

9 ■ ISSUES, ACTIONS, AND RECOMMENDATIONS

14 CFR
PART 150
UPDATE



14 CFR PART 150 UPDATE

CHAPTER 9. ISSUES, ACTIONS, AND RECOMMENDATIONS



This chapter contains the recommendations of this Title 14, Code of Federal Regulations (CFR) Part 150 Study Update (14 CFR Part 150 Study) for San Diego International Airport (SDIA), which is an update to the Noise Compatibility Program (NCP) completed in 2010. The recommendations form the basis of the NCP portion of this 14 CFR Part 150 Study. The time-period for this NCP is through the year 2026, which is the future year serving as the basis for the Future Noise Exposure Map (NEM). The Future NEM is presented in this chapter along with the affected population and acreage associated with it. This is the NEM used as the basis for this NCP.

The individual recommendations of the NCP identified in this chapter are composed of recommendations for noise abatement (operational), land use compatibility, facility modifications, and program management.

9.1 FUTURE NOISE EXPOSURE MAP

A 14 CFR Part 150 Study requires the evaluation of future noise conditions and the identification of a Future NEM. This study includes a future baseline noise exposure contour map that served as the basis for considering the effectiveness of each noise abatement option. The Future NEM reflects the 2026 forecast of aviation activity. The Future NEM is illustrated in **Figure 9.1**. The future NEM represents future noise conditions with none of the operational recommendations implemented because the only operational alternative recommended for implementation is the Close-in Noise Abatement Departure Procedure (NADP) Alternative, which would reduce single event levels, but would not produce enough of a cumulative reduction to show a noticeable change in the 65 Community Noise Equivalent Level (CNEL) contour. Additionally, the timing and specifics for implementation of the Close-in NADP is not known as it will require additional coordination with airlines. Therefore, because there are no operational recommendations that would affect the CNEL, the Future NEM would not change by + 1.5 CNEL, as required by 14 CFR § 150.21(d).

All of the other operational alternatives were shown to shift noise which resulted in the introduction of new non-compatible land uses within the 65 CNEL contour, therefore none of the additional operational alternatives are included in the Future NEM. The comparison of the Existing and Future NEMs is shown in **Figure 9.2**. The land use types and population within the Future NEM are detailed in **Table 9.1** and the 14 CFR Part 150 Land Use table was used to determine compatibility recommendations that would not drive the Future NEM and are included in the discussion in **Section 9.2 - Recommendations**.



TABLE 9.1 EXISTING LAND USE WITHIN FUTURE NOISE EXPOSURE MAP CONTOURS

Population and Units	65 CNEL	70 CNEL	75 CNEL
Housing Units ¹	15,149	2,642	515
Population (Civilian)	30,976	5,173	699
Population (Military) ²	3,324	2,876	112
Land Use (Acres)	65 CNEL	70 CNEL	75 CNEL
Residential	902	224	12
Hotel/Motel	19	2	<1
Mixed Use	2	1	0
Commercial/Office	205	75	11
Industrial	93	68	30
Agricultural	0	0	0
Parks and Rec	346	87	4
Golf	66	17	0
Public Service	145	52	3
Education	92	16	0
Military Use	343	199	88
Airport	507	440	301
Transport/Comm/Ut	3	<1	<1
Under Construction	2	1	<1
Vacant/Undeveloped	36	10	1
Water	101	39	18
Transportation/ROW	1,019	362	70
TOTAL	3,881	1,594	540

SOURCES: HMMH, Appendix E - Noise, 2020 Land Use Analysis: Mead & Hunt, 2020; and Population/Housing Data: US Census, 2010.

NOTES:

Numbers may not add due to rounding.

¹ 4,000 of these units have been sound attenuated. Unit counts exclude temporary military housing units located at MRCD, as temporary housing units are not eligible to receive federal funding for sound attenuation.

² Because the temporary housing units at MRCD are not eligible to receive federal funds for sound attenuation, military population associated with these units is listed separately from civilian population.

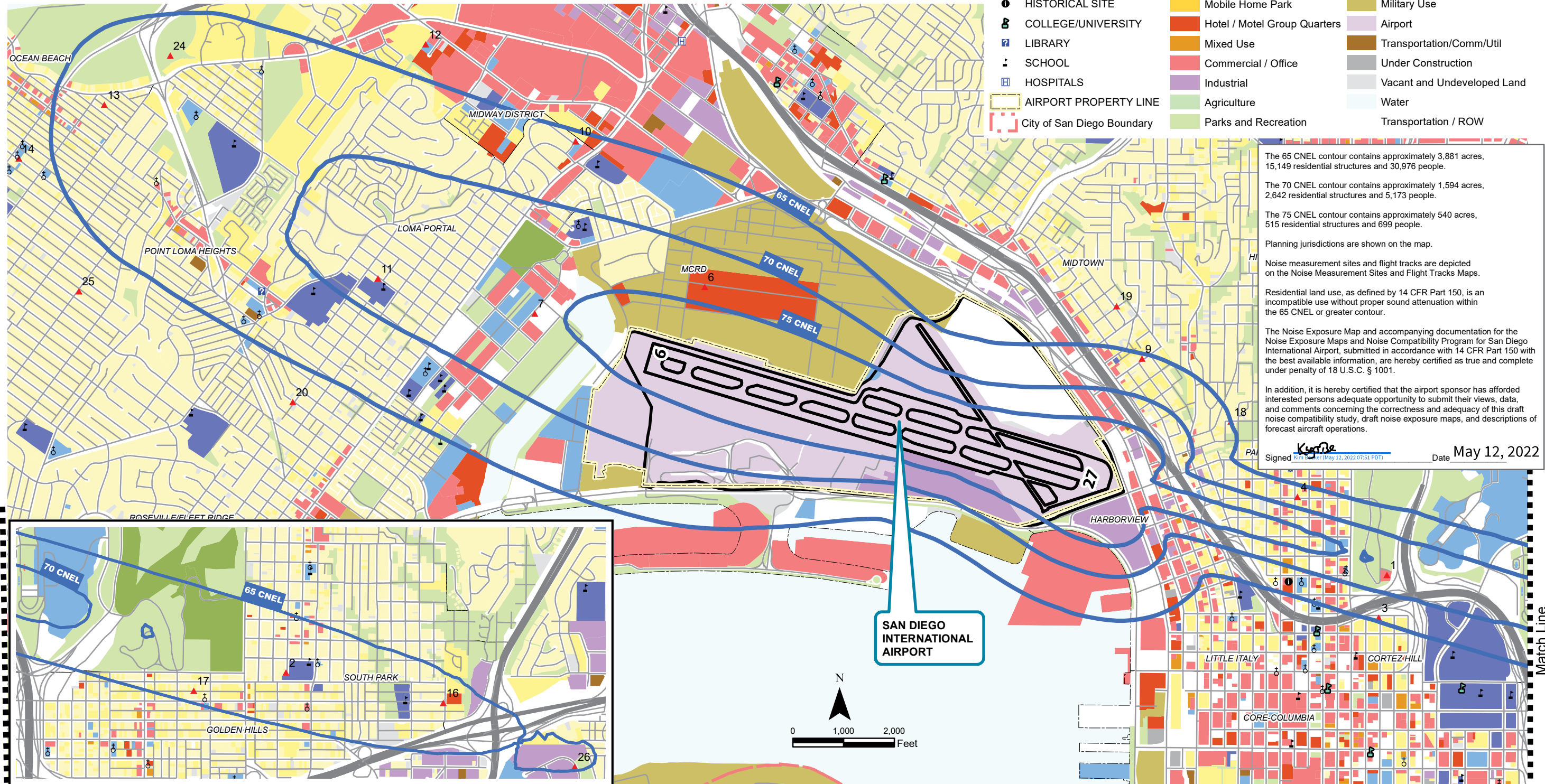


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Legend

- | | | |
|----------------------------|------------------------------|-----------------------------|
| FUTURE BASE CASE (2026) | LAND USE | Golf |
| Noise Monitoring Terminal | Single Family Residential | Public Service |
| RELIGIOUS SITE | Multi Family Residential | Education |
| HISTORICAL SITE | Mobile Home Park | Military Use |
| COLLEGE/UNIVERSITY | Hotel / Motel Group Quarters | Airport |
| LIBRARY | Mixed Use | Transportation/Comm/Util |
| SCHOOL | Commercial / Office | Under Construction |
| HOSPITALS | Industrial | Vacant and Undeveloped Land |
| AIRPORT PROPERTY LINE | Agriculture | Water |
| City of San Diego Boundary | Parks and Recreation | Transportation / ROW |



The 65 CNEL contour contains approximately 3,881 acres, 15,149 residential structures and 30,976 people.

The 70 CNEL contour contains approximately 1,594 acres, 2,642 residential structures and 5,173 people.

The 75 CNEL contour contains approximately 540 acres, 515 residential structures and 699 people.


Planning jurisdictions are shown on the map.

Noise measurement sites and flight tracks are depicted on the Noise Measurement Sites and Flight Tracks Maps.

Residential land use, as defined by 14 CFR Part 150, is an incompatible use without proper sound attenuation within the 65 CNEL or greater contour.

The Noise Exposure Map and accompanying documentation for the Noise Exposure Maps and Noise Compatibility Program for San Diego International Airport, submitted in accordance with 14 CFR Part 150 with the best available information, are hereby certified as true and complete under penalty of 18 U.S.C. § 1001.

In addition, it is hereby certified that the airport sponsor has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of this draft noise compatibility study, draft noise exposure maps, and descriptions of forecast aircraft operations.

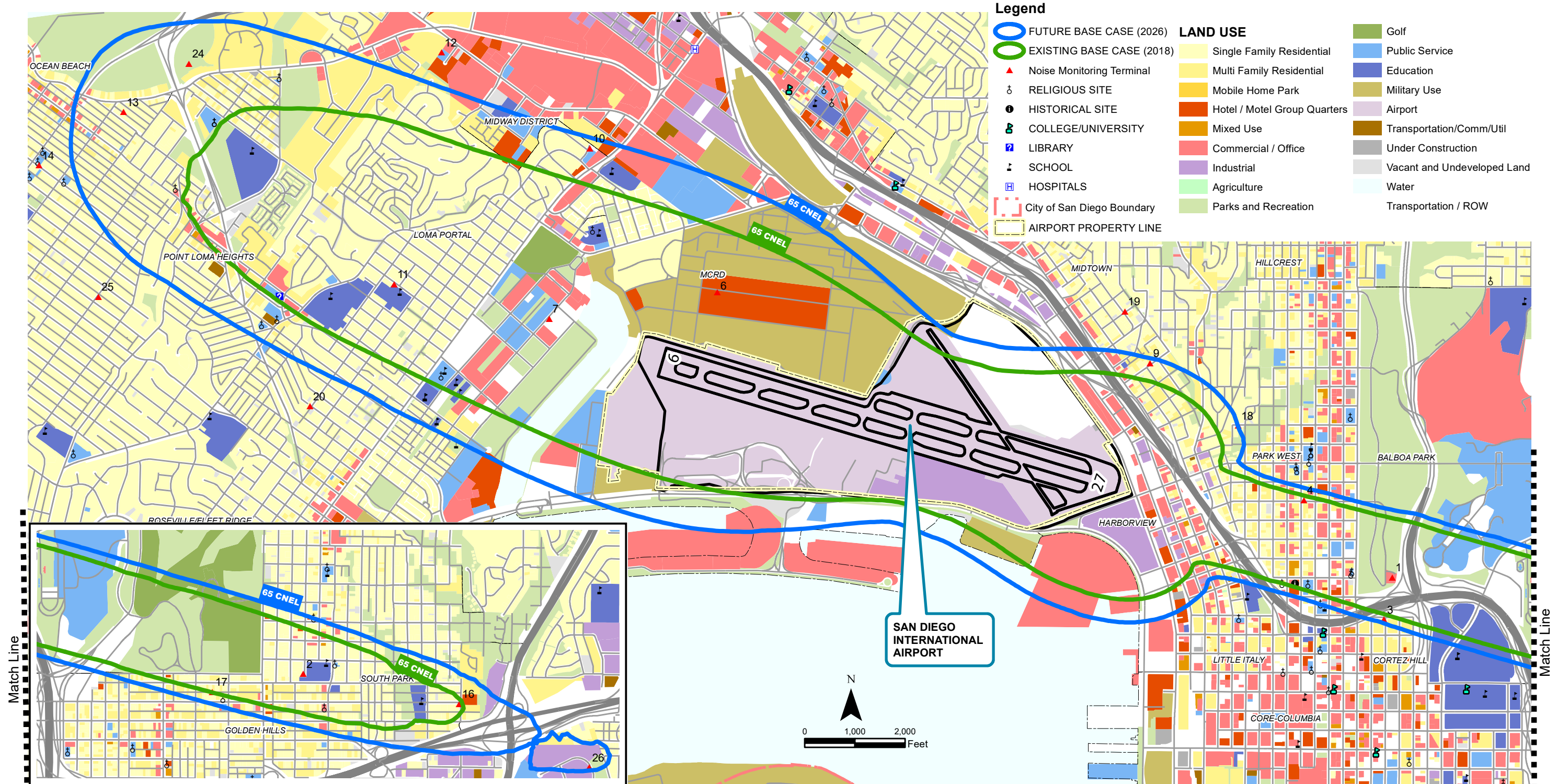
Signed  Date May 12, 2022

SOURCE: 1. SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.
 2. HMMH, September, 2020 (Refined Base Case Contours)

FIGURE 9.1 FUTURE NOISE EXPOSURE MAP (NEM) 2026 (DUPLICATE)

14 CFR PART 150 REQUIRED MAP





SOURCE: 1. SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.
 2. HMMH September, 2020 (Refined Base Case Contours)

FIGURE 9.2 COMPARISON OF EXISTING 2018 AND FUTURE 2026 NEMS (65 CNEL)

9.2 RECOMMENDATIONS

Operational recommendations have the potential to affect the CNEL noise exposure contours; however, as stated above, most of the operational alternatives would result in a shift in noise to newly affected areas within the 65 CNEL, which does not meet purposes of 14 CFR Part 150 and its application (**Appendix I – FAA Noise Shifting Letter**). Therefore, Alternatives 1A, 1B, 1C, 1D, 2A, 2B, 2C, 2D, 3A, 3B and 4 are not brought forward as recommendations. There are several other recommendations for implementation that would not alter the size or location of the contours but may reduce single event noise or help remediate or prevent additional noise issues in the future. These recommendations are summarized in the sections below.

The remainder of this chapter no longer uses the same numbering system that was used to differentiate among the options in other chapters (i.e., Alternative 1A). Instead, this chapter uses recommendation numbers that are a sequential listing of NCP recommendations within each category (noise abatement, remedial land use, land use/control, and program management) for ease of use in the final Record of Approval and tracking going forward. It is important to note that the recommendations are not listed in order of priority for implementation. Priorities and conditions are subject to change over time, are based on availability of funding, and should be set annually along with SDIA's Capital Improvement Plan (CIP). The recommendations developed for this Study note where recommendations are continued from previous Records of Approval.

While implementation of the recommendations is not required and is highly dependent upon available funding and resources, SDIA intends to implement the proposed NCP. The inclusion of any proposed project in this NCP is subject to eligibility, what is allowable, and the justification requirements in place at the time the project is proposed for SDIA's CIP. Federal Aviation Administration (FAA) approval of any measure is not a commitment to funding or of eligibility. Airport Improvement Plan (AIP) eligibility will be determined when the project is ready to be implemented. In addition, appropriate environmental documentation may be required prior to implementation.

Noise Abatement Recommendation

Noise Abatement Recommendation 1: Noise Abatement Departure Profile (NADP)

Facility Management Recommendation

Facility Management Recommendation 1: Ground Based Augmentation System (GBAS)

Remedial Land Use Recommendations

Remedial Land Use Recommendation 1: Sound Attenuation of Eligible Non-Residential Noise Sensitive Buildings

Remedial Land Use Recommendation 2: Sound Attenuation of Eligible Residential Units



Land Use Planning/Control Recommendations

- Land Use Planning/Control Recommendation 1: Prevent New Non-Compatible Land Use Development
- Land Use Planning/Control Recommendation 2: San Diego County Airport Land Use Commission (ALUC)
- Land Use Planning/Control Recommendation 3: Support Compatibility Planning Process

Program Management Recommendations

- Program Management Recommendation 1: Aircraft Noise Office and Program Manager
- Program Management Recommendation 2: Airport Noise and Operations Monitoring System (ANOMS)
- Program Management Recommendation 3: Portable Noise Monitoring
- Program Management Recommendation 4: Fly Quiet Program
- Program Management Recommendation 5: Airport Noise Advisory Committee (ANAC)
- Program Management Recommendation 6: Communicate Noise Issues with Airlines
- Program Management Recommendation 7: Administer Airport Use Regulations
- Program Management Recommendation 8: California Quarterly Noise Reports
- Program Management Recommendation 9: Update Noise Exposure Maps (NEMs)
- Program Management Recommendation 10: Update Noise Compatibility Program (NCP)



9.2.1 Existing Actions – Previous Part 150 Study NCP

This NCP is an update of the 2010 Part 150 Study adopted by San Diego County Regional Airport Authority (SDCRAA). The NEMs were accepted on November 10, 2009, and the NCP was approved by the FAA on June 30, 2011. The summary of the Record of Approval is included in **Tables 1.5**, and the tables detail noise abatement/mitigation measures contained in that document that the FAA approved and SDCRAA has implemented. The previous Record of Approval is in **Appendix B – FAA Approvals**, of this 14 CFR Part 150 Study Update. As SDCRAA has a mature NCP in place, many of the recommendations of this 14 CFR Part 150 Study Update are continued from the previous NCP or revised/updated based on additional considerations and new conditions that look forward to new technologies or refinements of the existing programs. Although some of the recommendations, particularly those addressing land use, have been revised or combined to reflect current conditions, these continued or revised measures are included in the recommendations of this report and are explained in the next section.

The individual recommendations of the NCP identified in this section are composed of noise abatement, land use management, facility management and program management recommendations. For each recommendation of the NCP, this section identifies: the issue that the recommendation is intended to address; the proposed, revised, or new action recommended to address it; comments concerning the recommendation; the estimated cost of implementation of the recommendations; the parties responsible for the implementation; the role of SDCRAA; and the estimated implementation time frame. The recommendations listed within this section are voluntary and are not enforceable or mandatory.

The following pages describe the recommendations for the updated NCP for SDIA.

9.2.2 Noise Abatement Recommendation

9.2.2.1 Noise Abatement Recommendation 1: Voluntary Noise Abatement Departure Profile (NADP)

ISSUE. Departure noise over sensitive land uses.

NEW ACTION. This recommendation further enhances noise abatement flight tracks for departing aircraft on Runway 27 by using a Close-in Noise Abatement Departure Procedure (NADP). This recommendation would use a noise abatement departure procedure for aircraft to reduce thrust when approximately 1,500 feet Above the Field Elevation (AFE). Given that there are sensitive land uses starting about one-quarter mile from the runway end, it is not possible to avoid overflying these land uses, but it is possible to attempt to minimize noise from departure operations over areas within the 65 CNEL. This recommendation would reduce single event overflight noise within the 65 CNEL.

This recommendation involves aircraft flying a “Close-in NADP” as defined in AC 91-53. This AC defines two noise abatement departure procedures, one that reduces thrust close to the airport, and one that reduces thrust further away. These two NADPs give airports the ability to reduce noise closer into the airport or further away, depending on the land uses under the departure path. As detailed in **Chapter 7**, the Close-in NADP involves aircraft:

1. Using full thrust for departure;
2. Reducing thrust to 85% for climb; and
3. Accelerate once past the shoreline.



COMMENTS. This noise abatement departure procedure was analyzed to reduce noise under the departure path. Comments from the community indicated an interest in a procedure similar to the departure used by John Wayne Airport in Orange County. The noise abatement procedure at John Wayne Airport is legacied, therefore, is unable to be implemented at other airports without conducting a costly and time-consuming Part 161 Study. Additionally, per AC 91-53, an aircraft can only have two NADPs to avoid airports or air carriers implementing unique NADPs throughout the country. Having two available NADPs helps provide consistency to pilots that may only occasionally operate at an airport and may not be familiar with specific noise abatement procedures. If one of the two standard NADPs can provide noise mitigation value, it is much more likely to be used by the air carriers. Therefore, the consultants focused on analyzing the Close-in NADP which provided the greatest potential for noise reduction relative to the non-compatible land uses around SDIA. The analysis showed benefits of the Close-in NADP for reducing single event levels over non-compatible land uses near SDIA. Implementing voluntary NADPs yields positive results with air carriers; these procedures can be included in Fly Quiet programs. Therefore, because the Close-in NADP could provide benefits with a greater opportunity for implementation, it is recommended that the Close-in NADP be utilized at SDIA.

COST. The cost to implement these procedures would be negligible as each airline develops such procedures for each of their aircraft types. SDCRAA would be responsible for coordinating with the airlines and there would be a minimal administrative cost.

RESPONSIBLE PARTIES. The FAA has ultimate responsibility for the control of aircraft flight. Additionally, coordination with the air carriers would be needed to implement this recommendation, which would be the responsibility of SDCRAA. The airlines would be responsible for implementing the voluntary procedures.

AIRPORT ACTION. SDCRAA would be responsible for coordinating the specific procedures and discussions with air carriers.

TIME FRAME. There are no known timing barriers to implementation for this recommendation and can be implemented immediately.

9.2.3 Facility Management Recommendation

9.2.3.1 Facility Management Recommendation 1: Ground Based Augmentation System (GBAS)

ISSUE. Navigation issues that stem from adverse weather conditions and stability on the arrival path.

NEW ACTION. This alternative focuses on implementing new technology to support future development of new instrument approach procedures. These procedures, which are guided using ground equipment in conjunction with GPS, are precise and have more flexibility than existing procedures based upon conventional technology, thus allowing for more opportunities to create noise abatement procedures. The focus of this alternative is using Ground Based Augmentation System, or GBAS, technology to provide for new instrument approach procedure alternatives. This is a new recommendation for the 14 CFR Part 150 Study Update.



COMMENTS. Traditional ground-based navigational aids, most notably the Instrument Landing Systems (ILS), is used by commercial and general aviation aircraft. An ILS is set of equipment located at the end of a runway that provides vertical and lateral guidance to landing aircraft. This is done by the system's vertical and lateral components sending out radio signals to receiving aircraft. GBAS is a NextGen landing system, like an ILS, but uses the GPS signal along with local ground-based augmentation that allows aircraft to land in instrument weather conditions. It is different than an ILS in that it can be used on both runway ends and can support multiple approach procedures. GBAS includes ground-based and satellite components that precisely guide aircraft to a runway in all weather conditions. It is important to note that this technology is relatively new, and many aircraft are not equipped to date. Therefore, the benefit of the alternative is focused highly on future increased use over time. Further options to use GBAS for noise abatement may develop as the technology is implemented and further utilized.

COST. The rate at which commercial airlines will equip their aircraft to be GBAS capable is uncertain; this is a cost that will be absorbed by the airlines. There is a cost for the ground components of GBAS, which is approximately \$3M. The ground components include at least three GPS antennas, computer, VHF data broadcast transmitter which are installed on or near the airport. Currently the FAA does not reimburse the annual maintenance for GBAS landing systems. The cost for the landing systems is estimated to be \$100,000 per year.

RESPONSIBLE PARTIES. At the time of this report, the FAA is not funding GBAS systems; airports are responsible for funding, installation, and licensing of the system. The airport would also be responsible for ongoing maintenance costs. While the FAA would not fund or maintain the system, the airport must follow FAA guidance when siting the system, and the FAA will inspect the ground system on a pre-determined basis.

AIRPORT ACTION. SDRCAA would be responsible for coordinating procurement, installation, and maintenance of the system.

TIME FRAME. The potential time frame is dependent on FAA eligibility and the potential for FAA to provide funding.

9.2.4 Remedial Land Use Recommendations

9.2.4.1 Remedial Land Use Recommendation 1: Sound Attenuation of Eligible Non-Residential Noise Sensitive Buildings

ISSUE. Reduce noise levels experienced inside non-residential noise sensitive uses.

CONTINUED ACTION. This recommendation would sound attenuate eligible non-residential noise sensitive land uses through the Quieter Non-Residential Program.

COMMENTS. To be eligible for sound insulation, the structure must be non-compatible land use located within the approved 65 CNEL or greater noise eligibility boundary, experience measured interior noise levels of 45 dB or higher, meet code, and must have been constructed prior to October 1, 1998. The proposed eligibility boundary is illustrated in **Figures 9.3, Figure 9.4, and Figure 9.5**. Noise sensitive non-residential uses may include schools, medical facilities, and religious facilities, among others.

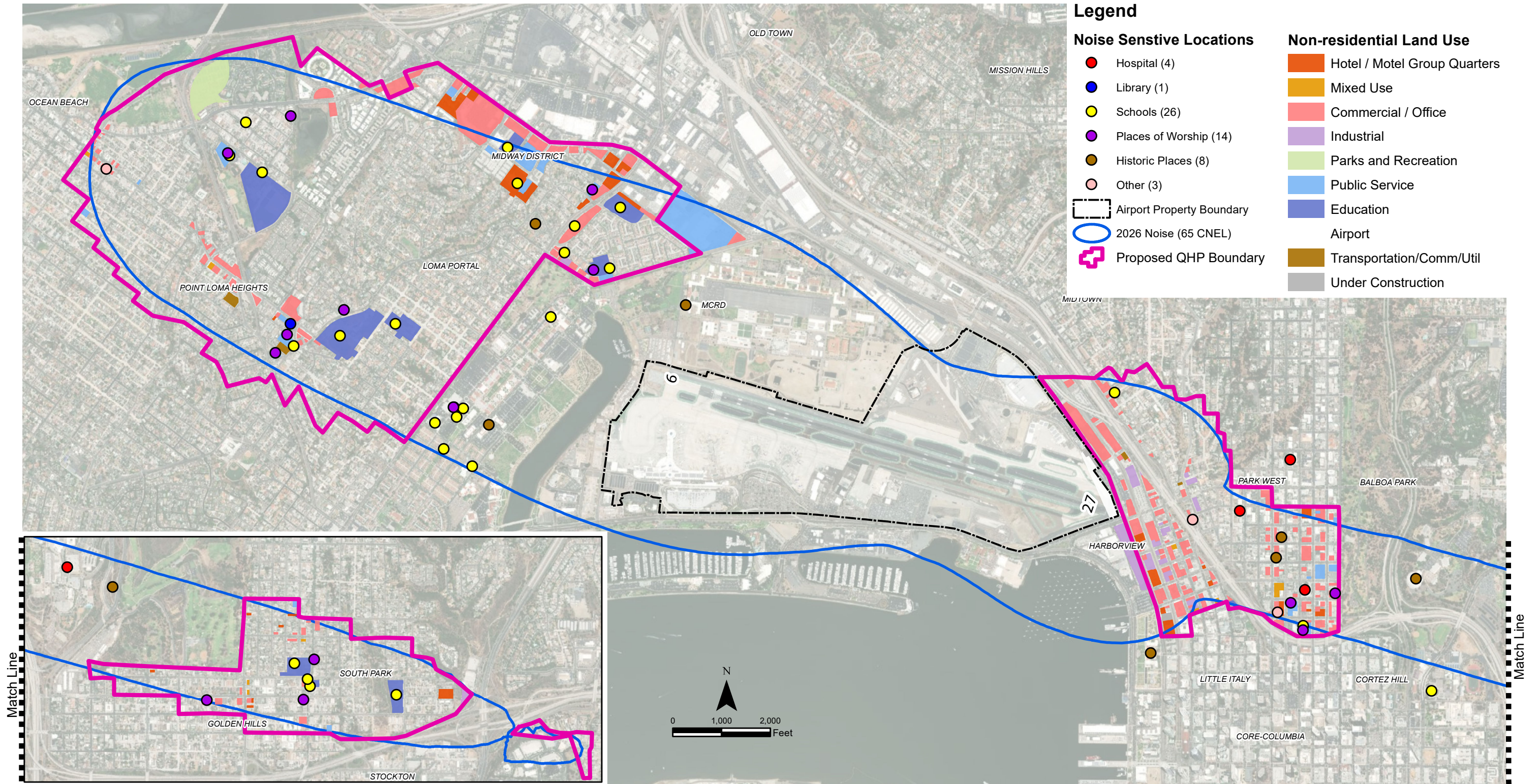


In 2020, SDCRAA initiated a Quieter Non-Residential Program, which is distinct and separate from the Quieter Home Program (QHP).

This measure would be a continuation of the previous recommendation, to include any additional uses within the new noise contours. The future NEM showed approximately 56 buildings in the Future 65 CNEL could be eligible for sound attenuation.

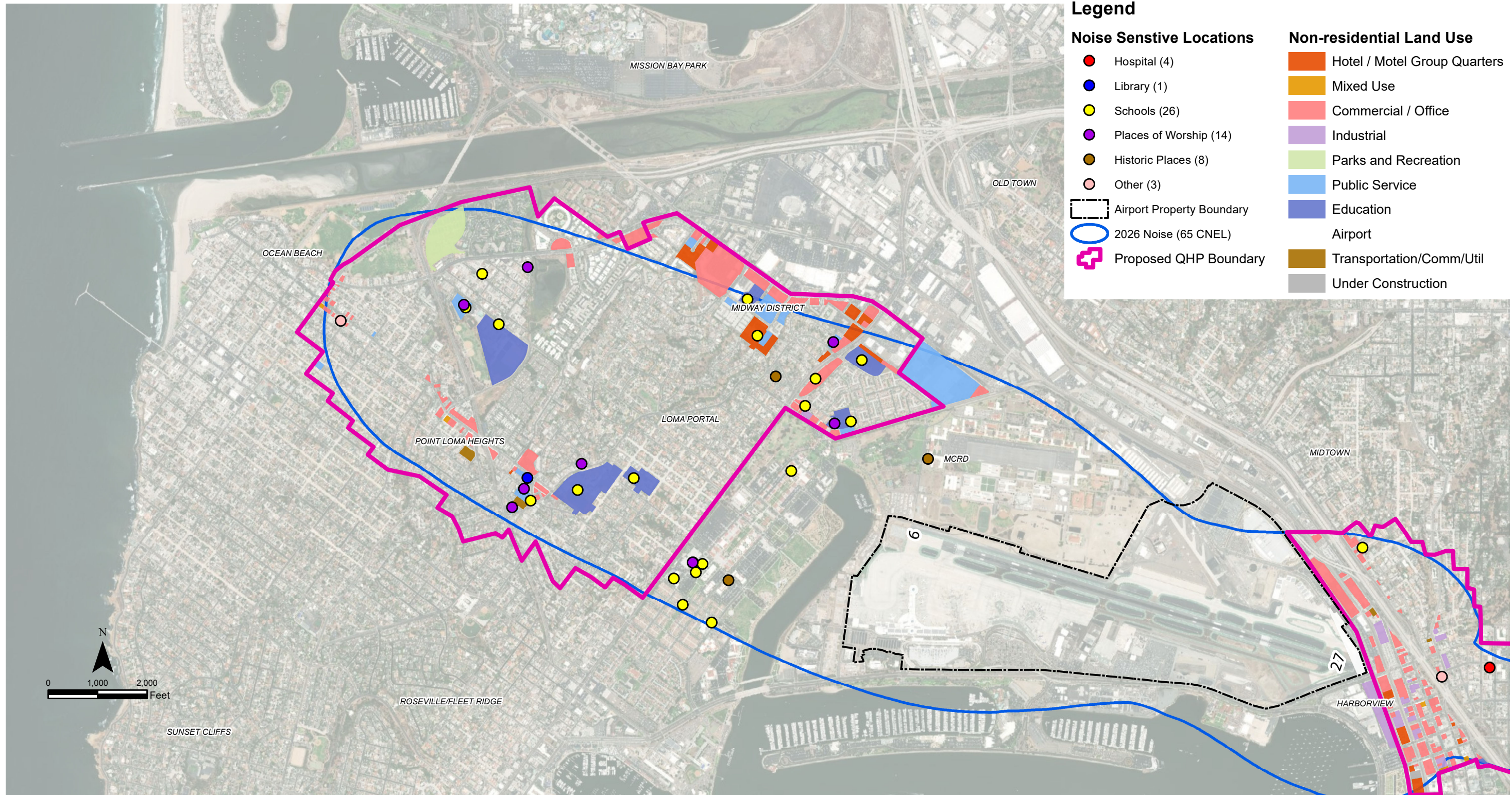
COST. An estimated \$3-5 million per non-residential structure would be needed for sound attenuation. The estimated total cost to treat the 56 eligible buildings surrounding SDIA is approximately \$168 to \$280 million, with up to 80% being covered by funds from FAA grants and the remaining portion to be covered by SDCRAA.





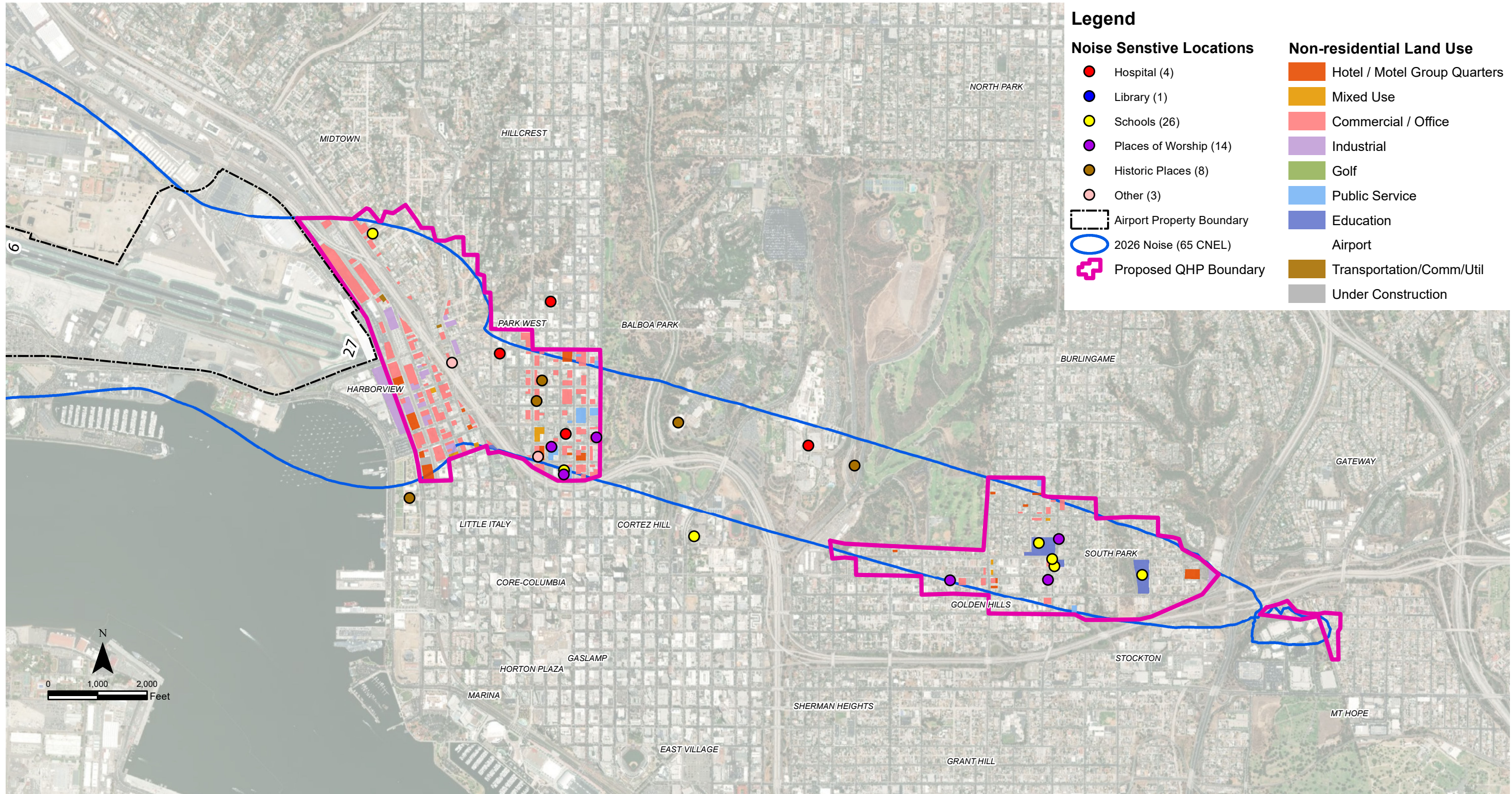
SOURCE: 1. SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.

FIGURE 9.3 QUIETER HOME PROGRAM (QHP) PROPOSED ELIGIBILITY BOUNDARY



SOURCE: 1. SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.

FIGURE 9.4 QUIETER HOME PROGRAM (QHP) PROPOSED ELIGIBILITY BOUNDARY - WEST OF AIRPORT



SOURCE: 1. SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.

FIGURE 9.5 QUIETER HOME PROGRAM (QHP) PROPOSED ELIGIBILITY BOUNDARY - EAST OF AIRPORT

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RESPONSIBLE PARTIES. SDCRAA is responsible for identifying the properties eligible for sound insulation, contacting the owners, applying for FAA funding, and hiring contactors to perform the sound interior noise monitoring and insulation. The property owner must sign an avigation easement in order to receive insulation. Subject to eligibility, allowability, and justification requirements in place at the time the project is proposed for SDIA's CIP, FAA will be responsible to provide funding for this recommendation with a local match.

AIRPORT ACTION. SDCRAA would apply for federal funding, identify eligible properties, contact the owners of those properties, apply for funding, and hire contractors.

TIME FRAME. This recommendation is dependent upon several steps: the approval of this 14 CFR Part 150 Study and acceptance of the new Future NEMs, the securing of funding and discussion with eligible property owners, in-structure monitoring to make sure non-residential structures meet the 45 dB interior noise requirement, hiring of contractors, and general initiation and organization. Full completion of this recommendation could take many years due to the funding and the number of properties in the eligibility boundary.

9.2.4.2 Remedial Land Use Recommendation 2: Sound Attenuation of Eligible Residential Units

ISSUE. Reduce noise levels experienced inside residential units.

CONTINUED ACTION. This recommendation would sound attenuate eligible residential units through the QHP.

COMMENTS. Contingent upon FAA funding, the habitable rooms in eligible structures within the 65 CNEL or greater noise contour would be sound insulated with a minimum 5 dB noise reduction for owners that are eligible and volunteer for the program. To be eligible for sound insulation, the structure must be a noise sensitive land use located within the approved 65 CNEL or greater noise eligibility boundary, experience measured interior noise levels of 45 dB or higher, meet code, and must have been constructed prior to October 1, 1998. Residential units located on commercially zoned parcels are also not eligible to receive sound attenuation per FAA requirements.

The QHP is responsible for facilitating the insulation of existing structures within the previous 65 CNEL noise contour that was recommended in the previous Part 150 Study. This measure would be a continuation of the previous recommendation, to include any additional areas within the new noise contours. A little over 4,000 properties within the previous QHP boundary have been insulated to date at the time of this report. Based on the Future NEM, of the 15,149 homes within the 65 CNEL or greater noise contour, there are approximately 11,000 housing units that could be eligible for insulation. The proposed eligibility boundary with residential uses is illustrated in **Figure 9.3, Figure 9.4, and Figure 9.5.**

COST. Each home costs an estimated average of \$50,000 per unit for insulation, meaning this measure may reach as high as \$550 million with up to 80% being covered by funds from FAA grants and the remaining portion to be covered by SDCRAA. Cost per unit would vary depending on the size of the house in question, number of doors, windows, type of HVAC system, and historic status.



RESPONSIBLE PARTIES. SDCRAA is responsible for identifying the properties eligible for sound insulation, contacting the owners, applying for FAA funding, and hiring contactors to perform the sound interior noise monitoring and insulation. Citizens with qualifying homes are responsible for notifying SDCRAA that they would like to take part in the sound insulation program and signing a participation agreement and an avigation easement. Subject to eligibility, allowability and justification requirements in place at the time the project is proposed for SDIA's CIP, FAA will be responsible to provide funding for this recommendation.

AIRPORT ACTION. SDCRAA would apply for federal funding, identify eligible properties, contact the owners of those properties, apply for funding, and hire contractors.

TIME FRAME. This recommendation is dependent upon several steps: the approval of this 14 CFR Part 150 Study and FAA acceptance of the Future NEM, the securing of funding and discussion with eligible homeowners, in-house monitoring to make sure residences meet the 45 dB interior noise requirement, hiring of contractors, and general initiation and organization of the next phase of the QHP. Full completion of this recommendation would be ongoing due to the number of potentially eligible non-compatible land uses.

9.2.5 Land Use Planning/Control Recommendations

9.2.5.1 Land Use Planning/Control Recommendation 1: Prevent New Non-Compatible Land Use Development

ISSUE. Prevent non-compatible land use developments with the SDIA environs.

CONTINUED ACTION. This continued action recommends that SDCRAA continue to urge the City of San Diego and all other jurisdictions to prevent new non-compatible land use development within the SDIA environs. SDCRAA, would continue to advocate to prevent non-compatible land uses from being established within the SDIA environs, as recommended in the SDIA Airport Land Use Compatibility Plan (ALUCP). These efforts require ongoing coordination with the City of San Diego and other local agencies through their implementation of the SDIA ALUCP or when development project proposals are submitted to the Airport Land Use Commission (ALUC) for review. Such coordination would aim at ensuring that the SDIA ALUCP policies and standards are implemented by the City of San Diego when amending their General Plan and other applicable local plans (e.g., Municipal Code which includes the Airport Environs Overlay Zone [AEOZ]).

COMMENTS. The current Airport Influence Area (AIA) for SDIA includes the 60 CNEL to 65 CNEL contour (prepared as a quarterly and annual noise contour). Sound attenuation is recommended by the ALUCP to attenuate exterior noise level to 45 dBA indoors in new projects within the 60 CNEL to 65 CNEL contours. The ALUCP only applies to new developments and redevelopments of property within the AIA by defining policies and standards that promote compatible land uses. The adopted SDIA ALUCP is available to view online at <https://www.san.org/Airport-Projects/Land-Use-Compatibility#7121296-alucps>. This alternative would propose to continue the ALUCP recommendations that new housing units would need to be insulated prior to construction.



COST. There would be no expected additional direct cost for this recommendation, as the cost would fall within existing airport staff functions and budgets. It would require airport staff time for coordination.

RESPONSIBLE PARTIES. The responsible parties would include the local jurisdictions and coordination with SDCRAA, acting as the San Diego County ALUC, who would continue to advocate to prevent non-compatible land uses from being established within the SDIA environs, as recommended in the SDIA ALUCP recommendation.

AIRPORT ACTION. SDCRAA would be responsible for coordinating with local jurisdictions.

TIME FRAME. There are no known timing constraints to continuing this recommendation.

9.2.5.2 Land Use Planning/Control Recommendation 2: San Diego County Airport Land Use Commission (ALUC)

ISSUE. Promotion of SDCRAA as the San Diego County ALUC.

CONTINUED ACTION. SDCRAA would continue to serve as the San Diego County ALUC and support measures to protect the public through corrective actions for noise concerns. In addition, the ALUC would pursue preparation and adoption of an ALUCP for SDIA, will update the plan as necessary, and will utilize the plan to fulfill its duty to review local agencies' plans and development actions for compliance with noise compatibility.

COMMENTS. The measure to establish SDCRAA as the San Diego County ALUC has already been fully implemented. State law designates SDCRAA as a governing body for preparation and adoption of the ALUCP for SDIA. The ALUC reviews and makes consistency determinations on the land use projects (in the event that the local agencies have not yet implemented the SDIA ALUCP), plans, and regulations submitted by local agencies. General plans, master plans, and zoning codes are required to be updated to be consistent with the SDIA ALUCP or any subsequent updates to the adopted ALUCP. Local agencies that have land use jurisdiction within the AIA are subject to the ALUCP unless its governing body issues two-thirds vote and is able to override the plans because of special findings within state law.

COST. There would be no direct cost to SDCRAA associated with this recommendation, it is included in the staff time provided to act as the ALUC.

RESPONSIBLE PARTIES. SDCRAA would continue to act as the SDIA ALUC.

AIRPORT ACTION. As the SDIA ALUC, SDCRAA is charged with monitoring current land uses and evaluating future land uses exposure to aircraft noise.

TIME FRAME. This recommendation is currently ongoing.



9.2.5.3 Land Use Planning/Control Recommendation 3: Support Compatibility Planning Process

ISSUE. Prevent the introduction of new non-compatible land uses.

CONTINUED ACTION. This measure continues to recommend that in its role as the San Diego County ALUC, it will continue to encourage City of San Diego participation in the compatibility planning process for SDIA and will assist the City in reviewing, and as appropriate, modifying the City's plans, policies, and ordinances to best address airport land use compatibility concerns.

COMMENTS. This measure proposes to amend existing adopted comprehensive plans to achieve long-term land use compatibility in the SDIA environs. The FAA previously approved several preventive land use control and comprehensive planning measures in the Record of Approval for the previous Part 150 Study.

Community comprehensive plans are policy guides for the future development of a particular jurisdiction. Plans provide guidance for future land use development and land use changes. These plans are particularly important in the area around SDIA that may experience noise levels that could impact certain types of noise sensitive uses such as residential structures or public buildings. It is desirable that each community develop its plans and policies to be compatible with existing and future aircraft noise levels.

A comprehensive plan alone does not reduce aircraft noise levels nor does it control the use of land, as it is just a policy statement of the intended future use of land. However, comprehensive plans do influence the development or change in use of properties within the jurisdiction. They also serve as a guide for future development. One of the most influential uses of the comprehensive plan can be to officially adopt and present aircraft generated noise contours and use those noise contours to help guide compatible development.

COST. There would be no cost to SDCRAA associated with this recommendation because it is a policy measure dependent upon adoption by the local jurisdiction. There would not be a significant cost for implementation to the local jurisdiction because airport compatibility issues would be taken into consideration as part of the normal comprehensive planning process.

RESPONSIBLE PARTIES. The local jurisdiction having land use authority over the area around SDIA would be responsible for implementation of this recommendation. SDCRAA would provide technical assistance and the proper noise exposure maps as needed.

AIRPORT ACTION. SDCRAA would assist the local jurisdiction with providing proper identification of the prescribed boundaries or other technical airport-related information needed to properly inform the comprehensive planning process.

TIME FRAME. Due to political issues and processes at the local level related to implementation of comprehensive planning, implementation of this measure is not definite, and could take a number of years, and may not be updated during the time frame of this 14 CFR Part 150 Study Update.



9.2.6 Program Management Recommendations

9.2.6.1 Program Management Recommendation 1: Aircraft Noise Office and Program Manager

ISSUE. Collect and examine aircraft noise comments and respond to public concerns based on comments received.

CONTINUED ACTION. This measure is a continuation of an approved measure from the previous Study. SDCRAA would continue to operate its Aircraft Noise Office, consisting of 13 full time QHP staff and four full time Noise Office Staff, to support recording noise complaints received from citizens, monitor noise efforts, respond to inquiries, run the QHP, and run ANAC. All records of complaints are reviewed for any non-compliance with SDIA standards.

COMMENTS. Stakeholder comments can be very important for the relationship between SDCRAA and the public. This measure should be continued and, as with the noise monitoring program, could be integrated with the recommended Fly Quiet Program to provide a cohesive approach. Integration could provide additional links to metrics and reporting.

COST. There would be no expected additional cost for this recommendation, as the cost would fall within existing airport staff functions and budgets.

RESPONSIBLE PARTIES. SDCRAA would be responsible for distributing responsibilities amongst staff members for review and response to comments. Portions of this program could also be integrated into the Fly Quiet Program.

AIRPORT ACTION. SDCRAA would continue its Aircraft Noise Office program to support the airport and the community concerns.

TIME FRAME. This recommendation is currently ongoing.

9.2.6.2 Program Management Recommendation 2: Airport Noise and Operations Monitoring System (ANOMS)

ISSUE. Track single noise events around SDIA.

CONTINUED ACTION. SDCRAA is actively using their noise monitoring system, and it is recommended they continue to do so to report on supplemental metrics and tracking to provide information to the community. This measure recommends that the noise monitoring system be upgraded when necessary to continue this important program and keep up with technological changes. Additionally, it is recommended that during the Fly Quiet Program, specific attention is paid to ways to integrate the Fly Quiet Program with the noise monitoring system to accurately track the effectiveness of the Program over time and identify ways to improve the program and the system. Several recommendations are in discussions with Airport staff and the ANAC. Some of these new options could include the addition of noise portal add-ins that assist with interactive community functionality.

COMMENTS. This measure was outlined in the 2010 Part 150 Study Record of Approval. SDIA has a comprehensive noise monitoring system, but upgrades can occur at any time based on changing technology. This program management recommendation would look at ways to improve on this system and integrate it with the Fly Quiet Program.



COST. The cost to maintain and operate the current noise monitoring system is approximately \$156,000 per year. This is anticipated to continue at the same cost in the future, even with the anticipated enhancements. The cost of enhancements versus technology efficiency improvements should balance out.

RESPONSIBLE PARTIES. SDCRAA would be responsible for developing the specifications of any updates to the system, budgeting for equipment and services needed, applying for FAA funding, and for hiring a consultant to perform the necessary work involved. SDCRAA would also be responsible for ensuring that data received from the systems are properly downloaded and stored, and for making the data available and usable by SDCRAA, and potentially the public. Subject to eligibility, what is allowed, and justification requirements in place at the time the project is proposed for the SDIA's CIP, the FAA could provide funding for this recommendation.

AIRPORT ACTION. SDCRAA would budget for updates or maintenance to the system, apply for funding, hire a consultant to update the system, properly store and manage data received, and utilize the data when responding to noise comments, where applicable.

TIME FRAME. This recommendation is ongoing. Updates could be implemented immediately upon approval of this 14 CFR Part 150 Study Update.

9.2.6.3 Program Management Recommendation 3: Portable Noise Monitoring

ISSUE. Track single noise events around SDIA provide a flexible option to support the ANOMS.

PROPOSED ACTION. In order to enhance the capabilities of their current noise monitoring system, it is recommended that portable noise monitors be purchased to provide supplemental metrics and tracking for use by SDCRAA. This measure would involve SDCRAA purchasing, operating, and maintaining portable noise measurement equipment (referred to as monitors) to deploy around the greater San Diego area. Portable noise monitors can be deployed in the community at the direction of a noise engineer to measure aircraft noise at additional locations supplementing the ANOMS.

COMMENTS. Portable noise monitoring at SDIA would provide flexibility in data collection and enhance the capabilities of the existing ANOMS. This system would allow for a targeted approach to addressing noise concerns by placing monitors based on community concerns with the guidance of an acoustician, weather patterns, and operational conditions. Portable noise monitoring was conducted as part of this study and provided additional information that helped inform the alternatives. Acquiring portable noise monitors could help look at specific areas of concern of the public outside the permanent noise monitors.

COST. The cost to maintain and operate a portable noise monitoring system along with the reporting requirements is approximately \$25,000 per unit per year.



RESPONSIBLE PARTIES. SDCRAA would be responsible for developing the specifications of the system, budgeting for equipment and services needed, applying for FAA funding, and for hiring a consultant to perform the necessary work involved. Subject to eligibility, what is allowed, and justification requirements in place at the time the project is proposed for the SDIA's CIP, the FAA could provide funding for this recommendation.

AIRPORT ACTION. SDCRAA would utilize the data when responding to noise comments, where applicable.

TIME FRAME. This recommendation could be implemented immediately.

9.2.6.4 Program Management Recommendation 4: Fly Quiet Program

ISSUE. Reduce effect of single event noise levels and increase awareness of noise sensitive uses and noise reducing procedures for pilots operating at SDIA.

CONTINUED ACTION. This recommendation would continue Fly Quiet Program for SDIA and update as needed.

COMMENTS. The Fly Quiet Program's purpose is to voluntarily encourage individual airlines and business jet operators to operate as quietly as possible at SDIA by recognizing those airlines that attempt to follow the noise abatement goals of SDCRAA. The program may have different award categories for different categories of operators. These metrics are continually reevaluated and updated as needed based on the evolving considerations. Current metrics include curfew adherence, fleet quality and noise exceedance, which could assist in tracking transition to Stage 4 and Stage 5 aircraft.

COST. Funding sources are borne by SDCRAA along with Federal funding assistance, if available. Though it should be noted that in the prioritization of available funding, funding typically goes to higher prioritized projects like the QHP. The Fly Quiet Program costs approximately \$10,000 a year in ongoing operations expenses and is also supplemented by airport staff time.

RESPONSIBLE PARTIES. SDCRAA would be responsible for applying for FAA funding for the recommendation, planning for the Program, and implementing them. Subject to eligibility, what is allowed, and justification requirements in place at the time the project is proposed for SDIA's CIP, FAA could provide funding for this recommendation. ANAC and other stakeholders would be responsible for providing input and participating in the program development.

AIRPORT ACTION. SDCRAA plans and implements the SDIA Fly Quiet Program.

TIME FRAME. This recommendation is ongoing. Updates could be implemented immediately upon approval of this Study.

9.2.6.5 Program Management Recommendation 5: Airport Noise Advisory Committee (ANAC)

ISSUE. Assist in implementation of the Part 150 Study Noise Compatibility Program and identify and address noise issues with an ongoing method.

CONTINUED ACTION. This recommendation involves the continuation of the ANAC.



COMMENTS. The ANAC represents extensive noise, airport, stakeholder and community knowledge and the continuation of this committee is important to the continued evolution of the noise program at SDIA.

COST. There would be no expected additional staff cost for this recommendation, as the cost would fall within existing airport staff functions and budgets. It would require existing airport staff time for coordination. Direct costs associated with non-staff activities is approximately \$38,000 per year.

RESPONSIBLE PARTIES. SDCRAA would be responsible for managing meetings and content. ANAC representatives would commit time to addressing aircraft noise concerns.

AIRPORT ACTION. SDCRAA would continue to utilize the ANAC for identification and resolutions of noise issues.

TIME FRAME. This recommendation is ongoing.

9.2.6.6 Program Management Recommendation 6: Communicate Noise Issues with Airlines

ISSUE. Providing effective and efficient communication with airlines that operate at SDIA.

CONTINUED ACTION. SDCRAA staff would continue active coordination of noise abatement issues and procedures with the tenants operating aircraft at SDIA.

COMMENTS. SDIA is dedicated to being a good neighbor in the San Diego community. Constant communication of the airport's procedures, standards, and regulations to stakeholders that operate aircraft at SDIA allows for the alignment of aircraft operations with the minimization of noise effects on the local community. The Aircraft Noise Office maintains contact with air carrier corporate representatives regularly.

COST. There would be no expected additional direct cost for this recommendation, as the cost would fall within existing SDCRAA functions and budgets. It would require staff time for coordination.

RESPONSIBLE PARTIES. The Aircraft Noise Office Program Manager is responsible for coordinating meetings with representatives from the air carriers, air cargo tenants, and GA representatives that use the SDIA facilities.

AIRPORT ACTION. SDCRAA would be responsible for continued coordination with airlines and new representatives when air carrier staff turnover.

TIME FRAME. This recommendation is ongoing.



9.2.6.7 Program Management Recommendation 7: Administer Airport Use Regulations (AURs)

ISSUE. Address the unique AURs that reduce nighttime activity for the airlines that service SDIA.

CONTINUED ACTION. SDCRAA would continue to deliver the AURs to the scheduled air carriers that service SDIA in order to provide noise control for the community surrounding the airport. No changes to the AURs are recommended as it would trigger a Title 14, Code of Federal Regulations Part 161 Study.

COMMENTS. This measure involves adherence to SDCRAA Code 9.40, Airport Use Regulations, a statute that defines a curfew for aircraft operations as SDIA. This regulation, in place since 1976, accounts for the heightened sensitivity to noise during nighttime hours due to low levels of ambient noise. The airlines that service SDIA receive information regarding the noise abatement program as part of the contract that is signed with SDCRAA. AURs embody the time-of-day restrictions and the applicable penalties for violations. Providing these AURs keeps airlines current on SDIA's noise abatement efforts.

COST. There would be no expected additional direct cost for this recommendation, as the cost would fall within existing airport staff functions and budgets. It would require airport staff time for coordination.

RESPONSIBLE PARTIES. SDCRAA's Airline Relation's Department requires air carriers to sign copies of the SDIA Airport Rules and Regulations which include the AURs.

AIRPORT ACTION. SDCRAA would be responsible for communicating the AURs.

TIME FRAME. This recommendation is ongoing.

9.2.6.8 Program Management Recommendation 8: California Quarterly Noise Reports

ISSUE. Compliance with the State of California's Title 21 requirements for quarterly noise reporting.

CONTINUED ACTION. This recommendation requires that SDCRAA continue to author and submit the California Quarterly Noise Reports to the State of California in order to provide the most accurate depiction of SDIA's operations regarding aircraft noise.

COMMENTS. Compliance with Title 21 reporting is mandatory. The SDIA quarterly reports are available to the public on the airport website (<https://www.san.org/Airport-Noise/CA-Title-21>) and through the SDCRAA Clerk's Office. Report elements are also presented in ANAC meetings as part of the standard agenda.

COST. This recommendation costs approximately \$30,000 a year.

RESPONSIBLE PARTIES. SDCRAA is currently responsible for authoring Quarterly Noise Reports for SDIA and would continue to do so to maintain compliance with the State of California's Title 21 requirements.

AIRPORT ACTION. SDCRAA would continue to provide California Quarterly Noise Reports.



TIME FRAME. This recommendation is ongoing.

9.2.6.9 Program Management Recommendation 9: Update Noise Exposure Maps (NEMs)

ISSUE. Update the Part 150 Study when appropriate to ensure the NEMs are adjusted as conditions change over time.

CONTINUED ACTION. This recommendation would involve the update of the NEMs or the Part 150 Study, when needed.

COMMENTS. A 14 CFR Part 150 Study is intended to be a “living document,” to be used as a tool to monitor and guide program development and evaluate aircraft types and operations. This 14 CFR Part 150 Study should be reviewed and updated as appropriate.

The general guideline notes that NEMs should be reviewed whenever the actual operations differ by approximately 15 percent or more from the forecasted operations. In addition, anytime there are significant new non-compatible land uses within the 65 CNEL or greater contours, or if there are airport facility changes that may affect the contours, consideration should be given to reviewing the maps. At the end of the five-year study period (after date of NCP approval), the operations and mix should be re-evaluated to determine the extent to which they have changed and be updated as appropriate.

COST. It would cost approximately \$500,000 to update the NEMs.

RESPONSIBLE PARTIES. SDCRAA would be responsible for applying for FAA funding for the 14 CFR Part 150 Study Update and for initiating and managing the 14 CFR Part 150 Study. Subject to eligibility, what is allowed, and justification requirements in place at the time the project is proposed for SDIA’s CIP, FAA will be responsible to provide funding for this recommendation.

AIRPORT ACTION. Using the monitoring systems discussed above in **Program Management Recommendation 2: Airport Noise Operations Monitoring Systems (ANOMS)**, SDCRAA would reevaluate the program when there is a significant change in operations, aircraft types, or at the end of the five-year time frame.

TIME FRAME. SDCRAA would continue its ongoing monitoring of operational and aircraft type information. Based on that information, SDCRAA would consider a 14 CFR Part 150 Study Update as necessary per 14 CFR Part 150 regulations, at the end of the five-year period after the date of submittal of this 14 CFR Part 150 Study.

9.2.6.10 Program Management Recommendation 10: Update Noise Compatibility Program (NCP)

ISSUE. The 14 CFR Part 150 Study will need to be updated when appropriate to ensure the NCP is adjusted as conditions change over time.

CONTINUED ACTION. The NCP would only be updated if there were new non-compatible land uses found within the 65 CNEL on any future NEMs.



COMMENTS. This recommendation will ensure that the Noise Compatibility Program is adjusted as conditions in the environs of SDIA change over time (such as an increase in number/type of traffic or operational changes). This recommendation is a continued measure from the previous Part 150 Study. The decision to update the NEM and NCP would be made in consultation between SDCRAA and the FAA. The NEM would likely be updated first to determine if an updated NCP is warranted.

COST. The cost to monitor operational and aircraft type information would fall within existing airport staffing and budgeting constraints. The cost to hire a consultant to update independent elements, such as running test noise contours, would be approximately \$50,000. The cost to update the entire Part 150 Study would be approximately \$2-3.5 million depending on scope, public and stakeholder involvement, and modeling efforts.

RESPONSIBLE PARTIES. SDCRAA would be responsible for applying for FAA funding for the 14 CFR Part 150 Study Update and for initiating and managing the 14 CFR Part 150 Study. Subject to eligibility, what is allowed, and justification requirements in place at the time the project is proposed for SDIA's CIP, FAA will be responsible to provide funding for this recommendation.

AIRPORT ACTION. If an update to the 14 CFR Part 150 Study is justified based on criteria explained in **Program Management Recommendation 9: Update Noise Exposure Maps (NEMs)**, SDCRAA would initiate and carry out the 14 CFR Part 150 Study Update, likely with assistance from a consultant.

TIME FRAME. SDCRAA would continue its ongoing monitoring of operational and aircraft type information. Based on that information, SDCRAA would consider a 14 CFR Part 150 Study Update as necessary per 14 CFR Part 150 regulations, at the end of the five-year period after the date of submittal of this Study.

