



# 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
<b>Residential</b>							
	Residential, other than mobile homes and transient lodgings	Y	N <sup>1</sup>	N <sup>1</sup>	N	N	N
	Mobile home parks	Y	N	N	N	N	N
	Transient lodgings	Y	N <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N
<b>Public Use</b>							
	Schools	Y	N <sup>1</sup>	N <sup>1</sup>	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 <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	Y <sup>4</sup>
	Parking	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
<b>Commercial Use</b>							
	Offices, business and professional	Y	Y	25	30	N	N
	Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
	Retail trade-general	Y	Y	25	30	N	N
	Utilities	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
	Communication	Y	Y	25	30	N	N
<b>Manufacturing and Production</b>							
	Manufacturing, general	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
	Photographic and optical	Y	Y	25	30	N	N
	Agriculture (except livestock) and forestry	Y	Y <sup>6</sup>	Y <sup>7</sup>	Y <sup>8</sup>	Y <sup>8</sup>	Y <sup>8</sup>
	Livestock farming and breeding	Y	Y <sup>6</sup>	Y <sup>7</sup>	N	N	N
	Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
<b>Recreational</b>							
	Outdoor sports arenas and spectator sports	Y	Y <sup>5</sup>	Y <sup>5</sup>	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

<b>Y (Yes)</b>	Land Use and related structures compatible without restrictions.
<b>N (No)</b>	Land Use and related structures are not compatible and should be prohibited.
<b>NLR</b>	Noise Level Reduction (outdoor-to-indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
<b>25, 30, 35</b>	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
<b>Compatible Land Uses</b>			
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 <sup>1</sup>	2.5	0.0	0.0
<b>Noise-Sensitive Land Uses</b>			
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
<b>Total</b>	<b>89.3</b>	<b>40.9</b>	<b>25.2</b>

<sup>1</sup> Undeveloped land consists of portions of multiple parcels.

Source: Coffman Associates' analysis

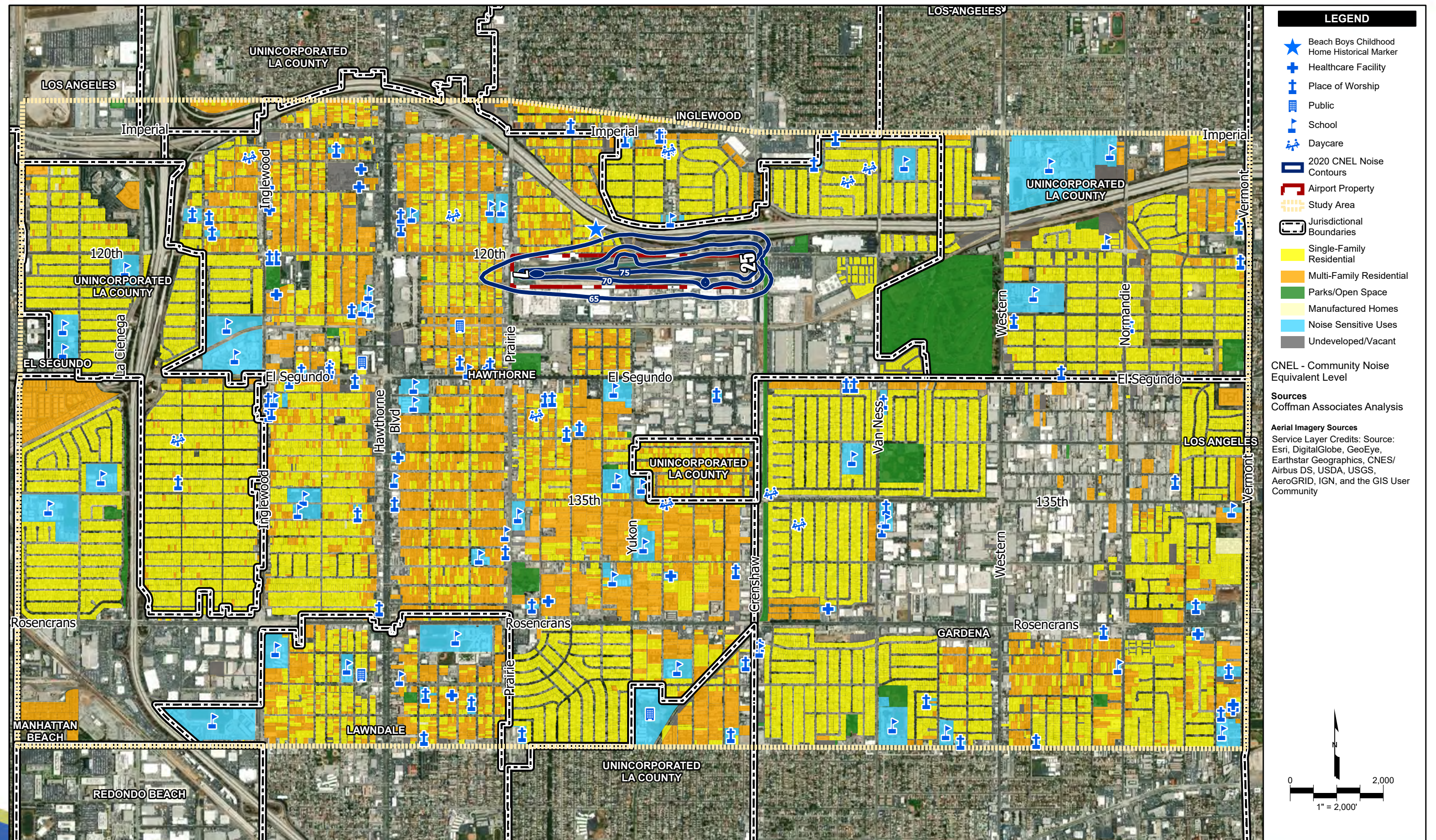
For portions of the noise contour encompassing non-compatible residential land uses, the number of dwelling units within the noise contours was determined using digital mapping files of the parcels available from Los Angeles County. **Table 3B** summarizes the number of dwelling units within the 2020 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.<sup>1</sup> 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.

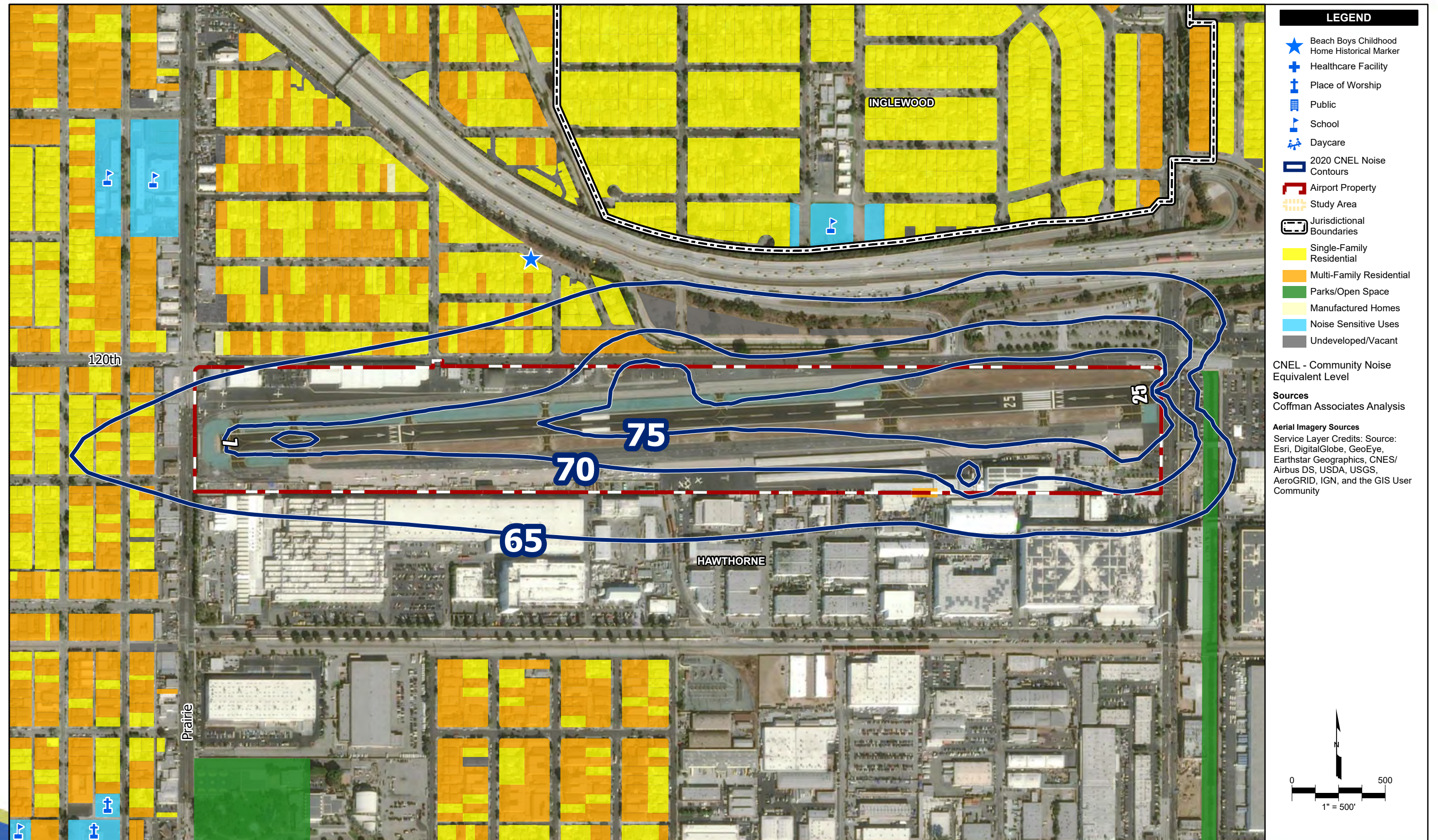
<sup>1</sup> Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household.

(<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
<b>Parcels/Dwelling Units (d.u.)</b>			
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
<b>Total Parcels/ Dwelling Units</b>	<b>52 parcels, 103 d.u.</b>	<b>0</b>	<b>0</b>
<b>Estimated Population</b>			
Single Family Residential	101	0	0
Multi-Family Residential	204	0	0
<b>Total Estimated Population</b>	<b>305</b>	<b>0</b>	<b>0</b>

*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
<b>Compatible Land Uses</b>			
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
<b>Noise-Sensitive Land Uses</b>			
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
<b>Total</b>	<b>99.3</b>	<b>45.6</b>	<b>29.7</b>

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.<sup>2</sup> 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
<b>Parcels/Dwelling Units (d.u.)</b>			
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
<b>Total Parcels/ Dwelling Units</b>	<b>91 parcels, 142 d.u.</b>	<b>1 parcel, 21 d.u.</b>	<b>0</b>
<b>Estimated Population</b>			
Single Family Residential	181	0	0
Multi-Family Residential	240	62	0
<b>Total Estimated Population</b>	<b>421</b>	<b>62</b>	<b>0</b>

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.

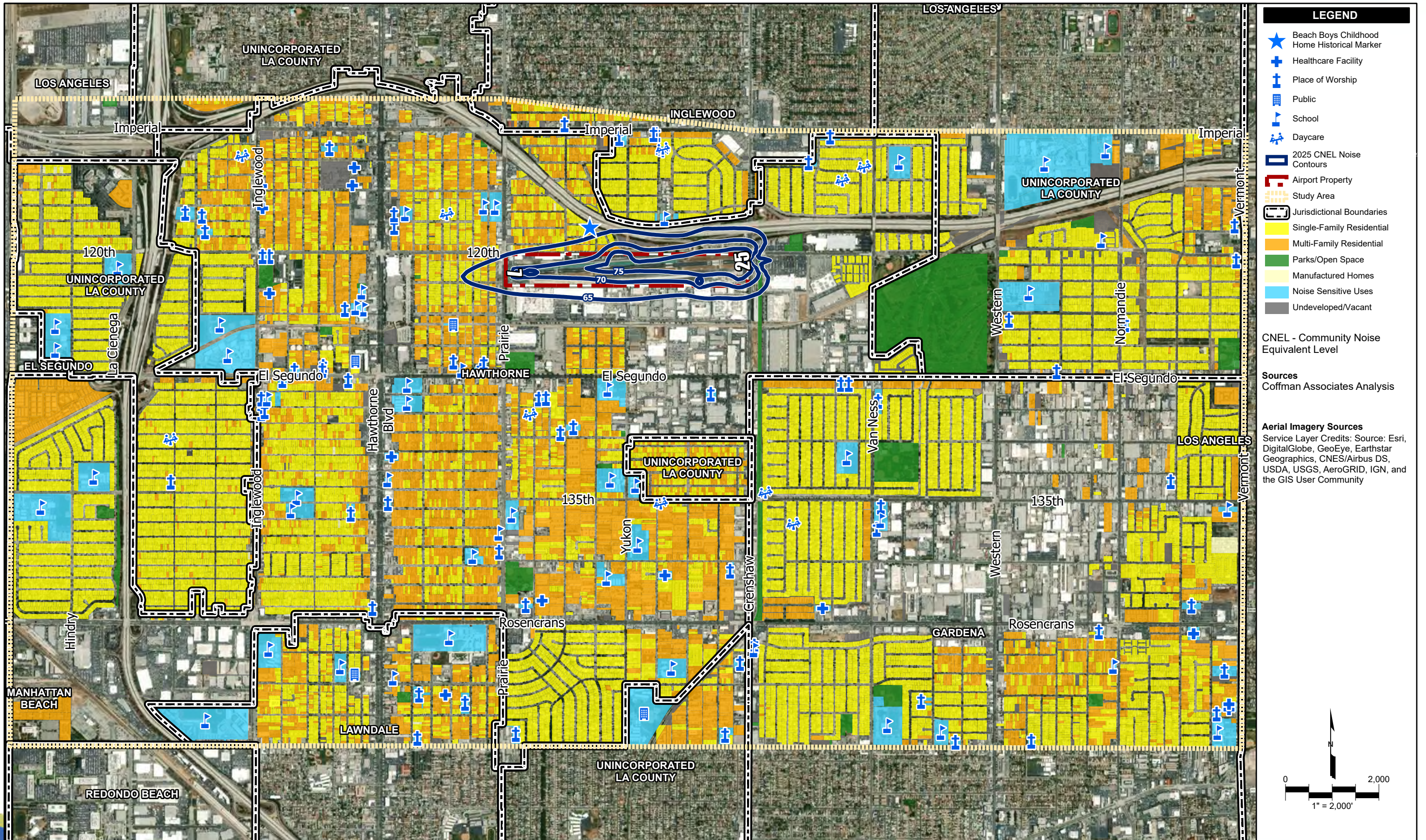
<https://www.census.gov/quickfacts/fact/table/hawthornecitycalifornia/HSD310218> accessed May 2020.

Source: Coffman Associates' analysis

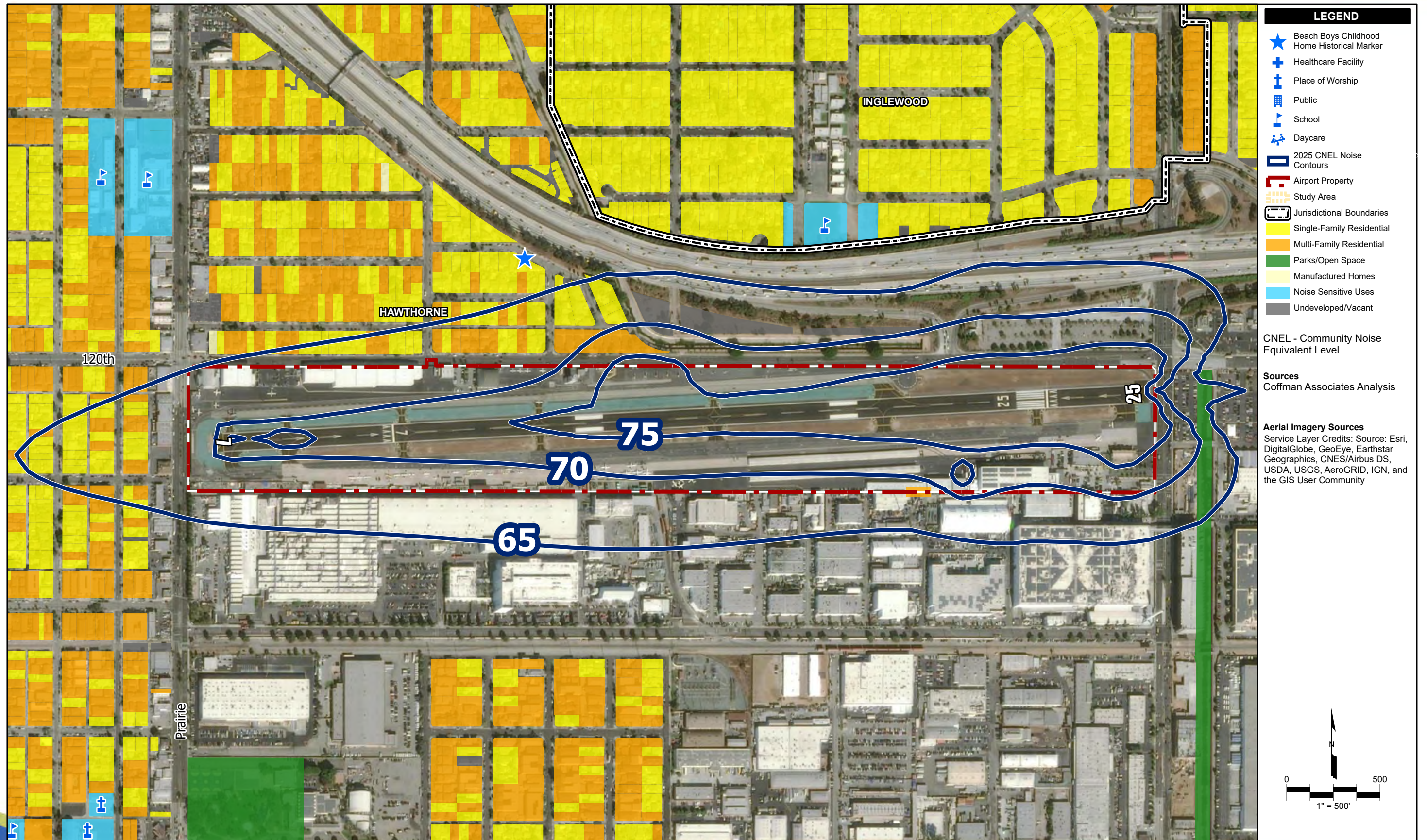
<sup>2</sup> Persons per household information is based on U.S. Census Bureau, American Community Survey, 5-Year Estimates, 2014-2018 for Hawthorne, CA which is reported as 2.96 persons per household.

<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
<b>Total</b>			<b>2.217</b>	<b>96,573</b>	<b>0.173</b>	<b>7,536</b>

*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*

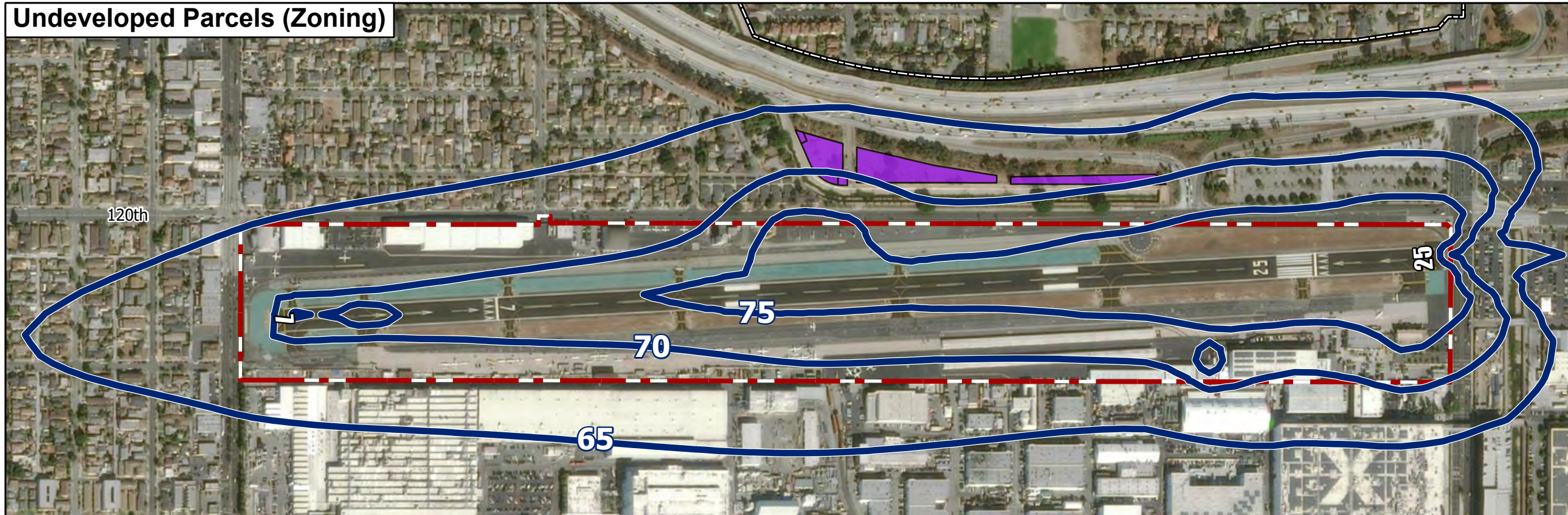
As the zoning and general plan designations for each parcel under consideration are inconsistent, different development standards apply. Therefore, the growth risk potential from the zoning and general plan designation will not be equivalent. As summarized in **Appendix F**, the following noise-sensitive 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

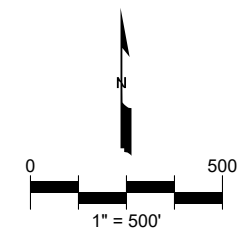
CNEL - Community Noise Equivalent Level

### 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 Ratio<sup>3</sup> 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 120<sup>th</sup> 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
<b>Noise-Sensitive Land Uses</b>			
2020	<b>52 parcels, 103 d.u.</b>	<b>0</b>	<b>0</b>
2025	<b>91 parcels, 142 d.u.</b>	<b>1 parcel, 21 d.u.</b>	<b>0</b>
<b>Population</b>			
2020	<b>305</b>	<b>0</b>	<b>0</b>
2025	<b>421</b>	<b>62</b>	<b>0</b>

*Source: Coffman Associates' analysis*

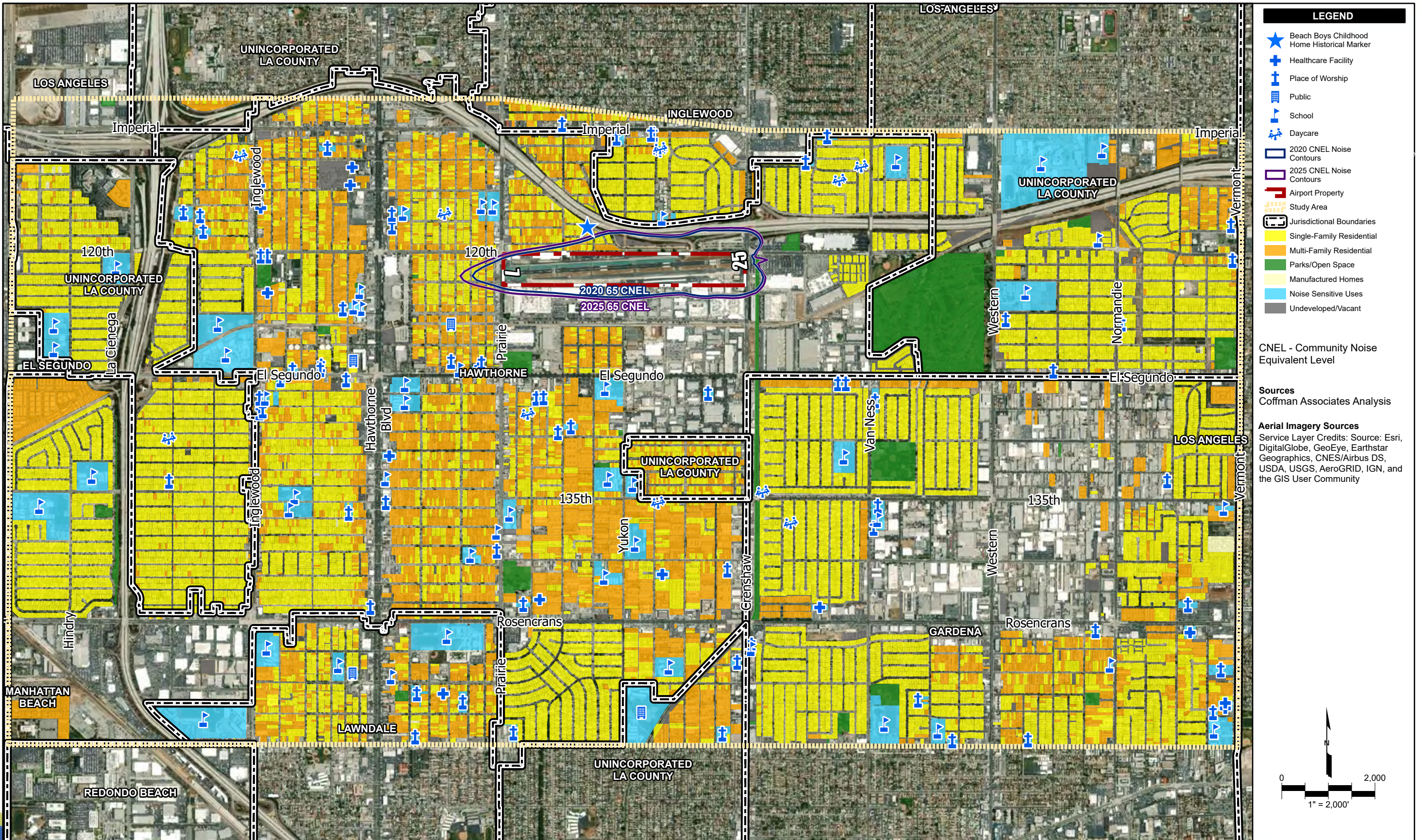
**Exhibit 3E** provides a comparison of the 65 CNEL noise exposure contours from the 2020 and 2025 Noise Exposure Maps. As indicated on the exhibit and summarized on **Table 3F**, the 2020 CNEL contour is closer to the airport boundary, encompassing 52 residential parcels north and west of the airport. 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.

<sup>3</sup> 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).

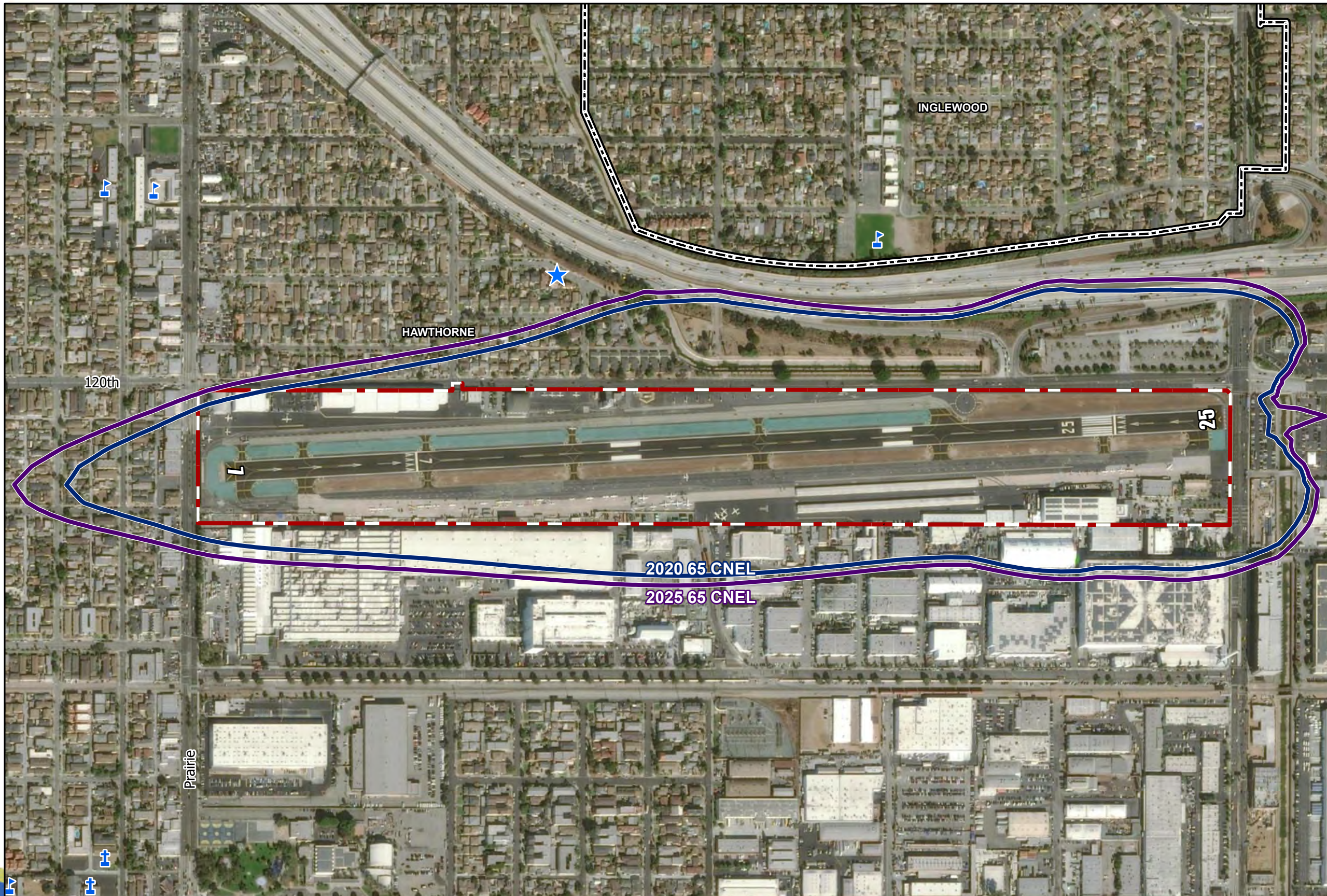


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**LEGEND**

- 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**  
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