



## Chapter 3

# 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. The FAA mandates the use of the Aviation 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 1998 and 2003 Noise Exposure Maps (NEMs) for Oxnard Airport. The current version used for the purposes of this study is AEDT Version 3e. The AEDT is designed to predict annual average aircraft noise conditions at a given geographic location and produce noise exposure contours, which are overlain on a map depicting land uses in the airport vicinity to graphically represent aircraft noise conditions. With the use of existing land use, zoning, and general plan maps presented in Chapter One – Inventory, the noise exposure contours are used to identify areas that are currently, or have the potential to be, exposed to significant aircraft noise levels, per FAA guidance. The Ventura County Department of Airports recognizes that some community members are disturbed by noise outside of the FAA guidelines for noise contours.

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.<sup>1</sup> 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 that commonly operate at Oxnard 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.

Based on AEDT-provided and user inputs, the model then calculates 24-hour aircraft sound exposure values within a grid covering the airport and surrounding areas. Each grid value – represented by the community noise equivalent level (CNEL) metric – at an intersection point on the grid represents a noise level for that geographic location. To create the noise contours, a line linking equal values – similar to

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<sup>1</sup> 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 their statistical validity. Any user characteristics must be approved by FAA prior to completion of the analysis.



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 **Appendix C**.

Model user inputs include 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. **Exhibit 3A** depicts the various AEDT input categories for developing noise exposure contours. Specific modeling assumptions for Oxnard Airport are discussed in the following sections.

### HOW WILL THE NOISE EXPOSURE CONTOURS BE USED?

The noise exposure contours developed as a result of the methodology and inputs described in this chapter will be used as follows:

- The 65 CNEL and greater noise exposure contours developed in this chapter for 2022 and 2027 will be used in Chapter Four – Noise Impacts to identify the areas impacted by airport noise, based on federal guidance. These noise exposure contours will also become the official Noise Exposure Maps (NEMs) for Oxnard Airport, consistent with Title 14, Code of Federal Regulations, Part 150 (14 CFR Part 150 or Part 150).
- Appendix D presents the 2027 60 CNEL noise exposure contours for 2022 and 2027, which are based on the assumptions outlined in this chapter. While not part of the official NEMs for Oxnard Airport, the 60 CNEL noise exposure contours can be used for land use planning purposes, as well as for the development of land use and noise abatement alternatives in the airport's Part 150 Noise Compatibility Program.
- Appendix D also depicts a 20-year forecast noise exposure contour. While not part of the NEMs for Oxnard Airport, this scenario can be used by the Ventura County Airport Land Use Commission to update the Airport Land Use Compatibility Plan (ALUCP) for Oxnard Airport. The 20-year forecast noise contour is one of the key planning assumptions in an ALUCP and is used when evaluating development proposals near an airport.

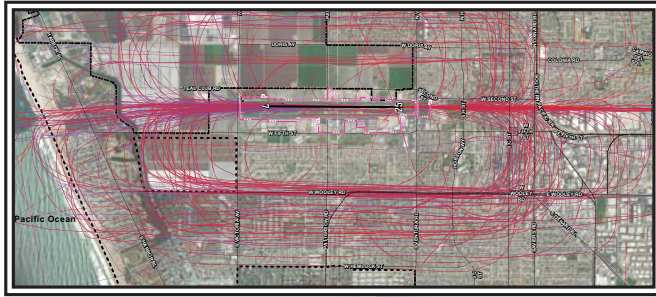
### AIRCRAFT NOISE MODELING ASSUMPTIONS

The aircraft noise modeling assumptions used in this study are airport-specific information; operational fleet mix and database selection; time-of-day; runway use; and flights tracks. Each aircraft noise modeling assumption is explained in more detail below.

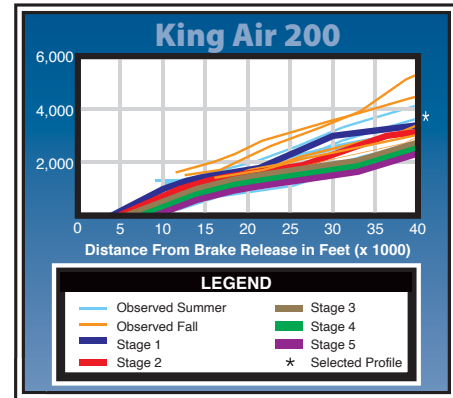
### AIRPORT INFORMATION

Airport-specific information is needed to model noise exposure conditions. **Table 3A** summarizes modeling assumptions for runways, temperature, relative humidity, and airport elevation. As discussed in Chapter One – Inventory, Oxnard Airport has one runway, Runway 7-25, which is 5,953 feet long and is not

## Flight Tracks



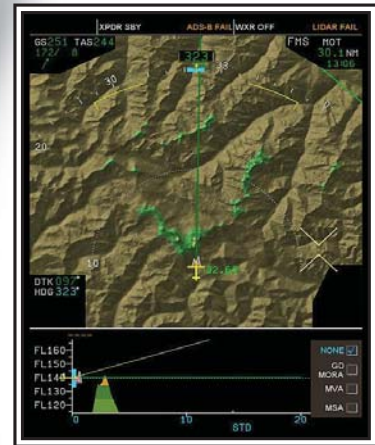
## Profile Analysis



## Existing & Forecast Operations/Fleet Mix

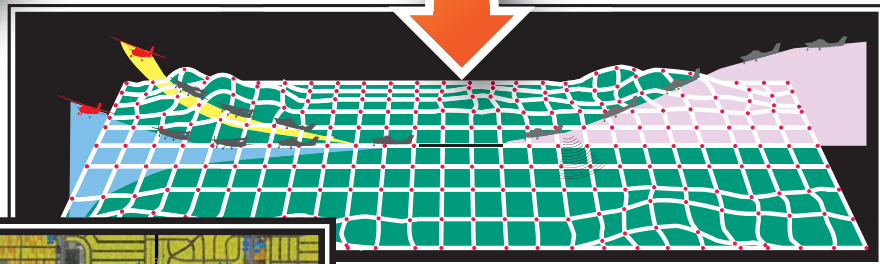
	2022	2027	2032	2042
<b>ANNUAL OPERATIONS</b>				
<b>Nonresident</b>				
Air Taxi	4,659	4,770	5,343	6,618
General Aviation	27,385	29,667	32,177	38,111
Military	192	221	221	221
<b>Total Nonresident Operations</b>	<b>32,236</b>	<b>34,658</b>	<b>37,741</b>	<b>44,950</b>
<b>Local</b>				
General Aviation	55,579	57,838	60,189	65,181
Military	56	42	42	42
<b>Total Local Operations</b>	<b>55,635</b>	<b>57,880</b>	<b>60,231</b>	<b>65,223</b>
<b>Total Annual Operations</b>	<b>87,871</b>	<b>92,538</b>	<b>97,972</b>	<b>110,173</b>
<b>Annual Instrument Approaches</b>	<b>4,835</b>	<b>5,199</b>	<b>5,661</b>	<b>6,743</b>
<b>BASED AIRCRAFT</b>				
Single Engine	87	88	89	96
Multi-Engine Piston	15	15	14	14
Turboprop	8	10	13	18
Jet	2	7	13	22
Helicopter	8	10	12	17
<b>Total Based Aircraft</b>	<b>120</b>	<b>130</b>	<b>141</b>	<b>167</b>
<b>PEAKING</b>				
Annual Operations	87,871	92,583	97,972	110,173
Peak Month	9,996	9,994	10,581	13,899
Design Day	306	323	342	384
Design Hour	72	76	80	90
<b>TOTAL OPERATIONS</b>				

## Time of Day

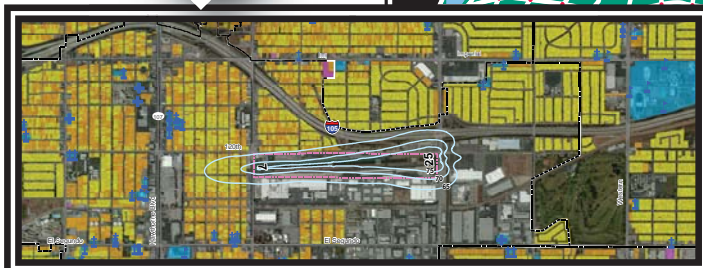


## Terrain Data

# AVIATION ENVIRONMENTAL DESIGN TOOL (AEDT)



## Grid Point Analysis



## Noise Contours



anticipated to change during the time horizon for this study; therefore, this condition was used for both the 2022 and 2027 conditions. The elevations of the runway ends (34 feet mean sea level [MSL] for Runway 7 and 45 feet MSL for Runway 25) were input to indicate the altitude at which the flight tracks originate and terminate. The 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 3A | AEDT Input Assumptions – Oxnard Airport**

AEDT Input	Model Value
Runway 7-25	5,953 feet x 150 feet
Average Annual Temperature	60.85°F
Relative Humidity	70.71
Runway End Elevations	Runway 7 – 34 feet MSL / Runway 25 – 45 feet MSL

AEDT = Aviation Environmental Design Tool  
MSL = mean sea level

Source: Aviation Environmental Design Tool, Version 3e Airport Database, 722956

**OPERATIONAL FLEET MIX AND DATABASE SELECTION**

The Oxnard Airport NEMs were prepared for two study periods: existing condition (2022) and at least a five-year forecast (2027) in accordance with 14 CFR Part 150. In addition to the required conditions, 20-year forecast noise contours can be found in **Appendix D**.<sup>2</sup> Operations totals used in the modeling are presented in **Table 3B**. As indicated in the table, existing condition (2022) operations are based on the FAA’s Air Traffic Activity System (ATADS) for Oxnard Airport Traffic Control Tower (ATCT) reports from January 2022 through December 2022. The 2027 operations are based on FAA-approved forecasts which can be found in **Appendix E**.

**TABLE 3B | Annual Operations Summary – Oxnard Airport**

Operations	Existing – 2022 <sup>1</sup>	Forecast – 2027 <sup>2</sup>
<b>Itinerant</b>		
Air Taxi	4,659	4,770
Military	192	221
General Aviation	27,385	29,667
<b>Total Itinerant</b>	<b>32,236</b>	<b>34,658</b>
<b>Local</b>		
General Aviation	55,579	57,838
Military	56	42
<b>Total Local</b>	<b>55,635</b>	<b>57,880</b>
<b>TOTAL OPERATIONS</b>	<b>87,871</b>	<b>92,538</b>

<sup>1</sup> FAA Air Traffic Activity System (ATADS), Oxnard Airport, Calendar Year 2022  
<sup>2</sup> The FAA approved the forecast contained in Chapter 2 – Forecasts. (See **Appendix E**.)

<sup>2</sup> It is important to note that the 20-year forecast conditions were prepared for land use planning purposes only and cannot be used to identify noise impacts under 14 CFR Part 150.



Based on the annual operations levels presented in **Table 3B**, a detailed fleet mix – or summary of the types of aircraft operating at Oxnard 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.

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

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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 presented on **Exhibit 3B**. In contrast to the CNEL noise contours used for the NEMs, these contours depict the sound exposure level (SEL) for aircraft that operate at Oxnard Airport. The SEL 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 to the amount of noise an aircraft generates, it is also important to note that not all aircraft sound alike. Although this specific information is not available from the AEDT, and is 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 the FAA's Traffic Flow Management System Counts (TFMSC) database and were then grouped based on similar noise characteristics. In cases where a specific aircraft is not available within the AEDT, designators were selected based on the FAA's approved list of substitutes. No user-defined aircraft or profiles requiring FAA approval were used in the AEDT modeling. **Table 3C** summarizes the operational fleet mix assumptions. It is important to note that all substitutions made for designators, as listed in **Table 3C**, follow FAA guidance and approved practices.

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 general aviation single-engine variable-pitch propeller model, 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 BEC58P designator was used to model local multi-engine piston aircraft operations.

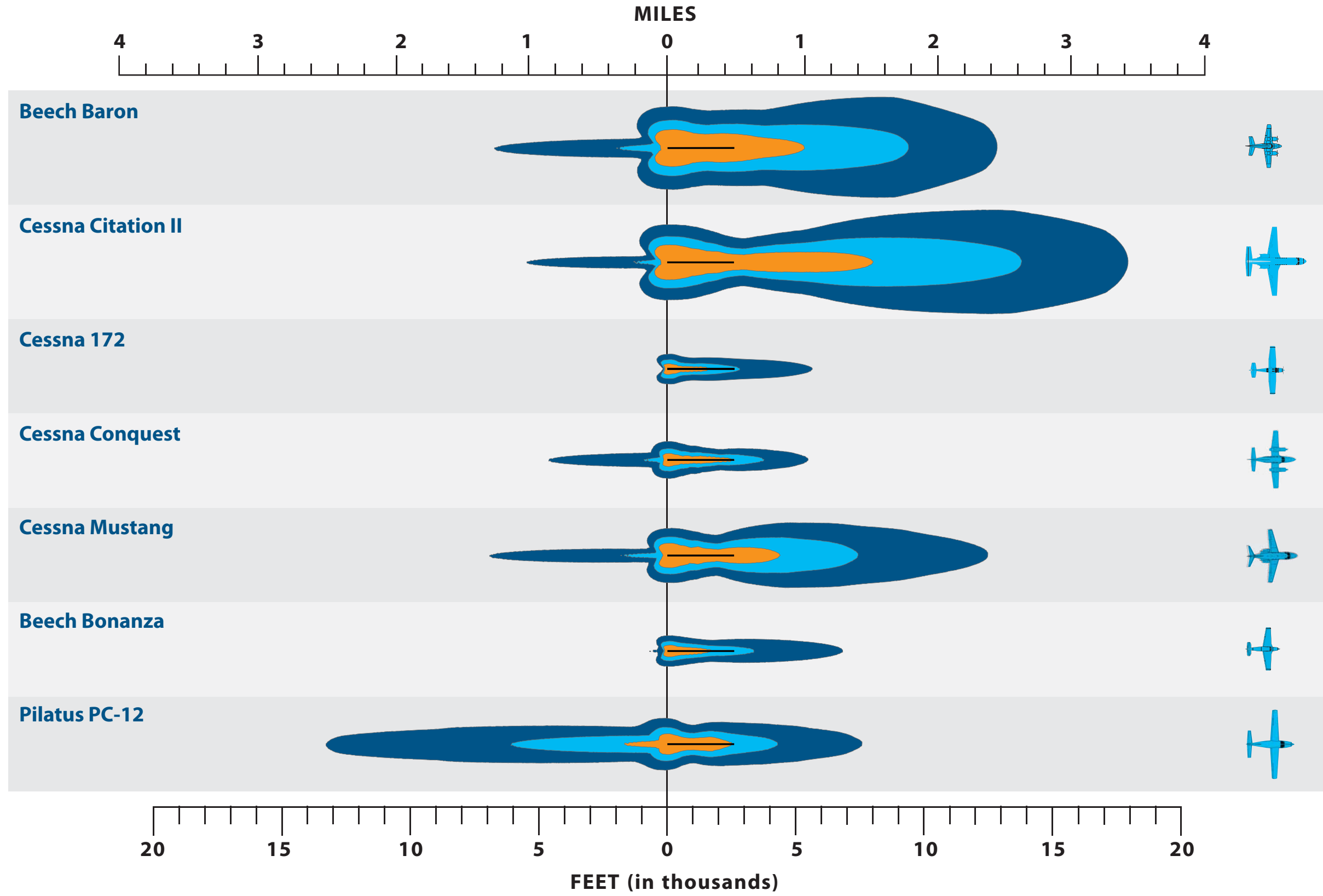


**TABLE 3C | Operational Fleet Mix – Oxnard Airport**

Aircraft Type <sup>1</sup>	AEDT Designator <sup>2</sup>	2022 Operations <sup>3</sup>	2027 Operations <sup>4</sup>
<b>GA Itinerant Operations</b>			
Single-Engine Piston, Fixed	GASEPF	12,156	11,436
Single-Engine Piston, Variable	GASEPV	12,156	11,436
Multi-Engine Piston	BEC58P	2,354	2,354
Multi-Engine Piston	PA30	446	446
Helicopter, Small	R44	716	911
Helicopter, Small	EC130	195	248
Helicopter, Medium	SA365N	65	83
Helicopter, Large	S70	1,823	2,318
Single-Engine Turboprop, Small	CNA208	73	92
Multi-Engine Turboprop, Small	CNA441	473	601
Single-Engine Turboprop, Large	Pilatus PC-12	160	204
Multi-Engine Turboprop, Medium	SD330	410	522
Turbojet, Small	ECLIPSE500	97	360
Turbojet, Small	CNA500	136	505
Turbojet, Small	CNA510	3	11
Turbojet, Medium	CNA55B	147	547
Turbojet, Medium	LEAR35	91	339
Turbojet, Medium	CIT3	73	272
Turbojet, Medium	F10062	20	74
Turbojet, Medium	CNA560U	16	60
Turbojet, Large	CL600	210	784
Turbojet, Large	GV	67	251
Turbojet, Large	CNA680	65	244
Turbojet, Large	GIV	55	205
Turbojet, Large	CNA750	21	78
Turbojet, Large	EMB145	15	57
Military	C130	192	221
<b>GA Itinerant Total Operations</b>		<b>32,236</b>	<b>34,658</b>
<b>GA Local Operations</b>			
Single-Engine Piston, Fixed	GASEPF	27,418	28,500
Single-Engine Piston, Variable	GASEPV	27,418	28,500
Multi-Engine Piston	BEC58P	200	200
Helicopter, Small	R44	200	220
Helicopter, Large	S70	200	220
Single-Engine Turboprop (incl. T-6 Texan)	CNA208	72	99
Turbojet	CL600	72	99
Military	T-38A	56	42
<b>GA Local Total Operations</b>		<b>55,635</b>	<b>57,880</b>
<b>Total Operations</b>		<b>87,871</b>	<b>92,538</b>
<sup>1</sup> Coffman Associates analysis. No user-defined aircraft or profiles requiring FAA approval were used in the AEDT modeling. <sup>2</sup> FAA Traffic Flow Management System Counts (TFMSC), Oxnard Airport, Calendar Year 2022 <sup>3</sup> The FAA approved the forecast contained in Chapter 2 – Forecasts. (See <b>Appendix E.</b> ) <sup>4</sup> Coffman Associates analysis.			

Itinerant general aviation twin-engine turboprop operations, including the Cessna 441 Conquest and Beech King Air, were modeled using the CNA441 (Cessna 441). Medium single-engine turboprop aircraft were modeled using the SD330 (Short 330). 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.

**GENERAL AVIATION AIRCRAFT**



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.

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Business jet operations are based on the FAA’s TFMSC reports and were modeled as follows:

- Eclipse 500 (ECLIPSE500)
- Cessna Citation I and II (CNA500)
- Cessna Citation Mustang (CNA510)
- Cessna Excel (CNA55B)
- Lear 31, 35, 45, and 75 (LEAR35)
- Cessna Citation III (CIT3)
- Dassault Falcon/Mystère 50 (F10062)
- Cessna Citation V/Ultra/Encore (CNA560U)
- Bombardier Challenger 300 and 600 (CL600)
- Gulfstream V, Gulfstream 650, and Bombardier 700 Global Express (GV)
- Cessna Citation Latitude and Longitude (CNA680)
- Gulfstream IV (GIV)
- Cessna Citation X (CNA750)
- Embraer Legacy 450 (EMB145)

It is important to note that the future aircraft operations that are modeled are not the result of efforts by the County or Department of Airports to bring in additional aircraft, but rather are a reflection of what is expected for the entire U.S. and the California region, as described in more detail in the FAA-approved forecast contained in Chapter Two – Forecasts.

Additionally, itinerant helicopters were modeled using the Robinson R44 (R44), Eurocopter 145 (EC130), Aérospatiale AS-366 (SA365N), and Sikorsky SH-60 Seahawk (S70). Itinerant military operations were represented in the model as the C130.

Local operations were modeled with the previously discussed GASEPF, GASEPV, BEC58P, CNA208, and CL600. Local helicopter training operations were modeled using the Robinson 44 (R44) and Sikorsky SH-60 Seahawk (S70). Local military operations were modeled using the T-38A.

**TIME-OF-DAY**

As previously discussed, noise contours depict locations with equal noise exposure. CNEL is the metric used to express noise exposure. 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 (dB) and nighttime operations by 10 dB. For the purposes of this study, time-of-day assumptions for activity are based on interviews with ATCT staff, a review of tower records, and radar flight track data. **Table 3D** summarizes the time-of-day percentages for all operation types assumed for this study. The same evening and nighttime percentages were also applied to the 2027 scenario.



**TABLE 3D | Time-of-Day Operations Percentages – Oxnard Airport**

Aircraft Category	2022			2027		
	Day	Evening	Night	Day	Evening	Night
Business Jet	85.8%	5.3%	8.8%	85.8%	5.3%	8.8%
Turboprop	94.3%	3.0%	2.6%	94.3%	3.0%	2.6%
Piston	96.9%	2.6%	0.4%	96.9%	2.6%	0.4%
Helicopter	93.4%	1.9%	4.6%	93.4%	1.9%	4.6%

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.

Sources: Vector Airport Systems data; Coffman Associates analysis

## RUNWAY USE

Runway use is generally influenced by the prevailing wind direction, as aircraft normally land and take off into the wind. **Table 3E** summarizes runway use percentages based on communication with airport and ATCT staff, as well as a review of radar flight track data. Runway 25 is used the majority of the time for arrivals, while Runway 7 is used less often. This results in aircraft typically arriving to the airport from the east and departing to the west before making any turns. Departures are distributed across both runways, with jets utilizing Runway 7 for over half of all jet departures and the majority of piston aircraft departing on Runway 25. The following assumptions in **Table 3E** were used for the existing and future conditions.

**TABLE 3E | Runway Use Operations Percentages – Oxnard Airport**

Aircraft Category	ARRIVALS		DEPARTURES	
	Runway 7	Runway 25	Runway 7	Runway 25
Business Jet	0.1%	99.9%	61.4%	38.6%
Turboprop	1.7%	98.4%	53.1%	46.9%
Piston	0.5%	99.5%	32.1%	67.9%

Sources: Vector Airport Systems data; Coffman Associates analysis

## FLIGHT TRACKS

Flight patterns can be categorized within the following types: arrivals, departures, and local (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, local, and helicopter flight tracks for this study are based on radar flight track data obtained from Vector Airport Systems for 42 randomly selected days. The randomly selected data set contains one day from each day of the week for each of the six months of available data (August 2022 through January 2023). As previously mentioned in Chapter 1 – Inventory, **Exhibit 1J** depicts a 24-hour radar flight track data sample from this data source. ATCT staff were also consulted regarding typical flight patterns for the airport.



**Exhibits 3C and 3D** illustrate the existing and future condition arrival and departure flight tracks, based on radar flight track data for fixed-wing aircraft (which include all aircraft operating at the airport, except helicopters). The 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 the AEDT.

Existing and future condition flight tracks for local touch-and-go activity are illustrated on **Exhibit 3E**. The local activity and helicopter flight tracks were also dispersed. As indicated on the exhibit, touch-and-go activity occurs both north and south of the airport. Following coordination with ATCT staff and publication of the Fly Friendly VC pilot guide in 2022, touch-and-go activity north of the airport has increased when compared to previous years.

**Exhibit 3F** illustrates existing and future condition flight tracks for helicopters. The helicopter tracks are the same for arrival and departure, with one helipad location modeled. Included with the helicopter flight tracks is a touch-and-go training area north of 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 3C, 3D, 3E, and 3F are the same for existing and future conditions.

The existing flight track assumptions are based on current operating conditions at the airport and were developed using radar flight track data from Vector VNOMS since August 2022. The future operating conditions only considered increased flight activity in accordance with the FAA-approved forecast contained in Chapter 2 – Forecasts. Had there been any imminently planned changes to the airfield or changes to how aircraft operate in the vicinity of the airport, those operating conditions would have been captured; however, no such changes to the user inputs were required in this case. The 2027 noise exposure contours are based on the same flight tracks as the existing condition (2022) noise exposure contours.

### Flight Track Assignments

The previously discussed operational conditions and runway utilization are used to assign aircraft activity to each flight track. 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 CNEL levels for the 2022 and 2027 conditions. As outlined in FAA Order 5100.38D, *Airport Improvement Program Handbook*, the FAA recognizes CNEL as the established noise metric for airports in 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 3F**.

**TABLE 3F | Comparative Areas of Noise Exposure – Oxnard Airport**

	Area (Acres)	
	2022	2027
65-70 CNEL	115.51	118.77
70-75 CNEL	64.04	66.10
75+ CNEL	34.17	37.41
<b>Total</b>	<b>213.72</b>	<b>222.28</b>

Acres represent only those areas between the stated contour ranges.

Source: Coffman Associates analysis

The following sections present the noise contours for the 2022 and 2027 scenarios. As illustrated on the exhibits, the area of noise exposure is greatest near the runway ends, reflective of 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. Additionally, **Table 3G** presents the total acres that extend off airport property for each contour.

**TABLE 3G | Contour Area Extending Off Existing Airport Property – Oxnard Airport**

	Area (Acres)	
	2022	2027
65-70 CNEL	56.99	61.29
70-75 CNEL	2.30	2.87
75+ CNEL	0	0
<b>Total</b>	<b>59.29</b>	<b>64.16</b>

Acres represent only those areas between the stated contour ranges.

Source: Coffman Associates analysis

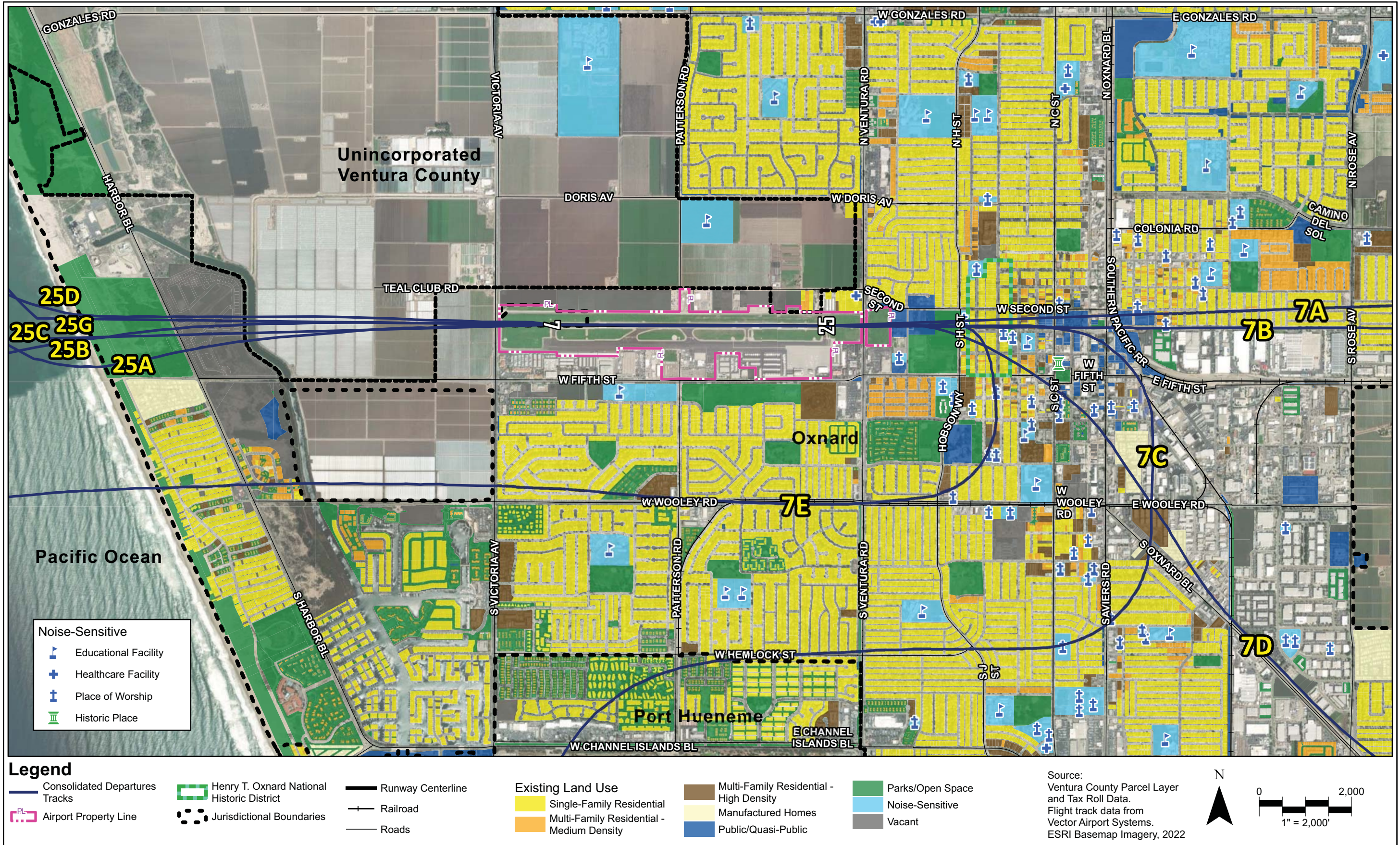
## 2022 NOISE EXPOSURE CONTOURS

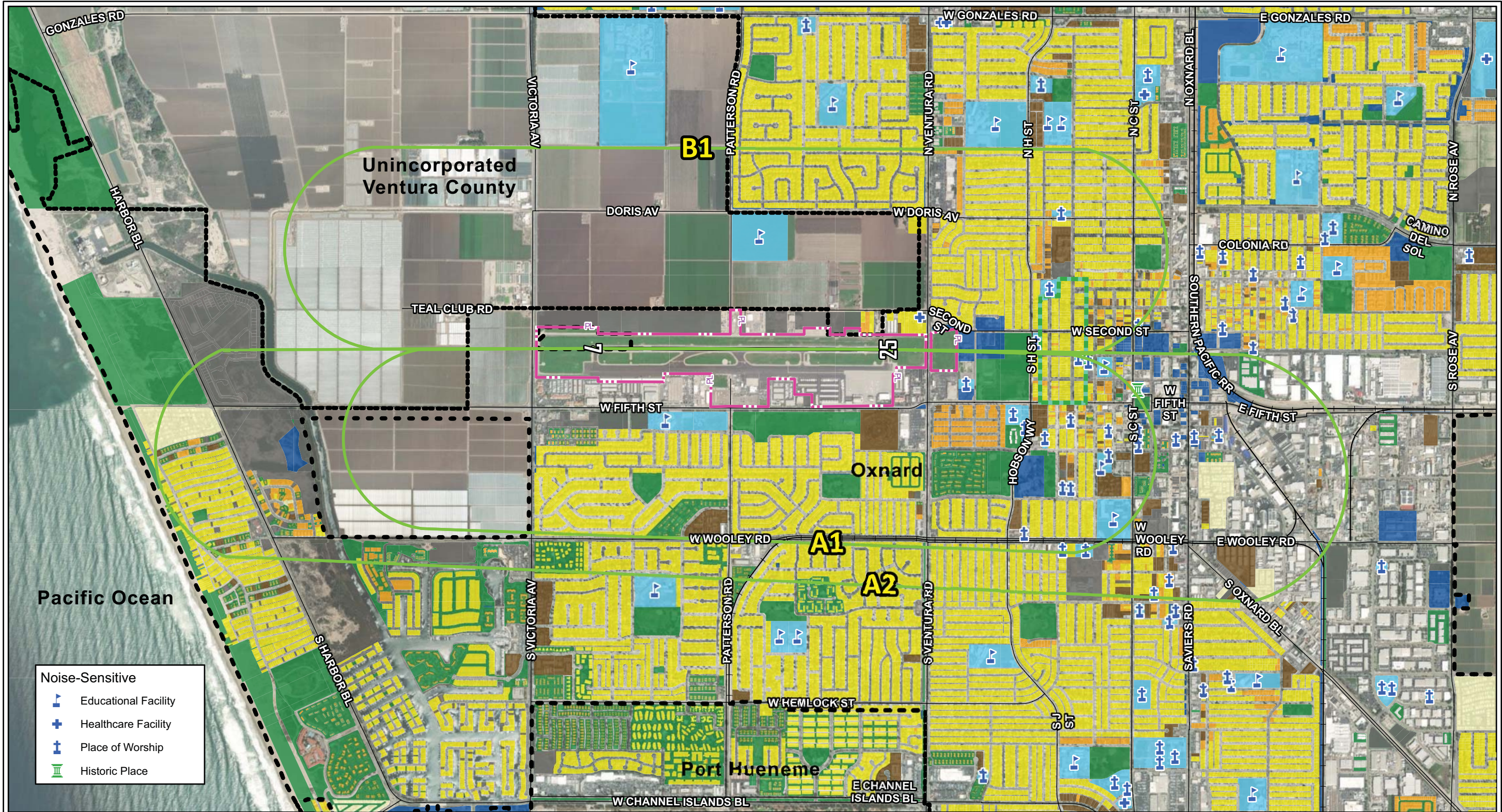
As indicated on **Exhibit 3G** and in **Table 3G**, the 65 CNEL and 70 CNEL noise contours extend off airport property. In Chapter 4 – Noise Impacts, these areas will be evaluated for potential noise impacts when considering FAA land use compatibility thresholds. As shown by the checklist in Appendix H, Noise Exposure Maps are required to show continuous contours for at least the 65, 70, and 75 CNEL. Additional information regarding land use compatibility guidelines can be found in Chapter Four – Noise Impacts and **Appendix C – Resource Library**. These sections describe in more detail the importance of the 65 CNEL contour and rationale behind these data requirements.

Typically, departure spool-up noise is the loudest component of aircraft operations; therefore, as shown on **Exhibit 3G**, the contours are widest from the east near the Runway 25 end since most aircraft depart to the west on Runway 25. To the west, the contour elongates, which is indicative of departure noise as an aircraft gains altitude after leaving the ground. The width of the contours on the south side of the airport toward the middle of the runway is influenced by helicopter activity: one helipad is located in this area.

As indicated in **Table 3G**, the total area of the 2022 noise contours located off airport property is 59.29 acres.





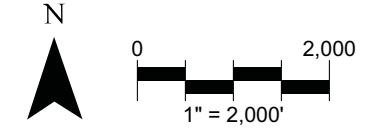


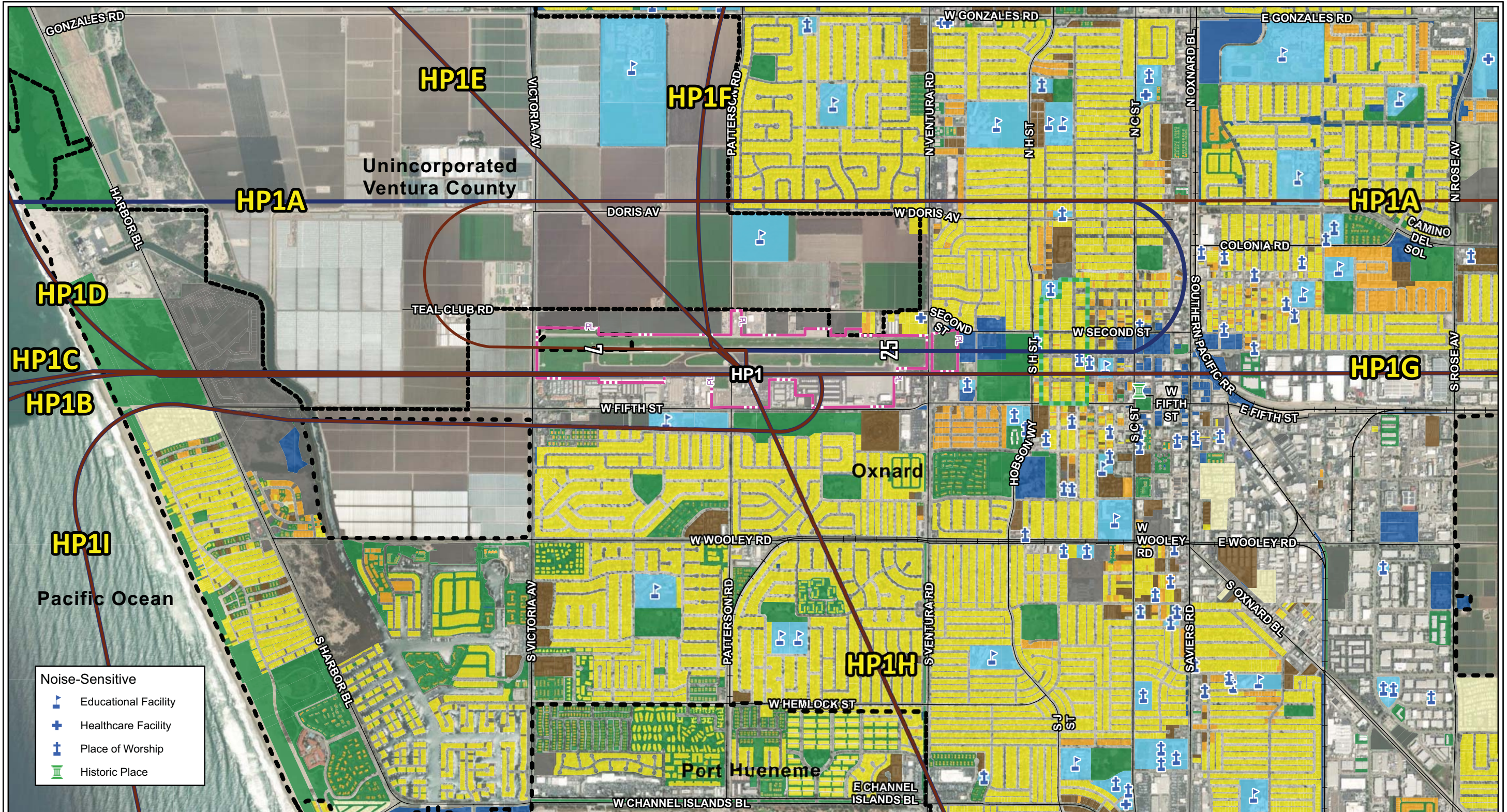
- Noise-Sensitive**
- Educational Facility
  - Healthcare Facility
  - Place of Worship
  - Historic Place

**Legend**

- Consolidated Touch and Go Tracks
- Henry T. Oxnard National Historic District
- Runway Centerline
- Existing Land Use**
- Multi-Family Residential - High Density
- Parks/Open Space
- Airport Property Line
- Jurisdictional Boundaries
- Railroad
- Roads
- Single-Family Residential
- Manufactured Homes
- Public/Quasi-Public
- Noise-Sensitive
- Vacant

Source:  
Ventura County Parcel Layer  
and Tax Roll Data.  
Flight track data from  
Vector Airport Systems.  
ESRI Basemap Imagery, 2022



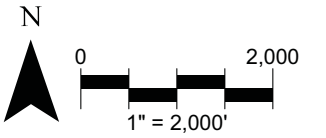


- Noise-Sensitive**
- Educational Facility
  - Healthcare Facility
  - Place of Worship
  - Historic Place

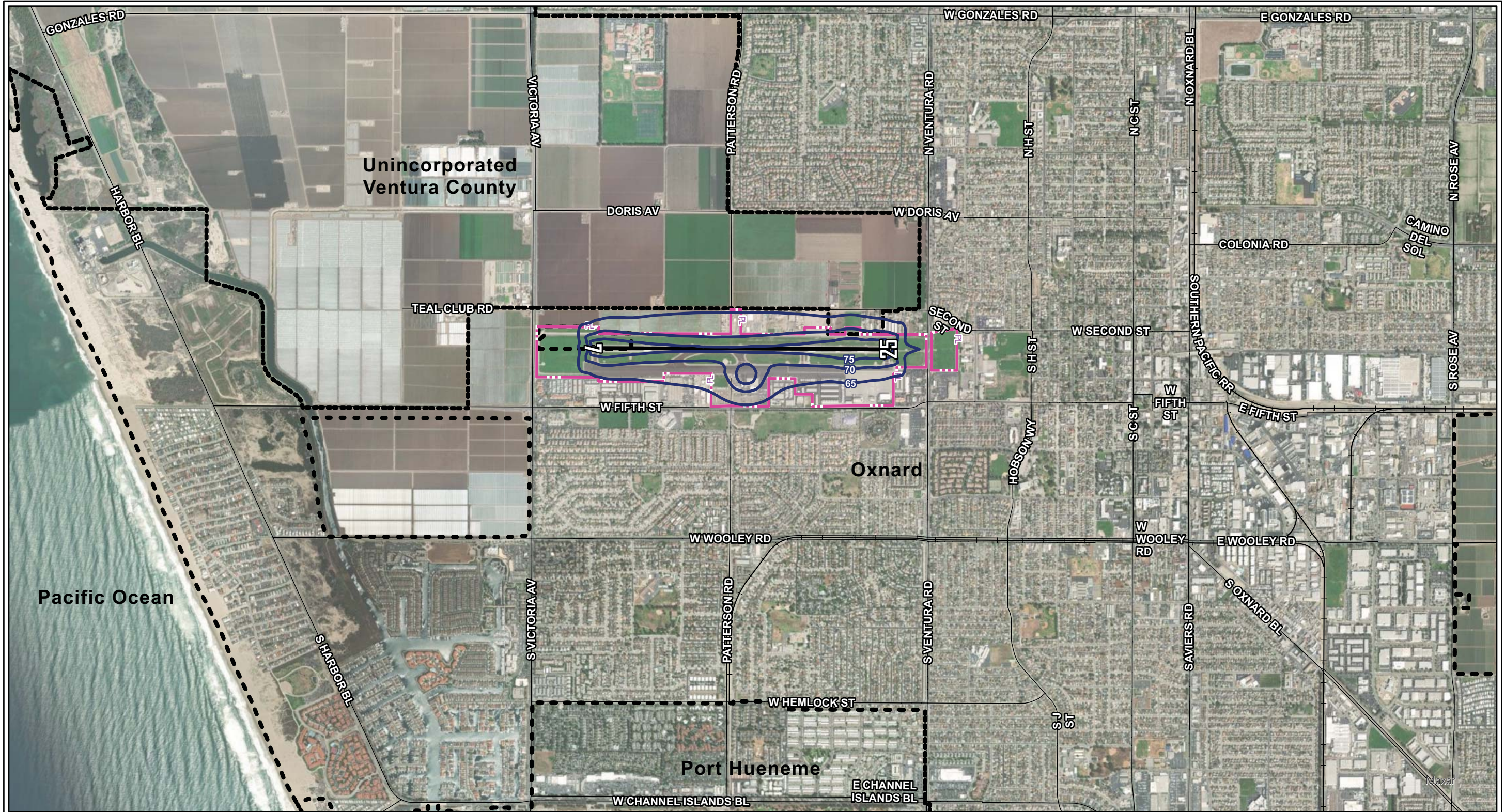
**Legend**

- |                             |  |                           |                           |   |                     |                 |
|-----------------------------|--|---------------------------|---------------------------|---|---------------------|-----------------|
| Helicopter Arrival Tracks   | Airport Property Line                      | Jurisdictional Boundaries | Roads                     | Multi-Family Residential - Medium Density | Manufactured Homes  | Noise-Sensitive |
| Helicopter Departure Tracks | Henry T. Oxnard National Historic District | Runway Centerline         | <b>Existing Land Use</b>  | Multi-Family Residential - High Density   | Public/Quasi-Public | Vacant          |
|                             |  | Railroad                  | Single-Family Residential |   | Parks/Open Space    |                 |

Source:  
Ventura County Parcel Layer  
and Tax Roll Data.  
Flight track data from  
Vector Airport Systems.  
ESRI Basemap Imagery, 2022



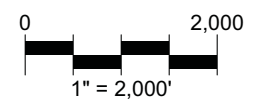




**Legend**

- 2022 CNEL Noise Contours
- Airport Property Line
- Jurisdictional Boundaries
- Runway Centerline
- Railroad
- Roads

Source:  
Coffman Associates Analysis  
ESRI Basemap Imagery, 2022



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## 2027 NOISE EXPOSURE CONTOURS

The 2027 noise exposure contours are depicted on **Exhibit 3H**. The shape of the contours is similar to the previously discussed 2022 scenario. When compared to the 2022 scenario, the 65, 70, and 75 CNEL noise contours are slightly larger. This is due to projected increases in operations, as presented in **Table 3C**. The contours are similarly influenced by a majority of departures to the west, as well as helicopter activity.

The extent of the contours and the land uses encompassed by them will be discussed in more detail in Chapter Four – Noise Impacts.

As indicated in **Table 3G**, the total area of the 2027 noise contours located off airport property is 64.16 acres.

## AIRCRAFT NOISE MEASUREMENT PROGRAM

Although not required by the FAA as part of this Noise Exposure Map document, the Ventura County Department of Airports commissioned optional noise measurement to provide field-collected data for comparison with the computer-predicted values generated using the AEDT. The locations of noise monitoring sites are shown on **Exhibit 3J** and the results are discussed in **Appendix F**.

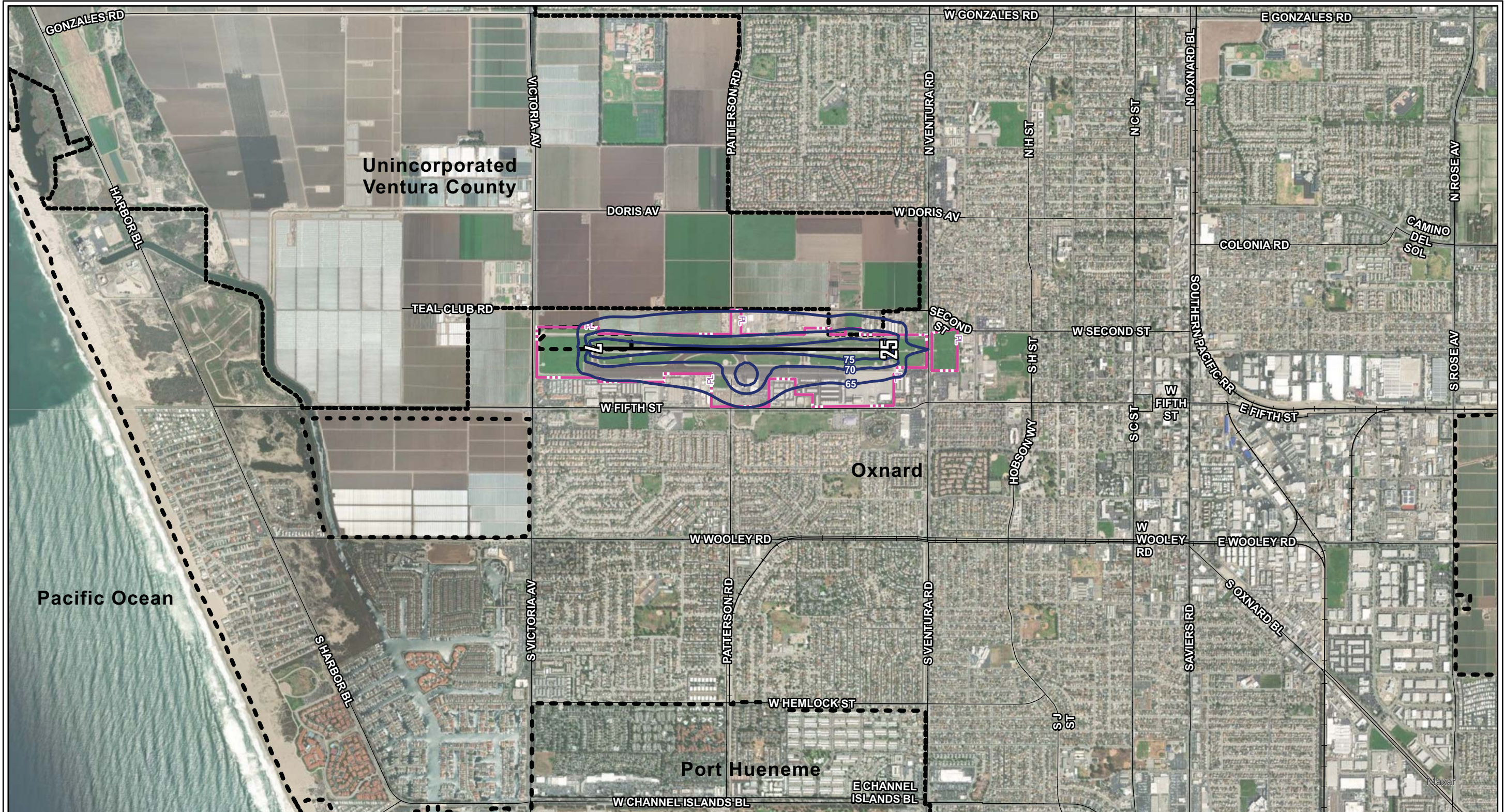
## SUMMARY

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

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

The 2022 and 2027 65 CNEL and greater noise exposure contours developed in this chapter will be used in Chapter Four – Noise Impacts to identify the areas impacted by airport noise, based on federal guidance.

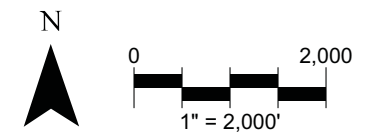
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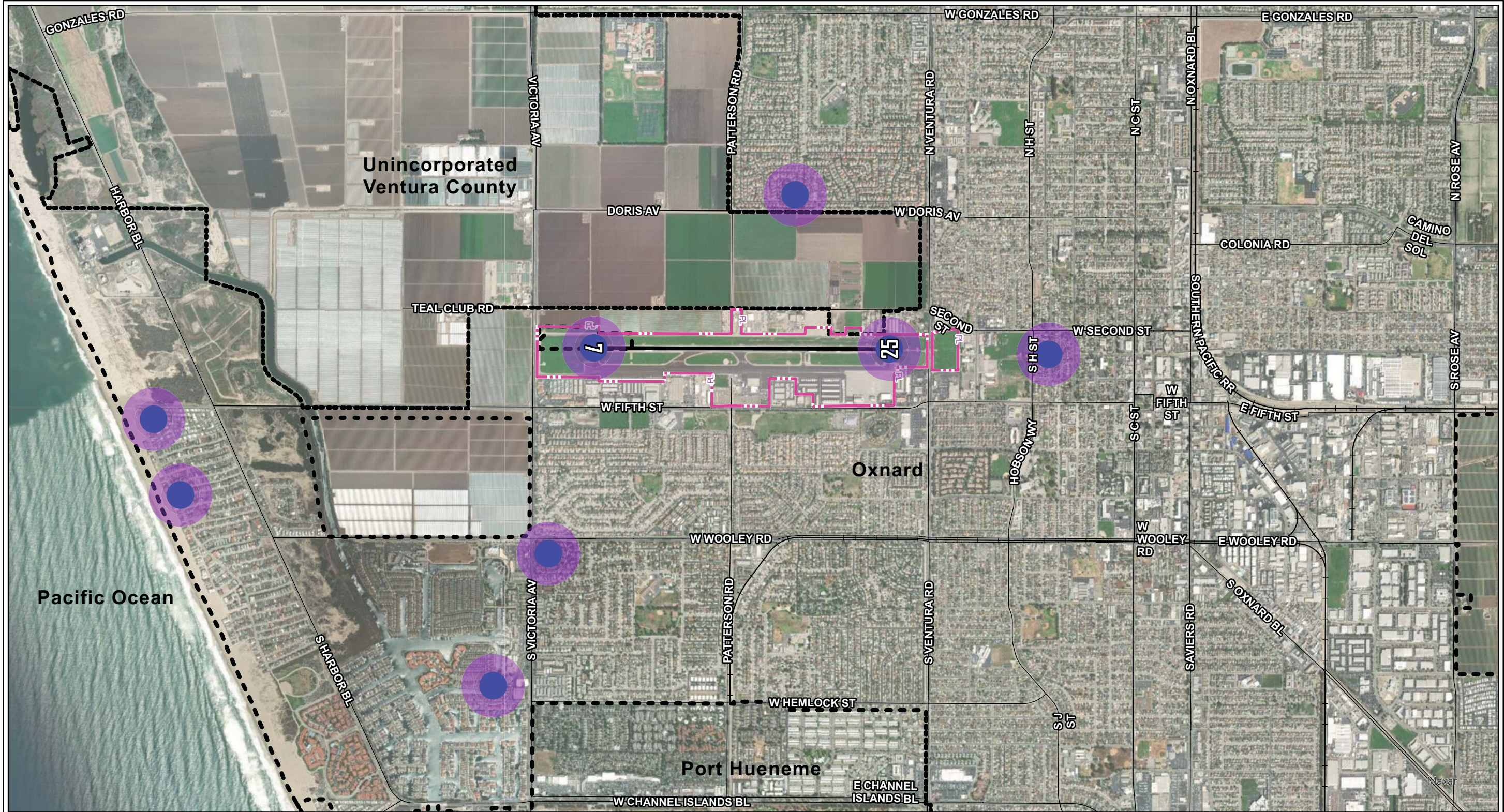


**Legend**

- 2027 CNEL Noise Contours
- Airport Property Line
- Jurisdictional Boundaries
- Runway Centerline
- Railroad
- Roads

Source:  
Coffman Associates Analysis  
ESRI Basemap Imagery, 2022





**Legend**

— Roads  
— Railroad

— Runway Centerline

— Airport Property Line

••• Jurisdictional Boundaries

○ OXR Noise Monitoring Areas

Draft - May 10, 2023

Source:  
ESRI Basemap Imagery, 2022

