the information?

Thank you,

Leticia Castillo

On Thu, Oct 29, 2020 at 2:36 PM Fernandez, Guido <GFernandez@cityofhawthorne.org> wrote:

Hi Ms. Castillo,

I hope this email finds you well. Back on June 12, 2020 we communicated with you via email regarding your concerns about airport noise and airport traffic. Below I'm adding some additional information.

The City is currently conducting a Part 150 Noise Study under an FAA grant for the purpose of creating noise contours around the airport. The contours are called Noise Exposure Maps (NEMs) and the FAA has strict guidelines as to how the contours can be generated and which areas they can cover.

The FAA is currently reviewing the NEMs that we submitted to them and we expect to receive a response within the next month. We will then schedule public meetings via zoom to share the results with the public.

Our goal is to finalize the Noise Exposure Maps so that in the future we can request a new grant from the FAA to determine the feasibility of installing noise insulation windows or for voluntary property acquisition for homes located within the FAA approved Noise Exposure Maps. FAA regulations only permit the issuance of noise mitigation grants for those areas covered under their approved Noise Contours.

We respond to noise complaints from residents and encourage pilots to be considerate of our neighbors. We stress to pilots that noise from aircraft affects our residents and we want them to use any procedures to reduce noise while still maintaining safety.

We also have a pilot guide and noise abatement procedures that we share with airport users. However, the noise abatement procedures are voluntary because we do not have the authority to regulate flight paths or to impose noise curfews. The airport is required to operate at all times and to remain open to the public.

The FAA manages airspace, establishes flight patterns, implements flight procedures and corridors, and determines minimum flight altitudes for aircraft.

I'm attaching a copy of our Noise Fact Sheet which covers the topics mentioned above.

Thank you.

Guido Fernandez
Airport Manager
Hawthorne Municipal Airport

(310) 349-1637

From: Leticia Castillo <leticia.castillo4119@gmail.com>

Sent: Thursday, October 29, 2020 11:24 AM

To: Fernandez, Guido <GFernandez@cityofhawthorne.org>; dfitz@coffmanassociates.com; haidar@haidarhawthorne.com; Jakubowski, Debbie <DJakubowski@cityofhawthorne.org>; atvargas34@yahoo.com; mtalleda@aol.com; Monteiro, Alex <amonteiro@cityofhawthorne.org>

Subject: Hawthorne Airport Study : Noise Complaint and Pollution

Good Morning,

We purchased a home across Hawthorne Airport in March of 2020. After joining my local neighborhood group, I noticed everyone was complaining about the noise levels that are interrupting everyone's daily life. 32 Passenger jets arriving at 3am, several attempts to report to the FAA with no success. I would like to know what are the plans for the airport and reducing the noise levels / pollution? I am aware I live by an airport, however, I grew up in Westchester, CA, on Kittyhawk to be exact, and not once did we ever get the disruption we do now. Mind you, LAX is an international airport with Jumbo Jets.

Our community that lives along 120th Street is very concerned since Santa Monica Airport closed, and with the new stadium being built that we will suffer with many more jets coming into Hawthorne. Most of the people that bought their houses in the area have had them for over twenty years and the amount of traffic that is present was never like this in the past. The City of Inglewood and Westchester replaced those people's windows. So we want to know what is the plan that is to be made for the homeowners that live in this area. There are people like myself who are working from home on some days and I am constantly being distracted by the noise. I get courtesy wake up calls at 3am from a fancy G6, even though I have to be physically at work on some days at 8am. This is getting out of hand and I want to hear of real solutions the city is planning.

I look forward to hearing from you all.

Best regards,

Leticia Castillo

From: [Dave Fitz](#)
To: [Kory Lewis](#); [Michelle Kriks](#)
Subject: Fwd: Hawthorne Airport Study : Noise Complaint and Pollution
Date: Monday, December 21, 2020 8:09:46 PM

FYI

David Fitz, AICP, LEED Green Associate
Chief Executive Officer
Coffman Associates

Begin forwarded message:

From: Leticia Castillo <leticia.castillo4119@gmail.com>
Date: December 21, 2020 at 8:00:29 PM CST
To: "Fernandez, Guido" <GFernandez@cityofhawthorne.org>
Cc: "Jakubowski, Debbie" <DJakubowski@cityofhawthorne.org>, Kory Lewis <klewis@coffmanassociates.com>, "Leung, Alan" <ALEung@cityofhawthorne.org>, "Monteiro, Alex" <amonteiro@cityofhawthorne.org>, "Rowland, Annie" <ARowland@cityofhawthorne.org>, atvargas34@yahoo.com, Dave Fitz <dfitz@coffmanassociates.com>, haidar@haidarhawthorne.com, mtalleda@aol.com
Subject: Re: Hawthorne Airport Study : Noise Complaint and Pollution

Good Evening Mr. Fernandez,

I wanted to follow up to check if there was an update on this matter. The month is almost going to end and I would like to see an update on the reports findings, after the edits. Do we have a date for the Zoom meeting yet? Of so, what date and time please?

I look foRward to hearing from you.

Best regards,

Leticia Castillo

On Tue, Dec 1, 2020 at 9:37 AM Fernandez, Guido
<GFernandez@cityofhawthorne.org> wrote:

Hi Ms. Castillo,

We just received the comments from the FAA last week. We are currently making edits to reflect the FAA comments and we will

send them back to the FAA for their final approval.

After receiving the FAA approval we will schedule the public Zoom meetings.

I'm hoping to have more information later this month as to when the meetings will be scheduled.

Guido Fernandez

Airport Manager

Hawthorne Municipal Airport

(310) 349-1636

From: Leticia Castillo <leticia.castillo4119@gmail.com>

Sent: Monday, November 30, 2020 2:24 PM

To: Fernandez, Guido <GFernandez@cityofhawthorne.org>

Cc: Jakubowski, Debbie <DJakubowski@cityofhawthorne.org>; Monteiro, Alex <amonteiro@cityofhawthorne.org>; atvargas34@yahoo.com; dfitz@coffmanassociates.com; haidar@haidarhawthorne.com; mtalleda@aol.com

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Leticia Castillo

From: [Airport Study Comment Form](#)
To: [Dave Fitz](#); [Kory Lewis](#); [Michelle Kriks](#); gfernandez@cityofhawthorne.org
Subject: hawthornenoise.airportstudy.com - comments
Date: Saturday, February 20, 2021 4:35:15 PM

Name

ANNETTE SILAS

Email

talktosilas@sbcglobal.net

Organization

northwest corner of Gardena resident

Address

13016 Casimir Avenue
Gardena, California 90249
United States
[Map It](#)

Subject

air traffic and noise

Your Comments

We have lived in the same house in Area One of Gardena since 1978. We are not happy with the air traffic and air traffic noise during the night (though it has improved a lot recently) and especially on Saturdays in the daytime. The little aircraft are especially noisy, and they keep circling round and round!! If it is true that there is no air traffic controller at Hawthorne Airport for the overnight shift M-Sun, then there should be NO AIR TRAFFIC DURING THOSE HOURS. We have had the large aircraft fly overhead at night (from LAX) that sound so loud/close that I think they are going to crash into our home which raises my blood pressure and I have had 2 heart attacks already! Luckily, as stated above, this has greatly decreased, maybe since we the people have become pro-active!



Hawthorne Municipal Airport

Appendix C Resource Library





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FEDERAL AVIATION NOISE REGULATIONS

In the early days of commercial aviation, communities close to an airport were not greatly affected by the occasional propeller aircraft overflight. However, in the late 1960s and early 1970s, the problem of aircraft noise became increasingly apparent with the beginning of the jet age. The Deregulation Act of 1978 intensified the issue of airport noise as the act allowed for a more competitive environment between air carriers and the routes that they served. The increased competition brought better and more affordable services, an increase in demand, and an increase in jet noise.

As air travel expanded, residents living in close proximity to the nation's airports became increasingly concerned. Citizens began to form activist groups and take action against local policy makers and airport operators. With the increasing concerns, complaints and environmental awareness, the airport noise issue became a serious problem among the airports, airlines, and the residents living close to the nation's airports.

“As air travel expanded, residents living in close proximity to the nation’s airports became increasingly concerned.”

From a national perspective, federal agencies began studying aircraft noise and developing planning guidelines. In 1970, the National Environmental Policy Act of 1969 (NEPA) was the first federal legislation requiring airport operators to study and analyze aircraft noise impacts before undertaking major development or improvement projects. For airport operators to gain approval for major projects, they had to develop an Environmental Assessment (EA) or Environmental Impact Statement (EIS) that outlined the potential noise impacts of any proposed project on residents surrounding the airport.

After NEPA was passed, the Department of Transportation (DOT) and the Federal Aviation Administration (FAA) adopted the Aviation Noise Abatement Policy (ANAP) in 1976. The ANAP clearly identified aircraft noise responsibilities for the FAA, air carriers, airport operators, and local jurisdictions.

The importance of airport noise impacts was first recognized at a national level in the Aviation Safety and Noise Abatement Act of 1979. This act required the FAA to adopt regulations establishing a single system of measuring aircraft noise and determining the exposure of individuals to noise in the vicinity of airports.

FEDERAL REGULATIONS

Reduction of aircraft noise impacts is a complex issue with several parties sharing in the responsibility: the federal government, state and local governments, planning agencies, the airport proprietor, airport users, airport manufacturers, and local residents. The purpose of this





technical information paper is to provide a summary of the aviation noise regulations and responsibilities at the federal level.

Aviation plays a vital role in interstate commerce. Recognizing this, the federal government has assumed the role of coordinator and regulator of the nation's aviation system. Congress has assigned administrative and regulatory authority to the Federal Aviation Administration (FAA) whose responsibilities include:

- The regulation of air commerce in order to promote its development, safety, and to fulfill the requirements of national defense.
- The promotion, encouragement, and development of civil aeronautics.
- The control of the use of navigable airspace and the regulation of civil and military aircraft operations to promote the safety and efficiency of both.
- The development and operation of a common system of air traffic control and navigation for both military and civil aircraft.

The FAA also administers a program of federal grants-in-aid for the development of airport master plans, the acquisition of land, and for planning, design, and construction of eligible airport improvements. In addition, Congress passed legislation and the FAA established regulations governing the preparation of noise compatibility programs. Laws and regulations were also implemented which required the conversion of the commercial aircraft fleet to quieter aircraft. The following sections summarize these regulations found in Title 14 of the Code of Federal Regulations (14 CFR).

Part 150 Noise Compatibility Studies

The Aviation Safety and Noise Abatement Act of 1979 (United States Code, Title 49, Sections 47501-47510), signed into law on February 18, 1980, was enacted, "...to provide and carry out noise compatibility programs, to provide assistance to assure continued safety in aviation,

and for other purposes." The FAA was vested with the authority to implement and administer the Act.

14 CFR Part 150 (Part 150), the administrative rule promulgated to implement the Act, sets requirements for airport operators who choose to undertake an airport noise compatibility study with federal funding assistance. Part 150 provides for the development of two final documents: the Noise Exposure Maps and the Noise Compatibility Program.

Noise Exposure Maps. The Noise Exposure Maps (NEM) document describes existing and future noise conditions at the airport. It can

be thought of as a baseline analysis defining the scope of the noise situation at the airport and including maps of noise exposure for the current year,

five-year, and long-range forecasts. The noise contours are depicted on various land use maps to reveal areas of non-compatible land use. Included in the document is detailed supporting information which explains the methods used to develop the maps.

Part 150 requires the use of standard methodologies and metrics for analyzing and describing noise. It also establishes guidelines for the identification of land uses which are incompatible with different noise levels. Airport proprietors are required to update noise exposure maps when changes in the operation of the airport would create any new, substantial non-compatible use. This is defined as an increase in the yearly day-night average sound level (DNL) or community noise equivalent level in California (CNEL) of 1.5 decibels over non-compatible land uses.

"Reduction of aircraft noise impacts is a complex issue with several parties sharing in the responsibility..."

A limited degree of legal protection can be afforded to the airport proprietor through preparation of noise exposure maps. Section 47506 of the recodified Aviation Safety and Noise Abatement Act of 1979 (ASNA) provides that:

A person acquiring an interest in property...in an area surrounding an airport for which a noise exposure map has been submitted...and having actual or constructive knowledge of the existence of the map may recover damages for noise attributable to the airport only if, in addition to any other elements for recovery of damages, the person shows that:

- (1) after acquiring the interest, there was a significant
 - (A) change in the type or frequency of aircraft operations at the airport;
 - (B) change in the airport layout;
 - (C) change in flight patterns; or
 - (D) increase in nighttime operations; and
- (2) the damages resulted from the change or increase.

ASNA provides that “constructive knowledge” shall be attributed to any person if a copy of the noise exposure map was provided at the time of property acquisition, or if notice of the existence of the noise exposure map was published three times in a newspaper of general circulation in the area. In addition, Part 150 defines “significant increase” as an increase of 1.5 DNL or CNEL. (See Part 150, Section 150.21 (d), (f), and (g); and Airport Environmental Handbook, Order 5050.4B, 9(n).) For purposes of this provision, FAA officials consider the term “area surrounding an airport” to mean an area within the 65 DNL contour.

Acceptance of the noise exposure maps by the FAA is required before it will approve a noise compatibility program for the airport.

Noise Compatibility Program.

A Noise Compatibility Program (NCP) includes provisions for the abatement of aircraft noise through aircraft operating procedures, air traffic control procedures, airport regulations, or airport facility modifications. It also includes provisions for land use compatibility planning and may include actions to mitigate the impact of noise on noncompatible land uses. The program must contain provisions for updates and periodic revisions.

Part 150 establishes procedures and criteria for FAA evaluation of noise compatibility programs. Among these, two criteria are of particular importance: the airport proprietor may take no action that imposes an undue burden on interstate or foreign commerce, nor may the proprietor unjustly discriminate between different categories of airport users.

With an approved noise compatibility program, an airport proprietor becomes eligible for funding through the Federal Airport Improvement Program (AIP) to implement the eligible items of the program.

In 1998, the FAA established a policy for Part 150 approval and funding of noise mitigation measures which stated that the FAA will not approve measures in Noise Compatibility Programs that propose corrective noise mitigation actions for new, non-compatible development, which is allowed to occur in the vicinity of airports after October 1, 1998, the effective date of the policy. Therefore, corrective noise mitigation measures for non-compatible development

that occurs after October 1, 1998 is not eligible for AIP funding under the noise set-aside regardless of previous FAA approvals under Part 150. This policy increased the incentives for airport operators to discourage the development of new non-compatible land uses around airports, and to assure the most cost-effective use of federal funds spent on noise mitigation measures.

In December 2003, the Vision 100-Century of Aviation Reauthorization Act was signed into law. In addition to authorizing FAA programs, Section 189 of Vision 100 amended 49 U.S.C. section 47504(b) by adding new subsection (b)(4). This subsection prohibited FAA from approving NCP measures in Fiscal Years 2004 through 2007 that require the expenditure of AIP funds to mitigate noise of less than 65 DNL or CNEL. Additionally, the legislation precludes FAA approval of recommended NCP measures to mitigate noise outside DNL or CNEL 65 dB if the measures require AIP



“Part 150 establishes guidelines for the identification of land uses which are incompatible with different noise levels.”

funds, and unless the local land use planning authority with responsibility for planning in the area surrounding the airport has adopted alternative land use compatibility guidelines.

Additionally, as noted in FAA Order 5190.6B Airport Compliance Manual, FAA encourages a balanced approach to address noise problems and has discouraged unreasonable airport use restrictions. It is FAA policy that airport use restrictions should be considered only as a measure of last resort when other mitigation measures are inadequate to satisfactorily address a noise problem and a restriction is the only remaining option that could provide noise relief. This policy furthers the federal interest in maintaining the efficiency and capacity of the national air transportation system and, in particular, the FAA's responsibility to ensure that federally funded airports maintain reasonable public access in compliance with applicable law.

14 CFR Part 36 Federal Aircraft Noise Regulations

The FAA has required reduction of aircraft noise at the source through certification, modification of engines, or replacement of aircraft. Part 36 prohibits the further escalation of noise levels of subsonic civil turbojet and transport category aircraft and also requires new airplane types to be markedly quieter than earlier

models. Subsequent amendments have extended the noise standards to include large and small, propeller-driven airplanes and supersonic transport aircraft.

Part 36 has four stages of certification. Stage 4 is the most recent amendment, having been adopted in July, 2005, and applies to aircraft designs submitted for review after January 1, 2006. Stage 3 applies to aircraft certificated since November 5, 1975; Stage 2 applies to aircraft certificated between December 1, 1969, and November 5, 1975; and Stage 1 includes all previously certificated aircraft.

Stage 4 certification standards for jet aircraft set the noise standard 10 decibels below the Stage 3 standards. These standards apply to all jet aircraft, regardless of weight. Aircraft weight restrictions are addressed in 14 CFR Part 91. The 10 dB reduction for Stage 4 aircraft is the cumulative total of noise reductions for three of the measurement points (approach, flyover, and lateral). The standard requires that aircraft noise is reduced at two of the three measurement points. It is estimated that nearly all currently produced aircraft will be able to meet these requirements

and therefore minimal benefits are expected for those communities surrounding airports. There is no planned phase-out of Stage 2 aircraft weighing less than 75,000 pounds or Stage 3 aircraft in this amendment.

14 CFR Part 91 Federal Aircraft Noise Regulations

Part 91, Subpart I, commonly known as the "Fleet Noise Rule," mandated a compliance schedule under which Stage 1 aircraft were to be retired or refitted with hush kits or quieter engines by January 1, 1988. A very limited number of exemptions have been granted by the U.S. Department of Transportation for foreign aircraft operating into specified international airports.

Pursuant to the Congressional mandate in the Airport Noise and Capacity Act of 1990, FAA has established amendments to Part 91 by setting December 31, 1999, as the date for discontinuing use of all Stage 2 aircraft exceeding 75,000 pounds. Stage 2 aircraft over 75,000 pounds utilized for non-revenue flights can operate beyond the December 31, 1999, deadline for the following purposes:

- To sell, lease, or scrap the aircraft;
- To obtain modifications to meet Stage 3 standards;
- To obtain scheduled heavy maintenance or significant modifications;
- To deliver the aircraft to a lessee or return it to a lessor;
- To park or store the aircraft;
- To prepare the aircraft for any of these events; or
- To operate under an experimental airworthiness certificate.



The *FAA Modernization and Reform Act of 2012*, establishes December 31, 2015, as the phase-out date for Stage 2 aircraft weighing less than 75,000 pounds. Additional restrictions or phase-out dates have not been adopted for Stage 3 and Stage 4 aircraft.

Neither Part 36 nor Part 91 apply to military aircraft. Nevertheless, many of the advances in quiet engine technology are being used by the military as they upgrade aircraft to improve performance and fuel efficiency.

14 CFR Part 161 Regulation of Airport Noise and Access Restrictions

Part 161 sets forth requirements for notice and approval of local restrictions on aircraft noise levels and airport access. Part 161, which was developed in response to the Airport Noise and Capacity Act of 1990, applies to local airport restrictions that would have the effect of limiting operations of Stage 2 or 3 aircraft. Restrictions regulated under Part 161 include direct limits on maximum noise levels, nighttime curfews, and special fees intended to encourage changes in airport operations to lessen noise.

In order to implement noise or access restrictions on Stage 2 aircraft, the airport operator must provide public notice of the proposal and provide at least a 45-day comment period. This includes notification of FAA and publication of the proposed restriction in the Federal Register. An analysis must be prepared describing the proposal, alternatives to the proposal, and the costs and benefits of each.

Noise or access restrictions on Stage 3 aircraft can be implemented only after receiving FAA approval. Before granting approval, the FAA must find that the six conditions specified in the statute, and listed below, are met.

- (1) The restriction is reasonable, non-arbitrary, and non-discriminatory.
- (2) The restriction does not create an undue burden on interstate commerce.
- (3) The proposed restriction maintains safe and efficient use of the navigable airspace.
- (4) The proposed restriction does not conflict with any existing federal statute or regulation.
- (5) The applicant has provided adequate opportunity for public comment on the proposed restriction.
- (6) The proposed restriction does not create an undue burden on the national aviation system.

In its application for FAA review and approval of the restriction, the airport operator must include an environmental assessment of the proposal and a complete analysis addressing the six conditions. Within 30 days of the receipt of the application, the FAA must determine whether the application is complete. After a complete application has been filed, the FAA publishes a notice of the proposal in the Federal Register. FAA must approve or disapprove the restriction within 180 days of receipt of the completed application.

Very few Part 161 studies have been undertaken since the enactment of ANCA. **Table 1A** (on the following page) summarizes the studies that have been done to date. Currently, only one Part 161 Study, in Naples, Florida, has been deemed complete by FAA. However, FAA has also ruled that the restriction is a violation of grant assurances Naples signed when accepting federal funds.

Airport operators that implement noise and access restrictions in violation of Part 161 are subject to termination of eligibility for airport grant funds and authority to impose and collect passenger facility charges.



TABLE 1A**SUMMARY OF PART 161 STUDIES**

AIRPORT	YEAR STARTED	YEAR ENDED	COST	PROPOSAL, STATUS
Kahului Airport Kahului, Maui, Hawaii	1991	1994	\$50,000 (est.)	Proposed nighttime prohibition of Stage 2 aircraft pursuant to court stipulation. Cost-benefit and statewide impact analysis found to be deficient by FAA. Airport never submitted a complete Part 161 study. Suspended consideration of restriction.
Minneapolis-St. Paul International Airport Minneapolis, Minnesota	1992	1992	N.A.	Proposed nighttime prohibition of Stage 2 aircraft. Cost-benefit analysis was deficient. Never submitted complete Part 161 study. Suspended consideration of restriction and entered into negotiations with carriers for voluntary cooperation.
San Jose International Airport San Jose, California	1994	1997	Phase 1 - \$400,000 Phase 2 - \$5 to \$10 million	Study undertaken as part of legal settlement agreement. Studied a Stage 2 restriction. Suspended study after Phase 1 report showed costs to airlines at San Jose greater than benefits in San Jose. Never undertook Phase 2, system wide analysis. Never submitted study for FAA review.
Pease International Tradeport Portsmouth, New Hampshire	1995	N.A.	N.A.	Have not yet submitted Part 161 study for FAA review.
San Francisco International Airport San Francisco, California	1998	1999	\$200,000	Proposed extension of nighttime curfew on Stage 2 aircraft over 75,000 pounds. Started study in May 1998. Submitted to FAA in early 1999 and subsequently withdrawn.
Naples Municipal Airport Naples, Florida	1999	2003	Estimated cost of \$1.0 to \$1.5 million for consulting and legal fees due to litigation	Enactment of a total ban on Stage 2 general aviation jet aircraft under 75,000 pounds. The airport began enforcing the restriction on March 1, 2002.
Bob Hope Airport Burbank, California	2000	2009	Phase 1 - \$2 to \$4 million (est.) Phase 2 - \$1.8 million	FAA denied application stating that other remedies are available that are feasible and cost-effective.
Van Nuys Airport Van Nuys, California	2003	2010	\$5 million	Scheduled phase out of noisier aircraft.
Los Angeles International Airport Los Angeles, California	2005	2014	N.A.	FAA denied application because it does not meet the six statutory conditions.

N.A. - Not available.

Sources: Telephone interviews with Federal Aviation Administration officials and staffs of various airports.

FAA Reauthorization Act of 2018

The FAA Reauthorization Act of 2018 (H.R. 302 or Act) is comprehensive legislation prescribing grant funding, passenger facility charges, the airport improvement program, and airport noise and environmental considerations. Title I, Subtitle D, Airport Noise and Environmental Streamlining, specifically addresses community noise concerns and provides grant funding for airport noise compatibility planning, extending grant funding through 2023 for multiple environmental and noise-related issues including updating noise exposure maps, aircraft studies, studies on potential health and economic impact of overflight noise, aircraft noise exposure, and airport noise mitigation and safety studies. H.R. 302 requires the FAA administrator to complete an evaluation of alternative metrics to the current 65 DNL standard. Additionally, the Act requires, in general, that airport operators submit updated noise exposure maps “If, in an area surrounding an airport, a change in the operation of the airport would establish a substantial new non-compatible use, or would significantly reduce noise over existing non-compatible uses, that is not reflected in either the existing conditions



map or forecast map currently on file with the FAA.” Submission of an updated noise exposure map is required only if relevant changes to airport operations occur during the forecast period.

H.R. 302 requires the FAA to direct focus on community noise concerns and improve community involvement for NextGen projects located in major metropolitan areas. If new area navigation departure procedures are proposed or if an existing procedure is to be amended which could direct air traffic between the surface and 6,000 feet above ground level over noise-sensitive areas, the FAA Administrator shall consider options to address community noise concerns under the following circumstances:

- the affected airport operator submits a request to the FAA administrator;
- the airport operator’s request would not conflict with the safe and efficient operation of national airspace; and,
- the effect of a modified departure procedure would not significantly increase noise over sensitive areas.

An important piece to H.R. 302 is that the FAA administrator, within two years of the date of the Act, must submit to congress preliminary recommendations regarding the relationship between aircraft noise exposure and the effects on communities around airports. Such findings shall determine appropriate revisions to land use compatibility guidelines in FAA 14 CFR Part 150.





NOISE AND LAND USE COMPATIBILITY GUIDELINES

In communities with an airport, noise is a critical factor in the land use planning process. With advancements made in aircraft technology, significant strides have been made in the reduction of noise at its source; however, aviation noise cannot be entirely eliminated. Local, state, and federal agencies, in recognition of this fact, have developed guidelines and regulations to address noise within the land use planning process.

The fundamental variability in the way individuals react to noise makes it impossible to accurately predict how any one individual will respond to a given noise level. However, when considering the community as a whole, trends emerge which relate noise to annoyance. Reasonable evaluations of the average impacts of aircraft noise on a community can be made.

According to scientific research, noise response is most strongly correlated with noise as measured with cumulative noise metrics. In the United States, the most widely

used cumulative noise metric is the day-night noise level (DNL). The DNL accumulates the total noise occurring over a 24-hour period, with a 10 decibel penalty applied to noise occurring between 10:00 p.m. and 7:00 a.m. DNL correlates well with average community response to noise.

In California, the CNEL (community noise equivalent level) metric is used instead of the DNL metric.

“Since the 1960s, land use compatibility guidelines based on airport noise levels have been proposed by federal agencies.”

penalty applied to noise occurring between 10:00 p.m. and 7:00 a.m., the CNEL also adds a 4.77 decibel penalty for noise occurring between 7:00 p.m. and 10:00 p.m. Based on adjacent comparison of the two metrics, there is little difference between the two metrics in practice. Calculations of CNEL and DNL from the same data generally yield values with less than a 0.7 decibel difference (Caltrans 1983, p. 37).

Since the early 1970s, several studies have been conducted to estimate the percent of the population that is, on average, likely to be highly annoyed by aircraft noise. These studies have found that at 65 DNL, the percentage of population highly annoyed ranges from 12 to 26 percent (Miedema and Oudshoorn 2002). Using this information, the DNL or CNEL metric can be a useful planning tool for determining land use compatibility.



LAND USE
COMPATIBILITY
GUIDELINES

Since the 1960s, land use compatibility guidelines based on airport noise levels have been proposed by federal agencies. This section provides an overview of guidelines from Federal Aviation Administration (FAA), Department of Defense (DOD), Housing and Urban Development (HUD), Veterans Administration (VA), and the Environmental Protection Agency (EPA).

Federal Land
Use Compatibility
Guidelines

FAA-DOD Guidelines

In 1964, the Federal Aviation Administration (FAA) and the U.S. Department of Defense (DOD) published similar documents setting forth guidelines to assist land use planners in areas subjected to aircraft noise from

TABLE 1

CHART FOR ESTIMATING RESPONSE OF COMMUNITIES EXPOSED TO AIRCRAFT NOISE
1964 FAA-DOD GUIDELINES

NOISE LEVEL	ZONE	DESCRIPTION OF EXPECTED RESPONSE
Less than 65 DNL	1	No complaints would be expected. The noise may, however, interfere occasionally with certain activities of the residents.
65 to 80 DNL	2	Individuals may complain, perhaps vigorously. Concerted group action is possible.
Greater than 80 DNL	3	Individual reactions would likely include repeated, vigorous complaints. Concerted group action might be expected.

Source: U.S. DOD 1964. Cited in Kryter 1984, p. 616

nearby airports. These guidelines, presented in **Table 1**, establish three zones and the expected responses to aircraft noise from residents of each zone. In Zone 1, areas exposed to noise below 65 DNL, essentially no complaints would be expected although noise could be an occasional annoyance. In Zone 2, areas exposed to noise between 65 and 80 DNL, individuals may complain, perhaps vigorously. In Zone 3, areas in excess of 80 DNL, vigorous complaints would be likely and concerted group action could be expected.

HUD Guidelines

The U.S. Department of Housing and Urban Development (HUD) first published noise assessment requirements in 1971 for evaluating the acceptability of sites for housing assistance. These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, the requirements established three zones: an acceptable zone where all projects could be approved, a normally unacceptable zone where mitigation measures would be required and where each project would have to be individually evaluated for approval or denial, and an unacceptable zone in which projects would not, as a rule, be approved.

In 1979, HUD issued revised regulations which kept the same basic standards, but adopted new descriptor systems which were considered advanced over the old system. **Table 2** summarizes the revised HUD requirements.



TABLE 2**SITE EXPOSURE TO AIRCRAFT NOISE
1979 HUD REQUIREMENTS**

ACCEPTABLE CATEGORY	DAY-NIGHT AVERAGE SOUND LEVEL	SPECIAL APPROVALS AND REQUIREMENTS
Acceptable	Not exceeding 65 dB	None
Normally Unacceptable	Above 65 dB but not exceeding 75 dB	Special approvals, environmental review, attenuation
Unacceptable	Above 75 dB	Special approvals, environmental review, attenuation

Source: U.S. HUD 1979

**Veterans Administration
Guidelines**

The Veterans Administration has established policies and procedures for the appraisal and approval of VA loans relative to residential properties located near major civilian airports and military air bases. The agency's regulations, contained within M26-2, Change 15, state that "the VA must recognize the possible unsuitability for residential

use of certain properties and the probable adverse effect on livability and/or value of homes in the vicinity of major airports and air bases. Such adverse effects may be due to a variety of factors including noise intensity." **Table 3** contains the VA's noise zones and associated development requirements and limitations.

EPA Guidelines

The U.S. Environmental Protection Agency published a document in

1974 suggesting maximum noise exposure levels to protect public health with an adequate margin of safety. These are shown on the following page in **Table 4**. They note that the risk of hearing loss may become a concern with exposure to noise above 74 DNL. Interference with outdoor activities may become a problem with noise levels above 55 DNL. Interference with indoor residential activities may become a problem with interior noise levels above 45 DNL. If we assume that standard construction attenuates noise by about 20 decibels, with doors and windows closed, this corresponds to an exterior noise level of 65 DNL.

**Federal Interagency Committee
on Urban Noise**

In 1979, the Federal Interagency Committee on Urban Noise (FICUN), including representatives of the Environmental Protection Agency, the Department of Transportation, the Housing and

TABLE 3**VETERANS ADMINISTRATION NOISE GUIDELINES
NOVEMBER 23, 1992**

NOISE ZONE	CNR (COMPOSITE NOISE RATING)	NEF (NOISE EXPOSURE FORECASTS)	DNL (DAY/NIGHT NOISE RATIO)
1	Under 100	Under 30	Under 65
2	100-115	30-40	65-75
3	Over 115	Over 40	Over 75

Specific Limitations:

- Proposed or existing properties located in Zone 1 are generally acceptable as security for VA-guaranteed loans.
- Proposed construction to be located in Zone 2 will be accepted provided:
 - Sound attenuation features are built into the dwelling to bring the interior DNL of the living unit to 45 decibels or below.
 - There is evidence of market acceptance of the subdivision.
 - The veteran-purchaser signs a statement which indicates his/her awareness that 1) the property being purchased is located in an area adjacent to an airport, and 2) the aircraft noise may affect normal livability, value, and marketability of the property.
- Proposed subdivisions located in Zone 3 are not generally acceptable. The only exception is a situation in which the VA has previously approved a subdivision in zone 3. In such cases, the VA will continue to process loan applications provided the requirements in Table 2 above are met.
- Existing dwellings in Zones 2 and 3 are not to be rejected because of airport influence if there is evidence of acceptance by a fully informed veteran.

TABLE 4**SUMMARY OF NOISE LEVELS IDENTIFIED AS REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY - 1974 EPA GUIDELINES**

EFFECT	LEVEL	AREA
Hearing Loss	75 DNL and above	All areas
Outdoor activity interference and annoyance	55 DNL and above	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis of use.
	59 DNL and above	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	45 DNL and above	Indoor residential areas
	49 DNL and above	Other areas with human activities such as schools, etc.

Note: All L_{eq} values from EPA document were converted by FAA to DNL for ease of comparison. ($DNL = L_{eq}(24) + 4$ dB).
Source: U.S. EPA 1974. Cited in FAA 1977a, p. 26.

Urban Development Department, the Department of Defense, and the Veterans Administration, was established to coordinate various federal programs relating to the promotion of noise-compatible development. In 1980, the Committee published

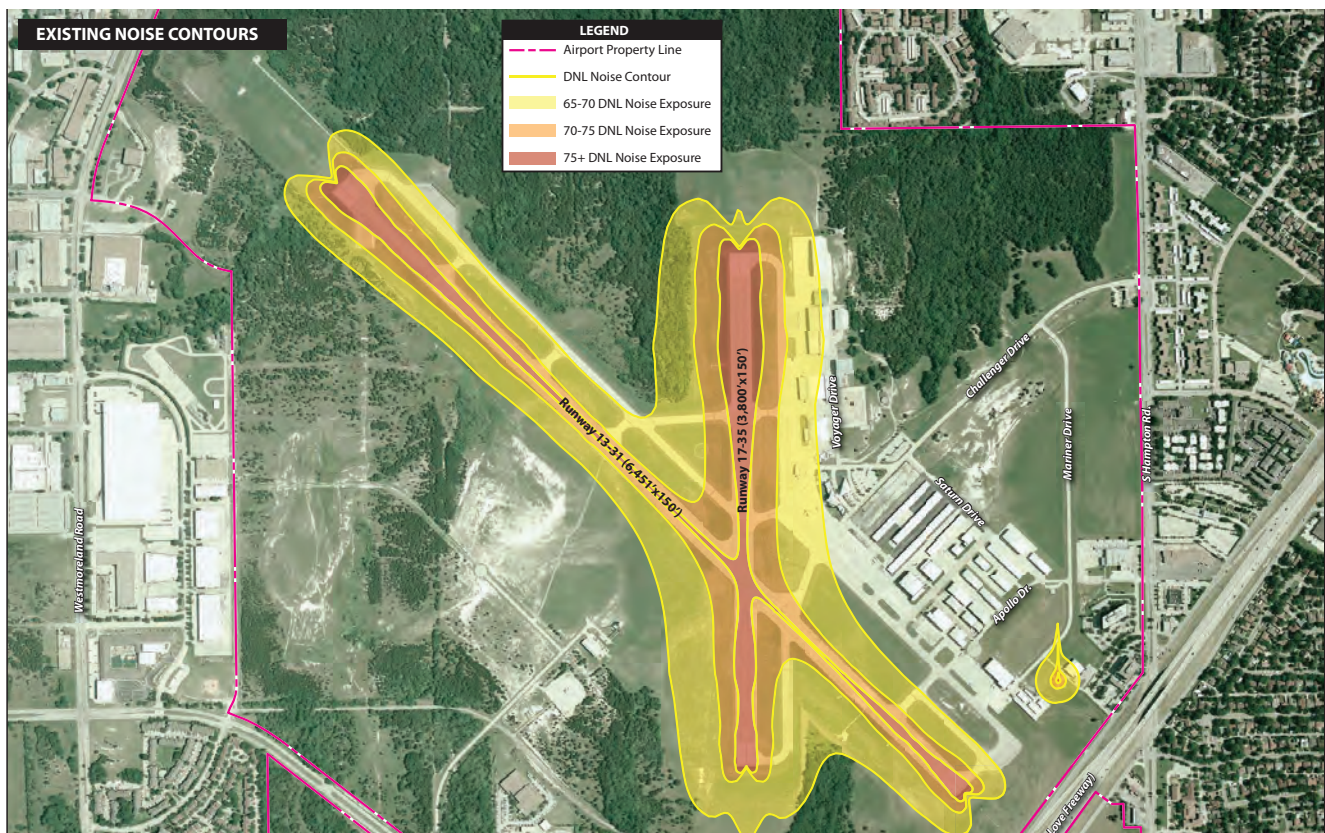
a report which contained detailed land use compatibility guidelines for varying DNL noise levels (FICUN 1980). The work of the Interagency Committee was very important as it brought together for the first time all federal agencies with a direct

involvement in noise compatibility issues and forged a general consensus on land use compatibility for noise analysis on federal projects.

The Interagency guidelines describe the 65 DNL contour as the threshold of significant impact for residential land uses and a variety of noise-sensitive institutions (such as hospitals, nursing homes, schools, cultural activities, auditoriums, and outdoor music shells). Within the 55 to 65 DNL contour range, the guidelines note that cost and feasibility factors were considered in defining residential development and several of the institutions as compatible. In other words, the guidelines are not based solely on the effects of noise. They also consider the cost and feasibility of noise control.

14 CFR Part 150 Guidelines

The FAA adopted a revised and simplified version of the FICUN



guidelines when it promulgated Title 14, Part 150 of the Code of Federal Regulations in the early 1980s. (The Interim Rule was adopted on January 19, 1981. The final rule was adopted on December 13, 1984, published in the Federal Register on December 18, and became effective on January 18, 1985.) Among the changes made by FAA include a coarser land use classification system and the deletion of any reference to any potential for noise impacts below the 65 DNL level.

The determination of the compatibility of various land uses with various noise levels, however, is very similar to the FICUN determinations.

Exhibit A (on the following page) lists the Part 150 land use compatibility guidelines. These are only guidelines. Part 150 explicitly states that determinations of noise compatibility and regulation of land uses are purely local responsibilities.

Selected State Land Use Compatibility Guidelines

State of Oregon

The State of Oregon's Airport Planning Rule (APR) establishes a series of local government requirements and rules which pertain to aviation facility planning. These requirements are intended to promote land use compatibility around airports as well as promote a convenient and economic system of airports in the state. To assist local governments and airports in meeting the requirements of the APR, the Oregon Department of Aviation published the Airport Land Use Compatibility Guidebook in January 2003.



The Oregon guidelines contained within the guidebook, as they relate to land use compatibility around airports, are based on administrative regulations of the Department of Environmental Quality, adopted by the Oregon Environmental Quality Commission in 1979 (Oregon Administrative Rules, Chapter 340, Division 35, Section 45). Although the FAA regards the 65 DNL contours and above as significant, the State of Oregon considers the 55 and 60 DNL contours as significant. The state recognizes that, in some instances, land use controls and restrictions that apply to the 65 DNL may be appropriate for applications to areas impacted by noise levels above 55 DNL. For example, a rural area exposed to 55 to 65 DNL noise levels may be more affected by these levels than an urban area. This is because there is typically a higher level of background noise associated with an urban area (Oregon 2003). Air carrier airports are required to do studies defining the airport impact boundary, corresponding to the 55 DNL contour. Where any noise-sensitive property occurs within the noise impact boundary, the airport must develop a noise abatement program.

An Oregon airport noise abatement program may include many different recommendations for promoting land use compatibility. These include changes in land use planning, zoning, and building codes within the 55 DNL contour. In addition, disclosure of potential noise impacts may be required and purchase of land for non-noise sensitive public uses may be permitted within the 55 DNL contour.

Within the 65 DNL contour, purchase assurance, voluntary relocation, soundproofing, and purchase of land is permitted.

State of California

California law sets the standard for the acceptable level of aircraft noise for persons residing near airports at 65 CNEL (California Code of Regulations, Title 21, Division 2.5, Chapter 6). The 65 CNEL criterion was chosen for urban residential areas where houses are of typical construction

with windows partially open. Four types of land uses are defined as incompatible with noise above 65 CNEL: residences, schools, hospitals and convalescent homes, and places of worship. These land uses are regarded as compatible if they have been insulated to assure an

Part 150 explicitly states that determinations of noise compatibility and regulation of land uses are purely local responsibilities.



EXHIBIT A**14 CFR PART 150 NOISE COMPATIBILITY GUIDELINES**

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

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

See other side for notes and key to table.

interior sound level, from aircraft noise, of 45 CNEL. They are also to be considered compatible if an aviation easement over the property has been obtained by the airport operator.

California noise insulation standards apply to new hotels, motels, apartment buildings, and other dwellings, not including detached single-family homes. They require that “interior noise levels attributable to outdoor sources shall not exceed 45 decibels (based on the DNL or CNEL metric) in any habitable room.” In addition, any of these residential structures proposed within a 60 CNEL noise contour requires an acoustical analysis to show that the proposed design will meet the allowable interior noise level standard. (California Code of Regulations, Title 24, Part 2, Appendix Chapter 35.)

In the California Airport Land Use Planning Handbook (Caltrans updated 2011), land use compatibility guidelines are suggested for use in the preparation of comprehensive airport land use plans. The guidelines state that the 65 dB is not acceptable for most new development. However, may be acceptable in noisy urban locations and/or in hot climates where most buildings utilize air conditioning. The 60 dB is suitable for new development or mild climates where windows are often left open. At rural airports, it is noted that 55 CNEL may be suitable for use as a maximum permissible noise level for residential uses.

These guidelines are similar to those proposed in earlier editions of the Airport Land Use Planning Handbook. However, the 2002 handbook provides much more definitive guidance for compatible land use planning around airports.

State of Florida

In 1990, the State of Florida passed legislation which created the Airport Safety and Land Use Compatibility Study Commission. The charge to this commission was to assure that airports in Florida will have the capacity to accommodate future growth without jeopardizing public health, safety, and welfare. One of the Commissions' recommendations was to require the Florida Department of Transportation (FDOT) to establish guidelines regarding compatible land use around airports. In 1994, FDOT responded to this recommendation by publishing a guidance document entitled Airport Compatible Land Use Guidance for Florida Communities (updated in December 2012).

As part of this document's conclusions, it was recommended that all commercial service airports, or airports with significant numbers of general aviation operations, establish a noise compatibility planning program in accordance with the provisions of Part 150. All communities within the airport environs should participate in the preparation of this program. It was requested that each local government prohibit new residential development and other noise-sensitive uses for areas within the 65 DNL contour. Where practical, new residential development should be limited in



areas down to the 55 DNL contour. Currently, many communities use the 55 DNL to restrict noise sensitive development.

State of Wisconsin

Wisconsin State Law 114.136 was established to give local governments the authority to regulate land uses within three miles of the airport boundary. These land use controls supercede any other applicable zoning limits by other jurisdictions that may apply to the area surrounding the airport. To assist airports with the development of land use controls, the Wisconsin Department of Transportation (WisDOT) published a document titled Wisconsin Airport Land Use Guidebook (dated June 1, 2011). Various land use tools such as aviation easements, noise overlay zones, height and hazard zoning, and subdivision regulations are presented within the land use planning guide. WisDOT has recognized that the types of airport compatible land uses depend on the location and size of the airport as well as the type and volume of aircraft using the facility. The 65 DNL contour should be used as a starting point for land use regulations, but lesser contours should be considered if deemed necessary.

The 1985 Wisconsin Act 136 takes State Law 114.136 one step



further by requiring counties and municipalities to depict airport locations and areas affected by aircraft operations on official maps. The law also requires the zoning authority to notify the airport owner of any proposed zoning changes within the airport environs.

State of Washington

In 1996, Washington State Senate Bill 6442 was passed. This bill requires that every city, town, and county having a general aviation airport in its jurisdiction discourage the siting of land uses that are incompatible with airport operations. Policies protecting airport facilities must be implemented within the comprehensive plan and development regulations. Formal consultation with the aviation community is required and all plans must be filed with the Washington State Department of Transportation Aviation Division (WADOT). To assist jurisdictions with establishing appropriate land use planning tools and regulations, WADOT published a revised Airports and Compatible Land Use document in February 1999. Within this planning document, jurisdictions are encouraged to work with airports to ensure that airport noise is factored into land use decisions for the protection of the health, safety, and welfare of its residents.

TRENDS IN LAND USE COMPATIBILITY GUIDELINES

In recent years, citizen activists, anti-noise groups, and environmental organizations have become concerned that the current methods of assessing aircraft noise are not sufficient. Among the concerns is that 65 DNL does not adequately represent the true threshold of significant noise impact. It has been argued that the impact threshold should be lowered to 60 or even 55 DNL, especially in areas of quiet background noise and in areas impacted by large increases in noise (ANR, V. 4, N. 12, p. 91; V. 5, No. 3, p. 21; V. 5, N. 11, p. 82). The purpose of this section is to provide a time line of events which, taken together, indicate a distinct movement toward the consideration of airport noise impacts below the 65 DNL level.

1992

In the 1992 session of Congress, a bill was introduced to lower the threshold for non-compatible land uses from 65 to 55 DNL (ANR, V.

4, N. 11, p. 83). The bill, however, was not passed. In 1995, a bill (HR 1971) was introduced in the House of Representatives to require the Department of Transportation to develop a plan to reduce the number of people residing within the 60 DNL contours around airports by 75 percent by January 1, 2001 (ANR, V. 7, N. 13, p. 101). This bill was not passed either. Nevertheless, these developments indicate concerns about aircraft noise below 65 DNL are coalescing into specific proposals to address the situation.

Also in 1992, an important arbitration proceeding between Raleigh-Durham International Airport and airport neighbors was concluded. Residents residing between the 55 and 65 DNL contours were awarded compensation for noise damages. This was apparently the first time damages had been awarded beyond the 65 DNL contour at any domestic airport (ANR V. 4, No. 14, p. 107). While, strictly speaking, this case sets no legal precedent, it provides further evidence that a change in the definition of the threshold of significant noise impact may be gathering momentum.



After the arbitration was concluded, the Raleigh-Durham Airport Authority developed a model noise ordinance that would require new housing between the 55 and 60 DNL contours to be sound-insulated to achieve an outdoor-to-indoor noise level reduction of 30 dB. Between the 60 and 65 DNL contours, a 35 dB reduction would be required. The model ordinance was proposed for use by local governments exercising land use control. (See ANR, V. 6, N. 3, p. 17.)

In August 1992, the Federal Interagency Committee on Noise (FICON 1992) issued its final report. FICON included representatives of the Departments of Transportation, Defense, Justice, Veterans Affairs, Housing and Urban Development, the Environmental Protection Agency, and the Council on Environmental Quality. FICON was formed to review federal policies for the assessment of aircraft noise in environmental studies. The Committee advocated the continued use of the DNL metric as the principal means of assessing long-term aircraft noise exposure. It further reinforced the designation of 65 DNL as the threshold of significant impact on non-compatible land use. FICON recognized, however, the potential for noise impacts down to the 60 DNL level, providing guidance for analyzing noise between 60 and 65 DNL in reports prepared under the National Environmental Policy Act (NEPA). This includes environmental assessments and environmental impact statements. (It does not include 14 CFR Part 150 studies.) FICON offered this explanation for this action (FICON 1992, p. 3-5).

There are a number of reasons for moving in this direction at this time.



First, the Schultz Curve (See Exhibit A in Coffman Resource Library Effects of Noise Exposure) recognizes that some people will be highly annoyed at relatively low levels of noise. This is further evidenced from numerous public response forums that some people living in areas exposed to DNL values less than 65 dB believe they are substantially impacted (U.S. EPA 1991). Secondly, the FICON Technical Subgroup has shown clearly that large changes in levels of noise exposure (on the order of 3 dB or more) below DNL 65 dB can be perceived by people as a degradation of their noise environment. Finally, there now exist computational techniques that allow for cost-effective calculation of noise exposure and impact data in the range below DNL 65 dB.

The specific FICON recommendation was as follows (FICON 1992, p. 3-5):

If screening analysis shows that noise-sensitive areas will be at or above DNL 65 dB and will have an increase of DNL 1.5 dB or more, further analysis should be conducted of noise-sensitive areas between DNL 60-65 dB having an increase of DNL 3 dB or more due to the proposed airport noise exposure.

FICON further recommended that if any noise-sensitive areas between 60 and 65 DNL are projected to have an increase of 3 DNL or more as a result of the proposed airport noise exposure, mitigation actions should be included for those areas (FICON 1992, p. 3-7). The FICON recommendations represent the first uniform guidelines issued by the federal government for the consideration of aircraft noise impacts below the 65 DNL level. At this time, these remain recommendations and are not official policy.

1995

The Federal Transit Administration (FTA) released a guidance document entitled Transit Noise and Vibration Impact Assessment. Within this document, FTA cites the EPA recommendation of 55 DNL to develop their curve of impact. Further, FTA states that they use the FAA criteria of 65 DNL to define their curve of severe impact.

1996

The American National Standards Institute (ANSI) recommends 55 DNL as the criterion level for housing and similar noise-sensitive

land uses within their report ANSI Quantities and Procedures for Description and Measurement of Environmental Sounds - Part 3: Short-Term Measurements with an Observer Present.

The International Organization for Economic Cooperation and Development suggests the following environmentally sustainable transport noise levels: 55 DNL in urban areas and 50 DNL in rural areas.

1998

Within the Federal Railroad Administration's (FRA) High-Speed Ground Transportation Noise and Vibration Impact Assessment, the same criteria used by the FTA is used to assess impacts of new, high-speed trains.

In this same year, the Surface Transportation Board (STB) utilizes 55 DNL as a threshold of impact within the Draft Environmental Impact Statement for the proposed Conrail acquisition by Norfolk Southern Railway Company.

The World Bank Group (WBG) set noise limits for general industrial

projects to ensure that projects they fund, such as iron and steel manufacturing and thermal power plants, do not negatively impact noise-sensitive development. The WBG set their threshold of impact at 55 DNL.

1999

The Federal Energy Regulatory Commission adopts a revision to their regulations (Part 157) which states "the noise attributable to any new compressor stations, compression added to an existing station, or any modification, upgrade, or update of an existing station, must not exceed a day-night level (L_{dn}) of 55 dBA at any pre-existing noise-sensitive area."

The World Health Organization's Guidelines for Community Noise recommends a "criteria of annoyance" daytime threshold of 55 DNL and nighttime threshold of 50 DNL for residential areas.

2003

FAA announced the establishment of the Center of Excellence for Aircraft

Noise Mitigation. This research center is a partnership between academia, the aviation industry, and the federal government. The Center will focus on studying what level of noise is considered significant, and revisions to noise metrics and alternative aircraft operating procedures that may reduce noise exposure.

2008

The FAA has indicated that a change to address noise outside DNL 65 will be essential to meet both the capacity goals of the Next Generation Air Transportation System and furthering the development of additional noise stringencies in the international arena. FAA identified the following NextGen targets:

- Maintain current target of 4% annual reduction in number of people exposed to DNL 65 or more near-term (compared with 2000 to 2002) and achieve commensurate or greater reduction of the number of people exposed to DNL 55–65.
- Achieve greater reductions mid- and long-term, first bringing DNL 65 primarily within airport boundary and later DNL 55 primarily within airport boundary.

2010

The Continuous Lower Energy, Emissions, and Noise (CLEEN) program is the FAA's fundamental environmental effort to accelerate the development of new aircraft and engine technologies and advance sustainable alternative jet fuels. CLEEN was the principal element for the NextGen strategy to achieve environmental protection allowing for sustainable industry growth.



Dovetailing on CLEEN is the CLEEN II program, initiated in 2015 to continue to 2010 efforts to develop and demonstrate aircraft technology and alternative jet fuels.

AMBIENT NOISE LEVELS

Consideration has also been given to the effects of ambient noise levels and how they relate to annoyance. The U.S. Environmental Protection Agency (EPA) has provided guidelines to address the question of background noise and its relationship to aircraft noise. The EPA has determined that complaints can be expected when the intruding DNL exceeds the background DNL by more than 5 decibels (U.S. EPA 1974). The California Department of Transportation (Caltrans 2000, pp. 7-24-7-25) notes that the level of background (ambient) noise should be used in determining the suitable aircraft noise contour of significance. Specifically, adjustments have been made in areas with quiet background noise levels of 50 to 55 CNEL. In those cases, aircraft CNEL

contours are prepared down to 55 or 60 CNEL, and land use compatibility criteria are adjusted to apply to those areas. The State of Oregon Department of Aviation (Oregon 2003) also requires the preparation of noise contours down to the 55 DNL level. This noise contour is used to establish the noise impact boundary for air carrier airports within the state.

The Federal Interagency Committee on Noise (FICON 1992, p. 2-6) examined the question of background



noise and its relationship to perceptions of aircraft noise. It reviewed the research in this field, concluding that there was a basis for believing that, in addition to the magnitude of aircraft noise, the difference between background noise and aircraft noise was in some way related to human perceptions of noise disturbance. It noted, however, that there was insufficient scientific data to provide authoritative guidance on the consideration of these effects. FICON advocated further research in this area.

“The difference between background noise and aircraft noise is in some way related to human perceptions of noise disturbance.”

CONCLUSIONS

This document has presented information on land use compatibility guidelines with respect to noise. It is intended to serve as a reference for the development of policy guidelines for 14 CFR, Part 150 Noise Compatibility Studies.

There is a strong and long-lasting consensus among various government agencies that 65 DNL represents an appropriate threshold for defining

significant impacts on non-compatible land use. Nonetheless, both research and empirical evidence suggest that noise at levels below 65 DNL is often a concern. Increased concern about these lower levels of noise has been registered in public forums across the country. Official responses by public agencies indicate at least a partial acknowledgment of these concerns. Indeed, according to many agencies and organizations as well as in the states of Oregon, Florida, Wisconsin, and California, airport noise analysis and compatibility planning below the 65 DNL level is strongly advised or required.

In urbanized areas with relatively high background noise levels, 65 DNL continues to be a reasonable threshold for defining airport noise impacts. In suburban and rural locations, lower noise thresholds deserve consideration. Given emerging national trends and the experience at many airports, it can be important to assess aircraft noise below 65 DNL, especially in areas with significant amounts of undeveloped land where land use compatibility planning is still possible. Future planning in undeveloped areas around airports should recognize

that the definition of critical noise thresholds is undergoing transition. In setting a prudent course for future land use near airports, planners and policy-makers should try to anticipate these changes.

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THE MEASUREMENT AND ANALYSIS OF SOUND

Sound is energy — energy that conveys information to the listener. Although measuring this energy is a straight-forward technical exercise, describing sound energy in ways that are meaningful to people is complex. This TIP explains some of the basic principles of sound measurement and analysis.

NOISE - UNWANTED SOUND

Noise is often defined as unwanted sound. For example, rock-and-roll on the stereo of the resident of apartment 3A is music to her ears, but it is intolerable racket to the next door neighbor in 3B. One might think that the louder the sound, the more likely it is to be considered noise. This is not necessarily true. In our example, the resident of apartment 3A is surely exposed to higher sound levels than her neighbor in 3B, yet she considers the sound as pleasant while the neighbor considers it “noise.” While it is possible to measure the sound level objectively, characterizing it as “noise” is a subjective judgement.

The characterization of a sound as “noise” depends on many factors, including the information content of the sound, the familiarity of the sound, a person’s control over the sound, and a person’s activity at the time the sound is heard.

MEASUREMENT OF SOUND

A person’s ability to hear a sound depends on its character as compared with all other sounds in the environment. Three characteristics of sound to which people respond are subject to objective measurement: magnitude or loudness; the frequency spectrum; and the time variation of the sound.

LOUDNESS

The unit used to measure the magnitude of sound is the decibel. Decibels are used to measure loudness in the same way that “inches” and “degrees” are used to measure length and temperature. Unlike the linear length and temperature scales, the decibel

scale is logarithmic. By definition, a sound which has ten times the mean square sound pressure of the reference sound is 10 decibels (dB) greater than the reference sound. A sound which has 100 times (10×10 or 10^2) the mean square sound pressure of the reference sound is 20 dB greater (10×2).

The logarithmic scale is convenient because the mean square sound pressures of normal interest extend over a range of 11 trillion to one.



This huge number (a “1” followed by 14 zeros or 10^{14}) is much more conveniently represented on the logarithmic scale as 140 dB (10×14).

The use of the logarithmic decibel scale requires different arithmetic than we use with linear scales. For example, if two equally loud but independent noise sources operate simultaneously, the measured mean square sound pressure from both sources will be twice as great as either source operating alone. When expressed on the decibel scale, however, the sound pressure level from the combined sources is only 3 dB higher than the level produced by either source alone. Furthermore, if we have two sounds of different magnitude from independent sources, then the level of the sum will never be more than 3 dB above the level produced by the greater source alone.

This equation describes the mathematics of sound level summation:

$$S_t = 10 \log \sum 10^{S_i/10}$$

where S_t is the total sound level, in decibels, and S_i is the sound level of the individual sources.

A simpler process of summation is also available and often used where a level of accuracy of less than one decibel is not required. **Table I** lists additive factors applicable to the difference between the sound levels of two sources.

The noise values to be added should be arrayed from lowest to highest. The additive factor derived from the difference between the lowest and next highest noise level should be added to the higher level. An example is shown to the right.

TABLE 1

ADDITIVE FACTORS FOR SUMMATION OF TWO SOUND TYPES

DIFFERENCE IN SOUND LEVEL (DB)	ADD TO LARGER LEVEL (DB)	DIFFERENCE IN SOUND LEVEL (DB)	ADD TO LARGER LEVEL (DB)
0	3.0	8	0.6
1	2.5	9	0.5
2	2.1	10	0.4
3	1.8	12	0.3
4	1.5	14	0.2
5	1.2	16	0.1
6	1.0	> 16	0
7	0.8		

SOURCE: HUD 1985, p. 51.

Logarithmic math also produces interesting results when averaging sound levels. As the following example shows, the loudest sound levels are the dominant influence in the averaging process. In the example, two sound levels of equal duration are averaged. One is 100 dB; the other 50 dB. The result is not 75 as it would be with linear math but 97 dB. This is because 100 dB contains 100,000 times the sound energy as 50 dB.

Another interesting attribute of sound is the human perception of loudness. Scientists researching human hearing have determined that most people perceive a 10 dB increase in sound energy over a given frequency range as, roughly, a doubling of the loudness. Recalling

the logarithmic nature of the decibel scale, this means that most people perceive a ten-fold increase in sound energy as a two-fold increase in loudness (Kryter 1984, p. 188). Furthermore, when comparing sounds over the same frequency range, most people cannot distinguish between sounds varying by less than two or three decibels.

Exhibit A presents examples of various noise sources at different noise levels, comparing the decibel scale with the relative sound energy and the human perception of loudness. In the exhibit, 60 dB is taken as the reference or “normal” sound level. A sound of 70 dB, involving ten times the sound energy, is perceived as twice as loud. A sound of 80 dB contains 100 times the sound energy

EXAMPLE OF SOUND LEVEL SUMMATION

59.0 dB

60.0 dB

66.5 dB

59 dB+ 60 dB = 66.5 dB = 68 dB

} Add 2.5 to 60 = 62.5

} Add 1.5 to 66.5 = 68





and is perceived as four times as loud as 60 dB. Similarly, a sound of 50 dB contains ten times less sound energy than 60 dB and is perceived as half as loud.

FREQUENCY WEIGHTING

Two sounds with the same sound pressure level may “sound” quite different (e.g., a rumble versus a hiss) because of differing distributions of sound energy in the audible frequency range. The distribution of sound energy as a function of frequency is known as the “frequency spectrum.” The spectrum is important to the measurement of sound because the human ear is more sensitive to sounds at some frequencies than others. People hear best in the frequency range of 1,000 to 5,000 cycles per second (Hertz) than at very much lower or higher frequencies. If the magnitude of a sound is to be measured so that it is proportional to its perception by a human, it is necessary to weigh more heavily that part of the sound energy spectrum humans hear most easily.

Over the years, many different sound measurement scales have been developed, including the A-weighted scale (and also the B, C, D, and E-weighted scales). A-weighting, developed in the 1930s, is the most commonly used scale for approximating the frequency spectrum to which humans are sensitive. Because of its universality, it was adopted by the U.S. Environmental Protection Agency and other government agencies for the description of sound in the environment.

The zero value on the A-weighted scale is the reference pressure of 20 micro-newtons per square meter (or micro-pascals). This value approximates the smallest sound pressure that can be detected by a human. The average sound level of a whisper at a distance of 1 meter is 40 dB; the sound level of a normal voice at 1 meter is 57 dB; a shout at 1 meter is 85 dB; and the threshold of pain is 130 dB.

TIME VARIATION OF SOUND LEVEL

Generally, the magnitude of sound in the environment varies randomly

over time. Of course, there are many exceptions. For example, the sound of a waterfall is steady with time, as is the sound of a room air conditioner or the sound inside a car or airplane cruising at a constant speed. But, in most places, the loudness of outdoor sound is constantly changing because it is influenced by sounds from many sources.

While the continuous variation of sound levels can be measured, recorded, and presented, comparisons of sounds at different times or at different places is very difficult without some way of reducing the time variation. One way of doing this is to calculate the value of a steady-state sound which contains the same amount of sound energy as the time-varying sound under consideration. This value is known as the Equivalent Sound Level (L_{eq}). An important advantage of the L_{eq} metric is that it correlates well with the effects of noise on humans. On the basis of research, scientists have formulated the “equal energy rule.” It is the total sound energy perceived by a human that accounts for the effects of the sound on the person. In other words, a very loud noise lasting a short time will have the same effect as a quieter noise lasting a longer time if the total energy of both sound events (the L_{eq} value) is the same.

KEY DESCRIPTORS OF SOUND

Four descriptors or metrics are useful for quantifying sound. All are based on the logarithmic decibel (dB) scale and incorporate A-weighting to account for the frequency response of the ear:

Sound Level

The sound level (L) in decibels is the quantity read on an ordinary sound level meter. It fluctuates with time following the fluctuations in magnitude of the sound. Its maximum value (L_{\max}) is one of the descriptors often used to characterize the sound of an airplane overflight. However, L_{\max} only gives the maximum magnitude of a sound — it does not convey any information about the duration of the sound. Clearly, if two sounds have the same maximum sound level, the sound which lasts longer will cause more interference with human activity.

Sound Exposure Level

Both loudness and duration are included in the Sound Exposure Level (SEL), which adds up all sound occurring in a stated time period or during a specific event, integrating the total sound over a one-second duration. The SEL is the quantity that best describes the total noise from an aircraft overflight. Based on numerous sound measurements, the SEL from a typical aircraft overflight is usually four to seven decibels higher than the L_{\max} for the event.

Exhibit B shows graphs of two different sound events. In the top half of the graph, we see that the two events have the same L_{\max} , but the second event lasts longer than the first. It is clear from the graph that the area under the noise curve is greater for the second event than the first. This means that the second event contains more total sound energy than the first, even though the peak levels for each event are the same. In the bottom half of the graph, the SELs for each event are compared. The SELs are computed by mathematically compressing

the total sound energy into a one-second period. The SEL for the second event is greater than the SEL for the first. Again, this simply means that the total sound energy for the second event is greater than for the first.

Equivalent Sound Level

The L_{eq} is simply the logarithm of the average value of the sound exposure during a stated time period. It is typically used for durations of one hour, eight hours, or 24 hours. In airport noise compatibility studies, use of the L_{eq} term applies to 24-hour periods unless otherwise noted. It

is often used to describe sounds with respect to their potential for interfering with human activity.

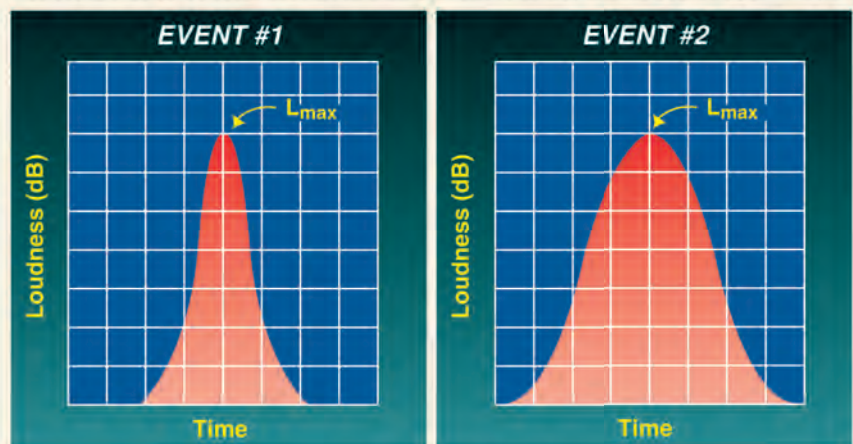
Cumulative Noise Metrics

L_{eq} can be weighted to account for increased annoyance attributed to noise during the evening and nighttime when ambient noise levels are lower. Two weighted noise metrics commonly used for airports are the day-night sound level (DNL) and the community noise equivalent level (CNEL) which is used in the State of California. Both metrics are calculated using similar methodology, DNL is calculated by summing the

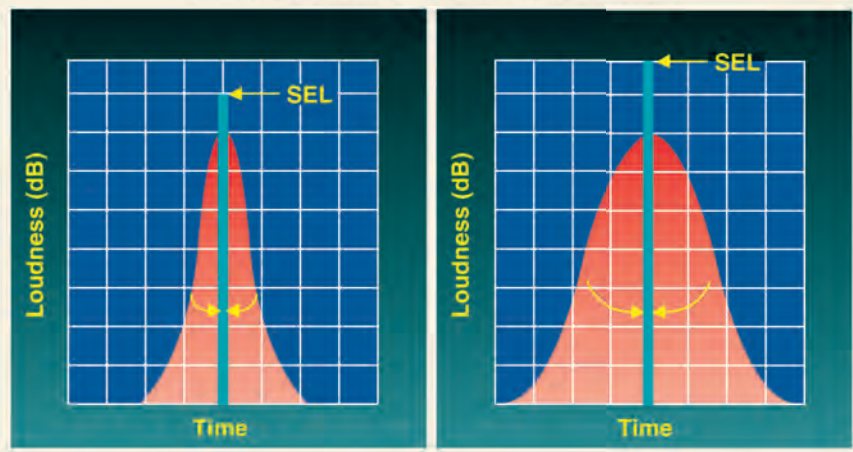
EXHIBIT B

COMPARISON OF L_{\max} AND SEL

Two sound events with the same maximum sound level (L_{\max}).



Different sound exposure levels (SEL) for two sound events with the same L_{\max} .



sound exposure during daytime hours plus 10 times the sound exposure occurring during nighttime hours (2200-0700). The sum is averaged by dividing by the number of seconds during a 24 hour day. CNEL includes an additional evening penalty of 4.77 dB for sound events occurring between 1900 and 2200.

Exhibit C shows how the sound occurring during a 24-hour period is weighted and averaged by the DNL or CNEL metrics. In the examples, the sound occurring during the period, including aircraft noise and background sound, yields a DNL or CNEL value of 71. As a practical matter, this is a reasonably close estimate of the aircraft noise alone because, in this example, the background noise is low enough to contribute only a little to the overall DNL or CNEL value during the period of observation.

Where the basic element of sound measurement is L_{eq} , DNL is calculated from:

$$L_{dn} = 10 \log_{10} \frac{1}{24} \left(\sum_{d=1}^{15} 10^{[L_{eq}(d)]/10} + \sum_{n=1}^9 10^{[L_{eq}(n)+10]/10} \right)$$

where DNL is represented mathematically as L_{dn} , and $L_{eq}(d)$ and $L_{eq}(n)$ are the daytime and nighttime hour values combined. This expression is convenient where L_{eq} values for only a few hours are available and the values for the remainder of the day can be predicted from a knowledge of day/night variation in levels. The hourly L_{eq} values are summed for the 15 hours from 0700 to 2200 and added to the sum of hourly L_{eq} figures for the 9 nighttime hours with a 10 dB penalty added to the nighttime L_{eq} s.

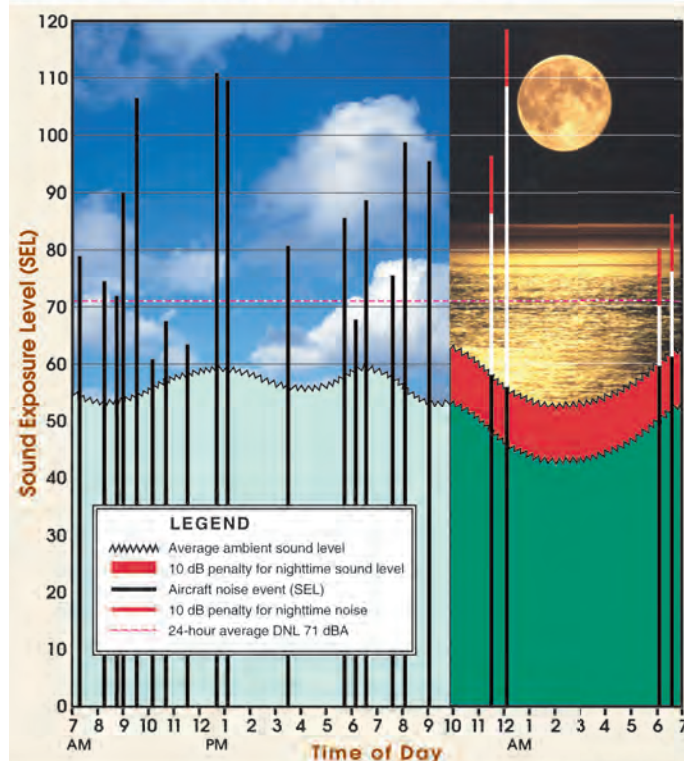
Use of the cumulative metric to describe aircraft noise is required for all airport noise studies developed under the regulations of 14 CFR Part 150. In addition, DNL and CNEL is preferred by all federal agencies as the appropriate single measure of cumulative sound exposure. These agencies include the FAA, the Federal Highway Administration,

Environmental Protection Agency, Department of Defense, and Department of Housing and Urban Development.

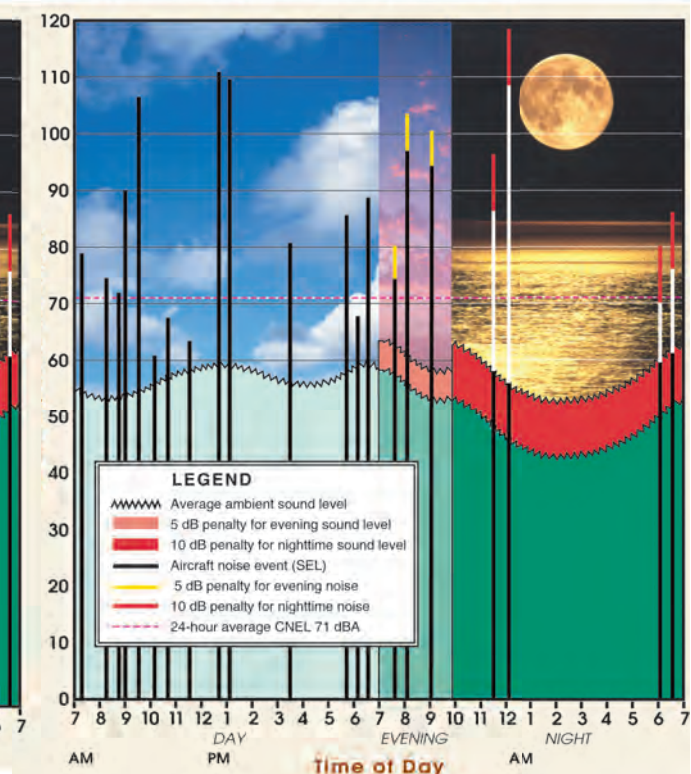
One might think of these metrics as a summary description of the "noise climate" of an area. DNL and CNEL accumulate the noise energy from passing aircraft in the same way that

EXHIBIT C

TYPICAL NOISE PATTERN AND DNL SUMMATION



TYPICAL NOISE PATTERN AND CNEL SUMMATION



Another way of computing DNL is described in this equation:

$$L_{dn} = 10 \log \frac{1}{86400} \left(\int_{\text{day}} 10^{LA/10} dt + \int_{\text{night}} 10^{LA+10/10} dt \right)$$

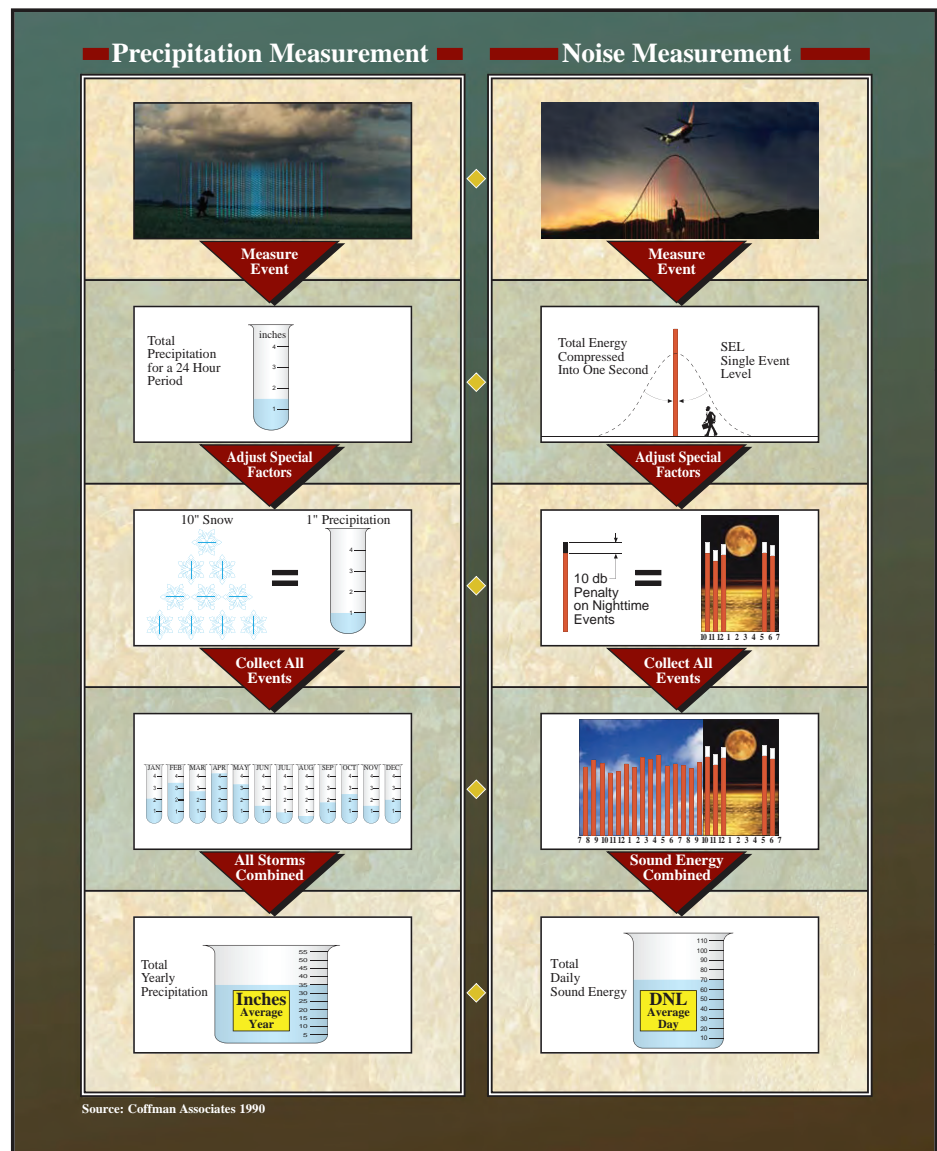
where LA is the time-varying, A-weighted sound level, measured with equipment meeting the requirements for sound level meters (as specified in a standard such as ANSI S1.4-1971), and dt is the duration of time in seconds. The averaging constant of 86,400 is the number of seconds in a day. The integrals are taken over the daytime (0700 - 2200) and the nighttime (2200 - 0700) periods, respectively. If the sound level is sampled at a rate of once per second rather than measured continuously, the equation still applies if the samples replace LA and the integrals are changed to summations.

the receiver, diminishing as it passes. The total noise occurring during the event is accumulated and described as a SEL. Over a 24-hour period, the SELs can be summed, adding a special 10-decibel factor for night-time noise, yielding a DNL value and an additional 4.77 dB for CNEL evening events. The DNL or CNEL developed over a long period of time, for example one year, defines the noise environment of the area, allowing us to make predictions about the average response of people living in areas exposed to various DNL or CNEL levels.

EXHIBIT D

a precipitation gauge accumulates rain from passing storms. This analogy is presented in **Exhibit D**. Rain usually starts as a light sprinkle, building in intensity as the squall line passes over, then diminishing as the squall moves on. At the end of a 24-hour period, a rain gauge indicates the total rainfall received for that day, although the rain fell only during brief, sometimes intense, showers. Over a year, total precipitation is summarized in inches. When snow falls, it is converted to its equivalent measure as water. Although the total volume of precipitation during the year may be billions or trillions of gallons of water, its volume is expressed in inches because it provides for easier summation and description. We have learned how to use total annual precipitation to describe the climate of an area and make predictions about the environment.

Aircraft noise is similar to precipitation. The noise level from a single overflight begins quietly and builds in intensity as the aircraft draws closer. The sound of the aircraft is loudest as it passes over



HELPFUL RULES-OF-THUMB

Despite the complex mathematics involved in noise analysis, several simple rules-of-thumb can help in understanding the noise evaluation process.

- When sound events are averaged, the loud events dominate the calculation.
- A 10 decibel change in noise is equal to a tenfold change in sound energy. For example, the noise from ten aircraft is ten decibels louder than the noise from one aircraft of the same type, operated in the same way.
- Most people perceive an increase of 10 decibels as a relative doubling of the sound level.
- The DNL metric assumes one nighttime operation (between 10:00 p.m. and 7:00 a.m.) is equal in impact to ten daytime operations by the same aircraft.
- A doubling of aircraft operations results in a three decibel noise increase if done by the same aircraft operated in the same way.
- The CNEL metric assumes one evening operation (7:00 p.m. to 10:00 p.m.) is equal in impact to 4.77 daytime operations by the same aircraft and one nighttime operation (10:00 p.m. to 7:00 a.m.) is equal in impact to ten daytime operations by the same aircraft.

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EFFECTS OF NOISE EXPOSURE

Understanding the effects of noise on people and the physical environment is essential to guiding decisions regarding airport land use compatibility. As noise-related regulations have evolved since the 1970s, so too has the research concerning the effects of noise exposure. Two publications, the Environmental Protection Agency's *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (1974) and the Federal Aviation Administration's *Aviation Noise Effects*, Report No. FAA-EE-85-2 (1985), each provide a comprehensive summary of the effects of noise exposure. Since these documents were published, additional research has been conducted on the subject. The Airport Cooperative Research Program (ACRP) has continued to monitor research on noise exposure and published *Effects of Aircraft Noise: Research Update on Selected Topics* in 2008. ACRP's document is intended to update and complement previous publications, primarily focusing on the latest research efforts and conclusions. The following sections summarize recent findings regarding

the effects of aircraft noise in the following study areas: health, annoyance, sleep disturbance, children and schools, property values, and vibration.

HEALTH EFFECTS

Hearing Impairment

Hearing loss is the primary health concern related to noise exposure. The EPA's 1974 study found that exposure to noise of 70 L_{eq} or more on a continuous basis, over an extended period of time, at the human ear's most damage-sensitive

frequency, may result in a very small but permanent loss of hearing. FAA's *Aviation Noise Effects* cites three studies which examine hearing loss among people living near airports, concluding that under normal circumstances, people in the community near an airport are at no risk of suffering hearing damage from airport noise. More recent research indicates that occupational noise exposure experienced at a person's place of employment or recreation noise exposure such as noise exposure such as a personal music device, concerts, or motorcycles may be greater risk factors for hearing loss. Because aviation and





typical community noise levels near airports are not comparable to the occupational or recreational noise exposures associated with hearing loss, hearing impairment resulting from community aviation noise has not been identified as a community health concern.

Cardiovascular

The study of the effect of noise on cardiovascular conditions has resulted in contradictory conclusions. According to the proceedings of a 2000 World Health Organization task force convened to study the effects of noise on health, a weak association between long-term environmental noise exposure and hypertension was suggested, but no dose-response relationship could be established. The task force concluded that cardiovascular effects may be associated with long-term exposure; however, the associations are inconclusive. The group also suggested that effect of noise is somewhat stronger for ischemic heart disease than for hypertension.

In addition, research published in the Airport Noise Report (Vol 29, No. 20 - June 16, 2017) suggests that nighttime aircraft noise is linked to increased hypertension risk. In contrast, based on a review of cross-sectional studies comparing areas near an airport with areas having lower ambient noise conditions, no differences in systolic and diastolic blood pressure have been found; therefore aircraft noise levels were not a factor affecting hypertension in the subject areas.

In October 2013, a study published in the British Medical Journal titled Residential Exposure to Aircraft Noise and Hospital Admissions for Cardiovascular Diseases: Multi-Airport Retrospective Study surveyed over six million Medicare enrollees in over 2,200 zip codes around 89 airports residing within the 45-dB or greater contour. The results concluded that 2.3 percent of hospitalizations related to cardiovascular disease for Medicare enrollees were attributed to aircraft noise. Twenty-three percent of the study group was exposed to

greater than 55 dB contour, which contributed to half of the attributable hospitalizations.

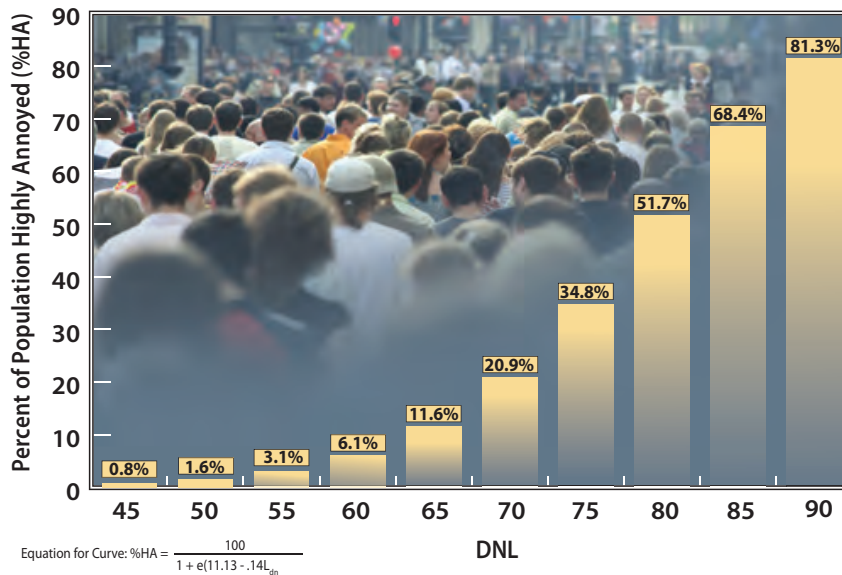
Hospitals and Care Facilities

FAA's *Effects of Aircraft Noise* notes that specific research regarding aviation noise and hospitals and care facilities is not available. Although most airport noise and land-use compatibility guidelines include health facilities such as hospitals, convalescent homes, and long term care centers as noise-sensitive uses, there are no studies which identify health effects associated with aviation noise. In comparison, several studies have identified internal medical facility noises as a health risk factor.

Children

The health effects of noise on children has also been widely studied over the past 30 years. Much of the published study results indicate that neither psychiatric disorders nor environmental factors showed any relationship to noise; however, other physical characteristics such as heart



EXHIBIT A**Percent Highly Annoyed at Selected Noise Levels**

rate and muscle tension demonstrate a relationship to noise. Additional studies have considered relationships between noise exposure during pregnancy and low birth weights. The results of these studies indicate no correlation between noise exposure during pregnancy and birth weight (Wu et al. 1996; Passchier-Vermeer and Passchier 2000). Additionally, occupational and recreational noise exposure showed no effect on infant birth weights.

ANNOYANCE

The relationship between annoyance and noise exposure is the foundation of many land use compatibility guidelines using the cumulative DNL and CNEL noise metrics. The work of T. J. Shultz published in 1978 reviewed data from social surveys concerning the noise of aircraft, street and expressway traffic, and railroads. Survey responses to noise ratings were translated to Day-Night Average Noise Level (DNL) and has become the most widely accepted interpretation of transportation noise-induced annoyance.

Further research indicates that annoyance increases along an S-shaped or logistic curve as cumulative noise exposure increases. Developed by Fiengold et al., the noise curve is based on data derived from studies of transportation noise. The research shows the relationship between DNL levels and the percentage of people highly annoyed. Known as the “updated Shultz curve,” and illustrated in **Exhibit A** above,

“Day-Night Average Noise Level (DNL)... has become the most widely accepted interpretation of transportation noise-induced annoyance.”

it represents the best available source of data for the noise dosage-response relationship and was adopted by Federal Interagency Committee on Noise (FICON) in 1992 for use by federal agencies in aircraft noise related environmental impact analyses. In 2006, it was also adopted as part of the American National Standards Institute (ANSI) standard on community responses to environmental noises.

SLEEP DISTURBANCE

The British Civil Aviation Authority conducted a study to examine the relationship between nighttime aircraft noise and sleep disturbance near four airports – Heathrow, Gatwick, Stansted, and Manchester (Ollerhead, 1992). A total of 400 subjects were monitored for a total of 5,742 subject-nights. Nightly awakenings were found to be very common as part of natural sleep patterns. The research found that for noise events below 90 SEL, as measured outdoors, there was likely to be no measurable increase in rates of sleep disturbance. Where noise levels ranged





from 90 to 100 SEL, a very small rate of increase in disturbance was detected. Overall, rates of sleep disturbance were found to be more closely correlated with sleep stage than with periods of peak aircraft activity. The research concludes that sleep is more likely to be disrupted from any cause during light stages of sleep rather than heavy stages.

As outlined in FAA's *Effects of Aircraft Noise*, later studies by Horne et al. (1994) document a landmark in-home field study that demonstrated dose-response curves based on laboratory data greatly overestimated the actual awakening rates for aircraft noise events. Additionally, in 1995, Fidell found that SELs of individual noise intrusions were much more closely associated with awakenings than long-term noise exposures. These findings do not resemble those of laboratory studies of noise-induced sleep interference, but agree with the results of other field studies.

Fidell concludes that the relationship observed between noise metrics and behavioral awakening responses suggest instead that noise induced awakening may be usefully viewed as an event-detection process. Put

another way, an awakening can be viewed as the outcome of a de facto decision that a change of sufficient import has occurred in the short-term noise environment to warrant a decision to awaken. Additionally, *Effects of Aircraft Noise* states that research may not yet have sufficient specificity to estimate the population awakened for a specific airport environment or the difference in population awakened for a given change in an airport environment.

The ASCENT Aviation Sustainability Center is currently undergoing a multi-year study on aircraft noise and sleep disturbance. The focus of the study is to understand the

relationship between aircraft noise and sleep disturbance in the U.S. The preliminary results published in a 2018 report find that nighttime noise (L_{noise}) was associated with diminished sleep quality. L_{night} also increased the probability of sleep troubles due to nighttime awakenings and difficulty staying awake during the day. Neighborhoods with higher L_{night} are more likely to report that sleep was disturbed due to aircraft noise.

CHILDREN AND SCHOOLS

FICAN published the *Position on Research into Effects of Aircraft Noise on Classroom Learning* in 2000 which states that the effects of noise on classroom learning for children suggests that aircraft levels may interfere with multiple aspects of a child's classroom learning experience including memory, speech acquisition, language, motivation, and reading. The position paper indicates that the findings confirm conclusions from earlier studies which indicate a decline in reading performance when exterior noise levels are at an L_{eq} of 65 dB or higher.



Between 2001-2003, a three year study sponsored by the European Commission titled *Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health* studied nearly 3,000 children in schools located near busy roads and airports. The study evaluated the effects of chronic noise exposure on children's reading development. The study suggests that long-term noise exposure can delay a child's reading age up to two months. Additionally, the study found that persistent noise exposure increases the level of annoyance in children. While the effect found to be significant, researchers felt it was small in magnitude and that the long-term effects remain unclear.

The Acoustical Society of America, in 2003, published *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools*. The guidelines recommend that new classrooms be built with a maximum permissible background-sound level for "typical" classrooms of 35 dBA, with a maximum reverberation time of 0.6 to 0.7 second (depending on room volume). The guidelines are voluntary and are intended to improve the overall learning environment of classrooms.

In November 2013, the Transportation Research Board published *Assessing Aircraft Noise Conditions Affecting Student Learning* (ACRP 02-26), detailing the results of a multi-year study that examined the relationship between aircraft noise exposure and student performance near 46

major U.S. airports. Student performance measures were based on standardized reading and math test scores for grades three through five at each school. The results found that there was a significant connection between airport noise and student test scores. Sound insulation was installed at 119 of the elementary schools, and the results found that the negative effect from aircraft noise on children's learning diminished. This study was one of the first to quantify the potential impacts of sound insulation on children's learning achievement from aircraft noise exposure.

VIBRATION

Structural vibration from low-frequency noise may also be of concern for airport neighbors. While vibration contributes to annoyance reported by residents near airports, particularly when accompanied by high audible sound levels, it rarely carries enough energy to damage structures constructed in conformance with standard building codes. Although this topic has been studied, there is no accepted methodology for describing the effects of low frequency noise and the effects on communities near airports. FAA and NASA, through the Partner/Center of Excellence, continue to study the effects of low frequency noise and released a report in 2007. As with previous studies on the topic, experts in this field have failed to reach a consensus on the effects.

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GLOSSARY OF NOISE COMPATIBILITY TERMS

A-WEIGHTED SOUND LEVEL - A sound pressure level, often noted as dBA, which has been frequency filtered or weighted to quantitatively reduce the effect of the low frequency noise. It was designed to approximate the response of the human ear to sound.

AMBIENT NOISE - The totality of noise in a given place and time — usually a composite of sounds from varying sources at varying distance; no particular sound is dominant.

APPROACH LIGHT SYSTEM (ALS) - An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on the final approach for landing.

ATTENUATION - Acoustical phenomenon whereby a reduction in sound energy is experienced between the noise source and receiver. This energy loss can be attributed to atmospheric conditions, terrain, vegetation, and man-made and natural features.

AZIMUTH - Horizontal direction expressed as the angular distance between true north and the direction of a fixed point (as the observer's heading).

BASE LEG - A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline. See "traffic pattern."

CFR - Code of Federal Regulation (i.e. 14 CFR Part 150)

CNEL - The 24-hour average sound level, in A-weighted decibels, obtained after the addition of 4.77 decibels to sound levels between 7 p.m. and 10 p.m. and 10 decibels to sound levels between 10 p.m. and 7 a.m., as averaged over a span of one year. In California, it is the required metric for determining the cumulative exposure of individuals to aircraft noise. Also see " L_{eq} " and "DNL".

COMMUNITY NOISE EQUIVALENT LEVEL - See CNEL

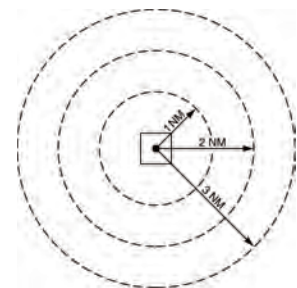
CROSSWIND LEG - A flight path at right angles to the landing runway off its upwind end. See "traffic pattern."

DAY-NIGHT AVERAGE SOUND LEVEL - See DNL.

DECIBEL (dB) - The physical unit commonly used to describe noise levels. The decibel represents a relative measure or ratio to a reference power. This reference value is a sound pressure of 20 micropascals which can be referred to as 1 decibel or the weakest sound that can be heard by a person with very good hearing in an extremely quiet room.

DISPLACED THRESHOLD - A threshold that is located at a point on the runway other than the designated beginning of the runway.

DISTANCE MEASURING EQUIPMENT (DME) - Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.



DNL - The 24-hour average sound level, in A-weighted decibels, obtained after the addition of ten decibels to sound levels for the periods between 10 p.m. and 7 a.m. as averaged over a span of one year. It is the FAA standard metric for determining the cumulative exposure of individuals to noise. Also see " L_{eq} ".

DOWNWIND LEG - A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg. Also see "traffic pattern."

DURATION - Length of time, in seconds, a noise event such as an aircraft flyover is experienced. (May refer to the length of time a noise event exceeds a specified dB threshold level.)

EASEMENT - The legal right of one party to use a portion of the total rights in real estate owned by another party. This may

include the right of passage over, on, or below the property; certain air rights above the property, including view rights; and the rights to any specified form of development or activity, as well as any other legal rights in the property that may be specified in the easement document.

EQUIVALENT SOUND LEVEL - See L_{eq} .

FINAL APPROACH - A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. See "traffic pattern."

FIXED BASE OPERATOR (FBO) - A provider of services to users of an airport. Such services include, but are not limited to, hangaring, fueling, flight training, repair and maintenance.

GLIDE SLOPE (GS) - Provides vertical guidance for aircraft during approach and landing. The glide slope consists of the following:

1. Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS, or
2. Visual ground aids, such as VASI, which provide vertical guidance for VFR approach or for the visual portion of an instrument approach and landing.

GLOBAL POSITIONING SYSTEM - See "GPS."

GPS - GLOBAL POSITIONING SYSTEM - A system of 24 satellites used as reference points to enable navigators equipped with GPS receivers to determine their latitude, longitude, and altitude. The accuracy of the system can be further refined by using a ground receiver at a known location to calculate the error in the satellite range data. This is known as Differential GPS (DGPS).

GROUND EFFECT - The attenuation attributed to absorption or reflection of noise by man-made or natural features on the ground surface.

HOURLY NOISE LEVEL (HNL) - A noise summation metric which considers primarily those single events which exceed a specified threshold or duration during one hour.

INSTRUMENT APPROACH - A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

INSTRUMENT FLIGHT RULES (IFR) - Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

INSTRUMENT LANDING SYSTEM (ILS) - A precision instrument approach system which normally consists of the following electronic components and visual aids:

1. Localizer.
2. Glide Slope.
3. Outer Marker.
4. Middle Marker.
5. Approach Lights.

LAAS - Local Area Augmentation System, ground-based antennas whose precisely known locations are used to correct the satellite signals and provide greater positional accuracy as well as integrity of service to aircraft in the air. Represents the next generation of airspace management and aircraft guidance through the National Airspace System using GPS technologies.

L_{dn} - (See DNL). L_{dn} used in place of DNL in mathematical equations only.

L_{eq} - Equivalent Sound Level. The steady A-weighted sound level over any specified period (not necessarily 24 hours) that has the same acoustic energy as the fluctuating noise during that period (with no consideration of a nighttime weighting.) It is a measure of cumulative acoustical energy. Because the time interval may vary, it should be specified by a subscript (such as $L_{eq, 8}$) for an 8-hour exposure to workplace noise) or be clearly understood.

LOCALIZER - The component of an ILS which provides course guidance to the runway.

L_{max} - Maximum Sound Level, the maximum sound level (dB) during a particular noise event.

L_{night} - The equivalent noise level computed for nighttime hours, 10 p.m. to 7 a.m.

LOUDNESS - The attribute of auditory sensation in terms of which sounds may be ordered on a scale extending from soft to loud.

MISSED APPROACH COURSE (MAC) - The flight route to be followed if, after an instrument approach, a landing is not effected, and occurring normally:

1. When the aircraft has descended to the decision height and has not established visual contact, or
2. When directed by air traffic control to pull up or to go around again.

NOISE CONTOUR - A continuous line on a map of the airport vicinity connecting all points of the same noise exposure level.

NONDIRECTIONAL BEACON (NDB) - A beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his

bearing to and from the radio beacon and home on or track to or from the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

NONPRECISION APPROACH - A standard instrument approach procedure providing runway alignment but no glide slope or descent information.

PRECISION APPROACH - A standard instrument approach procedure providing runway alignment and glide slope or descent information.

PRECISION APPROACH PATH INDICATOR (PAPI) - A lighting system providing visual approach slope guidance to aircraft during a landing approach. It is similar to a VASI but provides a sharper transition between the colored indicator lights.

PROFILE - The physical position of the aircraft during landings or takeoffs in terms of altitude in feet above the runway and distance from the runway end.

PROPAGATION - Sound propagation refers to the spreading or radiating of sound energy from the noise source. Propagation characteristics of sound normally involve a reduction in sound energy with an increased distance from source. Sound propagation is affected by atmospheric conditions, terrain, and man-made and natural objects.

RESIDUAL NOISE - is ambient noise without specific noise. The residual noise is the noise remaining at a point under certain conditions when the noise from the specific source is suppressed.

RUNWAY END IDENTIFIER LIGHTS (REIL) - Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.

RUNWAY USE PROGRAM - A noise abatement runway selection plan designed to enhance noise abatement efforts with regard to airport communities for arriving and departing aircraft. These plans are developed into runway use programs and apply to all turbojet aircraft 12,500 pounds or heavier. Turbojet aircraft less than 12,500 pounds are included only if the airport proprietor determines that the aircraft creates a noise problem. Runway use programs are coordinated with FAA offices as outlined in Order 1050.11. Safety criteria used in these programs are developed by the Office of Flight Operations. Runway use programs are administered by the Air Traffic Service as "Formal" or "Informal" programs.

RUNWAY USE PROGRAM (FORMAL) - An approved noise abatement program which is defined and acknowledged in a Letter of Understanding between FAA - Flight Standards, FAA - Air Traffic Service, the airport proprietor, and the users. Once established, participation in the program is

mandatory for aircraft operators and pilots as provided for in Part 150. Section 91.87.

RUNWAY USE PROGRAM (INFORMAL) - An approved noise abatement program which does not require a Letter of Understanding and participation in the program is voluntary for aircraft operators/pilots.

SEL - Sound Exposure Level. SEL expressed in dB, is a measure of the effect of duration and magnitude for a single-event measured in A-weighted sound level above a specified threshold which is at least 10 dB below the maximum value. In typical aircraft noise model calculations, SEL is used in computing aircraft acoustical contribution to the Equivalent Sound Level (L_{eq}), the Day-Night Sound Level (DNL), and the Community Noise Equivalent Level (CNEL).

SINGLE EVENT - An occurrence of audible noise usually above a specified minimum noise level caused by an intrusive source such as an aircraft overflight, passing train, or ship's horn.

SLANT-RANGE DISTANCE - The straight line distance between an aircraft and a point on the ground.

SOUND EXPOSURE LEVEL - See SEL.

SOUND LEVEL METER - An instrument, which is used for the measurement of sound level, with standard frequency weighting and standard exponentially weighted time averaging.

SPL - Sound Pressure Level, measure of the sound pressure of a given noise source relative to a standard reference value (typically the quietest sound that a young person with good hearing can detect).

TACTICAL AIR NAVIGATION (TACAN) - An ultra-high frequency electronic air navigation system which provides suitably-equipped aircraft a continuous indication of bearing and distance to the TACAN station.

TERMINAL RADAR SERVICE AREA (TRSA) - Airspace surrounding designated airports wherein ATC provides radar vectoring, sequencing, and separation on a full-time basis for all IFR and participating VFR aircraft. Service provided in a TRSA is called Stage III Service.

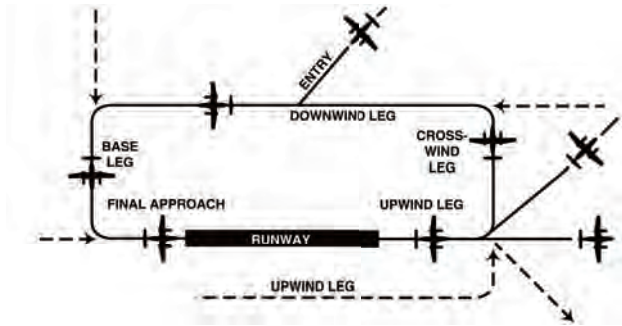
THRESHOLD - Decibel level below which single event information is not printed out on the noise monitoring equipment tapes. The noise levels below the threshold are, however, considered in the accumulation of hourly and daily noise levels.

TIME ABOVE (TA) - The 24-hour TA noise metric provides the duration in minutes for which aircraft-related noise exceeds specified A-weighted sound levels. It is expressed in minutes per 24-hour period.

TOUCHDOWN ZONE LIGHTING (TDZ) - Two rows of

transverse light bars located symmetrically about the runway centerline normally at 100 foot intervals. The basic system extends 3,000 feet along the runway.

TRAFFIC PATTERN - The traffic flow that is prescribed for aircraft landing at or taking off from an airport. The components of a typical traffic pattern are the upwind leg, crosswind leg, downwind leg, base leg, and final approach.



UNICOM - A nongovernment communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOM's are shown on aeronautical charts and publications.

UPWIND LEG - A flight path parallel to the landing runway in the direction of landing. See "traffic pattern."

VECTOR - A heading issued to an aircraft to provide navigational guidance by radar.

VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION (VOR) - A ground-based electric navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the national airspace system. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature.

VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION/TACTICAL AIR NAVIGATION (VORTAC) - A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance-measuring equipment (DME) at one site.

VICTOR AIRWAY - A control area or portion thereof established in the form of a corridor, the centerline of which is defined by radio navigational aids.

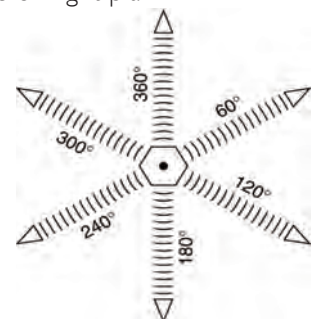
VISUAL APPROACH - An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic control facility and having an air traffic control authorization, may proceed to the airport of destination in VFR conditions.

VISUAL APPROACH SLOPE INDICATOR (VASI) - An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating an directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is on path if he sees red/white, above path if white/white, and below path if red/red. Some airports serving large aircraft have three-bar VASI's which provide two visual guide paths to the same runway.

VISUAL FLIGHT RULES (VFR) - Rules that govern the procedures for conducting flight under visual conditions. The term VFR is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

VOR - See "Very High Frequency Omnidirectional Range Station."

VORTAC - See "Very High Frequency Omnidirectional Range Station/Tactical Air Navigation."



WAAS - Wide Area Augmentation System, ground-based antennas whose precisely known locations are used to correct the satellite signals and provide greater positional accuracy as well as integrity of service to aircraft in the air. Given the current difficulties with WAAS, LAAS now has higher priority for implementation at U.S. airports.

YEARLY DAY-NIGHT AVERAGE SOUND LEVEL - See DNL.



Hawthorne Municipal Airport

Appendix D Noise Compatibility Program Review



Appendix D
NOISE COMPATIBILITY
PROGRAM REVIEW

Noise Exposure Map Update
Jack Northrup Field/Hawthorne Municipal Airport

The current Noise Compatibility Plan (NCP) for Hawthorne Municipal Airport was approved by the Federal Aviation Administration (FAA) in December 2017. The intent of the previous Part 150 study was to evaluate noise impacts within the area surrounding Hawthorne Municipal Airport. The study included Noise Exposure Maps dated 1993 and 2012, and an NCP which includes 11 measures to improve compatibility between the airport and the surrounding neighborhoods.

This appendix includes a comparison of the 2012 and 2020 aircraft operations and noise exposure contours, as well as a summary and status of the measures included in the 2017 Noise Compatibility Program.

AIRCRAFT OPERATIONS AND NOISE EXPOSURE CONTOUR COMPARISON

As indicated in **Table D1**, based on information from FAA's Air Traffic Activity System (ATADS) and the 1988 Noise Exposure Maps, the number of annual operations at Hawthorne Municipal Airport has fluctuated since the preparation of the 1988 noise exposure contours. The operations assumption for the 1988 noise exposure contours was 126,000, while the 2012 contours are based on 78,816 operations. During the years between the two Part 150 studies, operations ranged between a high of 170,259 in 1992 and a low of 51,480 in 2009.

TABLE D1
Annual Operations 1988 Through 2019

Year	Total Operations
1988	126,000 ¹
1989	Information Not Available
1990	120,387
1991	157,103
1992	170,259
1993	165,872
1994	140,543
1995	111,658
1996	90,601
1997	83,163
1998	81,172
1999	85,172
2000	78,412
2001	77,005

TABLE D1 (continued)
Annual Operations 1988 Through 2019

Year	Total Operations
2002	80,210
2003	68,752
2004	77,264
2005	70,853
2006	65,075
2007	62,462
2008	59,677
2009	51,480
2010	57,630
2011	75,051
2012 ²	78,816
2013	79,283
2014	90,944
2015	104,211
2016	92,407
2017	79,298
2018	76,933
2019	75,405

Notes:

¹ Operations from 1988 Noise Exposure Maps

² Hawthorne Municipal Airport Traffic Control Tower Reports, Calendar Year 2011 with an adjustment factor of 5.0 percent added to itinerant operations to account for when the ATCT tower is closed.

A graphic comparison of the 2012 Noise Exposure Map and the 2020 Noise Exposure Map is presented in **Exhibit D1**. Additionally, **Table D2** provides an acreage comparison of the 2012 and 2020 Noise Exposure Maps. As indicated in the exhibit and table, the 2012 noise contours, modeled with 78,816 operations, are larger than the 2020 noise contours which were modeled with 75,405 operations. The 2012 noise contours were modeled using INM Version 7.0c, while the 2020 noise contours were modeled using Airport Environmental Design Tool (AEDT), Version 3c.

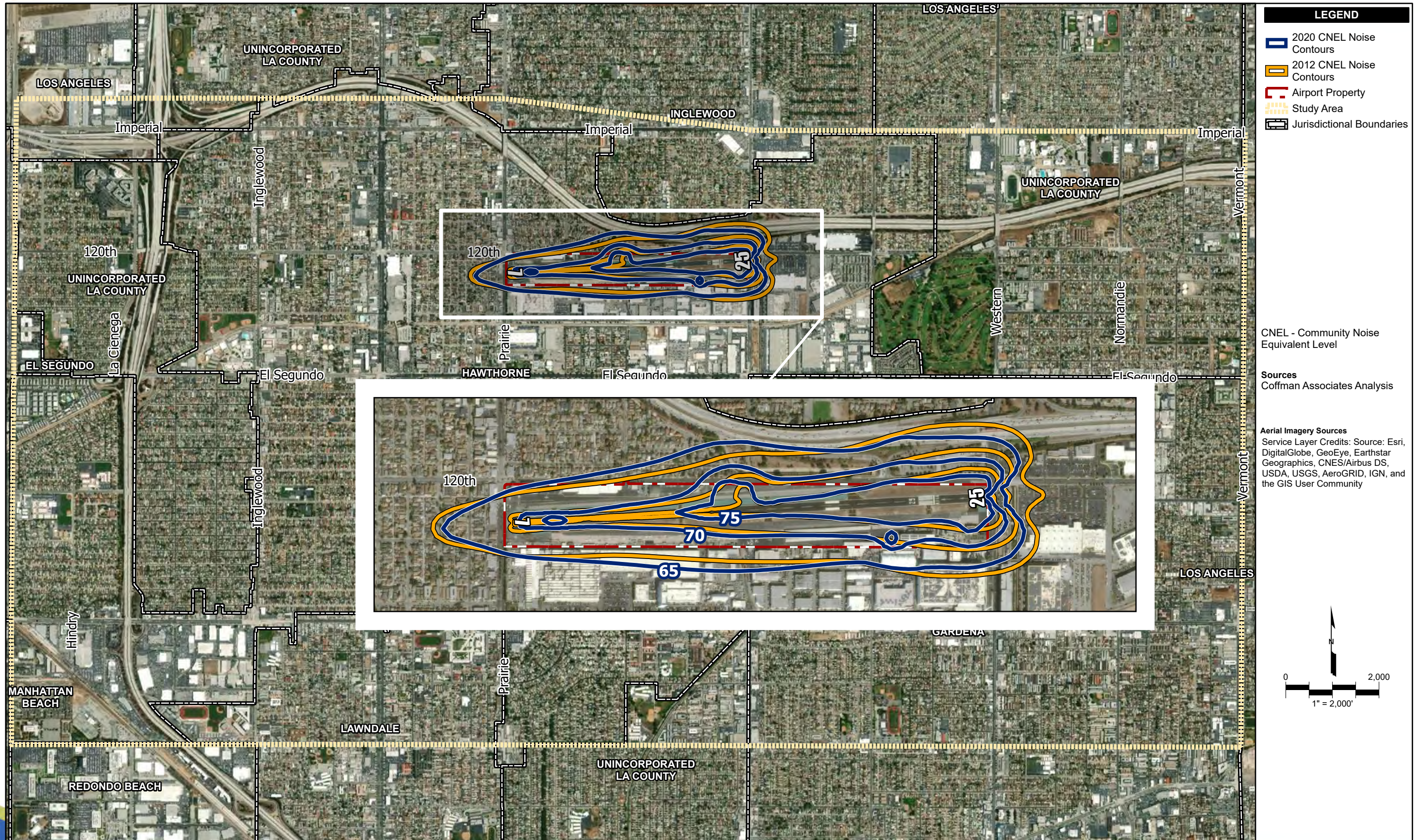
TABLE D2
Comparative Areas of Noise Exposure

	Area (Acres)	
	2012	2020
65-70 CNEL	89.1	89.3
70-75 CNEL	40.0	40.9
75+ CNEL	26.7	25.2
Total	155.8	155.4

Notes:

1. Acreages represent only those areas between the stated contour ranges.

Source: Coffman Associates analysis, 2012 Hawthorne Municipal Airport Noise Exposure Maps



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Table D3 summarizes the resulting impacts from the 2012, 2017, 2020, and 2025 noise contours to surrounding noise-sensitive land uses. The 2012 and 2017 contours were originally provided in the 2013 NEM report. At the time that the 2013 NEM report was generated, the FAA was in the process of phasing out of Stage 2 aircraft, requiring all aircraft weighing 75,000 pounds or less to be banned from flying in the United States or upgraded to comply with Stage 3 noise requirements by December 31, 2015. As noted in **Table D3**, the number of parcels affected by the 65 CNEL noise contour in 2012 was 50, which included 104 dwelling units and a population of 304. In 2017, due to the phase out of Stage 2 aircraft, the number of parcels affected in the 65 CNEL noise contour decreased to 13 parcels, which translated to 39 dwelling units and a population of 115.

For the revised NEMs in 2020, the number of parcels affected within the 65 CNEL noise contour is almost identical to the number affected in 2012. Although Stage 2 aircraft were phased out in the United States by the time of this report and the operational numbers at Hawthorne Municipal Airport has steadily decreased from its highest level in 2015, the type of aircraft operating at the airport create a noise “footprint” that generates a contour affecting almost the same number of parcels, dwelling units, and persons in 2012.

Due to the projected operational increase at the airport in 2025, the number of parcels affected by the 65 CNEL noise contour increases to 91, with 142 dwelling units and 421 persons affected.

TABLE D3
Noise-Sensitive Land Use Impact Summary

	65-70 CNEL	70-75 CNEL	75+ CNEL
Parcels			
2012	50	0	0
2017	13	0	0
2020	52	0	0
2025	91	1	0
Dwelling Units			
2012	104	0	0
2017	39	0	0
2020	103	0	0
2025	142	21	0
Population			
2012	304	0	0
2017	115	0	0
2020	305	0	0
2025	421	62	0

Estimated population is calculated by multiplying the number of dwelling units for residential land uses by the number of persons per household. For the 2012 and 2017 population estimates, persons per household information was based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2006 – 2010 for Hawthorne, CA, which was reported at 2.93 persons per household. For 2025 and 2025 populations estimates, persons per household information is based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household.

Source: Coffman Associates’ analysis

NOISE COMPATIBILITY PROGRAM RECOMMENDATION STATUS

Hawthorne Municipal Airport's most recent NCP was completed in 2017 and includes 11 measures to reduce the impact of aircraft noise on the surrounding airport environment. It was submitted to the FAA for review and was approved on December 18, 2017. Following is a summary of each measure, the FAA's response, and the status of each measure.¹

NOISE ABATEMENT MEASURES

Program Measure 1

Continue to implement Hawthorne Municipal Airport Fly Quietly pilot and public education program.

Description: Originally approved in the 1994 NCP, Program Measure 1 recommends the continuation of an existing pilot education program and expanding an education program to raise the awareness of current and potential residents about the existence of the airport. As a result of the 1994 pilot education program, a handout was prepared to educate pilots of existing departure, arrival, and pattern procedures to lead to greater compliance with existing noise abatement actions. In addition to the handout, it is recommended the airport also publish an electronic version of the guide to ensure the most current version of the handout is available. Finally, it is recommended the airport use subscription services to distribute the noise abatement procedures through portable electronic devices.

The education program could also be expanded to educate surrounding residents to raise awareness of the airport. The expanded educational program should have several components, some are directed at reducing noise through pilot education and others that are intended to raise awareness of current and potential residents about the existence of the airport.

Program efforts for a cooperative approach include:

- Continue to distribute *Fly Quietly Program* information brochures and maintain on-airport noise abatement signage.
- Meetings with pilots and students to discuss safety and noise abatement issues at the airport as needed.
- A real estate agent outreach program to educate real estate agents and potential home buyers about Hawthorne Municipal Airport operations and its presence in the community.

This program measure is a continuation of Program Measure 1 of the previously FAA-approved NCP as an element in 1994 and has been updated to include the community awareness program.

FAA Action: Approved.

¹ Federal Register, Volume 59 Issue 120 (Thursday, June 23, 1994)

Status: Completed. The airport routinely provides a noise abatement procedure handout to pilots operating at Hawthorne Municipal Airport, which is also available on the City of Hawthorne's website (<http://www.cityofhawthorne.org/airport>). Additionally, the airport has incorporated signage adjacent to the runway reminding pilots to follow noise abatement procedures prior to take-off.

Program Measure 2

Continue to use the exiting ground run-up area on the south side of the airport.

Description: The previous NCP recommended the airport establish designated run-up locations to minimize existing and potential noise impacts to residents. At that time, run-ups were permitted in three locations, one of which is to the northwest of the runway and near existing residential uses located immediately across W. 120th Street. The potential for noise complaints from this area was high.

The 2017 approval from the FAA recommends the continuing of existing ground run-up locations. The current run-up location on the south side of the airport continues to be effective for reducing run-up noise impacts to noise-sensitive land uses. The south side of the airport places run-up activity at the farthest possible location from any noise-sensitive land uses. Two operators perform heavy maintenance run-ups at the airport, and airport staff will coordinate with these operators to ensure they are aware of the designated run-up area.

FAA Action: Approved.

Status: Partially completed. FAA's airport facility directory entry for Hawthorne Municipal Airport identifies an engine maintenance run-up location on the south side of the runway, 900 feet west of the runway end. Engine maintenance run-up locations are also identified in the abatement materials available on the airport's website (which can be found at http://www.cityofhawthorne.com/depts/publicworks/airport/noise_abatement.asp). No formal engine maintenance restriction has been established.

LAND USE PLANNING MEASURES

Program Measure 1

Support the land use compatibility guidelines for project review found in the City of Hawthorne and Inglewood Noise Elements of the General Plan.

Description: The Cities of Hawthorne and Inglewood have adopted Noise Elements in their General Plans that identify land use compatibility guidelines for evaluating noise impacts to proposed land uses. The noise and land use compatibility criteria of both jurisdictions are identical and consistent with state and federal guidelines. The Cities of Hawthorne and Inglewood's Noise Element include the following goals:

- reduce noise impacts from transportation noise sources;
- incorporate noise considerations into land use planning decisions; and
- provide sufficient information concerning the community noise levels so that noise can be objectively considered in land use planning decisions.

This program measure is a continuation of Program Measure 4 of the previously FAA-approved NCP as an element in 1994.

FAA Action: Approved. This measure would assist the city and the City of Inglewood in preventing the introduction of incompatible land uses around the airport.

Status: Completed. Both the City of Hawthorne and City of Inglewood have incorporated into the Noise Element of their respective General Plans a Land Use Compatibility Matrix and a Land Use Compatibility table outlining those land uses compatible to acceptable noise levels.

Program Measure 2

The City of Hawthorne should amend its Noise Element to include monitoring and updating the Part 150 Noise Compatibility Study.

Description: To ensure that airport land use compatibility is given consideration within the City of Hawthorne's General Plan, the city should amend its Noise Element to state that the airport should monitor and update its Part 150 Noise Compatibility Study. To accomplish this, the following text should be added to the City of Hawthorne General Plan, Noise Element, Section IV, Goal 1.0, Policy 1.1:

The City of Hawthorne completed a 14 CFR Part 150 Study (Part 150) Noise Compatibility Study in 1990; the Part 150 Study was updated in 2016. A complete study update is needed periodically to respond to change conditions in the local area and in the aviation industry. The Hawthorne Municipal Airport Part 150 Study should be updated every seven to 10 years, or as noise conditions warrant.

This is a new program measure.

FAA Action: Approved, contingent upon an update of the city's Noise Exposure Maps under 14 CFR § 150.21.

Status: Completed. In May 2018, Goal 1.0, Policy 1.1 of the General Plan Noise Element was updated to incorporate the recommended text.

Program Measure 3

Incorporate the Hawthorne Municipal Airport 65 CNEL noise contour into the City of Hawthorne General Plan Map.

Description: The City of Hawthorne should consider incorporating the 2012 and 2017 65 CNEL noise contour as part of the general plan map to aid decision-makers when considering potential general plan map revisions. The City of Hawthorne should replace the City of Hawthorne General Plan, Noise Element, Figure Five with Exhibits 7A and 7B. Additionally, adopting a compatibility threshold, expressed in 65 CNEL, would allow the city to establish long-range airport noise compatibility policies in the general plan that are consistent with the Part 150 Noise Compatibility Program. To accomplish this, the following text should be added to the City of Hawthorne General Plan, Noise Element, Section IV, Goal 3.0, as Policy 3.5:

The city shall evaluate the development of noise-sensitive uses within the vicinity of Hawthorne Municipal Airport using noise exposure contours developed as part of the airport's 14 CFR Part 150 Study and the compatibility criteria presented in the land use compatibility guidelines presented in Exhibit 7C.

This is a new program measure.

FAA Action: Approved, contingent upon an update of the city's Noise Exposure Maps under 14 CFR § 150.21.

Status: Completed. In May 2018, the 2017 65 CNEL noise contour was incorporated into the Noise Element of the City of Hawthorne General Plan map (Figure 5B, Noise Element).

Program Measure 4

The City of Hawthorne should adopt formal project review guidelines addressing noise compatibility issues.

Description: The City of Hawthorne does not have formal project review guidelines to address noise compatibility issues. A checklist addressing the following criteria could be adopted for proposed projects within the airport vicinity:

- Advise the airport management of development proposals that include noise-sensitive uses within the airport vicinity.
- Determine the sensitivity of the subject land use to aircraft noise based on their location within the overlay zones or noise exposure contours.
- Locate noise-sensitive public facilities outside the 65 CNEL noise contour and away from approach and departure paths whenever possible.
- Discourage the approval of rezonings, exceptions, variances, and conditional uses which introduce noise-sensitive development into areas located near noise-impacted areas.

This is a new program measure.

FAA Action: Approved.

Status: Completed. In May 2018, the following policy (Policy 3.5) was incorporated into Goal 3.0: *“The City shall evaluate the development of noise-sensitive uses within the vicinity of Hawthorne Municipal Airport using the noise exposure contours developed as part of the airport’s 14 CFR Part 150 Study and the compatibility criteria presented in the land use compatibility guidelines presented in Exhibit 7c.”*

Program Measure 5

The City of Hawthorne should establish an Airport Overlay Zone.

Description: The City of Hawthorne should establish an Airport Overlay Zone to create a cohesive noise and land use compatibility policy which is consistent with state laws and FAA regulations.

The State of California adopted a sound insulation standard for interior room noise attributable to outside noise sources for residential buildings. These minimum noise insulation performance standards require that the CNEL is not to exceed 45 dB in any habitable room, with all doors and windows closed. Additionally, the State of California adopted a fair disclosure law which states that when a property is located within an Airport Influence Area (AIA), a disclosure notice must be provided as part of the real property transaction. Both of these measures were considered in the 2012 NCP but have been combined with the Airport Overlay Zone alternative for implementation measures.

If the Overlay Zone described above is implemented, it is also recommended the city coordinate with the Los Angeles County Airport Land Use Commission to update the airport influence area map to reflect the overlay zone map as the official AIA for Hawthorne Municipal Airport.

This is a new program measure.

FAA Action: Approved.

Status: Completed. The zoning map for the City of Hawthorne has been amended to include an Airport Overlay Zone (AOZ).

NOISE MITIGATION MEASURE

Program Measure 1

Establish a voluntary residential property acquisition and redevelopment program to remove noise-sensitive land uses within the 2017 65 CNEL contour.

Description: The intent of a voluntary property acquisition and redevelopment program is to remove residences from noise-impacted areas north of the airport. As discussed in the 2012 NCP, there are 43 dwelling units eligible within the 2017 65 CNEL noise contours and proposed

voluntary acquisition boundary. There are 39 dwelling units within the 2017 65 CNEL noise exposure contour and four additional dwelling units identified within the squared-off voluntary acquisition boundary.

Several components of a voluntary acquisition program must be worked out, including the pace and phasing of acquisition, what to do with residents who want to stay, and the proper care and management of vacant lots.

This is a new program measure.

FAA Action: Approved, contingent upon an update of the city's Noise Exposure Maps under 14 CFR § 150.21.

Status: Ongoing. A voluntary residential property acquisition and redevelopment program will be addressed upon completion of the Part 150 Study Noise Exposure Map update.

PROGRAM MANAGEMENT MEASURES

Program Measure 1

Continue use of the airport's noise complaint handling system.

Description: Originally an approved program measure in 1994, this program measure is a continuation of that effort. Hawthorne Municipal Airport staff has a formal system to receive, track, record, and respond to airport noise complaints. The complaint handling process is initiated when a telephone call is received regarding airport noise. The airport administrator received the complaint and records the details of the call on a noise complain form. The noise complaint report includes any follow-up actions taken by the airport. This system helps to identify problem aircraft and noise-sensitive areas for the purpose of implementing noise mitigation measures. It also helps to ensure that the noise abatement procedures are being followed. To expand on this system, the airport should coordinate with the city to produce an internet-based complain submittal system. This would allow area residents to submit noise complaints through the airport's website and will also provide an option, in addition to the voicemail system, to submit complaints during times when the airport administrative offices are closed.

FAA Action: Approved. For reasons of aviation safety, this approval does not extend to the use of the noise monitoring equipment for enforcement purposes by in situ measurements of any predetermined noise thresholds.

Status: Ongoing. Hawthorne Municipal Airport Staff has a formal system to receive, track, record, and respond to airport noise complaints.

Program Measure 2

Update Noise Exposure Maps and Noise Compatibility Program.

Description: The airport management should review the NCP and consider revision and refinements as necessary. A complete plan update will be needed periodically to respond to changing local conditions and the aviation industry. By law (49 USC 47503), the FAA must rely on only those noise exposure contour maps that reflect current or reasonable projected conditions. FAA Order 5100-38D, *Airport Improvement Program Handbook* (September 2014), addresses the requirements for current valid noise exposure contours. In general, NEMs less than five years old are considered current, unless conditions have created a significant change that would affect noise contours. NEM noise exposure contours older than five years must be certified by the sponsor and updated as required by the FAA. An update may be needed sooner if major changes to the airport occur. An update may not be needed until later if conditions at the airport and surrounding area remain stable. The FAA interprets this to mean an increase in noise levels of 1.5 CNEL or more above 65 CNEL, over noncompatible areas that have formerly been compatible. Proposed changes to the NCP should be reviewed by the FAA and all affected aircraft operators and local agencies. Proposed changes should be submitted to the FAA for approval after local consultation and a public hearing to comply with Part 150.

This is a new program measure.

FAA Action: Approved, contingent upon an update of the city's Noise Exposure Maps under 14 CFR § 150.21.

Status: Ongoing. New noise exposure maps will be generated upon completion of the Part 150 Study Noise Exposure Map update.

Program Measure 3

Monitor implementation of updated Part 150 Noise Compatibility Program.

Description: Airport management must monitor compliance with the Noise Abatement Element. This involves checking periodically with airport users and local tower management regarding compliance with the procedures. An annual summary report should be prepared to indicate the status of each item on the checklist.

This is a new program measure.

FAA Action: Approved.

Status: Ongoing. Upon completion of the Part 150 Study Noise Exposure Map update, the airport will monitor compliance with the NCP.



Hawthorne Municipal Airport

Appendix E

Hawthorne Municipal Airport Aviation Demand Forecast Approval



Appendix E

AIRPORT AVIATION DEMAND FORECAST APPROVAL

Noise Exposure Map Update Jack Northrup Field/Hawthorne Municipal Airport

Aviation activity can be affected by many influences on the local, regional, and national levels, making it virtually impossible to predict year-to-year fluctuations of activity over a five-year planning period with any certainty. Therefore, it is important to remember that forecasts are to serve only as guidelines, and planning must remain flexible enough to respond to a range of unforeseen developments.

One notable influence has been the COVID-19 pandemic, which struck after the Federal Aviation Administration's (FAA) approval of the airport aviation demand forecast in June 2018 (attached). Day-to-day aviation activity was impacted during the health crisis, in which the airport traffic control tower reported a decrease in airport operations from 73,432 in 2019 to 57,532 in 2020.¹ Airport operations are anticipated to recover to pre-COVID levels over the next five years. However, based upon the types of aircraft using Hawthorne Municipal Airport, the proposed existing and ultimate airport operations approved by the FAA are still considered reasonable and valid for updating the Noise Exposure Maps.

The forecast analysis for Hawthorne Municipal Airport was produced following seven basic guidelines set forth in FAA Advisory Circular (AC) 150/5070-6C, *Airport Master Plans*.² Existing forecasts are examined and compared against current and historic activity. The historical aviation activity is then examined along with other factors and trends that can affect demand. The intent is to provide an updated set of aviation demand projections for the airport that will permit airport management to make planning adjustments as necessary to maintain a viable, efficient, and cost-effective facility.

¹ Federal Aviation Administration *Air Traffic Activity System*. <https://aspm.faa.gov/opsnet/sys/Tower.asp> (February 2, 2021)

² Federal Aviation Administration Advisory Circular 150/5070-6C, *Airport Master Plans* (July 29, 2005). https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentnumber/150_5070-6



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

Western-Pacific Region
Office of Airports
Los Angeles Airports District Office

15000 Aviation Boulevard
Los Angeles, CA 90009-2007

June 12, 2018

Mr. Arnold Shadbehr
Interim City Manager and Public Works Director
City of Hawthorne
4455 W. 126th Street
Hawthorne, CA 90250

Dear Mr. Shadbehr:

**Hawthorne Municipal Airport (HHR)
Aviation Demand Forecast**

The Federal Aviation Administration (FAA) has completed the review of the Aviation Demand Forecast for Hawthorne Municipal Airport-Jack Northrup Field. The forecast is consistent with the FAA Terminal Area Forecast (TAF) and is approved.

The aircraft operations, calls for a growth forecast higher than the TAF for the 5-year, 10 year, and 15-year at 7.3 percent, 13.2 percent and 15.5 percent. These forecasts are within FAA's 10 percent and 15 percent allowance for the 5-year and 10-year periods. The approved Forecasts will not affect the timing or scale of any future airports projects.

If you have questions concerning this matter, please contact me at (310) 725-3630.

Sincerely,

Jaime Duran
Lead Airport Planner
Los Angeles Airports District Office



Hawthorne Municipal Airport

Appendix F Zoning Ordinance Summary



Appendix F

ZONING ORDINANCE

SUMMARY

Noise Exposure Map Update
Jack Northrup Field/Hawthorne Municipal Airport

Table F1 summarizes the noise-sensitive land uses allowed within each zone outlined in the City of Hawthorne zoning ordinances.

TABLE F1
Summary of Zoning Provisions for Noise-Sensitive Land Uses
City of Hawthorne

	<u>Noise-Sensitive Uses</u>		Density
	Residential	Non-Residential	
R-1; Single-Family Residential	<ul style="list-style-type: none"> Single-family residential detached unit Mobile Home Residential care facilities 	<ul style="list-style-type: none"> Places of Worship Libraries Schools Day care facilities 	<ul style="list-style-type: none"> 5,000 sf lot for single-family residential
R-2; Multi-Family Residential	<ul style="list-style-type: none"> Same as R-1 Two-family residential Boardinghouses 	<ul style="list-style-type: none"> Same as R-1 	<ul style="list-style-type: none"> Same as R-1 7,000 sf lot for Two-Family Residential
R-3; High-Density Residential	<ul style="list-style-type: none"> Same as R-2 Multi-family dwelling Rest home, boarding home, or home for the aged 	<ul style="list-style-type: none"> Same as R-2 	<ul style="list-style-type: none"> 7,500 sf lot for multi-family residential, plus 2,500 sf per unit over three units
R-4; Maximum Density Residential	<ul style="list-style-type: none"> Same as R-3 Fraternity/sorority house Mobile home park Convalescent homes Nursing homes 	<ul style="list-style-type: none"> Same as R-3 Hospitals Assembly halls 	<ul style="list-style-type: none"> Same as R-3
C-R; Regional Commercial	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Day care facilities Schools (with an approved CUP) 	<ul style="list-style-type: none"> No minimum
C-2; Local Commercial	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Same as C-R Hospitals Movie Theaters 	<ul style="list-style-type: none"> Maximum floor area shall not be greater than one and half times the square foot area of the lot
C-3; General Commercial	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Same as C-2 	<ul style="list-style-type: none"> Maximum floor area shall not be greater than two and half times the square foot area of the lot
C-M; Mixed Commercial	<ul style="list-style-type: none"> Residential units (with an approved CUP) 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Maximum residential density is 24 dwelling units per acre
M-1; Limited Industrial	<ul style="list-style-type: none"> Live/work units (with an approved CUP) Single-family residential utilized by a site manager or caretaker and the unit is an accessory to the principle industrial use 	<ul style="list-style-type: none"> Same as C-3 (with an approved CUP) 	<ul style="list-style-type: none"> Maximum floor area shall not be greater than two times the square foot area of the lot

TABLE F1 Continued
Summary of Zoning Provisions for Noise-Sensitive Land Uses
City of Hawthorne

	Noise-Sensitive Uses		Density
	Residential	Non-Residential	
M-2; Heavy Industrial	<ul style="list-style-type: none"> Single-family residential utilized by a site manager or caretaker and the unit is an accessory to the principle industrial use 	<ul style="list-style-type: none"> Same as a C-3 or M-1 	<ul style="list-style-type: none"> Maximum floor area shall not be greater than two times the square foot area of the lot
UOS; Urban Open Space	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Libraries Museums Schools 	<ul style="list-style-type: none"> Floor area ratio shall not exceed 40 percent
H; Horticulture	<ul style="list-style-type: none"> Same as R-1 	<ul style="list-style-type: none"> Same as R-1 	<ul style="list-style-type: none"> No minimum
<p>Source: City of Hawthorne Department of Planning and Community Development (http://www.qcode.us/codes/hawthorne/index.php?topic=17)</p> <p>Notes: sf – square foot CUP – Conditional Use Permit</p>			



www.coffmanassociates.com

CommuniQuest ♦

Kansas City

(816) 524-3500

12920 Metcalf Avenue

Suite 200

Overland Park, KS 66213

Phoenix

(602) 993-6999

4835 E. Cactus Road

Suite 235

Scottsdale, AZ 85254

