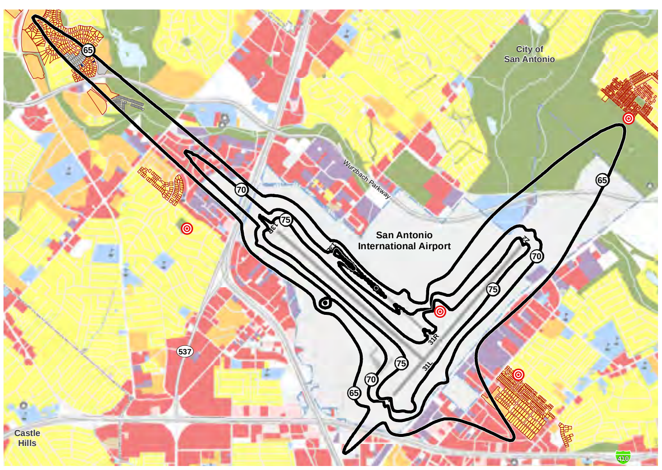
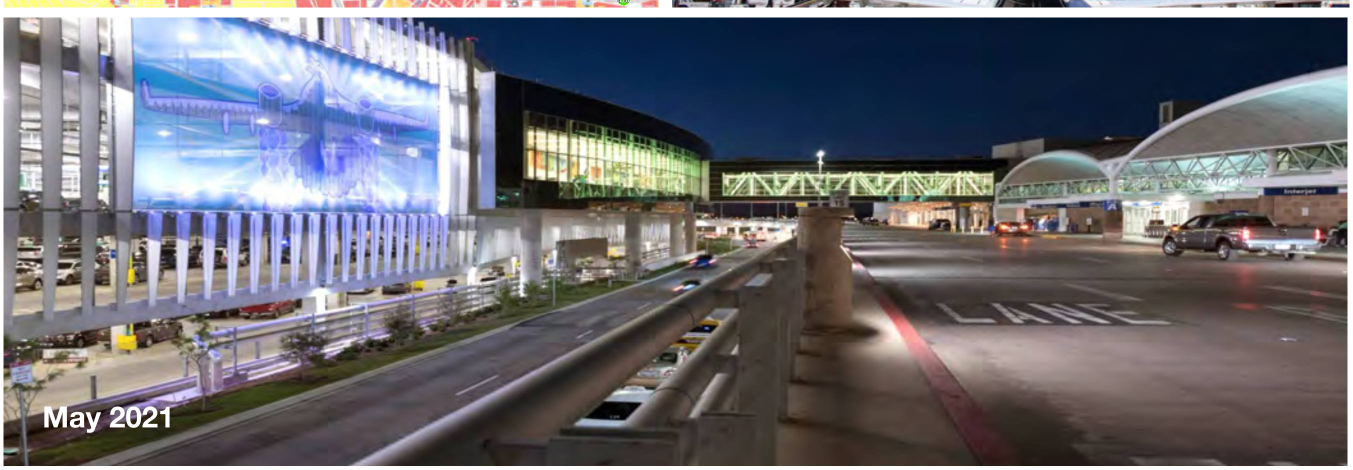
SAN ANTONIO INTERNATIONAL AIRPORT

ESA

San Antonio International Airport

Noise Exposure Map Update Report





May 2021

City of San Antonio
Aviation Department

May 25, 2021

Mr. John MacFarlane
Environmental Protection Specialist
Texas Airports District Office, ASW-650
Federal Aviation Administration
10101 Hill wood Parkway
Fort Worth, Texas 76177

Subject: Noise Exposure Map Submission pursuant to Title 14 of the Code of Federal Regulations, Part 150 for the San Antonio International Airport

The City of San Antonio Aviation Department (the City) is pleased to submit Noise Exposure Maps (NEMs) and supporting documentation for the San Antonio International Airport (SAT), prepared in accordance with 14 CFR Part 150 ("Airport Noise Compatibility Planning"). The aircraft operations at SAT within this document are hereby certified by the City to be consistent with the fleet mix, forecast operational levels, and flight procedures depicted for calendar years 2021 and 2026.

In accordance with 14 CFR Part 150, Section 150.21(c), the City requests that the Federal Aviation Administration (FAA) confirm receipt of these 2021 Existing Conditions and 2026 Future Conditions NEMs and indicate whether they are in compliance with the applicable requirements. Both the 2021 Existing Conditions and Future Conditions NEMs were prepared using the forecast operations reviewed and approved by the FAA.

As discussed in Chapter 6 of the Noise Exposure Map Update Report, the City provided all interested parties adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the NEMs and descriptions of forecast aircraft operations, consistent with Part 150, §150.21(b). The Sponsor's Certification, the formal certification required by Part 150, is provided after the Noise Exposure Map Update Report cover.

Please do not hesitate to contact me with any questions.

Sincerely yours,

Mr. Jesus H. Saenz, Jr., IAP
Director of Airports, City of San Antonio Aviation Department

cc:
Mr. Tom Bartlett, Aviation Deputy Director
Mr. David Robbins, Chief Development Officer
Mr. Steven K. Southers, Environmental Manager

City of San Antonio
Aviation Department

SPONSOR'S CERTIFICATION

The City of San Antonio Aviation Department (the City) has completed a comprehensive Title 14 Code of Federal Regulations (CFR) Part 150 Noise Exposure Map Report for the San Antonio International Airport (SAT).

This is to certify the following:

(1) The 2021 and 2026 Noise Exposure Maps for SAT, and the associated documentation the City submitted in this volume to the Federal Aviation Administration (FAA) under Title 14 CFR Part 150, Subpart B, Section 150.21, are true and complete, under penalty of 18 U.S.C. 1001.

(2) Pursuant to Title 14 CFR Part 150, Subpart B, Section 150.21(b), all interested parties have been afforded adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the noise exposure maps, and of the descriptions of forecast aircraft operations.

(3) The "2021 Noise Exposure Map" (Appendix I, Map 1 of 5) accurately represents conditions for calendar year 2021.

(4) The "2026 Noise Exposure Map" (Appendix I, Map 2 of 5) accurately represents forecast conditions for calendar year 2026.

Further information regarding development of the fleet mix, forecast, and procedures can be found in Chapter 4, *Noise Exposure Map Development*; Appendix B, *Aviation Activity Forecast*; and Appendix E, *Radar Flight Tracks*.

Mr. Jesus H. Saenz, Jr., IAP
Director of Airports, City of San Antonio, Aviation Department

5-25-2021

Date of Signature

14 CFR PART 150 NEM CHECKLIST – PART I

AIRPORT NAME: San Antonio International Airport REVIEWER: ______________________________

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
I. Submitting And Identifying The NEM:			
A. Submission is properly identified:			
1. 14 C.F.R. Part 150 NEM?	X		Front Cover states, “Title 14 Code of Federal Regulations Noise Exposure Map Report”
2. NEM and NCP together?		X	Submittal is for NEM only. Front Cover and Inside Cover state “Noise Exposure Map Report”
3. Revision to NEMs FAA previously determined to be in compliance with Part 150?	X		This submittal is an update to the Airport’s existing NEMs, which FAA determined to be in compliance with Part 150 in 2015.
B. Airport and Airport Operator's name are identified?	X		Airport and Airport Operator’s name are identified in the Front Cover and Page 1-1.
C. NCP is transmitted by airport operator’s dated cover letter, describing it as a Part 150 submittal and requesting appropriate FAA determination?		X	Not applicable, submission is an NEM only.
II. Consultation: [150.21(b), A150.105(a)]			
A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?	X		See Chapter 6, and Appendices F, G, and H for a narrative description of the consultation accomplished, including opportunities for public review and comment during map development.
B. Identification of consulted parties:			
1. Are the consulted parties identified?	X		See Chapter 6 and Appendices F and G for identification of consulted parties.
2. Do they include all those required by 150.21(b) and A150.105(a)?	X		See Chapter 6 and Appendices F and G for identification of all consulted parties required by 150.21(b) and A150.105(a).
3. Agencies in 2, above, correspond to those indicated on the NEM?	X		See the NEM, Chapters 5 and 6, and Appendix F for the indication that the City of San Antonio is the sole land use agency for all areas within the 2021 and 2026 DNL 65 contours. This agency corresponds to the agency indicated on the NEM.
C. Does the documentation include the airport operator's certification, and evidence to support it, that interested persons have been afforded adequate opportunity to submit their views, data, and comments during map development and in accordance with 150.21(b)?	X		See Sponsor’s Certification before Table of Contents. Sponsor’s Certification indicates that interested persons have been afforded adequate opportunity to submit their views, data, and comments during map development and in accordance with 150.21(b). Evidence is contained in Chapter 6 and Appendices F, G, and H.
D. Does the document indicate whether written comments were received during consultation and, if there were comments that they are on file with the FAA regional airports division manager?	X		See Chapter 6 and Appendix H. Written comments received during consultation are included in Appendix H and are on file with the FAA regional airports division manager.
III. General Requirements: [150.21]			
A. Are there two maps, each clearly labeled on the face with year (existing condition year and one that is at least 5 years into the future)?	X		There are two maps, each clearly labeled on the face with year (existing condition year of 2021, and the five-year future year of 2026). Full size plots of the 2021 and 2026 NEMs are provided in Appendix I.

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
B. Map currency:			
1. Does the year on the face of the existing condition map graphic match the year on the airport operator's NEM submittal letter?	X		The 2021 Existing Conditions map reflects 2021 conditions, which is also the year of the NEM Update Report submittal.
2. Is the forecast year map based on reasonable forecasts and other planning assumptions and is it for at least the fifth calendar year after the year of submission?	X		The 2026 forecast year map is based on reasonable forecasts and other planning assumptions, and is for at least the fifth calendar year after the year of submission (2021). See Section 4.3 and Appendix B for information regarding the forecast and the FAA's approval for use in developing the NEMs.
3. If the answer to 1 and 2 above is no, the airport operator must verify in writing that data in the documentation are representative of existing condition and at least 5 years' forecast conditions as of the date of submission?		X	Not applicable
C. If the NEM and NCP are submitted together:			
1. Has the airport operator indicated whether the forecast year map is based on either forecast conditions without the program or forecast conditions if the program is implemented?		X	Not applicable. This is an NEM submission only.
2. If the forecast year map is based on program implementation:			
a. Are the specific program measures that are reflected on the map identified?		X	Not applicable. This is an NEM submission only.
b. Does the documentation specifically describe how these measures affect land use compatibilities depicted on the map?		X	Not applicable. This is an NEM submission only.
3. If the forecast year NEM does not model program implementation, the airport operator must either submit a revised forecast NEM showing program implementation conditions [B150.3(b), 150.35(f)] or the sponsor must demonstrate the adopted forecast year NEM with approved NCP measures would not change by plus/minus 1.5 DNL? (150.21(d))		X	Not applicable. This is an NEM submission only.
IV. Map Scale, Graphics, And Data Requirements: [A150.101, A150.103, A150.105, 150.21(a)]			
A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 2,000'), and is the scale indicated on the maps? (*Note (1) if the submittal uses separate graphics to depict flight tracks and/or noise monitoring sites, these must be of the same scale, because they are part of the documentation required for NEMs.*) (*Note (2) supplemental graphics that are not required by the regulation do not need to be at the 1" to 2,000' scale*)	X		Full size plots of the 2021 and 2026 NEMs and flight track figures are at a scale of 1 inch = 2,000 feet and are of sufficient scale to be clear and readable. The scale is indicated on the maps. The full size plots are provided in Appendix I.
B. Is the quality of the graphics such that required information is clear and readable? (*Refer to C. through G., below, for specific graphic depictions that must be clear and readable*)	X		The quality of the graphics is such that required information is clear and readable. Refer to NEM Checklist IV.C. through IV.G., below.
C. Depiction of the airport and its environs:			
1. Is the following graphically depicted to scale on both the existing condition and forecast year maps?			

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
a. Airport boundaries	X		Airport boundaries are graphically depicted to scale on both the existing condition and forecast year maps. See the 2021 and 2026 NEMs in Appendix I.
b. Runway configurations with runway end numbers	X		Runway configurations with runway end numbers are depicted to scale on both the existing condition and forecast year maps. See the 2021 and 2026 NEMs in Appendix I.
2. Does the depiction of the off-airport data include?			
a. A land use base map depicting streets and other identifiable geographic features	X		The depiction of the off-airport data includes a land use base map depicting streets and other identifiable geographic features. See the 2021 and 2026 NEMs in Appendix I.
b. The area within the DNL[1] 65 dB (or beyond, at local discretion)	X		The depiction of the off-airport data includes the area within the DNL 65. See the 2021 and 2026 NEMs in Appendix I.
c. Clear delineation of geographic boundaries and the names of all jurisdictions with planning and land use control authority within the DNL 65 dB (or beyond, at local discretion)	X		The depiction of the off-airport data includes a clear delineation of geographic boundaries and the name of the City of San Antonio, which is the sole land use agency for all areas within the 2021 and 2026 DNL 65 contours. See the 2021 and 2026 NEMs in Appendix I.
D. 1.Continuous contours for at least the DNL 65, 70, and 75 dB?	X		Continuous contours for the DNL 65, 70, and 75 are shown on the 2021 and 2026 NEMs provided in Appendix I.
2. Has the local land use jurisdiction(s) adopted a lower local standard and if so, has the sponsor depicted this on the NEMs?		X	The City of San Antonio, which is the sole land use agency for all areas within the 2021 and 2026 DNL 65, 70, and 75 contours, has not adopted a lower local standard.
3. Based on current airport and operational data for the existing condition year NEM, and forecast data representative of the selected year for the forecast NEM?	X		In accordance with consultation with the FAA, the 2021 Existing Conditions NEM is based on airport and operational data for calendar year 2019. The 2026 Future Conditions NEM is based on airport and operational data forecast to occur in 2024. The two-year delay reflects the impacts of the COVID-19 pandemic. See Section 4.3 and Appendix B.
E. Flight tracks for the existing condition and forecast year timeframes (these may be on supplemental graphics which must use the same land use base map and scale as the existing condition and forecast year NEM), which are numbered to correspond to accompanying narrative?	X		Flight tracks for the existing condition and forecast year timeframes are shown in full size plots, with a scale of 1 inch = 2,000 feet, are included in Appendix I and are numbered to correspond to narrative.
F. Locations of any noise monitoring sites (these may be on supplemental graphics which must use the same land use base map and scale as the official NEMs)	X		Locations of noise monitoring sites are depicted in the full size plots of the official NEMs and flight track maps in Appendix I.
G. Noncompatible land use identification:			
1. Are noncompatible land uses within at least the DNL 65 dB noise contour depicted on the map graphics?	X		Noncompatible land uses within the DNL 65 contour are depicted on the map graphics. See full sized plots in Appendix I.

[1] CNEL for California airports

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
2. Are noise sensitive public buildings and historic properties identified? (*Note: If none are within the depicted NEM noise contours, this should be stated in the accompanying narrative text.*)	X		Noise sensitive public buildings and historic properties are identified. See full sized plots in Appendix I.
3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend?	X		Noncompatible uses and noise sensitive public buildings are readily identifiable on the NEMs and explained on the map legend. See full sized plots in Appendix I.
4. Are compatible land uses, which would normally be considered noncompatible, explained in the accompanying narrative?	X		Compatible land uses, which would normally be considered noncompatible, are explained in Chapter 5.
V. Narrative Support Of Map Data: [150.21(a), A150.1, A150.101, A150.103]			
A. 1. Are the technical data and data sources on which the NEMs are based adequately described in the narrative?	X		Technical data and data sources on which the NEMs are based are adequately described in the narrative. See Sections 4.3 through 4.7 and Appendices B and E.
2. Are the underlying technical data and planning assumptions reasonable?	X		The underlying technical data and planning assumptions are reasonable. See Sections 4.3 through 4.7 and Appendices B and E.
B. Calculation of Noise Contours:			
1. Is the methodology indicated?	X		The methodology is indicated in Section 4.2.
a. Is it FAA approved?	X		The methodology is FAA approved. AEDT 3c was used, and approval is indicated in Section 4.2.
b. Was the same model used for both maps? (*Note: The same model also must be used for NCP submittals associated with NEM determinations already issued by FAA where the NCP is submitted later, unless the airport sponsor submits a combined NEM/NCP submittal as a replacement, in which case the model used must be the most recent version at the time the update was started.*)	X		The same model was used for both maps. AEDT 3c was used for both the 2021 Existing Conditions NEM and the 2026 Future Conditions NEM.
c. Has AEE approval been obtained for use of a model other than those that have previous blanket FAA approval?		X	Not applicable.
2. Correct use of noise models:			
a. Does the documentation indicate, or is there evidence, the airport operator (or its consultant) has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another that was not included on the FAA's pre-approved list of aircraft substitutions?			The FAA-approved noise model (AEDT 3c) was not adjusted and no aircraft were substituted.
b. If so, does this have written approval from AEE, and is that written approval included in the submitted document?		X	Not applicable.
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were followed?		X	No noise monitoring was conducted as part of this NEM report.
4. For contours below DNL 65 dB, does supporting documentation include an explanation of local reasons? (*Note: A narrative explanation, including evidence the local jurisdiction(s) have adopted a noise level less than DNL 65 dB as sensitive for the local community(ies), and including a table or other depiction of the differences from the Federal table, is highly*		X	DNL 65, 70, and 75 contours are shown on the NEMs. The local jurisdiction has not adopted a lower standard than DNL 65. Therefore, contours below DNL 65 dB are not depicted.

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
desirable but not specifically required by the rule. However, if the airport sponsor submits NCP measures within the locally significant noise contour, an explanation must be included if it wants the FAA to consider the measure(s) for approval for purposes of eligibility for Federal aid.)			
C. Noncompatible Land Use Information:			
1. Does the narrative (or map graphics) give estimates of the number of people residing in each of the contours (DNL 65, 70 and 75, at a minimum) for both the existing condition and forecast year maps?	X		The narrative gives estimates of the number of people residing in each of the DNL 65, 70, and 75 contours for both the existing condition and forecast year maps. See Tables 5-2, 5-4, and 5-6.
2. Does the documentation indicate whether the airport operator used Table 1 of Part 150?	X		The documentation indicates the airport operator used Table 1 of Part 150. See Sections 3.3, 5.2, and 5.3 and Tables 3-1, 3-2, 5-1, and 5-3.
a. If a local variation to table 1 was used:			
(1) Does the narrative clearly indicate which adjustments were made and the local reasons for doing so?		X	Not applicable.
(2) Does the narrative include the airport operator's complete substitution for table 1?		X	Not applicable.
3. Does the narrative include information on self- generated or ambient noise where compatible or noncompatible land use identifications consider non-airport and non-aircraft noise sources?	X		Section 3.3.2 includes information on self-generated and ambient noise and implications for how non-airport and non-aircraft noise sources affect compatible or noncompatible land use identifications.
4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?		X	Not applicable.
5. Does the narrative describe how forecast aircraft operations, forecast airport layout changes, and forecast land use changes will affect land use compatibility in the future?	X		The narrative describes how forecast aircraft operations, forecast airport layout changes, and forecast land use changes will affect land use compatibility in the future. See Chapter 5.
VI. Map Certifications: [150.21(b), 150.21(e)]			
A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecasts?	X		The operator has certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecasts. See Sponsor's Certification before Table of Contents.
B. Has the operator certified in writing that each map and description of consultation and opportunity for public comment are true and complete under penalty of 18 U.S.C. § 1001?	X		The operator has certified in writing that each map and description of consultation and opportunity for public comment is true and complete under penalty of 18 U.S.C. § 1001. See Sponsor's Certification before Table of Contents.

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CHAPTER 1

Introduction

1.1 Introduction

The City of San Antonio Airport System (SAAS) has voluntarily undertaken a Title 14 Code of Federal Regulations (CFR) Part 150 Noise and Land Use Compatibility Study (the Part 150 Study) Noise Exposure Map (NEM) Update to evaluate the compatibility of San Antonio International Airport (SAT or the Airport) with the surrounding communities in consideration of the current operational environment. The primary objective of this Part 150 Study is to prepare an updated NEM that identifies SAT's existing and future noise conditions around the Airport in addition to the existing and future land uses that are or are not compatible with aircraft noise based on guidelines outlined in 14 CFR Part 150, Appendix A, Table 1.[1] San Antonio last produced a set of NEMs in 2015.[2] The current and future noise condition maps are generated by a computer modeling software called the Aviation Environmental Design Tool (AEDT). Part 150 also requires public involvement. The future noise condition map is usually valid for five (5) years, however, the airport sponsor is also obligated under Part 150 to prepare an update of the NEMs if there is a "significant change" to the noise environment.

Since the 2015 Part 150 Study by the HMMH/URS team, a number of changes have taken place in the operational conditions at the Airport which have the potential to affect the size and shape of noise contours at SAT. 14 CFR Part 36-certified Stage II aircraft less than 75,000 pounds (primarily business jets) have since been phased out in the US and commercial airlines have continued to upgrade aircraft fleets to newer and quieter aircraft. As a result of these changes, as well as changes in the airline industry, SAT has experienced an increase in aircraft operation levels (although, the current COVID-19 pandemic has temporarily halted this growth), and changes in aircraft fleet mix and runway utilization patterns. Because of these factors, the existing day-night average sound level (DNL) 65 contour may have experienced a change greater than 1.5 decibels (dB) over noncompatible land uses.

This current study is needed to update the noise contours developed as part of the 2015 Part 150 Study. Updating these noise contours will provide more current and relevant information, which will, in turn, allow the SAAS to help answer noise inquiries.

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1 A glossary of terminology related to this Part 150 Study, and acronyms list, can be found in Appendix A.

2 The regulations contained in 14 CFR Part 150 are voluntary and airport operators are not required to participate. However, NEMs determined to be in compliance by the Federal Aviation Administration (FAA) are necessary for federal financial participation in 14 CFR Part 150-related noise abatement measures at an airport.

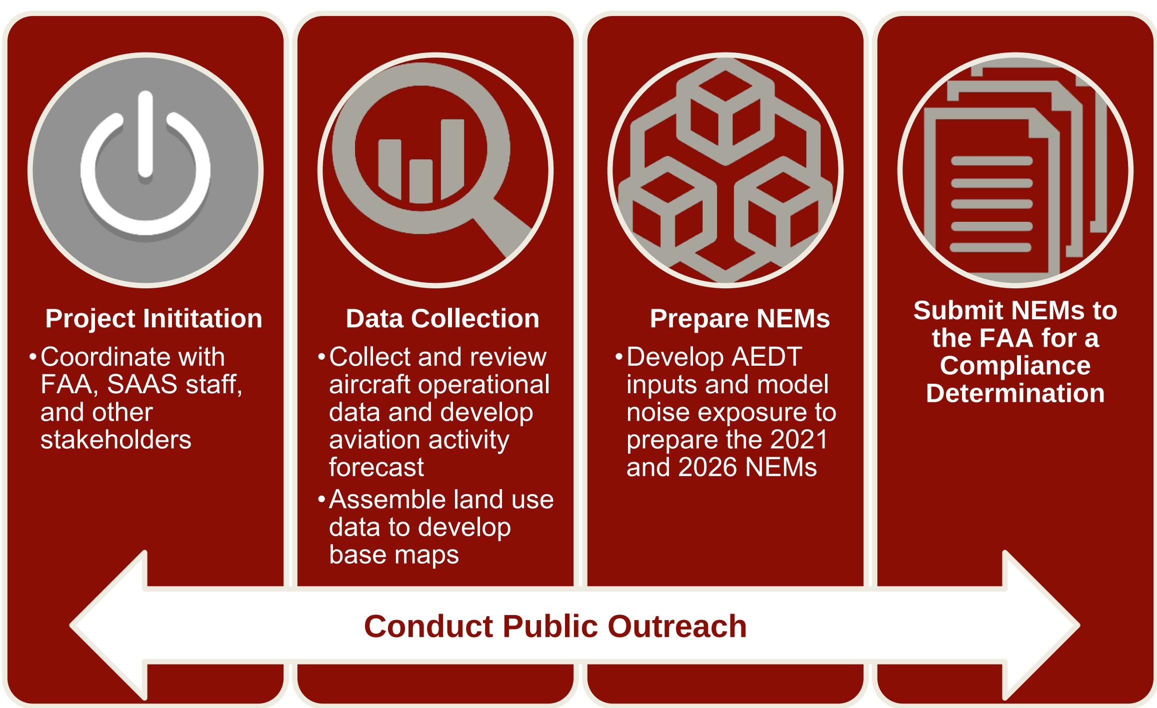
1.2 14 CFR Part 150 Study Process

The SAAS initiated this Part 150 NEM Update in 2020, the process of which is outlined in **Figure 1-1**. To accomplish the scientific work, the Airport hired professional noise consultants at WSP and ESA (the Part 150 Study Team). From the onset, key issues were identified through input from the SAAS and Airport stakeholders, including affected jurisdictions, aviation officials, aircraft operators, local communities, and interested members of the public. The Part 150 Study Team solicited and received input from stakeholders through the Airport's Noise Office Hotline and at a series of public workshops.

Initial efforts of the Part 150 Study Team included an inventory of 2019 operational activity, which was supplemented with information from the SAAS, the FAA, and other stakeholders. This involved collecting data related to the number of aircraft operating at the Airport on an annual basis, the fleet mix (types of aircraft), the time of day in which the aircraft operate (Day: 7:00 A.M. to 9:59 P.M. or Night: 10:00 P.M. to 6:59 A.M.) and existing aircraft operational procedures (i.e., runway use, flight tracks, departure and arrival corridors). In addition to operational data, land use data was collected and reviewed. This data included zoning regulations, existing land use maps, and future land use plans.

After completing the inventory process, the Part 150 Study Team used the FAA's noise prediction model, AEDT Version 3c SP2, to produce noise contours (i.e., areas of equal noise exposure around the Airport). Under Part 150, the FAA requires that these noise contours be prepared for the year of submittal to the FAA (in this case, 2021) and a projected condition for a future year that must be at least five (5) years from the date of submittal of the document (in this case, 2026).

Figure 1-1
NEM Update Process



1.3 Preparation of Noise Exposure Maps

Noise exposure maps graphically depict aircraft noise exposure levels on and in the vicinity of an airport by presenting lines of equal aircraft noise in DNL values. Aircraft noise DNL values represent the sound produced over a 24-hour period of aircraft activity. For 14 CFR Part 150 studies, this 24-hour period of aircraft activity is based on average daily aircraft activity over a 12-month period and the sound energy is represented as A-weighted decibels (dBA). Noise exposure maps provide local communities an opportunity to see aircraft noise exposure levels in order to make better informed decisions regarding proposed noise sensitive development in the vicinity of an airport.

1.3.1 Part 150 Study Years

The official NEMs include two maps. The first NEM depicts existing noise exposure levels and the land uses in the vicinity of an airport. Due to the COVID-19 pandemic and the resulting global slowdown in aviation activity, this Part 150 Study adopted a modified approach to developing the 2021 Existing Conditions forecast of operations at the Airport, which included using actual calendar year 2019 operations and fleet mix data and 2019 day/night utilization, runway usage, flight tracks, and trip length data provided by the Airport's Noise and Operations Management System (NOMS).[3] A detailed discussion of the modified approach to the 2021 Existing Conditions forecast of operations, which was approved by the FAA on June 16, 2020, is provided in Chapter 3.

The second NEM depicts noise exposure levels anticipated five (5) years in the future, which represents forecast conditions. The Future Conditions NEM was developed using projected levels of aircraft activity and operational conditions at SAT in 2026. As with the 2021 Existing Conditions forecast, the Part 150 Study Team used a similar COVID-19 adjusted approach to develop the 2026 Future Conditions forecast. The consultants submitted the 2026 Future Conditions forecast, which was approved by the FAA on November 30, 2020 (See Chapter 3).

1.3.2 Technical Approach to Preparing Noise Exposure Maps

Subsequent chapters of this report describe in detail the information, methods, and tools used to develop the NEMs and estimate existing and future aircraft noise impacts in the vicinity of SAT. A brief overview of the technical approach is provided below.

1.3.2.1 Data Collection and Verification

A wide range of data and information related to the operation of the Airport was collected to provide a complete understanding of aircraft noise at SAT and its effects on local communities including:

Aircraft Activity

The Part 150 Study Team collected information related to all the types of aircraft that operate at the Airport, the number of annual operations generated by these aircraft, the times of day that these aircraft operate, and the flight paths and flight profiles used by these aircraft for departures and arrivals. An aircraft operations forecast developed in support of the Part 150 Study provided the

3 An aircraft operation is defined as one arrival flight or one departure flight.

number of annual aircraft operations modeled for the 2021 Existing Conditions and 2026 Future Conditions NEMs.

Approach and Departure Procedures

The Part 150 Study Team reviewed the airspace structure in the area and air traffic control procedures used to direct flights by the FAA in and out of SAT.

Land Use

The Part 150 Study Team collected existing land use information for the study area established for this Part 150 Study and developed base maps. The Part 150 Study Team also identified proposed land use changes that are anticipated to occur over the next five-year period.

1.3.2.2 Aircraft Noise Modeling

Using the FAA's AEDT modeling software, the Part 150 Study Team developed noise exposure contours for the 2021 Existing Conditions NEM and the 2026 Future Conditions NEM. This process involved compiling information and generating detailed input data for the AEDT that represent aircraft activity and operating conditions at the Airport. The AEDT then combined the actual flight data with normative noise profiles for the types of aircraft flown at SAT.

1.3.2.3 Preparation of Noise Exposure Maps

Using Geographic Information System (GIS) software, the 2021 Existing Conditions and 2026 Future Conditions NEMs were developed in accordance with the criteria and guidelines found in 14 CFR Part 150.

1.3.2.4 Aircraft Noise Impact Analysis

Using GIS software, the type and amount (acreage) of incompatible land uses were identified for the 2021 Existing Conditions and the 2026 Future Conditions NEMs. The analysis also determined the number of people, households, and noise-sensitive sites that are incompatible with aircraft noise exposure levels they receive.

1.4 Consultation and Public Involvement

14 CFR Part 150 Sections 150.21(b) and A150.105(a) (Appendix A to Part 150) require that the NEMs and documentation submitted "…*be developed and prepared…in consultation with states, public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the DNL 65 contour depicted on the map, FAA regional officials, and other Federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport. The airport operator shall certify that it has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations*."

The consultation and public involvement process for this Part 150 Study included the following elements to provide adequate opportunities for stakeholder engagement and participation during the development of the NEMs:

- The FAA, local jurisdictions, elected officials, and the general public were involved in the development of the NEMs for the Airport. Elected officials included the City of San Antonio's City Manager, Mayor, and City Council.
- Public Information Workshops to provide the community with an opportunity to review the Draft NEMs and provide comments on the Draft NEM Update Report.
- Informational Part 150 Study briefings for Airport users, such as tenant airline station managers, and Airport stakeholders, such as the Airport Advisory Commission.
- Robust public outreach to advertise the Public Information Workshops, including postcards, mass email notifications, social media postings, and television advertisements.
- For stakeholders, agencies, and the general public, a Part 150 Study website[4] was developed to provide Study-related information including Frequently Asked Questions (FAQs), Part 150 Study documents, additional links, and contact information to submit questions to the Part 150 Study Team. The website also allowed for the submission of questions and comments related to "the correctness and adequacy…of the maps" as stated above.

Additional information related to public outreach activities is included in **Chapter 6**.

1.5 Noise Exposure Map Update Report Organization

This NEM Update Report provides the NEMs for the Airport and the technical documentation required by 14 CFR Part 150, and is organized as follows:

Chapter 1 Introduction

Chapter 2 San Antonio International Airport Overview
This chapter provides background information regarding the Airport and the history of noise abatement at SAT.

Chapter 3 Land Use
This chapter describes the SAT Part 150 Study land use study area and methods for collecting data, land uses in the study area, and noise sensitive sites.

Chapter 4 Noise Exposure Map Development
This chapter describes the development of the noise exposure maps, the noise model and noise modeling inputs.

4 https://flysanantonio.com/business/about-saas/environmental-stewardship/

Chapter 5 2021 and 2026 Noise Exposure
This chapter presents the 2021 Existing Conditions and the 2026 Future Conditions NEMs and information on land use compatibility and aircraft noise-related impacts.

Chapter 6 Consultation and Public Involvement
This chapter documents stakeholder and public outreach engagement efforts undertaken during the Part 150 Study process.

Technical information, documentation, and maps are contained in the appendices to this report. The appendices are organized as follows:

Appendix A Glossary and Acronyms

Appendix B Aircraft Activity Forecast

Appendix C Airspace and Procedures

Appendix D Aircraft Noise

Appendix E Radar Flight Tracks

Appendix F Consultation and Correspondence

Appendix G Public Outreach

Appendix H Public Comments and Responses

Appendix I Official Noise Exposure Maps

CHAPTER 2
San Antonio International Airport Overview

2.1 Airport Location and Setting

The San Antonio International Airport (SAT or the Airport) is located eight miles north of downtown San Antonio on approximately 2,600 acres of land in Bexar County, Texas. The Airport is surrounded by suburban development with residential neighborhoods, outdoor parks, and commercial or industrial facilities. The Airport features convenient access to the I-410 outer belt which connects the City of San Antonio (the City) to major interstates in Texas. The location of the Airport is depicted on **Figure 2-1**. The Airport and its vicinity is depicted on **Figure 2-2**.

2.1.1 Airport History

The City first purchased 1,200 acres of land north of downtown in 1941 with the intent of developing an airport. In 1942, a portion of the airfield was used as a training facility for the U.S. Army Air Forces during World War II (Alamo Field). Also, in 1942, commercial airline service from Eastern and Braniff Airlines began. As the war was ending, the City began converting the Army Air Corps portions of the airfield and facilities into commercial service facilities. In 1944, the airfield was officially named as the San Antonio International Airport. By 1953, the City finished construction of a new terminal building along with a new air traffic control tower and access roadway to support commercial air service. By 1960, the Airport campus had doubled in size and several major expansion projects increased the total number of gates serving passengers. The 1960s were further characterized by Airport expansion with the announcement that the City would be the host of the 1968 Hemisfair. This announcement instigated the development of a circular eight-gate satellite terminal, sometimes called the “banjo.”

In 1975, the City adopted its first Airport Master Plan for the development of airport facilities through the year 2000. The result was an additional 16-gate terminal facility (current Terminal A) and a 1,300 space parking garage completed in 1984. The City developed another Airport Master Plan in 1994, which included plans for additional parking, terminal facilities, and landside roadway improvements to link all terminal facilities. In 2010, the City completed the Vision 2050 Master Plan that outlined recommended capital planning projects to meet the needs of the public for the next 40 years. In 2014, the Airport completed the extension of Runway 4/22 by adding 1,000 feet to reach a total length of 8,505 feet.

2.1.2 History of Noise

The City of San Antonio Airport System (SAAS) completed its first Part 150 Study in 1990, which was approved by the Federal Aviation Administration (FAA) in 1991 and included eleven (11) measures to reduce noise exposure and noncompatible land use in the community. As a result of the 1990 Part 150 Study, the SAAS established a Noise Abatement Officer, a Noise Abatement Advisory Committee, Pilot Advisory Committee, and a noise complaint monitoring system. The SAAS also adopted a number of noise abatement measures, which included voluntary use of noise abatement departure profiles, restrictions of nighttime engine run-ups, and urging airlines and cargo operators to use Stage 3 aircraft whenever feasible.[5] As a result of the Part 150 Study, the SAAS implemented land use measures including acoustical treatment of public buildings (schools, churches and libraries) and the development of a 2010 vicinity land use and zoning plan to reduce noncompatible land use in areas surrounding the Airport.

The SAAS completed a Part 150 update in 1996 with recommendations for a ground run-up enclosure (GRE). The GRE was implemented in 2002 to address noise impacts from engine run-up activity. In 2002, another Part 150 Study was conducted, which included an update to the Noise Compatibility Program (NCP). The FAA approved four (of 11) noise abatement measures and all four recommended noise mitigation measures. As a result of the approved NCP measures, the SAAS initiated both the Residential Acoustical Treatment Program (RATP) the Airport's Noise and Operations Management System (NOMS) installation in 2004, with final acceptance occurring in 2010.

The SAAS continued its commitment to reducing noise impacts to communities surrounding SAT by completing a Noise Exposure Map (NEM) update in 2009, and as a result, reported a 40% decrease in size of the Day-Night Average Sound Level (DNL) 65 dB contour as compared to the 2004 NEM.[6] In 2014, the SAAS and HMMH/URS completed the most recent NEM update to include the future year 2019.[7] The FAA accepted and approved the NCP in 2015. In 2018, the SAAS updated its NOMS software and replaced hardware elements and, in 2020, the RATP was completed.

2.2 Airport Overview

2.2.1 Aviation Role

In 2019, SAT was the sixth busiest commercial service airport in the State of Texas, based on passenger traffic. The Airport provides scheduled domestic and international service for both passengers and air cargo and also supports a wide range of general aviation activities. The FAA's National Plan of Integrated Airport Systems (NPIAS) identifies SAT as a Medium Hub Primary Commercial Service Airport.[8] Medium hubs are airports that account for between 0.25% and 1% of total U.S. passenger enplanements.

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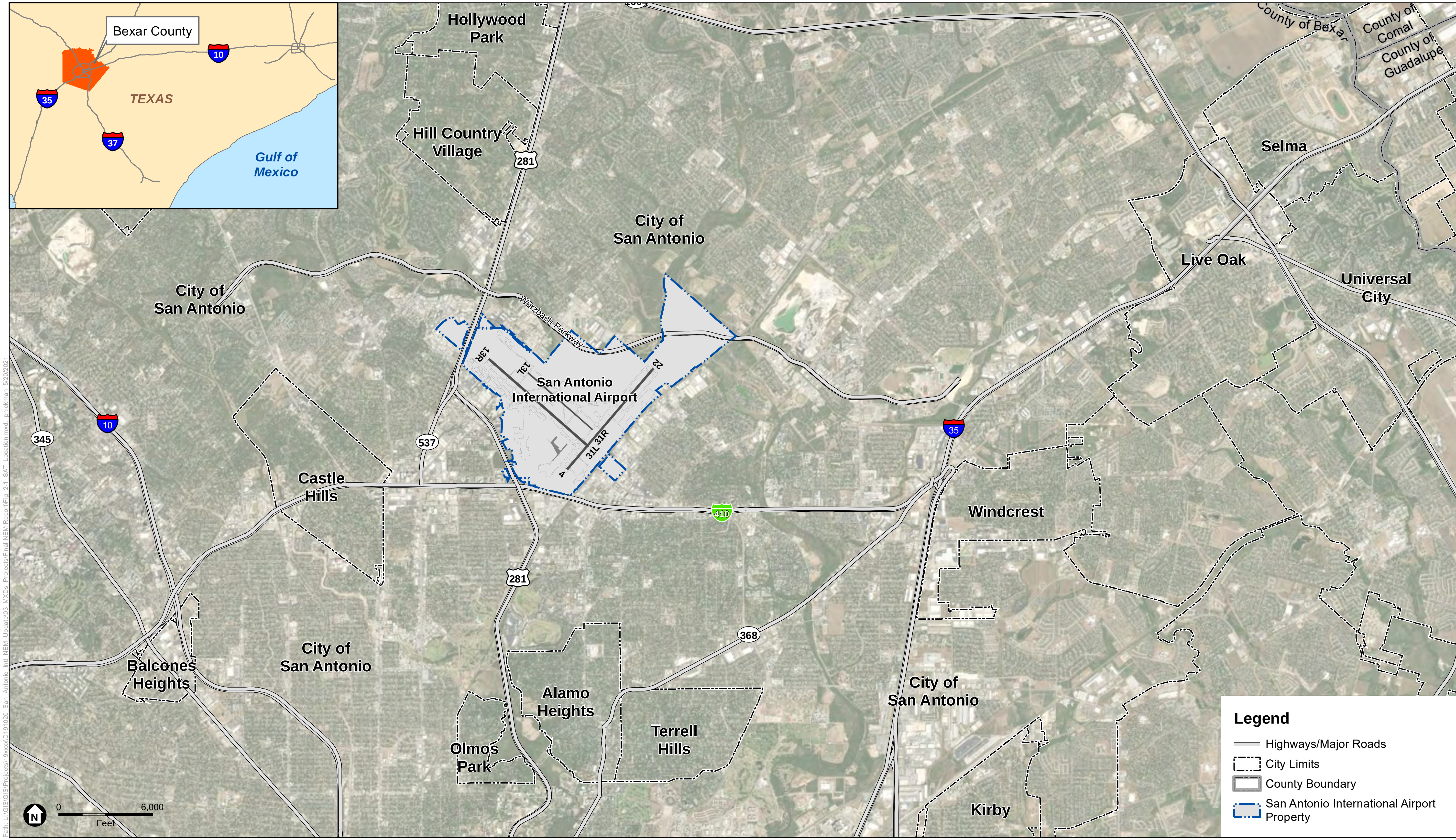
5 14 CFR Part 36 certified Stage II aircraft less than 75,000 pounds (primarily business jets) were phased out by December 31, 1999 in the US. Commercial airlines have continued to upgrade aircraft fleets to newer and quieter aircraft.

6 City of San Antonio Airport System and Wyle Laboratories. May 2009. *Noise Exposure Map Report and Noise Compatibility Program Update*. https://aviation.sanantonio.gov/Aviation/imagelibrary/uploadedfiles/upload-217201032824pm.pdf.

7 Federal Aviation Administration. 2015. *Noise Exposure Map Notice; Receipt of Noise Compatibility Program and Request for Review San Antonio International Airport San Antonio, Texas*. 80 FR 3302-3303.

8 Federal Aviation Administration. September 2020. *Report to Congress – National Plan of Integrated Airport Systems (NPIAS) 2021 - 2025*.



SOURCE: San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); Maxar, 2020 (image).

Figure 2-1
Airport Location Map
San Antonio International Airport

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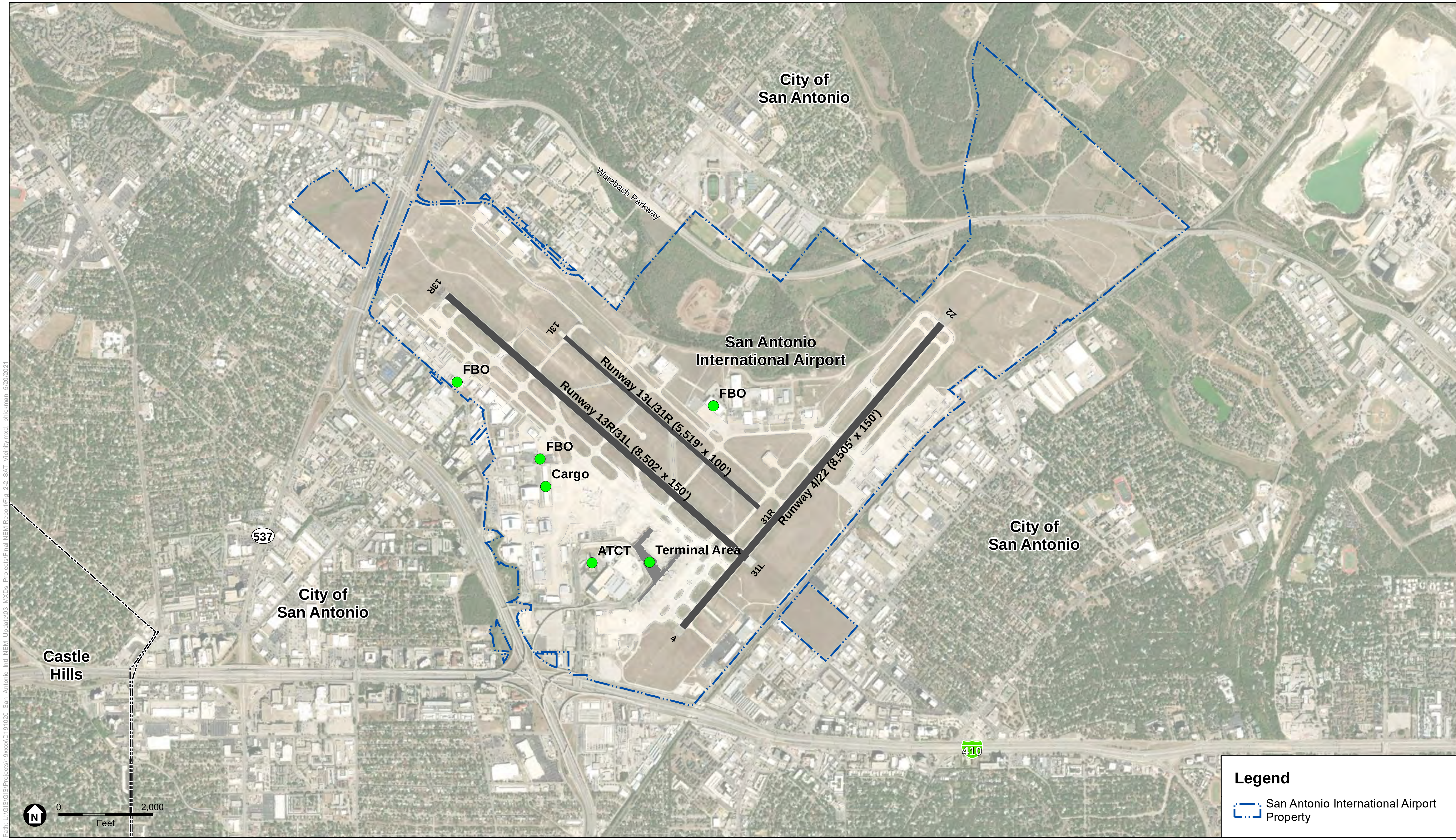

SOURCE: Maxar, April 2020 (Image).

Noise Exposure Map Update Report

Figure 2-2
Airport Vicinity Map
San Antonio International Airport

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2.2.2 Airport Facilities Overview

This section provides an overview of the Airport's facilities, airspace, and approach and departure procedures. The configuration of the major airfield and landside facilities at SAT is described in the following sections and shown on **Figure 2-3**.

2.2.2.1 Passenger Terminal Facilities

The Airport consists of two terminals located within the same building. Each terminal includes its own ticket counters and Transportation Security Administration (TSA) checkpoints. Terminal A is the larger of the two and consists of 17 gates. All international carriers operate out of Terminal A, which also includes Customs and Border Protection (CBP) services. Terminal B consists of eight gates that support domestic flights.

2.2.2.2 Runways

The SAT airfield consists of three runways: two parallel runways (Runway 13L/31R and 13R/31L) and one crosswind runway (Runway 4/22). Runway 13R/31L is 8,502 feet long, 150 feet wide, and constructed of concrete with grooves. Runway 13R/31L has no displaced thresholds, leaving the entire length available for takeoff and landing on both runway ends. Runway end 31L includes a 79-foot building obstruction approximately 3,500 feet away that requires a 41:1 slope to clear.

Runway 13L/31R is 5,519 feet long, 100 feet wide, and constructed of asphalt. Runway 13L/31R has no displaced thresholds, leaving the entire 5,519 feet available for both takeoff and landing on both runway ends. Neither runway end includes a controlling obstacle or obstruction.

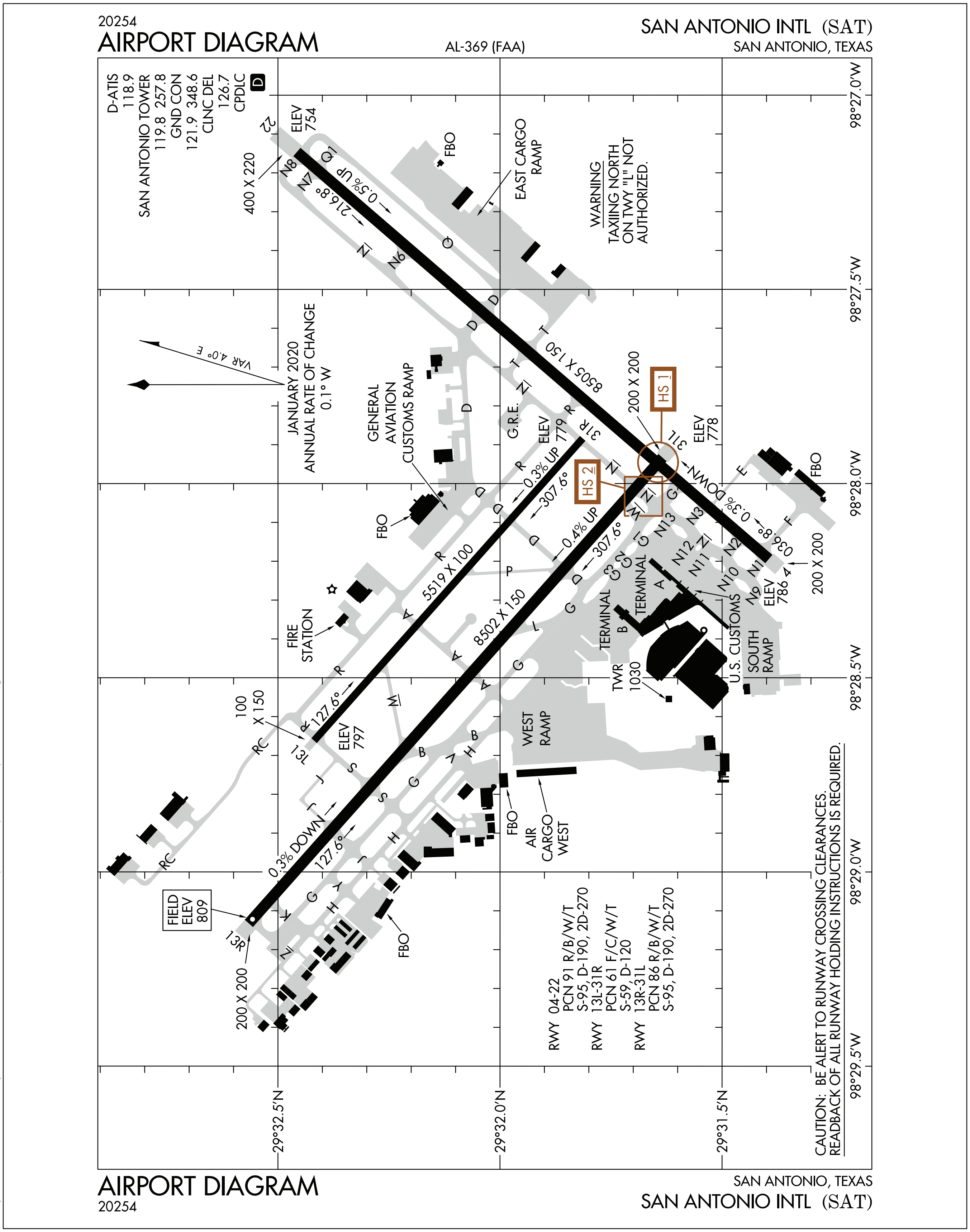
Runway 4/22 is 8,505 feet long and 150 feet wide, and is constructed of concrete and is grooved. Runway 4/22 has no displaced thresholds, which leaves the entire 8,505-feet available for both takeoff and landing. Runway end 4 includes a 46-foot pole obstruction located approximately 2,180 feet away that requires a 43:1 slope to clear. Categorized information regarding runway characteristics is shown in **Table 2-1**.

2.2.2.3 Helipads

A review of NOMS data indicated that helicopters normally ingress to and egress from 11 areas at SAT. Five of these areas are helipads and the remaining six are the runway ends. Helicopters operating at these locations are normally affiliated with emergency, military, and law enforcement operations.

2.2.2.4 Taxiways

As shown on Figure 2-3, a series of taxiways provide a network of connections and access points between SAT's three runways and the aviation facilities located adjacent to the airfield. The aviation facilities at the Airport include the terminal area airside complexes, maintenance, air cargo facilities, Fixed Base Operators (FBOs) and individual corporate, business and government tenants.



SOURCE: Federal Aviation Administration, 2020.

Figure 2-3
Airport Diagram
San Antonio International Airport

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TABLE 2-1
SAT RUNWAY CHARACTERISTICS

Runway Characteristics	Runway 13R/31L		Runway 13L/31R		Runway 4/22	
	13R	31L	13L	31R	4	22
Runway Length (Feet)	8,502		5,519		8,505	
Runway Width (Feet)	150		100		150	
Displaced Arrival Threshold (Feet)	None	None	None	None	None	None
Runway Landing Distance Available (Feet)	8,502	8,502	5,519	5,519	8,505	8,505
Runway Takeoff Distance Available (Feet)	8,502	8,502	5,519	5,519	8,505	8,505
Runway End Elevation (Feet above MSL)	809.1	778.4	797.2	779.2	786.0	754.2
Runway Markings	Precision	Precision	Non-precision	Basic	Precision	Precision
Runway Lighting	4-Light PAPI	4-Light PAPI	4-Light PAPI	4-Light PAPI	4-Light PAPI	4-Light PAPI
Part 77 Runway Category and Navigational Aids	ILS/DME	ILS/DME	N/A	N/A	ILS/DME	N/A
Runway Approach Lighting	ALSF2	MALSR	N/A	N/A	MALS	N/A

NOTES:
ALSF2 = Approach Lighting System with Sequenced Flashing Lights
DME = Distance Measuring Equipment
ILS = Instrument Landing System
MSL = Mean Sea Level
MALSR = Medium Intensity Approach Light System with Runway Alignment Indicator Lights
PAPI = Precision Approach Path Indicator

SOURCES: FAA Airport Master Record, Form 5010; AirNav.com accessed July 17, 2020.

Major taxiways that serve Runway 31R/13L consist of one full-length parallel taxiway (Taxiway R). Runway 31L/13R is served by one full-length parallel taxiway (Taxiway G). To facilitate movements between the two parallel runways (31R/13L and 31L/13R), the Airport has four existing taxiways that aid aircraft movements (Taxiways S, A, D, and N).

Runway 4/22 is served by a single full-length parallel taxiway that extends the entire length of the runway along the northwest side (Taxiway N) and a second partial parallel taxiway on the eastern side of the runway (Taxiway Q).

2.2.2.5 Airport Traffic Control Tower

The Airport is serviced by an FAA-staffed airport traffic control tower (ATCT) located west of the short-term parking garage. The ATCT operates 24 hours a day, 365 days a year. Radar approach and departure control is operated by the Terminal Radar Approach Control (TRACON) facility that is co-located with the Airport's ATCT.

2.2.2.6 General Aviation Facilities

General Aviation (GA) refers to all types of aviation that are not considered military, cargo, scheduled commercial passenger air service, and non-scheduled air transportation for hire. GA activity at SAT is comprised of business or corporate activity as well as personal/private activity. There are three FBOs currently providing service to GA operators at SAT. These FBOs provide aircraft ground handling, aircraft fueling, pilot's lounges, passenger lounges, rental cars, and crew/ service centers. SkyPlace FBO facilities are located north of Runway 31R/13L. MillionAir San Antonio is located southeast of the Airport adjacent to Runway end 4. Signature Flight has two locations northeast of the West Ramp.

2.2.2.7 Air Cargo Facilities

The Airport serves as an air cargo center for both domestic and international traffic. The primary cargo operators at SAT include FedEx, DHL, United Parcel Service (UPS), and a number of passenger airlines. Passenger airline cargo is handled northwest of Terminal B directly off of the West Ramp at Air Cargo West. Cargo facilities are also located via the East Cargo Ramp on the eastern edge of the Airport by Runway 4/22. Cargo facilities are shown on Figure 2-3.

2.2.2.8 Aircraft Maintenance

There are two full-service maintenance, repair, and overhaul (MRO) facilities located at SAT. StandardAERO and VT San Antonio Aerospace both specialize in full service maintenance repairs.

The Airport operates an engine ground run-up enclosure (GRE), which is a combined acoustic and jet blast protection structure that allows aircraft engine testing for post-maintenance activities for airlines. Additional information on the Airport's GRE is provided in **Chapter 4**.

2.2.2.9 Other Aviation-Related Facilities

A number of aviation-related support facilities are located on Airport property, which include:

- Aircraft Rescue and Fire Fighting (ARFF)
- Fuel Farm
- Airport Surveillance Radar
- Ground Support Equipment Storage and Maintenance
- Airport Maintenance
- Airport Security and Police

2.2.3 Future/Planned Airport Facilities

The SAAS is currently preparing its Strategic Development Plan (i.e., Master Plan). The first phase, conducted in 2018, analyzed what facilities would be needed to meet aviation demand for the next 50 years to determine if the Airport could remain in its current location. Once it was determined the Airport's current location was adequate to meet future demand, the SAAS began the second phase of the project to analyze the future facility needs for the next 20 years. Alternatives development is on-going and expected to be complete in late 2021.[9]

2.2.4 Airspace Classification

Airspace is classified as either FAA-controlled (Classes A, B, C, D, and E) or uncontrolled (Class G). Generally speaking, Class A airspace begins at 18,000 feet above mean sea level, continues upward, and is used to manage en route aircraft traffic. Class B airspace surrounds the nation's busiest airports. The Airport is located in a Class C airspace, which surrounds airports with high traffic levels, but not as high as Class B airports. Class D airspace surrounds those airports with an ATCT, but whose traffic levels are less than the threshold for Class C airspace. Class E airspace is any other controlled airspace where pilots are in radio contact with some portion of the FAA air traffic control network. This network consists of air route traffic control centers, TRACON facilities, ATCTs, and flight service stations. Additional information about airspace classifications can be found in **Appendix C** of this report.

2.3 Navigational Aids

Navigational aids ("NAVAIDS"), airport lighting, and airport markings help pilots to safely navigate around the Airport and through local airspace. The NAVAIDS available to pilots operating at SAT are summarized in **Table 2-2**.

2.4 Instrument Approach Procedures and Charted Visual Flight Procedures

Instrument approach procedures (IAPs) are flight procedures developed and published by the FAA that pilots use to navigate their aircraft to the runway. The most currently published IAPs for SAT are listed in **Table 2-3**.

2.5 Standard Terminal Arrivals and Departure Procedures

The airspace surrounding SAT is structured so that arriving aircraft can be safely and efficiently transitioned from the en route environment to the approach control environment and eventually to the airfield. Likewise, the airspace is structured so that departing aircraft can transition from the airfield to the terminal environment and ultimately to the en route environment. Standard Terminal Arrival Routes (STARs) and Departure Procedures (DPs) simplify and expedite Instrument Flight Rules (IFR) arrival and departure procedures in airspace. As discussed previously, aircraft flying in and out of SAT follow these routes, depending on the operational flow of the Airport.

9 https://flysanantonio.com/business/about-saas/strategic-development/

TABLE 2-2
SAT NAVIGATIONAL AIDS

Navigational Aid	Description
Instrument Landing Systems (ILS)	An ILS is a type of precision ground-based electronic landing navigation aid that has been in use in the U.S. for more than 50 years. An ILS guides pilots to runways during periods of limited visibility or inclement weather. An ILS has several components, including: • Localizer antenna (LOC) that provides lateral course guidance to the runway • Glide slope antenna (GS) that provides vertical course guidance • Marker beacons along the extended runway centerline • Approach lighting system Non-precision LOC instrument approach procedures are often available when a GS is not installed or for approaches from the opposite end of the runway ("back-course" approach).
Area Navigation (RNAV)	RNAV is a method of Instrument Flight Rules (IFR) navigation that permits aircraft operation on any desired flight path using the combination of both GPS and ground-based navigational aids. RNAV routes and terminal procedures, including departure procedures and standard terminal arrivals, are designed with RNAV systems in mind to save time and fuel, reduce aircraft dependence on air traffic control (ATC) vectoring, and provide for more efficient use of the airspace.
Global Positioning System (GPS)	The GPS, operated by the Department of Defense, uses a network of satellites that create reference points to enable aircraft equipped with GPS receivers to determine their latitude, longitude, and altitude. GPS systems can be used during all phases of flight.
Required Navigation Performance (RNP)	RNP is similar to RNAV, but RNP requires on-board navigation performance monitoring and alerting capability to ensure that the aircraft stays within a specific containment area.
Very High Frequency Omni-Directional Range (VOR)	A VOR is a ground-based electronic system that provides azimuth information for high and low altitude routes and airport approaches.
Distance Measuring Equipment (DME)	DME determines a slant range distance from an aircraft to the DME. VORs can be stand-alone or equipped with DME. These navigational aids provide navigational fixes on an aeronautical chart.

SOURCE: FAA, 2020. Adapted by Environmental Science Associates.

TABLE 2-3
SAT INSTRUMENT APPROACH PROCEDURES

Runway 13R/31L		Runway 13L/31R		Runway 04/22	
13R	**31L**	**13L**	**31R**	**04**	**22**
ILS OR LOC ILS (CAT II) RNAV (RNP)Z RNAV (GPS)Y	ILS OR LOC RNAV (RNP)Z RNAV (GPS)Y	N/A	N/A	ILS OR LOC RNAV (RNP)Z RNAV (GPS)Y	RNAV (RNP)Z RNAV (GPS)Y

SOURCE: FAA Instrument Flight Procedures Information Gateway, 2020.

When two or more straight-in approaches with the same type of guidance exist for a runway, a letter suffix is added to the title of the approach so that it can be more easily identified. These approach charts start with the letter Z and continue in reverse alphabetical order.

2.5.1 Standard Terminal Arrival Routes

The TRACON and the Airport's ATCT use five STARs to route aircraft operating at SAT. There are currently one RNAV (GPS) and four conventional arrival procedures,[10] as shown in **Table 2-4**. **Appendix C** includes a copy of the charts and descriptions of the STARs.

TABLE 2-4
SAT STANDARD TERMINAL ARRIVAL ROUTES

Procedure Name	Procedure Type	Arrival Direction
BRAUN	RNAV	East
CENTERPOINT TWO	Conventional	West
LEMIG ONE	Conventional	South
MARCS ONE	Conventional	North East
STONEWALL ONE	Conventional	North West

SOURCE: Airnav.com, July 2020.

2.5.2 Departure Procedures

Aircraft departing SAT are often assigned a specific DP, which is a published procedure that provides a standard route from the runway to the appropriate en route airspace structure. In some cases, a DP may have an associated en route transition, which is a published procedure segment that connects the end of the DP to one of several en route structures. DPs are designed to separate departing aircraft from arriving aircraft, provide for efficient interception of an outbound course, simplify the issuance of departure clearances, and reduce radio communication.

Departure procedures at SAT include a mix of RNAV and conventional procedures. **Table 2-5** summarizes the DPs for SAT. **Appendix C** includes these charts and descriptions of each procedure listed in the charts.

2.6 Economic Impact

In the State of Texas, the Airport is a gateway to South Central Texas for business and leisure travelers from all over the U.S. It is a significant driver of the regional economy that provides direct and indirect employment and an equally significant multiplier effect to the regional economy.

10 FAA's *Instrument Procedures Handbook* (FAA-H-8083-16A) notes that STARs based on conventional NAVAIDs essentially have the same procedure design and obstacle clearance criteria as that for en route procedures. STAR procedures typically include standardized descent gradients and allow for deceleration segments. RNAV STARs serve the same purpose as conventional STARs, but are only used by aircraft equipped with Flight Management System or GPS. An RNAV STAR typically includes flyby (or flyover) waypoints. These waypoints may be assigned crossing altitudes and speeds to optimize the descent and deceleration profiles.

TABLE 2-5
SAT DEPARTURE PROCEDURES

Procedure Name	Procedure Type
ALAMO THREE	Conventional
ALISS FIVE	RNAV
BOWIE SEVEN	Conventional
LEJON FOUR	Conventional
MILET FOUR	RNAV
THREE RIVERS FOUR	RNAV

SOURCE: Airnav.com, July 2020.

2.6.1 Regional Economic Impact

In 2019, just over 10 million passengers passed through the Airport. According to the 2018 Economic Impact Study,[11] the Airport's activities resulted in approximately $5 billion of economic impact and approximately 27,000 in direct employment. The study also indicated that approximately 50% of SAT's passengers were visiting the region and contributing approximately $300 on average, per day, to the regional economy. **Figure 2-4** provides a brief overview of the economic impact of SAT on the region.

Figure 2-4 SAT Economic Impact

Source: 2018 Economic Impact Study. WSP, 2018.

2.6.2 COVID-19 Impacts

The spread of COVID-19 across the globe has led to a sharp decrease in passenger volume at airports due to strict travel restrictions and concerns over spreading and contracting the virus. In the month of April 2020, the Airport Council International-North America recorded a decrease of 90% in passenger traffic volumes at airports worldwide. Like many U.S. airports, passenger numbers at SAT were down approximately 95% in April 2020 when compared to April 2019. However, passenger volume has steadily increased since then and enplanements at SAT were approximately 65% of 2019 levels in November 2020, representing a 30% increase over April 2020

11 WSP. 2018. *2018 Economic Impact Study*.

levels. Importantly, SAT passenger counts are currently about 2% ahead of the rest of the nation. Although SAT has experienced a gradual increase in passenger traffic levels in 2020, it is still too early to determine when SAT's (and the nation's) aviation activity will fully recover from the impact of the COVID-19 slow-down. Some aviation sources, including airlines and aircraft manufacturers, are currently estimating recovery as soon as 2023, while others are less optimistic with recovery occurring in 2025 or later.

2.7 Noise Monitoring, Noise Abatement, and Community Outreach Programs

Historically, the SAAS has been active in addressing aircraft noise concerns, with numerous measures to improve compatibility and community relations.

2.7.1 Flight Tracking System

The Airport has installed a NOMS which collects noise and flight tracking data. The NOMS consists of Noise Monitoring Terminals (NMT), flight track data, and noise inquires. The NOMS monitors aircraft overflights of local neighborhoods and communities and notes their noise levels. Each NMT is linked to NOMS that is constantly updated with the latest flight, weather, and noise data. The NOMS was installed to provide noise and flight tracking data to the SAAS's Noise Office. The NOMS provides an objective tool for assessing and analyzing airport noise impacts to support investigating noise inquiries from the community. The NOMS data is used to:

- Record aircraft noise events
- Track noise levels over time
- Assess adherence to noise abatement flight paths
- Link complaints to flights, airlines and aircraft types
- Map complaints
- Identify potential noise anomalies
- Create reports on noise events and complaints
- Produce maps and graphics

2.7.2 Community Outreach

The SAAS actively reaches out to its neighbors through numerous community outreach efforts in areas surrounding the Airport. To provide a platform for sharing noise-related information with interested parties, the SAAS established a website specifically for noise-related issues, where community members can inform themselves on all noise related information for SAT and submit a noise inquiry.[12] Community outreach performed by the SAAS as a part of this Part 150 Study is included in **Chapter 6**.

12 https://flysanantonio.com/business/about-saas/environmental-stewardship/

2.7.3 Aircraft Noise Complaints / Comments

As part of its noise program, the SAAS collects aircraft noise complaint information using the webpage where a noise complaint can be filed.[13] Each noise complaint received is compiled in a database, verified for accuracy, analyzed, and included in monthly Noise Monitoring Office Reports for informational purposes. According to data received by the SAAS, noise complaints have steadily increased since 2016. In 2020, the number of noise complaints increased approximately 63% compared to the previous year despite the sharp decline in air travel at SAT. **Table 2-6** provides the number of annual noise complaints submitted from January 2016 through February 2021.

TABLE 2-6
SAT AIRCRAFT NOISE COMPLAINTS

Year	Number of Noise Complaints
2016	3,405
2017	1,626
2018	4,645
2019	4,510
2020	9,892
2021	2,343

NOTE: Noise complaint data for 2021 represents data collected from January through February 2021.
SOURCE: The City of San Antonio Airport System. *Noise Monitoring Office Reports*, March 2021.

2.7.4 Noise Abatement Measures

The SAAS's noise abatement measures are focused on voluntary noise abatement departure procedures, on-line reporting mechanisms, and noise officer systems. The goal of the voluntary noise abatement departure procedure is to minimize the excessive use of thrust over residential areas to the safest extent possible. Below is a full list of the measures the SAAS has implemented as part of its noise management program.

- Ground Run-Up Enclosure
- Noise Abatement Departure Profiles
- Pilot Awareness Program
- Airport Awareness Zone
- Monthly Noise Monitoring Office Report
- Airport noise and operations monitoring system
- Online noise complaint portal
- Website updates containing scheduled runway closure information

[13] https://flysanantonio.com/business/sat-assistance/feedback-inquiries/#noise_inq

CHAPTER 3
Land Use

3.1 Introduction

Title 14 Code of Federal Regulations (CFR) Part 150 requires the review of land uses located in the airport environs to understand the relationship between those land uses and the noise exposure associated with arriving and departing flights. This includes delineation of land uses within the Day-Night Average Sound Level (DNL) 65 and higher contours on the Noise Exposure Maps (NEMs) and identification of noise sensitive uses that may be noncompatible with that level of noise exposure. The presence of a noise sensitive use within the DNL 65 contour does not necessarily mean that the use is considered noncompatible or eligible for mitigation; rather, identification simply indicates the use is generally considered noncompatible, and requires further investigation. Factors influencing compatibility and/or eligibility may include, but not be limited to, previous sound reduction treatments, current interior noise levels, structure condition, ambient and self-generated noise levels, whether a given use is considered temporary or permanent, and the timeframe within which the specific structure was constructed.[14]

3.2 Land Use Data Collection

Various types of land use information were collected to provide the basis for the evaluation of land use compatibility and noise exposure in this Part 150 Study. Property use information from a geospatial parcel dataset was obtained from the Bexar County Appraisal District (BCAD). This data served as the foundation of the existing land use map, which represents the 2021 Existing Conditions. The existing land use dataset was supplemented with current land use data provided by the San Antonio River Authority (SARA), as well as information for the locations of parks, schools, libraries, hospitals, and other institutional uses published by the City of San Antonio, Bexar County, the National Park Service, the Texas Historical Commission, the U.S. Census Bureau, and the U.S. Geological Survey. The Part 150 Study Team obtained future land use data, which represents the 2026 Future Conditions, from both the City of San Antonio and the SARA.

The Part 150 Study Team compared the property use information in the parcel dataset against geospatial data from the BCAD, the City of San Antonio, and the SARA. For example, parcels with missing or ambiguous property use information, which intersected with location data for hospitals, libraries, and schools, were confirmed to accommodate “Public Facilities and Institutions”, while

[14] On March 27, 1998, the FAA issued a policy on 14 CFR Part 150 airport noise compatibility programs that limits approval of remedial mitigation measures (e.g., soundproofing, property acquisitions, and relocation, etc.) to land uses that were in place as of October 1, 1998 unless an airport sponsor can demonstrate that DNL contours were not published prior to that date. New noncompatible uses resulting from airport expansion may be eligible for consideration.

parcels, which intersected with location data for parks, were confirmed as "Open Space, Cemeteries, and Outdoor Recreation." Parcel use information was also checked against the parcel ownership information, as well as any "doing business as" notations present in the geographic information system (GIS) attribution data, which could help inform the use of the property. When the Part 150 Study Team could not derive property use from existing GIS data, they accessed aerial and street view imagery, via the GoogleEarth Pro platform, to determine the appropriate generalized existing land use category.

3.2.1 Land Use Data Collection Area

This Part 150 Study required the development of a database of existing land uses located in the airport environs affected by noise and flight activity, or the Land Use Data Collection Area, which defined a broad data collection area that conforms to 14 CFR Part 150 criteria. The Land Use Data Collection Area for this Part 150 Study considered a number of factors, including:

- The most recent set of noise contours for San Antonio International Airport (SAT or the Airport) to ensure that the 2021 Existing Conditions and 2026 Future Conditions DNL 65 contours developed for this Part 150 Study would be encompassed.
- Land use within a radial distance of 30,000 feet (more than 5 miles) from each runway end at SAT for capture of flight tracks, in accordance with 14 CFR Part 150 requirements.
- Flight track data associated with arrival and departure operations at SAT in 2019.

3.2.2 Study Area

Identification of the Land Use Data Collection Area, including land in close proximity to the Airport and the extended runway centerlines, was done to perform a closer review of land use data. The Land Use Data Collection Area for this Part 150 Study was intended to include areas with the potential to be located within or in proximity to the Airport's 2021 Existing and/or 2026 Future Conditions DNL 65 and higher contours.

3.2.3 Local Agency and Government Coordination

The BCAD and SARA was contacted in order to obtain the latest property use information for establishing existing land uses and identifying noise sensitive receptors. Acquisition of additional current land use data was coordinated with the SARA.

3.3 Land Use Compatibility

3.3.1 Aircraft Noise and Land Use Compatibility

Guidelines regarding the compatibility of land uses within various DNL contour intervals are specified in *Appendix A of 14 CFR Part 150*. These guidelines are consistent with land use guidelines developed by other federal agencies, such as the U.S. Environmental Protection Agency and the U.S. Department of Housing and Urban Development. The DNL noise metric, representing average noise levels over a 24-hour period, is used for assessing land use compatibility. DNL values are expressed in A-weighted decibels (dBA), a sound pressure level metric that emphasizes sound at the frequency range where the human ear is most sensitive. In the calculation of DNL, sound events occurring during the nighttime (10:00 P.M. to 6:59 A.M.) are increased by a 10 decibel-weighting to represent the increased sensitivity of people to noise that occurs at night. DNL values represent the cumulative effects of all aircraft operations occurring during an average 24-hour period or "annual average day," which is derived from aircraft operations data for an entire calendar year. Further details on aircraft noise are presented in **Appendix D** of this NEM Update Report.

The Federal Aviation Administration (FAA) has determined that the land uses listed in 14 CFR Part 150, Appendix A, Table 1 (presented here as **Table 3-1**) are normally compatible with aircraft noise below the DNL 65 contour. Therefore, when evaluating land use compatibility, attention is focused on uses within the DNL 65 contour.

TABLE 3-1
14 CFR PART 150 LAND USE COMPATIBILITY GUIDELINES IN AIRCRAFT NOISE EXPOSURE AREAS

Land Use	Yearly Day-Night Noise Level (in decibels)					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail - building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade – general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing & Production						
Manufacturing, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y

TABLE 3-1
14 CFR PART 150 LAND USE COMPATIBILITY GUIDELINES IN AIRCRAFT NOISE EXPOSURE AREAS

Land Use	Yearly Day-Night Noise Level (in decibels)					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Recreational						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parenthesis refer to notes.

* The designations contained in this table do not constitute a federal determination that any use of land covered by the program is acceptable or unacceptable 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 to Table

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

Notes:

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor NLR of at least 25 dB to 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a 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 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 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 normal noise level is low.
(5) Land use compatible provided that special sound reinforcement systems are installed.
(6) Residential buildings require an NLR of 25 dB.
(7) Residential buildings require an NLR of 30 dB.
(8) Residential buildings not permitted.

SOURCE: Title 14 Code of Federal Regulations Part 150, Appendix A, Table 1, *Airport Noise Compatibility Planning*.

As shown in Table 3-1 starting on Page 3-3, noise sensitive land uses such as single and multi-family residential, mobile home parks, transient lodging (e.g., hotels), daycare facilities, public and private schools, and outdoor music venues are considered to be noncompatible with noise levels of DNL 65 or higher. Other noise sensitive land uses such as hospitals, nursing homes, churches, auditoriums, and concert halls are considered compatible with noise levels of DNL 65 to 75, provided that appropriate noise attenuation is designed into the building's structure. Commercial, manufacturing, and recreational land (parks, amusement parks, zoos, etc.) are generally less sensitive to noise and are considered compatible with noise levels up to DNL 70 without noise attenuation and up to DNL 80 with appropriate levels of noise attenuation. For this Part 150 Study, compatible and noncompatible land uses within the DNL 65 and higher contours were documented according to the guidance provided in Table 3-1 to the extent that it was readily applicable to the area's land use categories.

3.3.2 Local Ambient Noise Environment

The overall noise in the environment around an airport is an important consideration in evaluating land use compatibility relative to aircraft noise. 14 CFR Part 150, Appendix A, Section 101 indicates, "if the self-generated noise from a given use and/or the ambient noise from other non-aircraft and non-airport uses is equal to or greater than the noise from aircraft and airport sources," the land use is considered compatible.

Ambient (background) noise levels generally correlate with intensity of urbanization; ranging from quiet rural settings to dense urban environments, where the loudest ambient noise levels are typically found. San Antonio and surrounding cities include land that can be described as suburban and urban, with the exception of some large park and open space areas, and the immediate ambient noise environment is generally less than the noise originating from aircraft and other airport-related sources. Further away from the city, more sparsely developed areas, such as Hill Country Village have an even lower ambient noise level.

3.3.3 Land Uses Within the Study Area

Land in the Land Use Data Collection Area is largely urbanized. The predominant land uses in the vicinity of the Airport are residential (single family, multi-family, and group), open space and outdoor recreation, and retail and office commercial uses. Other types of development present in the Land Use Data Collection Area include industrial and manufacturing uses, institutional uses, transportation and utilities, and vacant land.

The area immediately proximate to the Airport is within the City of San Antonio, and the City of San Antonio Planning Department is responsible for the land use planning decision making within the Land Use Data Collection Area. The Airport is situated at the intersection of the U.S. Highway 281 and the Loop 410 Highway. These highway corridors include frontage roads and are generally lined with concentrations of commercial, industrial and multi-family development. Established residential neighborhoods are located immediately beyond the commercial corridors, and feature multi-family developments as well as densely concentrated single-family residential lots. A network of parks and greenways is also present and generally follows rivers and streams.

The periphery of Airport property is comprised primarily of commercial and industrial land uses. However, residential uses and schools are located just beyond the concentrated commercial and industrial areas.

Land uses near the Runway 22 end include McAllister Park and commercial and industrial uses concentrated along Wetmore Road. Single and multi-family homes are located in the Stoneridge neighborhood just beyond the park.

Land uses near the Runways 13L and 13R ends include a dense mix of commercial land industrial land uses followed by areas with a mix of single and multi-family residential interspersed with park and open space uses situated just beyond.

The off-Airport areas near the Runway 4 end are developed with commercial uses including transient lodgings. These areas as well as some existing multi-family residential development are located just south of Loop 410 Highway. The established single-family residential Shearer Hills/Ridgeview neighborhood is located slightly farther down the extended runway centerline.

Land uses near the Runways 31L and 31R ends are likewise comprised of industrial and commercial uses including transient lodgings. Portions of the residential Northeast Park neighborhood are located immediately southeast of Broadway Street.

Land uses in the Land Use Data Collection Area are summarized in **Table 3-2** and are depicted on **Figure 3-1**. A more detailed discussion of land uses is provided in **Appendix E**.

Eligibility for future mitigation, if any, will be based on the criteria established in 14 CFR Part 150 and the land use compatibility guidelines summarized in Table 3-1. Unclassified land uses depicted on the figure are land uses which have no discernible designation in the BCAD or local land use databases.

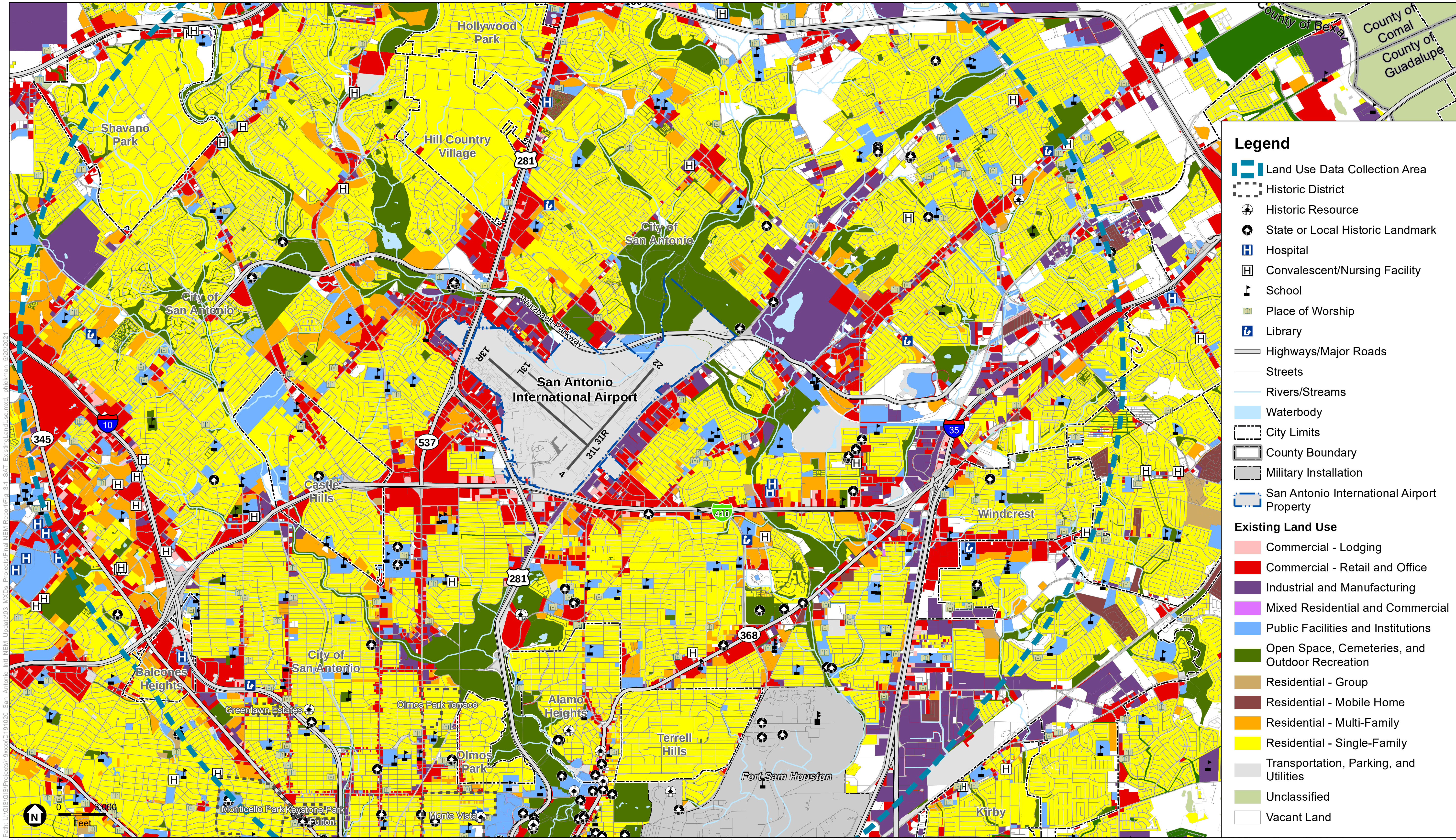
3.3.4 Noise Sensitive Sites

In addition to identifying and mapping land uses, 14 CFR Part 150 also requires the identification of noise sensitive public buildings, including schools, hospitals, and health care facilities, and properties eligible for inclusion in the National Register of Historic Places. This Part 150 Study identified the following noise sensitive sites within the Land Use Data Collection Area:

- Places of worship
- Schools
- Libraries
- Hospitals
- Nursing and convalescent facilities
- Historic properties and sites

The City of San Antonio, Bexar County, the BCAD, and various readily available on-line data and mapping sources were used to identify these noise-sensitive sites. Information sources for the identification of historic resources included the National Register of Historic Places, the Texas Historical Commission, and the City of San Antonio.

The locations of noise sensitive sites within the Land Use Data Collection Area are depicted in **Figures 3-2** through **3-5**, which represent the northwest, northeast, southeast, and southwest quadrants of the area, respectively. As indicated previously, inclusion of these properties within the DNL 65 contour does not necessarily mean that a site is either considered noncompatible or that it is eligible for mitigation. Inclusion merely indicates that the use is generally considered noncompatible (as depicted in **Table 3-1**).



SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-1
Generalized Existing Land Uses – Land Use Data Collection Area
San Antonio International Airport

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TABLE 3-2
CONSOLIDATED LAND USE CATEGORIES WITHIN THE LAND USE DATA COLLECTION AREA

Consolidated Land Use Categories	Typical Uses	Compatibility with the DNL 65 Contour
Residential - Single Family	Single family detached homes.	Generally considered noncompatible.
Residential - Multi-Family	Apartment buildings, cooperative apartment buildings, condominiums, public housing complexes, duplexes, and assisted living facilities.	Generally considered noncompatible.
Residential - Group	Group homes, transitional housing, single room occupancy units, detention centers.	Generally considered noncompatible.
Commercial – Retail and Office	Retail includes shopping malls, shopping centers, stores, shops, entertainment, restaurants, bars, galleries, and service establishments. Office includes business, professional, and healthcare services.	Generally considered compatible.
Commercial - Lodging	Hotels, motels, bed and breakfast inns.	Generally considered noncompatible.
Industrial and Manufacturing	Piers, docks and marinas, bulk fuel storage, heavy manufacturing and assembly plants, light manufacturing and processing facilities, warehouse and storage, truck terminals, junkyards, sand and gravel pits, and wholesale nurseries and greenhouses.	Generally considered compatible.
Transportation and Utilities	Roadways and highways (including rights-of-way), parking lots, and garages as well as electric power generation and transmission lines, water supply and treatment facilities.	Generally considered compatible.
Public Facilities and Institutions	Schools and universities, libraries, museums, cultural facilities, places of worship, government buildings, auditoriums, hospitals and hospice facilities, nursing homes, police and fire protection, post offices, correctional institutions, and animal shelters.	Generally considered compatible, with the exception of specific noise sensitive uses (schools, hospitals and hospice facilities, churches, and nursing homes).
Open Space, Cemeteries and Outdoor Recreation	Parks, recreation areas (parks, amusement parks, zoos, etc.), playgrounds, athletic fields, conservation land, preserves, cemeteries, and public land.	Generally considered compatible, with the exception of outdoor music venues.
Vacant	No present use.	Potentially noncompatible if it were to be developed with a noncompatible use.

SOURCES: Environmental Science Associates, 2020.

3.4 Land Use Control Regulations

The Part 150 Study Team reviewed land use controls to provide an understanding of existing land use control regulations (e.g., zoning ordinances) within each political jurisdiction inside the Land Use Data Collection Area. Review of the permitted uses, by zoning district, for each jurisdiction's zoning provisions indicate that there have been occasions where one or more uses permitted in a zoning district (i.e., mixed use) have been identified as potentially being noncompatible, depending on the results of the noise analysis.

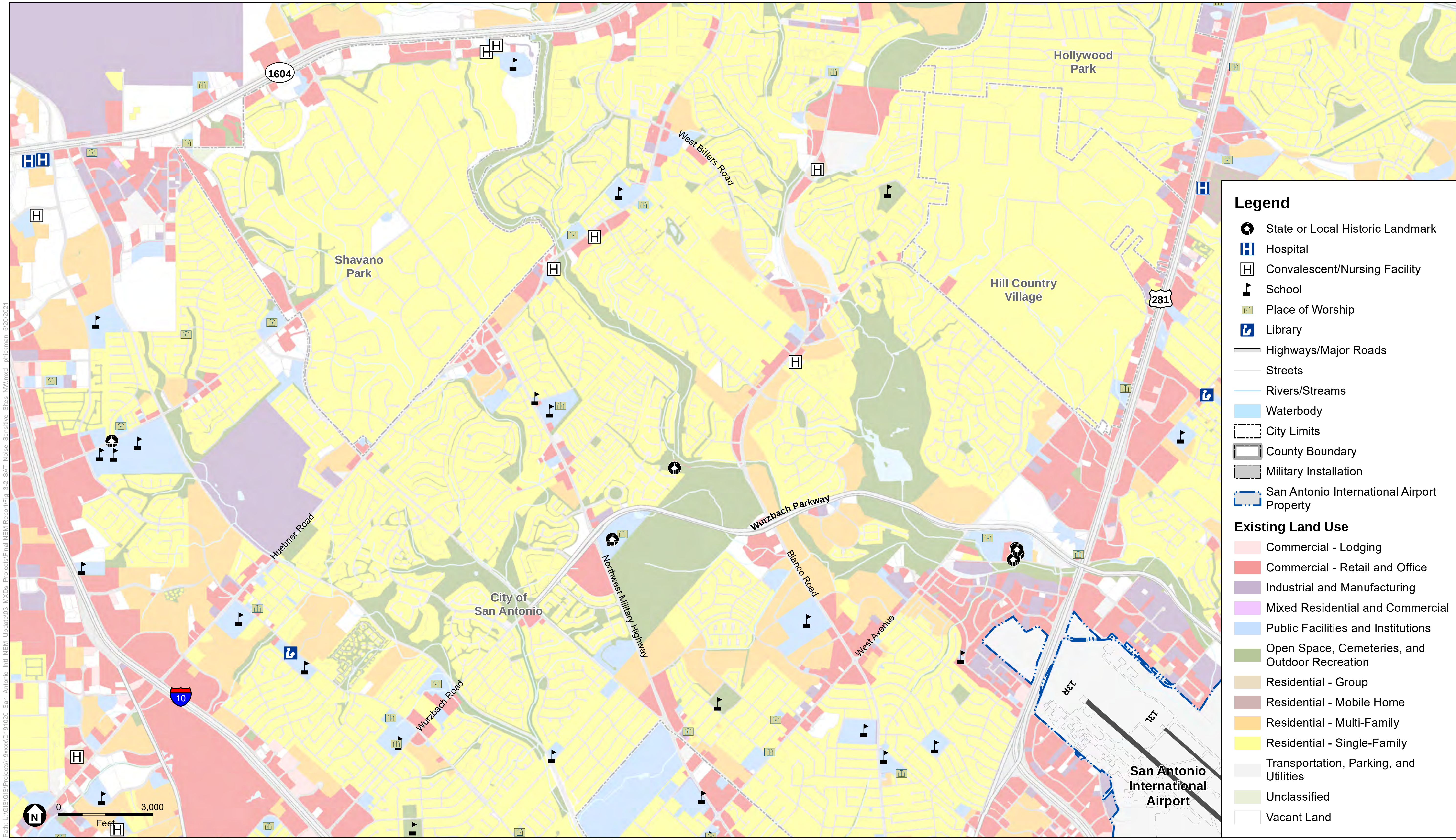
3.5 Future Land Uses

The Part 150 Study Team mapped generalized future land uses to help gain an understanding of the land development trajectory in the SAT environs. The generalized future land use data is based on planned land uses as designated by the various study area jurisdictions. A generalized future land use dataset was developed from planned land use data obtained from the City of San Antonio and the SARA. Generalized future land uses are depicted on **Figure 3-6**. An examination of the mapped generalized future land uses in this Part 150 study area indicates an intensification of commercial and industrial uses along highway corridors and an increase in occurrences of mixed commercial and residential use developments.

Areas anticipated to transition from nonresidential to residential or mixed uses are primarily located away from the immediate Airport surroundings. However, some introduction of residential use in traditional and mixed use development is anticipated near the Airport property and extended runway centerlines. Areas transitioning from nonresidential use to residential or mixed uses are depicted on **Figure 3-7**.

Reflective of growing demand for housing, instances of land anticipated to transition away from residential uses are less common throughout the study area than lands converting to residential uses. However, there are some areas proximate to the Airport where existing residential units currently interspersed within commercial and industrial areas are planned to shift to nonresidential use. Areas anticipated to transition from residential use to commercial or industrial uses are depicted on **Figure 3-8**.

Areas planned to transition to institutional uses are depicted on **Figure 3-9**, and areas planned to transition to parks and open space are depicted on **Figure 3-10**.



SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-2
Land Use Data Collection Area Noise Sensitive Sites – Northwest Quadrant
San Antonio International Airport

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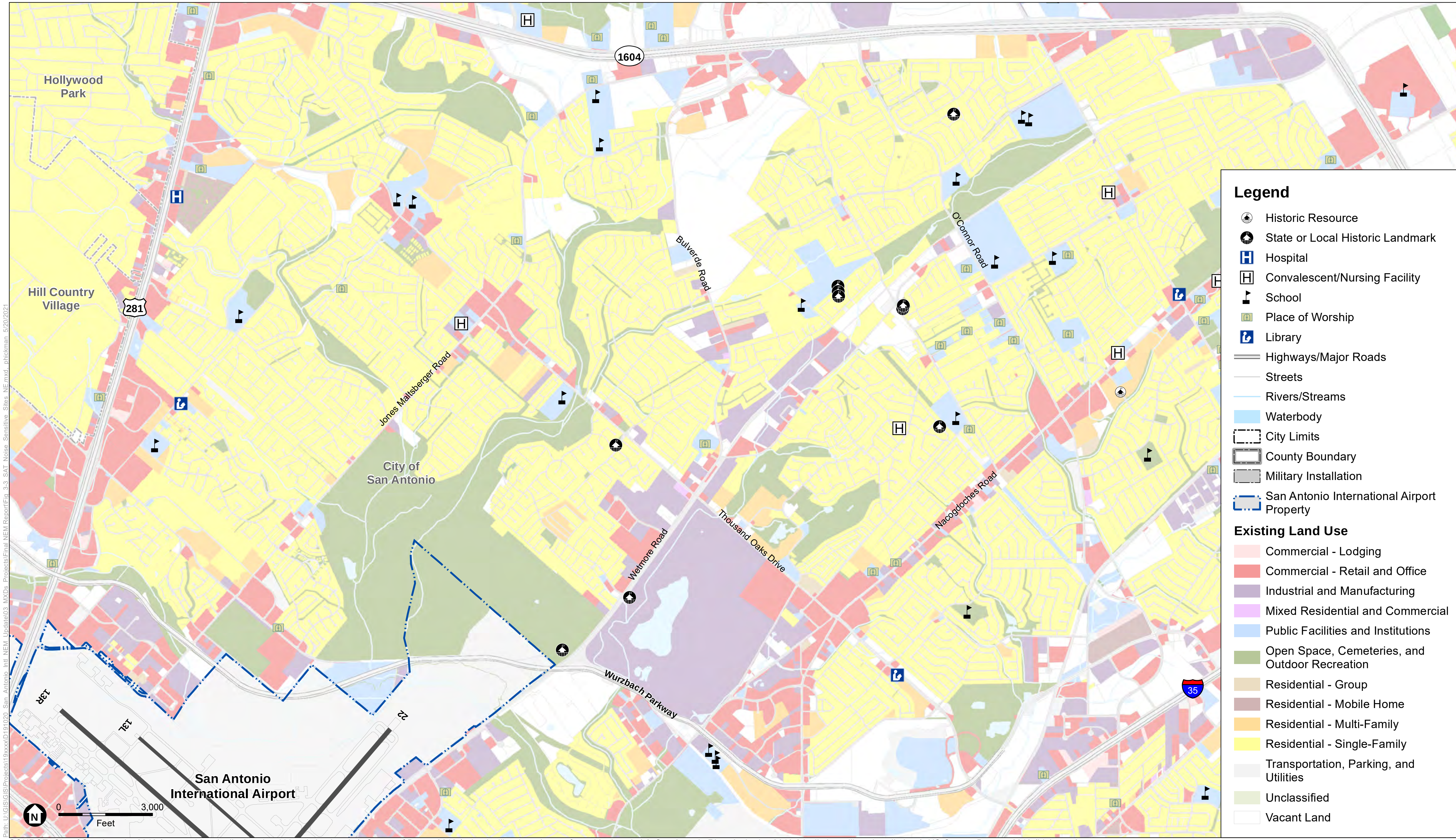

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-3
Land Use Data Collection Area Noise Sensitive Sites – Northeast Quadrant
San Antonio International Airport

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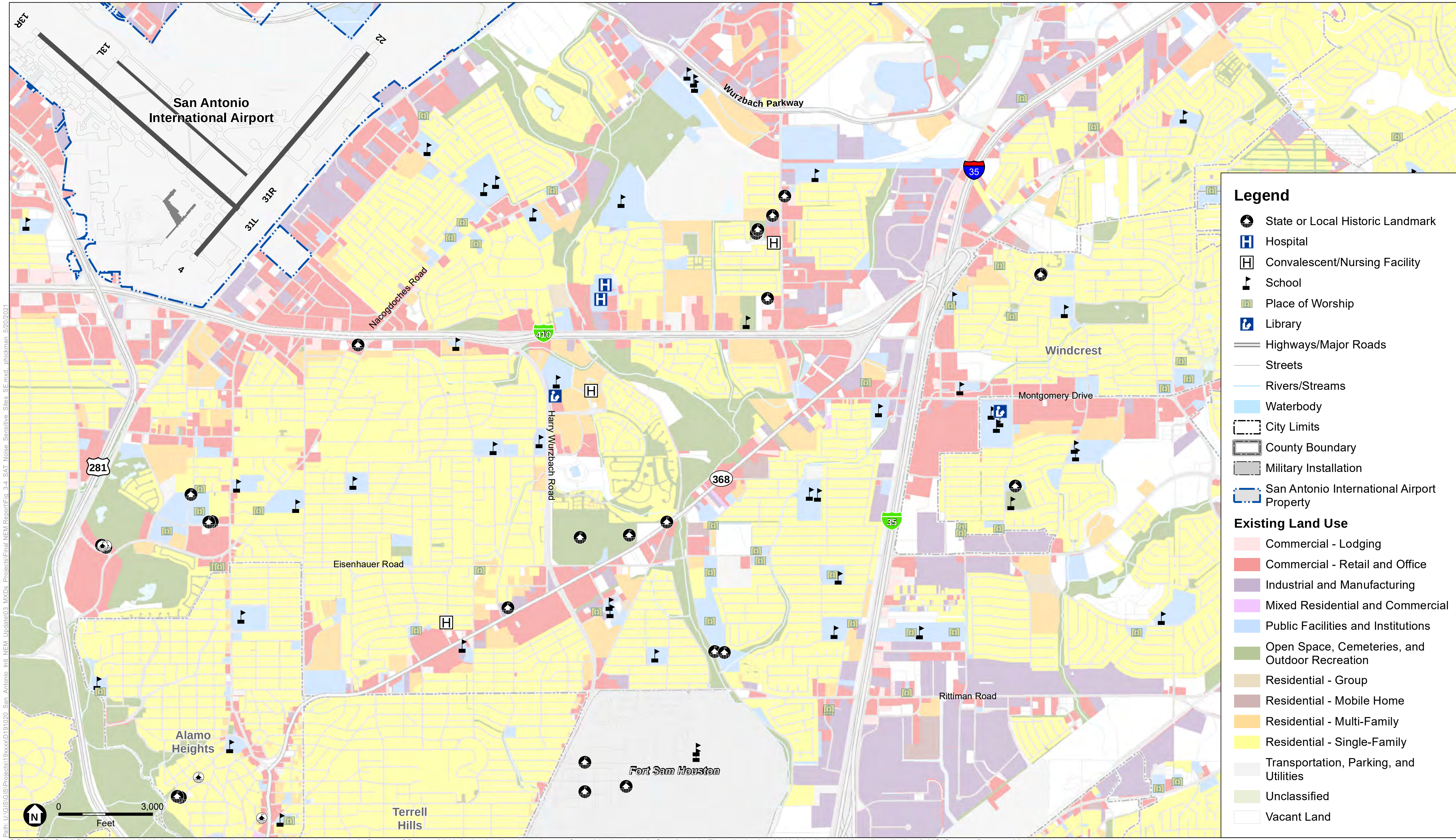

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-4
Land Use Data Collection Area Noise Sensitive Sites – Southeast Quadrant
San Antonio International Airport

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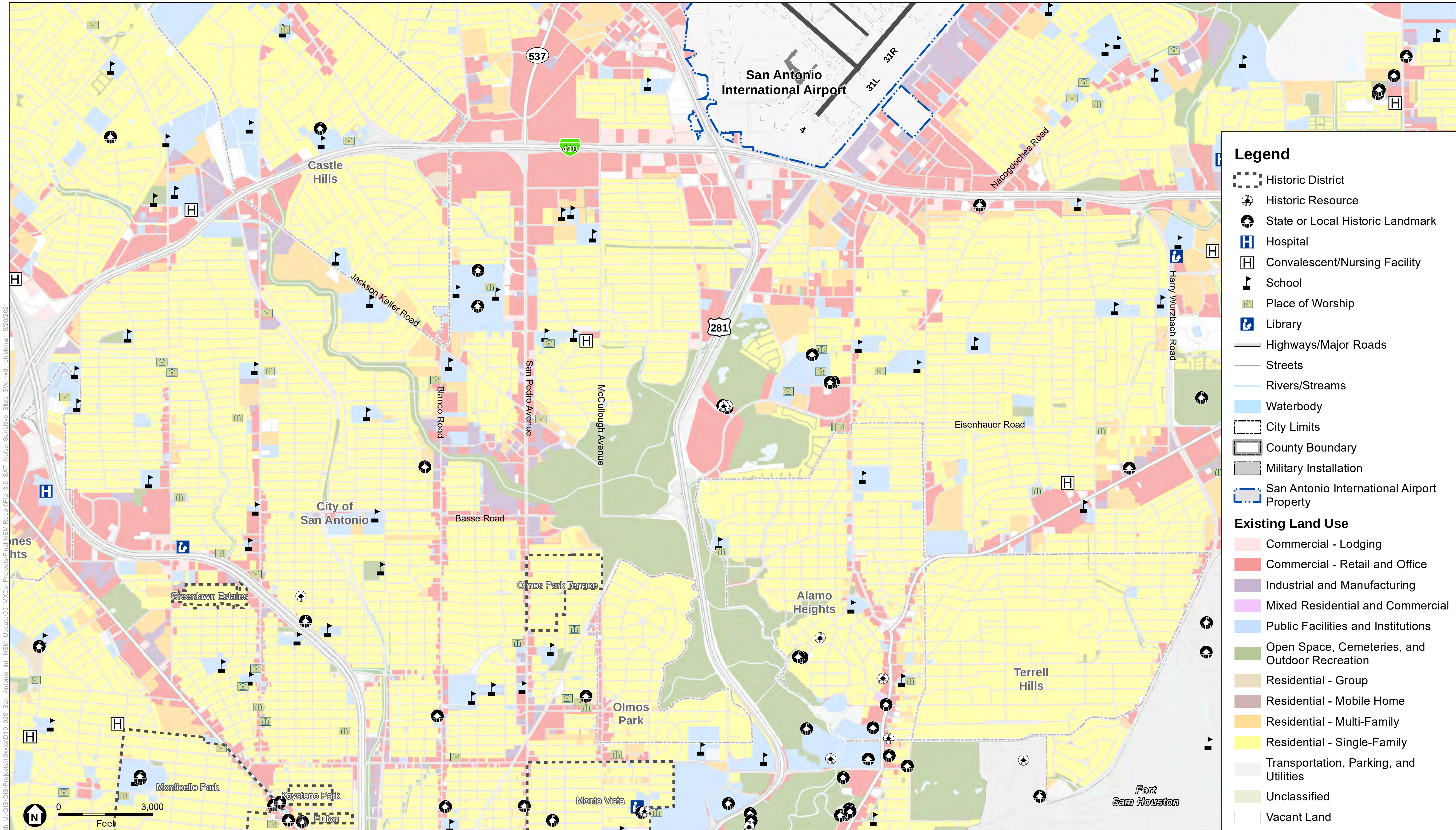

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-5
Land Use Data Collection Area Noise Sensitive Sites – Southwest Quadrant
San Antonio International Airport

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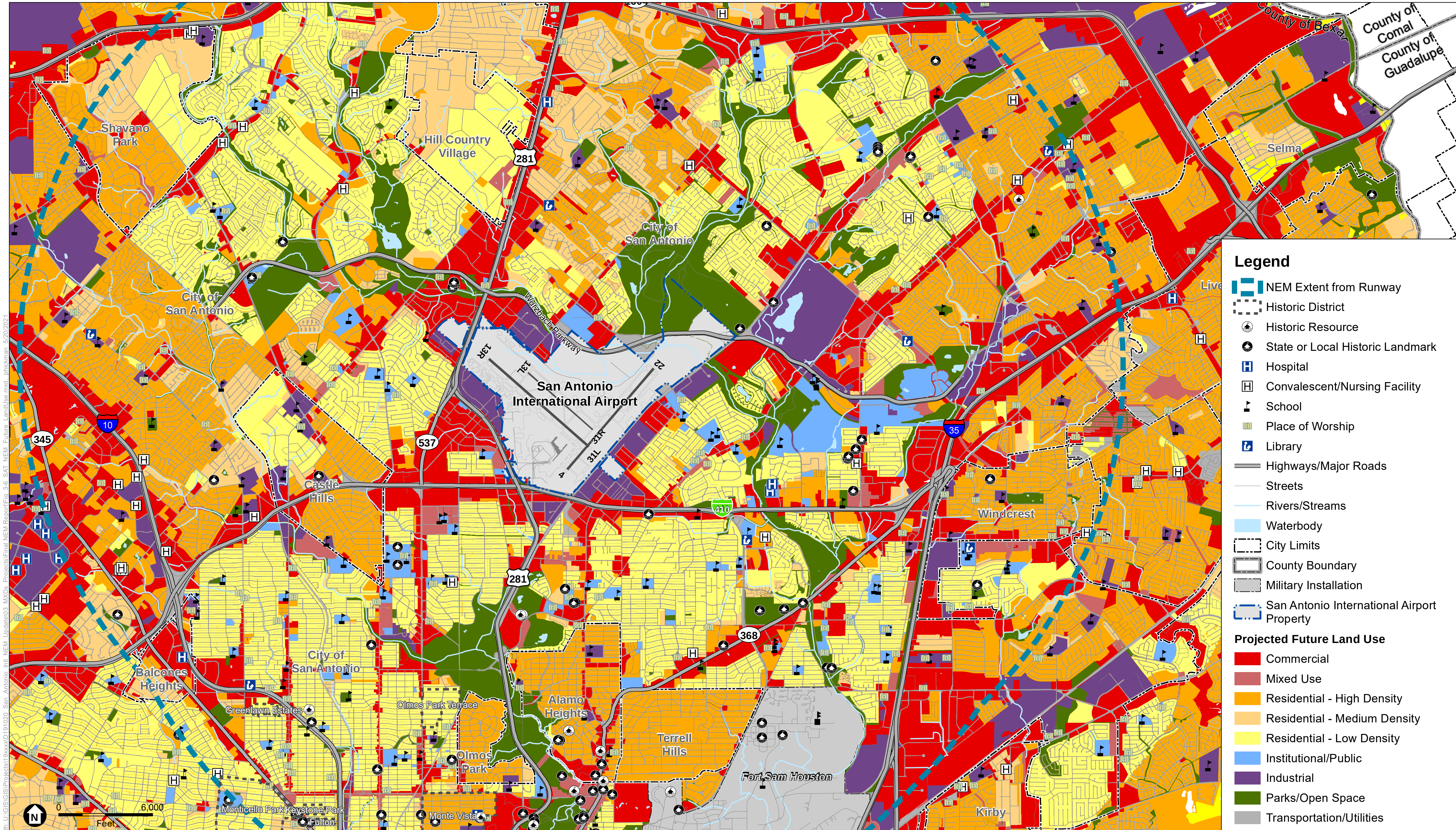

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks, future land use); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations, future land use); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-6
Generalized Future Land Uses – Land Use Data Collection Area
San Antonio International Airport

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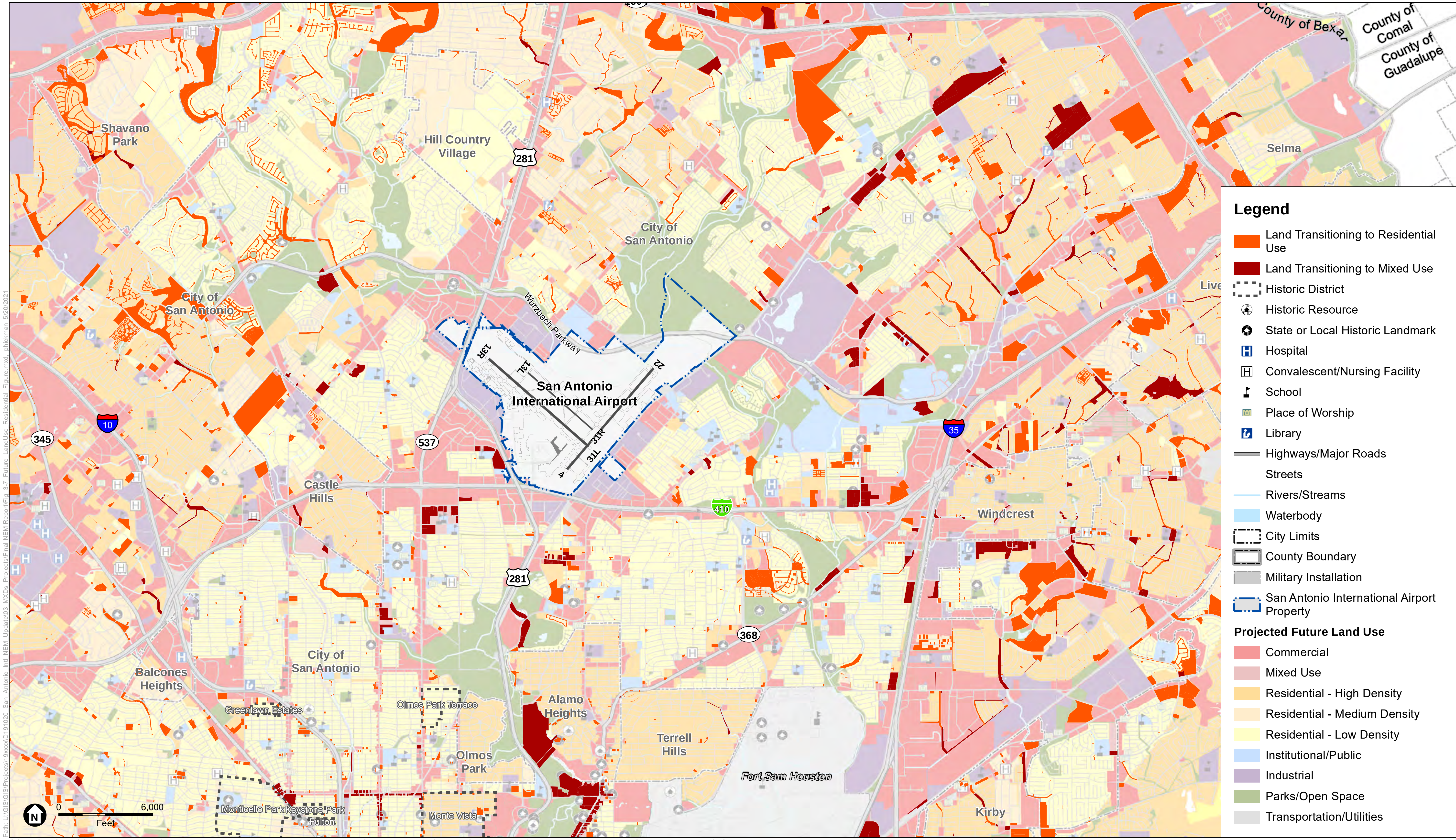

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks, future land use); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations, future land use); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-7
Land Transitioning to Residential and Mixed Use
San Antonio International Airport

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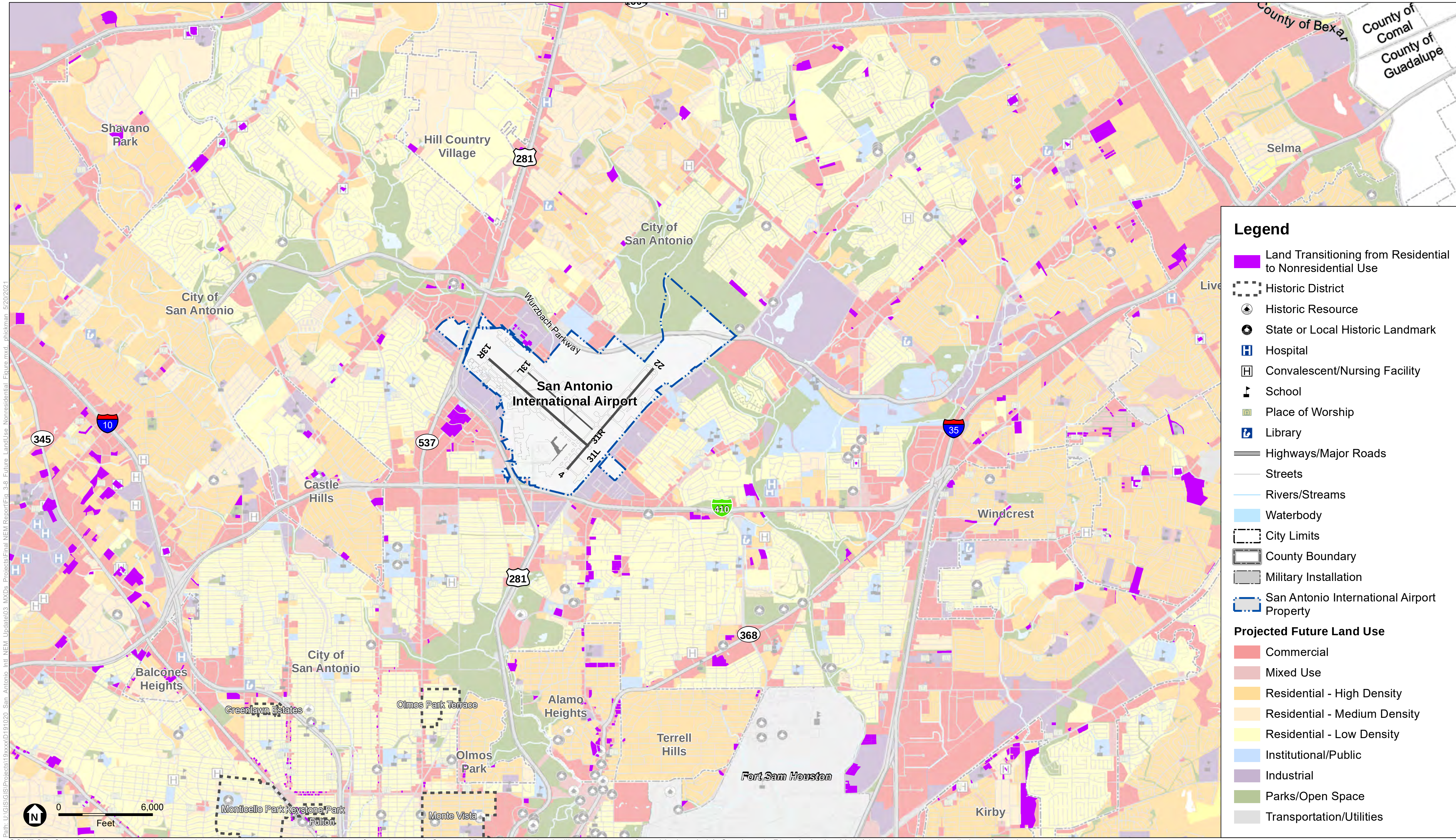

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks, future land use); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations, future land use); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Noise Exposure Map Update Report

Figure 3-8
Land Transitioning From Residential to Nonresidential Use
San Antonio International Airport

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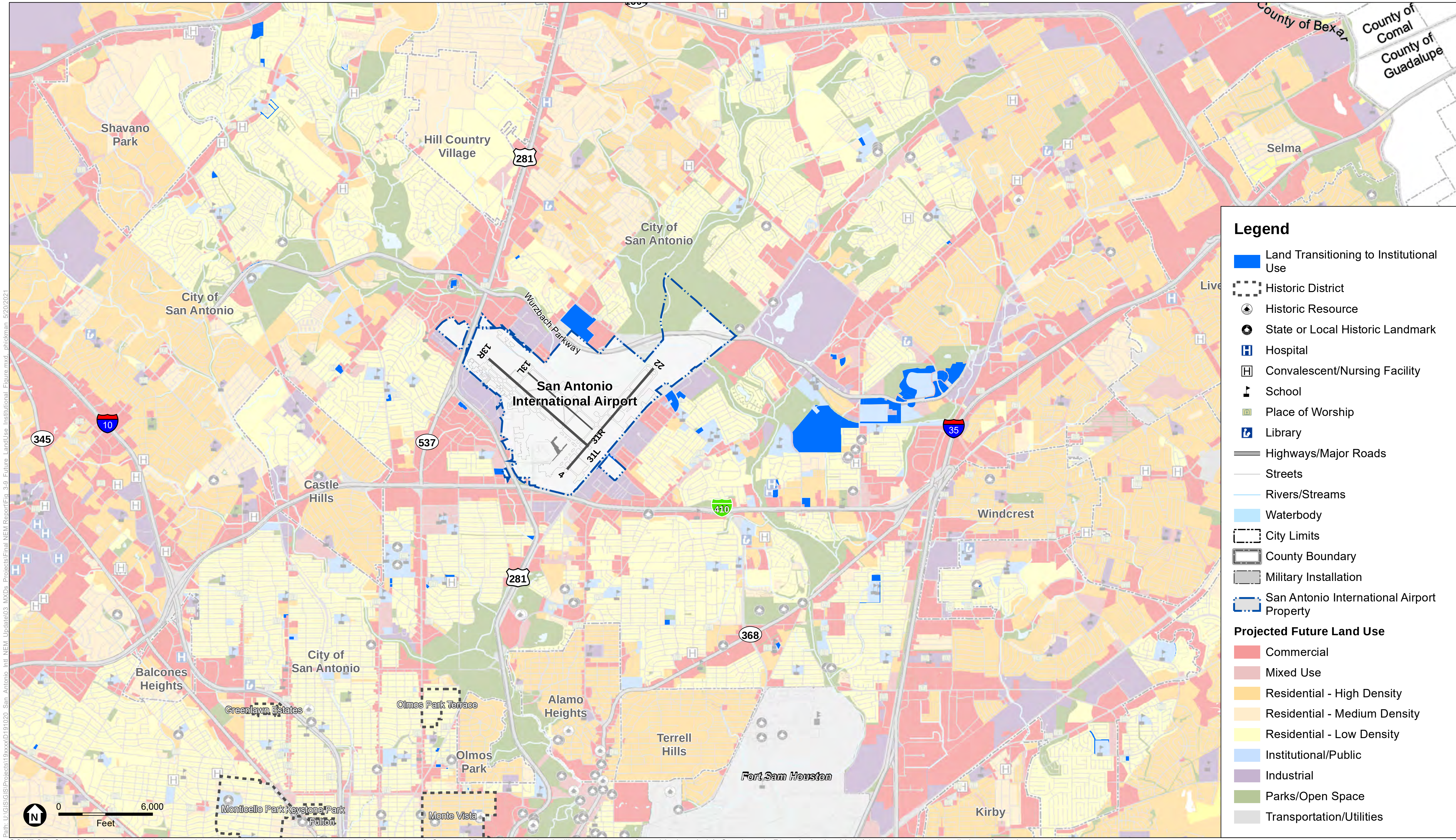

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks, future land use); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations, future land use); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-9
Land Transitioning to Institutional Use
San Antonio International Airport

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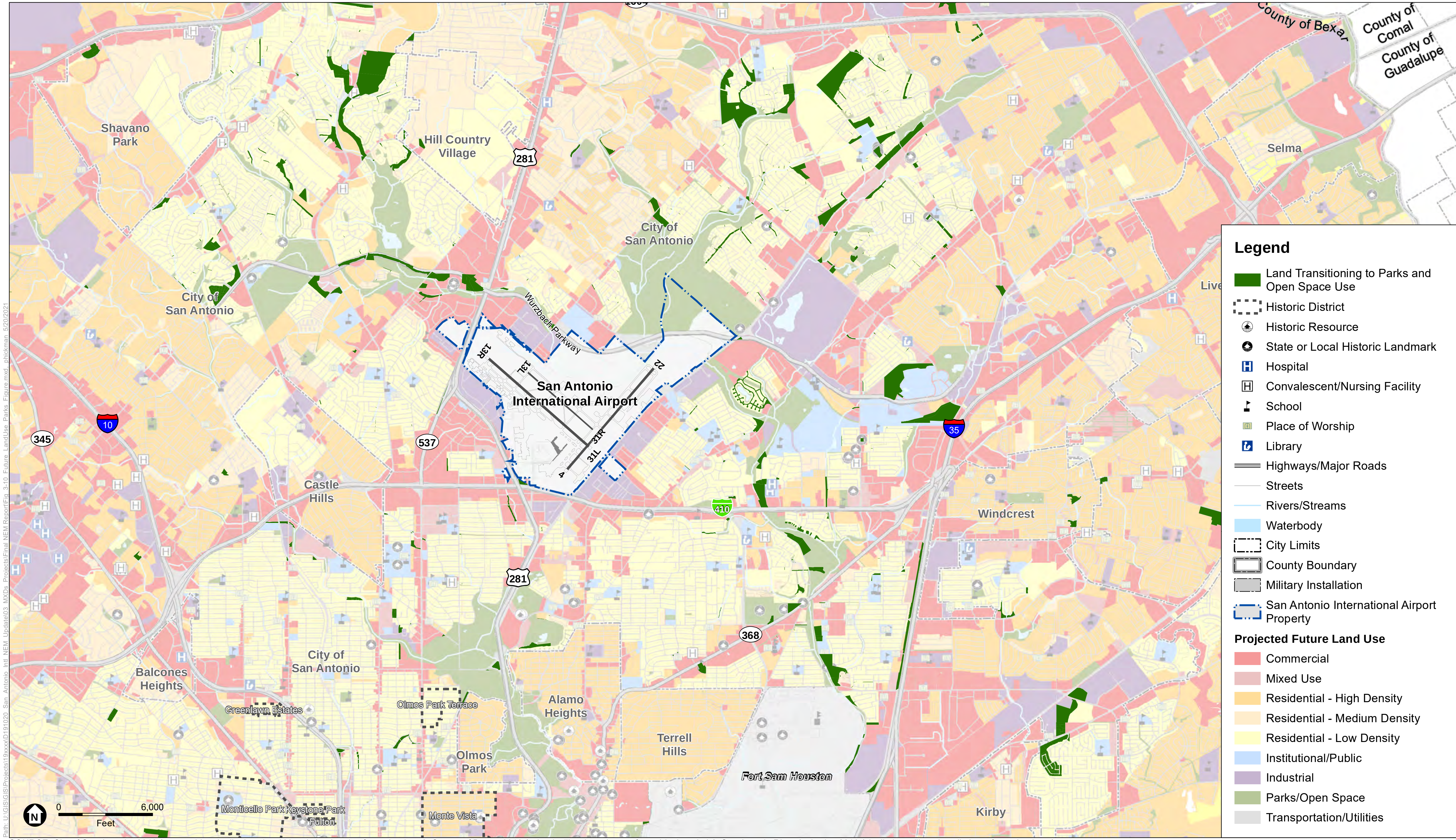

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks, future land use); County of Bexar, 2019 (schools, libraries, places of worship, hospitals); San Antonio River Authority, 2019 (city limits, military installations, future land use); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 3-10
Land Transitioning to Parks and Open Space Use
San Antonio International Airport

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CHAPTER 4
Noise Exposure Map Development

4.1 Introduction

This chapter summarizes the methodologies and data used to conduct the aircraft noise analysis and produce the noise contours that are depicted on the Noise Exposure Maps (NEMs). This chapter will provide information on the noise model used to calculate noise exposure, the noise metric used in this study, and information used as inputs into the noise model. It is important to note that local noise monitor data were not used to compare with the model outputs from this Part 150 Study, as the Federal Aviation Administration (FAA) does not allow either noise monitor data or hand-held meter information to be used to "calibrate" or compare against the FAA-required Aviation Environmental Design Tool (AEDT) noise model.

4.2 FAA Noise Model and Metrics

4.2.1 Aviation Environmental Design Tool

The FAA requires the use of its proprietary AEDT to calculate noise exposure for 14 Code of Federal Regulations (CFR) Part 150 studies as of May 29, 2015. AEDT 3c was released on March 6, 2020 and is the most recent FAA-approved noise model. The AEDT was used to calculate noise exposure for the 2021 Existing Conditions and the 2026 Future Conditions scenarios in this Part 150 Study.

The AEDT uses airport-specific information (e.g., runway data); flight track information; aircraft operation levels distributed by time of day, aircraft fleet mix, and aircraft profiles to develop noise exposure contours. During an annual average 24-hour period, or the "annual average day" (AAD), the AEDT accounts for each aircraft flight along flight tracks departing from, or arriving to, an airport. The flight tracks are coupled with information in the model's database relating to noise levels at varying trip distances and flight performance data for each type of aircraft. In general, the AEDT computes and logarithmically sums noise levels at grid locations, spaced 0.02 nautical miles, or about 122 feet, apart, at ground level around the airport. The cumulative values of noise exposure at each grid location are used to develop contours of equal noise exposure.

4.2.2 Day-Night Average Sound Level

The day-night average sound level (DNL), expressed in A-weighted decibels (dBA),[15] accounts for the noise levels of all individual aircraft events, the number of times those events occur, and the

15 When assessing the effect of sound on humans, sound is measured using an electronic filter that de-emphasizes frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting, and A-weighted sound levels are expressed in dBA.

period of day/night in which they occur. The calculation of DNL logarithmically averages aircraft sound levels at grid locations over a 24-hour period, with a 10-decibel penalty added to those noise events occurring between 10:00 P.M. and 6:59 A.M. Because of the increased sensitivity to noise during normal sleeping hours and because ambient (without aircraft) sound levels during nighttime are typically lower than during daytime hours, the 10-decibel penalty, or "weighting," represents the added intrusiveness of sounds occurring during nighttime hours.

The DNL metric is the noise descriptor required by the FAA for aircraft noise exposure analyses under National Environmental Policy Act, FAA Order 1050.1F, and land use compatibility planning under 14 CFR Part 150.[16] A more detailed discussion of the AEDT and noise metrics is provided in **Appendix D**.

4.3 Data for Developing Noise Exposure Map

The following sections summarize the information used to develop the 2021 Existing Conditions and the 2026 Future Conditions NEMs.

4.3.1 Aircraft Activity Levels

To establish aircraft activity levels for the existing and future NEMs, operational forecasts need to be developed and applied, which are typically based on operational projections provided by either the FAA's Terminal Area Forecast or the airport sponsor's most recent planning forecast (e.g., Master Plan). However, due to the current COVID-19 pandemic and significant decrease in global aircraft operations, there is great uncertainty as to when future aircraft operations might return to pre-pandemic levels. Therefore, the Part 150 Study Team worked with the FAA to determine an alternative approach to developing both the 2021 Existing Conditions and the 2026 Future Conditions forecasts for this Part 150 Study, which is described below. Additional information on the forecasting approach, including documentation of the FAA's approval of the 2021 Existing Conditions and 2026 Future Conditions forecasts, can be found in **Appendix B**.

4.3.2 Forecasted Annual Aircraft Operations

The SAAS's FAA-approved Strategic Development Plan (SDP) (i.e., Master Plan) forecast projected 177,000 annual operations at the San Antonio International Airport (SAT or the Airport) in 2021.[17] Because the COVID-19 pandemic has dramatically impacted aircraft operations at SAT, the SAAS received approval from the FAA, on June 16, 2020, to adopt an alternative 2021 Existing Conditions forecast of 163,871 annual operations, which was based on actual data for calendar year 2019. While it is unknown what operations will ultimately be in 2021, SAT and many other airports across the country are starting to experience a slight rebound in operations, so it is likely that Airport operations will be noticeably higher in 2021 than they currently are during the pandemic, but less likely than that originally forecast. Accordingly, the 2021 Existing Conditions NEM's DNL 65, 70, and 75 contours reflect calendar year 2019 Airport operations—effectively, an approach that reflects a two-year delay in operational growth at the Airport.

[16] U.S. Department of Transportation. Federal Aviation Administration. Order 1050.1F, *Environmental Impacts: Policies and Procedures*. July 16, 2015.

[17] The City of San Antonio Airport System, *Strategic Development Plan,* undated.

It is still too early to determine when SAT's (and the nation's) aviation activity will fully recover from the impact of the COVID-19 pandemic. Some aviation sources, including airlines and aircraft manufacturers, are currently estimating recovery as soon as 2023, while others are less optimistic with recovery occurring in 2025 or later. The FAA-approved SDP forecast projected 182,695 annual operations in 2026. Although is very unlikely that SAT's actual operations will match the forecasted activity in 2026, a comparison of the seven-day rolling average of departing passengers for 2020 with 2019 for both SAT and the United States indicates that the Airport is slightly ahead of the nation, overall, in terms of the speed of recovery from the impacts of the COVID-19 pandemic. In line with the two-year delay in operational growth applied to the 2021 Existing Conditions forecast, the FAA approved the SAAS's alternative approach to the 2026 Future Conditions forecast on November 30, 2020, which included a similar two-year delay in operational growth; therefore, it was assumed that the 2024 SDP forecast of 182,695 annual operations would closely reflect actual operational conditions in 2026. Accordingly, the 2026 Future Conditions NEM's DNL 65, 70, and 75 contours were based on 2024 SDP-forecasted aircraft operations.

4.3.3 Aircraft Fleet Mix

Information from the Airport's Noise and Operations Monitoring System (NOMS), which was developed by EMS B&K, was used to identify the types of aircraft (fleet mix) operated at SAT for the calendar year 2019. In addition, the Airport's NOMS data were utilized to identify different aircraft type and engine combinations, as well as helicopters. This information was then used to identify the corresponding aircraft within the AEDT. Operations by aircraft category are detailed in **Table 4-1**.

TABLE 4-1
ANNUAL AIRCRAFT OPERATIONS BY AIRCRAFT CATEGORY

Aircraft Category	Operations	
	2021	2026
Widebody	4,287	4,727
Narrowbody	83,886	85,480
Regional Jet	20,666	22,012
General Aviation Jet	26,756	28,131
General Aviation Turboprop	15,301	22,514
General Aviation Piston	10,219	17,074
Helicopter	2,756	2,756
Total	**163,871**	**182,695**

NOTES: Total operations modeled for 2021 and 2026 are based on the operations in an average annual day at SAT. Operations by aircraft category may not add up to the grand total due to rounding.

SOURCE: Environmental Science Associates, 2020; City of San Antonio Airport System, Noise and Operations Monitoring System data for the calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

Similar to the approach discussed in **Section 4.3.2**, the 2021 Existing Conditions fleet mix reflects the aircraft and helicopter fleet mix provided by the 2019 NOMS data. In contrast, the approach to developing an aircraft fleet mix for the 2026 Future Conditions included adjustments to the 2024

SDP fleet mix forecast to reflect recent permanent and/or early retirement of certain aircraft or the planned retirement of aircraft in the next couple of years. It should be noted that helicopter operations were assumed to remain unchanged from 2021 to 2026. Assuming no growth in operations is consistent with available data and reflects a conservative approach to estimating helicopter noise. As compared to commercial airline traffic, general aviation activity across the country has performed substantially better during the COVID-19 pandemic. This is due to a number of factors, including more businesses utilizing general aviation for safer employee travel and people seeking more flexible traveling arrangements. Given the limited impact from the pandemic on general aviation activity, the 2026 operational numbers were derived directly from the 2017 SDP forecast. More information on the approach to establishing the 2026 Future Conditions fleet mix forecast can be found in **Appendix B**.

4.3.4 Aircraft/Helicopter Operations by Time of Day

As discussed previously, aircraft operations modeled in the AEDT are assigned as occurring during daytime or nighttime. **Table 4-2** summarizes time of day splits in which fixed-wing aircraft arrivals, departures, and touch-and-go operations are expected to occur in 2021 and 2026 (by percent of total operations), as well as helicopter operations. The 2019 NOMS data served as the primary source for the operational time of day information since the NOMS captures actual time of operations, versus scheduled times. This data accurately accounts for delayed arrivals and departures that sometimes occur at the Airport. A detailed breakout of operational times of day, by aircraft type, is provided in **Appendix B**.

TABLE 4-2
ANNUAL AIRCRAFT/HELICOPTER OPERATIONS BY TIME OF DAY

Study Year	Arrivals		Departures		Touch-and-Go	
	Day	Night	Day	Night	Day	Night
Fixed-Wing Aircraft						
2021	82.92%	17.08%	84.16%	15.84%	81.72%	18.28%
2026	83.69%	16.31%	84.97%	15.03%	81.72%	18.28%
Helicopters						
2021	72.25%	27.75%	73.63%	26.37%	--	--
2026	72.25%	27.75%	73.63%	26.37%	--	--

SOURCE: Environmental Science Associates**,** 2020; City of San Antonio Airport System, Noise and Operations Monitoring System data for calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

4.3.5 Departure Stage Length

Noise exposure from aircraft departures varies depending on takeoff weight. For example, a fully loaded aircraft departing on a long-haul flight typically weighs more on departure than the same fully loaded aircraft departing on a short-haul flight, due to the weight of the additional fuel needed to travel a longer distance (see **Figure 4-1**). A heavier aircraft typically requires higher power (thrust settings) to reach its takeoff speed and uses more runway length. Heavier aircraft also climb at a slower rate than lighter aircraft. Therefore, more land area can be exposed to higher levels of aircraft noise for longer periods of time by departures of heavier aircraft. To account for this variance in aircraft weight, the AEDT contains up to nine departure climb profiles (corresponding to different departure weights), depending on the type of aircraft. These profiles represent aircraft origin-to-destination trip lengths from 500 nautical miles to over 6,500 nautical miles. The AEDT-assigned trip distances for each stage length are shown in **Table 4-3**.

Figure 4-1
Stage Length Comparison For Boeing 777-300

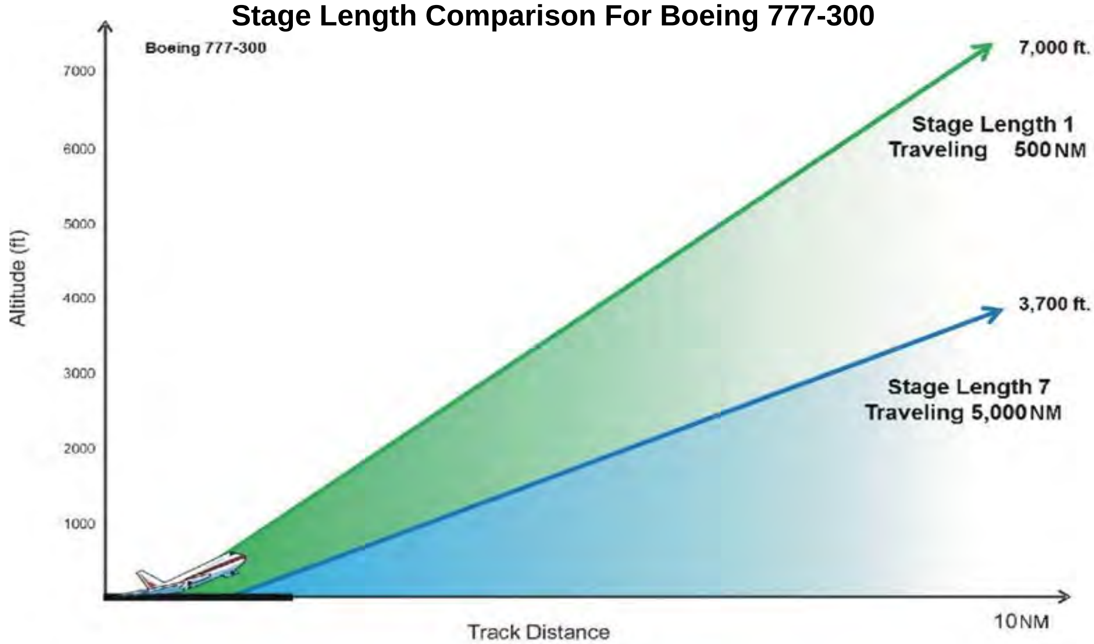


TABLE 4-3 AEDT DEPARTURE STAGE LENGTH CATEGORIES	
Stage Length Category	**Departure Route/ Trip Length (nautical Miles)**
1	0 - 500
2	501 - 1,000
3	1,001 - 1,500
4	1,501 - 2,500
5	2,501 - 3,500
6	3,501 - 4,500
7	4,501 - 5,500
8	5,501 - 6,500
9	6,500+

SOURCE: Federal Aviation Administration Aviation Environmental Design Tool Version 3c User Manual, March, 2020.

Calendar year 2019 NOMS data were used to determine existing departure stage lengths at SAT, by aircraft type, for the 2021 Exiting Conditions and 2026 Future Conditions scenarios. The departure stage lengths for aircraft operating at SAT were assumed to remain constant from 2019 to 2021. For the 2026 Future Conditions, the same stage lengths by aircraft types from 2019 were applied. Depending on the number of operations by aircraft types, the departure stage length percentages slightly changed from 2021 to 2026. Due to the forecasted increase of general aviation operations, the number of stage length 1 operations are higher in 2026. **Table 4-4** summarizes the departure stage lengths for all fixed-wing aircraft at SAT in 2021 and 2026, respectively. Because helicopters typically only have limited operating ranges, they were all assigned a departure stage length of 1. A breakout of stage length by aircraft type is provided in **Appendix B**.

TABLE 4-4
DEPARTURE STAGE LENGTH (FIXED-WING AIRCRAFT)

Study Year	Stage Length Category							
	1	2	3	4	5	6	7	8
2021	54.69%	33.42%	11.12%	0.75%	>0.01%	0.02%	>0.01%	>0.01%
2026	59.89%	29.74%	9.75%	0.60%	>0.01%	0.01%	>0.01%	>0.01%

NOTE: Values may not add to 100% due to rounding. No aircraft exceeded a departure stage length of 9. Helicopters are all assigned to departure stage length 1.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, Noise and Operations Monitoring System data for the calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

4.4 Meteorological Conditions

The AEDT accounts for the influences of meteorological conditions on aircraft performance and atmospheric sound absorption, using temperature and relative humidity to calculate atmospheric absorption coefficients, which, in turn, are used to adjust standard aircraft performance noise-power-distance curve levels. For both the 2021 Existing Conditions and the 2026 Future Conditions NEMs, the AEDT default meteorological data for SAT was used. This included 10-year averages recorded at the SAT weather station, which included 70.1 degrees Fahrenheit, 60.9% relative humidity, and a pressure of 987.2 millibars (or 29.152 inches of mercury). The AEDT-default value for barometric pressure closely matches external repositories of historical weather data, which provides a 10-year average value of 29.102 inches of mercury.[18] The AEDT meteorological wind data for SAT included a default headwind of 7.48 knots.

4.5 Airport Operational Information

4.5.1 Runway Use

Runway use refers to the frequency with which aircraft utilize each runway end for their operations. The more often a runway is used, the more noise is generated in areas located off that runway end. Runway utilization data were derived from the Airport's NOMS data for the calendar year 2019. **Tables 4-5** through **4-7** provide a summary of arrival, departure, and touch-and-go runway

[18] Long-term historical weather data for San Antonio, TX can be accessed at: www.wunderground.com

utilization. **Figures 4-2** through **4-5** depict the day and night runway utilization, by runway end, for all fixed-wing aircraft types for the 2021 Existing Conditions and 2026 Future Conditions scenarios. In 2021, Runway 13R/31L is the primary runway used for daytime and nighttime arrivals, while Runway 04/22 is used primarily for departures. For the 2026 Future Conditions, it is expected that runway use will align closely with 2021 Existing Conditions utilization. A detailed breakout of runway utilization by aircraft category is provided in **Appendix B**.

TABLE 4-5
FIXED-WING AIRCRAFT ARRIVAL RUNWAY USE

Arrivals (Time of Day)	Runway					
	13R	31L	13L	31R	04	22
2021						
Daytime	67.74%	9.01%	5.56%	0.89%	15.44%	1.37%
Nighttime	77.49%	7.37%	0.42%	0.09%	12.90%	1.74%
2026						
Daytime	64.87%	8.93%	7.72%	1.25%	15.82%	1.40%
Nighttime	76.87%	7.74%	0.63%	0.15%	12.71%	1.90%

NOTE: Does not include helicopter operations. Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates**,** 2020. City of San Antonio Airport System, Noise and Operations Monitoring System data for the calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

TABLE 4-6
FIXED-WING AIRCRAFT DEPARTURE RUNWAY USE

Departures (Time of Day)	Runway					
	13R	31L	13L	31R	04	22
2021						
Daytime	35.57%	9.43%	3.25%	1.26%	47.25%	3.25%
Nighttime	27.34%	8.74%	0.97%	0.97%	53.43%	8.54%
2026						
Daytime	34.72%	8.92%	3.80%	1.90%	46.32%	4.34%
Nighttime	27.24%	8.54%	1.34%	1.59%	52.45%	8.84%

NOTE: Does not include helicopter operations. Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates**,** 2020. City of San Antonio Airport System, Noise and Operations Monitoring System data for the calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

TABLE 4-7
FIXED-WING AIRCRAFT TOUCH-AND-GO RUNWAY USE

Touch-and-Go (Time of Day)	Runway					
	13R	31L	13L	31R	04	22
2021						
Daytime	14.47%	2.63%	64.47%	9.21%	9.21%	0.00%
Nighttime	11.76%	0.00%	82.35%	0.00%	5.88%	0.00%
2026						
Daytime	14.47%	2.63%	64.47%	9.21%	9.21%	0.00%
Nighttime	11.76%	0.00%	82.35%	0.00%	5.88%	0.00%

NOTE: Does not include helicopter operations. Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates**,** 2020. City of San Antonio Airport System, Noise and Operations Monitoring System data for the calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

4.5.2 Flight Tracks and Utilization

Flight tracks refer to the route an aircraft follows when arriving to or departing from a runway. To identify flight tracks that represent annual average day conditions at SAT, aircraft operation data from the Airport's NOMS were reviewed for the calendar year 2019. The 2019 data provided the flight paths, time of day, and departure stage lengths of arrival, departure, and touch-and-go operations.

Flight corridors utilized by aircraft to and from each runway end were reviewed and a series of centerlines of the flight corridors (backbone tracks) were established. These tracks were dispersed within the AEDT to generate sub-tracks in order to distribute the aircraft within each of the primary flight corridors. The AEDT flight tracks are depicted on **Figures 4-6** through **4-9**. Additional graphics that provide a more detailed depiction of SAT's flight tracks are provided in **Appendix E**. The flight tracks delineated in **Figures 4-6** through **4-9** and **Appendix E** are depicting both the 2021 Existing Conditions and the 2026 Future Conditions as they are expected to remain the same. Their respective utilization rates are also forecast to remain the same for the 2021 and 2026 study years. Flight track utilization, by time of day, is provided in **Appendix B**, Tables B-2.15 through B-2.17 and Tables B-2.19 through B-2.21.

4.6 Helicopter Operational Information

4.6.1 Helipad and Runway Use

Based on the review of 2019 NOMS data at SAT, a total of five helipads (common landing and takeoff areas) were identified for this Part 150 Study. Modeled helipad locations are included in **Appendix E**. In addition to identified helipads, some helicopters used runways for arrivals and departures. A total of 2,756 helicopter operations were included for both the 2021 Existing Conditions and the 2026 Future Conditions, as no growth was assumed. **Tables 4-8** and **4-9** provide a summary of arrival and departure helipad/runway utilization. A majority of helicopter operations occur at Helipads H1, H2, and H3. A detailed breakout of runway utilization by aircraft category is provided in **Appendix B**.

TABLE 4-8
HELICOPTER ARRIVAL HELIPAD/RUNWAY USE

Arrivals (Time of Day)	Runway						Helipad				
	13R	31L	13L	31R	04	22	H1	H2	H3	H4	H5
2021											
Daytime	6.74%	0.47%	1.48%	0.12%	1.31%	0.12%	16.31%	37.35%	24.32%	9.74%	2.03%
Nighttime	3.20%	--	0.39%	--	2.65%	0.30%	17.07%	57.45%	18.31%	--	0.61%
2026											
Daytime	6.74%	0.47%	1.48%	0.12%	1.31%	0.12%	16.31%	37.35%	24.32%	9.74%	2.03%
Nighttime	3.20%	--	0.39%	--	2.65%	0.30%	17.07%	57.45%	18.31%	--	0.61%

NOTE: Values may not add to 100% due to rounding.
SOURCE: Environmental Science Associates**,** 2020. City of San Antonio Airport System, Noise and Operations Monitoring System data for the calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

TABLE 4-9
HELICOPTER DEPARTURE HELIPAD/RUNWAY USE

Arrivals (Time of Day)	Runway						Helipad				
	13R	31L	13L	31R	04	22	H1	H2	H3	H4	H5
2021											
Daytime	4.44%	0.74%	--	0.39%	3.33%	--	15.49%	38.57%	26.05%	7.68%	3.31%
Nighttime	1.15%	--	--	--	1.44%	0.68%	21.00%	61.10%	13.59%	--	1.04%
2026											
Daytime	4.44%	0.74%	--	0.39%	3.33%	--	15.49%	38.57%	26.05%	7.68%	3.31%
Nighttime	1.15%	--	--	--	1.44%	0.68%	21.00%	61.10%	13.59%	--	1.04%

NOTE: Values may not add to 100% due to rounding.
SOURCE: Environmental Science Associates**,** 2020. City of San Antonio Airport System, Noise and Operations Monitoring System data for the calendar year 2019. Forecast data provided by the City of San Antonio Airport System, Strategic Development Plan, 2020.

4.6.2 Helicopter Flight Tracks and Utilization

Flight tracks refer to the route a helicopter follows when arriving to or departing from a runway or a helipad. To identify flight tracks that represent annual average day conditions at SAT, helicopter operation data from the Airport's NOMS were reviewed for the calendar year 2019. The 2019 data provided helicopter types, flight paths, time of day, and type of operations.

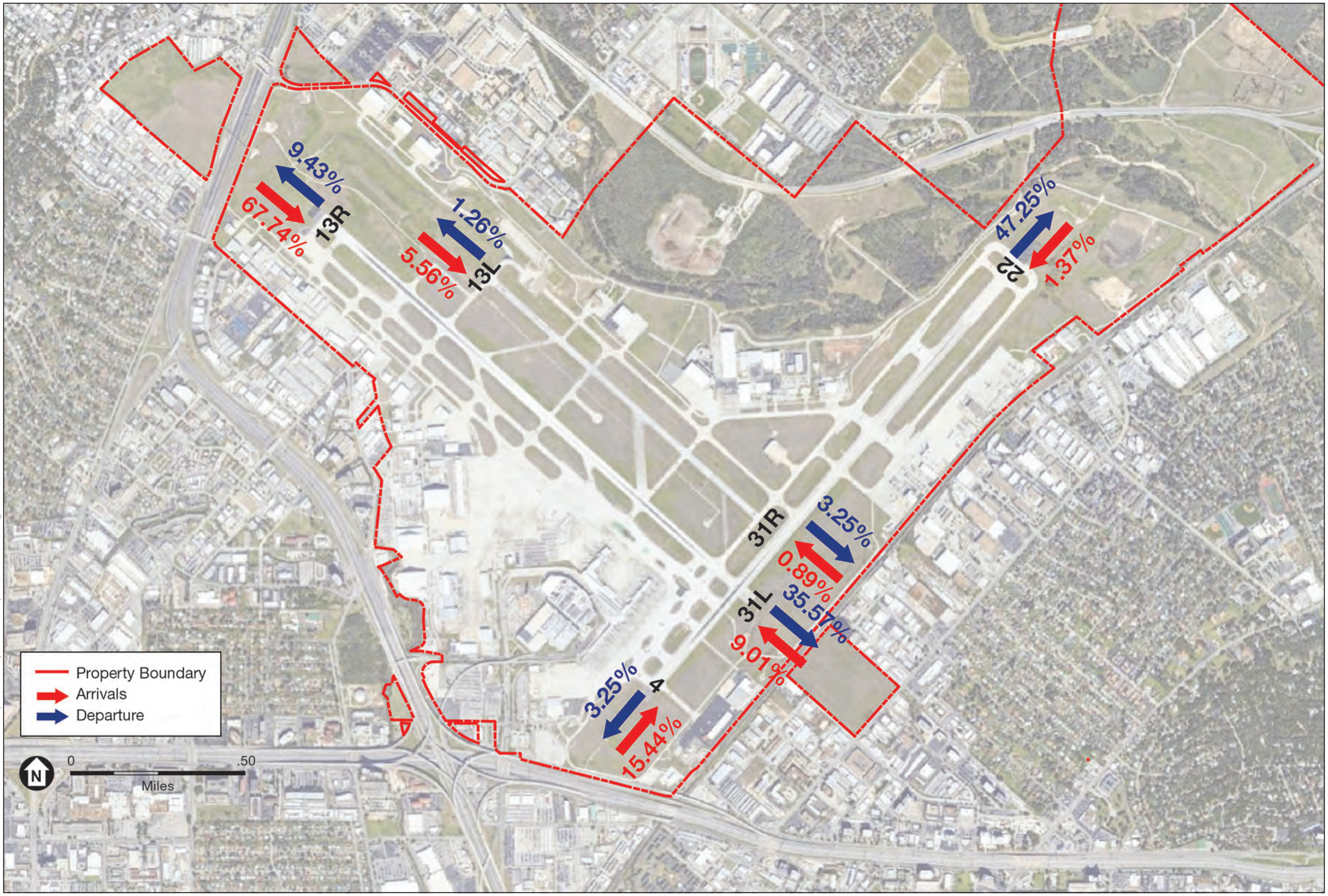
Flight corridors utilized by helicopters to and from each runway end and helipad were reviewed and a series of centerlines of the flight corridors (backbone tracks) were established. These tracks were dispersed within the AEDT to generate sub-tracks in order to distribute the aircraft within each of the primary flight corridors. The AEDT departure and arrival flight tracks for helicopters are depicted on **Figures 4-10** and **4-11**. Helicopter operations at commercial airports tend to remain relatively flat over time, as they are not typically driven by passenger or cargo demand. Because a similar trend is expected at SAT, the Part 150 Study Team did not project an increase in rotary-wing operations or a change in their flight tracks between 2021 and 2026. Flight track utilization, by time of day, is provided in **Appendix B**, Table B-2.18 and Table B-2.22.

4.7 Engine Run-ups

Engine run-ups are conducted after certain types of maintenance performed on an aircraft. For this procedure, the aircraft are taxied to the designated run-up locations on the airfield and run-up at various power settings. The Airport has a ground run-up enclosure (GRE) located north of the intersection of Runways 04/22 and 13L/31R, which is enclosed on three sides by physical barriers that serve to reduce engine noise to the northeast, northwest, and southwest. The open side of the GRE faces to the southeast and aircraft test their engines with their noses oriented towards the opening.

Engine run-up activities that occurred between January and April of 2020 at SAT were reviewed. The log included the date, time, duration, aircraft type, and purpose of each run-up operation. A total of 86 ground run-up activities was logged in four months, which equates to approximately 0.7 run-up operations per day. For purposes of developing the noise model, it was expected that this four-month period is representative of the entire year; as such, it is also expected that a total of 258 ground run-up operations are conducted in an average year at SAT. The details of modeled engine run-ups are included in **Appendix B**.

For the 2026 Future Conditions, the number of engine run-up activities are anticipated to remain the same as the 2021 Existing Conditions.



D191020.00 - San Antonio International Airport NEM Update\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Environmental Science Associates, 2020.

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Figure 4-2
Daytime Runway Utilization – 2021 Existing Conditions
San Antonio International Airport

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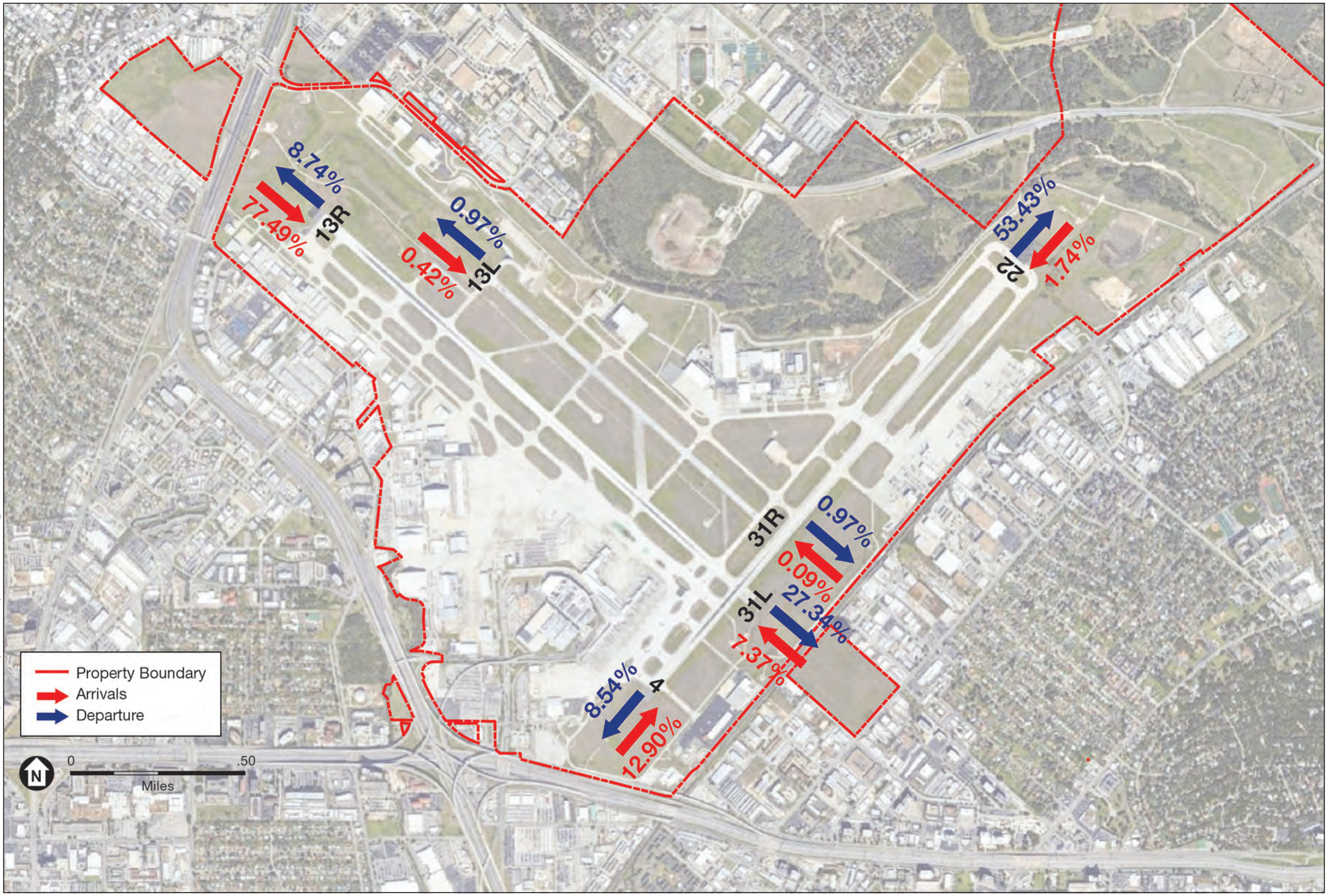

D191020.00 - San Antonio International Airport NEM Update\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Environmental Science Associates, 2020.

Noise Exposure Map Update Report

Figure 4-3
Nighttime Runway Utilization – 2021 Existing Conditions
San Antonio International Airport

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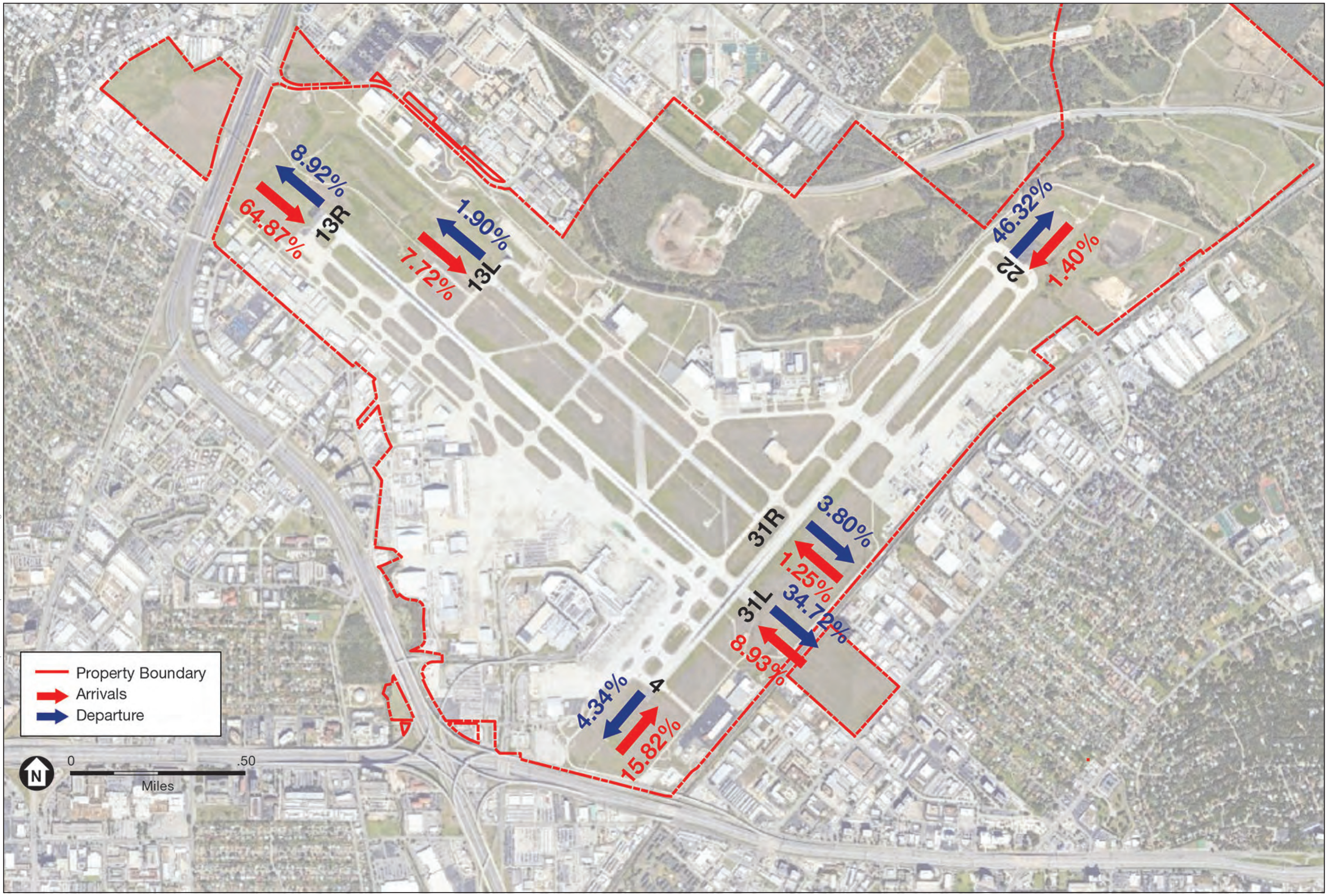

D191020.00 - San Antonio International Airport NEM Update\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Environmental Science Associates, 2020.

Figure 4-4
Daytime Runway Utilization – 2026 Future Conditions
San Antonio International Airport

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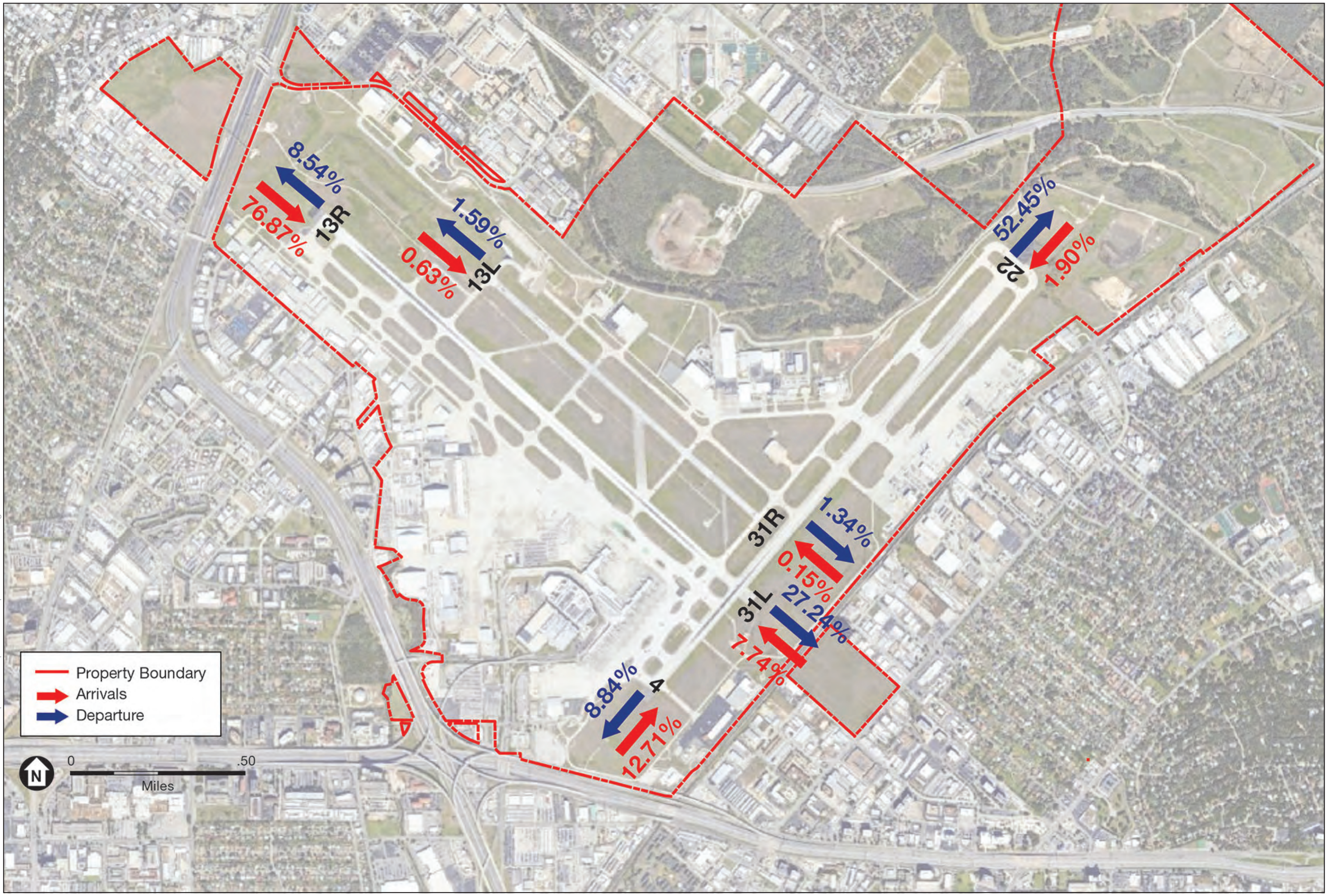

D191020.00 - San Antonio International Airport NEM Update\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Environmental Science Associates, 2020.

Figure 4-5
Nighttime Runway Utilization – 2026 Future Conditions
San Antonio International Airport

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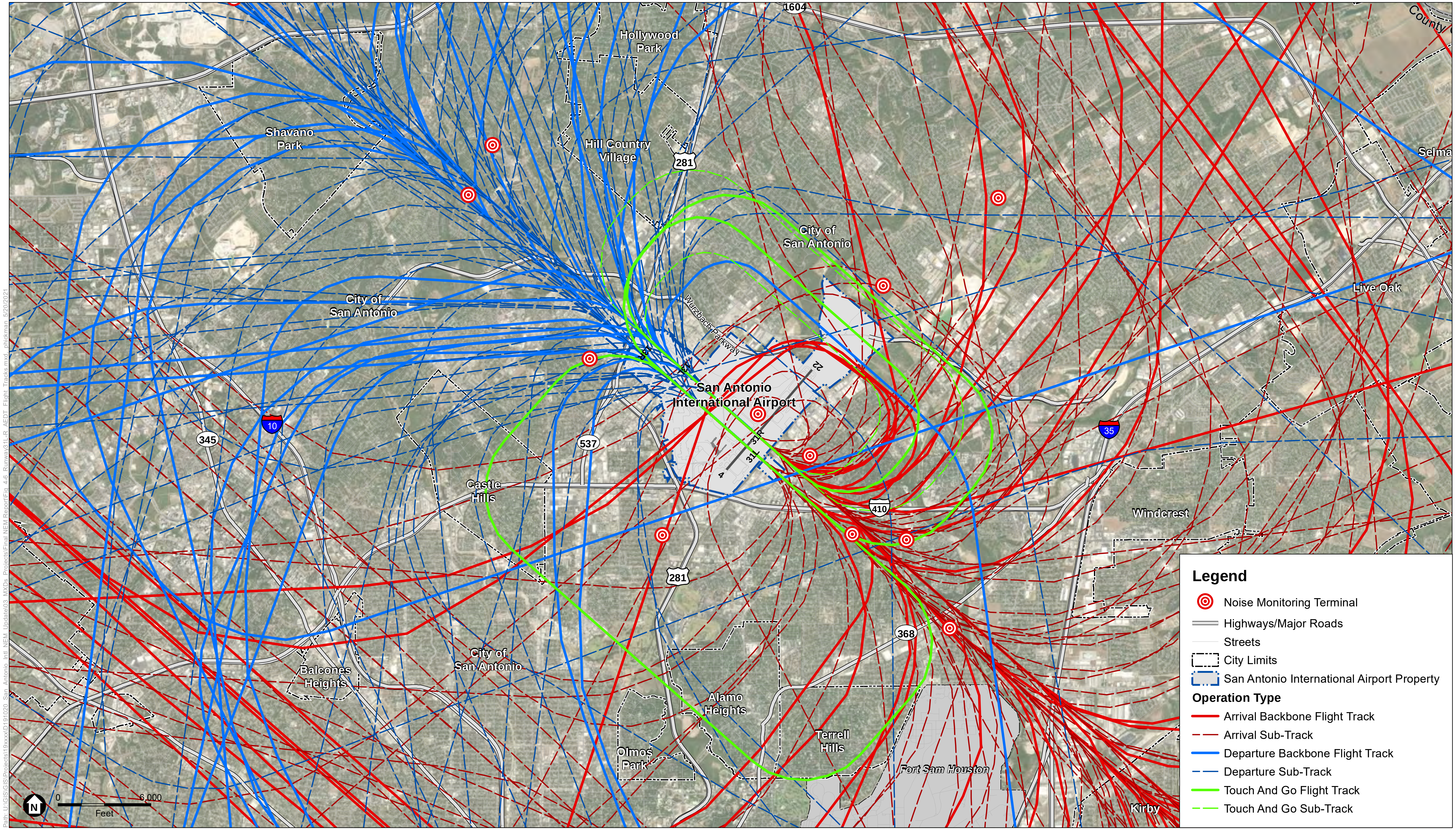

SOURCE: City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), ESA, 2020.

Figure 4-6
Modeled Fixed-Wing Flight Tracks – Runways 31L and 31R
San Antonio International Airport

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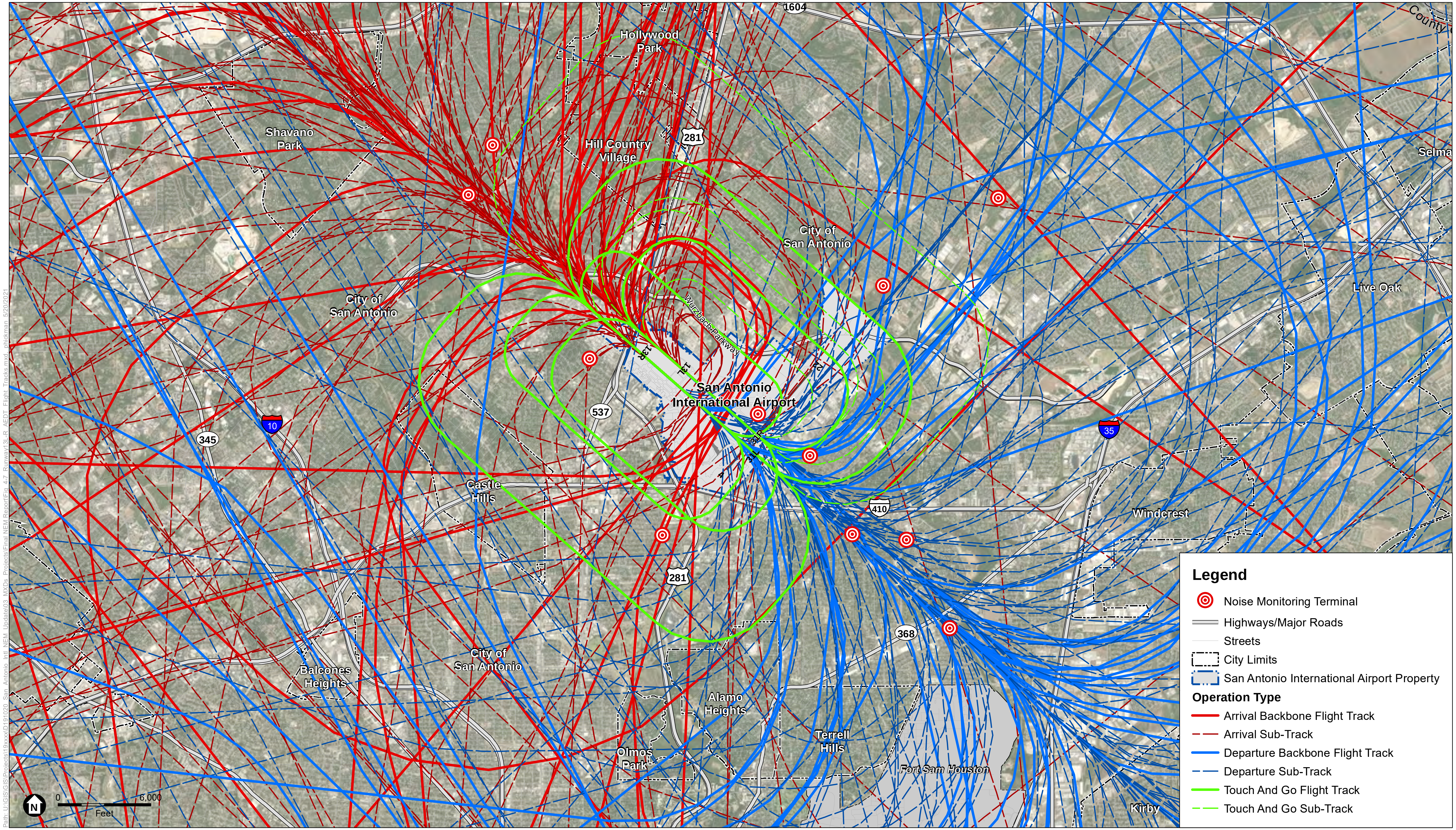

SOURCE: City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), ESA, 2020.

Figure 4-7
Modeled Fixed-Wing Flight Tracks – Runways 13L and 13R
San Antonio International Airport

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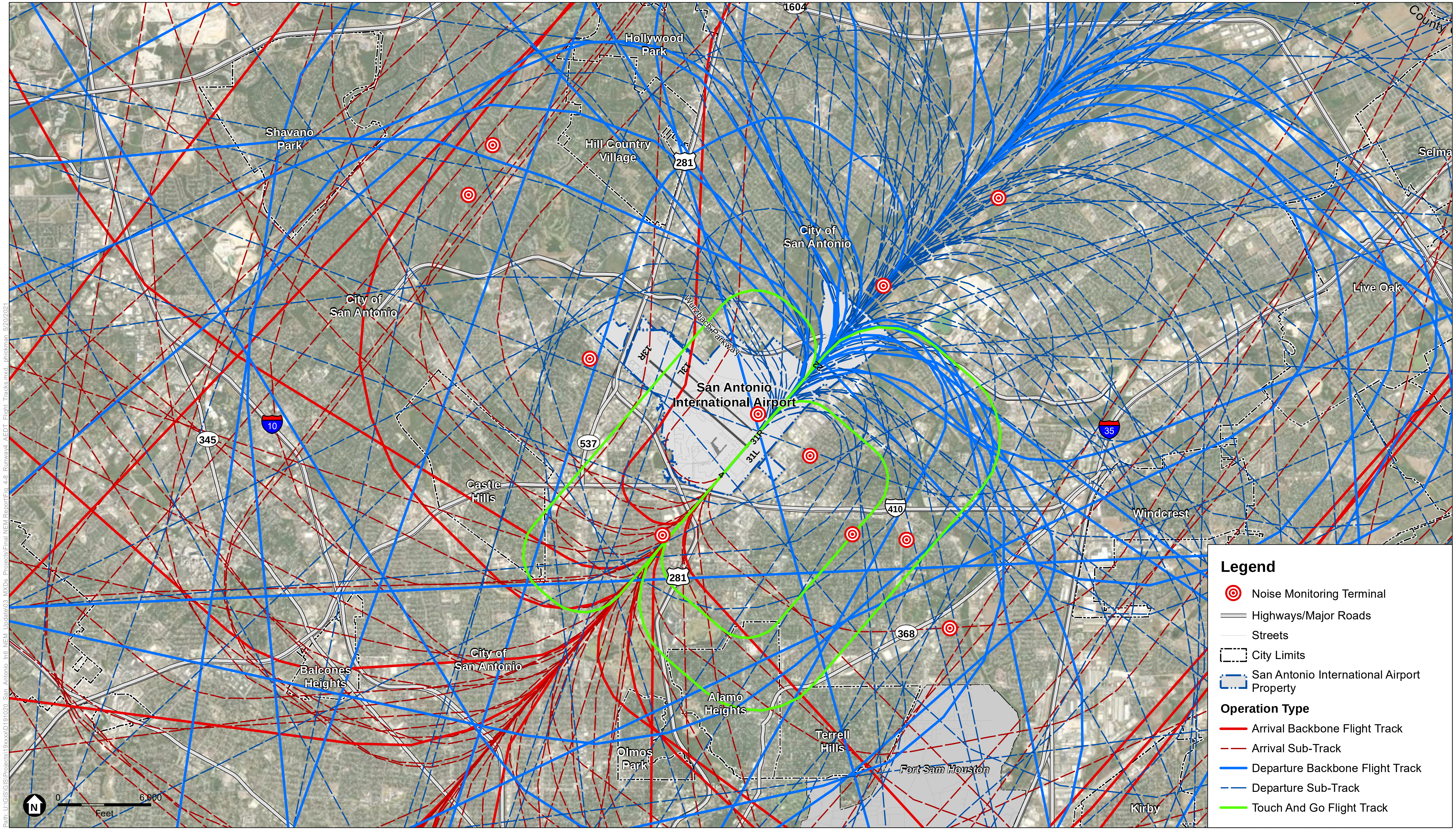

SOURCE: City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), ESA, 2020.

Figure 4-8
Modeled Fixed-Wing Flight Tracks – Runway 4
San Antonio International Airport

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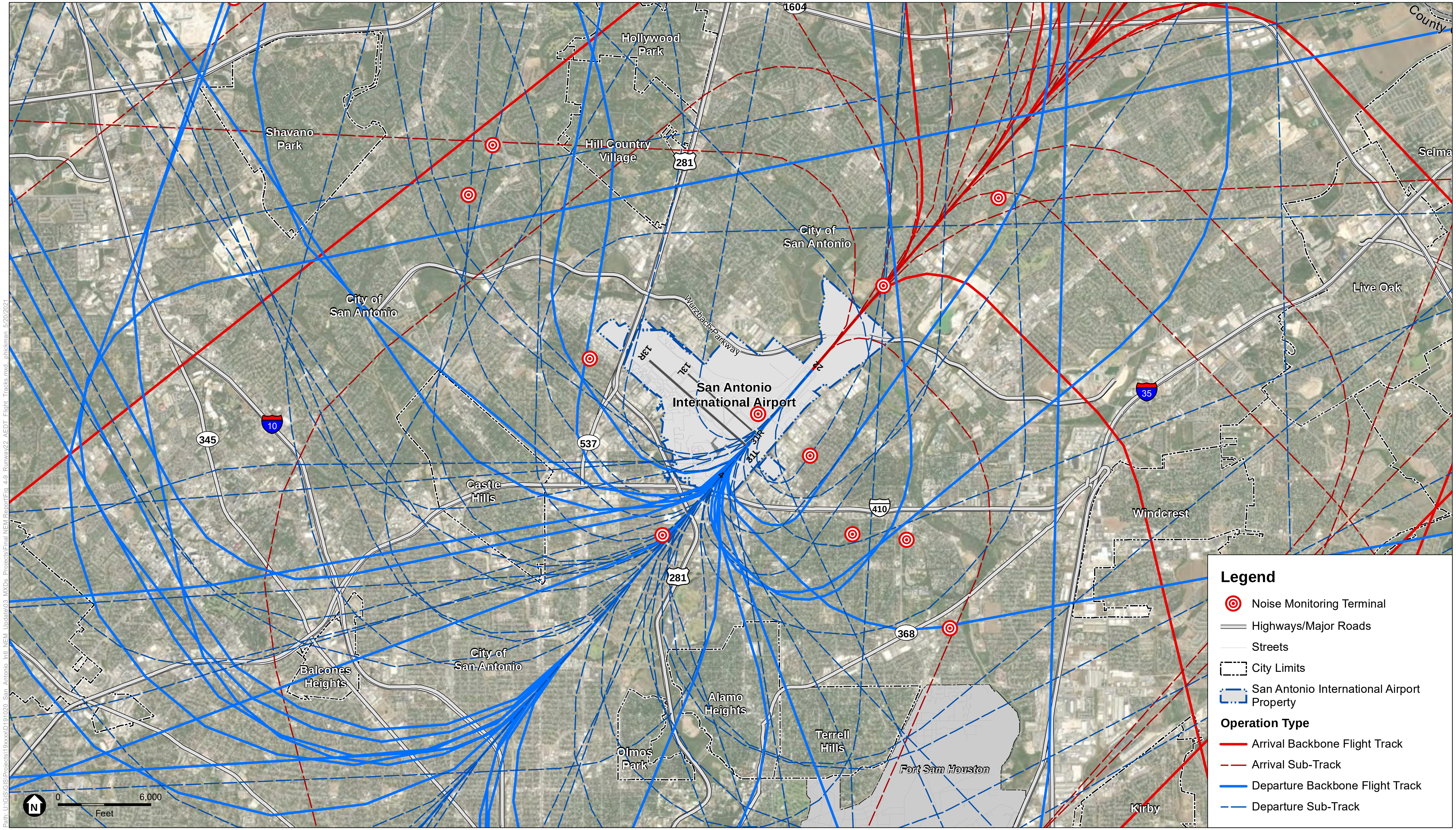

SOURCE: City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), ESA, 2020.

Figure 4-9
Modeled Fixed-Wing Flight Tracks – Runway 22
San Antonio International Airport

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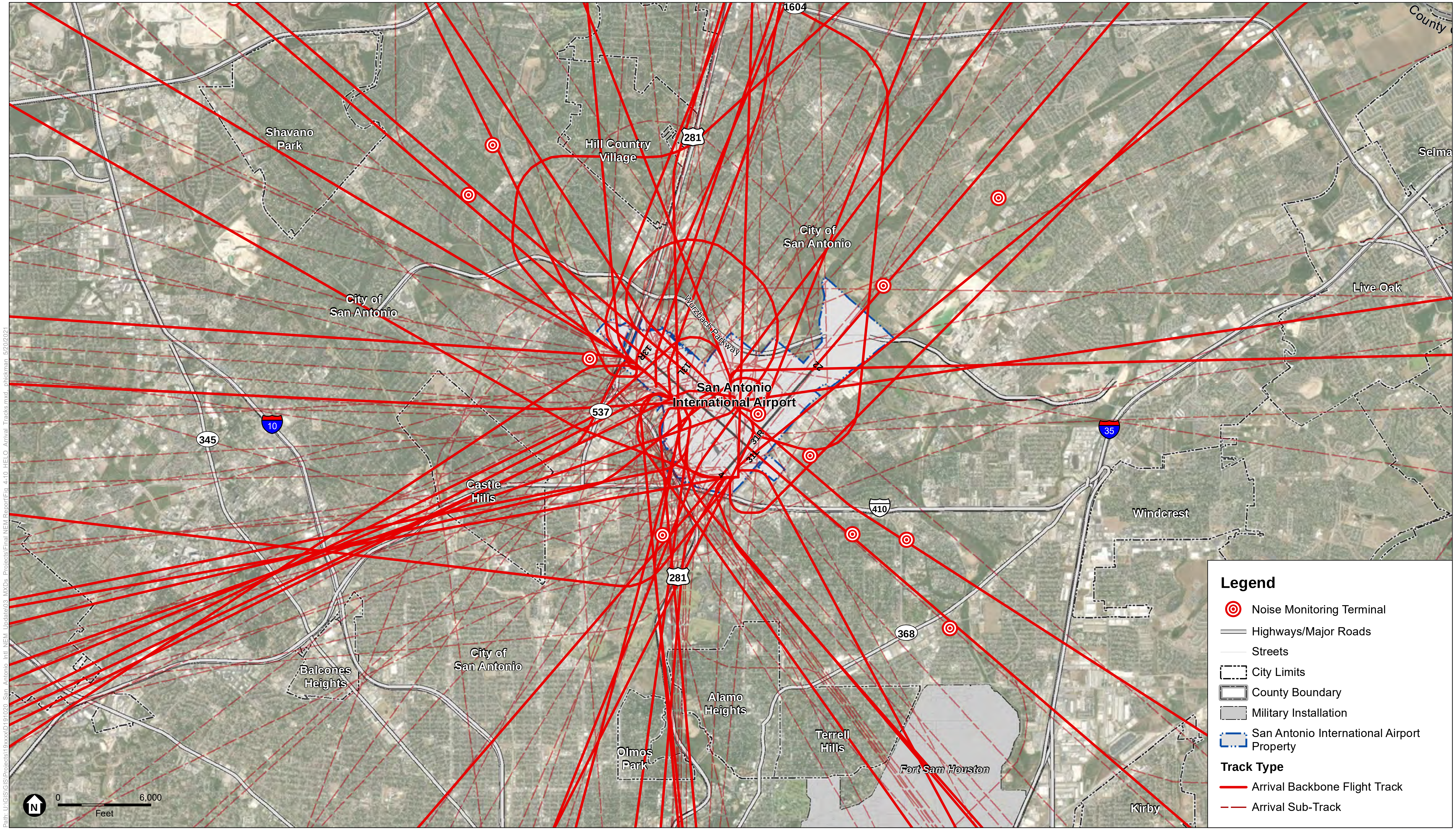

SOURCE: City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Figure 4-10
Modeled Helicopter Arrival Tracks – All Runways and Helipads
San Antonio International Airport

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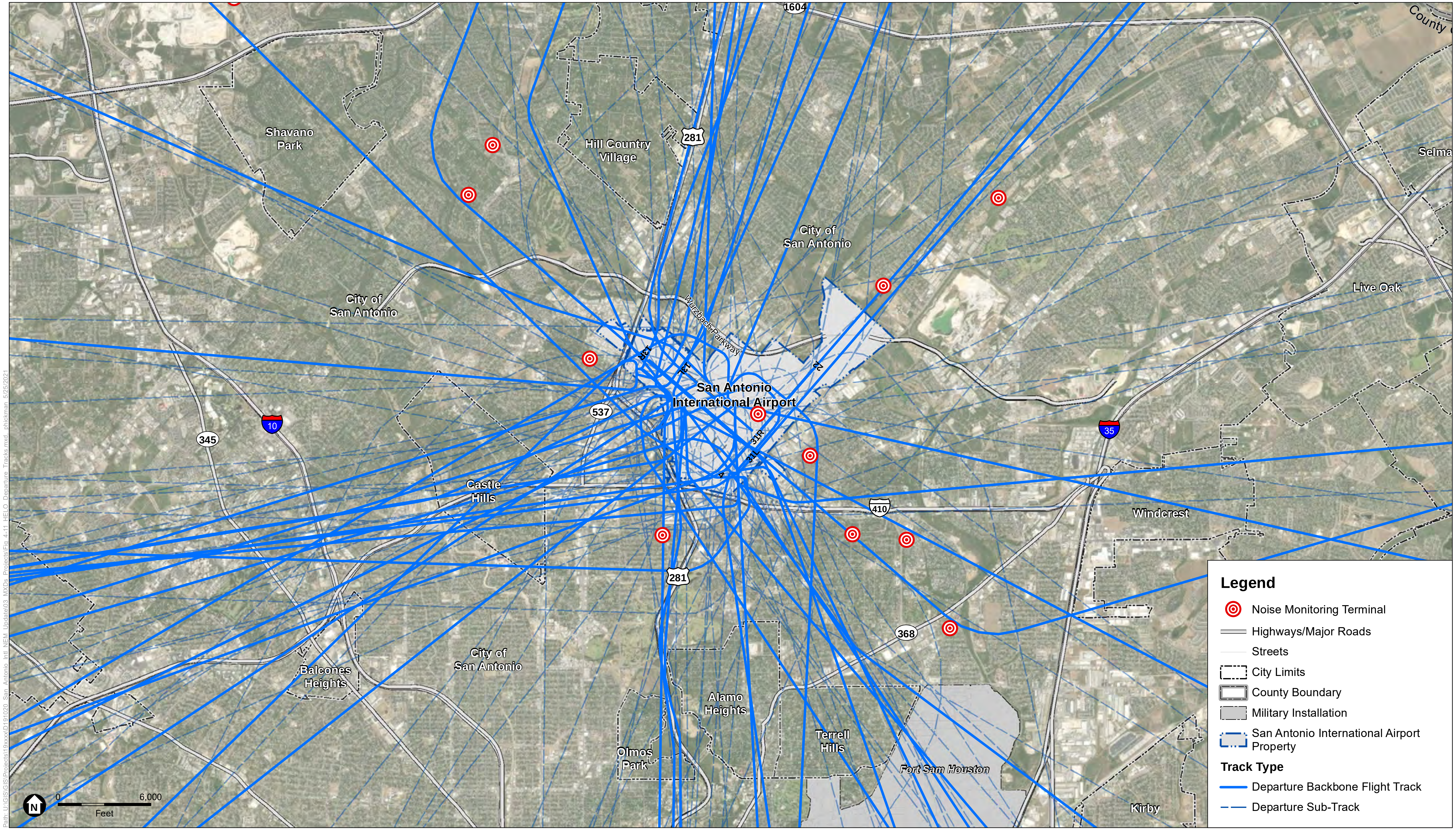

SOURCE: City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Noise Exposure Map Update Report

Figure 4-11
Modeled Helicopter Departure Tracks – All Runways and Helipads
San Antonio International Airport

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CHAPTER 5
2021 and 2026 Noise Exposure

5.1 Introduction

This chapter presents the 2021 Existing Conditions and the 2026 Future Conditions day-night average sound level (DNL) contours for the San Antonio International Airport (SAT or the Airport). As discussed in **Chapter 4**, the contours show how noise from aircraft operations is distributed over the surrounding area. This chapter identifies land use compatibility using Federal Aviation Administration (FAA) guidelines, identifies noise sensitive locations, and quantifies the types of land uses and population within the DNL 65 and higher contours.

14 Code of Federal Regulations (CFR) Part 150 requires that the aircraft noise exposure for the year of Noise Exposure Map (NEM) submittal (in this case 2021) and for a future year (2026) be developed. The DNL 65, DNL 70, and DNL 75 contours are the only contours required by the FAA for inclusion in a 14 CFR Part 150 Study and for the agency's acceptance of the NEMs. Specific elements that are required to be included on the existing and future NEMs and required supplemental graphics are identified in 14 CFR Part 150. These include depictions of noise sensitive sites within the DNL 65 contour. The official 2021 Existing Conditions and 2026 Future Conditions NEMs are included in **Appendix I** of this report.

5.2 2021 Existing Conditions Noise Exposure

In accordance with 14 CFR Part 150, **Figure 5-1** depicts the 2021 Existing Conditions DNL 65, 70, and 75 contours superimposed on the existing land use map. The contours accurately represent noise based on Airport and operational data that are representative of the year 2021, as described in **Section 4.3**. The figure also depicts community and geographic reference points, such as the Airport's boundary and runways, political boundaries, area roads and highways, and waterbodies. This figure assists in understanding the geographic relationship of SAT's DNL contours with the surrounding community.

The long, relatively narrow shape of the contours extending from the approach end of Runway 13R is consistent with a runway that is primarily used for arrivals. The wider, more varied shape of the contours extending from the departure end of Runway 4 is consistent with a runway that is heavily used for departures (e.g., after leaving the runway, aircraft turn to the left, straight out, and to the right). Small bumps, or shoulders, on the sides of the DNL contours, particularly on Runway 4/22, reflect the influence of aircraft departure turns.

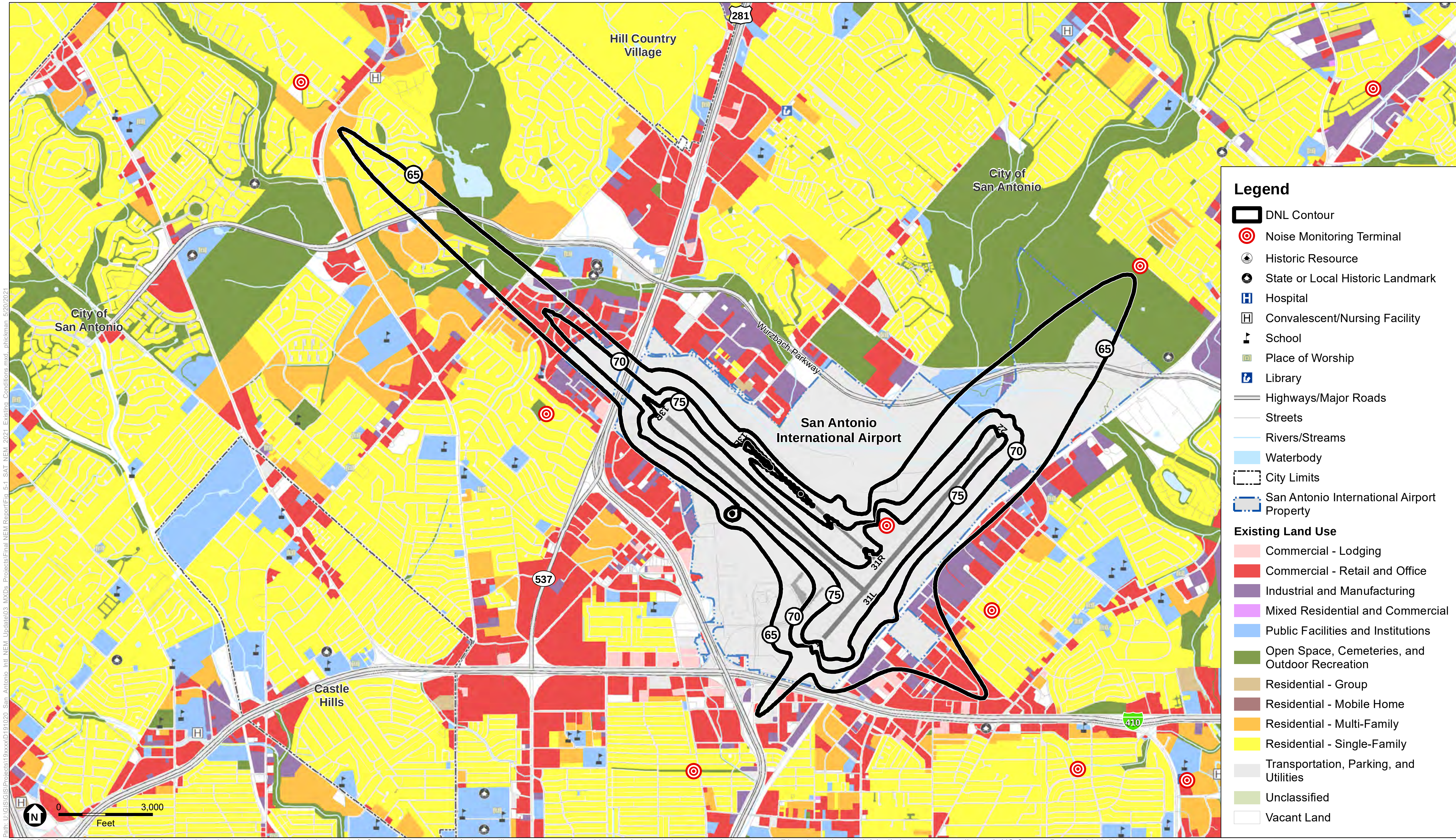
5.2.1 Land Use Compatibility – 2021 Existing Conditions

The total off-Airport area encompassed by the 2021 Existing Conditions DNL 65 and greater contour is approximately 438 acres. Land uses located within the 2021 Existing Conditions DNL 65 and higher contours were identified by overlaying the contours on parcel-level land use data provided by the Bexar County Appraisal District (BCAD). Using geographic information system (GIS) software, the types and amount of land uses were calculated. The total acres for each land use category within the DNL 65 and higher contours are shown in **Table 5-1**. The City of San Antonio is the public agency with zoning and planning authority for land within the 2021 Existing Conditions DNL 65 contour.

TABLE 5-1
LAND USES EXPOSED TO DNL 65 AND HIGHER – 2021 EXISTING CONDITIONS

Land Use Category[1]	Off- Airport Land Uses exposed to DNL 65 and Higher (acres)[2]				Housing Units[3]	Population[3]
	DNL 65-70	DNL 70-75	DNL 75+	Total		
Residential - Single Family	53.5	-	-	53.5	259	714
Residential - Multi-Family	17.2	-	-	17.2	385	795
Commercial - Retail and Office	108.7	8.7	-	117.1	-	-
Commercial - Lodging	2.0	-	-	2.0	-	-
Industrial and Manufacturing	61.2	1.6	-	62.7	-	-
Transportation, Parking, and Utilities	21.9	-	-	21.9	-	-
Public Facilities and Institutions	35.2	-	-	35.2	-	-
Open Space, Cemeteries, and Outdoor Recreation	114.0	0.4	-	114.5	-	-
Vacant	14.0	-	-	14.0	-	-
Total	**427.7**	**10.7**	**-**	**438.4**	**644**	**1,509**

NOTE:
Acreages may not add due to rounding.
SOURCES:
[1] Land Use Categories derived from October 2017 Bexar County parcel data with land use information.
[2] Noise contours from Environmental Science Associates.
[3] Housing units and population estimates derived from 2010 Census block-level data.



SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 5-1
2021 Existing Conditions DNL Contours and Generalized Existing Land Uses
San Antonio International Airport

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The FAA's Land Use Compatibility Guidelines discussed in Section 3.3 provide that noise-sensitive land uses such as residential, mobile home parks, transient lodging (e.g., hotels and motels), schools, and outdoor music venues are not compatible with noise levels of DNL 65 or higher. Other noise-sensitive land uses such as hospitals, nursing homes, churches, auditoriums, and concert halls are generally compatible with noise levels between DNL 65 and DNL 75 when measures that achieve an outdoor-to-indoor Noise Level Reduction (NLR) of 25 to 30 decibels (dB) are incorporated into the structures.[19] Commercial, manufacturing, and recreational land (parks, amusement parks, zoos, etc.) are generally less sensitive to noise and considered compatible with noise levels up to DNL 70 (parks are compatible up to DNL 75). Commercial and manufacturing properties are compatible with noise levels up to DNL 80 with NLR of 25 to 30 dB.

As shown in Table 5-1, the 2021 Existing Conditions DNL 65 and higher contours contain approximately 54 acres of Single Family Residential land use, and 17 acres of Multi-Family Residential land uses. The majority of the off-Airport non-residential land uses exposed to aircraft noise of DNL 65 and higher in 2021 are Commercial uses (approximately 119 acres); Open Space, Cemeteries, and Outdoor Recreation (approximately 114 acres); Industrial and Manufacturing (approximately 63 acres); and Public Facilities and Institutions (approximately 35 acres). There are approximately 22 acres of Transportation, Parking, and Utilities and 14 acres of Vacant Land within the 2021 Existing Conditions DNL 65 contour. Within the 2021 Existing Conditions DNL 70 – 75 contours, there are approximately nine acres of commercial uses, approximately two acres of industrial uses, and less than half an acre of recreational land. Per 14 CFR Part 150, recreational and industrial land as well as the commercial retail and office uses within the 2021 Existing Conditions DNL 65 – 75 contours are considered to be compatible (see Table 3-1).

5.2.2 Population within 2021 Existing Conditions DNL Contours

Table 5-2 presents the estimated number of households, population, and the noise sensitive sites exposed to DNL 65 and higher in 2021. Based on the U.S. Census Bureau's 2010 Decennial Census and parcel data gathered through BCAD, 644 housing units are exposed to the aircraft noise of DNL 65 and higher in the 2021 Existing Conditions. Other than residential units, no other noise sensitive uses fall within the DNL 65 and higher contour.

The Part 150 Study Team determined the population exposed to aircraft noise of DNL 65 and higher by calculating the average number of persons per household in each individual census block within the DNL 65 and higher contours and then multiplying that number by the number of households within each census block (or portion thereof located within the DNL 65 and higher contours). The population within each individual block (or portion thereof) was then summed to quantify the total number of persons within the DNL 65 and higher contours. The total population exposed to aircraft noise of DNL 65 and higher was estimated to be approximately 1,509 persons.

[19] Normal residential construction can be expected to provide an outdoor to indoor NLR of 20 dB.

TABLE 5-2
NOISE SENSITIVE SITES EXPOSED TO DNL 65 AND HIGHER – 2021 EXISTING CONDITIONS

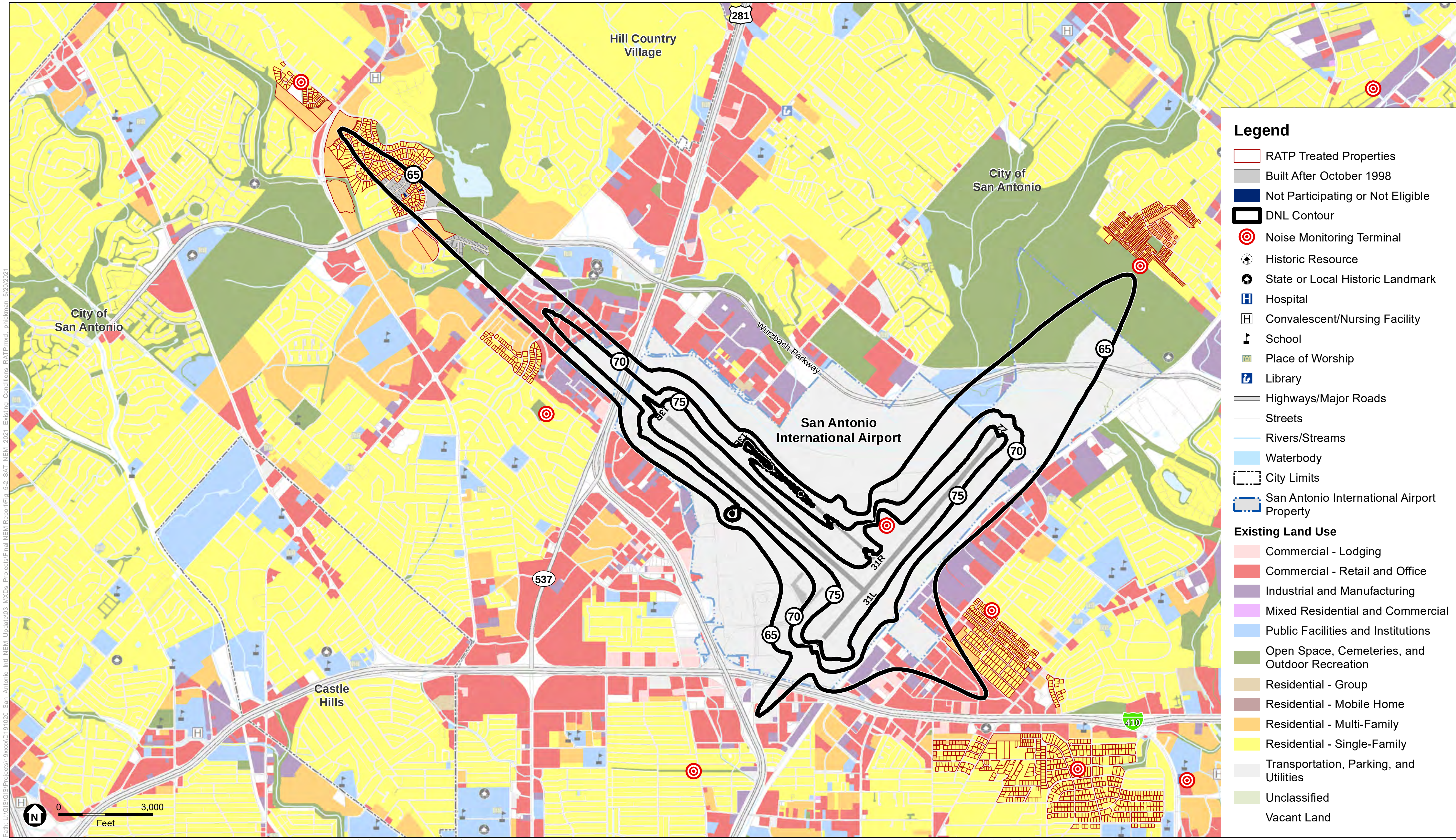
Noise Level[1]	Total Off-Airport Area (Acres)	Housing Units[2]	Population[2]	Religious	Schools[3]	Hospitals	Historic Resources	Libraries	Nursing Homes
DNL 65-70	427.7	644	1,509	-	-	-	-	-	-
DNL 70-75	10.7	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**438.4**	**644**	**1,509**	**-**	**-**	**-**	**-**	**-**	**-**

NOTE: Acreages may not add due to rounding.
SOURCES:
[1] Land Use Categories derived from October 2017 Bexar County parcel data with land use information.
[2] Noise contours from Environmental Science Associates.
[3] Housing units and population estimates derived from 2010 Census block-level data.

Of the 644 housing units exposed to aircraft noise of DNL 65 and higher in 2021, 423 have been previously treated through the Airport's Residential Acoustical Treatment Program (RATP) (see **Section 2.6.1**). The remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction, or have declined participation. **Figure 5-2** depicts the housing units that have participated in the RATP.

5.3 2026 Future Conditions Noise Exposure

The 2026 Future Conditions DNL contours are depicted on **Figure 5-3**. Similar to what is depicted in Figure 5-1, the 2026 Future Conditions DNL contours are superimposed over the future land use map. In accordance with 14 CFR Part 150, the 2026 Future Conditions DNL contours reflect the anticipated noise conditions based on forecasted Airport and operational data that are anticipated to be representative of the year 2026, as described in **Section 4.3**. As discussed in **Section 2.2.3**, there are no future or planned airport development projects expected to substantially affect airside operations in the year 2026. The size and shape of the 2026 Future Conditions DNL contours are relatively similar to the 2021 Existing Conditions DNL contours; however, the slight increase in contour size is primarily associated with arrivals to and departures from Runway 13R, which extend the contours to the northwest and southeast, respectively, reflecting the increase in activity and change in aircraft fleet between 2021 and 2026.



SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 5-2
2021 Existing Conditions DNL Contours and Dwellings
San Antonio International Airport

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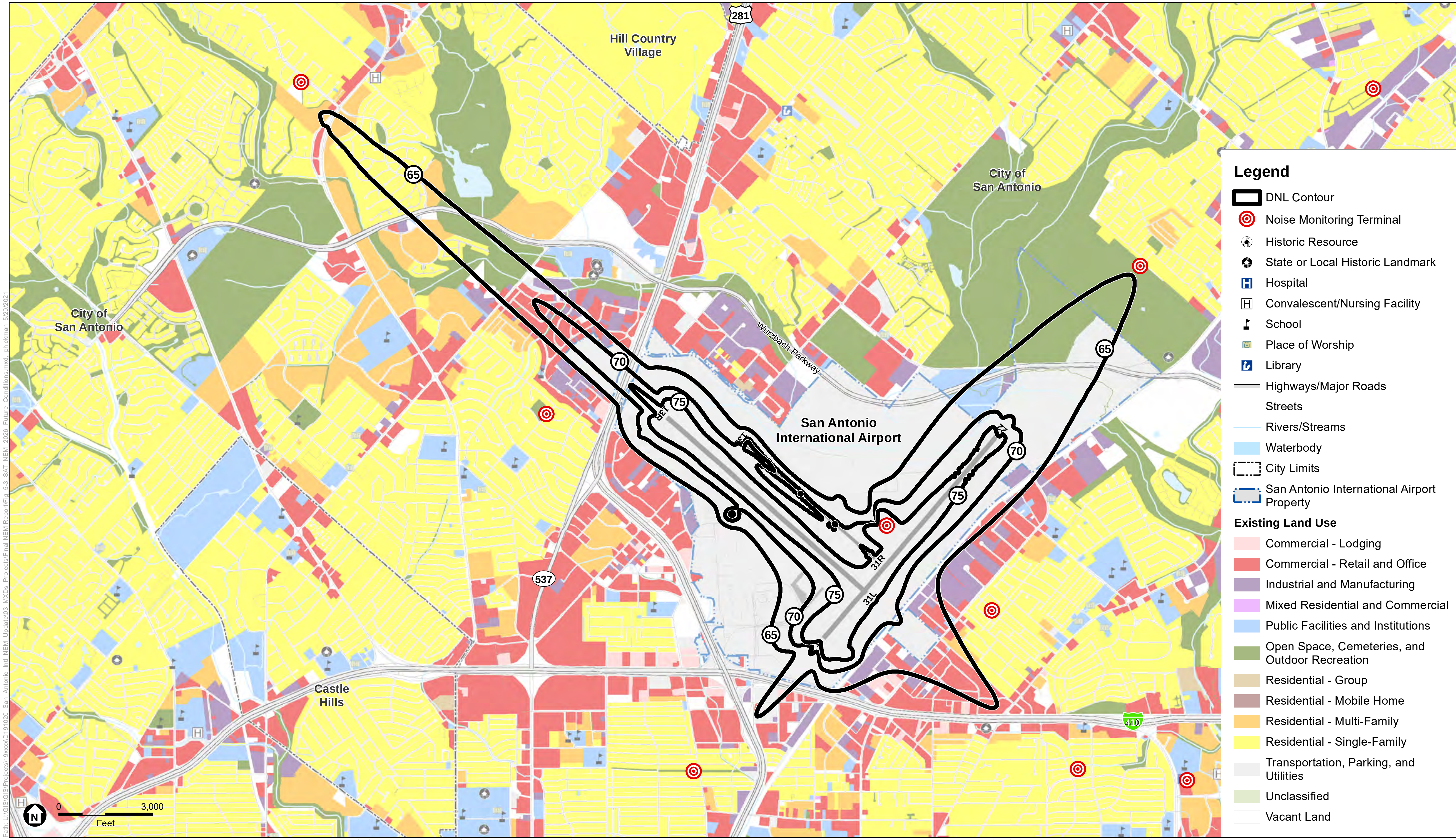

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 5-3
2026 Future Conditions DNL Contours and Generalized Existing Land Uses
San Antonio International Airport

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5.3.1 Land Use Compatibility – 2026 Future Conditions

The Part 150 Study Team projected that total off-Airport area encompassed by the 2026 Future Conditions DNL 65 and higher noise contours will be approximately 503 acres. The type and amount of land uses within the DNL 65 and higher contours are provided in **Table 5-3**. As shown in this table, the 2026 Future Conditions DNL 65 and higher contours will contain approximately 66 acres of single family residential land use and approximately 32 acres of multi-family residential.

TABLE 5-3
LAND USES EXPOSED TO DNL 65 AND HIGHER – 2026 FUTURE CONDITIONS

Land Use Category[1]	Off-Airport Land Uses exposed to DNL 65 and Higher (acres)[2]				Housing Units[3]	Population[3]
	DNL 65-70	DNL 70-75	DNL 75+	Total		
Residential - Single Family	66.4	-	-	66.4	310	846
Residential - Multi-Family	32.2	-	-	32.2	658	1,382
Commercial - Retail and Office	122.5	13.8	-	136.4	-	-
Commercial - Lodging	2.5	-	-	2.5	-	-
Industrial and Manufacturing	65.2	2.5	-	67.7	-	-
Transportation, Parking, and Utilities	24.1	0.3	-	24.4	-	-
Public Facilities and Institutions	37.6	-	-	37.6	-	-
Open Space, Cemeteries, and Outdoor Recreation	119.7	0.8	-	120.5	-	-
Vacant	15.4	-	-	15.4	-	-
Total	**485.8**	**17.4**	**-**	**503.2**	**968**	**2,228**

NOTE: Acreages may not add due to rounding.

SOURCES:

[1] Land Use Categories derived from October 2017 Bexar County parcel data with land use information.
[2] Noise contours from Environmental Science Associates.
[3] Housing units and population estimates derived from 2010 Census block-level data.

The Part 150 Study Team also projects that the majority of the off-airport non-residential land uses that will be exposed to aircraft noise of DNL 65 and higher in 2026 will be commercial uses (retail, office, and lodging totaling approximately 139 acres); Open Space, Cemeteries, and Outdoor Recreation (approximately 121 acres); Industrial and Manufacturing (approximately 68 acres); and Public Facilities and Institutions (approximately 38 acres). There are projected to be approximately 24 acres of Transportation, Parking, and Utilities land uses and approximately 15 acres of vacant land within the 2026 Future Conditions DNL 65 contour. Within the 2026 Future Conditions DNL 70 – 75 contours, there are projected to be approximately 14 acres of commercial land, less than three acres of industrial land, and approximately one acre of recreational land and transportation uses. No off-airport land has been projected to be exposed to aircraft noise of greater than DNL 75.

5.3.2 Population within 2026 Future Conditions DNL Contours

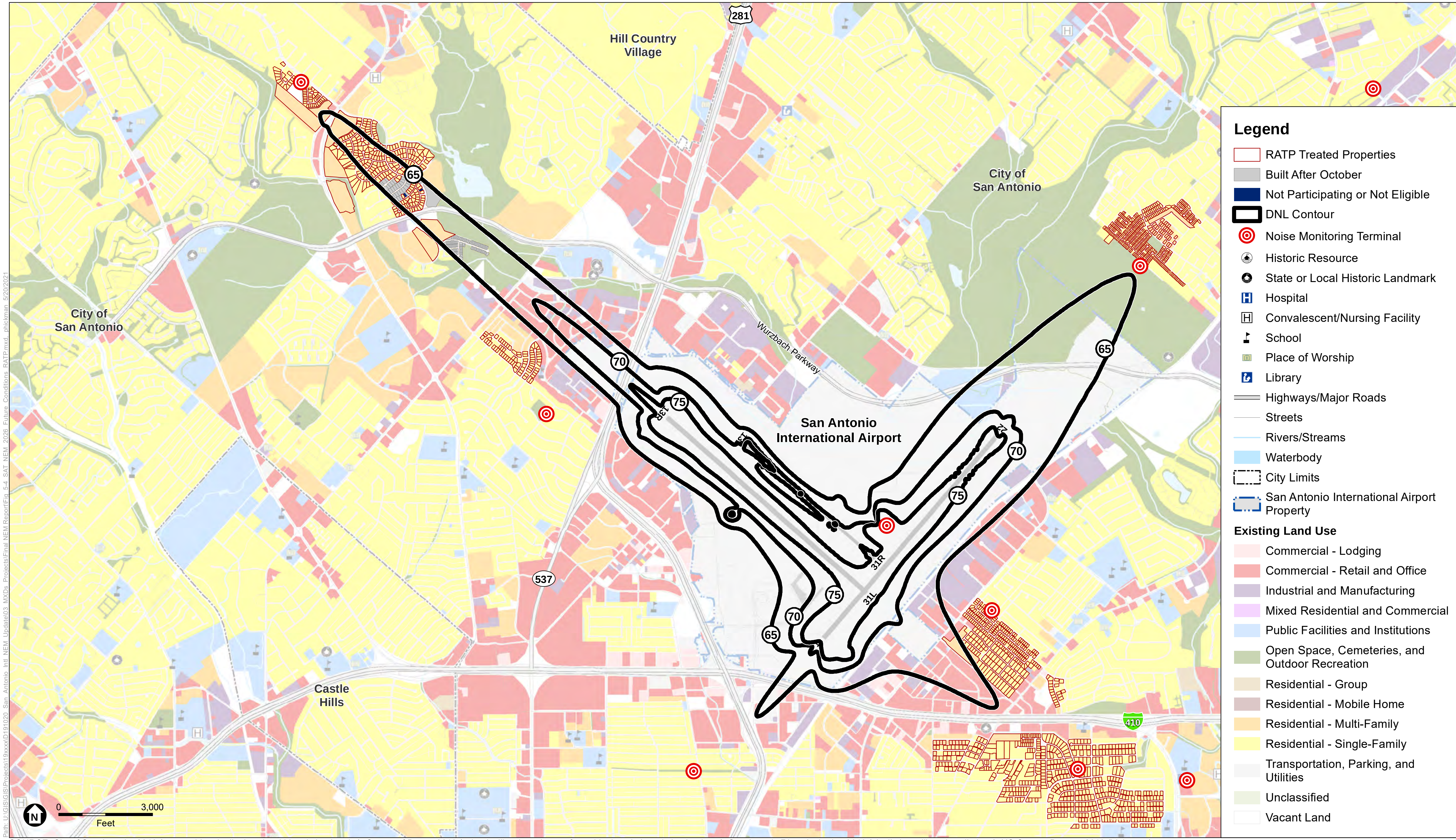
Table 5-4 presents the estimated number of households, population and the noise sensitive sites projected to be exposed to DNL 65 and higher in 2026. Based on both demographic census block-level data from the U.S. Census Bureau's 2010 Decennial Census and parcel data from the BCAD, the total number of households and population exposed to aircraft noise of DNL 65 and higher are projected to be an estimated 968 households and 2,228 people. When compared to 2021, this represents an increase of 324 housing units and 719 people, as a result of the forecasted increase in aircraft operations at SAT. No other noise sensitive uses are projected to fall within the DNL 65 and higher contour.

TABLE 5-4
NOISE SENSITIVE SITES EXPOSED TO DNL 65 AND HIGHER – 2026 FUTURE CONDITIONS

Noise Level[1]	Total Off-Airport Area (Acres)	Housing Units[2]	Population[2]	Religious	Schools[3]	Hospitals	Historic Resources	Libraries	Nursing Homes
DNL 65-70	485.8	968	2,228	-	-	-	-	-	-
DNL 70-75	17.4	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**503.2**	**968**	**2,228**	**-**	**-**	**-**	**-**	**-**	**-**

NOTE: Acreages may not add due to rounding.
SOURCES:
[1] Land Use Categories derived from October 2017 Bexar County parcel data with land use information.
[2] Noise contours from Environmental Science Associates.
[3] Housing units and population estimates derived from 2010 Census block-level data.

Of the 968 housing units projected to be exposed to aircraft noise of DNL 65 and higher in 2026, 701 have been treated as part of the Airport's RATP (see **Section 2.6.1**). Similar to the 2021 Existing Conditions DNL contours, the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction, or have declined participation (see **Figure 5-4**).



SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 5-4
2026 Future Conditions DNL Contours and Dwellings
San Antonio International Airport

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5.4 Comparison of 2021 Existing Conditions and 2026 Future Conditions NEMs—No Homes will be Eligible

A comparison of the 2021 Existing Conditions to the 2026 Future Conditions DNL contours shows that the off-Airport land area encompassed by the DNL 65 and higher contours in 2026 is projected to be approximately 64.8 acres greater than the area encompassed by the DNL 65 contours in 2021 (see **Table 5-5**). No Single Family Residential and Multi-Family Residential land uses are exposed to aircraft noise levels of DNL 70 in 2021, nor will they be in 2026. With respect to housing units, approximately 323 more units and 719 more people are projected to be exposed to noise levels of DNL 65 or higher in 2026, when compared to 2021 (see **Table 5-6**). All of the dwelling units exposed to DNL 65 or higher under 2021 and 2026 conditions have either been previously treated or have been determined ineligible for the RATP. **Figure 5-5** shows a comparison of the 2021 Existing Conditions and 2026 Future Conditions DNL contours and the areas where sound exposure is expected to increase based on projected operating conditions.

TABLE 5-5
CHANGES IN LAND USE EXPOSURE – 2021 TO 2026

Land Use Category[1]	Net Change in Acreage by Land Use (acres)[2]			
	DNL 65-70	DNL 70-75	DNL 75+	Total
Residential - Single Family	12.9	-	-	12.9
Residential - Multi-Family	15.0	-	-	15.0
Commercial - Retail and Office	13.8	5.2	-	19.0
Commercial - Lodging	0.5	-	-	0.5
Industrial and Manufacturing	4.0	0.9	-	4.9
Transportation, Parking and Utilities	2.2	0.3	-	2.5
Public Facilities and Institutions	2.5	-	-	2.5
Open Space, Cemeteries, and Outdoor Recreation	5.7	0.3	-	6.0
Vacant	1.4	-	-	1.4
Total Change	**58.1**	**6.7**	**-**	**64.8**

NOTE: Acreages may not add due to rounding.
SOURCES:
[1] Land Use Categories derived from October 2017 Bexar County parcel data with land use information.
[2] Noise contours from Environmental Science Associates.
[3] Housing units and population estimates derived from 2010 Census block-level data.

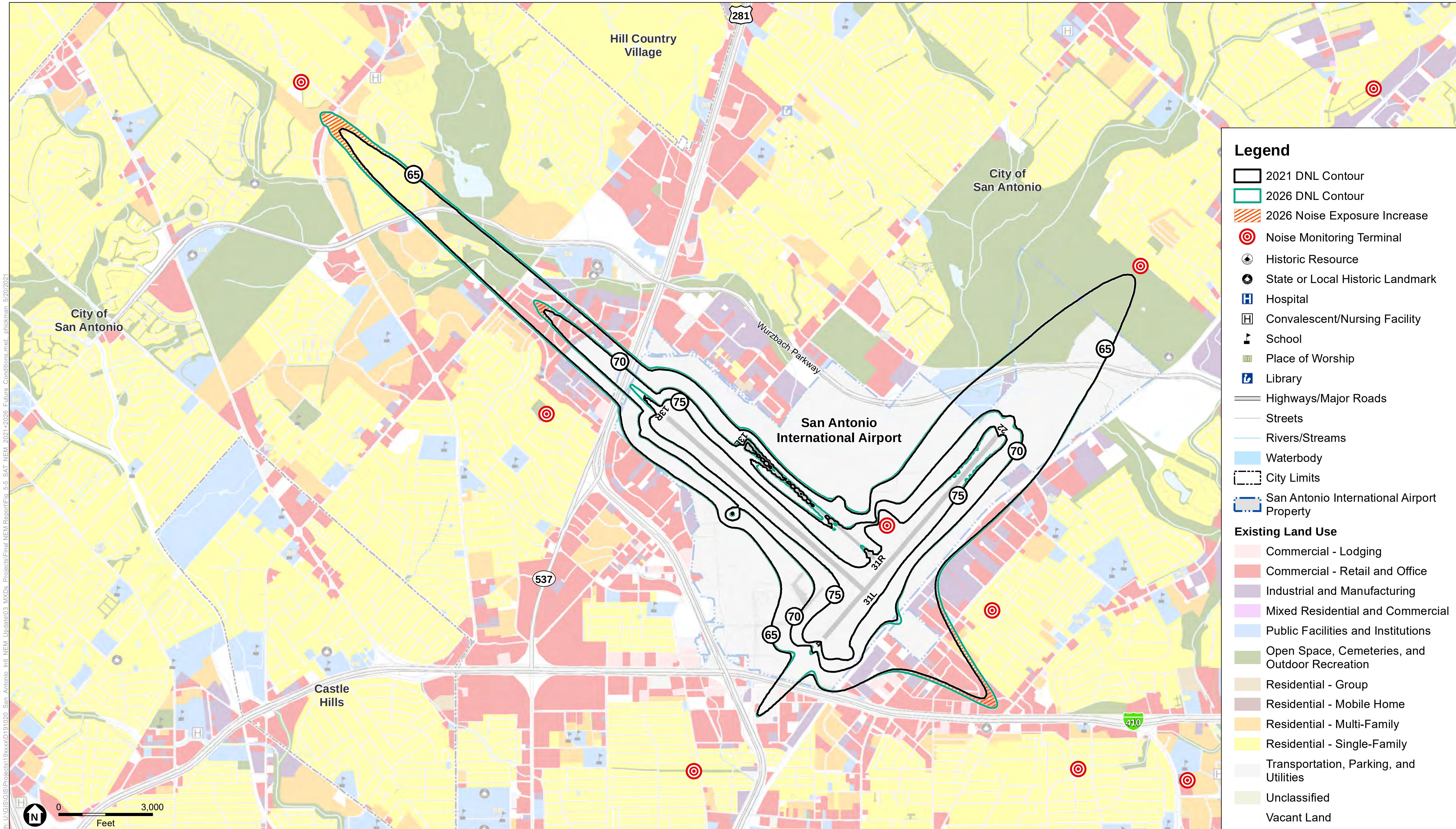
TABLE 5-6
CHANGE IN NOISE SENSITIVE SITES EXPOSED – 2021 TO 2026

Noise Level[1]	Total Off-Airport Area (Acres)	Housing Units[2]	Population[2]	Religious	Schools	Hospitals	Historic Resources	Libraries	Nursing Homes
DNL 65-70	58.1	324	719	-	-	-	-	-	-
DNL 70-75	6.7	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**64.8**	**324**	**719**	**-**	**-**	**-**	**-**	**-**	**-**

NOTE: Some acreages may not add due to rounding.

SOURCES:

[1] Land Use Categories derived from October 2017 Bexar County parcel data with land use information.
[2] Noise contours from Environmental Science Associates.
[3] Housing units and population estimates derived from 2010 Census block-level data.



SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure 5-5
2021 Existing Conditions and 2026 Future Conditions DNL Contours and Generalized Existing Land Uses
San Antonio International Airport

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CHAPTER 6
Consultation and Public Involvement

6.1 Introduction

Title 14 Code of Federal Regulations (CFR) Part 150 §150.21(b) and §A150.105(a) require that Noise Exposure Maps (NEMs) and documentation submitted be developed and prepared

> *"in consultation with states, public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the DNL 65 dB contour depicted on the map, FAA regional officials, and other Federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport."*

Consultation required by 14 CFR Part 150 includes the following entities:

- Aviation users (e.g., airlines, fixed base operators, based aircraft operators);
- Jurisdictional authorities with land located within the Day-Night Average Sound Level (DNL) 65 or greater contours (the City of San Antonio is the sole land use agency for land located within the DNL 65 and higher contours); and
- Interested parties (i.e., the public).

The San Antonio Airport System (the SAAS) implemented a proactive agency consultation and public involvement program that exceeded the requirements of 14 CFR Part 150 and provided opportunities for meaningful public engagement and participation in development of the NEMs. Agency consultation and public involvement efforts undertaken for this 14 CFR Part 150 Study are discussed in this chapter.

6.2 Public Information Workshops, Noise Exposure Map Update Report, and Public Comments

During the course of this Part 150 Study, the SAAS held several Public Information Workshops and accepted comments from the public. Due to the COVID-19 pandemic, the Public Information Workshops were held virtually to provide opportunities for engagement while also adhering to public health guidelines recommended by local health officials and the U.S. Centers for Disease Control and Prevention. The first round of Public Information Workshops were conducted in October 2020. A second round of Public Information Workshops were conducted in February 2021 after the release of the Draft NEM Update Report and in accordance with public health guidelines.

Details of the workshops, release of the Draft NEM Update Report, and public comments are provided below.

6.2.1 October 2020 Public Information Workshops

The first round of Public Information Workshops for this Part 150 Study were hosted virtually on a Zoom video and teleconferencing platform in October 2020. All four virtual workshops included live Spanish translation. **Table 6-1** below lists the date and time of each workshop.

TABLE 6-1
FIRST ROUND OF VIRTUAL PUBLIC INFORMATION WORKSHOPS

Date	Location	Time
Monday, October 26, 2020	Virtual	6:00 P.M. to 8:00 P.M.
Tuesday, October 27, 2020	Virtual	1:00 P.M. to 3:00 P.M.
Thursday, October 29, 2020	Virtual	10:00 A.M. to 12:00 P.M.
Thursday, October 29, 2020	Virtual	6:00 P.M. to 8:00 P.M.

SOURCE: Environmental Science Associates, 2020.

In total, attendance exceeded 360 members of the general public and public officials (see attendee reports included in **Appendix G-1)**. The purpose of the first round of Public Information Workshops was to inform the public about the initiation of this Part 150 Study, discuss the Part 150 process and requirements, and solicit input to be considered by inviting the public to submit written comments to be considered part of the official record. The information presented provided an overview of the 14 CFR Part 150 process, the SAAS's noise program, noise modeling, and instructions to provide comments and stay involved in the Part 150 Study process. The workshops also presented preliminary results on the Draft 2021 Existing Conditions DNL 65, 70, and 75 contours for public review and comment. Workshop informational materials included a slide presentation (with a pre-recorded narration in both English and Spanish).

Notice of these Public Information Workshops were advertised on:

- September 26, 2020 and September 27, 2020 in the *San Antonio Express News* (in English)
- October 10, 2020 and October 11, 2020 in the *San Antonio Express News* (in English)
- September 27, 2020 in the *Le Prensa Texas* (in Spanish)
- October 11, 2020 in the *Le Prensa Texas* (in Spanish)

Additionally, 15,376 postcards were mailed to residences within one mile of the Draft 2021 Existing Conditions DNL 65 contour. Copies of the Public Information Workshop notice, postcard mailer, attendee reports, and presentation materials are provided in **Appendix G-1**.

Printed and electronic copies of the Public Information Workshop materials were made available at the following locations between October 19, 2020 and November 13, 2020 (the end of the public comment period):

- Central Library, 600 Soledad, San Antonio, TX 78205
- Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233
- Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209
- Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232
- Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201
- SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216

Public comments were submitted by either e-mail to AirportNoiseHotline@sanantonio.gov or mailed to the following address:

San Antonio International Airport
457 Sandau Road, Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

6.2.2 February 2021 Public Information Workshops

The second round of Public Information Workshops for this Part 150 Study were hosted virtually on a Zoom video and teleconferencing platform in February 2021. Four Public Information Workshops were originally scheduled to occur on February 16, 17, 18, and 22, 2021 in a virtual format, similar to the first round of Public Information Workshops held in October 2020. However, due to extreme weather events, the Public Information Workshops were rescheduled for February 22, 23, and 25, 2021. The workshops on February 22nd and the afternoon of February 25th were conducted in Spanish and the workshops on February 23rd and the evening of February 25th were conducted in English. **Table 6-2** provides the date and time of each of the rescheduled Public Information Workshops.

TABLE 6-2
SECOND ROUND OF VIRTUAL PUBLIC INFORMATION WORKSHOPS

Date	Location	Time
Monday, February 22, 2021	Virtual	6:00 P.M. to 8:00 P.M.
Tuesday, February 23, 2021	Virtual	6:00 P.M. to 8:00 P.M.
Thursday, February 25, 2021	Virtual	3:00 P.M. to 5:00 P.M.
Thursday, February 25, 2021	Virtual	6:00 P.M. to 8:00 P.M.

SOURCE: Environmental Science Associates, 2021.

In total, 197 members of the general public and public officials attended the February workshops (see attendee reports included in **Appendix G-2)**. The purpose of the second round of Public Information Workshops was to provide a summary of the information presented in the October 2020 Public Information Workshops, present the Draft 2026 Future Conditions DNL 65, 70, and 75 contours, and solicit input (on both the Public Information Workshops and the Draft NEM Update Report) to be considered by inviting the public to submit written comments to be considered part of the official record. Workshop informational materials included a slide presentation (with a pre-recorded narration in both English and Spanish).

Notices of the Draft NEM Update Report and the Public Information Workshops were advertised on January 16, 2021 on the SAAS's Noise Office website[20] and in the following newspapers:

- January 16, 2021 and January 17,2021 in the *San Antonio Express News* (in English)
- January 30, 2021 and January 31, 2021 in the *San Antonio Express News* (in English)
- January 23, 2021 and January 24, 2021 in the *Le Prensa Texas* (in Spanish)
- January 30, 2021 and January 31, 2021 in the *Le Prensa Texas* (in Spanish)

Additionally, 15,376 postcards were mailed to residences within one mile of the Draft 2021 Existing Conditions DNL 65 contour. Copies of the Public Information Workshop notice, postcard mailer, attendee reports, and presentation materials are provided in **Appendix G-2**.

Printed and electronic copies of both the Draft NEM Update Report and the Public Information Workshop materials were made available at the following locations between February 2, 2021 and March 19, 2021 (the end of the public comment period):

- Central Library, 600 Soledad, San Antonio, TX 78205
- Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233
- Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209
- Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232
- Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201
- SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216

The public comment period was originally scheduled to occur between February 2, 2021 and March 8, 2021; however, due to extreme weather events, the end of the public comment period was extended to March 19, 2021.

20 https://flysanantonio.com/business/about-saas/environmental-stewardship/

Public comments were submitted by either e-mail to AirportNoiseHotline@sanantonio.gov or mailed to the following address:

San Antonio International Airport
457 Sandau Road, Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

6.2.3 Public Comments Received

All written comments received by mail and email during the public comment period for both sets of Public Information Workshops and their associated responses are included in **Appendix H**.

In addition to the official public comments, the SAAS and its consultant team answered and addressed numerous questions and comments during both sets of Public Information Workshops. During the October 2020 series of workshops, approximately 100 questions and comments were addressed. During the February 2021 series of workshops, approximately 120 questions and comments were addressed.

6.3 Other Public Outreach Efforts

Additional elements of the public outreach program implemented by the SAAS are summarized below.

6.3.1 San Antonio City Council

The SAAS has coordinated with members of San Antonio City Council to provide updates on this Part 150 Study. These meetings are used as a platform to provide City Council members with the opportunity to voice concerns and ask questions about the study process. All members of City Council were notified of and invited to attend, via email, the first set of Public Information Workshops on September 28, 2020 and the second set of Public Information Workshops on January 19, 2021. All presentation materials and workshop notifications are provided in **Appendix F**.

6.3.2 Federal Aviation Administration

The SAAS has coordinated with the Federal Aviation Administration (FAA) throughout this Part 150 Study. Coordination with the FAA included e-mail correspondence and written memoranda to gain approval and guidance on establishing the 2021 Existing Conditions and the 2026 Future Conditions forecasts. Consultation and correspondence related to establishing the 2021 Existing Conditions and the 2026 Future Conditions forecasts is provided in **Appendix B**. Additional coordination with the FAA, that is unrelated to forecasting, can be found in **Appendix F**.

Members of the FAA also attended the second set of Public Information Workshops, including:

- Jessica Bryan – February 23, 2021
- Sarah Conner – February 23, 2021
- John MacFarlane – February 25, 2021

6.3.3 Tenant Airline Managers

The SAAS briefed tenant airline managers on the progress of the Part 150 Study on December 10, 2020. The virtual briefing covered the information presented in the first set of Public Information Workshops, presented the Draft 2021 Existing Conditions DNL contours, and provided a look-ahead schedule for the second set of Public Information Workshops and next steps in the project. The airline manager briefing materials are provided in **Appendix F**.

6.3.4 Public Town Hall

The SAAS conducted its first virtual public town hall session on January 8, 2021, which included an update on the Part 150 Study where the following was presented: information related to the first set of Public Information Workshops, a comparison of the 2014 Existing Conditions and the Draft 2021 Existing Conditions DNL contours, and a look-ahead schedule for the second set of Public Information Workshops and next steps in the project. The public town hall materials are provided in **Appendix F**.

6.3.5 Airport Advisory Commission

The SAAS notified and invited the Airport Advisory Commission (AAC) to attend the second set of Public Information Workshops on January 19, 2021. The AAC briefing materials are provided in **Appendix F**.

6.3.6 SAAS Noise Office Website

The SAAS's environmental stewardship webpage is being used as an access portal for materials related to this Part 150 Study.[21] The website includes information and documents available to stakeholders, agencies, and the general public, including:

- Background materials and schedule updates for this Part 150 Study
- Printed materials used for the Public Information Workshops (in English and Spanish)
- Links to access recordings of each Public Information Workshop (in English and Spanish)
- NEM Update Report
- Frequently Asked Questions
- SAAS staff contact information
- Instructions and email link to submit formal comments

21 https://flysanantonio.com/business/about-saas/environmental-stewardship/

Appendix A
Glossary and Acronyms

A-1 Glossary of Terms

Term	Definition
14 CODE OF FEDERAL REGULATIONS (CFR) PART 36	This regulation, titled "Noise Standards: Aircraft Type and Airworthiness Certification," establishes noise standards for the civil aviation fleet. Certain extensions for compliance are included in the Aviation Safety and Noise Abatement Act of 1979.
14 CFR PART 77	This regulation, titled "Safe, Efficient Use and Preservation of the Navigable Airspace," establishes standards for determining obstructions and their potential effects on aircraft operations. Objects are considered to be obstructions to air navigation according to 14 CFR Part 77 if they exceed certain heights or penetrate certain imaginary surfaces established in relation to airport operations. Objects classified as obstructions are subject to an FAA aeronautical analysis to determine their potential effects on aircraft operations.
14 CFR PART 91	This regulation, titled "General Operating and Flight Rules," includes an amendment issued by the FAA on September 25, 1991 (to 14 CFR 91) in conformance with requirements of the Airport Noise and Capacity Act of 1990. The amendment to the aircraft operating rules required a phased transition to an all Stage 3 aircraft fleet operating in the 48 contiguous United States and the District of Columbia by December 31, 1999.
14 CFR PART 150	This regulation, titled "Airport Noise Compatibility Planning," sets forth criteria for developing a 14 CFR Part 150 Noise Compatibility Program, an FAA-assisted program designed to increase the compatibility of land and land uses in the areas surrounding an airport that are most directly affected by operation of the airport. The specific purpose is to reduce the adverse effects of noise as much as possible by implementing both on-airport noise abatement measures and off-airport noise mitigation measures. The basic products of an 14 CFR Part 150 program typically include (1) noise exposure maps for the existing condition and for 5 years in the future; (2) workable on-airport noise abatement measures (preferential runway use programs, new or preferential flight tracks), (3) off-airport noise mitigation measures (land acquisition, soundproofing, or special zoning); (4) an analysis of the costs and the financial feasibility of the recommended measures; and (5) policies and procedures related to the implementation of on- and off-airport programs. Community involvement opportunities are provided throughout all phases of noise compatibility program development.
A-WEIGHTED SOUND LEVEL (dBA)	The ear does not respond equally to different frequencies of sound. It is less efficient at low and high frequencies than it is at medium or speech-range frequencies. Thus, to obtain a single number representing the sound level of a noise having a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are decibels (dB); hence, the abbreviation is dBA. The A-weighted sound level is also referred to as the noise level. Sound level meters have an A-weighting network for measuring noise in A-weighted decibels.
ABSORPTION	Absorption is a property of materials that reduces the amount of sound energy reflected. Thus, introduction of an “absorbent” into the surfaces of a room will reduce the sound pressure level in that room because sound energy striking the room’s surfaces will be partially absorbed rather than totally reflected. The process of absorption is different from that of transmission loss through a material, which determines how much sound enters a room via the walls, ceiling, and floor. Absorption reduces the resultant sound level in the room produced by energy that has already entered the room.
ACCEPTABLE	Relating to noise Day-Night Average Sound Level (DNL) not exceeding 65 decibels. Noise exposure may be of some concern, but common building construction will make the indoor environment acceptable, and the outdoor environment will be reasonably pleasant for recreation and play. As defined by 14 CFR Part 150, *Airport Noise Compatibility Planning*.
ACOUSTICS	(1) The science of sound, including the generation, transmission, and effects of audible and inaudible sound waves. (2) The physical qualities (such as size and shape) of a room or other enclosure that determine the audibility and perception of speech and music.
ADVISORY CIRCULAR (AC)	An external Federal Aviation Administration (FAA) publication consisting of non-regulatory material of a policy, guidance, or informational nature.

Term	Definition
AIRCRAFT DELAY	The additional travel time, caused by airfield or airspace congestion, needed by an aircraft to move from point A to point B.
AIRCRAFT OPERATION	An aircraft arrival (landing) or an aircraft departure (takeoff) represents one aircraft operation. A low approach, below traffic pattern or a touch-and-go operation is counted as both a landing and a takeoff, i.e., two operations. The FAA records aircraft operations in four categories: air carrier, air taxi, general aviation, and military.
AIR CARRIER	Operations performed in revenue service by certificated route air carriers.
AIR TAXI/COMMUTER	Operations performed by operators of aircraft holding an air taxi certificate. This category includes commuter airline operations (excluding certificated commuter airlines), mail carriers under contract with the U.S. Postal Service, and operators of nonscheduled air taxi service.
GENERAL AVIATION	All civil aircraft operations not classified as air carrier or air taxi operations.
MILITARY	Operations performed by military groups, such as the Air National Guard, the U.S. Air Force, or the U.S. Marine Corps. Aircraft operations may also be described as local or itinerant:
LOCAL	Local operations are performed by aircraft that (1) operate in the local traffic pattern or within sight of the airport, (2) are known to be departing for, or arriving from, local practice areas within a 20-mile radius of the airport, or (3) execute simulated or practice instrument approaches or low passes at the airport. Touch-and-go operations are counted as two local operations.
ITINERANT	All aircraft operations other than local operations.
AIR NAVIGATION FACILITY (NAVAID)	A facility designed for use as an aid to air navigation, including landing aids, lights, any apparatus or equipment for disseminating weather information; for signaling for radio direction-finding or for radio or other electronic communication; and any other structure or mechanism having a similar purpose for guiding and controlling flight in the air or the landing or takeoff of aircraft.
AIRPORT ENVIRONS	The area surrounding an airport that is considered to be directly affected by the presence and operation of the airport.
AIRPORT IMPROVEMENT PROGRAM (AIP)	A program administered by the FAA to provide financial grants-in-aid for airport planning, airport development projects, and noise compatibility programs. The AIP was established through the Airport and Airway Improvement Act of 1982, which was incorporated as Title V of the Tax Equity and Fiscal Responsibility Act of 1982 (Public Law 97-248). Funds are appropriated by the U.S. Congress for the AIP annually.
AIRPORT NOISE AND CAPACITY ACT OF 1990	Commonly referred to as the national noise policy; the Act was enacted on November 5, 1990 (Public Law 101-508). Two important provisions of the Act were the establishment of a national aviation noise policy (Sections 9308 and 9309) and the creation of a passenger facility charge (Sections 9110 and 9111), which enables airport sponsors to impose fees on the tickets issued to eligible enplaning passengers. An amendment to 14 CFR Part 91, "Transition to an All Stage 3 Fleet Operating in the 48 Contiguous United States and the District of Columbia," and new 14 CFR Part 161, "Notice and Approval of Airport Noise and Access Restrictions”, implement the national noise policy. 14 CFR Part 158, "Passenger Facility Charges," implements that portion of the Act authorizing the imposition of such a charge.
AIRPORT SURVEILLANCE RADAR (ASR)	Radar providing aircraft position data in terms of azimuth and range. ASR does not provide altitude data. It is designed for range coverage up to 60 nautical miles and is used by terminal area air traffic control.
AIRPORT TRAFFIC CONTROL TOWER (ATCT)	A central operations facility in the terminal area air traffic control system, consisting of a tower cab structure and an associated instrument flight rule (IFR) room if radar equipped, using air/ground communications and/or radar, visual signaling, and other devices, to provide safe and expeditious movement of terminal area air traffic.
AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC)	A facility established to provide air traffic control service to aircraft operating on an IFR flight plan within controlled airspace and principally during the en route phase of flight.

Term	Definition
AIRSPACE	Space in the air above the surface of the earth or a particular portion of such space, usually defined by the boundaries of an area on the surface projected upward.
AIR TRAFFIC CONTROL (ATC)	A service operated by appropriate authority (the FAA) to promote the safe, orderly, and expeditious flow of air traffic.
ATTENUATION	Acoustical phenomenon whereby a reduction of sound energy is experienced between the noise source and the receiver. This energy loss can be attributed to atmospheric conditions, terrain, vegetation, man-made features, and natural features.
AVIATION ENVIRONMENTAL DESIGN TOOL (AEDT)	A computer model developed by the FAA and required by the FAA for use in 14 CFR Part 150 studies, environmental assessments, and environmental impact statements for developing existing and future aircraft noise exposure maps.
AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS)	Continuous radio broadcast of recorded air traffic control information at selected high activity airports.
BACKBLAST	Noise generated by jet exhaust on takeoff characterized by high acoustic energy, low frequency, and high velocity air behind the aircraft engine.
BUILDING CODE	A legal document that sets forth requirements to protect the public health, safety, and general welfare as they relate to the construction and occupancy of buildings and structures. The code establishes the minimum acceptable conditions for matters found to be in need of regulation. Topics generally covered are exits, fire protection, structural design, sanitary facilities, lighting, and ventilation. Sound insulation may also be included.
CONTROLLED AIRSPACE	Airspace of defined dimensions within which air traffic control service is provided to IFR and to Visual Flight Rule (VFR) flights in accordance with the airspace classification.
DAY-NIGHT AVERAGE SOUND LEVEL (DNL)	A measure used to predict, by a single number rating, cumulative aircraft noise that affects communities in airport environs. DNL represents decibels of noise as measured by an A-weighted sound-level meter. In the DNL procedure, the noise exposure from each aircraft takeoff or landing is calculated at ground level around an airport, and these noise exposure levels are accumulated for a typical 24-hour period. (The 24-hour period often used is the average day of the peak month for aircraft operations during the year being analyzed.) Daytime and nighttime noise exposure is considered separately. A weighting factor equivalent to a penalty of 10 decibels is applied to operations between 10:00 P.M. and 6:59 A.M. to account for the increased sensitivity of people to nighttime noise. DNLs can be expressed graphically on maps using either contours or grid cells.
DECIBEL (dB)	A unit for measuring the volume of a sound, equal to the logarithm of the ratio of the intensity of the sound to the intensity of an arbitrarily chosen standard sound.
DISTANCE MEASURING EQUIPMENT (DME)	Equipment (ground and airborne) used to measure and report to the pilot the slant range distance, in nautical miles, of an aircraft from the DME navigational aid.
DURATION	The length of time that a noise event, such as an aircraft flyover, is experienced (typically reported in seconds). “Duration” may also refer to the length of time that the noise event exceeds a specified threshold noise level.
EQUIVALENT CONTINUOUS SOUND LEVEL (LEQ)	Leq is the sound level, expressed in dBA, of a steady sound which has the same A-weighted sound energy as the time-varying sound over the averaging period. Unlike Sound Exposure Level (SEL), Leq is the average sound level for a specified time period (e.g., 24 hours, 8 hours, 1 hour, etc.). Leq is calculated by integrating the sound energy from all noise events over a given time period and applying a factor for the number of events.
FEDERAL AVIATION ADMINISTRATION (FAA)	The FAA, an agency of the U.S. Department of Transportation, is charged with (1) regulating air commerce to promote its safety and development; (2) achieving the efficient use of navigable airspace of the United States; (3) promoting, encouraging, and developing civil aviation; (4) developing and operating a common system of air traffic control and air navigation for both civilian and military aircraft; and (5) promoting the development of a national system of airports.

Term	Definition
FLIGHT TRACK	The average flight path flown by aircraft within specific corridors. Deviation from these tracks occurs because of weather, pilot technique, air traffic control, and aircraft weight. Individual flight tracks within a corridor are "averaged" for purposes of modeling noise exposure using the FAA's Integrated Noise Model.
GLIDE SLOPE	A FAA navigational system that: (1) provides the vertical (or altitude) profile followed by an aircraft during the approach and landing; (2) is an electronic vertical guidance provided by airborne and ground instruments for instrument approaches using equipment such as an instrument landing system (ILS) as well as visual ground aids, such as a visual approach slope indicator (VASI), for a visual flight rule (VFR) approach or for the visual portion of an instrument approach and landing.
GLOBAL POSITIONING SYSTEM (GPS)	A navigational system that uses a series of satellites orbiting the earth to provide non-precision guidance in azimuth, elevation, and distance measurement.
GROUND EFFECT	The excess attenuation of sound associated with absorption or reflection of noise by manmade and physical features on the ground surface.
GROUND TRACK	The trajectory of an aircraft flight path projected onto the ground surface.
HELIPAD	A small area designated for takeoff, landing, or parking of helicopters.
INSTRUMENT APPROACH	An aircraft approach to an airport, with intent to land, by a pilot flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial approach altitude.
INSTRUMENT APPROACH RUNWAY	A runway equipped with electronic and visual navigation aids for which a precision or nonprecision approach procedure having straight-in landing minimums has been approved.
INSTRUMENT FLIGHT RULES (IFR)	Rules specified by the FAA for flight under weather conditions that do not meet the minimum requirements for VFR (see also). Under these conditions the pilot must rely on instruments to fly and navigate.
INSTRUMENT LANDING SYSTEM (ILS)	A system that provides, in the aircraft, the lateral and longitudinal (localizer), and vertical (guidance) electronic guidance necessary for an instrument landing.
INSTRUMENT OPERATION	An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility or air route traffic control center.
LAND USE COMPATIBILITY	The compatibility of land uses surrounding an airport with airport activities and particularly with the noise from aircraft operations.
LAND USE CONTROLS	Controls established by local or state governments to implement land use planning. The controls include zoning, subdivision regulations, land acquisition (in fee simple, lease-back, or easements), building codes, building permits, and capital improvement programs (to provide sewer, water, utilities, or other service facilities).
LAND USE PLANNING	Comprehensive planning carried out by units of local government, for all areas under their jurisdiction, to identify the optimum uses of land and to serve as a basis for the adoption of zoning or other land use controls.
LOCALIZER (LOC)	Navigational equipment that provides electronic course guidance. The ground-based equipment sends two signals, which, when received and receded by airborne equipment with equal intensity, indicate that the aircraft is on course. If the received and receded signals have unequal intensity, then the aircraft is off course. A localizer is the part of an ILS that provides lateral and longitudinal course guidance to the runway.
LOCALIZER-TYPE DIRECTIONAL AID (LDA)	A navigational aid used for non-precision instrument approaches with utility and accuracy comparable to a localizer; however, it is not part of a complete ILS and its signal is not typically aligned with the runway.
LOUDNESS	The judgment of the intensity of a sound by a person, loudness depends primarily on the sound pressure of the stimulus. Over much of the loudness range, it takes about a threefold increase in sound pressure (approximately 10 decibels) to produce a doubling of loudness.
MAXIMUM SOUND LEVEL (Lmax)	The maximum A-weighted sound level, in dBA, for a given noise event. The peak noise level reached by a single aircraft event.

Term	Definition
NOISE	Noise is any sound that is considered to be undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.
NOISE ABATEMENT PROCEDURES	Changes in runway use, flight approach and departure routes and procedures, and other air traffic procedures that are intended to shift adverse aviation effects away from noise-sensitive areas (such as residential neighborhoods).
NOISE ATTENUATION OF BUILDINGS	The use of building materials to reduce noise through absorption, transmission loss, and reflection of sound energy.
NOISE CONTOURS	Lines drawn on a map that connect points of equivalent noise exposure levels. For aircraft noise analyses conducted using DNL, noise contours are usually drawn in 5-DNL intervals, such as connections of DNL 75 exposure, DNL 70 exposure, DNL 65 exposure, and so forth.
NOISE COMPATIBILITY PROGRAM (NCP)	The NCP can consist of a combination of preferred noise abatement procedures, land use controls, and administrative measures; as well as a plan for the implementation. For planning purposes, the implementation plan also includes the estimated cost for each of the recommended measures to the airport sponsor, the FAA, airport users, and the local units of government.
NOISE EXPOSURE MAP (NEM)	A map prepared in accordance with 14 CFR Part 150 or other FAA environmental regulation that depicts actual (existing or historical conditions) or anticipated (future conditions) aircraft noise exposure and the affected land uses. NEMs for future conditions may take into account anticipated land use changes around the airport.
NOISE LEVEL REDUCTION (NLR)	The noise reduction between two areas or rooms is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. Noise reduction is measured by combining the effect of the transmission loss performance of structures separating the two areas or rooms and the effect of acoustic absorption in the receiving room.
NOISE-SENSITIVE LAND USE	A land use that can be adversely affected by high levels of aircraft noise. Residences, schools, hospitals, religious facilities, libraries, and other similar uses are typically considered to be noise-sensitive.
NONCOMPATIBLE LAND USE	Residential, public, recreational, and certain other noise-sensitive land uses that are designated as unacceptable within specific ranges of cumulative (DNL) noise exposure as set forth in 14 CFR Part 150, Appendix A, Table 1.
NON-PRECISION INSTRUMENT APPROACH PROCEDURE	A standard instrument approach procedure for which no glide slope guidance is provided. Typical non-precision instrument approach procedures include VOR (see *Very High Frequency Omnidirectional Range*), GPS (see *Global Positioning System*), NDB (see *Nondirectonal Radio Beacon*), and LOC (see *Localizer*) approach procedures.
PATTERN	The configuration or form of a flight path flown by an aircraft, or prescribed to be flown, as in making an approach for landing.
PRECISION APPROACH PATH INDICATOR (PAPI)	An airport lighting facility in the terminal area navigation system used under VFR conditions, through a single row of two to four lights, radiating high intensity red or white beams to indicate whether the aircraft is on, above, or below the required runway glide slope.
PRECISION INSTRUMENT APPROACH PROCEDURE	A standard instrument procedure for a pilot to approach an airport, in which both electronic course guidance and an electronic glide scope are provided. For example, an approach using an ILS is considered a precision instrument approach.
PREFERENTIAL RUNWAY USE (PROGRAM)	A noise abatement action whereby the FAA Air Traffic Division, in conjunction with the FAA Airports Division and Aviation System Standards Division, assists the airport sponsor in developing a program that gives preference to the use of a specific runway(s), unless weather or other conditions prevail, to reduce overflights of noise-sensitive areas.
RUNWAY	A defined rectangular area on an airport for the purpose of landing and taking off of aircraft. Runways are numbered in relation to their magnetic direction, rounded to the nearest 10 degrees (i.e., Runway 14, Runway 32).
SINGLE EVENT	Noise generated by a single event, such as a single aircraft flyover.

Term	Definition
SOUND EXPOSURE LEVEL (SEL)	SEL is a time-integrated measure, expressed in decibels, of the sound energy of a single noise event. The sound level is integrated over the period that the level exceeds a threshold (normally 65 dBA for aircraft noise events). Therefore, SEL accounts for the duration of the sound. SELs for aircraft noise events depend on the location of the aircraft, the type of operation (landing, takeoff, or overflight), and the type of aircraft.
SOUND INSULATION	(1) The use of structures and materials designed to reduce the transmission of sound from one room or area to another, or from the exterior to the interior of a building. (2) The degree of reduction in sound transmission, or noise level reduction, by means of sound insulating structures and materials.
SOUND LEVEL (NOISE LEVEL)	The weighted sound pressure level obtained by the use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.
SOUND LEVEL METER	An instrument consisting of a microphone, an amplifier, an output meter, and frequency-weighting networks used to measure noise and sound levels in a specified manner.
STANDARD INSTRUMENT DEPARTURE (SID)	A preplanned and published instrument departure route.
STANDARD TERMINAL ARRIVAL ROUTE (STAR)	A preplanned and published instrument arrival route.
TERMINAL INSTRUMENT PROCEDURES (TERPS)	Certain airspace needs to be cleared for aircraft operations. This airspace is determined by the application of operating rules and TERPS. Removing obstructions to air navigation, except those that an FAA aeronautical analysis determined need not be removed, satisfies these requirements. Subpart C of 14 CFR Part 77 defines obstructions to air navigation. (See FAA Handbook 8260.3B.)
TERMINAL AREA FORECAST (TAF)	The TAF is the official FAA forecast of aviation activity for U.S. airports. Forecasts are prepared for major users of the National Airspace System including air carrier, air taxi/commuter, general aviation, and military.
TERMINAL RADAR APPROACH CONTROL (TRACON)	Radar approach facility generally serving more than one airport, providing separation; safety alerts; and sequencing of arrival, departure, and transitioning air traffic.
UNACCEPTABLE	DNL above 75 decibels-Noise exposure at the site is so severe that the construction cost to make the indoor noise environment acceptable may be prohibitive and the outdoor environment would still be unacceptable.
VERY HIGH FREQUENCY (VHF) OMNIDIRECTIONAL RANGE (VOR)	A radio transmitter facility in the navigation system radiating a VHF radio wave modulated by two signals, the relative phases of which are compared, resolved, and displayed by a compatible airborne receiver to give the pilot a direct indication of bearing relative to the facility.
VISUAL APPROACH	An approach to an airport wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of a radar facility and having air traffic control authorization, may deviate from the prescribed instrument approach procedure and proceed to and land at the airport of destination, served by an operational ATCT, by visual reference to the surface.
VISUAL APPROACH SLOPE INDICATOR (VASI)	An airport lighting facility in the terminal area navigation system used primarily under VFR conditions. It provides vertical visual guidance to indicate whether the aircraft is on, above, or below the glide slope to the runway.
VISUAL FLIGHT RULES (VFR)	A set of regulations that a pilot may operate under when weather conditions meet certain minimum requirements. The requirements are designed to provide sufficient visibility so that other aircraft can be seen and avoided. Under VFR, the pilot generally controls the attitude of the aircraft by relying on what can be seen out the window, although this may be supplemented by referring to the instrument panel.

Term	Definition
ZONING AND ZONING ORDINANCES	Ordinances that divide a community into zones or districts according to the current and potential use of properties for the purpose of controlling and directing the use and development of those properties. Zoning is concerned primarily with the use of land and buildings, the height and bulk of buildings, the proportion of a lot that buildings may cover, and the density of population of a given area. As an instrument for noise compatibility plan implementation, zoning deals principally with the use and development of privately owned land and buildings. The objectives of zoning are to establish regulations that provide locations for all essential uses of land and buildings and ensure that each use is located in the most appropriate place. In noise compatibility planning, zoning can be used to achieve two major aims: (1) to reinforce existing compatible land uses and promote the location of future compatible uses in vacant or underdeveloped land, and (2) to convert existing incompatible uses to compatible uses over time.

SOURCE: Environmental Science Associates, 2020.

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A-2 Acronyms List

ACRONYMS LIST

AAD	Average Annual Day
AC	Advisory Circular
ACI	Airport Council International
AEDT	Aviation Environmental Design Tool
AEE	Office of Environment and Energy
AGL	Above Ground Level
ANAC	Airport Noise Abatement Committee
ANCA	Airport Noise and Capacity Act of 1990
ANOMS	Airport Noise and Operations Management System
ARFF	Aircraft Rescue and Fire Fighting
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
BCAD	Bexar County Appraisal District
CAT	Category
CBP	Customs and Border Protection
CFR	Code of Federal Regulations
COVID-19	Coronavirus Disease 2019
dB	Decibel
dBA	A-weighted decibel
DME	Distance Measuring Equipment
DNL	Day-Night Average Sound Level
DP	Departure Procedure
ESA	Environmental Science Associates
FAQ	Frequently Asked Questions
FAA	Federal Aviation Administration
FBO	Fixed Base Operator
GA	General Aviation
GIS	Geographic Information System
GPS	Global Positioning System
GRE	Ground Run-up Enclosure
GS	Glide Slope
HIRL	High Intensity Runway Lighting
Hz	Hertz
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
Leq	Equivalent Noise Level
Lmax	Maximum Sound Level
LOC	Localizer

MALSR	Medium Intensity Approach Light System with Runway Alignment Indicator Lights
MRO	Maintenance, Repair and Overhaul
MSL	Mean Sea Level
NAS	National Airspace System
NAVAIDS	Navigational Aids
NCDC	National Climate Data Center
NCP	Noise Compatibility Program
NDB	Non-Directional Beacon
NEM	Noise Exposure Map
NLR	Noise Level Reduction
NMT	Noise Monitoring Terminal
NOMS	Noise and Operations Management System
NPIAS	National Plan of Integrated Airport Systems
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
RATP	Residential Acoustical Treatment Program
RCC	Rental Car Center
RNAV	Area Navigation
RNP	Required Navigation Performance
RWY	Runway
SAAS	San Antonio Airport System
SARA	San Antonio River Authority
SAT	San Antonio International Airport
SDP	Strategic Development Plan
SEL	Sound Exposure Level
STAR	Standard Terminal Arrival
TACAN	Tactical Air Navigation
TAF	Terminal Area Forecast
TRACON	Terminal Radar Approach Control
TSA	Transportation Security Administration
TWY	Taxiway
UPS	United Parcel Service
VFR	Visual Flight Rules
VHF	Very High Frequency
VOR	VHF Omni Directional Radar Beacon
VOR/DME	VHF Omni Directional Radar Beacon with Distance Measuring Equipment
VORTAC	VHF Omni Directional Range with Tactical Aircraft Approach & Navigation

Appendix B
Aircraft Activity Forecast

APPENDIX B

Aircraft Activity Forecast

This Appendix includes aircraft activity forecast and operational data associated with the San Antonio International Airport (SAT) Part 150 Noise Exposure Map Update Report. Appendix B-1 includes the approach to forecasting aircraft activity levels at SAT for the 2021 Existing Conditions and 2026 Future Conditions. Appendix B-2 provides aircraft operational data for SAT used in the Federal Aviation Administration's (FAA's) Aviation Environmental Design Tool (AEDT) to model noise exposure in the 2021 Existing Conditions and 2026 Future Conditions. Average Annual Day operations are required for use in 14 Code of Federal Regulations Part 150, as modeled by the AEDT.

- Appendix B-1 Airport Forecast
  - Forecast Methodology for 2021 Existing Conditions and 2026 Future Conditions
  - 2021 Existing Conditions Correspondence with FAA
  - 2026 Future Conditions Correspondence with FAA
- Appendix B-2 Operational Data
  - Table B-2.1: 2021 Existing Conditions Annual Average Day AEDT Aircraft Arrival Operations
  - Table B-2.2: 2021 Existing Conditions Annual Average Day AEDT Aircraft Departure Operations
  - Table B-2.3: 2026 Future Conditions Annual Average Day AEDT Aircraft Arrival Operations
  - Table B-2.4: 2026 Future Conditions Annual Average Day AEDT Aircraft Departure Operations
  - Table B-2.5: Annual Aircraft Operations by Time of Day –2021 Existing Conditions
  - Table B-2.6: Annual Aircraft Operations by Time of Day – 2026 Future Conditions
  - Table B-2.7: Departure Stage Length by AEDT Aircraft Type – 2021 Existing Conditions
  - Table B-2.8: Departure Stage Length by AEDT Aircraft Type – 2026 Future Conditions
  - Table B-2.9: Arrival Runway Use by Aircraft Category and Time of Day – 2021 Existing Conditions

- Table B-2.10: Departure Runway Use by Aircraft Category and Time of Day – 2021 Existing Conditions
- Table B-2.11: Touch and Go Runway Use by Aircraft Category and Time of Day – 2021 Existing Conditions/2026 Future Conditions
- Table B-2.12: Helicopter Runway Use by Time of Day – 2021 Existing Conditions/2026 Future Conditions
- Table B-2.13: Arrival Runway Use by Aircraft Category and Time of Day –2026 Future Conditions
- Table B-2.14: Departure Runway Use by Aircraft Category and Time of Day – 2026 Future Conditions
- Table B-2.15: Fixed Wing Aircraft Arrival Flight Track Use – 2021 Existing Conditions
- Table B-2.16: Fixed Wing Aircraft Departure Flight Track Use –2021 Existing Conditions
- Table B-2.17: Fixed Wing Aircraft Touch and Go Flight Track Use – 2021 Existing Conditions/2026 Future Conditions
- Table B-2.18: Helicopter Arrival Flight Track Use – 2021 Existing Conditions/2026 Future Conditions
- Table B-2.19: Helicopter Departure Flight Track Use – 2021 Existing Conditions/2026 Future Conditions
- Table B-2.20: Fixed Wing Aircraft Arrival Flight Track Use –2026 Future Conditions
- Table B-2.21: Fixed Wing Aircraft Departure Flight Track Use – 2026 Future Conditions
- Table B-2.22: Annual Average Day Engine Runup Operations – 2021 Existing Conditions/2026 Future Conditions

B-1 Airport Forecast

Airport Forecast

Forecast Methodology for 2021 Existing
Conditions and 2026 Future Conditions

November 19, 2020

Ms. Sarah Conner
Program Manager, ASW-650
Texas Airports District Office
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, Texas 76177

Re: Part 150 Noise Exposure Map Update – Airport Improvement Program (AIP) 3-48-0192-90-2017
San Antonio International Airport (SAT or Airport)

Dear Ms. Conner,

This letter provides the planned methodology for your review and approval to develop the aircraft operations and fleet mix forecast. This forecast will be used in the development of the 2026 Future Conditions Noise Exposure Map (NEM) as part of the Part 150 NEM Update at SAT. The development of this methodology is in response to the FAA's recent guidance for current planning studies during COVID-19, provided to SAT in October 2020 and further clarified during our discussion on November 3, 2020 between representatives from the FAA, Airport, and the Airport's consultant team. This methodology will also promote public confidence in the NEM maps.

Several items relative to this methodology are discussed in more detail below:

1. Current project status of the NEM Update.
2. SAT's recovery from the impact of the slow-down in aviation traffic due to COVID-19.
3. Planned methodology for the development of the 2026 aviation demand forecast used to prepare the 2026 Future Conditions NEM.
4. Future SDP forecasting activities and implications on the NEM Update.

In order to maintain the overall project schedule discussed in our November 3rd discussion, we will need to have FAA approval of our planned methodology by the end of November 2020.

NEM Status

The current NEM Update schedule has an anticipated completion date of May 2021. Completing the project by this date will ensure timely closeout of the AIP grant for the project. To date, the process has included the preparation of the existing land use map and the Baseline Year 2021 NEM. The 2021 NEM was developed using operations, fleet mix, and runway usage data from calendar year 2019, the last full calendar year of activity.

During the week of October 25, 2020, SAT held four virtual public workshops. The workshop format included a formal presentation of the NEM Update process and the 2021 Existing Conditions NEM. These workshops were well attended, and comments are currently being collected and addressed by Airport staff and the consultant team.

Future activities include the preparation of the draft NEM Update Report, conducting a second round of virtual public workshops, and addressing all comments received during the process. The Airport intends to publish the draft NEM Update Report approximately 30 days prior to the planned workshops, which are tentatively scheduled for mid-February 2021. This report will contain the 2026 Future Conditions NEM.

The future activity development methodology outlined in this memo will need to be approved by the FAA prior to the preparation of the 2026 Future Conditions NEM. To meet the schedule of project activities outlined above, approval of this methodology must be obtained by the end of November 2020.

SAT Aviation Demand Recovery

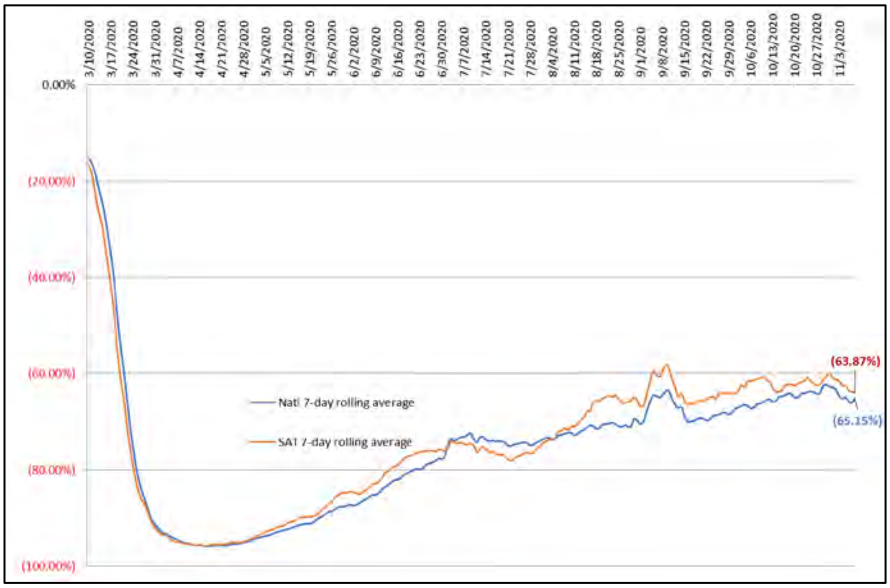
It is still too early to determine when SAT's and the nation's aviation activity will fully recover from the impact of the slow-down in aviation activity due to the impact of COVID-19. Some aviation sources, including airlines and aircraft manufacturers are currently estimating recovery as soon as 2023, while others are less optimistic with recovery occurring in 2025 or later.

Actual activity has been monitored on a regular basis since March 2020 at the beginning of the COVID-19 pandemic in the United States (U.S.) to determine how traffic trends at SAT are tracking with the U.S., as well as to measure against SAT activity in 2019. In the development of the methodology outlined below for the 2026 Future Conditions NEM forecast, several factors were considered:

1) A comparison of TSA passenger screening data from 2019 to 2020 for both SAT and the nation.
2) A comparison of monthly aircraft operations at SAT in 2020 to the same month of 2019.
3) Permanent changes in the fleet mixes of airlines serving SAT since early 2020.

The figure below presents a comparison of the passenger seven-day rolling average of departing passengers for 2020 with 2019 in terms of passengers for both SAT and the U.S. SAT is down approximately 60 percent in 2020 from the same week in 2019 for the latter part of October. However, SAT is doing better than the U.S., which was down approximately 65 percent during the same time period. This indicates that SAT is ahead of the nation overall in terms of the speed of recovery from the initial impacts of COVID-19.

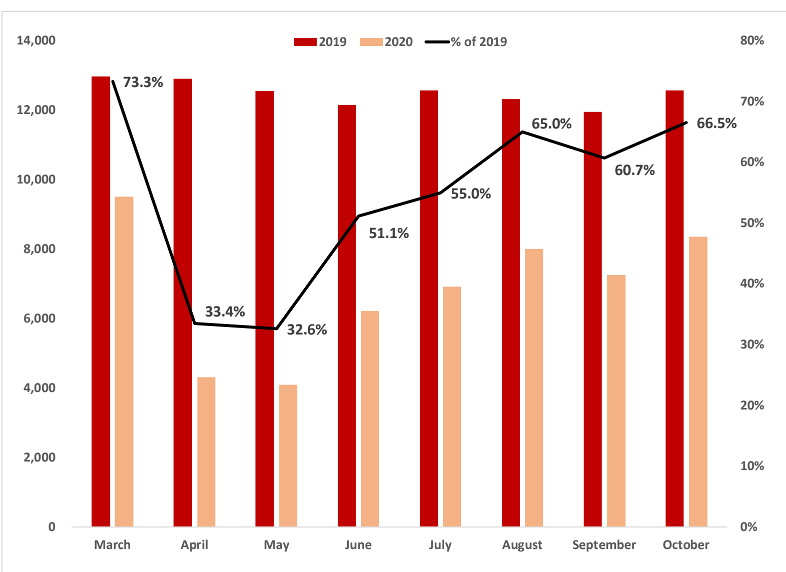
Seven-Day Rolling Average Percentage of Passenger Decline 2020 versus 2019



Source: TSA and SAT statistics

The figure below presents a comparison of monthly aircraft operations from 2020 versus 2019 at SAT. As shown, aircraft operations in 2020 as a percentage of aircraft operations for the same month in 2019 were approximately 33 percent in April compared to 64 percent in October. This trend is similar to the trend for passengers shown above.

Comparison of Total Aircraft Operations by Month 2019 versus 2020



Source: ANOMs Data; Compiled by WSP.

Given the rates of recovery experienced thus far for both passengers and aircraft operations, it is possible that SAT will recover to pre-COVID-19 levels by the end of 2022, which would shift the approved forecast curve two years – meaning 2020 traffic will be realized in 2022 and 2024 traffic would be realized in 2026. This estimate considers the slowing of recovery in the late-Summer/early-Fall timeframe of an average of three (3) percent per month recovery in aircraft operations.

At the outset of COVID-19, airlines grounded many of their aircraft due to severe cuts in scheduled service. As a result of these groundings, several airlines currently serving SAT have announced permanent and/or early retirement of certain aircraft or plans to retire certain types of aircraft in the next couple of years. The following table presents the aircraft that have been announced for either permanent retirement or early retirement by several major carriers in the U.S. Because of these anticipated changes in the fleet mix, it is anticipated that there will be some slight modifications that will need to be made to the fleet mix contained in the approved forecast to account for these retirements. The operations on these aircraft are expected to be replaced with the re-entry of the B737-Max and A220 aircraft. In addition, as the airlines are smaller, they will be focusing on mid-sized markets such as SAT and reducing service to smaller cities such as Corpus Christi.

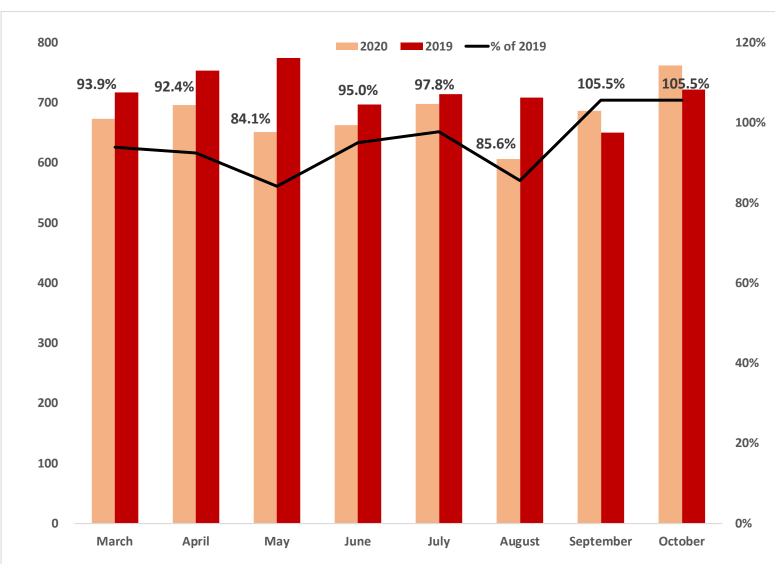
Announced Aircraft Retirements through November 2020

American	B757, B767-300, E190, A330-300, A330-200, MD-80, CRJ-200 (PSA Airlines), CRJ-700 & ERJ-145 (Envoy/American Eagle)
Alaska	A319
Delta	B717, B767-300 ER, B777 (forthcoming), MD-88 MD-90, Boeing 717, and 767-300ER, CRJ200, B757s, B737-700, A320
United	B757, B767 (forthcoming)

Sources: Airline websites; Compiled by WSP

Another factor that could potentially have an impact to the projected fleet mix for SAT is the changes in all-cargo operations experienced since the beginning of the COVID-19 pandemic. The figure below presents a comparison of the number of cargo aircraft operations from March 2020 to October 2020 to the same months in 2019. Whiles cargo aircraft operations were similar or slightly greater to what they were during the same time period in 2019, the types of aircraft flown may have changed.

Comparison of Cargo Aircraft Operations by Month 2019 versus 2020



Source: ANOMs Data; Compiled by WSP

Proposed NEM Update Future Conditions Year Approach

In accordance with guidance provided in 14 CFR Part 150, NEMs must provide noise contours for the Baseline, or Existing Conditions, Year, which is the same year in which the NEMs are submitted to the FAA for acceptance (2021), and the Future Conditions Year, which is typically five years from the Baseline Year (2026).

The Airport and our noise-subconsultant Environmental Science Associates (ESA) initiated the NEM Update process in January 2020. During that time, it was expected that:

- Airport operations for the Baseline Year 2021 would be based on the most reliable, recent, and complete year of operational profile data, which was determined to be 2019. The 2019 operations and fleet mix profile would be adjusted and applied to the 2021 operations forecast provided by the Airport's master plan team and would be used to develop the 2021 Baseline Year NEM's 2021 DNL 65, 70, and 75 contours.

- Airport operations for the Future Conditions Year 2026 would be based on the same 2019 operational data and would be adjusted based on the 2026 forecast provided by the Airport's master plan team to develop the NEM's Future Conditions Year 2026 DNL 65, 70, and 75 contours.

As previously discussed, the COVID-19 pandemic has resulted in significant reductions in aviation activity at the Airport and across the globe. As shown in the prior section, SAT is tracking slightly ahead of the nation regarding the recovery in passengers since the reductions in aviation demand began in March 2020 and aircraft operations have steadily increased during that time. Because of the uncertainty related to when Airport operations might return to pre-COVID levels, the consultant team developed an alternative approach to developing both the Baseline and Future Conditions noise contours for the NEM Update that is based on the trends presented above.

The development of the 2021 Baseline Year NEM was discussed with the FAA in June 2020. For the 2021 Baseline Year, aircraft operations were based solely on 2019 data, which was approximately 164,000 aircraft operations in 2019 compared to approximately 177,000 aircraft operations projected for 2021 in the FAA-approved Strategic Development Plan (SDP) or Master Plan forecast. No increase in operations, in accordance with the 2021 forecast, was applied. Given the impact of the pandemic, it is likely that 2021 operational activity will be closer to 2019 levels, as opposed to the levels projected SDP aviation demand forecast for 2021. Essentially, this approach applied a two-year delay in operational growth. Accordingly, the 2021 Baseline Year NEM's DNL 65, 70, and 75 contours were based on 2019 Airport operations.

The approach to developing aircraft operations and fleet mix for the Future Conditions Year 2026 includes an adjustment to reflect a similar two-year delay in aviation demand growth. In addition, some adjustments to the approved projected aircraft fleet mix for 2024 will be made to show the impact of the permanent retirement of certain aircraft by the airlines for use in the Future Conditions Year 2026 NEM development. Therefore, the 2026 aircraft operations and fleet mix would be based on the FAA-approved 2024 SDP aviation demand forecast at 185,500 aircraft operations instead of the 2026 forecast of 189,800 aircraft operations with some adjustments for the fleet mix aircraft retirements. Accordingly, the 2026 Future Conditions NEM's DNL 65, 70, and 75 contours would be based on 2024 forecasted aircraft operations as described above. In terms of noise exposure, applying this methodology is conservative as traffic may not rebound as quickly as SAT is currently experiencing given the recent surge in COVID-19 cases nationwide, providing more credibility to the community.

Conclusion

Based on the experienced judgment of our consultant team and the widespread uncertainty of future aviation activity levels, the alternative methodology provides the most reasonable and transparent approach to preparing the most realistic and accurate NEMs as possible. As such, we are requesting your concurrence with our recommended alternative approach. As previously mentioned, we will need to have concurrence no later than the end of November 2020 in order to move forward with the NEM update as planned and to also not have a major impact on the overall schedule for the SDP, which is currently expected to be completed in late 2021. If the updated SDP demand forecast results in a higher 2026 demand than what was used for the 2026 Future Conditions NEM, we will review the difference and determine if an update to the 2026 Future Conditions NEM is required to reflect the revised forecast and provide them to the public. Our pending submittal of our annual ACIP will include a FY2022 NEM Update project in case this scenario does occur. It is not proposed at this time that a formal revision to the FAA-approved aviation demand forecast for the SDP be made. However, early in 2021 the consultant team will revisit SAT's recovery from the impacts of COVID-19 to determine if a clearer long-term aviation demand outlook does exist, and whether the forecast should be revised after consultation with the FAA's Airports District Office (ADO).

Thank you in advance for your attention to our request for review and approval.

Sincerely,

Susan St. Cyr

Susan St. Cyr, P.E., C.M.
Strategic Development Plan Project Manager
San Antonio Airport System

cc: John MacFarlane, Michael Branum, Dean McMath - FAA
Tom Bartlett, Syed Mehdi, Debbie Drew, Steve Southers, Joshua Heiss, Ryan Hall – SAT

Airport Forecast

2021 Existing Conditions
Correspondence with FAA

From: MacFarlane, John (FAA) [mailto:John.MacFarlane@faa.gov]
Sent: Tuesday, June 16, 2020 11:09 AM
To: Steven Southers (Aviation)
Cc: Joshua Heiss (Aviation)
Subject: RE: NEM - FW: [EXTERNAL] Signed FAA Ops Memo

Steven/Josh,

Per the regulations, you must use the previous calendar year, 2019, or the past 12 months. It would be permissible to use the previous 12 month period pre-COVD-19, March 2019 to Feb 2020, if you wish. I agree with using 2026 as your forecast year.

III. Noise Exposure Maps General Requirements, B. In accordance with § 150.21, the existing condition map must be based on current data *as of the date of submission* (i.e., the year of submission) to the FAA regional or district office. This data may represent the previous full calendar year, or the past 12 months (which may overlap calendar years).

From: Steven Southers (Aviation) <Steven.Southers@sanantonio.gov>
Sent: Monday, June 15, 2020 5:52 PM
To: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>
Cc: Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>
Subject: FW: NEM - FW: [EXTERNAL] Signed FAA Ops Memo

John:
I hope you are well. Is there any information we can provide to you? We need to know which way you want to go on the question of what is a representative year to use as a baseline.
Steve S.

From: Steven Southers (Aviation)
Sent: Friday, June 5, 2020 11:22 AM
To: John MacFarlane (john.macfarlane@faa.gov)
Cc: Joshua Heiss (Aviation)
Subject: FW: NEM - FW: [EXTERNAL] Signed FAA Ops Memo

John:

Please consider our request to choose 2021 as the base year for the Part 150 Noise Exposure Map.

Thanks,
Steve

From: Joshua Heiss (Aviation)
Sent: Friday, June 05, 2020 10:30 AM
To: Steven Southers (Aviation) <Steven.Southers@sanantonio.gov>
Subject: NEM - FW: [EXTERNAL] Signed FAA Ops Memo

Steve,

Can you please forward this signed memo up to Dean McMath and John McFarlane? We want to be sure that the FAA is in agreement with our approach on the baseline year and forecast for our NEM update.

We welcome any questions and appreciate their support. If they have any questions, we can coordinate a call with Neal Wolfe.

Thanks,

Joshua

Joshua Heiss
Noise Abatement and Special Projects Manager
San Antonio International Airport
Office: 210-207-3847
Fax: 210-207-3544

CITY OF SAN ANTONIO
AVIATION DEPARTMENT

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407.403.6300 phone
407.403.6301 fax

esassoc.com

memorandum

date	June 5, 2020
to	Steve Southers
cc	Josh Heiss
from	Neal Wolfe
subject	Confirmation of Baseline and Future Conditions Aircraft Operations for Noise Exposure Map Update

In accordance with guidance provided in 14 CFR Part 150, noise exposure maps (NEMs) must provide noise contours for the Baseline Year, which is the same year in which the NEMs are submitted to the Federal Aviation Administration (FAA) for acceptance, and the Future Conditions Year, which is typically five years from the Baseline Year. For the San Antonio International Airport (the Airport), the Baseline Year is 2021 and the Future Conditions Year is 2026. As the Airport and ESA initiated the NEM Update process in January 2020, it was expected that:

- Airport operations for the Baseline Year 2021 would be based on the most reliable, recent, and complete year of operational profile data, which was determined to be 2019. The 2019 operations and fleet mix profile would be adjusted and applied to the 2021 operations forecast provided by the Airport's master plan team and would be used to develop the NEM's Baseline Year 2021 DNL 65, 70, and 75 contours.

- Airport operations for the Future Conditions Year 2026 would be based on the same 2019 operational data and would be adjusted based on the 2026 forecast provided by the Airport's master plan team to develop the NEM's Future Conditions Year 2026 DNL 65, 70, and 75 contours.

The recent COVID-19 pandemic has resulted in significant reductions in aviation activity at the Airport and across the globe. While the impacts are expected to be somewhat temporary in nature, it is not clear when industry activity will return to pre-COVID levels. Some analysts are predicting a fairly quick rebound, while others are predicting a longer-term journey. Given the (1) existing significant drop in activity at the Airport and (2) the uncertainty in when Airport operations will return to pre-COVID levels, we feel it prudent to adopt an alternative approach to developing the Baseline and Future Conditions noise contours for the NEM Update, which consists of:

- Airport operations for the Baseline Year 2021 would be based solely on 2019 operations data. No increase in operations, in accordance with the 2021 forecast, would be applied. While it is unknown what Airport operations will be in 2021, the industry is starting to see a slight upwards trending of operations across the country, so it is highly likely that they will be higher than they currently are during the pandemic. Additionally, it is highly likely that 2021 operational activity will be closer to 2019 levels, as opposed to the levels projected in the 2021 forecast. Essentially, this approach applies a two-year delay in operational growth. Accordingly, the NEM's Baseline Year 2021 DNL 65, 70, and 75 contours would be based on 2019 Airport operations.

- Airport operations for the Future Conditions Year 2026 would be adjusted to reflect a similar two-year delay in growth; as such, 2026 operations and fleet mix would be based on the 2024 master plan forecast instead of the 2026 forecast. Accordingly, the NEM's Future Conditions Year 2026 DNL 65, 70, and 75 contours would be based on 2024 forecasted Airport operations.

Based on our experienced judgment and the widespread uncertainty of future aviation activity levels, we think our alternative methodology provides the most reasonable and transparent approach to preparing the most realistic and accurate NEMs as possible. As such, we are requesting your concurrence with our recommended alternative approach.

Airport Forecast

2026 Future Conditions
Correspondence with FAA

From: Susan St Cyr (Aviation) <Susan.StCyr@sanantonio.gov>
Sent: Monday, November 30, 2020 6:49 PM
To: John A. Van Woensel <john.vanwoensel@wsp.com>; Beach, Tracy <tracy.beach@wsp.com>; Mark Kuttrus (mark.kuttrus@wsp.com) <mark.kuttrus@wsp.com>; gretchen@gretchenroufs.com; Michael Arnold <MArnold@ESASSOC.com>; Neal Wolfe <NWolfe@esassoc.com>
Subject: Fwd: [EXTERNAL] RE: SAT Part 150 NEM Update (AIP 3-48-0192-90-2017) - Future Year Forecast Methodology - For Review and Approval

FYI. They met our deadline

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From: Susan St Cyr (Aviation) <Susan.StCyr@sanantonio.gov>
Sent: Monday, November 30, 2020 5:44 PM
To: Conner, Sarah (FAA)
Cc: Thomas Bartlett (Aviation); Syed Mehdi (Aviation); Debbie Drew (Aviation); Steven Southers (Aviation); Joshua Heiss (Aviation); Ryan Hall (Aviation)
Subject: Re: [EXTERNAL] RE: SAT Part 150 NEM Update (AIP 3-48-0192-90-2017) - Future Year Forecast Methodology - For Review and Approval

Sarah,
Thank you so much for the advance email of your determination. I really appreciate your efforts to help keep our schedule. Have a great evening!!

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From: Conner, Sarah (FAA) <Sarah.Conner@faa.gov>
Sent: Monday, November 30, 2020 5:38:10 PM
To: Susan St Cyr (Aviation) <Susan.StCyr@sanantonio.gov>
Cc: Thomas Bartlett (Aviation) <Thomas.Bartlett@sanantonio.gov>; Syed Mehdi (Aviation) <Syed.Mehdi@sanantonio.gov>; Debbie Drew (Aviation) <Debbie.Drew@sanantonio.gov>; Steven Southers (Aviation) <Steven.Southers@sanantonio.gov>; Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>; Ryan Hall (Aviation) <Ryan.Hall@sanantonio.gov>
Subject: [EXTERNAL] RE: SAT Part 150 NEM Update (AIP 3-48-0192-90-2017) - Future Year Forecast Methodology - For Review and Approval

Susan

We are in concurrence with the rationale outlined in the attached methodology taking into account the impacts of COVID-19 on the industry for 2026. Please let us know if you need anything else. I will follow-up with a formal letter once everyone (including myself) is back in the office (tomorrow).

Thanks!

Sarah Conner
Program Manager
TxADO

From: Susan St Cyr (Aviation) <Susan.StCyr@sanantonio.gov>
Sent: Thursday, November 19, 2020 2:07 PM
To: Conner, Sarah (FAA) <Sarah.Conner@faa.gov>
Cc: MacFarlane, John (FAA) <John.MacFarlane@faa.gov>; Branum, Michael (FAA) <Michael.Branum@faa.gov>; McMath, Dean (FAA) <Dean.Mcmath@faa.gov>; Thomas Bartlett (Aviation) <Thomas.Bartlett@sanantonio.gov>; Syed Mehdi (Aviation) <Syed.Mehdi@sanantonio.gov>; Debbie Drew (Aviation) <Debbie.Drew@sanantonio.gov>; Steven Southers (Aviation) <Steven.Southers@sanantonio.gov>; Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>; Ryan Hall (Aviation) <Ryan.Hall@sanantonio.gov>
Subject: SAT Part 150 NEM Update (AIP 3-48-0192-90-2017) - Future Year Forecast Methodology - For Review and Approval

Sarah,
Please find attached for your review and approval, San Antonio International Airport's (SAT's) NEM Update planned methodology – with supporting information – for the 2026 Future Year forecast. We believe this methodology takes into account the COVID-19 impacts to the aviation industry for the near term as well as SAT's anticipated recovery.

As we discussed in our November 3rd coordination call, the project is on a tight timeline to keep on the existing schedule. We will need FAA's approval of this methodology by the end of November 2020 in order to maintain the schedule. If you foresee that this isn't possible, please contact me so that we can further coordinate activities.

As always, we appreciate your assistance with our projects here at SAT. Please do not hesitate to reach out if there are any questions or concerns.

Susan St. Cyr, P.E., C.M.
Special Projects Manager
San Antonio Airport System
(210) 207-3559 Office
(210) 219-2761 Cell

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B-2 Operational Data

Table B-2.1
2021 Existing Conditions Annual Average Day AEDT Aircraft Arrival Operations

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
Widebody	Airbus A300F4-600 Series	1GE020	NONE	0.0450	0.0300	0.0751
	Airbus A300F4-600 Series	1PW048	NONE	0.3332	0.6305	0.9637
	Airbus A310-300 Series	1PW045	NONE	0.2884	0.3211	0.6094
	Airbus A330-200 Series	2RR023	NONE	0.0015	--	0.0015
	Airbus A330-300 Series	4PW067	NONE	0.0045	--	0.0045
	Airbus A340-300 Series	7CM049	NONE	0.0075	--	0.0075
	Airbus A350-900 series	18RR079	NONE	0.0040	0.0020	0.0060
	Boeing 747-400 Series	1GE024	NONE	0.0138	0.0028	0.0165
	Boeing 767-200 Series	2GE054	NONE	0.0180	--	0.0180
	Boeing 767-200 Series	8PW086	NONE	0.0060	--	0.0060
	Boeing 767-300 ER	12PW101	NONE	--	0.0060	0.0060
	Boeing 767-300 Freighter	2GE048	NONE	0.2550	0.0528	0.3077
	Boeing 767-300 Series	1GE030	NONE	0.2949	0.0173	0.3122
	Boeing 767-300 Series	2GE054	NONE	0.2484	0.0818	0.3302
	Boeing 767-300 Series	3GE058	NONE	0.0135	--	0.0135
	Boeing 777-200 Series	2PW061	NONE	0.0108	0.0027	0.0135
	Boeing 777-300 ER	7GE099	NONE	0.0045	--	0.0045
	Boeing 787-8 Dreamliner	17GE177	NONE	0.0030	0.0060	0.0090
	Boeing 787-9 Dreamliner	11GE138	NONE	0.0510	--	0.0510
	Boeing 787-9 Dreamliner	17GE177	NONE	0.0150	0.0030	0.0180
	Boeing DC-10-10 Series	1GE003	NONE	0.1882	0.0294	0.2177
	Boeing DC-10-30 Series	3GE074	NONE	0.1426	0.4128	0.5554
	Boeing DC-10-40 Series	1PW033	NONE	0.0015	--	0.0015
	Boeing MD-10-1 Freighter	1GE001	NONE	0.0533	0.0142	0.0675
	Boeing MD-10-30	3GE074	NONE	0.0058	0.0318	0.0375
	Boeing MD-11 Freighter	2GE049	NONE	1.2572	0.9584	2.2156
	Ilyushin 76 Candid Freighter	13AA006	NONE	0.0030	--	0.0030
Narrowbody	Airbus A220-100	20PW133	NONE	0.0132	0.0033	0.0165
	Airbus A319-100 Series	3CM027	NONE	0.2942	--	0.2942
	Airbus A319-100 Series	3CM028	NONE	2.7590	0.5644	3.3234
	Airbus A319-100 Series	3IA006	NONE	2.2092	0.3832	2.5924
	Airbus A319-100 Series	3IA007	NONE	3.8320	0.5602	4.3922
	Airbus A319-100 Series	4CM036	NONE	0.3029	0.0394	0.3422
	Airbus A319-100 Series	6CM044	NONE	0.2169	0.6447	0.8616
	Airbus A319-100 Series	8CM056	NONE	0.5496	0.0299	0.5794

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
Narrowbody (cont.)	Airbus A319-100 Series	8IA009	NONE	0.0105	--	0.0105
	Airbus A320-200 Series	1CM008	NONE	0.7326	0.3797	1.1123
	Airbus A320-200 Series	1CM009	NONE	0.7465	0.2848	1.0312
	Airbus A320-200 Series	1IA003	NONE	2.2769	0.5752	2.8521
	Airbus A320-200 Series	2CM014	NONE	0.0144	0.0096	0.0240
	Airbus A320-200 Series	3CM026	NONE	3.7002	0.5734	4.2736
	Airbus A320-200 Series	3CM027	NONE	0.0030	--	0.0030
	Airbus A320-200 Series	8CM055	NONE	0.0791	0.0049	0.0841
	Airbus A320-200 Series	8IA010	NONE	0.9487	--	0.9487
	Airbus A320-NEO	18PW122	NONE	0.2822	--	0.2822
	Airbus A320-NEO	20CM089	NONE	1.6530	0.4110	2.0640
	Airbus A321-200 Series	3CM025	NONE	2.2745	1.1074	3.3819
	Airbus A321-200 Series	3IA008	NONE	2.8510	0.4619	3.3129
	Airbus A321-200 Series	8CM054	NONE	0.0162	0.0243	0.0405
	Airbus A321-NEO	20CM090	NONE	0.0060	--	0.0060
	Airbus A321-NEO	8CM053	NONE	0.0555	--	0.0555
	Boeing 717-200 Series	4BR007	NONE	0.2827	0.5354	0.8181
	Boeing 727-200 Series Freighter	1PW012	FDX-HW	--	0.0030	0.0030
	Boeing 727-200 Series Freighter	1PW018	NONE	0.0030	0.0030	0.0060
	Boeing 737-300 Series	1CM007	NONE	0.0570	--	0.0570
	Boeing 737-400 Series	1CM007	NONE	0.0931	--	0.0931
	Boeing 737-500 Series	1CM007	NONE	0.0240	--	0.0240
	Boeing 737-700 Series	3CM030	NONE	1.2512	0.2979	1.5491
	Boeing 737-700 Series	3CM031	NONE	3.2376	0.8139	4.0514
	Boeing 737-700 Series	3CM032	NONE	27.9615	6.2783	34.2398
	Boeing 737-700 Series	8CM051	NONE	0.2479	0.0478	0.2957
	Boeing 737-8	20CM098	NONE	--	0.0045	0.0045
	Boeing 737-8	20CM099	NONE	0.0150	--	0.0150
	Boeing 737-8	20CM101	NONE	0.2402	0.0781	0.3182
	Boeing 737-800 Series	11CM078	NONE	7.7622	2.8655	10.6277
	Boeing 737-800 Series	3CM032	NONE	7.1848	3.7116	10.8964
	Boeing 737-800 Series	3CM034	NONE	0.6064	0.0961	0.7025
	Boeing 737-800 Series	8CM051	NONE	3.0729	1.1166	4.1895
	Boeing 737-800 Series	8CM065	NONE	0.0197	0.0028	0.0225

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
Narrowbody (cont.)	Boeing 737-9	20CM100	NONE	0.0030	--	0.0030
	Boeing 737-900 Series	3CM032	NONE	0.0621	0.0414	0.1036
	Boeing 737-900 Series	8CM051	NONE	0.4465	0.0834	0.5299
	Boeing 737-900-ER	11CM078	NONE	1.0065	0.4360	1.4425
	Boeing 737-900-ER	8CM051	NONE	2.2071	0.3883	2.5954
	Boeing 737-900-ER	8CM065	NONE	0.0240	0.0090	0.0330
	Boeing 757-200 Series	3RR034	NONE	0.0310	0.0275	0.0585
	Boeing 757-200 Series	4PW072	NONE	0.2249	0.1864	0.4113
	Boeing 757-200 Series	4PW073	NONE	0.0043	0.0152	0.0195
	Boeing 757-200 Series	5RR038	NONE	0.0222	0.0333	0.0555
	Boeing 757-200 Series Freighter	4PW072	NONE	--	0.0300	0.0300
	Boeing 757-200 Series Freighter	4PW073	NONE	0.9487	1.1258	2.0745
	Boeing 757-200 Series Freighter	5RR038	NONE	0.0953	0.2710	0.3663
	Boeing 757-300 Series	3RR028	NONE	0.0203	0.0203	0.0405
	Boeing C-17A	PW2041	NONE	0.0060	--	0.0060
	Boeing DC-9-10 Series Freighter	1PW006	ABS	0.0090	0.0090	0.0180
	Boeing DC-9-30 Series Freighter	1PW007	ABS	0.0139	0.0056	0.0195
	Boeing E-8C	1PW001	NONE	0.0015	--	0.0015
	Boeing MD-82	4PW068	NONE	0.1343	0.0219	0.1561
	Boeing MD-83	1PW019	NONE	2.6689	0.6635	3.3324
	Boeing MD-87	1PW019	NONE	0.0060	--	0.0060
	Boeing MD-88	1PW019	NONE	0.1111	--	0.1111
	Boeing MD-90	1IA002	NONE	2.7278	0.1138	2.8416
	Boeing MD-90	1IA004	NONE	0.8317	0.0269	0.8586
Regional Jet	Bombardier Challenger 300	11HN003	NONE	1.6486	0.0537	1.7022
	Bombardier Challenger 300	14HN009	NONE	1.0698	0.0560	1.1258
	Bombardier Challenger 600	1TL001	NONE	0.5269	0.0180	0.5449
	Bombardier Challenger 601	1GE034	NONE	0.0360	--	0.0360
	Bombardier Challenger 604	5GE084	NONE	0.1832	0.0059	0.1891
	Bombardier CRJ-200	5GE084	NONE	0.1295	0.0086	0.1381
	Bombardier CRJ-200-ER	5GE084	NONE	0.1171	0.0030	0.1201
	Bombardier CRJ-700	5GE083	NONE	0.2233	0.0604	0.2837
	Bombardier CRJ-700	5GE084	NONE	0.2011	0.0060	0.2071

Table B-2.1
2021 Existing Conditions Annual Average Day AEDT Aircraft Arrival Operations

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
Regional Jet (cont.)	Bombardier CRJ-700	8GE112	NONE	0.0330	--	0.0330
	Bombardier CRJ-700-ER	5GE083	NONE	0.0195	--	0.0195
	Bombardier CRJ-700-ER	8GE112	NONE	1.1843	0.0691	1.2534
	Bombardier CRJ-900	8GE110	NONE	3.1796	0.6617	3.8413
	Bombardier CRJ-900-ER	8GE110	NONE	1.7635	0.2660	2.0295
	Bombardier Global 5000 Business	4BR009	NONE	0.0540	0.0060	0.0600
	Bombardier Global Express	4BR008	NONE	0.1006	--	0.1006
	Bombardier Global Express	4BR009	NONE	0.0240	--	0.0240
	Embraer ERJ135	6AL020	NONE	0.1264	0.0057	0.1321
	Embraer ERJ135-LR	6AL020	NONE	0.1091	0.0125	0.1216
	Embraer ERJ145-LR	4AL003	NONE	0.0765	0.0031	0.0796
	Embraer ERJ145-LR	6AL014	NONE	0.0496	0.0029	0.0525
	Embraer ERJ145-XR	6AL020	NONE	0.0435	--	0.0435
	Embraer ERJ170	8GE108	NONE	0.9174	0.0538	0.9712
	Embraer ERJ170-LR	8GE108	NONE	1.5979	0.2394	1.8373
	Embraer ERJ175	8GE108	NONE	0.5807	0.4280	1.0087
	Embraer ERJ175-LR	8GE105	NONE	0.0125	0.0100	0.0225
	Embraer ERJ175-LR	8GE108	NONE	7.1415	2.8332	9.9747
	Embraer ERJ190	11GE143	NONE	0.0259	0.0086	0.0345
	Embraer ERJ190	8GE116	NONE	0.4623	--	0.4623
	Embraer ERJ190-AR	11GE143	NONE	0.0346	0.0029	0.0375
	Embraer ERJ190-LR	10GE133	NONE	0.7130	--	0.7130
	United Aircraft Corp (Sukhoi) Superjet 100 95LR	11PJ002	NONE	1.1093	--	1.1093
General Aviation Jet	Bombardier Learjet 24	CJ6106	NONE	0.0030	--	0.0030
	Bombardier Learjet 25	PW610F	NONE	0.0060	--	0.0060
	Bombardier Learjet 31	1AS002	NONE	0.5464	0.0961	0.6425
	Bombardier Learjet 35	1AS001	NONE	0.9132	0.1300	1.0433
	Bombardier Learjet 35	1AS002	NONE	0.0420	--	0.0420
	Bombardier Learjet 40	TFE731	NONE	0.1637	0.0060	0.1696
	Bombardier Learjet 45	TFE731	NONE	1.1756	0.0298	1.2054
	Bombardier Learjet 55	1AS002	NONE	0.0795	0.0031	0.0826
	Bombardier Learjet 60	7PW078	NONE	0.6179	0.0381	0.6560
	Bombardier Learjet 70	1AS002	NONE	0.0075	--	0.0075
	Bombardier Learjet 75	1AS002	NONE	0.1051	--	0.1051

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Jet (cont.)	CASA C-101 Aviojet	1AS002	NONE	0.0045	--	0.0045
	Cessna 500 Citation I	1PW035	NONE	0.0737	0.0059	0.0796
	Cessna 501 Citation ISP	1PW035	NONE	0.3886	0.0482	0.4368
	Cessna 525 CitationJet	1PW035	NONE	0.2598	0.0059	0.2657
	Cessna 525 CitationJet	PW610F	NONE	2.1186	0.0625	2.1811
	Cessna 525A CitationJet	PW610F	NONE	0.9462	0.0415	0.9877
	Cessna 525B CitationJet	1PW036	NONE	0.5904	0.0386	0.6290
	Cessna 525B CitationJet	PW610F	NONE	0.1982	0.0030	0.2011
	Cessna 525C CitationJet	PW610F	NONE	1.4673	0.0503	1.5176
	Cessna 525C CitationJet	PW615F	NONE	0.0390	--	0.0390
	Cessna 551 Citation IISP	1PW036	NONE	0.0645	0.0031	0.0675
	Cessna 560 Citation Excel	1PW037	NONE	1.4858	0.0979	1.5836
	Cessna 560 Citation Excel	PW530	NONE	0.1309	0.0057	0.1366
	Cessna 560 Citation XLS	PW530	NONE	2.2646	0.0711	2.3357
	Cessna 650 Citation III	1AS002	NONE	0.0405	--	0.0405
	Cessna 650 Citation III	TFE731	NONE	0.9784	0.0919	1.0703
	Cessna 680 Citation Sovereign	7PW078	NONE	1.6338	0.1330	1.7668
	Cessna 680-A Citation Latitude	7PW078	NONE	1.0541	0.0357	1.0898
	Cessna 700 Citation Longitude	11HN003	NONE	0.0120	--	0.0120
	Cessna 750 Citation X	13AL027	NONE	0.0811	0.0090	0.0901
	Cessna 750 Citation X	4AL003	NONE	0.0540	--	0.0540
	Cessna 750 Citation X	6AL022	NONE	1.1422	0.0947	1.2369
	Cessna 750 Citation X	6AL023	NONE	0.1245	0.0091	0.1336
	Cessna Citation 510	PW615F	NONE	0.6291	0.0059	0.6350
	Cessna S550 Citation S/II	1PW036	NONE	1.0768	0.0535	1.1303
	Cessna S550 Citation S/II	PW530	NONE	0.3528	0.0029	0.3558
	CIRRUS SF-50 Vision	PW610F	NONE	0.0060	--	0.0060
	Cirrus Vision SF50 (FAS)	BIZVERYLIGHTJET_F	NONE	0.1229	0.0032	0.1261
	CX 750 Citation X+	13AL027	NONE	0.0060	--	0.0060
	Dassault Falcon 10	1AS001	NONE	0.0540	0.0030	0.0570
	Dassault Falcon 2000	CF700D	NONE	0.9328	0.0594	0.9922
	Dassault Falcon 2000-EX	14PW103	NONE	0.1128	0.0148	0.1276
	Dassault Falcon 20-C	TFE731	NONE	0.0464	0.0062	0.0525

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Jet (cont.)	Dassault Falcon 20-D	TFE731	NONE	0.0030	--	0.0030
	Dassault Falcon 20-F	CF700D	NONE	0.0060	0.0090	0.0150
	Dassault Falcon 20-F	TFE731	NONE	0.0144	0.0231	0.0375
	Dassault Falcon 20-G	CF700D	NONE	0.0060	0.0030	0.0090
	Dassault Falcon 20-G	TFE731	NONE	0.0090	--	0.0090
	Dassault Falcon 50	TFE731	NONE	0.3647	0.0121	0.3768
	Dassault Falcon 8X	15PW109	NONE	0.0030	--	0.0030
	Dassault Falcon 900	TFE731	NONE	0.6499	0.0211	0.6710
	Dassault Falcon 900-EX	TFE731	NONE	0.0180	--	0.0180
	Dornier 328 Jet	7PW078	NONE	0.0525	--	0.0525
	Eclipse 500 / PW610F	PW610F-A	NONE	0.3087	0.0275	0.3362
	Embraer 500	PW610F	NONE	1.0050	0.6237	1.6287
	Embraer 505	PW530	NONE	1.8533	0.0801	1.9334
	Embraer Legacy 450 (EMB-545)	14HN008	NONE	0.1502	0.0059	0.1561
	Embraer Legacy 500 (EMB-550)	14HN008	NONE	0.1098	0.0058	0.1156
	Falcon 7X	16PW114	NONE	0.2554	0.0117	0.2672
	Gulfstream G100	TFE731	NONE	0.0060	--	0.0060
	Gulfstream G150	1AS002	NONE	0.1020	0.0031	0.1051
	Gulfstream G200	7PW077	NONE	0.0015	--	0.0015
	Gulfstream G280	11HN005	NONE	0.3032	--	0.3032
	Gulfstream G400	11RR048	NONE	0.0030	--	0.0030
	Gulfstream G450	11RR048	NONE	0.0873	0.0058	0.0931
	Gulfstream G500	19PW127	NONE	0.0060	--	0.0060
	Gulfstream G550	6BR010	NONE	1.0748	0.1081	1.1829
	Gulfstream G650	11BR011	NONE	0.0544	0.0086	0.0630
	Gulfstream G650ER	11BR011	NONE	0.0030	--	0.0030
	Gulfstream II	1RR016	NONE	0.0090	--	0.0090
	Gulfstream III (FAS)	1RR016	NONE	0.0390	--	0.0390
	Gulfstream IV-SP	11RR048	NONE	0.9694	0.0768	1.0463
	Hawker 900XP	1AS001	NONE	0.1095	0.0061	0.1156
	Hawker Beechcraft Corp Beechjet 400A	1PW037	NONE	1.3430	0.1761	1.5191
	Hawker HS-125 Series 700	1AS002	NONE	0.9608	0.0269	0.9877
	Honda HA-420 Hondajet	1PW036	NONE	0.0946	--	0.0946
	Israel IAI-1124 Westwind I	1AS002	NONE	0.0167	0.0028	0.0195

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Jet (cont.)	Israel IAI-1124-A Westwind II	1AS002	NONE	0.0510	0.0090	0.0600
	Israel IAI-1125 Astra	TFE731	NONE	0.1035	0.0091	0.1126
	Mitsubishi MU-300 Diamond	1PW036	NONE	0.0567	0.0063	0.0630
	Pilatus PC-24	PW610F	NONE	0.0090	--	0.0090
	Raytheon Beechjet 400	1PW038	NONE	0.0105	--	0.0105
	Raytheon Hawker 1000	7PW078	NONE	0.2165	0.0267	0.2432
	Raytheon Hawker 4000 Horizon	7PW079	NONE	0.1968	0.0434	0.2402
	Raytheon Hawker 800	1AS002	NONE	0.8318	0.0598	0.8916
	Raytheon Premier I	PW610F	NONE	0.1891	0.0120	0.2011
	Rockwell Sabreliner 65	1AS002	NONE	0.0300	0.0090	0.0390
	Rockwell Sabreliner 75	CF700D	NONE	0.0015	--	0.0015
	SJ-30-1/-2/-2+	PW610F	NONE	0.1216	0.0030	0.1246
	T-38 Talon	J855HA	NONE	0.0030	--	0.0030
General Aviation Turboprop	ATR 42-300	PW120	NONE	--	0.0030	0.0030
	ATR 72-200	PT6A45	NONE	0.0030	--	0.0030
	ATR 72-200	PW127	NONE	0.0060	--	0.0060
	ATR 72-600	PW127F	NONE	0.0060	--	0.0060
	BAE Jetstream 41	TP14GR	NONE	0.0015	--	0.0015
	BEECH MENTOR (BE45) PT6A-25 NM	PT6A34	PT6A-25	0.0045	--	0.0045
	Bombardier de Havilland Dash 8 Q200	PW123D	NONE	0.0015	--	0.0015
	Bombardier de Havilland Dash 8 Q400	PW150A	NONE	--	0.0030	0.0030
	CASA 295	PW127G	NONE	0.0060	--	0.0060
	CASA CN-235-300	CT7-5	NONE	0.0060	--	0.0060
	Cessna 180 (FAS)	TIO540	NONE	0.0225	--	0.0225
	Cessna 208 Caravan	P6114A	NONE	0.0737	0.0028	0.0766
	Cessna 208 Caravan	PT6A42	NONE	3.0358	0.0729	3.1087
	Cessna 425 Conquest I	PT6A60	NONE	0.1336	--	0.1336
	Cessna 441 Conquest II	TPE10N	NONE	0.1576	0.0225	0.1801
	Comp Air Aviation Comp Air 10	PT6110	NONE	0.0090	--	0.0090
	DeHavilland DHC-6-100 Twin Otter	PT6A6R	NONE	0.0060	--	0.0060
	DeHavilland DHC-8-100	PW123	NONE	0.0060	--	0.0060
	Dornier 328-100 Series	7PW078	NONE	0.0054	0.0081	0.0135

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Turboprop (cont.)	EADS Socata TBM-700	PT6A64	NONE	1.2039	0.0180	1.2219
	Embraer EMB120 Brasilia	PW118	NONE	0.0090	0.0060	0.0150
	EPIC LT/Dynasty	PT667A	NONE	0.0180	--	0.0180
	Fairchild SA-226-TC Metro II	TP10GT	NONE	1.1914	0.1010	1.2924
	Fairchild SA-227-AC Metro III	TPE11U	NONE	0.4519	0.0359	0.4879
	Fairchild SA-227-AT Expeditor	TPE11U	NONE	0.6697	0.0478	0.7175
	Gulfstream I	DART52	NONE	0.0743	0.0248	0.0991
	Helio U-10 Super Courier	TIO540	NONE	0.0045	--	0.0045
	Lockheed C-130 Hercules	T56-1	NONE	0.0225	--	0.0225
	Maule MT-7-235	TIO540	NONE	0.0240	--	0.0240
	Mitsubishi MU-2	TPE1	NONE	0.1931	0.0351	0.2282
	Piaggio Aerospace P.180 Avanti	PT6A66	NONE	0.2899	0.0058	0.2957
	Pilatus PC-12	PT6A67	NONE	2.4356	0.2439	2.6794
	Pilatus PC-6 Porter	PT6A42	NONE	0.0751	--	0.0751
	Piper PA-31T Cheyenne	P6135A	NONE	0.0360	--	0.0360
	Piper PA-31T Cheyenne	PT660A	NONE	0.0615	--	0.0615
	Piper PA-31T Cheyenne	PT6A28	NONE	0.0135	--	0.0135
	Piper PA-42 Cheyenne Series	PT6A61	NONE	0.0210	--	0.0210
	Piper PA-42 Cheyenne Series	TPE14	NONE	0.0240	--	0.0240
	Piper PA46-TP Meridian	PT6A21	NONE	0.0570	--	0.0570
	Piper PA46-TP Meridian	PT6A42	NONE	0.4984	0.0120	0.5104
	Piper PA46-TP Meridian	TPE10	NONE	0.0135	--	0.0135
	Quest Kodiak 100	PT6A34	NONE	0.0495	--	0.0495
	Raytheon Beech 18	PT6A27	NONE	0.0075	--	0.0075
	Raytheon Beech 1900-C	PT6A6B	NONE	1.9670	0.0175	1.9844
	Raytheon Beech 99	PT6A60	NONE	0.0263	0.0322	0.0585
	Raytheon King Air 100	TPE6	NONE	0.0180	--	0.0180
	Raytheon King Air 90	P6135A	NONE	2.0587	0.8039	2.8626
	Raytheon Super King Air 200	PT6A42	NONE	2.3468	0.1645	2.5113
	Raytheon Super King Air 300	PT660A	NONE	1.5655	0.0466	1.6122
	Rockwell Commander 690	TPE5A	NONE	0.2072	0.0029	0.2102

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Turboprop (cont.)	Saab 2000	4AL003	NONE	0.0079	0.0026	0.0105
	Shorts 360-300 Series	PT67D	NONE	0.0108	0.0027	0.0135
	Shorts 360-300 Series	PT6A6A	PT6A-65AR	0.0090	--	0.0090
	Socata TBM-9 (FAS)	PT6A64	NONE	0.0285	--	0.0285
General Aviation Piston	1985 1-ENG COMP	TIO540	NONE	0.2344	0.0028	0.2372
	Aerostar PA-60	TIO540	NONE	0.0330	--	0.0330
	Aviat Husky A1B	IO360	NONE	0.0090	--	0.0090
	Beech 23 Musketeer Sundowner (FAS)	O320	NONE	0.0165	--	0.0165
	Beech 95 (FAS)	TIO540	NONE	0.1757	0.0089	0.1846
	Beech E-55 (FAS)	TIO540	NONE	0.0180	0.0030	0.0210
	Beechcraft Bonanza 33 (FAS)	TIO540	NONE	0.0725	0.0116	0.0841
	Beechcraft Bonanza 35 (FAS)	TIO540	NONE	0.3092	--	0.3092
	Bellanca 8 Scout Super Decathlon (FAS)	IO360	NONE	0.0120	--	0.0120
	Bellanca Viking (FAS)	TIO540	NONE	0.0165	--	0.0165
	Boeing DC-3	R1820	R1820-86	0.0090	--	0.0090
	Boeing Stearman PT-17 / A75N1	TIO540	NONE	0.0030	--	0.0030
	Cessna 140 (FAS)	O200	NONE	0.0045	--	0.0045
	Cessna 150 Series	O200	NONE	0.0351	0.0039	0.0390
	Cessna 152 (FAS)	O200	NONE	0.0090	0.0030	0.0120
	Cessna 170 (FAS)	IO360	NONE	0.0060	--	0.0060
	Cessna 172 Skyhawk	IO360	NONE	0.2184	0.0187	0.2372
	Cessna 172 Skyhawk	O320	NONE	0.4026	0.0222	0.4248
	Cessna 177 (FAS)	IO360	NONE	0.0165	--	0.0165
	Cessna 182	IO360	NONE	0.7732	0.0029	0.7761
	Cessna 182 Turbo (FAS)	TIO540	TIO-540-AJ1A	0.3785	0.0028	0.3813
	Cessna 185 Skywagon	IO360	NONE	0.0180	--	0.0180
	Cessna 195 (FAS)	IO360	NONE	0.0015	--	0.0015
	Cessna 206	TIO540	IO-540-AC	0.9221	0.0176	0.9397
	Cessna 206	TIO540	TIO-540-AJ1A	0.1231	--	0.1231
	Cessna 207 (Turbo) Stationair (FAS)	IO360	NONE	0.0210	--	0.0210
	Cessna 210 Centurion	TIO540	NONE	0.4011	0.0087	0.4098

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Piston (cont.)	Cessna 310	TIO540	NONE	0.1938	0.0029	0.1966
	Cessna 337 Skymaster	IO360	NONE	0.0154	0.0026	0.0180
	Cessna 340	TIO540	NONE	0.2026	--	0.2026
	Cessna 402	TIO540	NONE	0.2133	0.0028	0.2162
	Cessna 414	TIO540	NONE	0.3558	--	0.3558
	Cessna 421 Piston	TIO540	NONE	0.3244	0.0058	0.3302
	Cirrus SR20	IO360	NONE	0.1204	0.0057	0.1261
	Cirrus SR22	TIO540	NONE	1.4150	0.0575	1.4726
	Cirrus SR22 Turbo (FAS)	TIO540	NONE	0.5543	0.0116	0.5659
	Columbia Aircraft Lancair (COL3/4 All Types) (FAS)	TIO540	NONE	0.5914	0.0105	0.6019
	Commander 114/115 (FAS)	TIO540	NONE	0.1381	--	0.1381
	Cozy (FAS)	IO360	NONE	0.0030	--	0.0030
	DeHavilland DHC-2 Beaver	PT6A60	NONE	0.0015	--	0.0015
	Diamond DA40	IO360	NONE	0.0060	--	0.0060
	Diamond DA42 Twin Star	IO360	NONE	0.0135	--	0.0135
	Diamond DV-20 Katana (FAS)	O320	NONE	0.0015	--	0.0015
	EADS Socata TB-20 Trinidad	TIO540	NONE	0.0254	0.0046	0.0300
	EXTRA EA-300 (FAS)	TIO540	NONE	0.0015	--	0.0015
	Glasair (FAS)	TIO540	NONE	0.0240	--	0.0240
	Grumman AA-5A/B (FAS)	O320	NONE	0.0751	--	0.0751
	Lancair 320 (FAS)	O320	NONE	0.0030	--	0.0030
	Lancair 360	IO360	NONE	0.0240	--	0.0240
	Lancair ES (FAS)	TIO540	NONE	0.0195	--	0.0195
	Lancair Evolution (FAS)	TIO540	NONE	0.0150	--	0.0150
	Lancair Legacy 2000 (FAS)	TIO540	NONE	0.0210	--	0.0210
	Mooney M20-K	TSIO36	NONE	0.4109	0.0289	0.4398
	North American T-6 Texan (FAS)	TIO540	NONE	0.2676	0.0342	0.3017
	Piper J-3 Cub (FAS)	O200	NONE	0.0165	--	0.0165
	Piper PA-18-150 (FAS)	O320	NONE	0.0345	--	0.0345
	Piper PA-22-150 (FAS)	O320	NONE	0.0210	--	0.0210
	Piper PA-23 Apache/Aztec	TIO540	NONE	0.0793	0.0033	0.0826
	Piper PA-24 Comanche	TIO540	NONE	0.0796	--	0.0796
	Piper PA-27 Aztec	TIO540	NONE	0.0721	--	0.0721

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Piston (cont.)	Piper PA-28 Cherokee Series	IO360	NONE	0.3023	0.0114	0.3137
	Piper PA-28 Cherokee Series	O320	NONE	0.1095	0.0061	0.1156
	Piper PA-30 Twin Comanche	IO320	NONE	0.0135	--	0.0135
	Piper PA-31 Navajo	TIO540	NONE	0.2829	0.0233	0.3062
	Piper PA-32 Cherokee Six	TIO540	NONE	0.6034	0.0060	0.6094
	Piper PA-34 Seneca	TSIO36	NONE	0.1471	0.0060	0.1531
	Piper PA-36 Pawnee Brave (FAS)	TIO540	NONE	0.0015	--	0.0015
	Piper PA-38 Tomahawk (FAS)	O320	NONE	0.0160	0.0080	0.0240
	Piper PA44 (FAS)	IO320	NONE	0.0240	0.0030	0.0270
	Piper PA46 Meridian	TIO540	NONE	0.8282	0.0410	0.8691
	Piper Pacer (FAS)	O320	NONE	0.0015	--	0.0015
	Raytheon Beech 60 Duke	TIO540	NONE	0.0330	--	0.0330
	Raytheon Beech Baron 58	TIO540	NONE	0.5162	0.0377	0.5539
	Raytheon Beech Bonanza 36	TIO540	NONE	0.7869	0.0086	0.7956
	Raytheon Beech D17S Staggerwing	TIO540	NONE	0.0090	--	0.0090
	Rockwell Commander 680	TIO540	NONE	0.0135	--	0.0135
	Rockwell Commander 700	TIO540	TS10-520-L	0.0030	--	0.0030
	Ryan Navion B	TIO540	NONE	0.0240	--	0.0240
	Tecnam P2006T (FAS)	IO320	NONE	0.0105	--	0.0105
	Vans RV10 (FAS)	TIO540	NONE	0.0105	--	0.0105
	Vans RV12 (FAS)	O320	NONE	0.0030	--	0.0030
	Vans RV4 (FAS)	O320	NONE	0.0060	--	0.0060
	Vans RV6 (FAS)	IO360	NONE	0.0105	--	0.0105
	Vans RV-7	IO360	NONE	0.0184	0.0026	0.0210
	Vans RV8 (FAS)	IO360	NONE	0.0090	--	0.0090
	Vans RV9 (FAS)	IO360	NONE	0.0105	--	0.0105
	Velocity (FAS)	IO360	NONE	0.0030	--	0.0030
	Vulcanair P.68	IO360	NONE	0.0015	--	0.0015
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	0.7676	0.1919	0.9595
	Agusta A119	250B17	NONE	0.0089	--	0.0089
	Bell 206 JetRanger	250B17	NONE	0.2668	0.0208	0.2875
	Bell 206B-3	250B17	NONE	0.0030	--	0.0030

TABLE B-2.1
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
Helicopter (cont.)	Bell 206L-4T Long Ranger	250B17	NONE	0.0758	0.0284	0.1043
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	0.4774	0.2467	0.7241
	Bell 429	TPE1	NONE	0.2503	0.1967	0.4470
	Bell 430	250B17	NONE	0.0143	0.0036	0.0179
	Boeing CH-46 Sea Knight	T5816	NONE	0.0045	--	0.0045
	Eurocopter EC 120	PT6A27	NONE	0.0641	--	0.0641
	Eurocopter EC-130	TPE3	NONE	0.4388	0.3568	0.7956
	Hughes 500D	250B17	NONE	0.0030	--	0.0030
	Robinson R22 Mariner	IO320	NONE	0.0462	--	0.0462
	Robinson R44 Raven / Lycoming O-540-F1B5	TIO540	NONE	0.1922	--	0.1922
	Schweizer S269D/330	250B17	NONE	0.0030	--	0.0030
	Sikorsky S-76C	T70070	NONE	0.0089	0.0030	0.0119
	Sikorsky S-92	T70041	NONE	0.0909	--	0.0909
	Sikorsky UH-60 Black Hawk	T70070	NONE	0.0119	--	0.0119
All Aircraft				**185.50**	**38.71**	**224.21**

NOTES: Total values may not add up exactly due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
	Airbus A300F4-600 Series	1GE020	NONE	0.0210	0.0030	0.0210	0.0240	0.0060	--	--	--	--	--	--	--	--	--	--	--	0.0480	0.0270	0.0751
	Airbus A300F4-600 Series	1PW048	NONE	0.1573	0.0214	0.6563	0.1287	--	--	--	--	--	--	--	--	--	--	--	--	0.8136	0.1501	0.9637
	Airbus A310-300 Series	1PW045	NONE	0.0030	0.6003	0.0030	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	0.0061	0.6034	0.6094
	Airbus A330-200 Series	2RR023	NONE	0.0008	--	0.0008	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Airbus A330-300 Series	4PW067	NONE	0.0023	--	0.0023	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Airbus A340-300 Series	7CM049	NONE	0.0075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0075	0.0000	0.0075
	Airbus A350-900 series	18RR079	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Boeing 747-400 Series	1GE024	NONE	0.0066	--	--	--	--	0.0033	--	--	--	--	--	--	--	0.0033	0.0033	--	0.0099	0.0066	0.0165
	Boeing 767-200 Series	2GE054	NONE	0.0072	--	0.0108	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0180	0.0000	0.0180
	Boeing 767-200 Series	8PW086	NONE	--	--	0.0030	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0030	0.0060
	Boeing 767-300 ER	12PW101	NONE	0.0030	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0030	0.0060
	Boeing 767-300 Freighter	2GE048	NONE	0.1785	0.0154	0.0369	0.0769	--	--	--	--	--	--	--	--	--	--	--	--	0.2154	0.0923	0.3077
	Boeing 767-300 Series	1GE030	NONE	0.2708	0.0031	0.0196	0.0187	--	--	--	--	--	--	--	--	--	--	--	--	0.2904	0.0219	0.3122
Widebody	Boeing 767-300 Series	2GE054	NONE	0.3272	--	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3302	0.0000	0.3302
	Boeing 767-300 Series	3GE058	NONE	--	--	0.0034	0.0068	--	0.0034	--	--	--	--	--	--	--	--	--	--	0.0034	0.0101	0.0135
	Boeing 777-200 Series	2PW061	NONE	0.0034	--	--	--	0.0101	--	--	--	--	--	--	--	--	--	--	--	0.0135	0.0000	0.0135
	Boeing 777-300 ER	7GE099	NONE	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Boeing 787-8 Dreamliner	17GE177	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Boeing 787-9 Dreamliner	11GE138	NONE	0.0096	--	--	--	0.0384	0.0030	--	--	--	--	--	--	--	--	--	--	0.0480	0.0030	0.0510
	Boeing 787-9 Dreamliner	17GE177	NONE	0.0120	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0120	0.0060	0.0180
	Boeing DC-10-10 Series	1GE003	NONE	0.0184	--	0.1441	0.0552	--	--	--	--	--	--	--	--	--	--	--	--	0.1625	0.0552	0.2177
	Boeing DC-10-30 Series	3GE074	NONE	0.1192	0.0030	0.3361	0.0971	--	--	--	--	--	--	--	--	--	--	--	--	0.4552	0.1002	0.5554
	Boeing DC-10-40 Series	1PW033	NONE	0.0004	--	0.0011	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Boeing MD-10-1 Freighter	1GE001	NONE	0.0088	0.0026	0.0484	0.0078	--	--	--	--	--	--	--	--	--	--	--	--	0.0572	0.0104	0.0675
	Boeing MD-10-30	3GE074	NONE	0.0031	--	0.0313	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	0.0344	0.0031	0.0375
	Boeing MD-11 Freighter	2GE049	NONE	0.0215	0.0031	1.0360	1.1550	--	--	--	--	--	--	--	--	--	--	--	--	1.0575	1.1581	2.2156
	Ilyushin 76 Candid Freighter	13AA006	NONE	--	--	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	0.0000	0.0030	0.0030
	Airbus A220-100	20PW133	NONE	0.0138	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0138	0.0028	0.0165
	Airbus A220-100	20PW133	NONE	0.0138	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0138	0.0028	0.0165
	Airbus A319-100 Series	3CM027	NONE	--	--	0.2852	0.0060	0.0030	--	--	--	--	--	--	--	--	--	--	--	0.2882	0.0060	0.2942
Narrowbody	Airbus A319-100 Series	3CM028	NONE	0.0365	--	2.2197	0.6801	0.3497	0.0374	--	--	--	--	--	--	--	--	--	--	2.6059	0.7175	3.3234
	Airbus A319-100 Series	3IA006	NONE	1.0884	0.1385	0.6452	0.0482	0.5125	0.1596	--	--	--	--	--	--	--	--	--	--	2.2461	0.3463	2.5924
	Airbus A319-100 Series	3IA007	NONE	0.3088	0.0272	2.9426	0.5173	0.5631	0.0333	--	--	--	--	--	--	--	--	--	--	3.8144	0.5778	4.3922
	Airbus A319-100 Series	4CM036	NONE	0.0060	--	0.1429	0.1905	0.0030	--	--	--	--	--	--	--	--	--	--	--	0.1518	0.1905	0.3422
	Airbus A319-100 Series	6CM044	NONE	0.0243	--	0.0394	0.7949	0.0030	--	--	--	--	--	--	--	--	--	--	--	0.0667	0.7949	0.8616

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
Narrowbody (cont.)	Airbus A319-100 Series	8CM056	NONE	--	--	0.4222	0.0392	0.1180	--	--	--	--	--	--	--	--	--	--	--	0.5402	0.0392	0.5794
	Airbus A319-100 Series	8IA009	NONE	--	--	0.0105	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0105	0.0000	0.0105
	Airbus A320-200 Series	1CM008	NONE	0.0030	0.0030	0.4371	0.1266	0.5396	0.0030	--	--	--	--	--	--	--	--	--	--	0.9797	0.1326	1.1123
	Airbus A320-200 Series	1CM009	NONE	--	--	0.3969	0.0992	0.5352	--	--	--	--	--	--	--	--	--	--	--	0.9320	0.0992	1.0312
	Airbus A320-200 Series	1IA003	NONE	1.2095	0.1986	0.7873	0.2286	0.3348	0.0933	--	--	--	--	--	--	--	--	--	--	2.3316	0.5205	2.8521
	Airbus A320-200 Series	2CM014	NONE	--	--	0.0074	0.0044	0.0123	--	--	--	--	--	--	--	--	--	--	--	0.0197	0.0044	0.0240
	Airbus A320-200 Series	3CM026	NONE	0.1089	0.0061	2.8289	0.6036	0.7231	0.0030	--	--	--	--	--	--	--	--	--	--	3.6609	0.6127	4.2736
	Airbus A320-200 Series	3CM027	NONE	--	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Airbus A320-200 Series	8CM055	NONE	--	--	0.0797	0.0043	--	--	--	--	--	--	--	--	--	--	--	--	0.0797	0.0043	0.0841
	Airbus A320-200 Series	8IA010	NONE	--	--	0.9456	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	0.9456	0.0030	0.9487
	Airbus A320-NEO	18PW122	NONE	--	--	0.2822	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2822	0.0000	0.2822
	Airbus A320-NEO	20CM089	NONE	0.1532	--	1.1807	0.4386	0.2884	0.0030	--	--	--	--	--	--	--	--	--	--	1.6224	0.4416	2.0640
	Airbus A321-200 Series	3CM025	NONE	0.0423	0.0181	2.4398	0.8727	0.0091	--	--	--	--	--	--	--	--	--	--	--	2.4912	0.8908	3.3819
	Airbus A321-200 Series	3IA008	NONE	2.6399	0.3867	0.0457	0.2223	0.0152	0.0030	--	--	--	--	--	--	--	--	--	--	2.7009	0.6120	3.3129
	Airbus A321-200 Series	8CM054	NONE	--	--	0.0276	0.0129	--	--	--	--	--	--	--	--	--	--	--	--	0.0276	0.0129	0.0405
	Airbus A321-NEO	20CM090	NONE	--	--	0.0030	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Airbus A321-NEO	8CM053	NONE	--	--	0.0525	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	0.0525	0.0031	0.0555
	Boeing 717-200 Series	4BR007	NONE	0.0060	--	0.0210	0.2817	0.5064	0.0030	--	--	--	--	--	--	--	--	--	--	0.5334	0.2847	0.8181
	Boeing 727-200 Series Freighter	1PW012	FDX-HW	--	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Boeing 727-200 Series Freighter	1PW018	NONE	--	--	0.0030	--	--	0.0030	--	--	--	--	--	--	--	--	--	--	0.0030	0.0030	0.0060
	Boeing 737-300 Series	1CM007	NONE	0.0503	--	0.0034	--	0.0034	--	--	--	--	--	--	--	--	--	--	--	0.0570	0.0000	0.0570
	Boeing 737-400 Series	1CM007	NONE	0.0282	0.0028	0.0071	--	0.0494	0.0056	--	--	--	--	--	--	--	--	--	--	0.0846	0.0085	0.0931
	Boeing 737-500 Series	1CM007	NONE	--	--	0.0180	--	0.0060	--	--	--	--	--	--	--	--	--	--	--	0.0240	0.0000	0.0240
	Boeing 737-700 Series	3CM030	NONE	0.6082	0.0951	0.5991	0.1165	0.1180	0.0061	--	0.0061	--	--	--	--	--	--	--	--	1.3252	0.2239	1.5491
	Boeing 737-700 Series	3CM031	NONE	1.4345	0.3429	1.4647	0.4187	0.3147	0.0759	--	--	--	--	--	--	--	--	--	--	3.2139	0.8375	4.0514
	Boeing 737-700 Series	3CM032	NONE	13.1673	2.2903	12.1454	3.1703	2.8547	0.5997	0.0090	--	--	--	0.0030	--	--	--	--	--	28.1794	6.0603	34.2398
	Boeing 737-700 Series	8CM051	NONE	0.1237	0.0163	0.1147	0.0229	0.0181	--	--	--	--	--	--	--	--	--	--	--	0.2565	0.0392	0.2957
	Boeing 737-8	20CM098	NONE	--	--	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Boeing 737-8	20CM099	NONE	--	--	0.0150	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0150	0.0000	0.0150
	Boeing 737-8	20CM101	NONE	0.0210	0.0090	0.1441	0.0510	0.0721	0.0210	--	--	--	--	--	--	--	--	--	--	0.2372	0.0811	0.3182
	Boeing 737-800 Series	11CM078	NONE	1.2317	0.3045	5.9067	1.3599	1.5927	0.2292	0.0030	--	--	--	--	--	--	--	--	--	8.7341	1.8935	10.6277
	Boeing 737-800 Series	3CM032	NONE	4.4542	1.4203	2.9048	0.5645	1.4858	0.0637	0.0030	--	--	--	--	--	--	--	--	--	8.8478	2.0486	10.8964
	Boeing 737-800 Series	3CM034	NONE	0.0721	0.0120	0.4233	0.0570	0.0811	0.0060	0.0270	0.0240	--	--	--	--	--	--	--	--	0.6034	0.0991	0.7025
	Boeing 737-800 Series	8CM051	NONE	1.7516	0.3462	1.1900	0.5860	0.2641	0.0486	0.0030	--	--	--	--	--	--	--	--	--	3.2087	0.9808	4.1895

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
Narrowbody (cont.)	Boeing 737-800 Series	8CM065	NONE	0.0032	--	0.0096	0.0032	0.0032	--	--	--	--	0.0032	--	--	--	--	--	--	0.0161	0.0064	0.0225
	Boeing 737-9	20CM100	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Boeing 737-900 Series	3CM032	NONE	--	--	--	--	--	--	0.0609	0.0426	--	--	--	--	--	--	--	--	0.0609	0.0426	0.1036
	Boeing 737-900 Series	8CM051	NONE	0.4481	0.0787	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	0.4481	0.0818	0.5299
	Boeing 737-900-ER	11CM078	NONE	0.0030	--	0.0121	0.0060	--	--	0.9929	0.4285	--	--	--	--	--	--	--	--	1.0080	0.4346	1.4425
	Boeing 737-900-ER	8CM051	NONE	0.9642	0.1358	0.8365	0.4014	0.1186	0.1388	--	--	--	--	--	--	--	--	--	--	1.9194	0.6760	2.5954
	Boeing 737-900-ER	8CM065	NONE	0.0120	0.0030	0.0090	0.0060	--	0.0030	--	--	--	--	--	--	--	--	--	--	0.0210	0.0120	0.0330
	Boeing 757-200 Series	3RR034	NONE	0.0225	0.0053	0.0028	--	0.0253	0.0027	--	--	--	--	--	--	--	--	--	--	0.0506	0.0080	0.0585
	Boeing 757-200 Series	4PW072	NONE	0.1388	0.0762	0.0679	0.0548	0.0401	0.0305	0.0031	--	--	--	--	--	--	--	--	--	0.2498	0.1615	0.4113
	Boeing 757-200 Series	4PW073	NONE	--	0.0049	--	0.0049	0.0049	0.0049	--	--	--	--	--	--	--	--	--	--	0.0049	0.0146	0.0195
	Boeing 757-200 Series	5RR038	NONE	0.0163	0.0131	0.0098	0.0033	0.0033	0.0065	--	--	--	--	0.0033	--	--	--	--	--	0.0327	0.0229	0.0555
	Boeing 757-200 Series Freighter	4PW072	NONE	--	0.0060	--	0.0240	--	--	--	--	--	--	--	--	--	--	--	--	0.0000	0.0300	0.0300
	Boeing 757-200 Series Freighter	4PW073	NONE	0.7857	0.8053	0.2980	0.1398	--	0.0456	--	--	--	--	--	--	--	--	--	--	1.0838	0.9907	2.0745
	Boeing 757-200 Series Freighter	5RR038	NONE	0.0061	0.2290	0.0030	0.1068	--	0.0214	--	--	--	--	--	--	--	--	--	--	0.0091	0.3572	0.3663
	Boeing 757-300 Series	3RR028	NONE	0.0031	--	0.0125	0.0094	0.0094	0.0062	--	--	--	--	--	--	--	--	--	--	0.0249	0.0156	0.0405
	Boeing C-17A	PW2041	NONE	0.0030	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0030	0.0060
	Boeing DC-9-10 Series Freighter	1PW006	ABS	0.0060	0.0030	0.0030	--	0.0030	0.0030	--	--	--	--	--	--	--	--	--	--	0.0120	0.0060	0.0180
	Boeing DC-9-30 Series Freighter	1PW007	ABS	0.0033	--	0.0098	0.0033	0.0033	--	--	--	--	--	--	--	--	--	--	--	0.0163	0.0033	0.0195
	Boeing E-8C	1PW001	NONE	--	--	--	--	0.0015	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Boeing MD-82	4PW068	NONE	0.1041	0.0434	0.0058	--	0.0029	--	--	--	--	--	--	--	--	--	--	--	0.1127	0.0434	0.1561
	Boeing MD-83	1PW019	NONE	2.3794	0.7358	0.1297	0.0302	0.0543	--	0.0030	--	--	--	--	--	--	--	--	--	2.5664	0.7660	3.3324
	Boeing MD-87	1PW019	NONE	0.0030	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Boeing MD-88	1PW019	NONE	--	--	0.1082	0.0029	--	--	--	--	--	--	--	--	--	--	--	--	0.1082	0.0029	0.1111
	Boeing MD-90	1IA002	NONE	0.0030	--	2.7934	0.0452	--	--	--	--	--	--	--	--	--	--	--	--	2.7964	0.0452	2.8416
Regional Jet	Bombardier Challenger 300	11HN003	NONE	1.5057	0.1965	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5057	0.1965	1.7022
	Bombardier Challenger 300	14HN009	NONE	1.0707	0.0551	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0707	0.0551	1.1258
	Bombardier Challenger 600	1TL001	NONE	0.5148	0.0301	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5148	0.0301	0.5449
	Bombardier Challenger 601	1GE034	NONE	0.0360	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0360	0.0000	0.0360
	Bombardier Challenger 604	5GE084	NONE	0.1769	0.0122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1769	0.0122	0.1891
	Bombardier CRJ-200	5GE084	NONE	0.1318	0.0063	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1318	0.0063	0.1381
	Bombardier CRJ-200-ER	5GE084	NONE	0.1171	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1171	0.0030	0.1201
	Bombardier CRJ-700	5GE083	NONE	0.0747	--	0.1404	0.0299	0.0149	0.0239	--	--	--	--	--	--	--	--	--	--	0.2300	0.0538	0.2837

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
Regional Jet (cont.)	Bombardier CRJ-700	5GE084	NONE	0.0030	--	0.1981	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	0.2011	0.0060	0.2071
	Bombardier CRJ-700	8GE112	NONE	0.0030	0.0030	0.0240	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	0.0300	0.0030	0.0330
	Bombardier CRJ-700-ER	5GE083	NONE	0.0056	--	0.0139	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0195	0.0000	0.0195
	Bombardier CRJ-700-ER	8GE112	NONE	0.0150	--	1.1575	0.0720	0.0030	0.0030	0.0030	--	--	--	--	--	--	--	--	--	1.1784	0.0750	1.2534
	Bombardier CRJ-900	8GE110	NONE	0.0271	--	1.7958	0.4817	1.5307	0.0060	--	--	--	--	--	--	--	--	--	--	3.3536	0.4877	3.8413
	Bombardier CRJ-900-ER	8GE110	NONE	0.0211	--	1.2203	0.1598	0.6252	0.0031	--	--	--	--	--	--	--	--	--	--	1.8666	0.1628	2.0295
	Bombardier Global 5000 Business	4BR009	NONE	0.0191	0.0030	0.0159	0.0030	0.0191	--	--	--	--	--	--	--	--	--	--	--	0.0540	0.0060	0.0600
	Bombardier Global Express	4BR008	NONE	0.0183	0.0030	0.0274	0.0061	0.0213	--	0.0030	--	--	--	0.0152	--	0.0061	--	--	--	0.0914	0.0091	0.1006
	Bombardier Global Express	4BR009	NONE	0.0090	0.0030	0.0030	--	0.0030	--	0.0030	--	--	--	0.0030	--	--	--	--	--	0.0210	0.0030	0.0240
	Embraer ERJ135	6AL020	NONE	0.0911	--	0.0245	0.0063	0.0070	0.0031	--	--	--	--	--	--	--	--	--	--	0.1227	0.0094	0.1321
	Embraer ERJ135-LR	6AL020	NONE	0.0730	0.0029	0.0426	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	0.1187	0.0029	0.1216
	Embraer ERJ145-LR	4AL003	NONE	0.0707	0.0059	0.0029	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0737	0.0059	0.0796
	Embraer ERJ145-LR	6AL014	NONE	0.0433	0.0031	0.0062	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0494	0.0031	0.0525
	Embraer ERJ145-XR	6AL020	NONE	0.0435	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0435	0.0000	0.0435
	Embraer ERJ170	8GE108	NONE	0.1780	0.0362	0.0784	0.0151	0.6636	--	--	--	--	--	--	--	--	--	--	--	0.9199	0.0513	0.9712
	Embraer ERJ170-LR	8GE108	NONE	0.2259	0.0090	0.6536	0.0030	0.7741	0.1717	--	--	--	--	--	--	--	--	--	--	1.6536	0.1837	1.8373
	Embraer ERJ175	8GE108	NONE	--	--	0.0030	--	0.5330	0.4727	--	--	--	--	--	--	--	--	--	--	0.5360	0.4727	1.0087
	Embraer ERJ175-LR	8GE105	NONE	0.0113	0.0038	0.0075	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0188	0.0038	0.0225
	Embraer ERJ175-LR	8GE108	NONE	1.0128	0.0241	2.4794	0.3793	4.7575	1.3216	--	--	--	--	--	--	--	--	--	--	8.2498	1.7250	9.9747
	Embraer ERJ190	11GE143	NONE	--	--	--	--	0.0345	--	--	--	--	--	--	--	--	--	--	--	0.0345	0.0000	0.0345
	Embraer ERJ190	8GE116	NONE	0.0030	--	0.4593	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4623	0.0000	0.4623
	Embraer ERJ190-AR	11GE143	NONE	0.0031	--	--	--	0.0281	0.0063	--	--	--	--	--	--	--	--	--	--	0.0313	0.0063	0.0375
	Embraer ERJ190-LR	10GE133	NONE	0.0060	--	0.7040	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	0.7100	0.0030	0.7130
	United Aircraft Corp (Sukhoi) Superjet 100 95LR	11PJ002	NONE	0.8983	0.0090	0.2020	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1003	0.0090	1.1093
General Aviation Jet	Bombardier Learjet 24	CJ6106	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Bombardier Learjet 25	PW610F	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Bombardier Learjet 31	1AS002	NONE	0.5674	0.0751	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5674	0.0751	0.6425
	Bombardier Learjet 35	1AS001	NONE	0.9056	0.1377	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9056	0.1377	1.0433
	Bombardier Learjet 35	1AS002	NONE	0.0420	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0420	0.0000	0.0420
	Bombardier Learjet 40	TFE731	NONE	0.1636	0.0061	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1636	0.0061	0.1696
	Bombardier Learjet 45	TFE731	NONE	1.1539	0.0515	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1539	0.0515	1.2054
	Bombardier Learjet 55	1AS002	NONE	0.0767	0.0059	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0767	0.0059	0.0826
	Bombardier Learjet 60	7PW078	NONE	0.6252	0.0308	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6252	0.0308	0.6560
	Bombardier Learjet 70	1AS002	NONE	0.0075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0075	0.0000	0.0075

Table B-2.2
2021 Existing Conditions Annual Average Day AEDT Aircraft Departure Operations

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Jet (cont.)	Bombardier Learjet 75	1AS002	NONE	0.0987	0.0064	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0987	0.0064	0.1051
	CASA C-101 Aviojet	1AS002	NONE	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Cessna 500 Citation I	1PW035	NONE	0.0704	0.0092	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0704	0.0092	0.0796
	Cessna 501 Citation ISP	1PW035	NONE	0.3889	0.0479	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3889	0.0479	0.4368
	Cessna 525 CitationJet	1PW035	NONE	0.2535	0.0122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2535	0.0122	0.2657
	Cessna 525 CitationJet	PW610F	NONE	2.0660	0.1151	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0660	0.1151	2.1811
	Cessna 525A CitationJet	PW610F	NONE	0.9209	0.0669	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9209	0.0669	0.9877
	Cessna 525B CitationJet	1PW036	NONE	0.6015	0.0275	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6015	0.0275	0.6290
	Cessna 525B CitationJet	PW610F	NONE	0.1951	0.0061	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1951	0.0061	0.2011
	Cessna 525C CitationJet	PW610F	NONE	1.1702	0.3474	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1702	0.3474	1.5176
	Cessna 525C CitationJet	PW615F	NONE	0.0390	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0390	0.0000	0.0390
	Cessna 551 Citation IISP	1PW036	NONE	0.0646	0.0029	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0646	0.0029	0.0675
	Cessna 560 Citation Excel	1PW037	NONE	1.4773	0.1064	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4773	0.1064	1.5836
	Cessna 560 Citation Excel	PW530	NONE	0.1239	0.0127	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1239	0.0127	0.1366
	Cessna 560 Citation XLS	PW530	NONE	2.2353	0.1004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2353	0.1004	2.3357
	Cessna 650 Citation III	1AS002	NONE	0.0376	0.0029	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0376	0.0029	0.0405
	Cessna 650 Citation III	TFE731	NONE	0.9699	0.1003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9699	0.1003	1.0703
	Cessna 680 Citation Sovereign	7PW078	NONE	1.6264	0.1404	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6264	0.1404	1.7668
	Cessna 680-A Citation Latitude	7PW078	NONE	1.0565	0.0333	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0565	0.0333	1.0898
	Cessna 700 Citation Longitude	11HN003	NONE	0.0120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0120	0.0000	0.0120
	Cessna 750 Citation X	13AL027	NONE	0.0871	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0871	0.0030	0.0901
	Cessna 750 Citation X	4AL003	NONE	0.0540	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0540	0.0000	0.0540
	Cessna 750 Citation X	6AL022	NONE	1.1942	0.0427	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1942	0.0427	1.2369
	Cessna 750 Citation X	6AL023	NONE	0.1336	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1336	0.0000	0.1336
	Cessna Citation 510	PW615F	NONE	0.5006	0.1343	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5006	0.1343	0.6350
	Cessna S550 Citation S/II	1PW036	NONE	1.1061	0.0242	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1061	0.0242	1.1303
	Cessna S550 Citation S/II	PW530	NONE	0.3435	0.0123	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3435	0.0123	0.3558
	CIRRUS SF-50 Vision	PW610F	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Cirrus Vision SF50 (FAS)	BIZVERYLIGHTJET_F	NONE	0.1233	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1233	0.0028	0.1261
	CX 750 Citation X+	13AL027	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Dassault Falcon 10	1AS001	NONE	0.0540	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0540	0.0030	0.0570
	Dassault Falcon 2000	CF700D	NONE	0.8587	0.1335	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8587	0.1335	0.9922
	Dassault Falcon 2000-EX	14PW103	NONE	0.1276	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1276	0.0000	0.1276

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Jet (cont.)	Dassault Falcon 20-C	TFE731	NONE	0.0467	0.0058	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0467	0.0058	0.0525
	Dassault Falcon 20-D	TFE731	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Dassault Falcon 20-F	CF700D	NONE	0.0030	0.0120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0120	0.0150
	Dassault Falcon 20-F	TFE731	NONE	0.0188	0.0188	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0188	0.0188	0.0375
	Dassault Falcon 20-G	CF700D	NONE	0.0060	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0030	0.0090
	Dassault Falcon 20-G	TFE731	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Dassault Falcon 50	TFE731	NONE	0.1701	0.0060	0.1423	0.0090	0.0371	0.0030	0.0093	--	--	--	--	--	--	--	--	--	0.3588	0.0179	0.3768
	Dassault Falcon 8X	15PW109	NONE	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0000	0.0030	0.0030
	Dassault Falcon 900	TFE731	NONE	0.4045	0.0288	0.1739	0.0036	0.0491	0.0036	0.0076	--	--	--	--	--	--	--	--	--	0.6350	0.0359	0.6710
	Dassault Falcon 900-EX	TFE731	NONE	0.0090	0.0030	--	--	--	0.0030	0.0030	--	--	--	--	--	--	--	--	--	0.0120	0.0060	0.0180
	Dornier 328 Jet	7PW078	NONE	0.0402	0.0124	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0402	0.0124	0.0525
	Eclipse 500 / PW610F	PW610F-A	NONE	0.1606	0.0089	0.1638	--	--	0.0030	--	--	--	--	--	--	--	--	--	--	0.3243	0.0119	0.3362
	Embraer 500	PW610F	NONE	1.0553	0.5734	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0553	0.5734	1.6287
	Embraer 505	PW530	NONE	1.8635	0.0699	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8635	0.0699	1.9334
	Embraer Legacy 450 (EMB-545)	14HN008	NONE	0.1531	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1531	0.0031	0.1561
	Embraer Legacy 500 (EMB-550)	14HN008	NONE	0.1156	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1156	0.0000	0.1156
	Falcon 7X	16PW114	NONE	0.2488	0.0184	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2488	0.0184	0.2672
	Gulfstream G100	TFE731	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Gulfstream G150	1AS002	NONE	0.0992	0.0058	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0992	0.0058	0.1051
	Gulfstream G200	7PW077	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Gulfstream G280	11HN005	NONE	0.3032	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3032	0.0000	0.3032
	Gulfstream G400	11RR048	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Gulfstream G450	11RR048	NONE	0.0900	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0900	0.0031	0.0931
	Gulfstream G500	19PW127	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Gulfstream G550	6BR010	NONE	1.0117	0.1711	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0117	0.1711	1.1829
	Gulfstream G650	11BR011	NONE	0.0374	--	--	--	0.0075	--	0.0075	--	--	--	0.0075	0.0032	--	--	--	--	0.0599	0.0032	0.0630
	Gulfstream G650ER	11BR011	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Gulfstream II	1RR016	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Gulfstream III (FAS)	1RR016	NONE	0.0390	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0390	0.0000	0.0390
	Gulfstream IV-SP	11RR048	NONE	0.9914	0.0549	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9914	0.0549	1.0463
	Hawker 900XP	1AS001	NONE	0.1067	0.0089	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1067	0.0089	0.1156
	Hawker Beechcraft Corp Beechjet 400A	1PW037	NONE	1.3772	0.1419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3772	0.1419	1.5191
	Hawker HS-125 Series 700	1AS002	NONE	0.9576	0.0301	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9576	0.0301	0.9877
	Honda HA-420 Hondajet	1PW036	NONE	0.0916	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0916	0.0030	0.0946

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Jet (cont.)	Israel IAI-1124 Westwind I	1AS002	NONE	0.0163	0.0033	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0163	0.0033	0.0195
	Israel IAI-1124-A Westwind II	1AS002	NONE	0.0540	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0540	0.0060	0.0600
	Israel IAI-1125 Astra	TFE731	NONE	0.1096	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1096	0.0030	0.1126
	Mitsubishi MU-300 Diamond	1PW036	NONE	0.0544	0.0086	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0544	0.0086	0.0630
	Pilatus PC-24	PW610F	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Raytheon Beechjet 400	1PW038	NONE	0.0070	0.0035	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0070	0.0035	0.0105
	Raytheon Hawker 1000	7PW078	NONE	0.2189	0.0243	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2189	0.0243	0.2432
	Raytheon Hawker 4000 Horizon	7PW079	NONE	0.2277	0.0125	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2277	0.0125	0.2402
	Raytheon Hawker 800	1AS002	NONE	0.8224	0.0693	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8224	0.0693	0.8916
	Raytheon Premier I	PW610F	NONE	0.1981	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1981	0.0030	0.2011
	Rockwell Sabreliner 65	1AS002	NONE	0.0390	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0390	0.0000	0.0390
	Rockwell Sabreliner 75	CF700D	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	SJ-30-1/-2/-2+	PW610F	NONE	0.0958	--	0.0288	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1246	0.0000	0.1246
	T-38 Talon	J855HA	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
General Aviation Turboprop	ATR 42-300	PW120	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	ATR 72-200	PT6A45	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	ATR 72-200	PW127	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	ATR 72-600	PW127F	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	BAE Jetstream 41	TP14GR	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	BEECH MENTOR (BE45) PT6A-25 NM	PT6A34	PT6A-25	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Bombardier de Havilland Dash 8 Q200	PW123D	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Bombardier de Havilland Dash 8 Q400	PW150A	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	CASA 295	PW127G	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	CASA CN-235-300	CT7-5	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Cessna 180 (FAS)	TIO540	NONE	0.0225	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0225	0.0000	0.0225
	Cessna 208 Caravan	P6114A	NONE	0.0766	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0766	0.0000	0.0766
	Cessna 208 Caravan	PT6A42	NONE	2.1158	0.9929	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1158	0.9929	3.1087
	Cessna 425 Conquest I	PT6A60	NONE	0.1274	0.0062	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1274	0.0062	0.1336
	Cessna 441 Conquest II	TPE10N	NONE	0.1673	0.0129	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1673	0.0129	0.1801
	Comp Air Aviation Comp Air 10	PT6110	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	DeHavilland DHC-6-100 Twin Otter	PT6A6R	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	DeHavilland DHC-8-100	PW123	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060

Table B-2.2
2021 Existing Conditions Annual Average Day AEDT Aircraft Departure Operations

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Turboprop (cont.)	Dornier 328-100 Series	7PW078	NONE	0.0135	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0135	0.0000	0.0135
	EADS Socata TBM-700	PT6A64	NONE	1.2097	0.0122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2097	0.0122	1.2219
	Embraer EMB120 Brasilia	PW118	NONE	0.0120	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0120	0.0030	0.0150
	EPIC LT/Dynasty	PT667A	NONE	0.0180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0180	0.0000	0.0180
	Fairchild SA-226-TC Metro II	TP10GT	NONE	1.1217	0.1707	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1217	0.1707	1.2924
	Fairchild SA-227-AC Metro III	TPE11U	NONE	0.3975	0.0903	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3975	0.0903	0.4879
	Fairchild SA-227-AT Expeditor	TPE11U	NONE	0.5540	0.1635	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5540	0.1635	0.7175
	Gulfstream I	DART52	NONE	0.0903	0.0087	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0903	0.0087	0.0991
	Helio U-10 Super Courier	TIO540	NONE	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Lockheed C-130 Hercules	T56-1	NONE	--	--	0.0225	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0225	0.0000	0.0225
	Maule MT-7-235	TIO540	NONE	0.0240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0240	0.0000	0.0240
	Mitsubishi MU-2	TPE1	NONE	0.1110	0.1172	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1110	0.1172	0.2282
	Piaggio Aerospace P.180 Avanti	PT6A66	NONE	0.2926	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2926	0.0031	0.2957
	Pilatus PC-12	PT6A67	NONE	2.4272	0.2523	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.4272	0.2523	2.6794
	Pilatus PC-6 Porter	PT6A42	NONE	0.0751	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0751	0.0000	0.0751
	Piper PA-31T Cheyenne	P6135A	NONE	0.0360	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0360	0.0000	0.0360
	Piper PA-31T Cheyenne	PT660A	NONE	0.0615	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0615	0.0000	0.0615
	Piper PA-31T Cheyenne	PT6A28	NONE	0.0135	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0135	0.0000	0.0135
	Piper PA-42 Cheyenne Series	PT6A61	NONE	0.0210	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0210	0.0000	0.0210
	Piper PA-42 Cheyenne Series	TPE14	NONE	0.0240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0240	0.0000	0.0240
	Piper PA46-TP Meridian	PT6A21	NONE	0.0539	0.0032	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0539	0.0032	0.0570
	Piper PA46-TP Meridian	PT6A42	NONE	0.4952	0.0152	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4952	0.0152	0.5104
	Piper PA46-TP Meridian	TPE10	NONE	0.0135	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0135	0.0000	0.0135
	Quest Kodiak 100	PT6A34	NONE	0.0495	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0495	0.0000	0.0495
	Raytheon Beech 18	PT6A27	NONE	0.0075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0075	0.0000	0.0075
	Raytheon Beech 1900-C	PT6A6B	NONE	1.6061	0.3721	0.0062	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6124	0.3721	1.9844
	Raytheon Beech 99	PT6A60	NONE	0.0555	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0555	0.0031	0.0585
	Raytheon King Air 100	TPE6	NONE	0.0180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0180	0.0000	0.0180
	Raytheon King Air 90	P6135A	NONE	2.1767	0.6859	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1767	0.6859	2.8626
	Raytheon Super King Air 200	PT6A42	NONE	2.3540	0.1573	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3540	0.1573	2.5113
	Raytheon Super King Air 300	PT660A	NONE	1.5564	0.0558	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5564	0.0558	1.6122
	Rockwell Commander 690	TPE5A	NONE	0.2071	0.0031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2071	0.0031	0.2102
	Saab 2000	4AL003	NONE	0.0070	0.0035	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0070	0.0035	0.0105

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Turboprop (cont.)	Shorts 360-300 Series	PT67D	NONE	0.0101	0.0034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0101	0.0034	0.0135
	Shorts 360-300 Series	PT6A6A	PT6A-65AR	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Socata TBM-9 (FAS)	PT6A64	NONE	0.0285	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0285	0.0000	0.0285
General Aviation Piston	1985 1-ENG COMP	TIO540	NONE	0.2303	0.0069	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2303	0.0069	0.2372
	Aerostar PA-60	TIO540	NONE	0.0330	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0330	0.0000	0.0330
	Aviat Husky A1B	IO360	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Beech 23 Musketeer Sundowner (FAS)	O320	NONE	0.0165	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0165	0.0000	0.0165
	Beech 95 (FAS)	TIO540	NONE	0.1786	0.0061	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1786	0.0061	0.1846
	Beech E-55 (FAS)	TIO540	NONE	0.0180	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0180	0.0030	0.0210
	Beechcraft Bonanza 33 (FAS)	TIO540	NONE	0.0747	0.0093	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0747	0.0093	0.0841
	Beechcraft Bonanza 35 (FAS)	TIO540	NONE	0.3063	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3063	0.0030	0.3092
	Bellanca 8 Scout Super Decathlon (FAS)	IO360	NONE	0.0120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0120	0.0000	0.0120
	Bellanca Viking (FAS)	TIO540	NONE	0.0165	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0165	0.0000	0.0165
	Boeing DC-3	R1820	R1820-86	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Boeing Stearman PT-17 / A75N1	TIO540	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Cessna 140 (FAS)	O200	NONE	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Cessna 150 Series	O200	NONE	0.0366	0.0024	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0366	0.0024	0.0390
	Cessna 152 (FAS)	O200	NONE	0.0120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0120	0.0000	0.0120
	Cessna 170 (FAS)	IO360	NONE	--	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0000	0.0060	0.0060
	Cessna 172 Skyhawk	IO360	NONE	0.1868	0.0504	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1868	0.0504	0.2372
	Cessna 172 Skyhawk	O320	NONE	0.3996	0.0252	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3996	0.0252	0.4248
	Cessna 177 (FAS)	IO360	NONE	0.0132	0.0033	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0132	0.0033	0.0165
	Cessna 182	IO360	NONE	0.7630	0.0131	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7630	0.0131	0.7761
	Cessna 182 Turbo (FAS)	TIO540	TIO-540-AJ1A	0.3738	0.0032	0.0043	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3781	0.0032	0.3813
	Cessna 185 Skywagon	IO360	NONE	0.0180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0180	0.0000	0.0180
	Cessna 195 (FAS)	IO360	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Cessna 206	TIO540	IO-540-AC	0.9212	0.0093	0.0046	--	0.0046	--	--	--	--	--	--	--	--	--	--	--	0.9304	0.0093	0.9397
	Cessna 206	TIO540	TIO-540-AJ1A	0.1014	0.0154	0.0063	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1077	0.0154	0.1231
	Cessna 207 (Turbo) Stationair (FAS)	IO360	NONE	0.0210	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0210	0.0000	0.0210
	Cessna 210 Centurion	TIO540	NONE	0.4002	0.0096	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4002	0.0096	0.4098
	Cessna 310	TIO540	NONE	0.1904	0.0062	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1904	0.0062	0.1966

Table B-2.2
2021 Existing Conditions Annual Average Day AEDT Aircraft Departure Operations

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Piston (cont.)	Cessna 337 Skymaster	IO360	NONE	0.0180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0180	0.0000	0.0180
	Cessna 340	TIO540	NONE	0.1873	0.0154	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1873	0.0154	0.2026
	Cessna 402	TIO540	NONE	0.2162	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2162	0.0000	0.2162
	Cessna 414	TIO540	NONE	0.3432	0.0126	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3432	0.0126	0.3558
	Cessna 421 Piston	TIO540	NONE	0.3241	0.0062	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3241	0.0062	0.3302
	Cirrus SR20	IO360	NONE	0.1261	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1261	0.0000	0.1261
	Cirrus SR22	TIO540	NONE	1.4096	0.0629	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4096	0.0629	1.4726
	Cirrus SR22 Turbo (FAS)	TIO540	NONE	0.5441	0.0218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5441	0.0218	0.5659
	Columbia Aircraft Lancair (COL3/4 All Types) (FAS)	TIO540	NONE	0.6019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6019	0.0000	0.6019
	Commander 114/115 (FAS)	TIO540	NONE	0.1317	0.0064	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1317	0.0064	0.1381
	Cozy (FAS)	IO360	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	DeHavilland DHC-2 Beaver	PT6A60	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Diamond DA40	IO360	NONE	0.0030	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0030	0.0060
	Diamond DA42 Twin Star	IO360	NONE	0.0135	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0135	0.0000	0.0135
	Diamond DV-20 Katana (FAS)	O320	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	EADS Socata TB-20 Trinidad	TIO540	NONE	0.0300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0300	0.0000	0.0300
	EXTRA EA-300 (FAS)	TIO540	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Glasair (FAS)	TIO540	NONE	0.0240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0240	0.0000	0.0240
	Grumman AA-5A/B (FAS)	O320	NONE	0.0751	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0751	0.0000	0.0751
	Lancair 320 (FAS)	O320	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Lancair 360	IO360	NONE	0.0240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0240	0.0000	0.0240
	Lancair ES (FAS)	TIO540	NONE	0.0167	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0167	0.0028	0.0195
	Lancair Evolution (FAS)	TIO540	NONE	0.0150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0150	0.0000	0.0150
	Lancair Legacy 2000 (FAS)	TIO540	NONE	0.0210	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0210	0.0000	0.0210
	Mooney M20-K	TSIO36	NONE	0.4241	0.0157	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4241	0.0157	0.4398
	North American T-6 Texan (FAS)	TIO540	NONE	0.3017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3017	0.0000	0.3017
	Piper J-3 Cub (FAS)	O200	NONE	0.0165	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0165	0.0000	0.0165
	Piper PA-18-150 (FAS)	O320	NONE	0.0345	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0345	0.0000	0.0345
	Piper PA-22-150 (FAS)	O320	NONE	0.0210	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0210	0.0000	0.0210
	Piper PA-23 Apache/Aztec	TIO540	NONE	0.0826	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0826	0.0000	0.0826
	Piper PA-24 Comanche	TIO540	NONE	0.0723	0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0723	0.0072	0.0796
	Piper PA-27 Aztec	TIO540	NONE	0.0694	0.0027	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0694	0.0027	0.0721

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Piston (cont.)	Piper PA-28 Cherokee Series	IO360	NONE	0.2881	0.0256	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2881	0.0256	0.3137
	Piper PA-28 Cherokee Series	O320	NONE	0.1020	0.0136	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1020	0.0136	0.1156
	Piper PA-30 Twin Comanche	IO320	NONE	0.0135	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0135	0.0000	0.0135
	Piper PA-31 Navajo	TIO540	NONE	0.3000	0.0062	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3000	0.0062	0.3062
	Piper PA-32 Cherokee Six	TIO540	NONE	0.5791	0.0303	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5791	0.0303	0.6094
	Piper PA-34 Seneca	TSIO36	NONE	0.1441	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1441	0.0090	0.1531
	Piper PA-36 Pawnee Brave (FAS)	TIO540	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Piper PA-38 Tomahawk (FAS)	O320	NONE	0.0172	0.0069	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0172	0.0069	0.0240
	Piper PA44 (FAS)	IO320	NONE	0.0210	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0210	0.0060	0.0270
	Piper PA46 Meridian	TIO540	NONE	0.8597	0.0094	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8597	0.0094	0.8691
	Piper Pacer (FAS)	O320	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Raytheon Beech 60 Duke	TIO540	NONE	0.0330	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0330	0.0000	0.0330
	Raytheon Beech Baron 58	TIO540	NONE	0.5383	0.0156	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5383	0.0156	0.5539
	Raytheon Beech Bonanza 36	TIO540	NONE	0.7736	0.0220	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7736	0.0220	0.7956
	Raytheon Beech D17S Staggerwing	TIO540	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Rockwell Commander 680	TIO540	NONE	0.0135	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0135	0.0000	0.0135
	Rockwell Commander 700	TIO540	TS10-520-L	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Ryan Navion B	TIO540	NONE	0.0240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0240	0.0000	0.0240
	Tecnam P2006T (FAS)	IO320	NONE	0.0105	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0105	0.0000	0.0105
	Vans RV10 (FAS)	TIO540	NONE	0.0105	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0105	0.0000	0.0105
	Vans RV12 (FAS)	O320	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Vans RV4 (FAS)	O320	NONE	0.0060	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0060	0.0000	0.0060
	Vans RV6 (FAS)	IO360	NONE	0.0105	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0105	0.0000	0.0105
	Vans RV-7	IO360	NONE	0.0175	0.0035	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0175	0.0035	0.0210
	Vans RV8 (FAS)	IO360	NONE	0.0090	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0090	0.0000	0.0090
	Vans RV9 (FAS)	IO360	NONE	0.0105	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0105	0.0000	0.0105
	Velocity (FAS)	IO360	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Vulcanair P.68	IO360	NONE	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015

TABLE B-2.2
2021 EXISTING CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	0.8240	0.1355	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8240	0.1355	0.9595
	Agusta A119	250B17	NONE	0.0089	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0089	0.0000	0.0089
	Bell 206 JetRanger	250B17	NONE	0.2660	0.0216	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2660	0.0216	0.2875
	Bell 206B-3	250B17	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Bell 206L-4T Long Ranger	250B17	NONE	0.0807	0.0235	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0807	0.0235	0.1043
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	0.4837	0.2404	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4837	0.2404	0.7241
	Bell 429	TPE1	NONE	0.2568	0.1901	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2568	0.1901	0.4470
	Bell 430	250B17	NONE	0.0179	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0179	0.0000	0.0179
	Boeing CH-46 Sea Knight	T5816	NONE	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Eurocopter EC 120	PT6A27	NONE	0.0641	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0641	0.0000	0.0641
	Eurocopter EC-130	TPE3	NONE	0.4181	0.3775	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4181	0.3775	0.7956
	Hughes 500D	250B17	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Robinson R22 Mariner	IO320	NONE	0.0462	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0462	0.0000	0.0462
	Robinson R44 Raven / Lycoming O-540-F1B5	TIO540	NONE	0.1887	0.0035	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1887	0.0035	0.1922
	Schweizer S269D/330	250B17	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Sikorsky S-76C	T70070	NONE	0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0119	0.0000	0.0119
	Sikorsky S-92	T70041	NONE	0.0875	0.0034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0875	0.0034	0.0909
	Sikorsky UH-60 Black Hawk	T70070	NONE	0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0119	0.0000	0.0119
All Aircraft				**107.7739**	**16.5606**	**58.5229**	**15.1403**	**20.8230**	**3.6937**	**1.1414**	**0.5013**	**0.0000**	**0.0032**	**0.0320**	**0.0032**	**0.0061**	**0.0033**	**0.0033**	**0.0000**	**188.3027**	**35.9055**	**224.2082**

NOTES: Total values may not add up exactly due to rounding.
SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.3
2026 FUTURE CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
Widebody	Airbus A300F4-600 Series	1PW056	NONE	1.2794	2.3069	3.5863
	Boeing 707-300 Series	1PW003	NONE	0.0473	--	0.0473
	Boeing 747-400 Series	1GE024	NONE	0.0061	0.0012	0.0073
	Boeing 747-8	11GE139	NONE	0.0829	0.0166	0.0995
	Boeing 767-200 Series	1GE026	NONE	0.0015	--	0.0015
	Boeing 767-200 Series	8PW086	NONE	0.0057	--	0.0057
	Boeing 767-300 Series	8PW086	NONE	1.7662	0.3366	2.1028
	Boeing 777-200 Series	1PW041	NONE	0.0087	0.0022	0.0109
	Boeing 787-8 Dreamliner	2GE048	NONE	0.5048	0.0658	0.5706
	Boeing DC-10-30 Series	1GE009	NONE	0.0082	0.0246	0.0327
	Boeing MD-11	CF680C	NONE	0.0062	0.0047	0.0109
Narrowbody	Airbus A319-100 Series	10IA012	NONE	4.9294	1.0764	6.0058
	Airbus A320-200 Series	2CM018	NONE	6.5305	1.5504	8.0808
	Airbus A320-200 Series	3IA007	NONE	3.9927	0.7120	4.7047
	Airbus A320-NEO	20CM089	NONE	0.0270	0.0057	0.0327
	Airbus A321-200 Series	10IA017	NONE	12.9458	3.9648	16.9107
	Boeing 717-200 Series	4BR002	NONE	0.1392	0.2636	0.4029
	Boeing 737-100 Series	1PW006	NONE	0.0073	--	0.0073
	Boeing 737-300 Series	1CM007	NONE	0.6950	--	0.6950
	Boeing 737-400 Series	1CM007	NONE	0.6513	--	0.6513
	Boeing 737-500 Series	1CM007	NONE	0.0073	--	0.0073
	Boeing 737-700 Series	11CM074	NONE	38.1215	8.6718	46.7934
	Boeing 737-8	20CM101	NONE	0.4038	0.1291	0.5329
	Boeing 737-800 Series	3CM034	NONE	20.7017	8.0899	28.7916
	Boeing 757-200 Series	3RR028	NONE	0.1191	0.3334	0.4525
	Boeing 757-200 Series	4PW073	NONE	1.1803	1.3334	2.5136
	Boeing 757-300 Series	XPW204	NONE	0.1898	0.1898	0.3795
	Boeing DC-9-30 Series	8PW085	ABS	0.0400	0.0254	0.0655
	Boeing MD-83	4PW068	NONE	0.0558	0.0133	0.0691
Regional Jet	Bombardier Challenger 600	5GE084	NONE	3.8398	0.1517	3.9915
	Bombardier CRJ-900-ER	8GE107	NONE	10.9755	1.7669	12.7424
	Embraer ERJ145	6AL017	NONE	0.1844	0.0120	0.1965
	Embraer ERJ170	8GE113	NONE	1.1290	0.1316	1.2606
	Embraer ERJ175	8GE108	NONE	6.8117	2.8809	9.6926
	Embraer ERJ190	XCF10E	NONE	2.2517	0.0111	2.2628
	Fokker F100	1RR020	NONE	0.0073	--	0.0073

TABLE B-2.3
2026 FUTURE CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Jet	Bombardier Global 5000 Business	4BR009	NONE	0.0393	0.0044	0.0437
	Bombardier Global Express	4BR002	NONE	0.0764	--	0.0764
	Bombardier Learjet 35	1AS002	NONE	6.4232	0.4864	6.9096
	Cessna 500 Citation I	1PW035	NONE	3.9404	0.2403	4.1807
	Cessna 525 CitationJet	10PW099	NONE	2.9692	0.0908	3.0600
	Cessna 550 Citation II	1PW036	NONE	4.0124	0.1683	4.1807
	Cessna 560 Citation V	1PW037	NONE	2.6641	0.1809	2.8450
	Cessna 560 Citation V	PW530	NONE	1.8271	0.2396	2.0667
	Cessna 650 Citation III	1AS001	NONE	1.3784	0.1243	1.5027
	Cessna 680 Citation Sovereign	7PW078	NONE	2.3530	0.1503	2.5033
	Cessna 750 Citation X	6AL022	NONE	2.9140	0.2333	3.1473
	Cessna Citation 510	PW615F	NONE	1.0766	0.3606	1.4372
	Dassault Falcon 900	TFE731	NONE	0.8532	0.0274	0.8805
	Eclipse 500 / PW610F	PW610F-A	NONE	0.6223	0.0436	0.6659
	Gulfstream II-B	1RR016	NONE	0.0473	--	0.0473
	Gulfstream IV-SP	1RR019	NONE	1.3378	0.0958	1.4336
	Gulfstream V-SP	11RR048	NONE	0.6748	0.0675	0.7423
	Israel IAI-1125 Astra	TFE731	NONE	0.3844	0.0158	0.4002
	Mitsubishi MU-300 Diamond	1PW036	NONE	2.2236	0.1160	2.3396
	T-38 Talon	J855HA	NONE	0.0619	--	0.0619
General Aviation Turboprop	Cessna 208 Caravan	PT6A42	NONE	11.2727	0.5194	11.7921
	Cessna 441 Conquest II	TPE8	NONE	0.5403	0.0201	0.5603
	DeHavilland DHC-6-300 Twin Otter	PT6A34	NONE	10.8322	1.4941	12.3262
	DeHavilland DHC-8-100	PW123	NONE	0.0815	0.0204	0.1019
	DeHavilland DHC-8-300	PW120	NONE	0.0156	0.0062	0.0218
	Dornier 328-100 Series	PW119B	NONE	0.0277	0.0415	0.0691
	Embraer EMB120 Brasilia	PW118	NONE	0.0568	0.0378	0.0946
	Hawker HS748-2A	RDA7	NONE	0.0839	0.0252	0.1092
	Lockheed C-130 Hercules	250B17	NONE	0.0182	--	0.0182
	Piper PA-42 Cheyenne Series	PT6A41	NONE	0.1706	0.0041	0.1746
	Raytheon Beech 1900-C	PT67B	NONE	5.3633	0.0481	5.4114
	Rockwell OV-10 Bronco	T7612A	NONE	0.0036	--	0.0036
	Saab 340-A	CT79B	NONE	0.0073	--	0.0073
	Shorts 330-200 Series	PT6A6R	NONE	0.0640	0.0160	0.0800

TABLE B-2.3
2026 FUTURE CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT ARRIVAL OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Day	Night	Total
General Aviation Piston	Cessna 150 Series	O200	NONE	1.9426	0.0986	2.0412
	Cessna 172 Skyhawk	IO360	NONE	2.4835	0.1435	2.6270
	Cessna 182	IO360	NONE	1.5372	0.0055	1.5427
	Cessna 195 (FAS)	IO360	NONE	5.6702	0.1623	5.8326
	Cessna 206	TIO540	IO-540-AC	1.5285	0.0288	1.5573
	Cirrus SR20	IO360	NONE	2.5632	0.0856	2.6489
	Piper PA-30 Twin Comanche	IO320	NONE	0.1493	0.0071	0.1565
	Raytheon Beech Baron 58	TIO540	NONE	6.5578	0.2359	6.7937
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	0.7676	0.1919	0.9595
	Agusta A119	250B17	NONE	0.0089	--	0.0089
	Bell 206 JetRanger	250B17	NONE	0.2668	0.0208	0.2875
	Bell 206B-3	250B17	NONE	0.0030	--	0.0030
	Bell 206L-4T Long Ranger	250B17	NONE	0.0758	0.0284	0.1043
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	0.4774	0.2467	0.7241
	Bell 429	TPE1	NONE	0.2503	0.1967	0.4470
	Bell 430	250B17	NONE	0.0143	0.0036	0.0179
	Boeing CH-46 Sea Knight	T5816	NONE	0.0045	--	0.0045
	Eurocopter EC 120	PT6A27	NONE	0.0641	--	0.0641
	Eurocopter EC-130	TPE3	NONE	0.4388	0.3568	0.7956
	Hughes 500D	250B17	NONE	0.0030	--	0.0030
	Robinson R22 Mariner	IO320	NONE	0.0462	--	0.0462
	Robinson R44 Raven / Lycoming O-540-F1B5	TIO540	NONE	0.1922	--	0.1922
	Schweizer S269D/330	250B17	NONE	0.0030	--	0.0030
	Sikorsky S-76C	T70070	NONE	0.0089	0.0030	0.0119
	Sikorsky S-92	T70041	NONE	0.0909	--	0.0909
	Sikorsky UH-60 Black Hawk	T70070	NONE	0.0119	--	0.0119
All Aircraft				**209.2306**	**40.7652**	**249.9959**

NOTES: Total values may not add up exactly due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

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TABLE B-2.4
2026 FUTURE CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
Widebody	Airbus A300F4-600 Series	1PW056	NONE	0.5897	0.0851	2.3586	0.5318	0.0211	--	--	--	--	--	--	--	--	--	--	--	2.9694	0.6169	3.5863
	Boeing 707-300 Series	1PW003	NONE	--	--	--	--	0.0473	--	--	--	--	--	--	--	--	--	--	--	0.0473	0.0000	0.0473
	Boeing 747-400 Series	1GE024	NONE	0.0029	--	--	--	--	0.0015	--	--	--	--	--	--	--	0.0015	0.0015	--	0.0044	0.0029	0.0073
	Boeing 747-8	11GE139	NONE	0.0547	0.0058	0.0043	0.0316	--	0.0017	--	--	--	--	--	--	--	0.0007	0.0007	--	0.0597	0.0398	0.0995
	Boeing 767-200 Series	1GE026	NONE	0.0006	--	0.0009	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	0.0000	0.0015
	Boeing 767-200 Series	8PW086	NONE	--	--	0.0029	0.0029	--	--	--	--	--	--	--	--	--	--	--	--	0.0029	0.0029	0.0057
	Boeing 767-300 Series	8PW086	NONE	1.6931	0.0423	0.1370	0.2234	--	0.0069	--	--	--	--	--	--	--	--	--	--	1.8301	0.2726	2.1028
	Boeing 777-200 Series	1PW041	NONE	0.0027	--	--	--	0.0082	--	--	--	--	--	--	--	--	--	--	--	0.0109	0.0000	0.0109
	Boeing 787-8 Dreamliner	2GE048	NONE	0.2238	0.0439	--	--	0.2809	0.0219	--	--	--	--	--	--	--	--	--	--	0.5048	0.0658	0.5706
	Boeing DC-10-30 Series	1GE009	NONE	0.0068	0.0002	0.0203	0.0055	--	--	--	--	--	--	--	--	--	--	--	--	0.0270	0.0057	0.0327
	Boeing MD-11	CF680C	NONE	0.0001	0.0000	0.0051	0.0057	--	--	--	--	--	--	--	--	--	--	--	--	0.0052	0.0057	0.0109
Narrowbody	Airbus A319-100 Series	10IA012	NONE	0.7093	0.0803	3.2499	1.1028	0.7521	0.1116	--	--	--	--	--	--	--	--	--	--	4.7112	1.2946	6.0058
	Airbus A320-200 Series	2CM018	NONE	0.1386	0.0112	4.6455	1.0374	2.2406	0.0075	--	--	--	--	--	--	--	--	--	--	7.0247	1.0561	8.0808
	Airbus A320-200 Series	3IA007	NONE	1.4972	0.2458	2.1450	0.2868	0.4144	0.1154	--	--	--	--	--	--	--	--	--	--	4.0567	0.6480	4.7047
	Airbus A320-NEO	20CM089	NONE	0.0021	--	0.0204	0.0061	0.0040	0.0000	--	--	--	--	--	--	--	--	--	--	0.0266	0.0062	0.0327
	Airbus A321-200 Series	10IA017	NONE	6.6732	1.0072	6.3908	2.7640	0.0679	0.0076	--	--	--	--	--	--	--	--	--	--	13.1319	3.7788	16.9107
	Boeing 717-200 Series	4BR002	NONE	0.0030	--	0.0103	0.1387	0.2494	0.0015	--	--	--	--	--	--	--	--	--	--	0.2627	0.1402	0.4029
	Boeing 737-100 Series	1PW006	NONE	0.0064	--	0.0004	--	0.0004	--	--	--	--	--	--	--	--	--	--	--	0.0073	0.0000	0.0073
	Boeing 737-300 Series	1CM007	NONE	0.6132	--	0.0409	--	0.0409	--	--	--	--	--	--	--	--	--	--	--	0.6950	0.0000	0.6950
	Boeing 737-400 Series	1CM007	NONE	0.1974	0.0197	0.0493	--	0.3454	0.0395	--	--	--	--	--	--	--	--	--	--	0.5921	0.0592	0.6513
	Boeing 737-500 Series	1CM007	NONE	--	--	0.0055	--	0.0018	--	--	--	--	--	--	--	--	--	--	--	0.0073	0.0000	0.0073
	Boeing 737-700 Series	11CM074	NONE	17.8857	3.2018	16.6929	4.3451	3.8523	0.7944	0.0105	0.0071	--	--	0.0035	--	--	--	--	--	38.4448	8.3485	46.7934
	Boeing 737-8	20CM101	NONE	0.0376	0.0141	0.2559	0.0798	0.1127	0.0329	--	--	--	--	--	--	--	--	--	--	0.4061	0.1268	0.5329
	Boeing 737-800 Series	3CM034	NONE	8.2652	2.1269	10.4394	2.7616	3.2778	0.4524	1.0076	0.4578	--	0.0030	--	--	--	--	--	--	22.9900	5.8016	28.7916
	Boeing 757-200 Series	3RR028	NONE	0.0184	0.2778	0.0039	0.1265	0.0009	0.0249	--	--	--	--	0.0001	--	--	--	--	--	0.0233	0.4292	0.4525
	Boeing 757-200 Series	4PW073	NONE	0.9902	0.9372	0.3415	0.1930	0.0000	0.0517	0.0000	--	--	--	--	--	--	--	--	--	1.3317	1.1819	2.5136
	Boeing 757-300 Series	XPW204	NONE	0.0292	--	0.1168	0.0876	0.0876	0.0584	--	--	--	--	--	--	--	--	--	--	0.2335	0.1460	0.3795
	Boeing DC-9-30 Series	8PW085	ABS	0.0162	0.0052	0.0223	0.0057	0.0109	0.0052	--	--	--	--	--	--	--	--	--	--	0.0493	0.0162	0.0655
	Boeing MD-83	4PW068	NONE	0.0478	0.0148	0.0048	0.0007	0.0011	--	0.0001	--	--	--	--	--	--	--	--	--	0.0537	0.0154	0.0691
Regional Jet	Bombardier Challenger 600	5GE084	NONE	3.6747	0.3168	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.6747	0.3168	3.9915
	Bombardier CRJ-900-ER	8GE107	NONE	0.2484	0.0050	7.5614	1.2452	3.6176	0.0598	0.0050	--	--	--	--	--	--	--	--	--	11.4324	1.3100	12.7424
	Embraer ERJ145	6AL017	NONE	0.1373	0.0019	0.0444	0.0042	0.0066	0.0021	--	--	--	--	--	--	--	--	--	--	0.1883	0.0082	0.1965
	Embraer ERJ170	8GE113	NONE	0.1813	0.0203	0.3286	0.0081	0.6453	0.0771	--	--	--	--	--	--	--	--	--	--	1.1551	0.1055	1.2606
	Embraer ERJ175	8GE108	NONE	0.9019	0.0245	2.1928	0.3340	4.6591	1.5802	--	--	--	--	--	--	--	--	--	--	7.7538	1.9387	9.6926
	Embraer ERJ190	XCF10E	NONE	0.8742	0.0087	1.3109	0.0029	0.0602	0.0060	--	--	--	--	--	--	--	--	--	--	2.2452	0.0176	2.2628
	Fokker F100	1RR020	NONE	0.0073	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0073	0.0000	0.0073

TABLE B-2.4
2026 FUTURE CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Jet	Bombardier Global 5000 Business	4BR009	NONE	0.0139	0.0022	0.0116	0.0022	0.0139	--	--	--	--	--	--	--	--	--	--	--	0.0393	0.0044	0.0437
	Bombardier Global Express	4BR002	NONE	0.0167	0.0037	0.0187	0.0037	0.0149	--	0.0037	--	--	--	0.0112	--	0.0037	--	--	--	0.0690	0.0074	0.0764
	Bombardier Learjet 35	1AS002	NONE	6.3966	0.5130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.3966	0.5130	6.9096
	Cessna 500 Citation I	1PW035	NONE	3.9001	0.2806	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.9001	0.2806	4.1807
	Cessna 525 CitationJet	10PW099	NONE	2.6923	0.3677	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6923	0.3677	3.0600
	Cessna 550 Citation II	1PW036	NONE	4.0541	0.1266	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.0541	0.1266	4.1807
	Cessna 560 Citation V	1PW037	NONE	2.6198	0.2252	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6198	0.2252	2.8450
	Cessna 560 Citation V	PW530	NONE	1.8736	0.1931	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8736	0.1931	2.0667
	Cessna 650 Citation III	1AS001	NONE	1.3631	0.1397	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3631	0.1397	1.5027
	Cessna 680 Citation Sovereign	7PW078	NONE	2.3538	0.1495	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3538	0.1495	2.5033
	Cessna 750 Citation X	6AL022	NONE	2.9389	0.2084	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9389	0.2084	3.1473
	Cessna Citation 510	PW615F	NONE	1.0344	0.4028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0344	0.4028	1.4372
	Dassault Falcon 900	TFE731	NONE	0.4822	0.0312	0.2612	0.0104	0.0713	0.0079	0.0164	--	--	--	--	--	--	--	--	--	0.8310	0.0495	0.8805
	Eclipse 500 / PW610F	PW610F-A	NONE	0.3743	0.0127	0.2746	--	--	0.0042	--	--	--	--	--	--	--	--	--	--	0.6489	0.0170	0.6659
	Gulfstream II-B	1RR016	NONE	0.0473	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0473	0.0000	0.0473
	Gulfstream IV-SP	1RR019	NONE	1.3530	0.0806	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3530	0.0806	1.4336
	Gulfstream V-SP	11RR048	NONE	0.6354	0.1068	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6354	0.1068	0.7423
	Israel IAI-1125 Astra	TFE731	NONE	0.3883	0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3883	0.0119	0.4002
	Mitsubishi MU-300 Diamond	1PW036	NONE	2.2252	0.1144	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2252	0.1144	2.3396
	T-38 Talon	J855HA	NONE	0.0619	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0619	0.0000	0.0619
General Aviation Turboprop	Cessna 208 Caravan	PT6A42	NONE	9.8561	1.9361	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.8561	1.9361	11.7921
	Cessna 441 Conquest II	TPE8	NONE	0.5424	0.0180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5424	0.0180	0.5603
	DeHavilland DHC-6-300 Twin Otter	PT6A34	NONE	10.4767	1.8495	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10.4767	1.8495	12.3262
	DeHavilland DHC-8-100	PW123	NONE	0.1019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1019	0.0000	0.1019
	DeHavilland DHC-8-300	PW120	NONE	0.0218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0218	0.0000	0.0218
	Dornier 328-100 Series	PW119B	NONE	0.0691	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0691	0.0000	0.0691
	Embraer EMB120 Brasilia	PW118	NONE	0.0757	0.0189	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0757	0.0189	0.0946
	Hawker HS748-2A	RDA7	NONE	0.0979	0.0113	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0979	0.0113	0.1092
	Lockheed C-130 Hercules	250B17	NONE	--	--	0.0182	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0182	0.0000	0.0182
	Piper PA-42 Cheyenne Series	PT6A41	NONE	0.1746	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1746	0.0000	0.1746
	Raytheon Beech 1900-C	PT67B	NONE	4.3906	1.0125	0.0083	--	--	--	--	--	--	--	--	--	--	--	--	--	4.3989	1.0125	5.4114
	Rockwell OV-10 Bronco	T7612A	NONE	0.0036	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0036	0.0000	0.0036
	Saab 340-A	CT79B	NONE	0.0073	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0073	0.0000	0.0073
	Shorts 330-200 Series	PT6A6R	NONE	0.0600	0.0200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0600	0.0200	0.0800

TABLE B-2.4
2026 FUTURE CONDITIONS ANNUAL AVERAGE DAY AEDT AIRCRAFT DEPARTURE OPERATIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6		Stage 7		Stage 8		Total Day	Total Night	Total All
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			
General Aviation Piston	Cessna 150 Series	O200	NONE	1.8936	0.1476	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8936	0.1476	2.0412
	Cessna 172 Skyhawk	IO360	NONE	2.3292	0.2978	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3292	0.2978	2.6270
	Cessna 182	IO360	NONE	1.5173	0.0254	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5173	0.0254	1.5427
	Cessna 195 (FAS)	IO360	NONE	5.6698	0.1628	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6698	0.1628	5.8326
	Cessna 206	TIO540	IO-540-AC	1.5269	0.0153	0.0076	--	0.0076	--	--	--	--	--	--	--	--	--	--	--	1.5420	0.0153	1.5573
	Cirrus SR20	IO360	NONE	2.5479	0.1010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5479	0.1010	2.6489
	Piper PA-30 Twin Comanche	IO320	NONE	0.1422	0.0142	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1422	0.0142	0.1565
	Raytheon Beech Baron 58	TIO540	NONE	6.5910	0.2028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.5910	0.2028	6.7937
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	0.8240	0.1355	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8240	0.1355	0.9595
	Agusta A119	250B17	NONE	0.0089	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0089	0.0000	0.0089
	Bell 206 JetRanger	250B17	NONE	0.2660	0.0216	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2660	0.0216	0.2875
	Bell 206B-3	250B17	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Bell 206L-4T Long Ranger	250B17	NONE	0.0807	0.0235	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0807	0.0235	0.1043
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	0.4837	0.2404	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4837	0.2404	0.7241
	Bell 429	TPE1	NONE	0.2568	0.1901	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2568	0.1901	0.4470
	Bell 430	250B17	NONE	0.0179	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0179	0.0000	0.0179
	Boeing CH-46 Sea Knight	T5816	NONE	0.0045	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0045	0.0000	0.0045
	Eurocopter EC 120	PT6A27	NONE	0.0641	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0641	0.0000	0.0641
	Eurocopter EC-130	TPE3	NONE	0.4181	0.3775	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4181	0.3775	0.7956
	Hughes 500D	250B17	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Robinson R22 Mariner	IO320	NONE	0.0462	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0462	0.0000	0.0462
	Robinson R44 Raven / Lycoming O-540-F1B5	TIO540	NONE	0.1887	0.0035	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1887	0.0035	0.1922
	Schweizer S269D/330	250B17	NONE	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0030	0.0000	0.0030
	Sikorsky S-76C	T70070	NONE	0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0119	0.0000	0.0119
	Sikorsky S-92	T70041	NONE	0.0875	0.0034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0875	0.0034	0.0909
	Sikorsky UH-60 Black Hawk	T70070	NONE	0.0119	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0119	0.0000	0.0119
All Aircraft				**131.4303**	**18.2950**	**59.0027**	**15.3472**	**20.9142**	**3.4723**	**1.0433**	**0.4650**	**0.0000**	**0.0030**	**0.0148**	**0.0000**	**0.0037**	**0.0022**	**0.0022**	**0.0000**	**212.4113**	**37.5846**	**249.9959**

NOTES: Total values may not add up exactly due to rounding.
SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

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TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Widebody	Airbus A300F4-600 Series	1GE020	NONE	60.00%	40.00%	64.00%	36.00%	0.00%	0.00%
	Airbus A300F4-600 Series	1PW048	NONE	34.58%	65.42%	84.42%	15.58%	0.00%	0.00%
	Airbus A310-300 Series	1PW045	NONE	47.32%	52.68%	1.00%	99.00%	0.00%	0.00%
	Airbus A330-200 Series	2RR023	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Airbus A330-300 Series	4PW067	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Airbus A340-300 Series	7CM049	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Airbus A350-900 series	18RR079	NONE	66.67%	33.33%	100.00%	0.00%	0.00%	0.00%
	Boeing 747-400 Series	1GE024	NONE	83.33%	16.67%	60.00%	40.00%	0.00%	0.00%
	Boeing 767-200 Series	2GE054	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 767-200 Series	8PW086	NONE	100.00%	0.00%	50.00%	50.00%	0.00%	0.00%
	Boeing 767-300 ER	12PW101	NONE	0.00%	100.00%	50.00%	50.00%	0.00%	0.00%
	Boeing 767-300 Freighter	2GE048	NONE	82.86%	17.14%	70.00%	30.00%	0.00%	0.00%
	Boeing 767-300 Series	1GE030	NONE	94.44%	5.56%	93.00%	7.00%	0.00%	0.00%
	Boeing 767-300 Series	2GE054	NONE	75.22%	24.78%	100.00%	0.00%	0.00%	0.00%
	Boeing 767-300 Series	3GE058	NONE	100.00%	0.00%	25.00%	75.00%	0.00%	0.00%
	Boeing 777-200 Series	2PW061	NONE	80.00%	20.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 777-300 ER	7GE099	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 787-8 Dreamliner	17GE177	NONE	33.33%	66.67%	100.00%	0.00%	0.00%	0.00%
	Boeing 787-9 Dreamliner	11GE138	NONE	100.00%	0.00%	94.12%	5.88%	0.00%	0.00%
	Boeing 787-9 Dreamliner	17GE177	NONE	83.33%	16.67%	66.67%	33.33%	0.00%	0.00%
	Boeing DC-10-10 Series	1GE003	NONE	86.49%	13.51%	74.65%	25.35%	0.00%	0.00%
	Boeing DC-10-30 Series	3GE074	NONE	25.67%	74.33%	81.97%	18.03%	0.00%	0.00%
	Boeing DC-10-40 Series	1PW033	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Widebody (cont.)	Boeing MD-10-1 Freighter	1GE001	NONE	78.95%	21.05%	84.62%	15.38%	0.00%	0.00%
	Boeing MD-10-30	3GE074	NONE	15.38%	84.62%	91.67%	8.33%	0.00%	0.00%
	Boeing MD-11 Freighter	2GE049	NONE	56.74%	43.26%	47.73%	52.27%	0.00%	0.00%
	Ilyushin 76 Candid Freighter	13AA006	NONE	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Narrowbody	Airbus A220-100	20PW133	NONE	80.00%	20.00%	83.33%	16.67%	0.00%	0.00%
	Airbus A319-100 Series	3CM027	NONE	100.00%	0.00%	97.96%	2.04%	0.00%	0.00%
	Airbus A319-100 Series	3CM028	NONE	83.02%	16.98%	78.41%	21.59%	0.00%	0.00%
	Airbus A319-100 Series	3IA006	NONE	85.22%	14.78%	86.64%	13.36%	0.00%	0.00%
	Airbus A319-100 Series	3IA007	NONE	87.25%	12.75%	86.85%	13.15%	0.00%	0.00%
	Airbus A319-100 Series	4CM036	NONE	88.50%	11.50%	44.35%	55.65%	0.00%	0.00%
	Airbus A319-100 Series	6CM044	NONE	25.17%	74.83%	7.75%	92.25%	0.00%	0.00%
	Airbus A319-100 Series	8CM056	NONE	94.85%	5.15%	93.23%	6.77%	0.00%	0.00%
	Airbus A319-100 Series	8IA009	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Airbus A320-200 Series	1CM008	NONE	65.86%	34.14%	88.08%	11.92%	0.00%	0.00%
	Airbus A320-200 Series	1CM009	NONE	72.38%	27.62%	90.38%	9.62%	0.00%	0.00%
	Airbus A320-200 Series	1IA003	NONE	79.83%	20.17%	81.75%	18.25%	0.00%	0.00%
	Airbus A320-200 Series	2CM014	NONE	60.00%	40.00%	81.82%	18.18%	0.00%	0.00%
	Airbus A320-200 Series	3CM026	NONE	86.58%	13.42%	85.66%	14.34%	0.00%	0.00%
	Airbus A320-200 Series	3CM027	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Airbus A320-200 Series	8CM055	NONE	94.12%	5.88%	94.87%	5.13%	0.00%	0.00%
	Airbus A320-200 Series	8IA010	NONE	100.00%	0.00%	99.68%	0.32%	0.00%	0.00%
	Airbus A320-NEO	18PW122	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Airbus A320-NEO	20CM089	NONE	80.09%	19.91%	78.60%	21.40%	0.00%	0.00%
	Airbus A321-200 Series	3CM025	NONE	67.26%	32.74%	73.66%	26.34%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Narrowbody (cont.)	Airbus A321-200 Series	3IA008	NONE	86.06%	13.94%	81.53%	18.47%	0.00%	0.00%
	Airbus A321-200 Series	8CM054	NONE	40.00%	60.00%	68.18%	31.82%	0.00%	0.00%
	Airbus A321-NEO	20CM090	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Airbus A321-NEO	8CM053	NONE	100.00%	0.00%	94.44%	5.56%	0.00%	0.00%
	Boeing 717-200 Series	4BR007	NONE	34.56%	65.44%	65.20%	34.80%	0.00%	0.00%
	Boeing 727-200 Series Freighter	1PW012	FDX-HW	0.00%	100.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 727-200 Series Freighter	1PW018	NONE	50.00%	50.00%	50.00%	50.00%	0.00%	0.00%
	Boeing 737-300 Series	1CM007	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-400 Series	1CM007	NONE	100.00%	0.00%	90.91%	9.09%	0.00%	0.00%
	Boeing 737-500 Series	1CM007	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-700 Series	3CM030	NONE	80.77%	19.23%	85.55%	14.45%	0.00%	0.00%
	Boeing 737-700 Series	3CM031	NONE	79.91%	20.09%	79.33%	20.67%	0.00%	0.00%
	Boeing 737-700 Series	3CM032	NONE	81.66%	18.34%	82.30%	17.70%	0.00%	0.00%
	Boeing 737-700 Series	8CM051	NONE	83.84%	16.16%	86.73%	13.27%	0.00%	0.00%
	Boeing 737-8	20CM098	NONE	0.00%	100.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-8	20CM099	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-8	20CM101	NONE	75.47%	24.53%	74.53%	25.47%	0.00%	0.00%
	Boeing 737-800 Series	11CM078	NONE	73.04%	26.96%	82.18%	17.82%	0.00%	0.00%
	Boeing 737-800 Series	3CM032	NONE	65.94%	34.06%	81.20%	18.80%	0.00%	0.00%
	Boeing 737-800 Series	3CM034	NONE	86.32%	13.68%	85.90%	14.10%	0.00%	0.00%
	Boeing 737-800 Series	8CM051	NONE	73.35%	26.65%	76.59%	23.41%	0.00%	0.00%
	Boeing 737-800 Series	8CM065	NONE	87.50%	12.50%	71.43%	28.57%	0.00%	0.00%
	Boeing 737-9	20CM100	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-900 Series	3CM032	NONE	60.00%	40.00%	58.82%	41.18%	0.00%	0.00%
	Boeing 737-900 Series	8CM051	NONE	84.27%	15.73%	84.57%	15.43%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Narrowbody (cont.)	Boeing 737-900-ER	11CM078	NONE	69.77%	30.23%	69.87%	30.13%	0.00%	0.00%
	Boeing 737-900-ER	8CM051	NONE	85.04%	14.96%	73.95%	26.05%	0.00%	0.00%
	Boeing 737-900-ER	8CM065	NONE	72.73%	27.27%	63.64%	36.36%	0.00%	0.00%
	Boeing 757-200 Series	3RR034	NONE	52.94%	47.06%	86.36%	13.64%	0.00%	0.00%
	Boeing 757-200 Series	4PW072	NONE	54.68%	45.32%	60.74%	39.26%	0.00%	0.00%
	Boeing 757-200 Series	4PW073	NONE	22.22%	77.78%	25.00%	75.00%	0.00%	0.00%
	Boeing 757-200 Series	5RR038	NONE	40.00%	60.00%	58.82%	41.18%	0.00%	0.00%
	Boeing 757-200 Series Freighter	4PW072	NONE	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%
	Boeing 757-200 Series Freighter	4PW073	NONE	45.73%	54.27%	52.24%	47.76%	0.00%	0.00%
	Boeing 757-200 Series Freighter	5RR038	NONE	26.02%	73.98%	2.48%	97.52%	0.00%	0.00%
	Boeing 757-300 Series	3RR028	NONE	50.00%	50.00%	61.54%	38.46%	0.00%	0.00%
	Boeing C-17A	PW2041	NONE	100.00%	0.00%	50.00%	50.00%	0.00%	0.00%
	Boeing DC-9-10 Series Freighter	1PW006	ABS	50.00%	50.00%	66.67%	33.33%	0.00%	0.00%
	Boeing DC-9-30 Series Freighter	1PW007	ABS	71.43%	28.57%	83.33%	16.67%	0.00%	0.00%
	Boeing E-8C	1PW001	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing MD-82	4PW068	NONE	86.00%	14.00%	72.22%	27.78%	0.00%	0.00%
	Boeing MD-83	1PW019	NONE	80.09%	19.91%	77.01%	22.99%	0.00%	0.00%
	Boeing MD-87	1PW019	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing MD-88	1PW019	NONE	100.00%	0.00%	97.37%	2.63%	0.00%	0.00%
	Boeing MD-90	1IA002	NONE	96.00%	4.00%	98.41%	1.59%	0.00%	0.00%
	Boeing MD-90	1IA004	NONE	96.86%	3.14%	98.60%	1.40%	0.00%	0.00%
Regional Jet	Bombardier Challenger 300	11HN003	NONE	96.85%	3.15%	88.45%	11.55%	0.00%	0.00%
	Bombardier Challenger 300	14HN009	NONE	95.03%	4.97%	95.11%	4.89%	0.00%	0.00%
	Bombardier Challenger 600	1TL001	NONE	96.70%	3.30%	94.48%	5.52%	0.00%	0.00%
	Bombardier Challenger 601	1GE034	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier Challenger 604	5GE084	NONE	96.88%	3.13%	93.55%	6.45%	0.00%	0.00%
	Bombardier CRJ-200	5GE084	NONE	93.75%	6.25%	95.45%	4.55%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Regional Jet (cont.)	Bombardier CRJ-200-ER	5GE084	NONE	97.50%	2.50%	97.50%	2.50%	0.00%	0.00%
	Bombardier CRJ-700	5GE083	NONE	78.72%	21.28%	81.05%	18.95%	0.00%	0.00%
	Bombardier CRJ-700	5GE084	NONE	97.10%	2.90%	97.10%	2.90%	0.00%	0.00%
	Bombardier CRJ-700	8GE112	NONE	100.00%	0.00%	90.91%	9.09%	0.00%	0.00%
	Bombardier CRJ-700-ER	5GE083	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier CRJ-700-ER	8GE112	NONE	94.48%	5.52%	94.02%	5.98%	0.00%	0.00%
	Bombardier CRJ-900	8GE110	NONE	82.77%	17.23%	87.30%	12.70%	0.00%	0.00%
	Bombardier CRJ-900-ER	8GE110	NONE	86.89%	13.11%	91.98%	8.02%	0.00%	0.00%
	Bombardier Global 5000 Business	4BR009	NONE	90.00%	10.00%	90.00%	10.00%	0.00%	0.00%
	Bombardier Global Express	4BR008	NONE	100.00%	0.00%	90.91%	9.09%	0.00%	0.00%
	Bombardier Global Express	4BR009	NONE	100.00%	0.00%	87.50%	12.50%	0.00%	0.00%
	Embraer ERJ135	6AL020	NONE	95.65%	4.35%	92.86%	7.14%	0.00%	0.00%
	Embraer ERJ135-LR	6AL020	NONE	89.74%	10.26%	97.62%	2.38%	0.00%	0.00%
	Embraer ERJ145-LR	4AL003	NONE	96.15%	3.85%	92.59%	7.41%	0.00%	0.00%
	Embraer ERJ145-LR	6AL014	NONE	94.44%	5.56%	94.12%	5.88%	0.00%	0.00%
	Embraer ERJ145-XR	6AL020	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Embraer ERJ170	8GE108	NONE	94.46%	5.54%	94.72%	5.28%	0.00%	0.00%
	Embraer ERJ170-LR	8GE108	NONE	86.97%	13.03%	90.00%	10.00%	0.00%	0.00%
	Embraer ERJ175	8GE108	NONE	57.57%	42.43%	53.13%	46.87%	0.00%	0.00%
	Embraer ERJ175-LR	8GE105	NONE	55.56%	44.44%	83.33%	16.67%	0.00%	0.00%
	Embraer ERJ175-LR	8GE108	NONE	71.60%	28.40%	82.71%	17.29%	0.00%	0.00%
	Embraer ERJ190	11GE143	NONE	75.00%	25.00%	100.00%	0.00%	0.00%	0.00%
	Embraer ERJ190	8GE116	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Embraer ERJ190-AR	11GE143	NONE	92.31%	7.69%	83.33%	16.67%	0.00%	0.00%
	Embraer ERJ190-LR	10GE133	NONE	100.00%	0.00%	99.58%	0.42%	0.00%	0.00%
	United Aircraft Corp (Sukhoi) Superjet 100 95LR	11PJ002	NONE	100.00%	0.00%	99.18%	0.82%	0.00%	0.00%
General Aviation Jet	Bombardier Learjet 24	CJ6106	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier Learjet 25	PW610F	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier Learjet 31	1AS002	NONE	85.05%	14.95%	88.32%	11.68%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Jet (cont.)	Bombardier Learjet 35	1AS001	NONE	87.54%	12.46%	86.80%	13.20%	0.00%	100.00%
	Bombardier Learjet 35	1AS002	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier Learjet 40	TFE731	NONE	96.49%	3.51%	96.43%	3.57%	0.00%	0.00%
	Bombardier Learjet 45	TFE731	NONE	97.53%	2.47%	95.73%	4.27%	0.00%	0.00%
	Bombardier Learjet 55	1AS002	NONE	96.30%	3.70%	92.86%	7.14%	0.00%	0.00%
	Bombardier Learjet 60	7PW078	NONE	94.20%	5.80%	95.31%	4.69%	0.00%	0.00%
	Bombardier Learjet 70	1AS002	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier Learjet 75	1AS002	NONE	100.00%	0.00%	93.94%	6.06%	0.00%	0.00%
	CASA C-101 Aviojet	1AS002	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 500 Citation I	1PW035	NONE	92.59%	7.41%	88.46%	11.54%	0.00%	0.00%
	Cessna 501 Citation ISP	1PW035	NONE	88.97%	11.03%	89.04%	10.96%	0.00%	0.00%
	Cessna 525 CitationJet	1PW035	NONE	97.78%	2.22%	95.40%	4.60%	0.00%	0.00%
	Cessna 525 CitationJet	PW610F	NONE	97.14%	2.86%	94.72%	5.28%	0.00%	0.00%
	Cessna 525A CitationJet	PW610F	NONE	95.80%	4.20%	93.23%	6.77%	0.00%	0.00%
	Cessna 525B CitationJet	1PW036	NONE	93.87%	6.13%	95.63%	4.37%	100.00%	0.00%
	Cessna 525B CitationJet	PW610F	NONE	98.53%	1.47%	96.97%	3.03%	0.00%	0.00%
	Cessna 525C CitationJet	PW610F	NONE	96.69%	3.31%	77.11%	22.89%	0.00%	0.00%
	Cessna 525C CitationJet	PW615F	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 551 Citation IISP	1PW036	NONE	95.45%	4.55%	95.65%	4.35%	0.00%	0.00%
	Cessna 560 Citation Excel	1PW037	NONE	93.82%	6.18%	93.28%	6.72%	0.00%	0.00%
	Cessna 560 Citation Excel	PW530	NONE	95.83%	4.17%	90.70%	9.30%	0.00%	0.00%
	Cessna 560 Citation XLS	PW530	NONE	96.95%	3.05%	95.70%	4.30%	0.00%	0.00%
	Cessna 650 Citation III	1AS002	NONE	100.00%	0.00%	92.86%	7.14%	0.00%	0.00%

Table B-2.5
Annual Aircraft Operations By Time of Day – 2021 Existing Conditions

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Jet (cont.)	Cessna 650 Citation III	TFE731	NONE	91.41%	8.59%	90.63%	9.37%	0.00%	0.00%
	Cessna 680 Citation Sovereign	7PW078	NONE	92.47%	7.53%	92.06%	7.94%	0.00%	0.00%
	Cessna 680-A Citation Latitude	7PW078	NONE	96.72%	3.28%	96.94%	3.06%	0.00%	0.00%
	Cessna 700 Citation Longitude	11HN003	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 750 Citation X	13AL027	NONE	90.00%	10.00%	96.67%	3.33%	0.00%	0.00%
	Cessna 750 Citation X	4AL003	NONE	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
	Cessna 750 Citation X	6AL022	NONE	92.34%	7.66%	96.55%	3.45%	0.00%	0.00%
	Cessna 750 Citation X	6AL023	NONE	93.18%	6.82%	100.00%	0.00%	0.00%	0.00%
	Cessna Citation 510	PW615F	NONE	99.07%	0.93%	78.85%	21.15%	0.00%	0.00%
	Cessna S550 Citation S/II	1PW036	NONE	95.26%	4.74%	97.86%	2.14%	0.00%	0.00%
	Cessna S550 Citation S/II	PW530	NONE	99.17%	0.83%	96.55%	3.45%	0.00%	0.00%
	CIRRUS SF-50 Vision	PW610F	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cirrus Vision SF50 (FAS)	BIZVERYLIGHTJET_F	NONE	97.44%	2.56%	97.78%	2.22%	0.00%	0.00%
	CX 750 Citation X+	13AL027	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Dassault Falcon 10	1AS001	NONE	94.74%	5.26%	94.74%	5.26%	0.00%	0.00%
	Dassault Falcon 2000	CF700D	NONE	94.01%	5.99%	86.54%	13.46%	0.00%	0.00%
	Dassault Falcon 2000-EX	14PW103	NONE	88.37%	11.63%	100.00%	0.00%	0.00%	0.00%
	Dassault Falcon 20-C	TFE731	NONE	88.24%	11.76%	88.89%	11.11%	0.00%	0.00%
	Dassault Falcon 20-D	TFE731	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Dassault Falcon 20-F	CF700D	NONE	40.00%	60.00%	20.00%	80.00%	0.00%	0.00%
	Dassault Falcon 20-F	TFE731	NONE	38.46%	61.54%	50.00%	50.00%	0.00%	0.00%
	Dassault Falcon 20-G	CF700D	NONE	66.67%	33.33%	66.67%	33.33%	0.00%	0.00%
	Dassault Falcon 20-G	TFE731	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Dassault Falcon 50	TFE731	NONE	96.80%	3.20%	95.24%	4.76%	0.00%	0.00%
	Dassault Falcon 8X	15PW109	NONE	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Jet (cont.)	Dassault Falcon 900	TFE731	NONE	96.86%	3.14%	94.64%	5.36%	0.00%	0.00%
	Dassault Falcon 900-EX	TFE731	NONE	100.00%	0.00%	66.67%	33.33%	0.00%	0.00%
	Dornier 328 Jet	7PW078	NONE	100.00%	0.00%	76.47%	23.53%	0.00%	0.00%
	Eclipse 500 / PW610F	PW610F-A	NONE	91.82%	8.18%	96.46%	3.54%	0.00%	0.00%
	Embraer 500	PW610F	NONE	61.71%	38.29%	64.79%	35.21%	0.00%	0.00%
	Embraer 505	PW530	NONE	95.86%	4.14%	96.38%	3.62%	0.00%	0.00%
	Embraer Legacy 450 (EMB-545)	14HN008	NONE	96.23%	3.77%	98.04%	1.96%	0.00%	0.00%
	Embraer Legacy 500 (EMB-550)	14HN008	NONE	95.00%	5.00%	100.00%	0.00%	0.00%	0.00%
	Falcon 7X	16PW114	NONE	95.60%	4.40%	93.10%	6.90%	0.00%	0.00%
	Gulfstream G100	TFE731	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream G150	1AS002	NONE	97.06%	2.94%	94.44%	5.56%	0.00%	0.00%
	Gulfstream G200	7PW077	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream G280	11HN005	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream G400	11RR048	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream G450	11RR048	NONE	93.75%	6.25%	96.67%	3.33%	0.00%	0.00%
	Gulfstream G500	19PW127	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream G550	6BR010	NONE	90.86%	9.14%	85.53%	14.47%	0.00%	0.00%
	Gulfstream G650	11BR011	NONE	86.36%	13.64%	95.00%	5.00%	0.00%	0.00%
	Gulfstream G650ER	11BR011	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream II	1RR016	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream III (FAS)	1RR016	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream IV-SP	11RR048	NONE	92.66%	7.34%	94.75%	5.25%	0.00%	0.00%
	Hawker 900XP	1AS001	NONE	94.74%	5.26%	92.31%	7.69%	0.00%	0.00%
	Hawker Beechcraft Corp Beechjet 400A	1PW037	NONE	88.41%	11.59%	90.66%	9.34%	0.00%	0.00%
	Hawker HS-125 Series 700	1AS002	NONE	97.27%	2.73%	96.95%	3.05%	0.00%	0.00%
	Honda HA-420 Hondajet	1PW036	NONE	100.00%	0.00%	96.88%	3.13%	0.00%	0.00%
	Israel IAI-1124 Westwind I	1AS002	NONE	85.71%	14.29%	83.33%	16.67%	0.00%	0.00%
	Israel IAI-1124-A Westwind II	1AS002	NONE	85.00%	15.00%	90.00%	10.00%	0.00%	0.00%
	Israel IAI-1125 Astra	TFE731	NONE	91.89%	8.11%	97.37%	2.63%	0.00%	0.00%
	Mitsubishi MU-300 Diamond	1PW036	NONE	90.00%	10.00%	86.36%	13.64%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Jet (cont.)	Pilatus PC-24	PW610F	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Raytheon Beechjet 400	1PW038	NONE	100.00%	0.00%	66.67%	33.33%	0.00%	0.00%
	Raytheon Hawker 1000	7PW078	NONE	89.02%	10.98%	90.00%	10.00%	0.00%	0.00%
	Raytheon Hawker 4000 Horizon	7PW079	NONE	81.93%	18.07%	94.81%	5.19%	0.00%	0.00%
	Raytheon Hawker 800	1AS002	NONE	93.29%	6.71%	92.23%	7.77%	0.00%	0.00%
	Raytheon Premier I	PW610F	NONE	94.03%	5.97%	98.51%	1.49%	0.00%	0.00%
	Rockwell Sabreliner 65	1AS002	NONE	76.92%	23.08%	100.00%	0.00%	0.00%	0.00%
	Rockwell Sabreliner 75	CF700D	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	SJ-30-1/-2/-2+	PW610F	NONE	97.56%	2.44%	100.00%	0.00%	0.00%	0.00%
	T-38 Talon	J855HA	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
General Aviation Turboprop	ATR 42-300	PW120	NONE	0.00%	100.00%	100.00%	0.00%	0.00%	0.00%
	ATR 72-200	PT6A45	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	ATR 72-200	PW127	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	ATR 72-600	PW127F	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	BAE Jetstream 41	TP14GR	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	BEECH MENTOR (BE45) PT6A-25 NM	PT6A34	PT6A-25	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier de Havilland Dash 8 Q200	PW123D	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bombardier de Havilland Dash 8 Q400	PW150A	NONE	0.00%	100.00%	100.00%	0.00%	0.00%	0.00%
	CASA 295	PW127G	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	CASA CN-235-300	CT7-5	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 180 (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 208 Caravan	P6114A	NONE	96.30%	3.70%	100.00%	0.00%	0.00%	0.00%
	Cessna 208 Caravan	PT6A42	NONE	97.65%	2.35%	68.06%	31.94%	0.00%	0.00%
	Cessna 425 Conquest I	PT6A60	NONE	100.00%	0.00%	95.35%	4.65%	0.00%	0.00%
	Cessna 441 Conquest II	TPE10N	NONE	87.50%	12.50%	92.86%	7.14%	0.00%	0.00%
	Comp Air Aviation Comp Air 10	PT6110	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	DeHavilland DHC-6-100 Twin Otter	PT6A6R	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Turboprop (cont.)	DeHavilland DHC-8-100	PW123	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Dornier 328-100 Series	7PW078	NONE	40.00%	60.00%	100.00%	0.00%	0.00%	0.00%
	EADS Socata TBM-700	PT6A64	NONE	98.53%	1.47%	99.00%	1.00%	100.00%	0.00%
	Embraer EMB120 Brasilia	PW118	NONE	60.00%	40.00%	80.00%	20.00%	0.00%	0.00%
	EPIC LT/Dynasty	PT667A	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Fairchild SA-226-TC Metro II	TP10GT	NONE	92.18%	7.82%	86.79%	13.21%	100.00%	0.00%
	Fairchild SA-227-AC Metro III	TPE11U	NONE	92.64%	7.36%	81.48%	18.52%	0.00%	0.00%
	Fairchild SA-227-AT Expeditor	TPE11U	NONE	93.33%	6.67%	77.22%	22.78%	100.00%	0.00%
	Gulfstream I	DART52	NONE	75.00%	25.00%	91.18%	8.82%	0.00%	0.00%
	Helio U-10 Super Courier	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Lockheed C-130 Hercules	T56-1	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Maule MT-7-235	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Mitsubishi MU-2	TPE1	NONE	84.62%	15.38%	48.65%	51.35%	0.00%	0.00%
	Piaggio Aerospace P.180 Avanti	PT6A66	NONE	98.04%	1.96%	98.95%	1.05%	0.00%	0.00%
	Pilatus PC-12	PT6A67	NONE	90.90%	9.10%	90.59%	9.41%	100.00%	0.00%
	Pilatus PC-6 Porter	PT6A42	NONE	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
	Piper PA-31T Cheyenne	P6135A	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-31T Cheyenne	PT660A	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-31T Cheyenne	PT6A28	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-42 Cheyenne Series	PT6A61	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-42 Cheyenne Series	TPE14	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA46-TP Meridian	PT6A21	NONE	100.00%	0.00%	94.44%	5.56%	0.00%	0.00%
	Piper PA46-TP Meridian	PT6A42	NONE	97.65%	2.35%	97.02%	2.98%	100.00%	0.00%
	Piper PA46-TP Meridian	TPE10	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Quest Kodiak 100	PT6A34	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%

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ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Turboprop (cont.)	Raytheon Beech 18	PT6A27	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Raytheon Beech 1900-C	PT6A6B	NONE	99.12%	0.88%	81.25%	18.75%	0.00%	0.00%
	Raytheon Beech 99	PT6A60	NONE	45.00%	55.00%	94.74%	5.26%	0.00%	0.00%
	Raytheon King Air 100	TPE6	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Raytheon King Air 90	P6135A	NONE	71.92%	28.08%	76.04%	23.96%	100.00%	0.00%
	Raytheon Super King Air 200	PT6A42	NONE	93.45%	6.55%	93.73%	6.27%	100.00%	0.00%
	Raytheon Super King Air 300	PT660A	NONE	97.11%	2.89%	96.54%	3.46%	100.00%	0.00%
	Rockwell Commander 690	TPE5A	NONE	98.61%	1.39%	98.53%	1.47%	0.00%	0.00%
	Saab 2000	4AL003	NONE	75.00%	25.00%	66.67%	33.33%	0.00%	0.00%
	Shorts 360-300 Series	PT67D	NONE	80.00%	20.00%	75.00%	25.00%	0.00%	0.00%
	Shorts 360-300 Series	PT6A6A	PT6A-65AR	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Socata TBM-9 (FAS)	PT6A64	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
General Aviation Piston	1985 1-ENG COMP	TIO540	NONE	98.84%	1.16%	97.10%	2.90%	100.00%	0.00%
	Aerostar PA-60	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Aviat Husky A1B	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Beech 23 Musketeer Sundowner (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Beech 95 (FAS)	TIO540	NONE	95.16%	4.84%	96.72%	3.28%	0.00%	0.00%
	Beech E-55 (FAS)	TIO540	NONE	85.71%	14.29%	85.71%	14.29%	0.00%	0.00%
	Beechcraft Bonanza 33 (FAS)	TIO540	NONE	86.21%	13.79%	88.89%	11.11%	0.00%	0.00%
	Beechcraft Bonanza 35 (FAS)	TIO540	NONE	100.00%	0.00%	99.04%	0.96%	100.00%	0.00%
	Bellanca 8 Scout Super Decathlon (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bellanca Viking (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing DC-3	R1820	R1820-86	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing Stearman PT-17 / A75N1	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 140 (FAS)	O200	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 150 Series	O200	NONE	90.00%	10.00%	93.75%	6.25%	0.00%	0.00%
	Cessna 152 (FAS)	O200	NONE	75.00%	25.00%	100.00%	0.00%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Piston (cont.)	Cessna 170 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%
	Cessna 172 Skyhawk	IO360	NONE	92.11%	7.89%	78.75%	21.25%	50.00%	50.00%
	Cessna 172 Skyhawk	O320	NONE	94.78%	5.22%	94.07%	5.93%	51.61%	48.39%
	Cessna 177 (FAS)	IO360	NONE	100.00%	0.00%	80.00%	20.00%		
	Cessna 182	IO360	NONE	99.63%	0.37%	98.31%	1.69%	100.00%	0.00%
	Cessna 182 Turbo (FAS)	TIO540	TIO-540-AJ1A	99.26%	0.74%	99.16%	0.84%	0.00%	0.00%
	Cessna 185 Skywagon	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 195 (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 206	TIO540	IO-540-AC	98.13%	1.87%	99.01%	0.99%	100.00%	0.00%
	Cessna 206	TIO540	TIO-540-AJ1A	100.00%	0.00%	87.50%	12.50%	0.00%	0.00%
	Cessna 207 (Turbo) Stationair (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Cessna 210 Centurion	TIO540	NONE	97.89%	2.11%	97.66%	2.34%	100.00%	0.00%
	Cessna 310	TIO540	NONE	98.53%	1.47%	96.83%	3.17%	0.00%	0.00%
	Cessna 337 Skymaster	IO360	NONE	85.71%	14.29%	100.00%	0.00%	0.00%	0.00%
	Cessna 340	TIO540	NONE	100.00%	0.00%	92.42%	7.58%	0.00%	0.00%
	Cessna 402	TIO540	NONE	98.70%	1.30%	100.00%	0.00%	0.00%	0.00%
	Cessna 414	TIO540	NONE	100.00%	0.00%	96.46%	3.54%	0.00%	0.00%
	Cessna 421 Piston	TIO540	NONE	98.23%	1.77%	98.13%	1.87%	0.00%	0.00%
	Cirrus SR20	IO360	NONE	95.45%	4.55%	100.00%	0.00%	0.00%	0.00%
	Cirrus SR22	TIO540	NONE	96.09%	3.91%	95.73%	4.27%	100.00%	0.00%
	Cirrus SR22 Turbo (FAS)	TIO540	NONE	97.95%	2.05%	96.15%	3.85%	0.00%	0.00%
	Columbia Aircraft Lancair (COL3/4 All Types) (FAS)	TIO540	NONE	98.25%	1.75%	100.00%	0.00%	100.00%	0.00%
	Commander 114/115 (FAS)	TIO540	NONE	100.00%	0.00%	95.35%	4.65%	0.00%	0.00%
	Cozy (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	DeHavilland DHC-2 Beaver	PT6A60	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Diamond DA40	IO360	NONE	100.00%	0.00%	50.00%	50.00%	0.00%	0.00%
	Diamond DA42 Twin Star	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Piston (cont.)	Diamond DV-20 Katana (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	EADS Socata TB-20 Trinidad	TIO540	NONE	84.62%	15.38%	100.00%	0.00%	0.00%	0.00%
	EXTRA EA-300 (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Glasair (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Grumman AA-5A/B (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Lancair 320 (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Lancair 360	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Lancair ES (FAS)	TIO540	NONE	100.00%	0.00%	85.71%	14.29%	0.00%	0.00%
	Lancair Evolution (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Lancair Legacy 2000 (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Mooney M20-K	TSIO36	NONE	93.42%	6.58%	96.43%	3.57%	100.00%	0.00%
	North American T-6 Texan (FAS)	TIO540	NONE	88.68%	11.32%	100.00%	0.00%	0.00%	0.00%
	Piper J-3 Cub (FAS)	O200	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-18-150 (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-22-150 (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-23 Apache/Aztec	TIO540	NONE	96.00%	4.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-24 Comanche	TIO540	NONE	100.00%	0.00%	90.91%	9.09%	0.00%	0.00%
	Piper PA-27 Aztec	TIO540	NONE	100.00%	0.00%	96.30%	3.70%	0.00%	0.00%
	Piper PA-28 Cherokee Series	IO360	NONE	96.36%	3.64%	91.84%	8.16%	100.00%	0.00%
	Piper PA-28 Cherokee Series	O320	NONE	94.74%	5.26%	88.24%	11.76%	100.00%	0.00%
	Piper PA-30 Twin Comanche	IO320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-31 Navajo	TIO540	NONE	92.38%	7.62%	97.98%	2.02%	0.00%	0.00%
	Piper PA-32 Cherokee Six	TIO540	NONE	99.01%	0.99%	95.02%	4.98%	100.00%	0.00%
	Piper PA-34 Seneca	TSIO36	NONE	96.08%	3.92%	94.12%	5.88%	0.00%	0.00%
	Piper PA-36 Pawnee Brave (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-38 Tomahawk (FAS)	O320	NONE	66.67%	33.33%	71.43%	28.57%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Piston (cont.)	Piper PA44 (FAS)	IO320	NONE	88.89%	11.11%	77.78%	22.22%	0.00%	0.00%
	Piper PA46 Meridian	TIO540	NONE	95.29%	4.71%	98.92%	1.08%	0.00%	0.00%
	Piper Pacer (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Raytheon Beech 60 Duke	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Raytheon Beech Baron 58	TIO540	NONE	93.19%	6.81%	97.19%	2.81%	0.00%	0.00%
	Raytheon Beech Bonanza 36	TIO540	NONE	98.91%	1.09%	97.23%	2.77%	100.00%	0.00%
	Raytheon Beech D17S Staggerwing	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Rockwell Commander 680	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Rockwell Commander 700	TIO540	TS10-520-L	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Ryan Navion B	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Tecnam P2006T (FAS)	IO320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Vans RV10 (FAS)	TIO540	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Vans RV12 (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Vans RV4 (FAS)	O320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Vans RV6 (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Vans RV-7	IO360	NONE	87.50%	12.50%	83.33%	16.67%	0.00%	0.00%
	Vans RV8 (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Vans RV9 (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Velocity (FAS)	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Vulcanair P.68	IO360	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	80.00%	20.00%	85.88%	14.12%	0.00%	0.00%
	Agusta A119	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bell 206 JetRanger	250B17	NONE	92.77%	7.23%	92.50%	7.50%	0.00%	0.00%
	Bell 206B-3	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bell 206L-4T Long Ranger	250B17	NONE	72.73%	27.27%	77.42%	22.58%	0.00%	0.00%
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	65.93%	34.07%	66.80%	33.20%	0.00%	0.00%
	Bell 429	TPE1	NONE	56.00%	44.00%	57.46%	42.54%	0.00%	0.00%
	Bell 430	250B17	NONE	80.00%	20.00%	100.00%	0.00%	0.00%	0.00%
	Boeing CH-46 Sea Knight	T5816	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%

TABLE B-2.5
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Helicopter (cont.)	Eurocopter EC 120	PT6A27	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Eurocopter EC-130	TPE3	NONE	55.15%	44.85%	52.55%	47.45%	0.00%	0.00%
	Hughes 500D	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Robinson R22 Mariner	IO320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Robinson R44 Raven/Lycoming O-540-F1B5	TIO540	NONE	100.00%	0.00%	98.18%	1.82%	0.00%	0.00%
	Schweizer S269D/330	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Sikorsky S-76C	T70070	NONE	75.00%	25.00%	100.00%	0.00%	0.00%	0.00%
	Sikorsky S-92	T70041	NONE	100.00%	0.00%	96.30%	3.70%	0.00%	0.00%
	Sikorsky UH-60 Black Hawk	T70070	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
All Aircraft				**82.74%**	**17.26%**	**83.99%**	**16.01%**	**81.72%**	**18.28%**

NOTES: Total values may not add up exactly due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

Table B-2.6
Annual Aircraft Operations By Time of Day – 2026 Future Conditions

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Widebody	Airbus A300F4-600 Series	1PW056	NONE	35.67%	64.33%	82.80%	17.20%	0.00%	0.00%
	Boeing 707-300 Series	1PW003	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 747-400 Series	1GE024	NONE	83.33%	16.67%	60.00%	40.00%	0.00%	0.00%
	Boeing 747-8	11GE139	NONE	83.33%	16.67%	60.00%	40.00%	0.00%	0.00%
	Boeing 767-200 Series	1GE026	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 767-200 Series	8PW086	NONE	100.00%	0.00%	50.00%	50.00%	0.00%	0.00%
	Boeing 767-300 Series	8PW086	NONE	83.99%	16.01%	87.04%	12.96%	0.00%	0.00%
	Boeing 777-200 Series	1PW041	NONE	80.00%	20.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 787-8 Dreamliner	2GE048	NONE	88.46%	11.54%	88.46%	11.54%	0.00%	0.00%
	Boeing DC-10-30 Series	1GE009	NONE	25.02%	74.98%	82.58%	17.42%	0.00%	0.00%
	Boeing MD-11	CF680C	NONE	56.74%	43.26%	47.73%	52.27%	0.00%	0.00%
Narrowbody	Airbus A319-100 Series	10IA012	NONE	82.08%	17.92%	78.44%	21.56%	0.00%	0.00%
	Airbus A320-200 Series	2CM018	NONE	80.81%	19.19%	86.93%	13.07%	0.00%	0.00%
	Airbus A320-200 Series	3IA007	NONE	84.87%	15.13%	86.23%	13.77%	0.00%	0.00%
	Airbus A320-NEO	20CM089	NONE	82.48%	17.52%	81.18%	18.82%	0.00%	0.00%
	Airbus A321-200 Series	10IA017	NONE	76.55%	23.45%	77.65%	22.35%	0.00%	0.00%
	Boeing 717-200 Series	4BR002	NONE	34.56%	65.44%	65.20%	34.80%	0.00%	0.00%
	Boeing 737-100 Series	1PW006	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-300 Series	1CM007	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-400 Series	1CM007	NONE	100.00%	0.00%	90.91%	9.09%	0.00%	0.00%
	Boeing 737-500 Series	1CM007	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Boeing 737-700 Series	11CM074	NONE	81.47%	18.53%	82.16%	17.84%	0.00%	0.00%
	Boeing 737-8	20CM101	NONE	75.77%	24.23%	76.21%	23.79%	0.00%	0.00%
	Boeing 737-800 Series	3CM034	NONE	71.90%	28.10%	79.85%	20.15%	0.00%	0.00%

TABLE B-2.6
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2026 FUTURE CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Narrowbody (cont.)	Boeing 757-200 Series	3RR028	NONE	26.32%	73.68%	5.15%	94.85%	0.00%	0.00%
	Boeing 757-200 Series	4PW073	NONE	46.95%	53.05%	52.98%	47.02%	0.00%	0.00%
	Boeing 757-300 Series	XPW204	NONE	50.00%	50.00%	61.54%	38.46%	0.00%	0.00%
	Boeing DC-9-30 Series	8PW085	ABS	61.14%	38.86%	75.33%	24.67%	0.00%	0.00%
	Boeing MD-83	4PW068	NONE	80.73%	19.27%	77.67%	22.33%	0.00%	0.00%
Regional Jet	Bombardier Challenger 600	5GE084	NONE	96.20%	3.80%	92.06%	7.94%	0.00%	0.00%
	Bombardier CRJ-900-ER	8GE107	NONE	86.13%	13.87%	89.72%	10.28%	0.00%	0.00%
	Embraer ERJ145	6AL017	NONE	93.87%	6.13%	95.85%	4.15%	0.00%	0.00%
	Embraer ERJ170	8GE113	NONE	89.56%	10.44%	91.63%	8.37%	0.00%	0.00%
	Embraer ERJ175	8GE108	NONE	70.28%	29.72%	80.00%	20.00%	0.00%	0.00%
	Embraer ERJ190	XCF10E	NONE	99.51%	0.49%	99.22%	0.78%	0.00%	0.00%
	Fokker F100	1RR020	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
General Aviation Jet	Bombardier Global 5000 Business	4BR009	NONE	90.00%	10.00%	90.00%	10.00%	0.00%	0.00%
	Bombardier Global Express	4BR002	NONE	100.00%	0.00%	90.25%	9.75%	0.00%	0.00%
	Bombardier Learjet 35	1AS002	NONE	92.96%	7.04%	92.58%	7.42%	0.00%	100.00%
	Cessna 500 Citation I	1PW035	NONE	94.25%	5.75%	93.29%	6.71%	100.00%	0.00%
	Cessna 525 CitationJet	10PW099	NONE	97.03%	2.97%	87.98%	12.02%	0.00%	0.00%
	Cessna 550 Citation II	1PW036	NONE	95.97%	4.03%	96.97%	3.03%	0.00%	0.00%
	Cessna 560 Citation V	1PW037	NONE	93.64%	6.36%	92.08%	7.92%	0.00%	0.00%
	Cessna 560 Citation V	PW530	NONE	88.41%	11.59%	90.66%	9.34%	0.00%	0.00%
	Cessna 650 Citation III	1AS001	NONE	91.73%	8.27%	90.71%	9.29%	0.00%	0.00%
	Cessna 680 Citation Sovereign	7PW078	NONE	93.99%	6.01%	94.03%	5.97%	0.00%	0.00%
	Cessna 750 Citation X	6AL022	NONE	92.59%	7.41%	93.38%	6.62%	100.00%	0.00%
	Cessna Citation 510	PW615F	NONE	74.91%	25.09%	71.97%	28.03%	0.00%	0.00%
	Dassault Falcon 900	TFE731	NONE	96.89%	3.11%	94.38%	5.62%	0.00%	0.00%
	Eclipse 500 / PW610F	PW610F-A	NONE	93.46%	6.54%	97.45%	2.55%	0.00%	0.00%
	Gulfstream II-B	1RR016	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Gulfstream IV-SP	1RR019	NONE	93.32%	6.68%	94.38%	5.62%	0.00%	0.00%

Table B-2.6
Annual Aircraft Operations By Time of Day – 2026 Future Conditions

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
General Aviation Jet (cont.)	Gulfstream V-SP	11RR048	NONE	90.91%	9.09%	85.61%	14.39%	0.00%	0.00%
	Israel IAI-1125 Astra	TFE731	NONE	96.04%	3.96%	97.02%	2.98%	0.00%	0.00%
	Mitsubishi MU-300 Diamond	1PW036	NONE	95.04%	4.96%	95.11%	4.89%	0.00%	0.00%
	T-38 Talon	J855HA	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
General Aviation Turboprop	Cessna 195 (FAS)	IO360	NONE	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
	Cessna 208 Caravan	PT6A42	NONE	95.60%	4.40%	83.58%	16.42%	100.00%	0.00%
	Cessna 441 Conquest II	TPE8	NONE	96.42%	3.58%	96.79%	3.21%	0.00%	0.00%
	DeHavilland DHC-6-300 Twin Otter	PT6A34	NONE	87.88%	12.12%	85.00%	15.00%	100.00%	0.00%
	DeHavilland DHC-8-100	PW123	NONE	80.00%	20.00%	100.00%	0.00%	0.00%	0.00%
	DeHavilland DHC-8-300	PW120	NONE	71.43%	28.57%	100.00%	0.00%	0.00%	0.00%
	Dornier 328-100 Series	PW119B	NONE	40.00%	60.00%	100.00%	0.00%	0.00%	0.00%
	Embraer EMB120 Brasilia	PW118	NONE	60.00%	40.00%	80.00%	20.00%	0.00%	0.00%
	Hawker HS748-2A	RDA7	NONE	76.90%	23.10%	89.67%	10.33%	0.00%	0.00%
	Lockheed C-130 Hercules	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Piper PA-42 Cheyenne Series	PT6A41	NONE	97.67%	2.33%	100.00%	0.00%	0.00%	0.00%
	Raytheon Beech 1900-C	PT67B	NONE	99.11%	0.89%	81.29%	18.71%	0.00%	0.00%
	Rockwell OV-10 Bronco	T7612A	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Saab 340-A	CT79B	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Shorts 330-200 Series	PT6A6R	NONE	80.00%	20.00%	75.00%	25.00%	0.00%	0.00%
General Aviation Piston	Cessna 150 Series	O200	NONE	95.17%	4.83%	92.77%	7.23%	100.00%	0.00%
	Cessna 172 Skyhawk	IO360	NONE	94.54%	5.46%	88.66%	11.34%	51.52%	48.48%
	Cessna 182	IO360	NONE	99.64%	0.36%	98.35%	1.65%	100.00%	0.00%
	Cessna 195 (FAS)	IO360	NONE	97.22%	2.78%	97.21%	2.79%	100.00%	0.00%
	Cessna 206	TIO540	IO-540-AC	98.15%	1.85%	99.02%	0.98%	100.00%	0.00%
	Cirrus SR20	IO360	NONE	96.77%	3.23%	96.19%	3.81%	100.00%	0.00%
	Piper PA-30 Twin Comanche	IO320	NONE	95.45%	4.55%	90.91%	9.09%	0.00%	0.00%
	Raytheon Beech Baron 58	TIO540	NONE	96.53%	3.47%	97.02%	2.98%	0.00%	0.00%

TABLE B-2.6
ANNUAL AIRCRAFT OPERATIONS BY TIME OF DAY – 2026 FUTURE CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Arrival		Departure		Touch and Go	
				Day	Night	Day	Night	Day	Night
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	80.00%	20.00%	85.88%	14.12%	0.00%	0.00%
	Agusta A119	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bell 206 JetRanger	250B17	NONE	92.77%	7.23%	92.50%	7.50%	0.00%	0.00%
	Bell 206B-3	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Bell 206L-4T Long Ranger	250B17	NONE	72.73%	27.27%	77.42%	22.58%	0.00%	0.00%
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	65.93%	34.07%	66.80%	33.20%	0.00%	0.00%
	Bell 429	TPE1	NONE	56.00%	44.00%	57.46%	42.54%	0.00%	0.00%
	Bell 430	250B17	NONE	80.00%	20.00%	100.00%	0.00%	0.00%	0.00%
	Boeing CH-46 Sea Knight	T5816	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Eurocopter EC 120	PT6A27	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Eurocopter EC-130	TPE3	NONE	55.15%	44.85%	52.55%	47.45%	0.00%	0.00%
	Hughes 500D	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Robinson R22 Mariner	IO320	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Robinson R44 Raven/ Lycoming O-540-F1B5	TIO540	NONE	100.00%	0.00%	98.18%	1.82%	0.00%	0.00%
	Schweizer S269D/330	250B17	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	Sikorsky S-76C	T70070	NONE	75.00%	25.00%	100.00%	0.00%	0.00%	0.00%
	Sikorsky S-92	T70041	NONE	100.00%	0.00%	96.30%	3.70%	0.00%	0.00%
	Sikorsky UH-60 Black Hawk	T70070	NONE	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%
All Aircraft				**83.69%**	**16.31%**	**84.97%**	**15.03%**	**81.72%**	**18.28%**

NOTES: Total values may not add up exactly due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length 1	2	3	4	5	6	7	8	Total
Widebody	Airbus A300F4-600 Series	1GE020	NONE	32.00%	60.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A300F4-600 Series	1PW048	NONE	18.55%	81.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A310-300 Series	1PW045	NONE	99.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A330-200 Series	2RR023	NONE	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A330-300 Series	4PW067	NONE	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A340-300 Series	7CM049	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A350-900 series	18RR079	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 747-400 Series	1GE024	NONE	40.00%	0.00%	20.00%	0.00%	0.00%	0.00%	20.00%	20.00%	100.00%
	Boeing 767-200 Series	2GE054	NONE	40.00%	60.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-200 Series	8PW086	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-300 ER	12PW101	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-300 Freighter	2GE048	NONE	63.00%	37.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-300 Series	1GE030	NONE	87.73%	12.27%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-300 Series	2GE054	NONE	99.07%	0.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-300 Series	3GE058	NONE	0.00%	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 777-200 Series	2PW061	NONE	25.00%	0.00%	75.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 777-300 ER	7GE099	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 787-8 Dreamliner	17GE177	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 787-9 Dreamliner	11GE138	NONE	18.82%	0.00%	81.18%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 787-9 Dreamliner	17GE177	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-10-10 Series	1GE003	NONE	8.45%	91.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-10-30 Series	3GE074	NONE	22.00%	78.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-10-40 Series	1PW033	NONE	26.17%	73.83%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-10-1 Freighter	1GE001	NONE	16.86%	83.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Widebody (cont.)	Boeing MD-10-30	3GE074	NONE	8.33%	91.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-11 Freighter	2GE049	NONE	1.11%	98.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Ilyushin 76 Candid Freighter	13AA006	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Narrowbody	Airbus A220-100	20PW133	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	3CM027	NONE	0.00%	98.98%	1.02%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	3CM028	NONE	1.10%	87.25%	11.65%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	3IA006	NONE	47.33%	26.75%	25.93%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	3IA007	NONE	7.65%	78.77%	13.58%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	4CM036	NONE	1.74%	97.39%	0.87%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	6CM044	NONE	2.82%	96.83%	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	8CM056	NONE	0.00%	79.64%	20.36%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A319-100 Series	8IA009	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	1CM008	NONE	0.54%	50.68%	48.78%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	1CM009	NONE	0.00%	48.10%	51.90%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	1IA003	NONE	49.37%	35.62%	15.01%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	2CM014	NONE	0.00%	48.86%	51.14%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	3CM026	NONE	2.69%	80.32%	16.99%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	3CM027	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	8CM055	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	8IA010	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-NEO	18PW122	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-NEO	20CM089	NONE	7.42%	78.46%	14.12%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A321-200 Series	3CM025	NONE	1.79%	97.95%	0.27%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A321-200 Series	3IA008	NONE	91.36%	8.09%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Narrowbody (cont.)	Airbus A321-200 Series	8CM054	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A321-NEO	20CM090	NONE	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A321-NEO	8CM053	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 717-200 Series	4BR007	NONE	0.73%	37.00%	62.27%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 727-200 Series Freighter	1PW012	FDX-HW	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 727-200 Series Freighter	1PW018	NONE	0.00%	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-300 Series	1CM007	NONE	88.24%	5.88%	5.88%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-400 Series	1CM007	NONE	33.33%	7.58%	59.09%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-500 Series	1CM007	NONE	0.00%	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-700 Series	3CM030	NONE	45.40%	46.20%	8.01%	0.40%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-700 Series	3CM031	NONE	43.87%	46.49%	9.64%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-700 Series	3CM032	NONE	45.15%	44.73%	10.09%	0.03%	0.00%	0.01%	0.00%	0.00%	100.00%
	Boeing 737-700 Series	8CM051	NONE	47.36%	46.51%	6.12%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-8	20CM098	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-8	20CM099	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-8	20CM101	NONE	9.43%	61.32%	29.25%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-800 Series	11CM078	NONE	14.46%	68.37%	17.14%	0.03%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-800 Series	3CM032	NONE	53.91%	31.84%	14.22%	0.03%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-800 Series	3CM034	NONE	11.97%	68.38%	12.39%	7.26%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-800 Series	8CM051	NONE	50.07%	42.39%	7.46%	0.07%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-800 Series	8CM065	NONE	14.29%	57.14%	14.29%	0.00%	14.29%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-9	20CM100	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-900 Series	3CM032	NONE	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Narrowbody (cont.)	Boeing 737-900 Series	8CM051	NONE	99.43%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-900-ER	11CM078	NONE	0.21%	1.26%	0.00%	98.54%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-900-ER	8CM051	NONE	42.39%	47.70%	9.92%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-900-ER	8CM065	NONE	45.45%	45.45%	9.09%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-200 Series	3RR034	NONE	47.47%	4.80%	47.73%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-200 Series	4PW072	NONE	52.26%	29.83%	17.16%	0.75%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-200 Series	4PW073	NONE	25.00%	25.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-200 Series	5RR038	NONE	52.94%	23.53%	17.65%	0.00%	0.00%	5.88%	0.00%	0.00%	100.00%
	Boeing 757-200 Series Freighter	4PW072	NONE	20.00%	80.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-200 Series Freighter	4PW073	NONE	76.70%	21.11%	2.20%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-200 Series Freighter	5RR038	NONE	64.17%	30.00%	5.83%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-300 Series	3RR028	NONE	7.69%	53.85%	38.46%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing C-17A	PW2041	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-9-10 Series Freighter	1PW006	ABS	50.00%	16.67%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-9-30 Series Freighter	1PW007	ABS	16.67%	66.67%	16.67%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing E-8C	1PW001	NONE	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-82	4PW068	NONE	94.44%	3.70%	1.85%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-83	1PW019	NONE	93.48%	4.80%	1.63%	0.09%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-87	1PW019	NONE	50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-88	1PW019	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-90	1IA002	NONE	0.11%	99.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-90	1IA004	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Table B-2.7
Departure Stage Length by AEDT Aircraft Type – 2021 Existing Conditions

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Regional Jet	Bombardier Challenger 300	11HN003	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Challenger 300	14HN009	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Challenger 600	1TL001	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Challenger 601	1GE034	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Challenger 604	5GE084	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-200	5GE084	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-200-ER	5GE084	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-700	5GE083	NONE	26.32%	60.00%	13.68%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-700	5GE084	NONE	1.45%	98.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-700	8GE112	NONE	18.18%	72.73%	9.09%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-700-ER	5GE083	NONE	28.57%	71.43%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-700-ER	8GE112	NONE	1.20%	98.09%	0.48%	0.24%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-900	8GE110	NONE	0.71%	59.29%	40.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-900-ER	8GE110	NONE	1.04%	68.00%	30.96%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Global 5000 Business	4BR009	NONE	36.76%	31.47%	31.76%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Global Express	4BR008	NONE	21.21%	33.33%	21.21%	3.03%	0.00%	15.15%	6.06%	0.00%	100.00%
	Bombardier Global Express	4BR009	NONE	50.00%	12.50%	12.50%	12.50%	0.00%	12.50%	0.00%	0.00%	100.00%
	Embraer ERJ135	6AL020	NONE	68.98%	23.33%	7.69%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ135-LR	6AL020	NONE	62.45%	35.04%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ145-LR	4AL003	NONE	96.30%	3.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ145-LR	6AL014	NONE	88.24%	11.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ145-XR	6AL020	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ170	8GE108	NONE	22.05%	9.63%	68.32%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Regional Jet (cont.)	Embraer ERJ170-LR	8GE108	NONE	12.79%	35.74%	51.48%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ175	8GE108	NONE	0.00%	0.30%	99.70%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ175-LR	8GE105	NONE	66.67%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ175-LR	8GE108	NONE	10.40%	28.66%	60.94%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ190	11GE143	NONE	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ190	8GE116	NONE	0.65%	99.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ190-AR	11GE143	NONE	8.33%	0.00%	91.67%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ190-LR	10GE133	NONE	0.84%	99.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	United Aircraft Corp (Sukhoi) Superjet 100 95LR	11PJ002	NONE	81.79%	18.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
General Aviation Jet	Bombardier Learjet 24	CJ6106	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 25	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 31	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 35	1AS001	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 35	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 40	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 45	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 55	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 60	7PW078	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 70	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Learjet 75	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	CASA C-101 Aviojet	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 500 Citation I	1PW035	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 501 Citation ISP	1PW035	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Jet (cont.)	Cessna 525 CitationJet	1PW035	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 525 CitationJet	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 525A CitationJet	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 525B CitationJet	1PW036	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 525B CitationJet	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 525C CitationJet	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 525C CitationJet	PW615F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 551 Citation IISP	1PW036	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 560 Citation Excel	1PW037	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 560 Citation Excel	PW530	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 560 Citation XLS	PW530	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 650 Citation III	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 650 Citation III	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 680 Citation Sovereign	7PW078	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 680-A Citation Latitude	7PW078	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 700 Citation Longitude	11HN003	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 750 Citation X	13AL027	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 750 Citation X	4AL003	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 750 Citation X	6AL022	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 750 Citation X	6AL023	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna Citation 510	PW615F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna S550 Citation S/II	1PW036	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Jet (cont.)	Cessna S550 Citation S/II	PW530	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	CIRRUS SF-50 Vision	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cirrus Vision SF50 (FAS)	BIZVERYLIGHTJET_F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	CX 750 Citation X+	13AL027	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 10	1AS001	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 2000	CF700D	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 2000-EX	14PW103	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 20-C	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 20-D	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 20-F	CF700D	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 20-F	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 20-G	CF700D	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 20-G	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 50	TFE731	NONE	46.74%	40.15%	10.65%	2.46%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 8X	15PW109	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 900	TFE731	NONE	64.56%	26.45%	7.86%	1.13%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 900-EX	TFE731	NONE	66.67%	0.00%	16.67%	16.67%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dornier 328 Jet	7PW078	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Eclipse 500 / PW610F	PW610F-A	NONE	50.41%	48.71%	0.88%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer 500	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer 505	PW530	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer Legacy 450 (EMB-545)	14HN008	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Jet (cont.)	Embraer Legacy 500 (EMB-550)	14HN008	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Falcon 7X	16PW114	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G100	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G150	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G200	7PW077	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G280	11HN005	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G400	11RR048	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G450	11RR048	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G500	19PW127	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G550	6BR010	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream G650	11BR011	NONE	59.38%	0.00%	11.88%	11.88%	0.00%	16.88%	0.00%	0.00%	100.00%
	Gulfstream G650ER	11BR011	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream II	1RR016	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream III (FAS)	1RR016	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream IV-SP	11RR048	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Hawker 900XP	1AS001	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Hawker Beechcraft Corp Beechjet 400A	1PW037	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Hawker HS-125 Series 700	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Honda HA-420 Hondajet	1PW036	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Israel IAI-1124 Westwind I	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Israel IAI-1124-A Westwind II	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Israel IAI-1125 Astra	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Jet (cont.)	Mitsubishi MU-300 Diamond	1PW036	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Pilatus PC-24	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beechjet 400	1PW038	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Hawker 1000	7PW078	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Hawker 4000 Horizon	7PW079	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Hawker 800	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Premier I	PW610F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Rockwell Sabreliner 65	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Rockwell Sabreliner 75	CF700D	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	SJ-30-1/-2/-2+	PW610F	NONE	76.92%	23.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	T-38 Talon	J855HA	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
General Aviation Turboprop	ATR 42-300	PW120	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	ATR 72-200	PT6A45	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	ATR 72-200	PW127	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	ATR 72-600	PW127F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	BAE Jetstream 41	TP14GR	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	BEECH MENTOR (BE45) PT6A-25 NM	PT6A34	PT6A-25	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier de Havilland Dash 8 Q200	PW123D	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier de Havilland Dash 8 Q400	PW150A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	CASA 295	PW127G	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	CASA CN-235-300	CT7-5	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 180 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Turboprop (cont.)	Cessna 208 Caravan	P6114A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 208 Caravan	PT6A42	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 425 Conquest I	PT6A60	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 441 Conquest II	TPE10N	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Comp Air Aviation Comp Air 10	PT6110	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	DeHavilland DHC-6-100 Twin Otter	PT6A6R	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	DeHavilland DHC-8-100	PW123	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dornier 328-100 Series	7PW078	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	EADS Socata TBM-700	PT6A64	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer EMB120 Brasilia	PW118	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	EPIC LT/Dynasty	PT667A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Fairchild SA-226-TC Metro II	TP10GT	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Fairchild SA-227-AC Metro III	TPE11U	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Fairchild SA-227-AT Expeditor	TPE11U	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream I	DART52	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Helio U-10 Super Courier	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Lockheed C-130 Hercules	T56-1	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Maule MT-7-235	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Mitsubishi MU-2	TPE1	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piaggio Aerospace P.180 Avanti	PT6A66	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Pilatus PC-12	PT6A67	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Table B-2.7
Departure Stage Length by AEDT Aircraft Type – 2021 Existing Conditions

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Turboprop (cont.)	Pilatus PC-6 Porter	PT6A42	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-31T Cheyenne	P6135A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-31T Cheyenne	PT660A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-31T Cheyenne	PT6A28	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-42 Cheyenne Series	PT6A61	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-42 Cheyenne Series	TPE14	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA46-TP Meridian	PT6A21	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA46-TP Meridian	PT6A42	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA46-TP Meridian	TPE10	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Quest Kodiak 100	PT6A34	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech 18	PT6A27	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech 1900-C	PT6A6B	NONE	99.69%	0.31%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech 99	PT6A60	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon King Air 100	TPE6	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon King Air 90	P6135A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Super King Air 200	PT6A42	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Super King Air 300	PT660A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Rockwell Commander 690	TPE5A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Saab 2000	4AL003	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Shorts 360-300 Series	PT67D	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Shorts 360-300 Series	PT6A6A	PT6A-65AR	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Socata TBM-9 (FAS)	PT6A64	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length 1	2	3	4	5	6	7	8	Total
General Aviation Piston	1985 1-ENG COMP	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Aerostar PA-60	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Aviat Husky A1B	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Beech 23 Musketeer Sundowner (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Beech 95 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Beech E-55 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Beechcraft Bonanza 33 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Beechcraft Bonanza 35 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bellanca 8 Scout Super Decathlon (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bellanca Viking (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-3	R1820	R1820-86	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing Stearman PT-17 / A75N1	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 140 (FAS)	O200	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 150 Series	O200	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 152 (FAS)	O200	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 170 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 172 Skyhawk	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 172 Skyhawk	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 177 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 182	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 182 Turbo (FAS)	TIO540	TIO-540-AJ1A	98.87%	1.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Piston (cont.)	Cessna 185 Skywagon	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 195 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 206	TIO540	IO-540-AC	99.02%	0.49%	0.49%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 206	TIO540	TIO-540-AJ1A	94.85%	5.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 207 (Turbo) Stationair (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 210 Centurion	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 310	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 337 Skymaster	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 340	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 402	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 414	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 421 Piston	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cirrus SR20	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cirrus SR22	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cirrus SR22 Turbo (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Columbia Aircraft Lancair (COL3/4 All Types) (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Commander 114/115 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cozy (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	DeHavilland DHC-2 Beaver	PT6A60	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Diamond DA40	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Diamond DA42 Twin Star	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Diamond DV-20 Katana (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Table B-2.7
Departure Stage Length by AEDT Aircraft Type – 2021 Existing Conditions

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length 1	2	3	4	5	6	7	8	Total
General Aviation Piston (cont.)	EADS Socata TB-20 Trinidad	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	EXTRA EA-300 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Glasair (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Grumman AA-5A/B (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Lancair 320 (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Lancair 360	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Lancair ES (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Lancair Evolution (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Lancair Legacy 2000 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Mooney M20-K	TSIO36	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	North American T-6 Texan (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper J-3 Cub (FAS)	O200	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-18-150 (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-22-150 (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-23 Apache/Aztec	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-24 Comanche	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-27 Aztec	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-28 Cherokee Series	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-28 Cherokee Series	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-30 Twin Comanche	IO320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-31 Navajo	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Piston (cont.)	Piper PA-32 Cherokee Six	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-34 Seneca	TSIO36	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-36 Pawnee Brave (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-38 Tomahawk (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA44 (FAS)	IO320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA46 Meridian	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper Pacer (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech 60 Duke	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech Baron 58	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech Bonanza 36	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech D17S Staggerwing	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Rockwell Commander 680	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Rockwell Commander 700	TIO540	TS10-520-L	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Ryan Navion B	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Tecnam P2006T (FAS)	IO320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vans RV10 (FAS)	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vans RV12 (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vans RV4 (FAS)	O320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vans RV6 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vans RV-7	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vans RV8 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vans RV9 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.7
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2021 EXISTING CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Piston (cont.)	Velocity (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Vulcanair P.68	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Agusta A119	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 206 JetRanger	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 206B-3	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 206L-4T Long Ranger	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 429	TPE1	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 430	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing CH-46 Sea Knight	T5816	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Eurocopter EC 120	PT6A27	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Eurocopter EC-130	TPE3	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Hughes 500D	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Robinson R22 Mariner	IO320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Robinson R44 Raven / Lycoming O-540-F1B5	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Schweizer S269D/330	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Sikorsky S-76C	T70070	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Sikorsky S-92	T70041	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Sikorsky UH-60 Black Hawk	T70070	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
All Aircraft				**55.45%**	**32.85%**	**10.93%**	**0.73%**	**0.00%**	**0.02%**	**0.00%**	**0.00%**	**100.00%**

NOTES: Total values may not add up exactly due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.8
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2026 FUTURE CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Widebody	Airbus A300F4-600 Series	1PW056	NONE	18.82%	80.60%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 707-300 Series	1PW003	NONE	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 747-400 Series	1GE024	NONE	40.00%	0.00%	20.00%	0.00%	0.00%	0.00%	20.00%	20.00%	100.00%
	Boeing 747-8	11GE139	NONE	60.72%	36.12%	1.69%	0.00%	0.00%	0.00%	0.73%	0.73%	100.00%
	Boeing 767-200 Series	1GE026	NONE	40.00%	60.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-200 Series	8PW086	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 767-300 Series	8PW086	NONE	82.53%	17.14%	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 777-200 Series	1PW041	NONE	25.00%	0.00%	75.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 787-8 Dreamliner	2GE048	NONE	46.92%	0.00%	53.08%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-10-30 Series	1GE009	NONE	21.14%	78.86%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-11	CF680C	NONE	1.11%	98.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Narrowbody	Airbus A319-100 Series	10IA012	NONE	13.15%	72.47%	14.38%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	2CM018	NONE	1.85%	70.33%	27.82%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-200 Series	3IA007	NONE	37.05%	51.69%	11.26%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A320-NEO	20CM089	NONE	6.53%	81.05%	12.42%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Airbus A321-200 Series	10IA017	NONE	45.42%	54.14%	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 717-200 Series	4BR002	NONE	0.73%	37.00%	62.27%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-100 Series	1PW006	NONE	88.24%	5.88%	5.88%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-300 Series	1CM007	NONE	88.24%	5.88%	5.88%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-400 Series	1CM007	NONE	33.33%	7.58%	59.09%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-500 Series	1CM007	NONE	0.00%	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-700 Series	11CM074	NONE	45.07%	44.96%	9.93%	0.04%	0.00%	0.01%	0.00%	0.00%	100.00%
	Boeing 737-8	20CM101	NONE	9.69%	63.00%	27.31%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 737-800 Series	3CM034	NONE	36.09%	45.85%	12.96%	5.09%	0.01%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.8
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2026 FUTURE CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Narrowbody (cont.)	Boeing 757-200 Series	3RR028	NONE	65.45%	28.82%	5.70%	0.00%	0.00%	0.02%	0.00%	0.00%	100.00%
	Boeing 757-200 Series	4PW073	NONE	76.68%	21.26%	2.06%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing 757-300 Series	XPW204	NONE	7.69%	53.85%	38.46%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing DC-9-30 Series	8PW085	ABS	32.67%	42.67%	24.67%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing MD-83	4PW068	NONE	90.47%	7.87%	1.58%	0.09%	0.00%	0.00%	0.00%	0.00%	100.00%
Regional Jet	Bombardier Challenger 600	5GE084	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier CRJ-900-ER	8GE107	NONE	1.99%	69.11%	28.86%	0.04%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ145	6AL017	NONE	70.85%	24.71%	4.44%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ170	8GE113	NONE	15.99%	26.71%	57.30%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ175	8GE108	NONE	9.56%	26.07%	64.37%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer ERJ190	XCF10E	NONE	39.02%	58.06%	2.92%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Fokker F100	1RR020	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
General Aviation Jet	Bombardier Global 5000 Business	4BR009	NONE	36.76%	31.47%	31.76%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bombardier Global Express	4BR002	NONE	26.76%	29.32%	19.53%	4.86%	0.00%	14.64%	4.89%	0.00%	100.00%
	Bombardier Learjet 35	1AS002	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 500 Citation I	1PW035	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 525 CitationJet	10PW099	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 550 Citation II	1PW036	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 560 Citation V	1PW037	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 560 Citation V	PW530	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 650 Citation III	1AS001	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 680 Citation Sovereign	7PW078	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 750 Citation X	6AL022	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.8
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2026 FUTURE CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Jet (cont.)	Cessna Citation 510	PW615F	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dassault Falcon 900	TFE731	NONE	58.30%	30.85%	8.99%	1.86%	0.00%	0.00%	0.00%	0.00%	100.00%
	Eclipse 500 / PW610F	PW610F-A	NONE	58.12%	41.24%	0.64%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream II-B	1RR016	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream IV-SP	1RR019	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Gulfstream V-SP	11RR048	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Israel IAI-1125 Astra	TFE731	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Mitsubishi MU-300 Diamond	1PW036	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	T-38 Talon	J855HA	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
General Aviation Turboprop	Cessna 208 Caravan	PT6A42	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 441 Conquest II	TPE8	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	DeHavilland DHC-6-300 Twin Otter	PT6A34	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	DeHavilland DHC-8-100	PW123	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	DeHavilland DHC-8-300	PW120	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Dornier 328-100 Series	PW119B	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Embraer EMB120 Brasilia	PW118	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Hawker HS748-2A	RDA7	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Lockheed C-130 Hercules	250B17	NONE	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-42 Cheyenne Series	PT6A41	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech 1900-C	PT67B	NONE	99.85%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Rockwell OV-10 Bronco	T7612A	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Saab 340-A	CT79B	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Shorts 330-200 Series	PT6A6R	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.8
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2026 FUTURE CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
General Aviation Piston	Cessna 150 Series	O200	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 172 Skyhawk	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 182	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 195 (FAS)	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cessna 206	TIO540	IO-540-AC	99.03%	0.49%	0.49%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Cirrus SR20	IO360	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Piper PA-30 Twin Comanche	IO320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Raytheon Beech Baron 58	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Helicopter	Aerospatiale SA-350D Astar (AS-350)	TPE3	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Agusta A119	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 206 JetRanger	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 206B-3	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 206L-4T Long Ranger	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 407 / Rolls-Royce 250-C47B	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 429	TPE1	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Bell 430	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Boeing CH-46 Sea Knight	T5816	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Eurocopter EC 120	PT6A27	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Eurocopter EC-130	TPE3	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Hughes 500D	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Robinson R22 Mariner	IO320	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Robinson R44 Raven / Lycoming O-540-F1B5	TIO540	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

TABLE B-2.8
DEPARTURE STAGE LENGTH BY AEDT AIRCRAFT TYPE – 2026 FUTURE CONDITIONS

Aircraft Category	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Stage Length								Total
				1	2	3	4	5	6	7	8	
Helicopter (cont.)	Schweizer S269D/330	250B17	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Sikorsky S-76C	T70070	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Sikorsky S-92	T70041	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	Sikorsky UH-60 Black Hawk	T70070	NONE	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
All Aircraft				55.45%	32.85%	10.93%	0.73%	0.00%	0.02%	0.00%	0.00%	100.00%

NOTES: Total values may not add up exactly due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.9
ARRIVAL RUNWAY USE BY AIRCRAFT CATEGORY AND TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	Runway 04	Runway 22	Runway 13L	Runway 31R	Runway 13R	Runway 31L
Daytime Arrival						
Widebody	17.88%	1.43%	0.30%	0.00%	70.82%	9.58%
Narrowbody	14.75%	1.24%	0.02%	0.03%	74.20%	9.76%
Regional Jet	15.32%	1.66%	0.29%	0.05%	73.20%	9.48%
General Aviation Jet	14.59%	1.54%	4.80%	0.91%	68.84%	9.32%
General Aviation Turboprop	21.26%	0.93%	24.57%	3.56%	43.66%	6.02%
General Aviation Piston	13.50%	1.88%	27.80%	4.43%	45.93%	6.46%
All Aircraft	**15.44%**	**1.37%**	**5.56%**	**0.89%**	**67.74%**	**9.01%**
Nighttime Arrival						
Widebody	14.03%	1.26%	0.00%	0.00%	77.81%	6.90%
Narrowbody	12.31%	1.74%	0.00%	0.01%	78.56%	7.38%
Regional Jet	10.77%	0.75%	0.06%	0.00%	81.07%	7.35%
General Aviation Jet	16.62%	1.90%	0.55%	0.00%	72.49%	8.44%
General Aviation Turboprop	19.84%	5.17%	4.81%	1.36%	61.79%	7.03%
General Aviation Piston	13.86%	1.34%	13.03%	1.41%	65.70%	4.66%
All Aircraft	**12.90%**	**1.74%**	**0.42%**	**0.09%**	**77.49%**	**7.37%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.10
DEPARTURE RUNWAY USE BY AIRCRAFT CATEGORY AND TIME OF DAY – 2021 EXISTING CONDITIONS

Aircraft Category	Runway 04	Runway 22	Runway 13L	Runway 31R	Runway 13R	Runway 31L
Daytime Departure						
Widebody	45.84%	25.67%	0.04%	0.00%	17.78%	10.68%
Narrowbody	54.32%	1.66%	0.01%	0.00%	33.78%	10.23%
Regional Jet	41.92%	1.41%	0.40%	0.00%	46.42%	9.84%
General Aviation Jet	42.11%	1.48%	7.08%	0.76%	39.03%	9.54%
General Aviation Turboprop	38.85%	14.21%	10.62%	7.75%	22.56%	5.99%
General Aviation Piston	32.42%	1.49%	12.50%	5.21%	41.38%	7.00%
All Aircraft	**47.25%**	**3.25%**	**3.25%**	**1.26%**	**35.57%**	**9.43%**
Nighttime Departure						
Widebody	45.07%	37.00%	0.00%	0.00%	10.01%	7.93%
Narrowbody	56.72%	4.36%	0.01%	0.00%	29.52%	9.39%
Regional Jet	55.72%	0.08%	0.17%	0.08%	33.79%	10.15%
General Aviation Jet	54.44%	0.39%	3.57%	0.48%	32.22%	8.89%
General Aviation Turboprop	33.70%	36.69%	4.62%	9.74%	11.94%	3.32%
General Aviation Piston	45.28%	1.99%	15.43%	3.24%	28.26%	5.79%
All Aircraft	**53.43%**	**8.54%**	**0.97%**	**0.97%**	**27.34%**	**8.74%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.11
TOUCH AND GO RUNWAY USE BY AIRCRAFT CATEGORY AND TIME OF DAY – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

Aircraft Category	Runway 04	Runway 22	Runway 13L	Runway 31R	Runway 13R	Runway 31L
Daytime Touch and Go						
General Aviation Jet	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
General Aviation Turboprop	12.50%	0.00%	58.33%	12.50%	12.50%	4.17%
General Aviation Piston	8.16%	0.00%	71.43%	8.16%	10.20%	2.04%
All Aircraft	**9.21%**	**0.00%**	**64.47%**	**9.21%**	**14.47%**	**2.63%**
Nighttime Touch and Go						
General Aviation Jet	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
General Aviation Turboprop	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
General Aviation Piston	0.00%	0.00%	87.50%	0.00%	12.50%	0.00%
All Aircraft	**5.88%**	**0.00%**	**82.35%**	**0.00%**	**11.76%**	**0.00%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.12
HELICOPTER RUNWAY USE BY TIME OF DAY – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

	Runway 04	Runway 22	Runway 13L	Runway 31R	Runway 13R	Runway 31L	Pad H1	Pad H2	Pad H3	Pad H4	Pad H5
Arrival											
Daytime	1.31%	0.12%	1.48%	0.12%	6.74%	0.47%	16.31%	37.35%	24.32%	9.74%	2.03%
Nighttime	2.65%	0.30%	0.39%	0.00%	3.20%	0.00%	17.07%	57.45%	18.31%	0.00%	0.61%
Departures											
Daytime	3.33%	0.00%	0.00%	0.39%	4.44%	0.74%	15.49%	38.57%	26.05%	7.68%	3.31%
Nighttime	1.44%	0.68%	0.00%	0.00%	1.15%	0.00%	21.00%	61.10%	13.59%	0.00%	1.04%

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.13
ARRIVAL RUNWAY USE BY AIRCRAFT CATEGORY AND TIME OF DAY – 2026 FUTURE CONDITIONS

Aircraft Category	Runway 04	Runway 22	Runway 13L	Runway 31R	Runway 13R	Runway 31L
Daytime Arrival						
Widebody	16.50%	1.46%	0.76%	0.00%	71.22%	10.06%
Narrowbody	14.60%	1.24%	0.04%	0.07%	74.35%	9.70%
Regional Jet	15.16%	1.67%	0.28%	0.05%	73.44%	9.40%
General Aviation Jet	13.91%	1.56%	4.38%	0.90%	68.09%	11.17%
General Aviation Turboprop	24.44%	0.89%	27.25%	3.93%	38.20%	5.28%
General Aviation Piston	13.47%	2.13%	28.83%	4.76%	44.66%	6.14%
All Aircraft	**15.82%**	**1.40%**	**7.72%**	**1.25%**	**64.87%**	**8.93%**
Nighttime Arrival						
Widebody	13.98%	1.15%	0.00%	0.00%	75.90%	8.97%
Narrowbody	12.19%	1.84%	0.00%	0.01%	78.54%	7.42%
Regional Jet	10.41%	0.78%	0.06%	0.00%	81.02%	7.73%
General Aviation Jet	14.34%	2.73%	0.50%	0.00%	71.79%	10.64%
General Aviation Turboprop	19.22%	5.31%	4.51%	1.89%	60.75%	8.33%
General Aviation Piston	16.59%	0.96%	17.48%	1.86%	60.44%	2.67%
All Aircraft	**12.71%**	**1.90%**	**0.63%**	**0.15%**	**76.87%**	**7.74%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.14
DEPARTURE RUNWAY USE BY AIRCRAFT CATEGORY AND TIME OF DAY – 2026 FUTURE CONDITIONS

Aircraft Category	Runway 04	Runway 22	Runway 13L	Runway 31R	Runway 13R	Runway 31L
Daytime Departure						
Widebody	37.86%	27.13%	0.00%	0.00%	25.47%	9.54%
Narrowbody	55.20%	1.49%	0.01%	0.04%	33.11%	10.16%
Regional Jet	44.50%	1.39%	0.35%	0.00%	44.08%	9.69%
General Aviation Jet	41.58%	1.49%	6.35%	0.62%	40.70%	9.27%
General Aviation Turboprop	35.08%	19.22%	10.91%	9.47%	20.04%	5.28%
General Aviation Piston	33.68%	1.57%	12.51%	5.70%	40.19%	6.36%
All Aircraft	**46.32%**	**4.34%**	**3.80%**	**1.90%**	**34.72%**	**8.92%**
Nighttime Departure						
Widebody	29.87%	36.91%	0.00%	0.00%	18.40%	14.82%
Narrowbody	58.27%	3.27%	0.01%	0.00%	29.11%	9.35%
Regional Jet	57.00%	0.04%	0.14%	0.09%	32.63%	10.10%
General Aviation Jet	49.75%	0.14%	3.59%	0.82%	37.29%	8.41%
General Aviation Turboprop	29.00%	42.95%	4.36%	10.85%	9.99%	2.85%
General Aviation Piston	46.60%	1.19%	17.02%	2.72%	26.66%	5.82%
All Aircraft	**52.45%**	**8.84%**	**1.34%**	**1.59%**	**27.24%**	**8.54%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.15
FIXED WING AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2021 EXISTING CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04			Runway 22		
04A01	0.31%	0.12%	22A01	0.71%	0.00%
04A02	0.60%	1.60%	22A02	2.87%	4.58%
04A03	5.79%	4.57%	22A03	4.07%	1.82%
04A04	1.11%	3.92%	22A04	2.60%	6.80%
04A05	0.72%	0.19%	22A05	5.01%	6.25%
04A06	0.04%	0.00%	22A06	51.44%	61.88%
04A07	1.09%	3.43%	22A07	5.74%	12.33%
04A08	1.22%	0.86%	22A08	11.12%	4.56%
04A09	0.21%	0.06%	22A09	2.00%	0.41%
04A10	23.70%	26.82%	22A10	4.27%	0.46%
04A11	0.70%	1.66%	22A11	4.74%	0.45%
04A12	0.39%	0.43%	22A12	3.33%	0.00%
04A13	22.66%	20.85%	22A13	1.28%	0.00%
04A14	0.59%	0.06%	22A14	0.83%	0.46%
04A15	17.10%	22.86%			
04A16	0.67%	0.36%			
04A17	1.81%	2.31%			
04A18	0.08%	0.00%			
04A19	1.02%	1.28%			
04A20	0.83%	1.40%			
04A21	12.95%	5.80%			
04A22	0.59%	0.74%			
04A23	1.87%	0.43%			
04A24	3.97%	0.25%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13L			Runway 31R		
13LA01	4.34%	11.71%	31RA01	1.59%	0.00%
13LA02	4.24%	11.32%	31RA02	0.54%	9.78%
13LA03	3.99%	14.79%	31RA03	3.66%	0.00%
13LA04	0.77%	0.00%	31RA04	3.61%	17.99%
13LA05	5.95%	13.28%	31RA05	1.63%	0.00%
13LA06	1.36%	9.48%	31RA06	2.37%	0.00%
13LA07	1.10%	0.00%	31RA07	1.02%	0.00%
13LA08	0.58%	0.00%	31RA08	10.13%	8.87%
13LA09	0.61%	0.00%	31RA09	10.19%	18.42%

TABLE B-2.15
FIXED WING AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2021 EXISTING CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 13L (cont.)			Runway 31R (cont.)		
13LA10	0.92%	0.00%	31RA10	1.45%	0.00%
13LA11	1.41%	0.00%	31RA11	5.82%	8.98%
13LA12	2.12%	1.90%	31RA12	4.73%	0.00%
13LA13	4.57%	3.79%	31RA13	4.72%	0.00%
13LA14	0.49%	0.00%	31RA14	25.35%	8.98%
13LA15	1.41%	1.87%	31RA15	2.72%	0.00%
13LA16	13.47%	3.77%	31RA16	2.90%	0.00%
13LA17	1.54%	0.00%	31RA17	4.26%	0.00%
13LA18	1.72%	0.00%	31RA18	7.02%	0.00%
13LA19	1.04%	0.00%	31RA19	1.46%	0.00%
13LA20	2.74%	0.00%	31RA20	4.86%	26.99%
13LA21	6.61%	1.85%			
13LA22	5.64%	1.89%			
13LA23	11.41%	5.59%			
13LA24	0.14%	1.88%			
13LA25	0.20%	0.00%			
13LA26	0.11%	0.00%			
13LA27	4.51%	7.54%			
13LA28	1.45%	0.00%			
13LA29	1.41%	1.86%			
13LA30	3.08%	1.81%			
13LA31	1.43%	0.00%			
13LA32	2.59%	1.88%			
13LA33	3.02%	1.90%			
13LA34	4.03%	1.88%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13R			Runway 31L		
13RA01	53.52%	41.86%	31LA01	0.20%	0.43%
13RA02	1.69%	0.77%	31LA02	0.20%	1.18%
13RA03	0.08%	0.03%	31LA03	0.27%	0.11%
13RA04	2.00%	12.40%	31LA04	0.05%	0.11%
13RA05	0.35%	0.10%	31LA05	0.58%	2.47%
13RA06	1.00%	2.30%	31LA06	0.26%	0.42%
13RA07	0.41%	0.22%	31LA07	0.14%	0.00%
13RA08	0.08%	0.16%	31LA08	4.07%	6.35%

TABLE B-2.15
FIXED WING AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2021 EXISTING CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 13R (cont.)			Runway 31L (cont.)		
13RA09	0.13%	0.02%	31LA09	25.84%	47.37%
13RA10	0.09%	0.01%	31LA10	28.41%	3.45%
13RA11	0.05%	0.04%	31LA11	1.11%	6.48%
13RA12	0.06%	0.14%	31LA12	0.44%	0.00%
13RA13	0.10%	0.38%	31LA13	0.43%	0.22%
13RA14	5.45%	6.85%	31LA14	0.89%	3.76%
13RA15	1.75%	1.51%	31LA15	1.31%	0.54%
13RA16	0.10%	0.09%	31LA16	1.69%	0.22%
13RA17	0.06%	0.03%	31LA17	10.03%	8.84%
13RA18	18.81%	28.27%	31LA18	8.70%	12.20%
13RA19	0.44%	0.45%	31LA19	10.31%	3.20%
13RA20	10.56%	2.28%	31LA20	1.28%	0.11%
13RA21	0.25%	0.15%	31LA21	0.48%	0.75%
13RA22	0.04%	0.00%	31LA22	0.77%	0.75%
13RA23	0.02%	0.01%	31LA23	0.76%	0.54%
13RA24	0.44%	0.45%	31LA24	0.37%	0.00%
13RA25	0.21%	0.07%	31LA25	0.27%	0.11%
13RA26	0.59%	0.47%	31LA26	0.20%	0.00%
13RA27	0.26%	0.02%	31LA27	0.41%	0.11%
13RA28	0.34%	0.18%	31LA28	0.53%	0.32%
13RA29	0.15%	0.01%			
13RA30	0.16%	0.08%			
13RA31	0.06%	0.01%			
13RA32	0.05%	0.01%			
13RA33	0.20%	0.33%			
13RA34	0.09%	0.08%			
13RA35	0.06%	0.02%			
13RA36	0.32%	0.19%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.16
FIXED WING AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2021 EXISTING CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04			Runway 22		
04D01	0.51%	0.13%	22D01	0.35%	0.00%
04D02	0.24%	0.13%	22D02	0.73%	0.00%
04D03	0.19%	0.02%	22D03	2.10%	0.90%
04D04	0.21%	0.31%	22D04	9.76%	1.84%
04D05	0.27%	0.10%	22D05	1.18%	0.10%
04D06	0.30%	0.05%	22D06	1.41%	2.04%
04D07	27.54%	27.11%	22D07	0.82%	0.72%
04D08	1.89%	0.72%	22D08	1.39%	0.83%
04D09	4.53%	10.68%	22D09	0.71%	0.82%
04D10	6.21%	3.65%	22D10	18.62%	16.30%
04D11	23.50%	29.12%	22D11	2.23%	0.31%
04D12	0.16%	0.15%	22D12	1.37%	2.63%
04D13	0.06%	0.00%	22D13	6.73%	1.92%
04D14	0.04%	0.02%	22D14	2.09%	0.92%
04D15	0.82%	0.42%	22D15	4.06%	2.13%
04D16	1.53%	0.71%	22D16	0.35%	0.20%
04D17	0.79%	0.10%	22D17	0.35%	0.10%
04D18	18.06%	19.79%	22D18	0.10%	0.10%
04D19	0.77%	0.10%	22D19	9.68%	6.42%
04D20	0.04%	0.08%	22D20	3.73%	7.58%
04D21	1.25%	0.54%	22D21	14.02%	27.71%
04D22	0.04%	0.05%	22D22	0.51%	0.00%
04D23	0.08%	0.03%	22D23	0.66%	0.00%
04D24	0.05%	0.07%	22D24	6.69%	7.67%
04D25	0.86%	0.18%	22D25	7.03%	18.56%
04D26	1.04%	0.91%	22D26	3.34%	0.21%
04D27	5.80%	1.99%			
04D28	1.01%	1.11%			
04D29	0.11%	0.03%			
04D30	0.06%	0.00%			
04D31	0.67%	0.11%			
04D32	0.32%	0.08%			
04D33	0.14%	0.16%			
04D34	0.06%	0.03%			
04D35	0.04%	0.02%			

TABLE B-2.16
FIXED WING AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2021 EXISTING CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04 (cont.)			Runway 22 (cont.)		
04D36	0.13%	0.13%			
04D37	0.32%	0.28%			
04D38	0.07%	0.02%			
04D39	0.28%	0.88%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13L			Runway 31R		
13LD01	3.82%	6.51%	31RD01	2.48%	2.70%
13LD02	2.24%	8.09%	31RD02	6.85%	0.93%
13LD03	3.13%	0.90%	31RD03	0.80%	0.00%
13LD04	5.66%	11.63%	31RD04	2.44%	0.00%
13LD05	1.01%	1.80%	31RD05	17.92%	11.60%
13LD06	7.94%	9.33%	31RD06	5.11%	0.89%
13LD07	8.27%	6.32%	31RD07	1.93%	0.89%
13LD08	10.70%	6.24%	31RD08	4.17%	0.93%
13LD09	0.75%	0.00%	31RD09	13.35%	4.54%
13LD10	4.16%	1.78%	31RD10	2.62%	1.79%
13LD11	2.03%	2.84%	31RD11	5.18%	5.47%
13LD12	4.56%	0.00%	31RD12	8.48%	8.21%
13LD13	2.00%	0.00%	31RD13	4.70%	0.90%
13LD14	2.22%	0.91%	31RD14	0.66%	0.00%
13LD15	0.66%	0.00%	31RD15	12.90%	46.55%
13LD16	16.06%	13.43%	31RD16	3.99%	14.60%
13LD17	7.49%	4.53%	31RD17	4.97%	0.00%
13LD18	7.78%	0.89%	31RD18	1.46%	0.00%
13LD19	5.60%	23.90%			
13LD20	3.92%	0.90%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13R			Runway 31L		
13RD01	0.22%	0.00%	31LD01	2.03%	0.61%
13RD02	2.25%	1.48%	31LD02	6.86%	9.59%
13RD03	7.61%	11.38%	31LD03	19.11%	17.39%
13RD04	0.24%	0.22%	31LD04	0.24%	0.60%
13RD05	18.42%	18.46%	31LD05	28.42%	30.48%
13RD06	0.46%	0.20%	31LD06	3.76%	6.52%
13RD07	2.05%	3.20%	31LD07	3.67%	1.77%

TABLE B-2.16
FIXED WING AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2021 EXISTING CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 13R (cont.)			Runway 31L (cont.)		
13RD08	2.19%	0.86%	31LD08	0.29%	0.10%
13RD09	0.24%	0.09%	31LD09	19.02%	20.23%
13RD10	30.36%	33.18%	31LD10	2.42%	0.60%
13RD11	0.07%	0.06%	31LD11	6.97%	7.05%
13RD12	0.86%	0.49%	31LD12	0.71%	0.20%
13RD13	0.07%	0.28%	31LD13	0.14%	0.00%
13RD14	0.13%	0.38%	31LD14	0.81%	0.40%
13RD15	0.71%	0.63%	31LD15	1.43%	0.10%
13RD16	5.77%	13.53%	31LD16	0.38%	0.00%
13RD17	1.11%	1.06%	31LD17	1.32%	2.37%
13RD18	1.06%	0.42%	31LD18	0.23%	0.50%
13RD19	9.54%	3.09%	31LD19	1.36%	0.30%
13RD20	0.26%	0.13%	31LD20	0.83%	1.20%
13RD21	0.06%	0.03%			
13RD22	1.72%	2.90%			
13RD23	4.78%	3.08%			
13RD24	0.31%	0.16%			
13RD25	7.75%	3.75%			
13RD26	0.49%	0.25%			
13RD27	0.08%	0.10%			
13RD28	0.62%	0.32%			
13RD29	0.56%	0.26%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.17
FIXED WING AIRCRAFT TOUCH AND GO FLIGHT TRACK USE – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04			Runway 22		
04T01	28.57%	0.00%			
04T02	28.57%	100.00%			
04T03	42.86%	0.00%			
Total	**100.00%**	**100.00%**	**Total**	**0.00%**	**0.00%**
Runway 13L			Runway 31R		
13LT01	95.92%	92.86%	31RT01	100.00%	0.00%
13LT02	4.08%	7.14%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**0.00%**
Runway 13R			Runway 31L		
13RT01	18.18%	50.00%	31LT01	50.00%	0.00%
13RT02	36.36%	0.00%	31LT02	50.00%	0.00%
13RT03	36.36%	0.00%			
13RT04	9.09%	50.00%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**0.00%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.18
HELICOPTER AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04			Runway 22		
H04A01	100.00%	100.00%	H22A01	100.00%	100.00%
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13L			Runway 31R		
H13LA01	50.08%	100.00%	H31RA01	100.00%	0.00%
H13LA02	49.92%	0.00%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**0.00%**
Runway 13R			Runway 31L		
H13RA01	100.00%	100.00%	H31LA01	100.00%	0.00%
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**0.00%**
Pad H1			Pad H2		
H1A01	11.64%	0.00%	H2A01	53.86%	70.40%
H1A02	39.29%	34.46%	H2A02	8.24%	9.95%
H1A03	3.69%	21.92%	H2A03	3.74%	0.00%
H1A04	8.95%	0.00%	H2A04	16.24%	12.94%
H1A05	4.49%	9.96%	H2A05	3.03%	2.28%
H1A06	6.13%	1.79%	H2A06	0.63%	1.94%
H1A07	13.34%	22.71%	H2A07	4.87%	0.68%
H1A08	5.40%	6.88%	H2A08	3.83%	1.21%
H1A09	3.17%	0.00%	H2A09	2.72%	0.00%
H1A10	3.91%	2.29%	H2A10	2.84%	0.59%
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Pad H3			Pad H4		
H3A01	9.74%	4.17%	H4A01	20.71%	0.00%
H3A02	5.96%	4.17%	H4A02	13.96%	0.00%
H3A03	11.31%	12.50%	H4A03	8.04%	0.00%
H3A04	4.87%	2.08%	H4A04	5.54%	0.00%
H3A05	24.97%	20.83%	H4A05	22.00%	0.00%
H3A06	5.48%	2.08%	H4A06	19.04%	0.00%
H3A07	4.19%	18.75%	H4A07	10.72%	0.00%
H3A08	10.35%	4.17%			
H3A09	3.57%	0.00%			
H3A10	5.48%	16.67%			
H3A11	3.65%	4.17%			
H3A12	10.42%	10.42%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**0.00%**

TABLE B-2.18
HELICOPTER AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Pad H5					
H5A01	12.70%	50.00%			
H5A02	30.27%	50.00%			
H5A03	39.58%	0.00%			
H5A04	17.45%	0.00%			
Total	**100.00%**	**100.00%**			

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.19
HELICOPTER AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04			Runway 22		
H04D01	100.00%	100.00%	H22D01	0.00%	100.00%
Total	**100.00%**	**100.00%**	**Total**	**0.00%**	**100.00%**
Runway 13L			Runway 31R		
	None		H31RD01	100.00%	0.00%
			Total	**100.00%**	**0.00%**
Runway 13R			Runway 31L		
H13RD01	38.58%	35.35%	H31LD01	100.00%	0.00%
H13RD02	61.42%	64.65%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**0.00%**
Pad H1			Pad H2		
H1D01	13.26%	14.96%	H2D01	34.37%	51.01%
H1D02	34.37%	25.60%	H2D02	4.65%	2.52%
H1D03	3.12%	11.15%	H2D03	6.27%	2.04%
H1D04	4.40%	0.00%	H2D04	3.33%	8.55%
H1D05	17.08%	19.35%	H2D05	7.68%	5.73%
H1D06	10.47%	5.05%	H2D06	29.12%	25.21%
H1D07	6.57%	21.95%	H2D07	1.38%	0.99%
H1D08	10.72%	1.94%	H2D08	1.76%	0.00%
			H2D09	2.40%	1.63%
			H2D10	0.91%	1.10%
			H2D11	8.14%	1.22%
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Pad H3			Pad H4		
H3D01	7.30%	5.56%	H4D01	14.74%	0.00%
H3D02	3.01%	0.00%	H4D02	19.52%	0.00%
H3D03	2.08%	2.78%	H4D03	26.83%	0.00%
H3D04	9.74%	2.78%	H4D04	22.04%	0.00%
H3D05	1.56%	0.00%	H4D05	10.08%	0.00%
H3D06	1.56%	0.00%	H4D06	6.80%	0.00%
H3D07	55.03%	72.31%			
H3D08	6.23%	2.78%			
H3D09	3.12%	2.78%			
H3D10	6.73%	2.78%			
H3D11	3.64%	8.22%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**0.00%**

TABLE B-2.19
HELICOPTER AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Pad H5					
H5D01	40.87%	0.00%			
H5D02	23.25%	32.08%			
H5D03	11.73%	0.00%			
H5D04	10.27%	0.00%			
H5D05	13.88%	67.92%			
Total	**100.00%**	**100.00%**			

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.20
FIXED WING AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04			Runway 22		
04A01	0.38%	0.17%	22A01	0.90%	0.00%
04A02	0.65%	1.62%	22A02	2.89%	4.35%
04A03	5.52%	4.55%	22A03	4.11%	1.69%
04A04	1.12%	3.86%	22A04	2.83%	7.60%
04A05	0.75%	0.26%	22A05	5.16%	6.48%
04A06	0.04%	0.00%	22A06	49.35%	61.77%
04A07	1.25%	3.44%	22A07	5.56%	11.45%
04A08	1.27%	0.90%	22A08	10.43%	4.59%
04A09	0.20%	0.05%	22A09	2.64%	0.51%
04A10	21.44%	26.48%	22A10	4.87%	0.56%
04A11	0.70%	1.74%	22A11	4.88%	0.56%
04A12	0.39%	0.45%	22A12	3.60%	0.00%
04A13	20.56%	20.54%	22A13	1.54%	0.00%
04A14	0.73%	0.08%	22A14	1.23%	0.44%
04A15	16.12%	22.61%			
04A16	0.93%	0.40%			
04A17	2.39%	2.48%			
04A18	0.08%	0.00%			
04A19	1.09%	1.47%			
04A20	1.04%	1.62%			
04A21	13.39%	5.70%			
04A22	0.83%	0.79%			
04A23	2.74%	0.54%			
04A24	6.39%	0.26%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13L			Runway 31R		
13LA01	3.53%	11.86%	31RA01	1.34%	0.00%
13LA02	3.66%	11.65%	31RA02	0.52%	12.65%
13LA03	3.19%	14.47%	31RA03	4.22%	0.00%
13LA04	0.63%	0.00%	31RA04	3.42%	17.76%
13LA05	5.03%	13.68%	31RA05	1.39%	0.00%
13LA06	1.29%	10.36%	31RA06	2.25%	0.00%
13LA07	1.30%	0.00%	31RA07	0.92%	0.00%
13LA08	0.48%	0.00%	31RA08	9.00%	11.48%
13LA09	0.60%	0.00%	31RA09	9.37%	13.76%

TABLE B-2.20
FIXED WING AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 13L (cont.)			Runway 31R (cont.)		
13LA10	0.80%	0.00%	31RA10	1.26%	0.00%
13LA11	1.15%	0.00%	31RA11	6.77%	8.86%
13LA12	1.88%	1.06%	31RA12	5.41%	0.00%
13LA13	5.32%	3.13%	31RA13	4.07%	0.00%
13LA14	0.53%	0.00%	31RA14	24.24%	8.86%
13LA15	1.82%	2.05%	31RA15	2.86%	0.00%
13LA16	16.15%	3.94%	31RA16	2.40%	0.00%
13LA17	1.20%	0.00%	31RA17	4.40%	0.00%
13LA18	1.46%	0.00%	31RA18	9.09%	0.00%
13LA19	0.95%	0.00%	31RA19	1.31%	0.00%
13LA20	2.40%	0.00%	31RA20	5.75%	26.64%
13LA21	6.01%	1.85%			
13LA22	5.17%	1.05%			
13LA23	10.75%	5.93%			
13LA24	0.13%	2.05%			
13LA25	0.18%	0.00%			
13LA26	0.10%	0.00%			
13LA27	3.81%	6.69%			
13LA28	1.47%	0.00%			
13LA29	1.29%	2.04%			
13LA30	3.62%	1.98%			
13LA31	1.80%	0.00%			
13LA32	3.30%	2.05%			
13LA33	3.92%	2.08%			
13LA34	5.10%	2.05%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13R			Runway 31L		
13RA01	52.34%	41.49%	31LA01	0.22%	0.44%
13RA02	1.67%	0.76%	31LA02	0.21%	1.24%
13RA03	0.08%	0.03%	31LA03	0.27%	0.13%
13RA04	2.14%	12.36%	31LA04	0.06%	0.13%
13RA05	0.38%	0.11%	31LA05	0.65%	2.58%
13RA06	1.08%	2.33%	31LA06	0.30%	0.49%
13RA07	0.44%	0.24%	31LA07	0.16%	0.00%
13RA08	0.08%	0.16%	31LA08	4.08%	6.44%

TABLE B-2.20
FIXED WING AIRCRAFT ARRIVAL FLIGHT TRACK USE – 2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 13R (cont.)			Runway 31L (cont.)		
13RA09	0.15%	0.02%	31LA09	24.89%	46.42%
13RA10	0.09%	0.01%	31LA10	27.97%	3.28%
13RA11	0.06%	0.05%	31LA11	1.27%	6.63%
13RA12	0.09%	0.14%	31LA12	0.46%	0.00%
13RA13	0.11%	0.40%	31LA13	0.49%	0.20%
13RA14	5.48%	6.83%	31LA14	0.99%	3.89%
13RA15	1.77%	1.51%	31LA15	1.26%	0.51%
13RA16	0.11%	0.10%	31LA16	1.74%	0.21%
13RA17	0.07%	0.03%	31LA17	9.98%	8.70%
13RA18	18.77%	28.22%	31LA18	8.42%	11.67%
13RA19	0.46%	0.45%	31LA19	10.96%	3.85%
13RA20	10.94%	2.38%	31LA20	1.32%	0.12%
13RA21	0.29%	0.17%	31LA21	0.54%	0.89%
13RA22	0.04%	0.00%	31LA22	0.79%	0.86%
13RA23	0.02%	0.01%	31LA23	0.82%	0.67%
13RA24	0.48%	0.52%	31LA24	0.48%	0.00%
13RA25	0.22%	0.09%	31LA25	0.31%	0.11%
13RA26	0.67%	0.52%	31LA26	0.26%	0.00%
13RA27	0.29%	0.02%	31LA27	0.55%	0.12%
13RA28	0.42%	0.22%	31LA28	0.56%	0.41%
13RA29	0.16%	0.01%			
13RA30	0.18%	0.09%			
13RA31	0.08%	0.01%			
13RA32	0.07%	0.01%			
13RA33	0.25%	0.38%			
13RA34	0.11%	0.09%			
13RA35	0.08%	0.03%			
13RA36	0.36%	0.21%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.21
FIXED WING AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04			Runway 22		
04D01	0.49%	0.11%	22D01	0.26%	0.00%
04D02	0.30%	0.17%	22D02	0.59%	0.00%
04D03	0.18%	0.02%	22D03	1.41%	0.55%
04D04	0.21%	0.32%	22D04	6.52%	1.09%
04D05	0.26%	0.10%	22D05	1.58%	0.17%
04D06	0.39%	0.07%	22D06	1.26%	0.99%
04D07	26.59%	27.78%	22D07	1.06%	0.82%
04D08	2.22%	0.87%	22D08	1.69%	1.25%
04D09	4.37%	11.00%	22D09	0.64%	0.34%
04D10	6.33%	3.37%	22D10	15.37%	7.87%
04D11	23.10%	26.80%	22D11	2.65%	0.28%
04D12	0.16%	0.15%	22D12	1.40%	1.88%
04D13	0.09%	0.00%	22D13	5.65%	2.00%
04D14	0.05%	0.02%	22D14	2.65%	1.11%
04D15	1.06%	0.58%	22D15	5.37%	3.58%
04D16	2.00%	0.97%	22D16	0.47%	0.34%
04D17	0.75%	0.10%	22D17	0.22%	0.07%
04D18	17.29%	20.46%	22D18	0.14%	0.17%
04D19	0.93%	0.10%	22D19	12.61%	10.69%
04D20	0.04%	0.09%	22D20	3.47%	5.93%
04D21	1.22%	0.47%	22D21	11.81%	16.78%
04D22	0.06%	0.07%	22D22	0.66%	0.00%
04D23	0.08%	0.03%	22D23	0.69%	0.00%
04D24	0.05%	0.09%	22D24	8.38%	12.67%
04D25	1.14%	0.20%	22D25	9.19%	31.08%
04D26	1.00%	0.90%	22D26	4.27%	0.35%
04D27	5.61%	1.81%			
04D28	1.38%	1.58%			
04D29	0.15%	0.04%			
04D30	0.06%	0.00%			
04D31	0.88%	0.16%			
04D32	0.38%	0.11%			
04D33	0.14%	0.14%			
04D34	0.08%	0.04%			
04D35	0.05%	0.02%			

TABLE B-2.21
FIXED WING AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 04 (cont.)			Runway 22 (cont.)		
04D36	0.16%	0.17%			
04D37	0.40%	0.29%			
04D38	0.08%	0.02%			
04D39	0.27%	0.78%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13L			Runway 31R		
13LD01	4.05%	6.51%	31RD01	1.25%	2.53%
13LD02	2.17%	7.97%	31RD02	6.28%	0.64%
13LD03	2.25%	0.59%	31RD03	0.44%	0.00%
13LD04	4.21%	7.71%	31RD04	2.43%	0.00%
13LD05	0.73%	1.19%	31RD05	18.31%	11.56%
13LD06	7.91%	9.85%	31RD06	4.91%	0.91%
13LD07	9.68%	7.52%	31RD07	1.60%	0.61%
13LD08	8.02%	4.13%	31RD08	3.79%	0.64%
13LD09	0.63%	0.00%	31RD09	13.50%	4.28%
13LD10	4.80%	2.43%	31RD10	1.78%	1.68%
13LD11	1.47%	1.80%	31RD11	4.91%	5.29%
13LD12	3.50%	0.00%	31RD12	9.69%	8.40%
13LD13	2.89%	0.00%	31RD13	4.38%	0.92%
13LD14	2.32%	1.25%	31RD14	0.68%	0.00%
13LD15	0.52%	0.00%	31RD15	14.64%	47.61%
13LD16	15.80%	10.20%	31RD16	4.80%	14.93%
13LD17	8.22%	5.27%	31RD17	5.31%	0.00%
13LD18	8.16%	0.77%	31RD18	1.31%	0.00%
13LD19	7.79%	31.56%			
13LD20	4.88%	1.23%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**
Runway 13R			Runway 31L		
13RD01	0.23%	0.00%	31LD01	2.60%	0.92%
13RD02	3.01%	1.80%	31LD02	6.63%	9.52%
13RD03	7.11%	11.16%	31LD03	18.25%	17.35%
13RD04	0.23%	0.22%	31LD04	0.23%	0.58%
13RD05	17.12%	18.11%	31LD05	28.23%	29.80%
13RD06	0.52%	0.27%	31LD06	3.62%	6.52%
13RD07	1.93%	3.22%	31LD07	3.87%	1.83%

TABLE B-2.21
FIXED WING AIRCRAFT DEPARTURE FLIGHT TRACK USE – 2026 FUTURE CONDITIONS

Flight Track	Daytime	Nighttime	Flight Track	Daytime	Nighttime
Runway 13R (cont.)			Runway 31L (cont.)		
13RD08	3.11%	1.01%	31LD08	0.28%	0.08%
13RD09	0.27%	0.10%	31LD09	18.28%	20.29%
13RD10	28.99%	32.32%	31LD10	2.99%	0.70%
13RD11	0.07%	0.06%	31LD11	6.86%	6.78%
13RD12	1.15%	0.63%	31LD12	0.69%	0.31%
13RD13	0.06%	0.28%	31LD13	0.13%	0.00%
13RD14	0.12%	0.37%	31LD14	1.11%	0.56%
13RD15	0.66%	0.65%	31LD15	1.88%	0.14%
13RD16	5.36%	13.13%	31LD16	0.36%	0.00%
13RD17	1.50%	1.43%	31LD17	1.29%	2.40%
13RD18	1.48%	0.50%	31LD18	0.29%	0.55%
13RD19	8.91%	3.02%	31LD19	1.57%	0.42%
13RD20	0.25%	0.13%	31LD20	0.83%	1.25%
13RD21	0.06%	0.03%			
13RD22	1.58%	2.82%			
13RD23	5.56%	3.47%			
13RD24	0.34%	0.21%			
13RD25	8.33%	3.86%			
13RD26	0.52%	0.30%			
13RD27	0.08%	0.09%			
13RD28	0.75%	0.45%			
13RD29	0.68%	0.35%			
Total	**100.00%**	**100.00%**	**Total**	**100.00%**	**100.00%**

NOTES: Values may not add to 100% due to rounding.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

TABLE B-2.22
ANNUAL AVERAGE DAY ENGINE RUNUP OPERATIONS – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

ID	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Number of Runups	Time of day	Duration in Second	Thrust (pound or %)
RU1	ATR 72-600	PW127F	NONE	0.008264	DAY	540	100
RU2	Boeing 737-400 Series	1CM007	NONE	0.008264	DAY	540	23500
RU3	Boeing 737-800 Series	11CM078	NONE	0.008264	NIGHT	1440	26300
RU4	Boeing 757-300 Series	3RR028	NONE	0.033058	DAY	1440	43100
RU5	Boeing 757-300 Series	3RR028	NONE	0.008264	DAY	1800	43100
RU6	Cessna 208 Caravan	PT6A42	NONE	0.008264	DAY	540	2300
RU7	Cessna 525 CitationJet	PW610F	NONE	0.033058	DAY	540	3600
RU8	Cessna 525 CitationJet	PW610F	NONE	0.008264	NIGHT	540	3600
RU9	Cessna 525 CitationJet	PW610F	NONE	0.008264	DAY	525	3600
RU10	Cessna 525 CitationJet	PW610F	NONE	0.008264	DAY	675	3600
RU11	Cessna 525 CitationJet	PW610F	NONE	0.024793	DAY	900	3600
RU12	Cessna 525A CitationJet	PW610F	NONE	0.008264	DAY	270	2500
RU13	Cessna 525A CitationJet	PW610F	NONE	0.008264	NIGHT	360	2500
RU14	Cessna 525A CitationJet	PW610F	NONE	0.008264	DAY	540	2500
RU15	Cessna 525A CitationJet	PW610F	NONE	0.024793	DAY	900	2500
RU16	Cessna 525B CitationJet	PW610F	NONE	0.008264	DAY	540	3600
RU17	Cessna 525B CitationJet	PW610F	NONE	0.008264	DAY	675	3600
RU18	Cessna 525B CitationJet	PW610F	NONE	0.008264	DAY	900	3600
RU19	Cessna 525B CitationJet	PW610F	NONE	0.008264	DAY	1440	3600
RU20	Cessna 525C CitationJet	PW610F	NONE	0.008264	DAY	540	3600
RU21	Cessna 525C CitationJet	PW610F	NONE	0.016529	NIGHT	540	3600
RU22	Cessna 525C CitationJet	PW610F	NONE	0.033058	DAY	900	3600
RU23	Cessna 525C CitationJet	PW610F	NONE	0.016529	NIGHT	900	3600
RU24	Cessna 560 Citation Excel	1PW037	NONE	0.008264	DAY	900	3029
RU25	Cessna 560 Citation Excel	1PW037	NONE	0.008264	DAY	1080	3029

TABLE B-2.22
ANNUAL AVERAGE DAY ENGINE RUNUP OPERATIONS – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

ID	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Number of Runups	Time of day	Duration in Second	Thrust (pound or %)
RU26	Cessna 560 Citation Excel	1PW037	NONE	0.008264	NIGHT	1440	3029
RU27	Cessna 560 Citation XLS	PW530	NONE	0.008264	NIGHT	360	3824
RU28	Cessna 560 Citation XLS	PW530	NONE	0.008264	DAY	540	3824
RU29	Cessna 560 Citation XLS	PW530	NONE	0.033058	DAY	900	3824
RU30	Cessna 560 Citation XLS	PW530	NONE	0.024793	NIGHT	900	3824
RU31	Cessna 650 Citation III	TFE731	NONE	0.008264	DAY	540	3650
RU32	Cessna 650 Citation III	TFE731	NONE	0.008264	DAY	525	3650
RU33	Cessna 650 Citation III	TFE731	NONE	0.008264	DAY	900	3650
RU34	Cessna 680 Citation Sovereign	7PW078	NONE	0.016529	DAY	525	5749
RU35	Cessna 680 Citation Sovereign	7PW078	NONE	0.008264	DAY	600	5749
RU36	Cessna 680 Citation Sovereign	7PW078	NONE	0.033058	DAY	900	5749
RU37	Cessna 680 Citation Sovereign	7PW078	NONE	0.008264	DAY	1080	5749
RU38	Cessna 680 Citation Sovereign	7PW078	NONE	0.008264	DAY	1440	5749
RU39	Cessna 680-A Citation Latitude	7PW078	NONE	0.008264	NIGHT	270	5749
RU40	Cessna 680-A Citation Latitude	7PW078	NONE	0.008264	DAY	900	5749
RU41	Cessna 680-A Citation Latitude	7PW078	NONE	0.008264	DAY	1440	5749
RU42	Cessna 750 Citation X	6AL022	NONE	0.024793	NIGHT	450	6407
RU43	Cessna 750 Citation X	6AL022	NONE	0.008264	NIGHT	675	6407
RU44	Cessna 750 Citation X	6AL022	NONE	0.016529	DAY	900	6407
RU45	Cessna 750 Citation X	6AL022	NONE	0.008264	NIGHT	900	6407
RU46	Cessna Citation 510	PW615F	NONE	0.008264	DAY	600	1466
RU47	Cessna Citation 510	PW615F	NONE	0.016529	DAY	900	1466
RU48	Cessna S550 Citation S/II	PW530	NONE	0.008264	DAY	540	2863
RU49	Cessna S550 Citation S/II	PW530	NONE	0.008264	DAY	525	2863
RU50	Cessna S550 Citation S/II	PW530	NONE	0.008264	DAY	900	2863

TABLE B-2.22
ANNUAL AVERAGE DAY ENGINE RUNUP OPERATIONS – 2021 EXISTING CONDITIONS/2026 FUTURE CONDITIONS

ID	AEDT Aircraft Type	AEDT Engine Code	AEDT Engine Mod Code	Number of Runups	Time of day	Duration in Second	Thrust (pound or %)
RU51	Cessna S550 Citation S/II	PW530	NONE	0.008264	NIGHT	900	2863
RU52	Embraer ERJ145-LR	4AL003	NONE	0.008264	DAY	540	7500
RU53	Embraer ERJ190	8GE116	NONE	0.008264	DAY	540	18500
RU54	Embraer ERJ190	8GE116	NONE	0.016529	DAY	900	18500
RU55	Raytheon Super King Air 200	PT6A42	NONE	0.008264	DAY	900	100
RU56	Raytheon Super King Air 300	PT660A	NONE	0.016529	DAY	900	100

NOTES:
All engine runups were conducted at the ground runup enclosure.
All aircraft faced toward southeast.
In Thrust, 100 represents 100%. All others are in pound.

SOURCE: Environmental Science Associates, 2020. City of San Antonio Airport System, 2020.

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Appendix C
Airspace and Procedures

APPENDIX C
Airspace and Procedures

C.1 Airspace

The Federal Aviation Administration (FAA) has six classifications of airspace under the National Airspace System (NAS). These classifications, which are designated Class A, B, C, D, E, and G and shown on **Figure C-1**, are critical to the safety of all flights and to the efficient operation of all air traffic control facilities and the NAS.

Figure C-1
Airspace Classifications

SOURCE: FAA Course ALC-42, Airspace, Special Use Airspace and TFRs, 2016.

The following paragraphs describe each airspace classification in the vicinity of the San Antonio International Airport (SAT or the Airport). **Figure C-2** depicts the airspace in the vicinity of the Airport.

Class A Airspace

Class A airspace is designated for positive control of aircraft and ranges from 18,000 feet above mean sea level (MSL) to 60,000 feet MSL. Within Class A airspace, only aircraft operating under instrument flight rules (IFR) that are on instrument flight plans are authorized. The aircraft must have specific equipment and Air Traffic Control (ATC) clearance before entering the airspace. This airspace is controlled by the FAA's Air Route Traffic Control Center (ARTCC).

Class B Airspace

Class B airspace is generally defined as the airspace from the ground surface up to 10,000 feet MSL. Class B airspace can sometimes be described as an “upside down wedding cake” designed to contain all published instrument procedures once an aircraft enters the airspace. ATC clearance is required for all aircraft to operate in Class B airspace. All aircraft that are so cleared also receive separation services from other aircraft within the airspace.

Aircraft operating under Visual Flight Rules (VFR) or IFR are permitted into Class B airspace; however, the aircraft must be equipped with a two-way radio capable of communicating with ATC on appropriate frequencies and an operable radar beacon transponder with automatic altitude reporting equipment. For IFR operations, the aircraft must have an operable VOR or TACAN receiver. The pilot must hold at least a private pilots certificate.

Further surrounding the Class B airport is a 30-nautical mile (nm) Mode C veil that is designated by a thin, solid magenta line that circles the Class B airspace and extends from the surface upward to 7,000 feet MSL. Unless otherwise authorized, an aircraft operating within the Mode C veil must be equipped with automatic pressure altitude reporting equipment having Mode C radar capability. This allows a TRACON to see all aircraft operating close to the Class B airspace and provide adequate aircraft separation minimums.

Class C Airspace

The airspace immediately surrounding SAT is classified as Class C airspace. The Class C airspace is designated by solid magenta lines on the navigation charts provided in **Figure C-2**. Class C airspace is the airspace from the surface up to 4,000 feet above the airport elevation charted in MSL surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Class C airspace is represented by solid magenta lines. Like Class B airspace, Class C airspace is individually tailored to meet the needs of the respective airport. As shown on **Figure C-2**, the layers are identified with magenta numbers representing the base and ceiling altitudes of the airspace. The airspace usually consists of a surface area with a 5-nm radius from the surface up to 4,000 feet above airport elevation, and a 10-nm radius that extends from 1,200 feet to 4,000 above the airport. Pilots must establish two-way radio communications with the ATC facility providing air traffic control services prior to entering the airspace. VFR aircraft are separated from IFR aircraft in Class C airspace.

Class D Airspace

Class D airspace is generally that airspace from the surface to 2,500 feet AGL. The configuration of Class D airspace is individually tailored and shown as a dashed blue line with an altitude representing the extent of the airspace from the surface. When instrument procedures are published, the airspace will normally be designed to contain the procedures with either Class D or E airspace. Class D airspace only surrounds airports that have an operational control tower; pilots are required to establish and maintain two-way radio communication with the ATC facility.

Class E Airspace

Class E airspace is generally controlled airspace that is not Class A, B, C, or D. Class E airspace extends upward from either the surface or designated altitude to the overlying or adjacent controlled airspace. Also in this class are Victor airways (airspace beginning at either 700 feet or 1,200 feet AGL used to transition to/from the terminal or en route environments) and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 feet MSL over the United States, including that airspace overlying the water within 12 nm off the coast of the 48 contiguous states and Alaska. It does not include airspace at or above 18,000 feet MSL. Class E airspace ensures that IFR aircraft remain in controlled airspace when approaching airports without Class D airspace or when flying on Victor airways that are below 18,000 feet MSL.

Most of the U.S. has a Class E airspace limit of 1,200 feet AGL. Where it decreases to 700 feet AGL is depicted on **Figure C-2** by a shaded, gradient magenta line. The floor of the vast majority of Class E airspace is 700 feet around the South Central Texas area. The more defined side of the magenta line indicates areas where the floor of Class E airspace rises to 1,200 feet AGL. When Class E airspace extends down to the surface, it is depicted by a dashed magenta line. Class E airspace extending down to the surface usually abuts Class D airspace surrounding an airport.

Class G Airspace

Where the lower level of Class E airspace is not depicted, the airspace beneath is considered uncontrolled or Class G airspace. Class G airspace begins at ground level and, in very remote areas, it has an upper limit of up to but not including 14,500 feet MSL. The top of Class G airspace is usually where Class E airspace begins, usually either 700 foot AGL depicted by magenta shading or 1,200 foot AGL areas depicted by blue shading. Class G airspace begins at the surface throughout much of the area surrounding the Class B, C, D, and E airspaces throughout the South Central Texas area. Uncontrolled airports located in Class G airspace are depicted in magenta since they do not have a control tower.

Special Use Airspace

Special use airspace consists of that airspace wherein activities must be confined because of their nature, or wherein limitations are imposed on aircraft operations that are not a part of those activities, or both.

C.2 SAT Terminal Procedures Publications

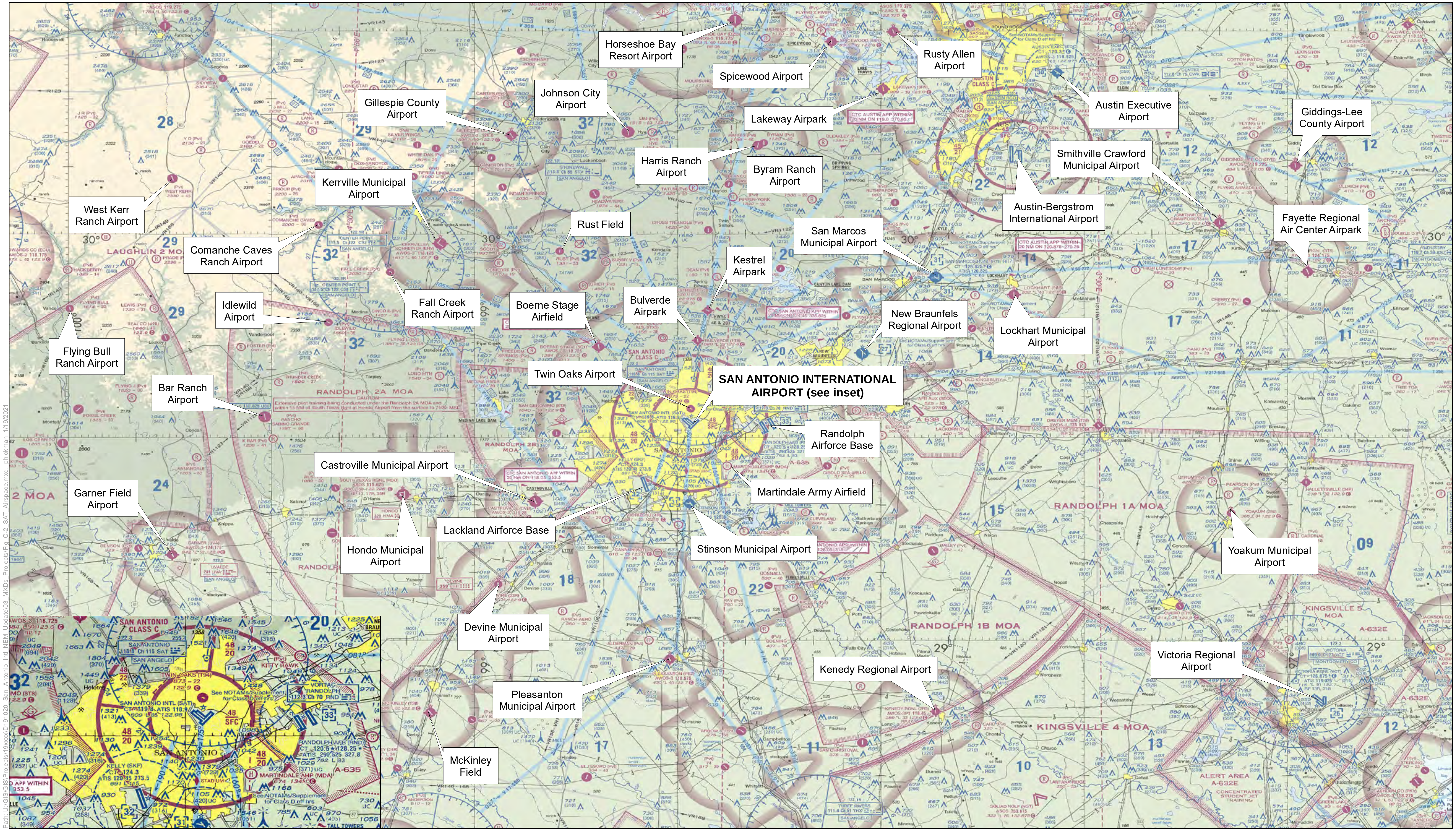
U.S. Terminal Procedures Publications (TPP) are published on a regular, periodic basis by the FAA. Collectively, the instrument approach procedures (IAPs), standard terminal arrival routes (STARs), and departure procedures (DPs) published within provide a system of procedures to move aircraft through the airspace into and out of an airport.

C.2.1 Instrument Approach Procedures

Instrument approach procedures are flight procedures developed and published by the FAA that pilots use to navigate their aircraft to the runway. The IAPs currently published for SAT are provided in **Attachment 1**.

C.2.2 Standard Terminal Arrival Routes and Departure Procedures

When flying a standard terminal arrival route or departure procedure, the pilot will follow waypoints or fixes that are either ground-based or RNAV-based depending on aircraft capability. In conventional procedures, fixes are defined by the location of a navigational aid (e.g., VOR) or determined by reference to these navigational aids such as DME intersections. The advantage of the RNAV STARs and DPs are that waypoints are defined by longitude and latitude, and allow aircraft to fly a more direct course from point to point instead of from navigational aid to navigational aid. STARs and DPs may serve more than one airport in an area, and an airport such as SAT may have multiple STARS and DPs. Each of the published procedures is noted in the following sections. Navigational aids and airspace fixes used by aircraft arriving and departing SAT are shown on **Figure C-3**. The STARs and DPs currently published for SAT are provided in **Attachment 1**.



SOURCE: Federal Aviation Administration, 2020; Adapted by Environmental Science Associates, 2020.

Figure C-2
San Antonio International Airport Airspace
San Antonio International Airport

ESA

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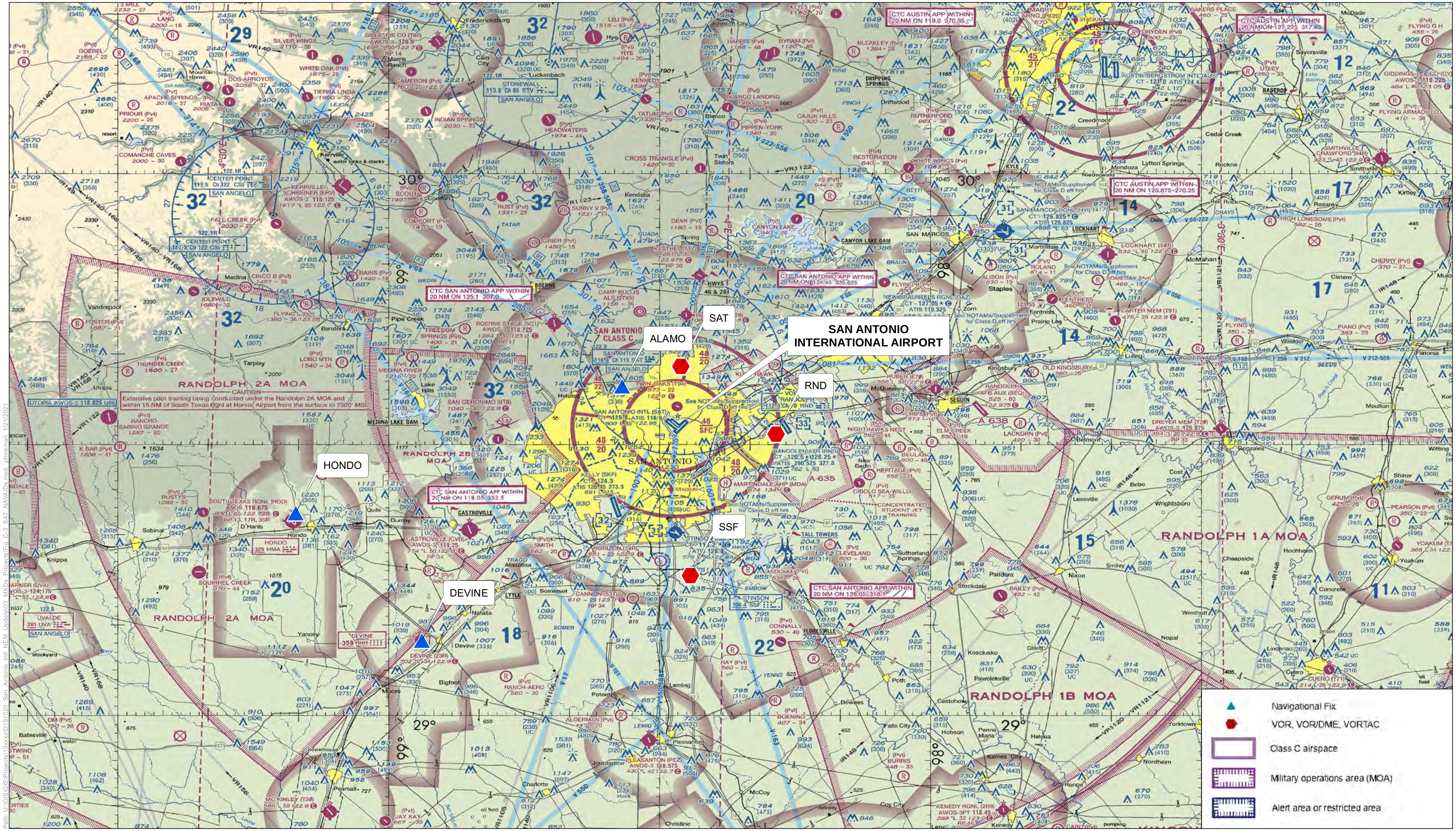

SOURCE: Federal Aviation Administration, 2020; Adapted by Environmental Science Associates, 2020

Figure C-3
San Antonio International Airport Navigational Aids
San Antonio International Airport

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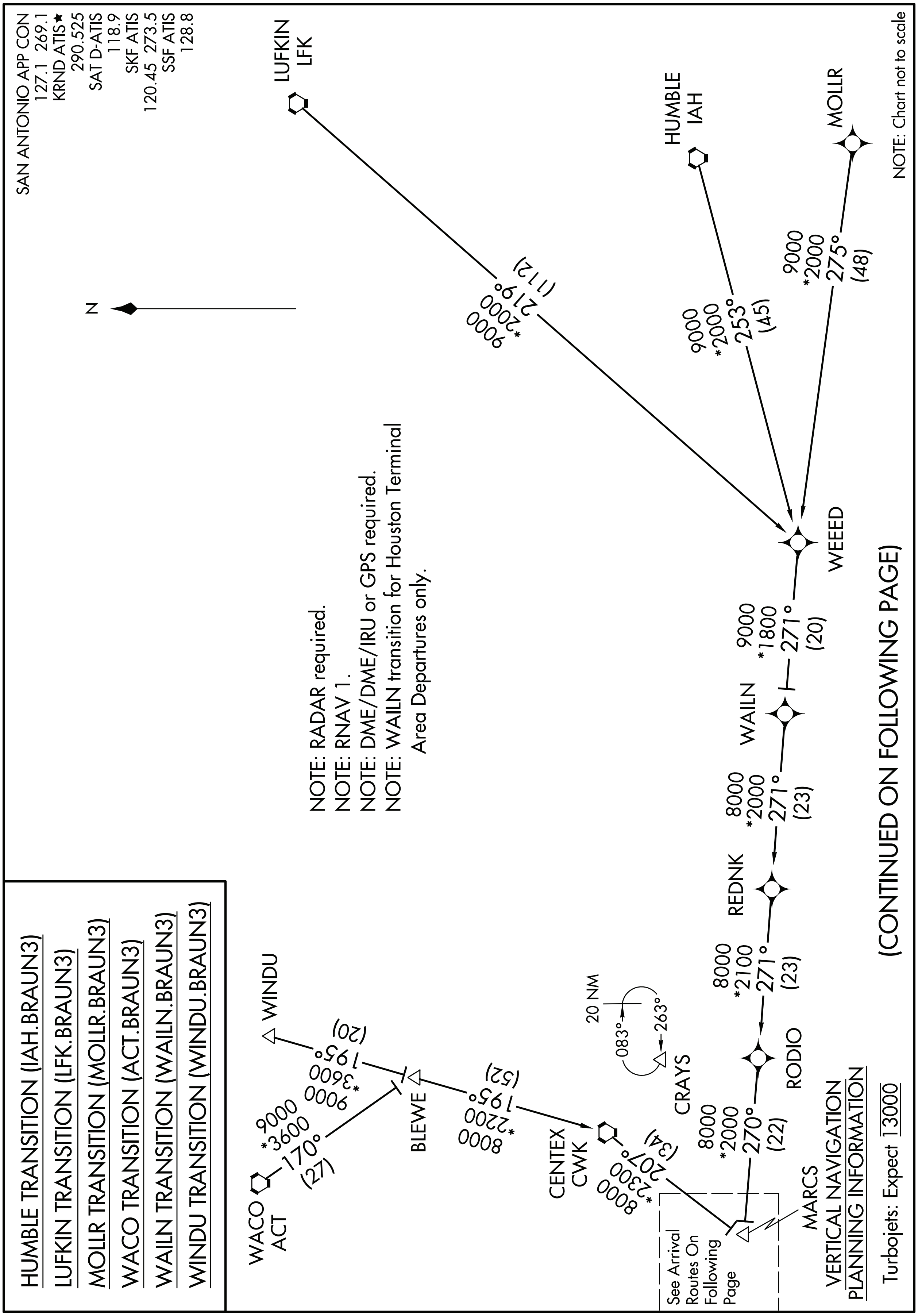
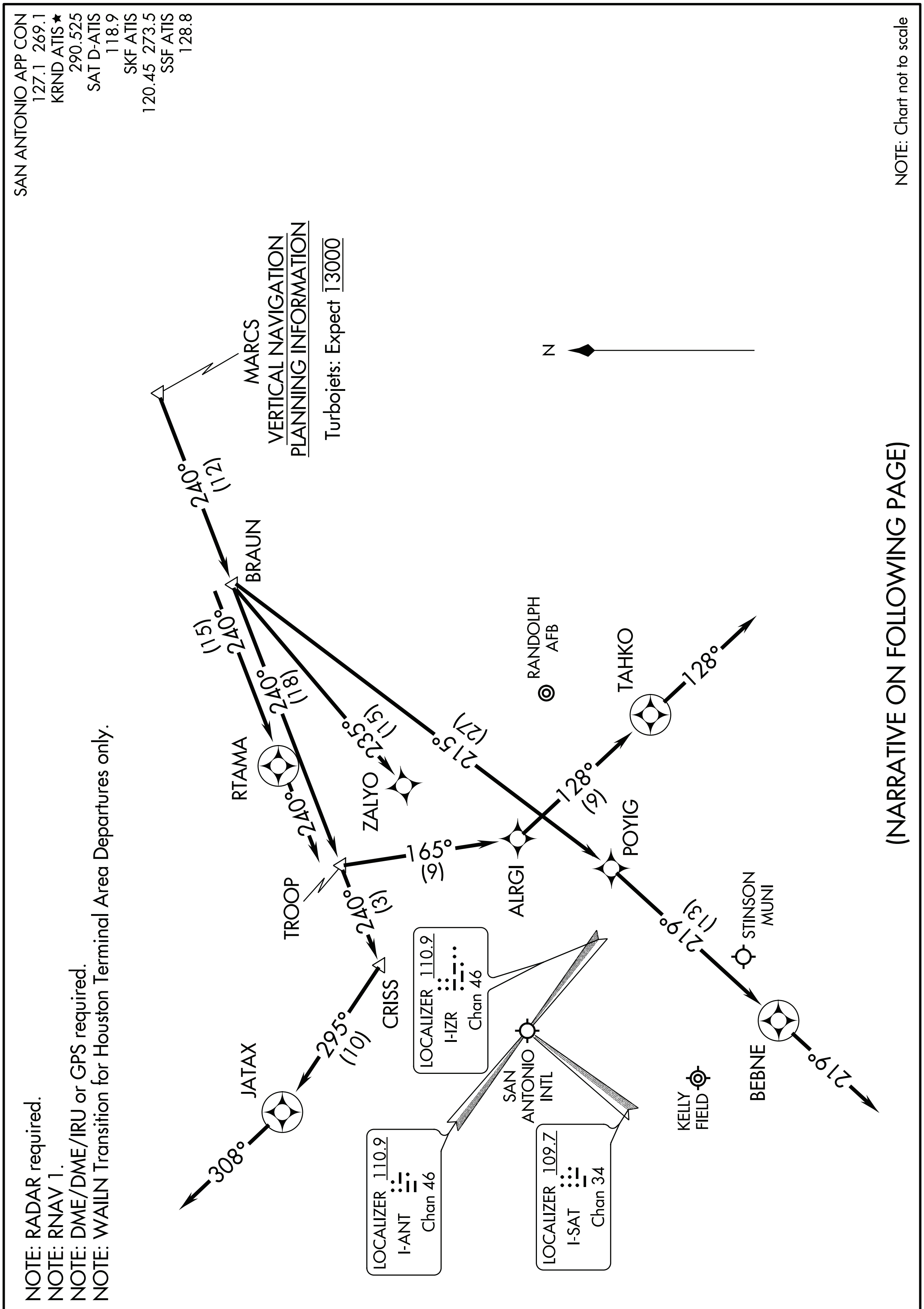
Attachment 1 Published Instrument Approach and Departure Procedures


SAN ANTONIO APP CON
127.1 269.1
KRND ATIS★
290.525
SAT D-ATIS
118.9
SKF ATIS
120.45 273.5
SSF ATIS
128.8
LUFKIN
LFK
HUMBLE
IAH
MOLLR
NOTE: Chart not to scale
N
9000
*2000
219°
(112)
9000
*2000
253°
(45)
9000
*2000
275°
(48)
WEEED
NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: WAILN transition for Houston Terminal Area Departures only.
9000
*1800
271°
(20)
WAILN
8000
*2000
271°
(23)
REDNK
8000
*2100
271°
(23)
(CONTINUED ON FOLLOWING PAGE)
RODIO
20 NM
083°
263°
CRAYS
8000
*2000
270°
(22)
MARCS
VERTICAL NAVIGATION PLANNING INFORMATION
Turbojets: Expect 13000
WINDU
9000
*3600
195°
(20)
BLEWE
8000
*2200
195°
(52)
CENTEX
CWK
8000
*2300
207°
(34)
9000
*3600
170°
(27)
WACO
ACT
See Arrival Routes On Following Page
HUMBLE TRANSITION (IAH.BRAUN3)
LUFKIN TRANSITION (LFK.BRAUN3)
MOLLR TRANSITION (MOLLR.BRAUN3)
WACO TRANSITION (ACT.BRAUN3)
WAILN TRANSITION (WAILN.BRAUN3)
WINDU TRANSITION (WINDU.BRAUN3)

BRAUN THREE ARRIVAL (RNAV) Arrival Routes

SAN ANTONIO, TEXAS

SC-3, 03 DEC 2020 to 31 DEC 2020



ARRIVAL ROUTE DESCRIPTION

SAN ANTONIO INTL (KSAT):

From MARCS on track 240° to BRAUN.

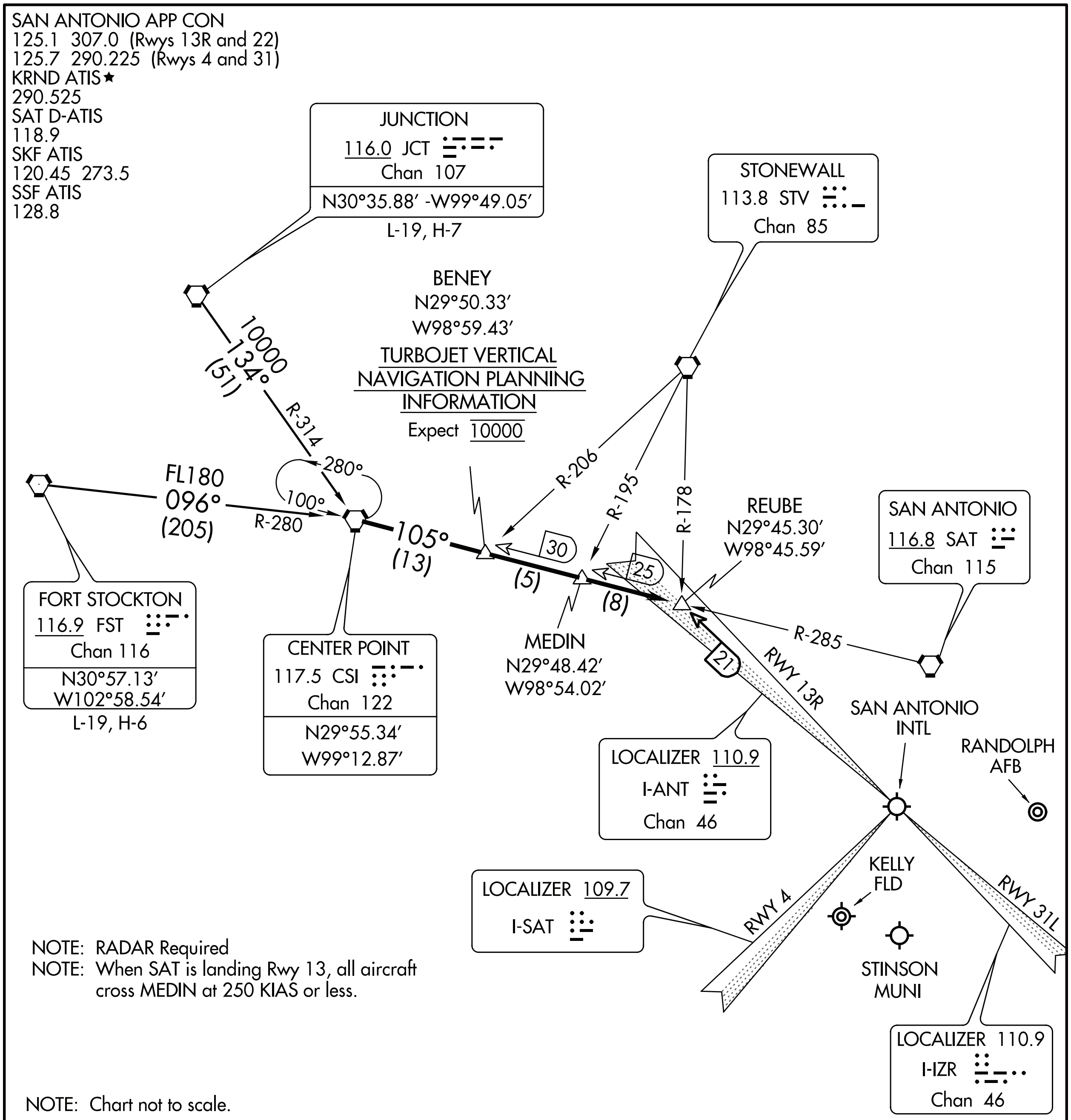
LANDING RUNWAY 4:
From BRAUN on track 215° to POYIG, then on track 219° to BEBNE, then on track 219°. Expect RADAR vectors to final approach course.
LANDING RUNWAYS 13L/R:
From BRAUN on track 240° to TROOP, then on track 240° to CRISS, then on track 295° to JATAX, then on track 308°. Expect RADAR vectors to final approach course.
LANDING RUNWAY 22:
From BRAUN on track 235° to ZALYO. Expect RNAV (RNP) Rwy 22, or expect vectors to final approach course.
LANDING RUNWAYS 31L/R:
From BRAUN on track 240° to TROOP, then on track 165° to ALRGI, then on track 128° to TAHKO, then on track 128°. Expect RADAR vectors to final approach course.

ALL OTHER AIRPORTS:
From MARCS on track 240° to BRAUN, then on track 240° to RTAMA, then on track 240°. Expect RADAR vectors to final approach course.

SC-3, 03 DEC 2020 to 31 DEC 2020
SC-3, 03 DEC 2020 to 31 DEC 2020

CENTERPOINT TWO ARRIVAL

SAN ANTONIO, TEXAS



ARRIVAL ROUTE DESCRIPTION

<u>FORT STOCKTON TRANSITION (FST.CSI2):</u> From over FST VORTAC via FST R-096 and CSI R-280 to CSI VORTAC. Thence . . . .

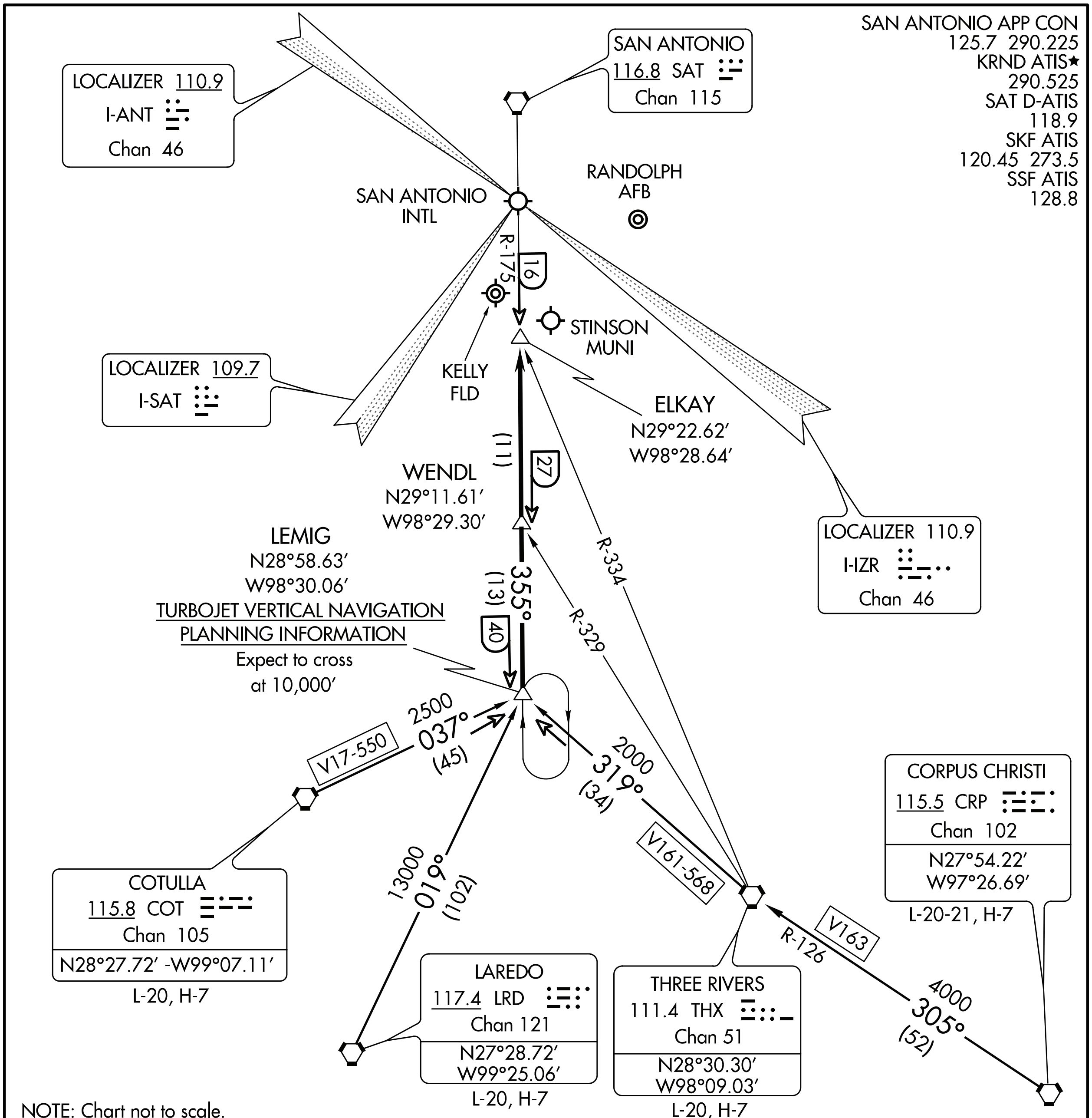
<u>JUNCTION TRANSITION (JCT.CSI2):</u> From over JCT VORTAC via JCT R-134 and CSI R-314 to CSI VORTAC. Thence . . . .

. . . . From over CSI VORTAC on CSI R-105 to REUBE INT. Expect vectors to final approach course.

SC-3, 03 DEC 2020 to 31 DEC 2020

LEMIG ONE ARRIVAL

SAN ANTONIO, TEXAS



ARRIVAL ROUTE DESCRIPTION

CORPUS CHRISTI TRANSITION (CRP.LEMIG1): From over CRP VORTAC via CRP R-305 and THX R-126 to THX VORTAC, then via THX R-319 to LEMIG INT. Thence . . . .

COTULLA TRANSITION (COT.LEMIG1): From over COT VORTAC via COT R-037 to LEMIG INT. Thence . . . .

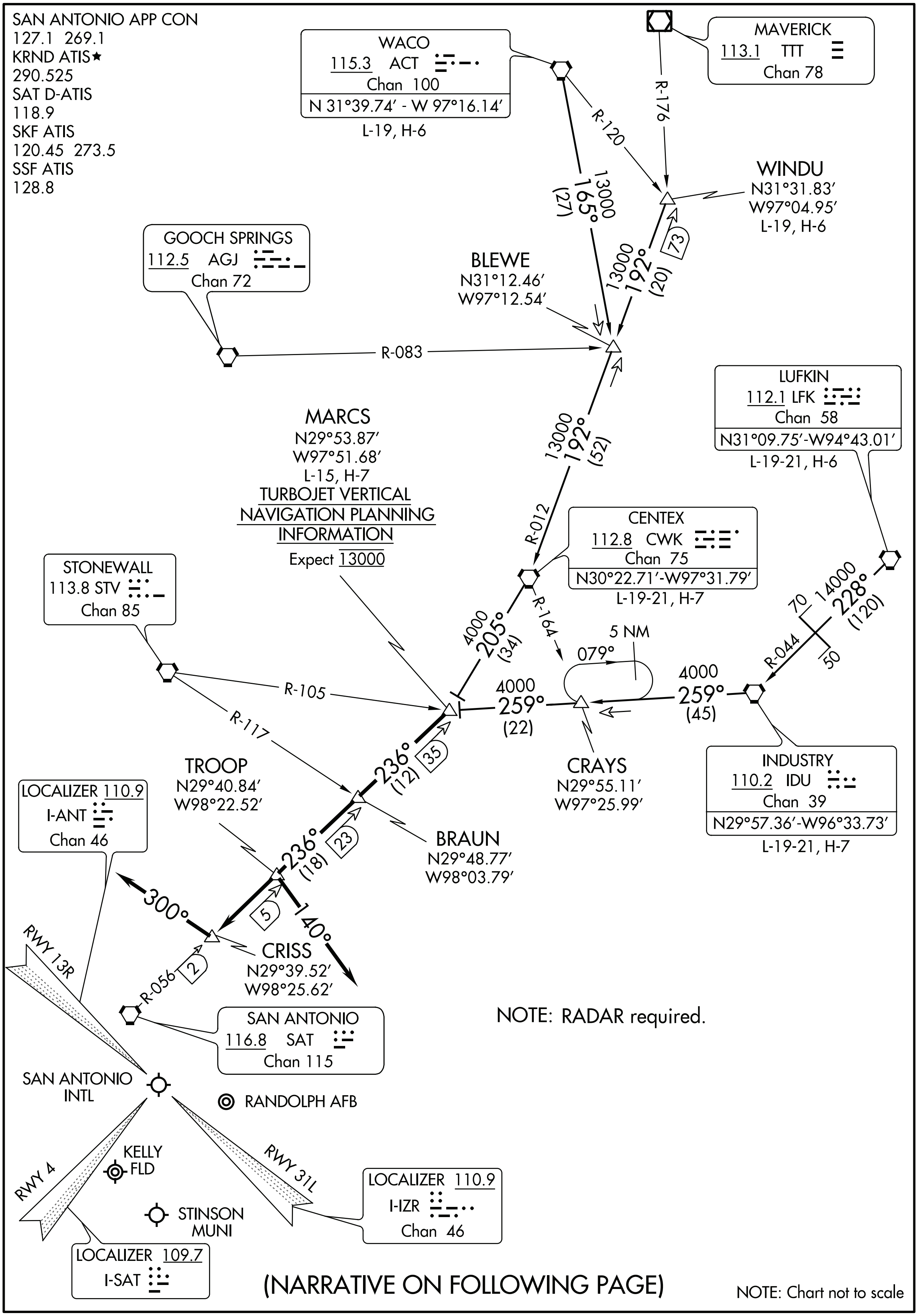
LAREDO TRANSITION (LRD.LEMIG1): From over LRD VORTAC via LRD R-019 to LEMIG INT. Thence . . . .

THREE RIVERS TRANSITION (THX.LEMIG1): From over THX VORTAC via THX R-319 to LEMIG INT. Thence . . . .

. . . . ALL AIRPORTS: From over LEMIG INT via SAT R-175 to ELKAY INT. Expect radar vectors to final approach course.

MARCS ONE ARRIVAL

SAN ANTONIO, TEXAS



SC-3, 03 DEC 2020 to 31 DEC 2020

MARCS ONE ARRIVAL

SAN ANTONIO, TEXAS

ARRIVAL ROUTE DESCRIPTION

CENTEX TRANSITION (CWK.MARCS1): From over CWK VORTAC via CWK R-205 to MARCS INT. Thence. . . .
INDUSTRY TRANSITION (IDU.MARCS1): From over IDU VORTAC via IDU R-259 to MARCS INT. Thence. . . .
LUFKIN TRANSITION (LFK.MARCS1): From over LFK VORTAC via LFK R-228 and IDU R-044 to IDU VORTAC, then via IDU R-259 to MARCS INT. Thence. . . .
WACO TRANSITION (ACT.MARCS1): From over ACT VORTAC via ACT R-165 to BLEWE INT, then via CWK R-012 to CWK VORTAC, then via CWK R-205 to MARCS INT. Thence. . . .
WINDU TRANSITION (WINDU.MARCS1): From over WINDU INT via CWK R-012 to CWK VORTAC, then via CWK R-205 to MARCS INT. Thence. . . .

. . . . From over MARCS on SAT R-056 to BRAUN, then on SAT R-056 to TROOP. Thence....

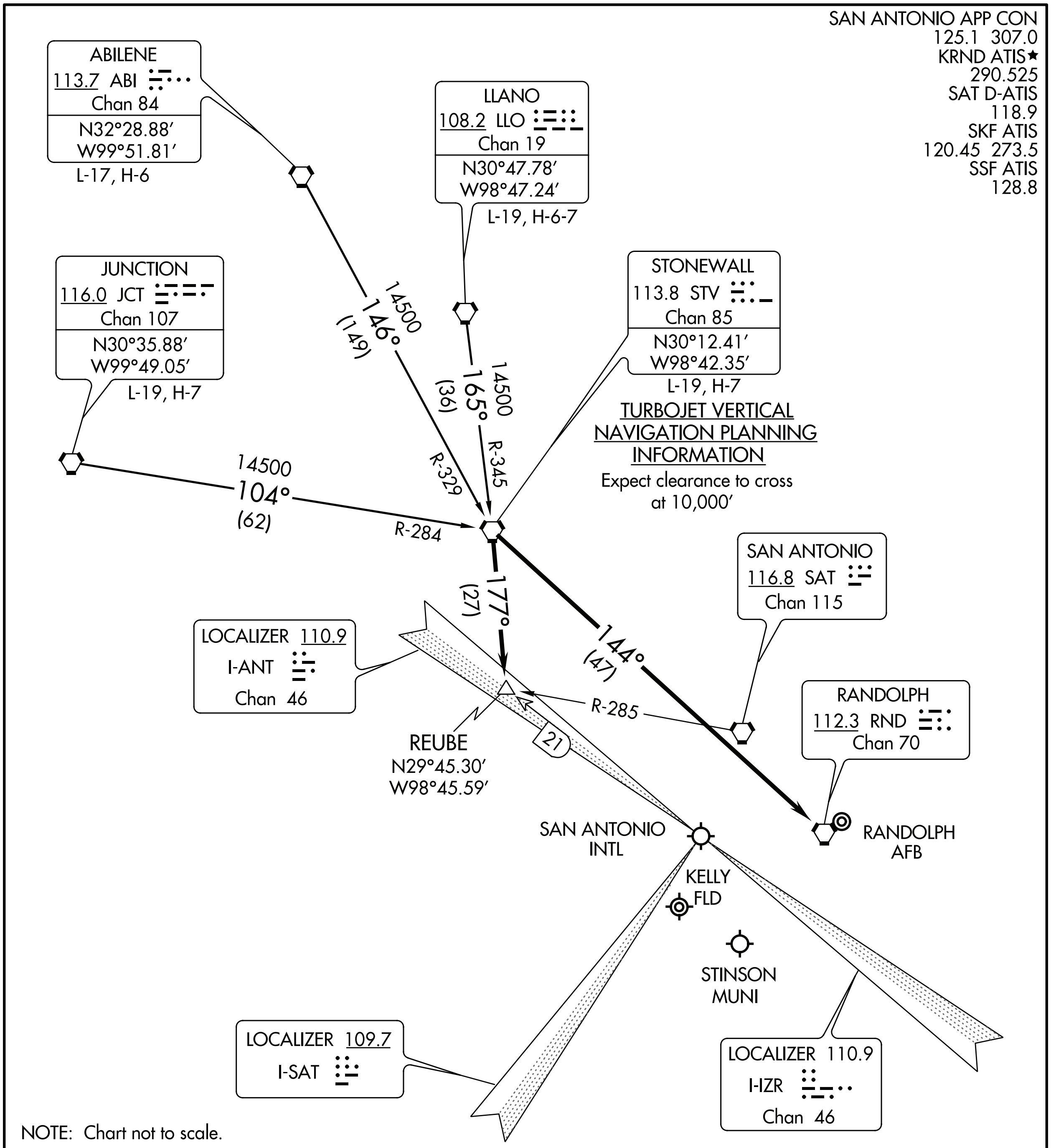
SAN ANTONIO INTL (SAT):
LANDING RWY 13R: On SAT R-056 to CRISS. Depart CRISS heading 300° for vectors to final approach course.
LANDING RWY 31L: Depart TROOP heading 140° for vectors to final approach course.
LANDING ALL OTHER RUNWAYS: On SAT R-056 to CRISS. Expect vectors to final approach course.

ALL OTHER AIRPORTS: On SAT R-056 to CRISS. Expect vectors to final approach course.

SC-3, 03 DEC 2020 to 31 DEC 2020

STONEWALL ONE ARRIVAL

SAN ANTONIO, TEXAS



ARRIVAL ROUTE DESCRIPTION

ABILENE TRANSITION (ABI.STV1): From over ABI VORTAC via ABI R-146 and STV R-329 to STV VORTAC. Thence . . . .

JUNCTION TRANSITION (JCT.STV1): From over JCT VORTAC via JCT R-104 and STV R-284 to STV VORTAC. Thence . . . .

LLANO TRANSITION (LLO.STV1): From over LLO VORTAC via LLO R-165 and STV R-345 to STV VORTAC. Thence . . . .

ALL AIRPORTS EXCEPT RANDOLPH AIR FORCE BASE: . . . . From over STV VORTAC via STV R-177 to REUBE INT. Expect radar vectors to final approach course.

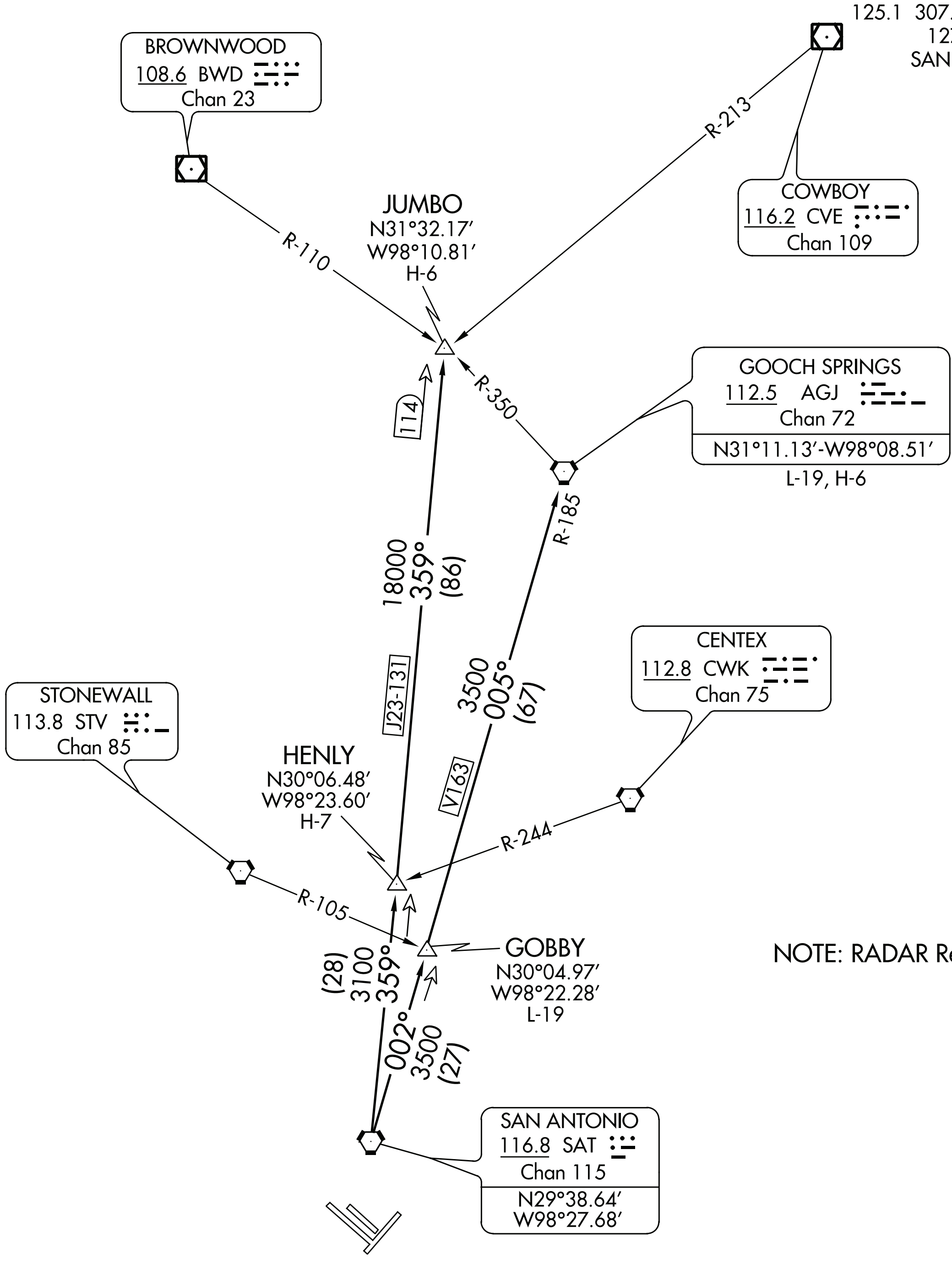
RANDOLPH AIR FORCE BASE: . . . . From over STV VORTAC via direct RND VORTAC.

SC-3, 03 DEC 2020 to 31 DEC 2020

ALAMO THREE DEPARTURE

TOP ALTITUDE: 5000

D-ATIS
118.9
CLNC DEL
126.7
CPDLC
GND CON
121.9 348.6
SAN ANTONIO DEP CON
125.1 307.0 (Rwys 04/22/31)
127.1 269.1 (Rwy 13)
SAN ANTONIO TOWER
119.8 257.8



NOTE: RADAR Required.

TAKEOFF MINIMUMS
Rwys 4, 13L, 13R, 22, 31L, 31R: Standard.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

SC-3, 03 DEC 2020 to 31 DEC 2020
SC-3, 03 DEC 2020 to 31 DEC 2020

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 4, 13L 13R, 22, 31L, 31R: Climb on assigned heading for RADAR vectors to SAT VORTAC. Maintain 5000, thence. . .

. . . on transition/route. Expect filed altitude 10 minutes after departure.

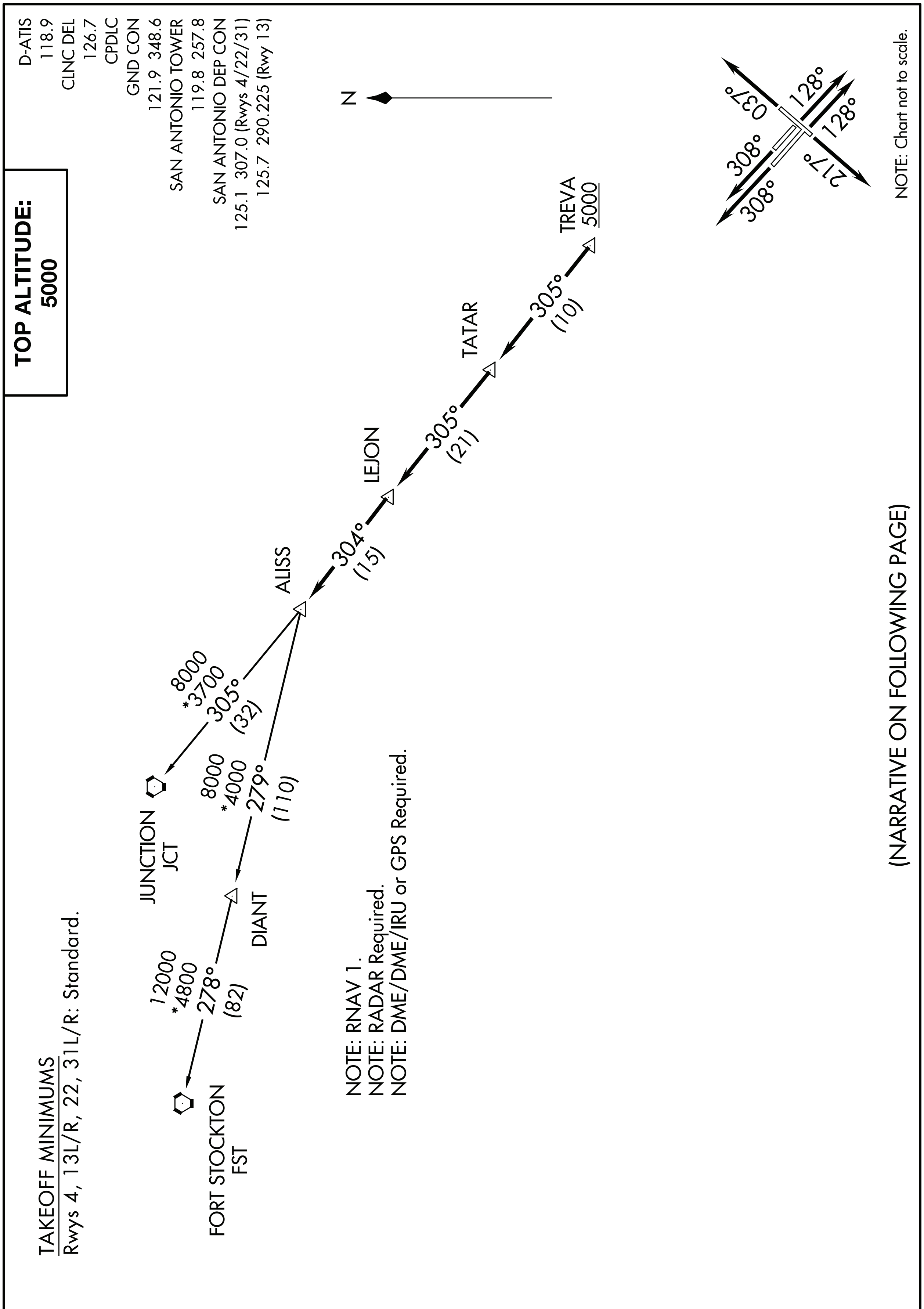
GOBBY TRANSITION (ALAMO3.GOBBY): From over SAT VORTAC on SAT R-002 to GOBBY.
GOOCH SPRINGS TRANSITION (ALAMO3.AGJ): From over SAT VORTAC on SAT R-002 to GOBBY, then on SAT R-002 and AGJ R-185 to AGJ VORTAC.
HENLY TRANSITION (ALAMO3.HENLY): From over SAT VORTAC on SAT R-359 to HENLY.
JUMBO TRANSITION (ALAMO3.JUMBO): From over SAT VORTAC on SAT R-359 to JUMBO.

SC-3, 03 DEC 2020 to 31 DEC 2020

SC-3, 03 DEC 2020 to 31 DEC 2020

ALISS FIVE DEPARTURE (RNAV)

SAN ANTONIO, TEXAS



SC-3, 03 DEC 2020 to 31 DEC 2020

SC-3, 03 DEC 2020 to 31 DEC 2020

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 4: Climb heading 037° or as assigned by ATC, expect RADAR vectors to TREVA, thence . . .
TAKEOFF RWYS 13L/R: Climb heading 128° or as assigned by ATC, expect RADAR vectors to TREVA, thence . . .
TAKEOFF RWY 22: Climb heading 217° or as assigned by ATC, expect RADAR vectors to TREVA, thence . . .
TAKEOFF RWYS 31L/R: Climb heading 308° or as assigned by ATC, expect RADAR vectors to TREVA, thence . . .

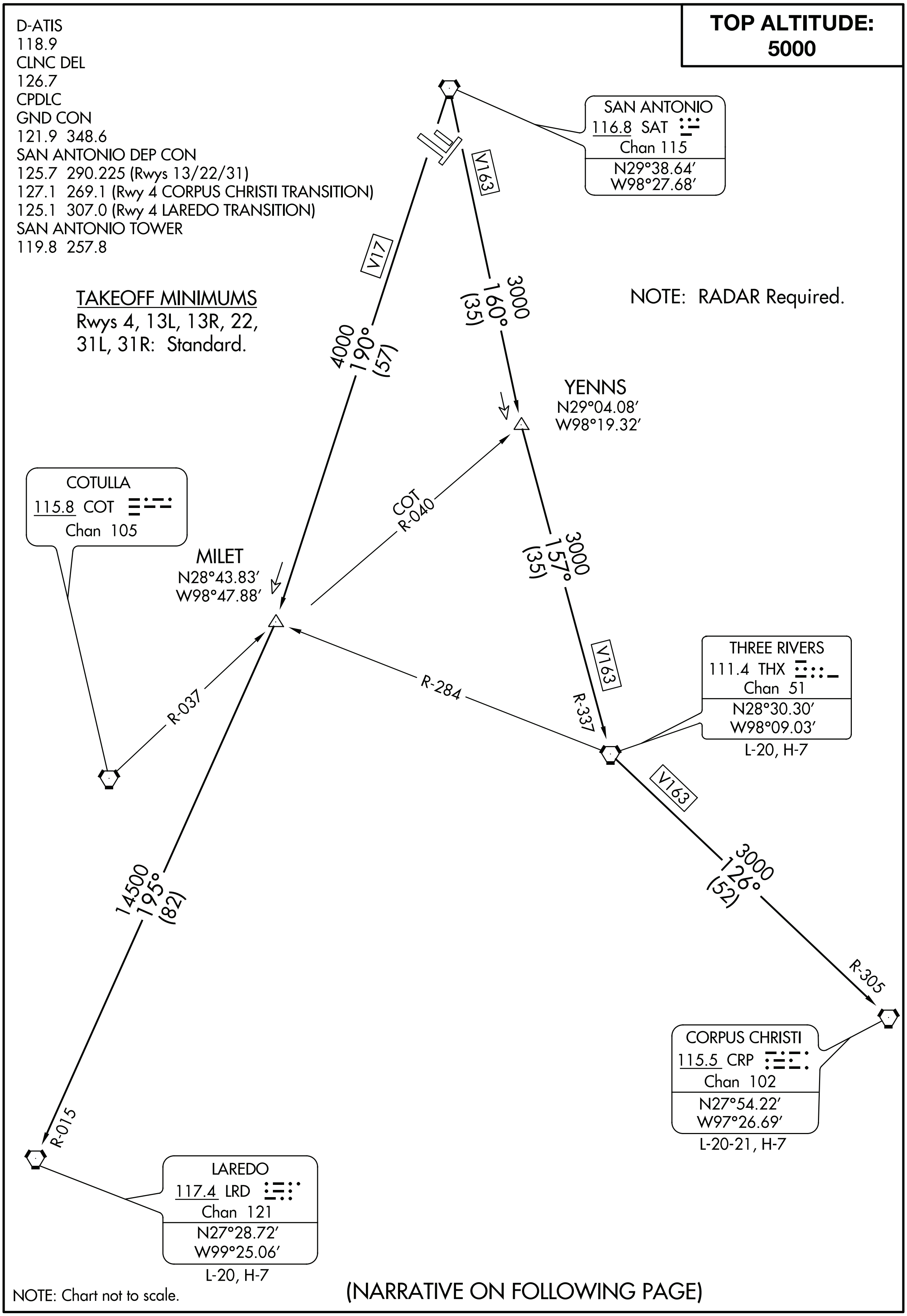
... on track 305° to TATAR, then on track 305° to LEJON, then on track 304° to ALISS, then on (transition). Maintain 5000, expect filed altitude 10 minutes after departure.

DIANT TRANSITION (ALISS5.DIANT)
FORT STOCKTON TRANSITION (ALISS5.FST)
JUNCTION TRANSITION (ALISS5.JCT)

SC-3, 03 DEC 2020 to 31 DEC 2020

BOWIE SEVEN DEPARTURE

SC-3, 03 DEC 2020 to 31 DEC 2020



SC-3, 03 DEC 2020 to 31 DEC 2020

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWYS 4, 13L 13R, 22, 31L, 31R: Climb on assigned heading for RADAR vectors to SAT VORTAC. Maintain 5000, thence. . .

. . . on transition/route. Expect filed altitude 10 minutes after departure.

CORPUS CHRISTI TRANSITION (BOWIE7.CRP): From over SAT VORTAC on SAT R-160 to YENNS INT/SAT 35 DME, then on THX R-337 to THX VORTAC, then on THX R-126 and CRP R-305 to CRP VORTAC.

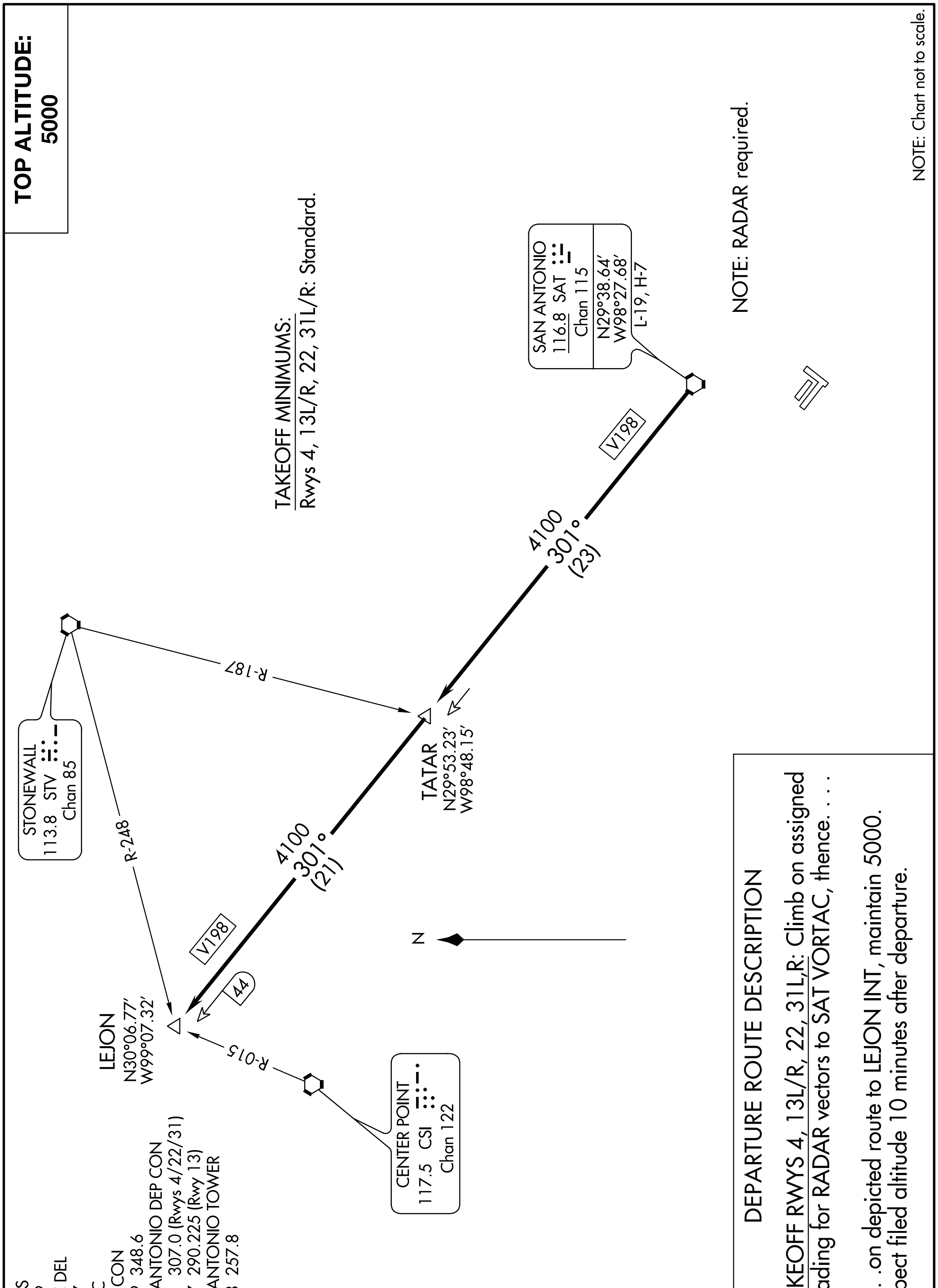
LAREDO TRANSITION (BOWIE7.LRD): From over SAT VORTAC on SAT R-190 to MILET INT/SAT 57 DME, then on LRD R-015 to LRD VORTAC.

SC-3, 03 DEC 2020 to 31 DEC 2020
SC-3, 03 DEC 2020 to 31 DEC 2020

LEJON FOUR DEPARTURE

SC-3, 03 DEC 2020 to 31 DEC 2020

TOP ALTITUDE: 5000



D-ATIS
118.9
CLNC DEL
126.7
CPDLC
GND CON
121.9 348.6
SAN ANTONIO DEP CON
125.1 307.0 (Rwys 4/22/31)
125.7 290.225 (Rwy 13)
SAN ANTONIO TOWER
119.8 257.8

TAKEOFF MINIMUMS:
Rwys 4, 13L/R, 22, 31L/R: Standard.

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

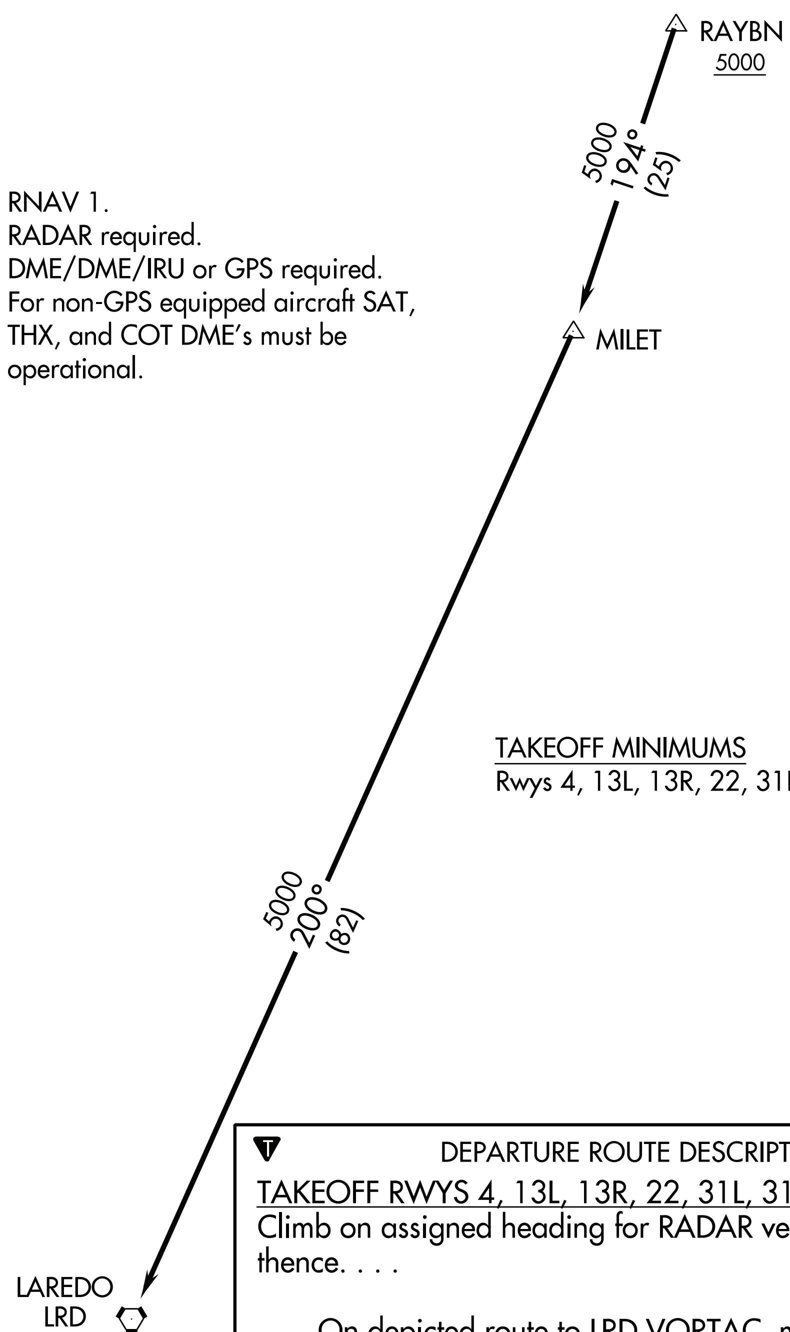
TAKEOFF RWYS 4, 13L/R, 22, 31L,R: Climb on assigned heading for RADAR vectors to SAT VORTAC, thence. . . .

. . . .on depicted route to LEJON INT, maintain 5000. Expect filed altitude 10 minutes after departure.

SC-3, 03 DEC 2020 to 31 DEC 2020

D-ATIS 118.9
CLNC DEL 126.7
CPDLC
GND CON
121.9 348.6
SAN ANTONIO DEP CON
125.1 307.0 (Rwy 04)
125.7 290.225 (Rwys 13/22/31)
SAN ANTONIO TOWER
119.8 257.8

TOP ALTITUDE: 5000



NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.
NOTE: For non-GPS equipped aircraft SAT, THX, and COT DME's must be operational.

TAKEOFF MINIMUMS
Rwys 4, 13L, 13R, 22, 31L, 31R: Standard.

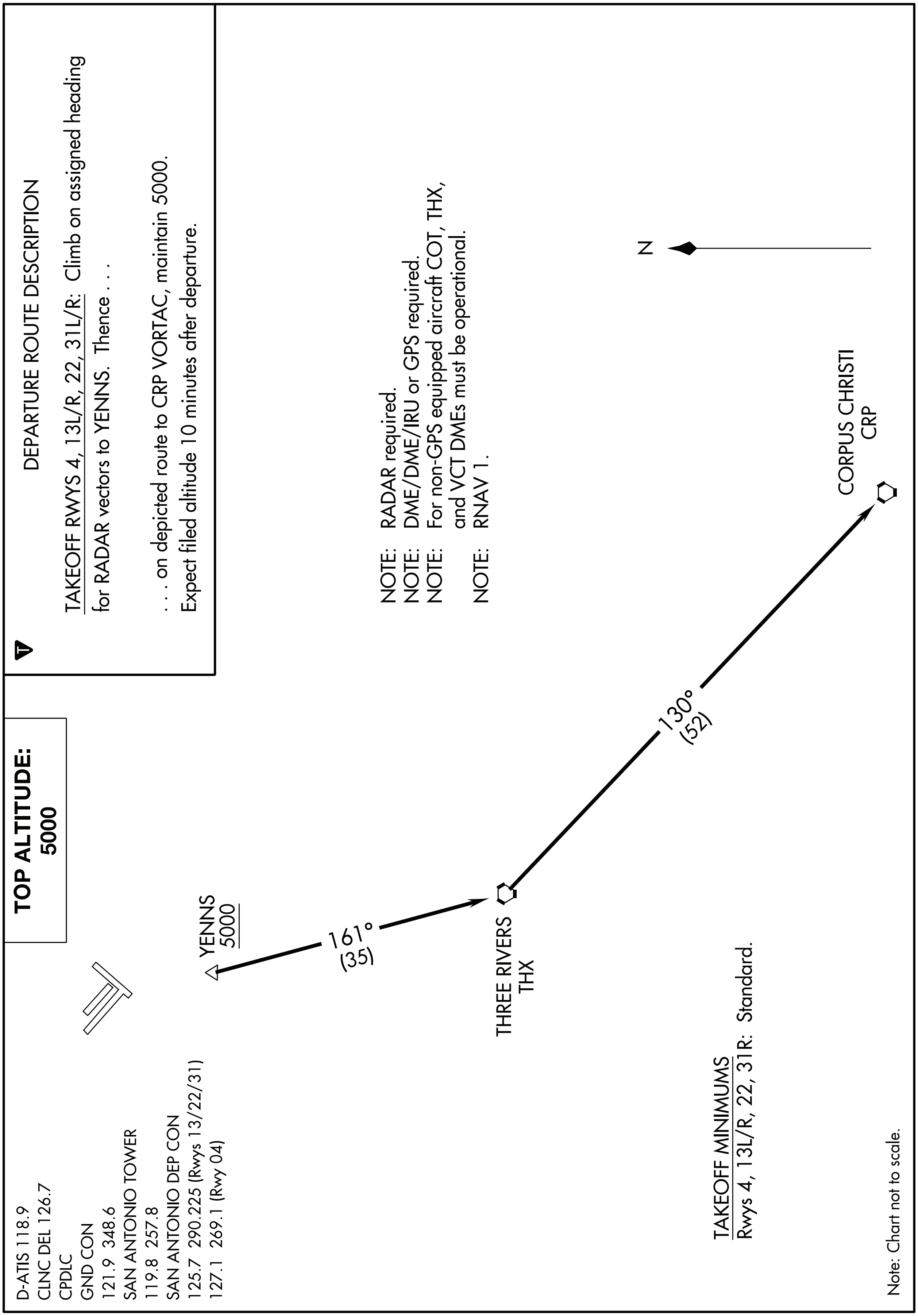
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWYS 4, 13L, 13R, 22, 31L, 31R:
Climb on assigned heading for RADAR vectors to RAYBN, thence. . . .

. . . .On depicted route to LRD VORTAC, maintain 5000. Expect filed altitude 10 minutes after departure.

SC-3, 03 DEC 2020 to 31 DEC 2020



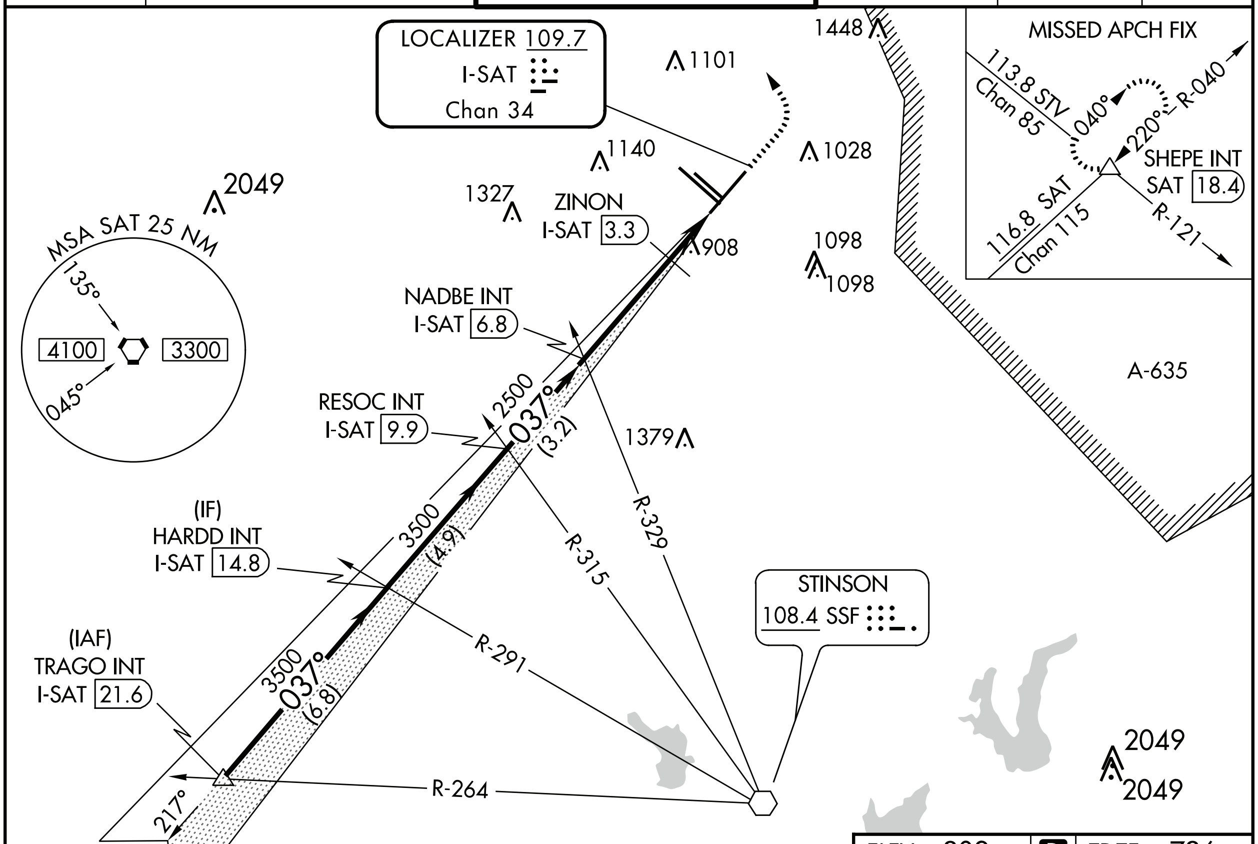
SC-3, 03 DEC 2020 to 31 DEC 2020

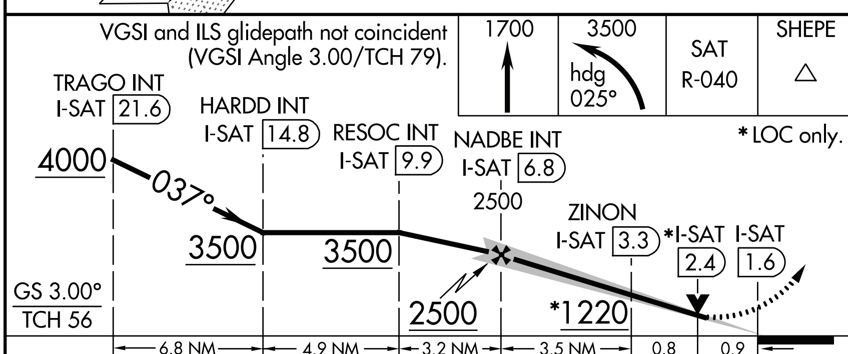
LOC/DME I-SAT	APP CRS	Rwy ldg	8505
109.7	037°	TDZE	786
Chan 34		Apt Elev	809

ILS or LOC RWY 4
SAN ANTONIO INTL (SAT)

Inop table does not apply to S-ILS 4. Circling NA west of Rwys 4 and 13R. Autopilot coupled approach NA below 1189. For inop ALS, increase S-LOC 4 Cat D visibility to 1¼ SM. ZINON fix minimums: for inop ALS, increase S-LOC 4 Cat D visibility to RVR 5000.	MALS (A4)	MISSED APPROACH: Climb to 1700 then climbing left turn to 3500 on heading 025° and SAT VORTAC R-040 to SHEPE INT/SAT 18.4 DME and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	

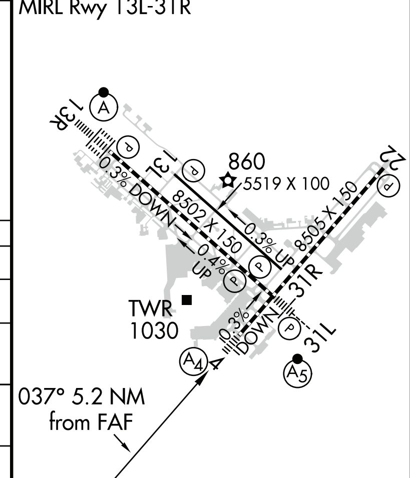




CATEGORY	A	B	C	D
S-ILS 4	986/40 200 (200-¾)			
S-LOC 4	1220/40 434 (500-¾)		1220/50 434 (500-1)	
CIRCLING	1300-1 491 (500-1)		1320-1½ 511 (600-1½)	1380-2 571 (600-2)
ZINON FIX MINIMUMS (DME REQUIRED)				
S-LOC 4	1120/40 334 (400-¾)			
CIRCLING	1300-1 491 (500-1)		1320-1½ 511 (600-1½)	1380-2 571 (600-2)

ELEV 809 | D | TDZE 786

TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R



FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

SC-3, 03 DEC 2020 to 31 DEC 2020

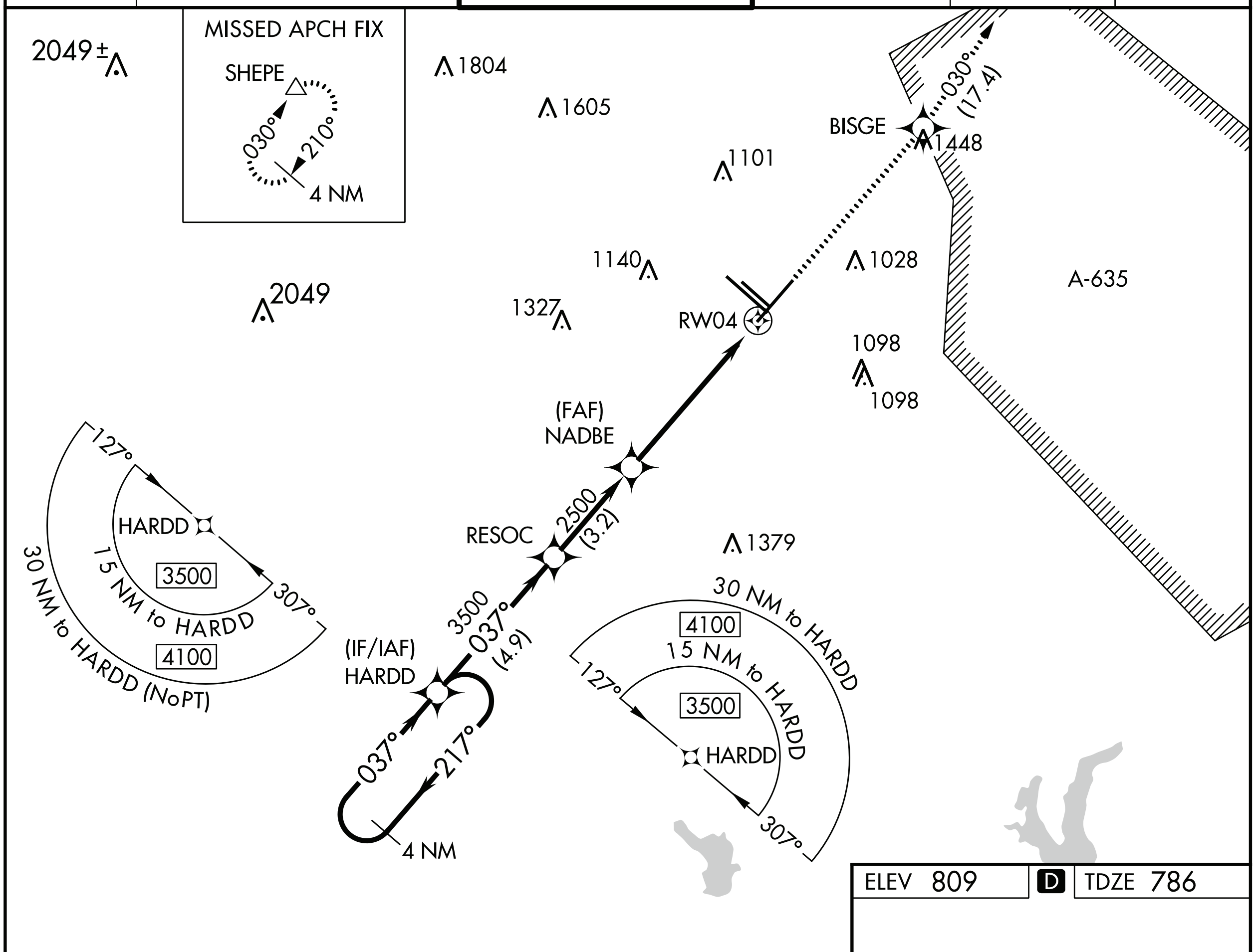
SC-3, 03 DEC 2020 to 31 DEC 2020

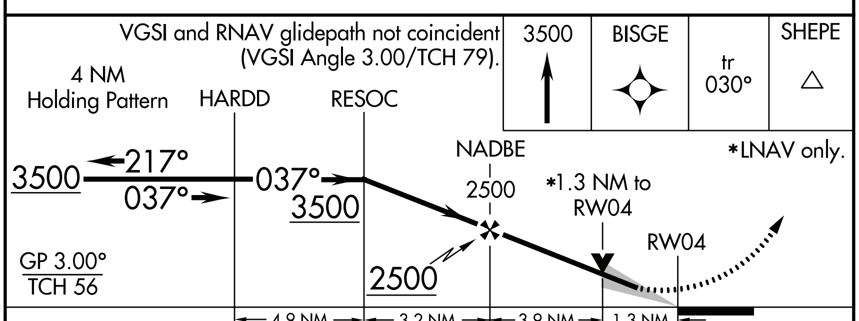
WAAS CH **77613** **W04A**	APP CRS **037°**	Rwy ldg **8505** TDZE **786** Apt Elev **809**

RNAV (GPS) Y RWY 4
SAN ANTONIO INTL (SAT)

Inop table does not apply to LPV. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C (25°F) or above 54°C (130°F). Circling NA west of Rwys 4 and 13R. DME/DME RNP-0.3 NA. For inop ALS, increase LNAV/VNAV all Cats and LNAV Cats C and D visibility to 1⅜.	MALS A4	MISSED APPROACH: Climb to 3500 direct BISGE and track 030° to SHEPE and hold.

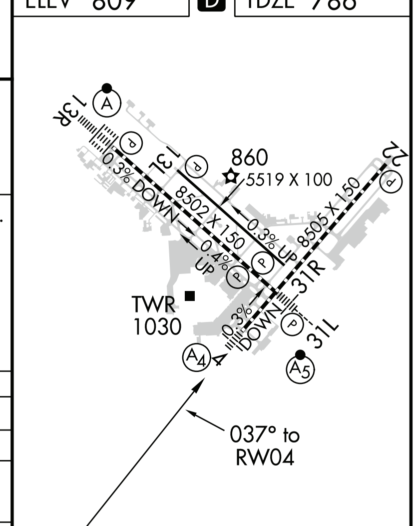
D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	**125.1 307.0**	**119.8 257.8**	**121.9 348.6**	**126.7**	





CATEGORY	A	B	C	D
LPV DA	986/40 200 (200-¾)			
LNAV/VNAV DA	1201/60 415 (400-1¼)			
LNAV MDA	1280/40 494 (500-¾)		1280/60 494 (500-1¼)	
CIRCLING	1300-1 491 (500-1)		1320-1½ 511 (600-1½)	1380-2 571 (600-2)

ELEV 809 | D | TDZE 786



TDZ/CL Rwy 13R
REIL Rwys 12L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R

SC-3, 03 DEC 2020 to 31 DEC 2020
SC-3, 03 DEC 2020 to 31 DEC 2020

APP CRS	Rwy ldg	8505
037°	TDZE	786
	Apt Elev	809

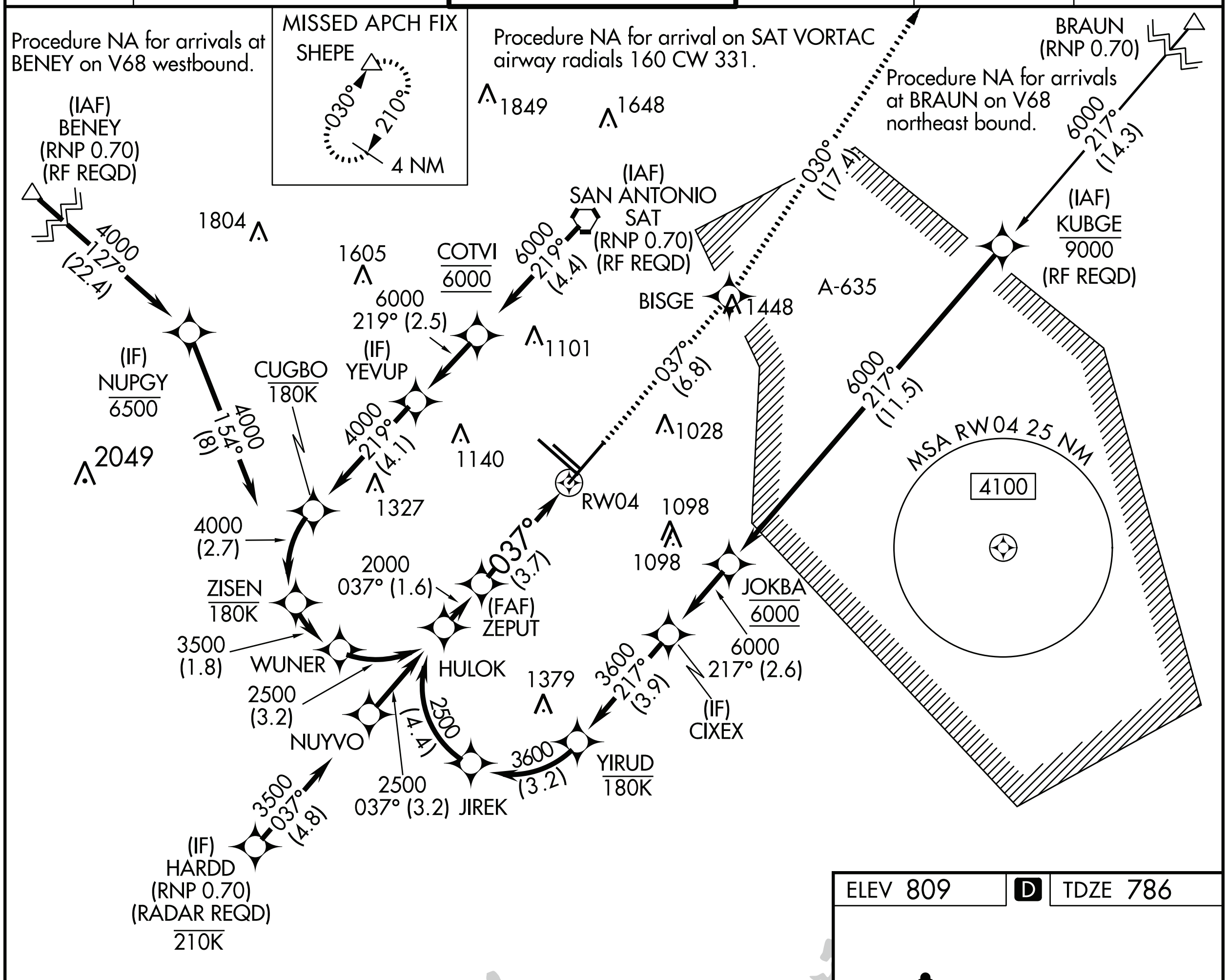
RNAV (RNP) Z RWY 4
SAN ANTONIO INTL (SAT)

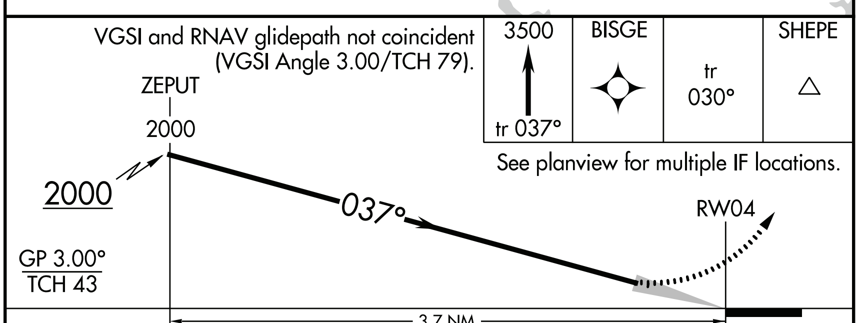
For uncompensated Baro-VNAV systems, procedure NA below -4°C (25°F) or above 54°C (130°F). GPS required. For inop ALS, increase RNP 0.15 Cat D visibility to 1¼ SM and RNP 0.30 Cat D visibility to 1¾ SM.

MALS (A4)

MISSED APPROACH: Climb to 3500 on track 037° to BISGE and track 030° to SHEPE and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	

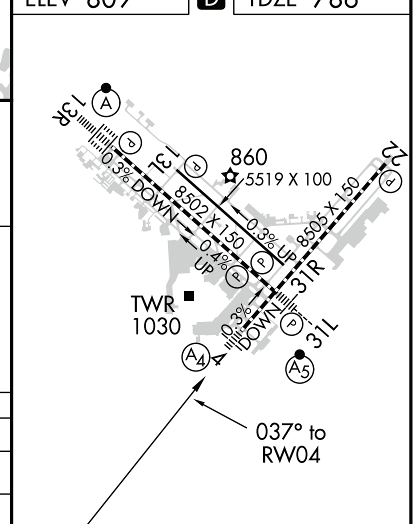




CATEGORY	A	B	C	D
RNP 0.15 DA	1171/50 385 (400-1)			
RNP 0.30 DA	1284-1½ 498 (500-1½)			

AUTHORIZATION REQUIRED

ELEV 809 **D** TDZE 786



TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R

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SC-3, 03 DEC 2020 to 31 DEC 2020

ILS or LOC RWY 13R
SAN ANTONIO INTL (SAT)

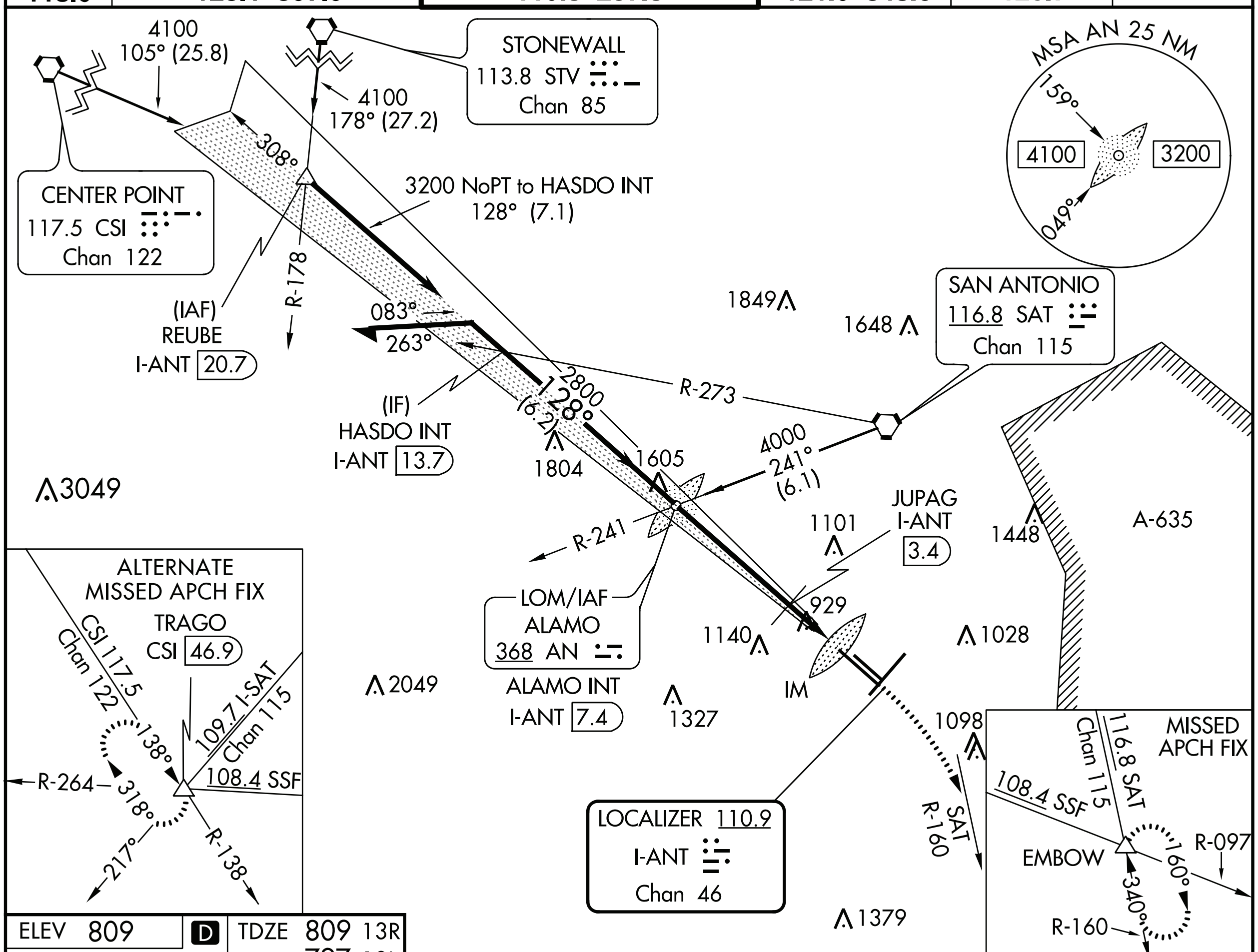
LOC/DME I-ANT	APP CRS	Rwy 13R ldg		Rwy 13L ldg	
110.9 Chan **46**	**128°**	Rwy 13R ldg	**8502**	Rwy 13L ldg	**5519**
		TDZE	**809**	TDZE	**797**
		Apt Elev	**809**	Apt Elev	**809**

Circling NA west of Rwys 4 and 13R. For inop ALS, increase S-LOC 13R Cats C and D visibility to 1¾ SM.

ALSF-2

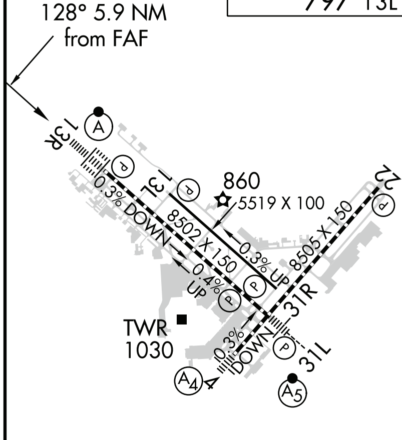
MISSED APPROACH: Climb to 3100 on heading 128° and SAT VORTAC R-160 to EMBOW INT and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	**125.1 307.0**	**119.8 257.8**	**121.9 348.6**	**126.7**	

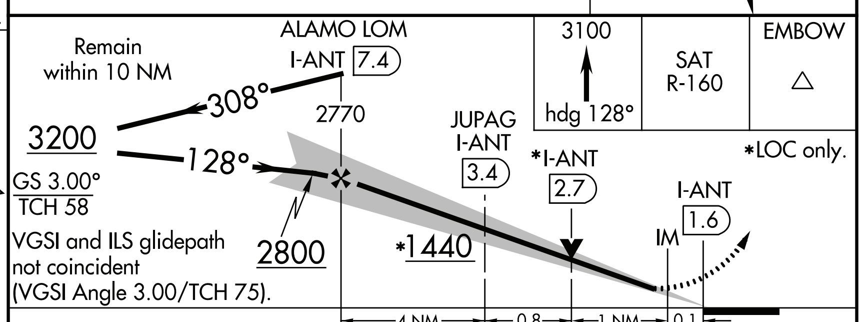


SC-3, 03 DEC 2020 to 31 DEC 2020

ELEV 809 | D | TDZE 809 13R, 797 13L



TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R



CATEGORY	A	B	C	D
S-ILS 13R	1009/18 200 (200-½)			
S-LOC 13R	1440/24 631 (700-½)		1440-1⅜ 631 (700-1⅜)	
SIDESTEP 13L	1600-1 803 (800-1)	1600-1¼ 803 (800-1¼)	1600-2½ 803 (800-2½)	
CIRCLING	1440-1 631 (700-1)		1440-1¾ 631 (700-1¾)	1440-2 631 (700-2)
JUPAG FIX MINIMUMS				
S-LOC 13R	1240/24 431 (500-½)		1240/40 431 (500-¾)	

FAF to MAP 5.9 NM

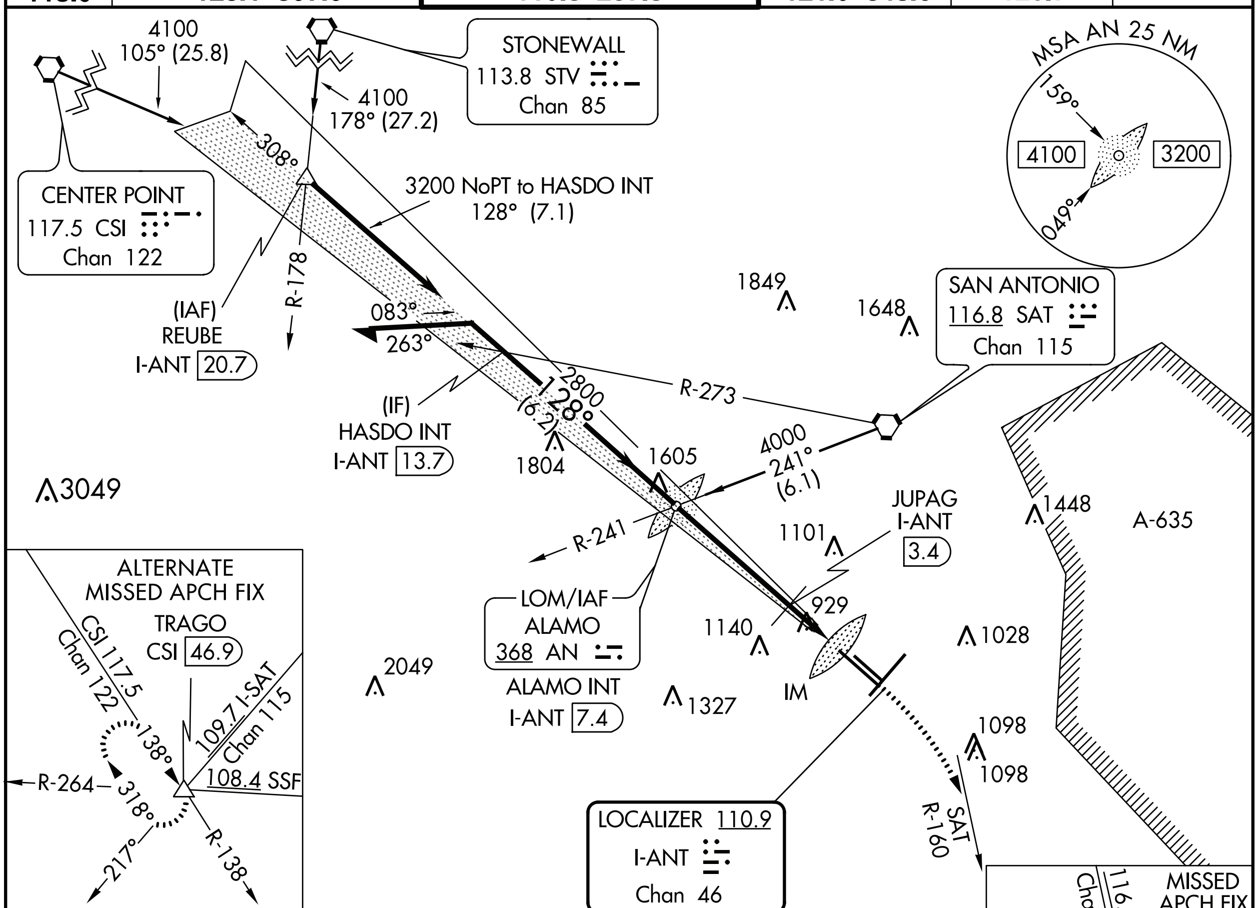
Knots	60	90	120	150	180
Min:Sec	5:54	3:56	2:57	2:22	1:58

ILS RWY 13R (CAT II)
SAN ANTONIO INTL (SAT)

LOC/DME I-ANT	APP CRS	Rwy 13R ldg 8502
110.9	128°	TDZE 809
Chan 46		Apt Elev 809

	ALSF-2	MISSED APPROACH: Climb to 3100 on heading 128° and SAT VORTAC R-160 to EMBOW INT and hold.

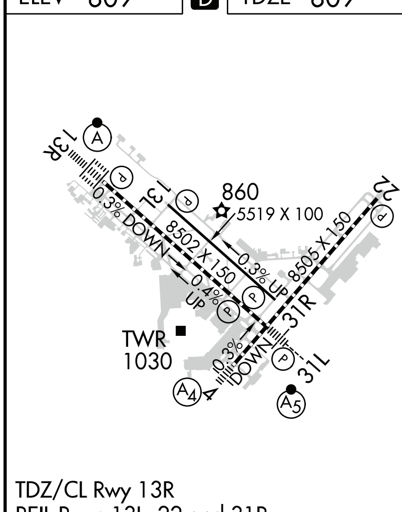
D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	

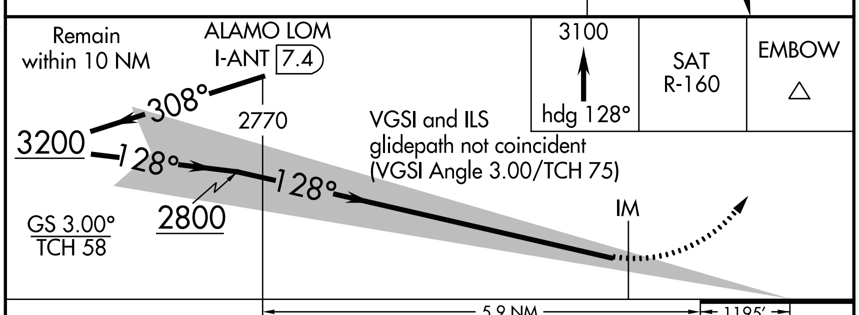


SC-3, 03 DEC 2020 to 31 DEC 2020

SC-3, 03 DEC 2020 to 31 DEC 2020

ELEV 809 | D | TDZE 809





CATEGORY	A	B	C	D
S-ILS 13R	RA 104/12 100 DA 909			

TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

FAF to MAP 5.9 NM

Knots	60	90	120	150	180
Min:Sec	5:54	3:56	2:57	2:22	1:58

WAAS CH 82409 W13A	APP CRS 128°	Rwy Idg 8502 TDZE 809 Apt Elev 809

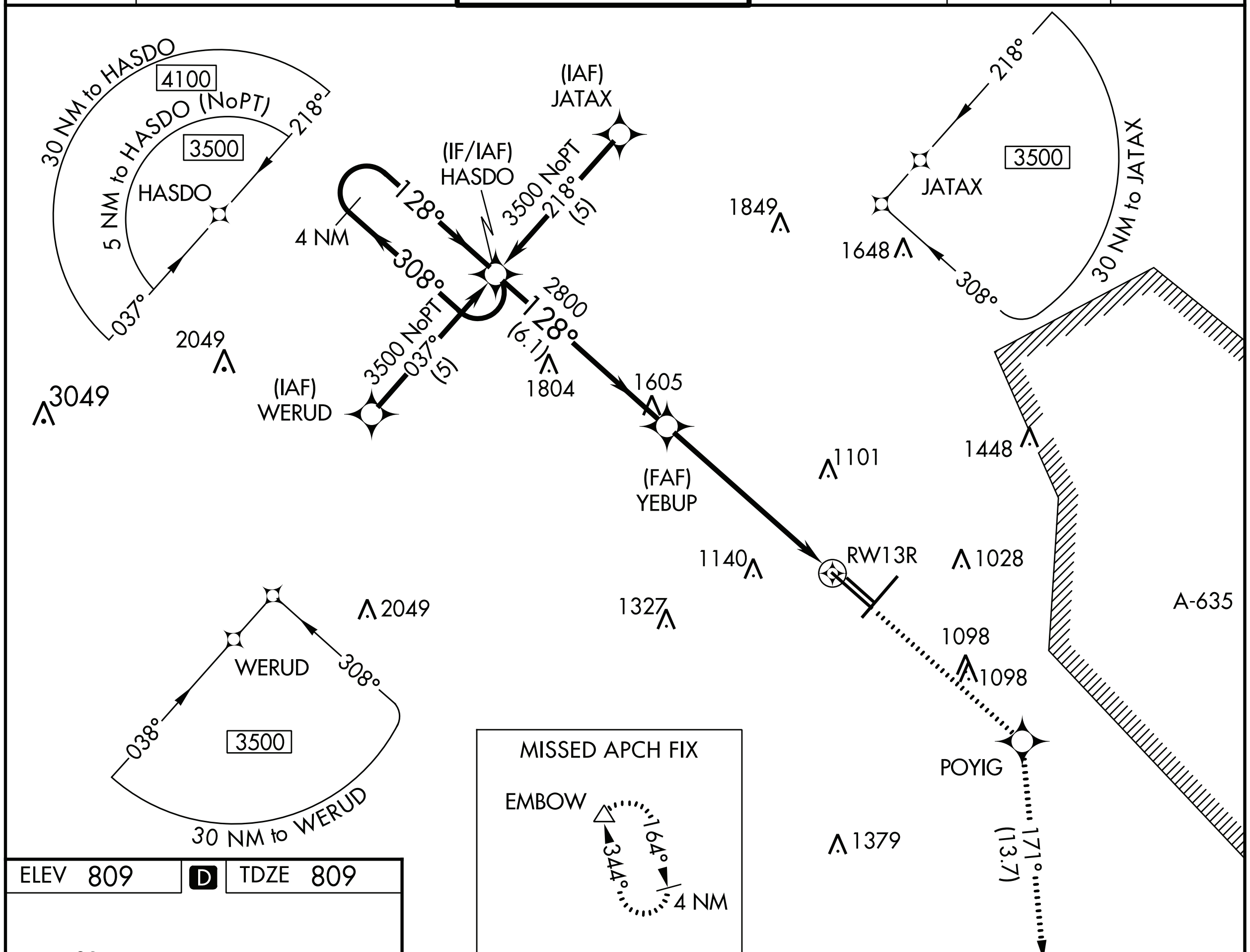
RNAV (GPS) Y RWY 13R
SAN ANTONIO INTL (SAT)

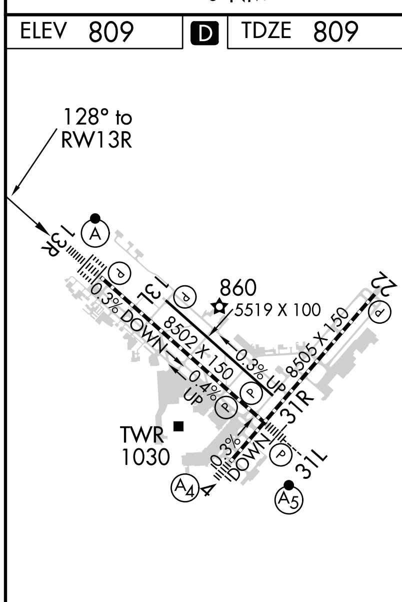
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA west of Rwys 4 and 13R. DME/DME RNP-0.3 NA.
For inop ALS, increase LPV all Cats visibility to RVR 4500, LNAV/VNAV all Cats visibility to 1¾ SM, and LNAV Cats C and D visibility to 2½ SM.

ALSF-2

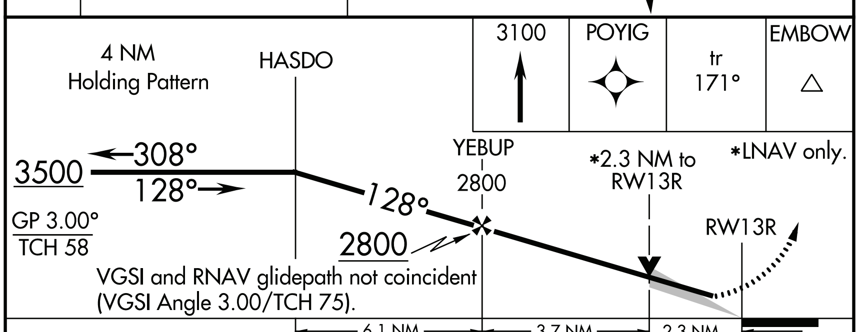
MISSED APPROACH: Climb to 3100 direct POYIG and track 171° to EMBOW and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	





TDZ/CL Rwy 13R
REIL Rwys 13L, 21 and 31R
MIRL Rwy 13L-31R
HIRL Rwys 3-21 and 13R-31L



CATEGORY	A	B	C	D
LPV DA	1107/24 298 (300-½)			
LNAV/VNAV DA	1340-1⅜ 531 (600-1⅜)			
LNAV MDA	1620/24 811 (900-½)	1620/40 811 (900-¾)	1620-1⅞ 811 (900-1⅞)	
CIRCLING	1620-1¼ 811 (900-1¼)		1620-2½ 811 (900-2½)	1620-2¾ 811 (900-2¾)

SC-3, 03 DEC 2020 to 31 DEC 2020

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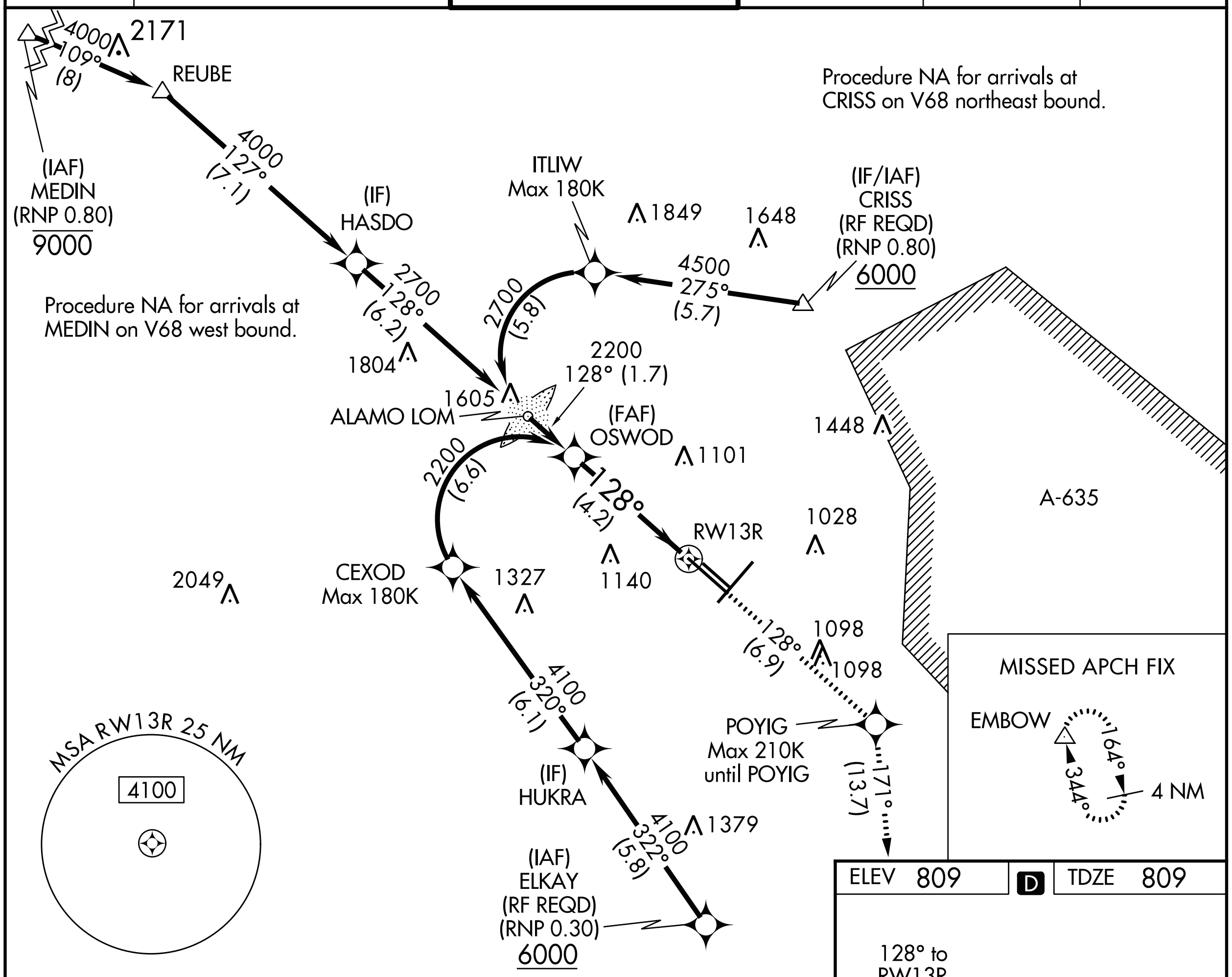
RNAV (RNP) Z RWY 13R

SAN ANTONIO INTL (SAT)

APP CRS	Rwy ldg	8502
128°	TDZE	809
	Apt Elev	809

For uncompensated Baro-VNAV systems, procedure NA below -4°C (25°F) or above 54°C (130°F). GPS required.	ALSF-2	MISSED APPROACH: Climb to 3100 on track 128° to POYIG and track 171° to EMBOW and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	



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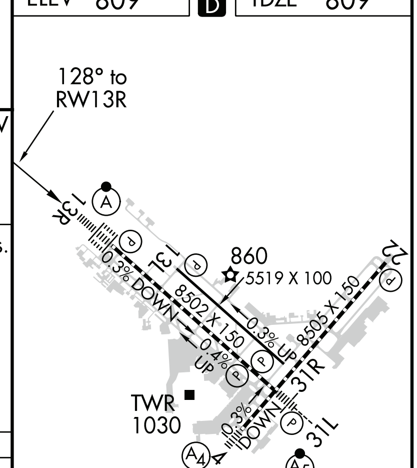
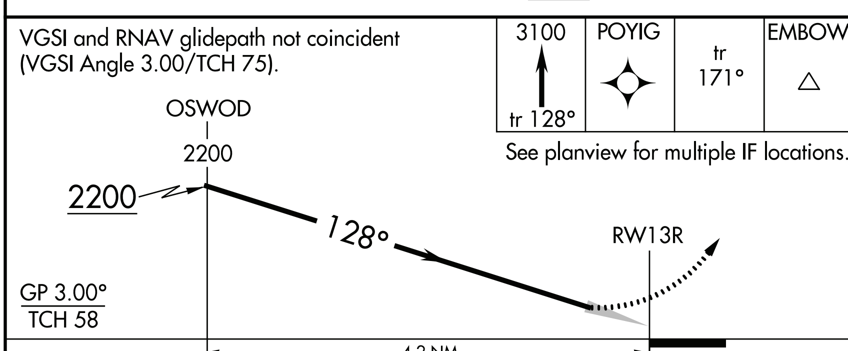
ELEV 809	D	TDZE 809





CATEGORY	A	B	C	D
RNP 0.15 DA	1150/30 341 (400-⅝)			
RNP 0.30 DA	1303/60 494 (500-1¼)			

AUTHORIZATION REQUIRED

TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R

LOC/DME I-IZR 110.9 Chan 46	APP CRS 308°	Rwy 31L ldg 8502 TDZE 790 Apt Elev 809	Rwy 31R ldg 5519 TDZE 788 Apt Elev 809

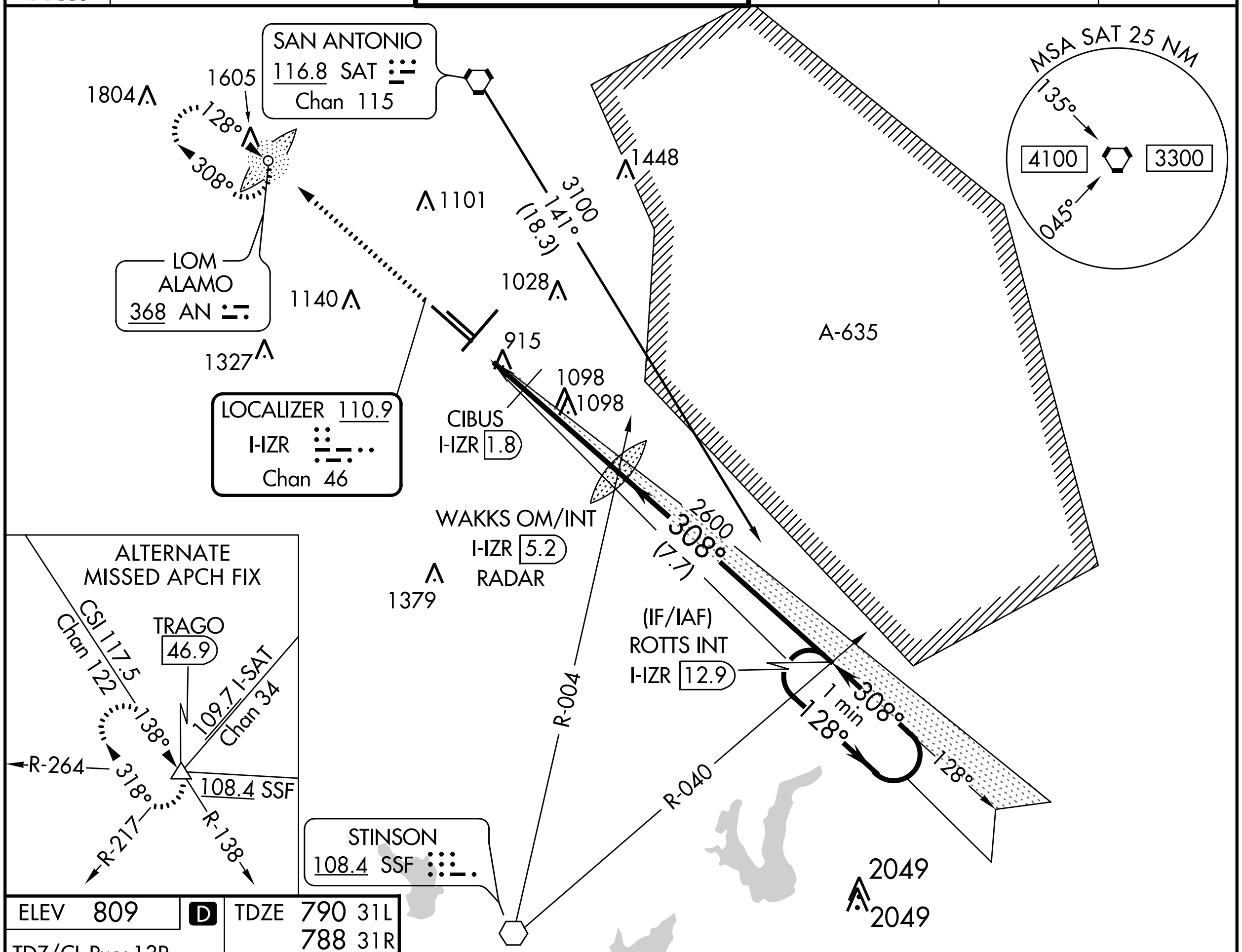
ILS or LOC RWY 31L
SAN ANTONIO INTL (SAT)

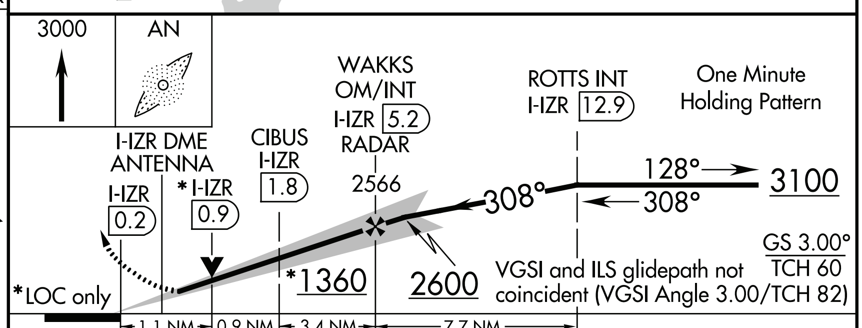
Circling NA west of Rwys 4 and 13R. ADF required. For inop ALS, increase S-LOC 31L Cats C and D visibility to 1⅝ SM. CIBUS FIX MINIMUMS: For inop ALS, increase S-LOC 31L Cats C and D visibility to RVR 6000. # RVR 1800 authorized with the use of FD or AP or HUD to DA.

MALSR A5

MISSED APPROACH: Climb to 3000 direct ALAMO LOM and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	

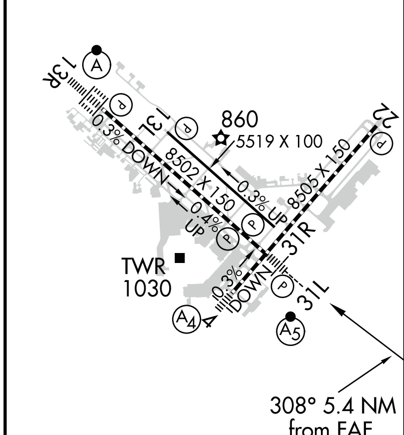




CATEGORY	A	B	C	D
S-ILS 31L	# 990/24 200 (200-½)			
S-LOC 31L	1360/24 570 (600-½)		1360-1¼ 570 (600-1¼)	
SIDESTEP 31R	1360-1 572 (600-1)		1360-1⅝ 572 (600-1⅝)	
CIRCLING	1360-1 551 (600-1)		1360-1¾ 551 (600-1¾)	1380-2 571 (600-2)
CIBUS FIX MINIMUMS				
S-LOC 31L	1200/24 410 (400-½)		1200/40 410 (400-¾)	

ELEV 809	D	TDZE 790 31L, 788 31R

TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R



FAF to MAP 5.4 NM					
Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48

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WAAS CH 61209 W31A	APP CRS 308°	Rwy Idg 8502 TDZE 790 Apt Elev 809

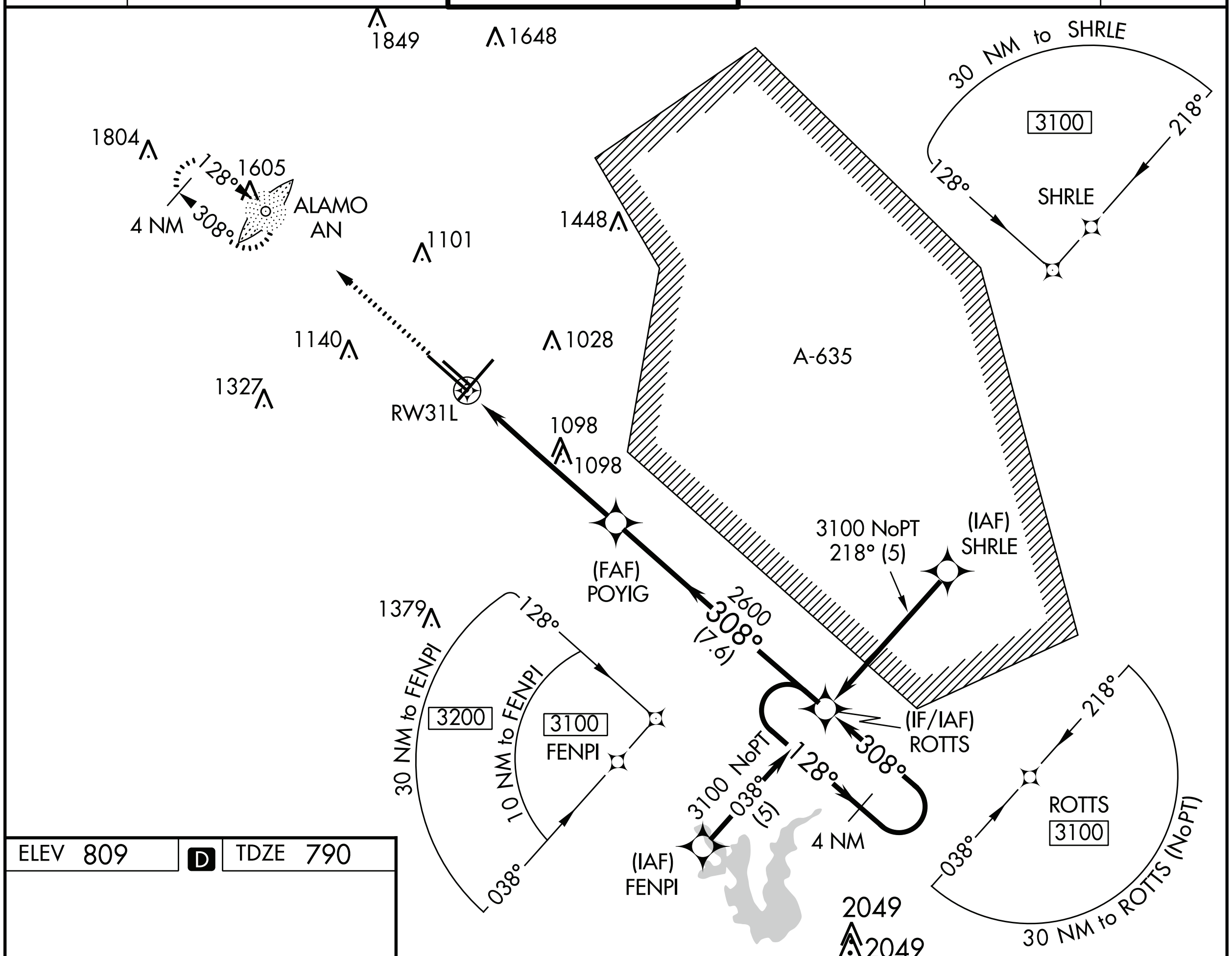
RNAV (GPS) Y RWY 31L
SAN ANTONIO INTL (SAT)

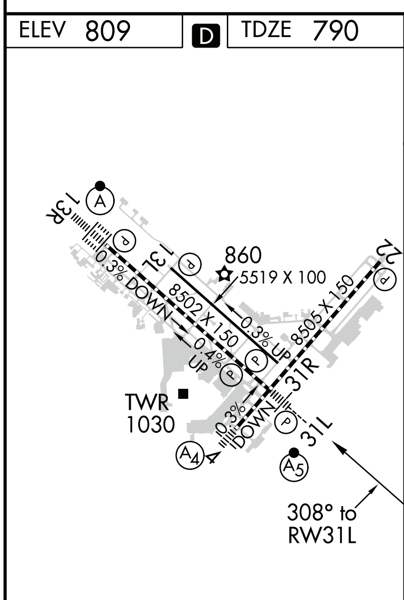
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -2°C (29°F) or above 54°C (130°F). Circling NA west of Rwys 4 and 13R. DME/DME RNP-0.3 NA. For inop ALS, increase LPV all Cats visibility to 1⅜ SM, LNAV/VNAV all Cats visibility to 1½ SM, and LNAV Cats C and D visibility to 1⅝ SM .

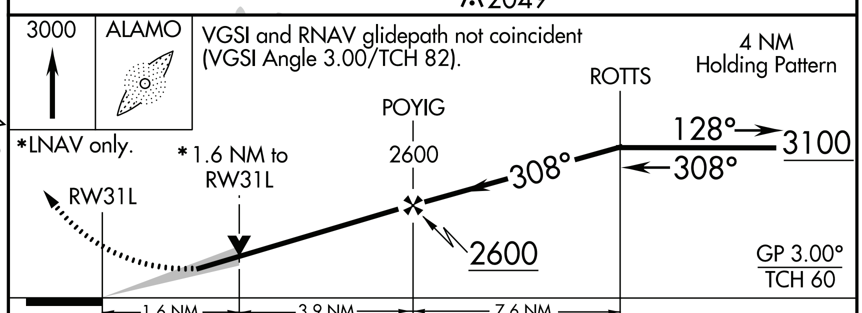
MALSR

MISSED APPROACH: Climb to 3000 direct ALAMO LOM and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	







TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
MIRL Rwy 13L-31R
HIRL Rwys 4-22 and 13R-31L

CATEGORY	A	B	C	D
LPV DA	1207/50 417 (400-1)			
LNAV/VNAV DA	1246/60 456 (500-1¼)			
LNAV MDA	1360/24 570 (600-½)		1360-1¼ 570 (600-1¼)	
CIRCLING	1360-1 551 (600-1)		1360-1¾ 551 (600-1¾)	1380-2 571 (600-2)

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RNAV (RNP) Z RWY 31L

SAN ANTONIO INTL (SAT)

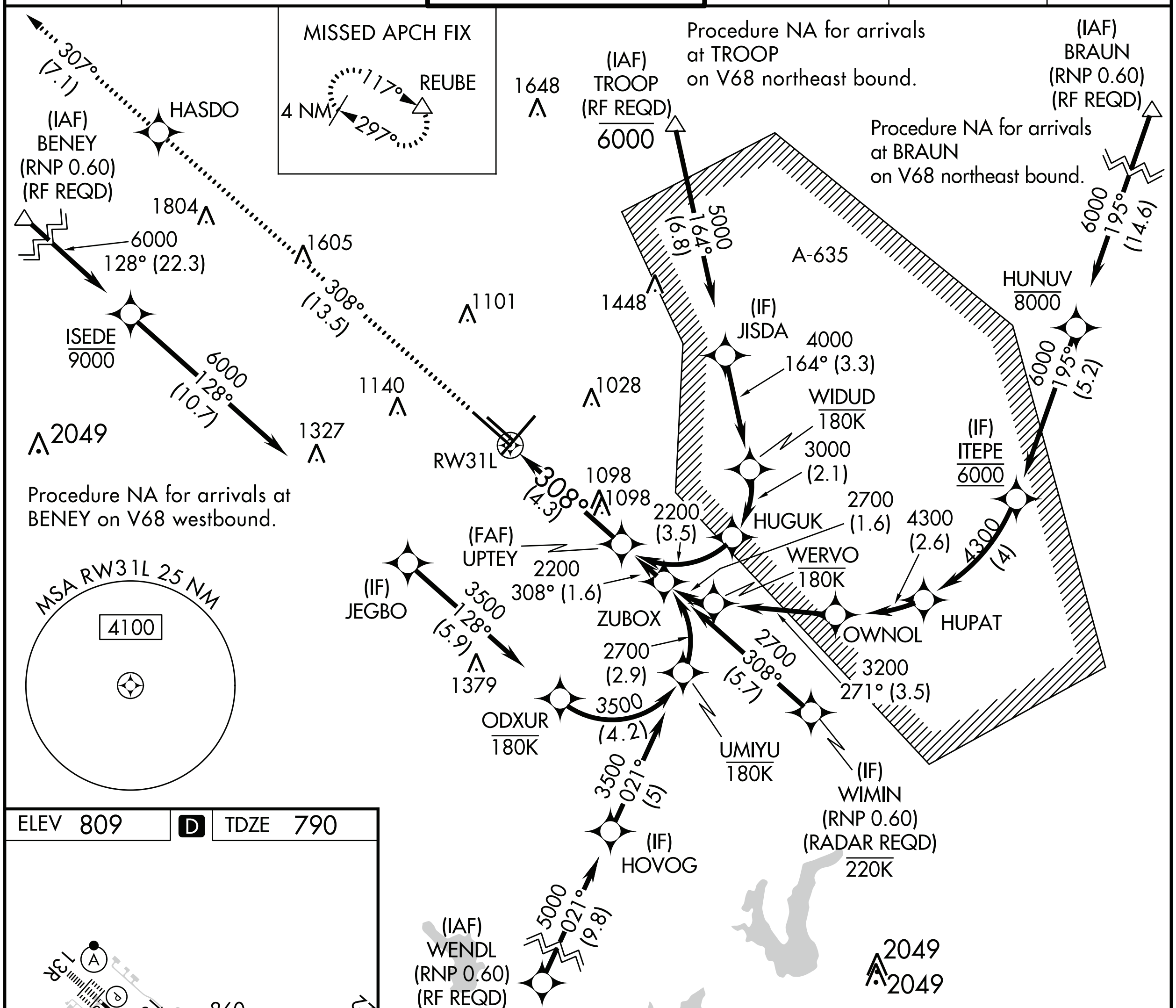
APP CRS	Rwy ldg	8502
308°	TDZE	790
	Apt Elev	809

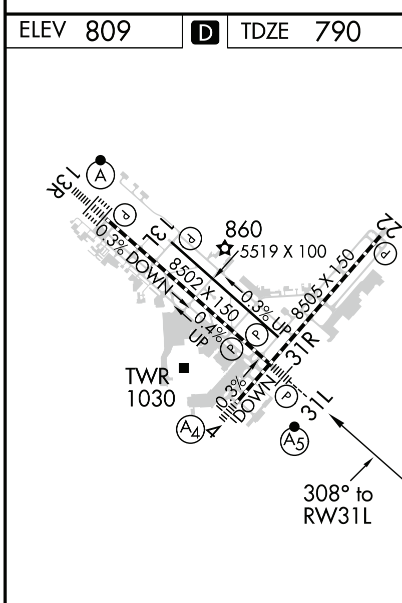
For uncompensated Baro-VNAV systems, procedure NA below -4°C (25°F) or above 54°C (130°F). GPS required.

MALSR

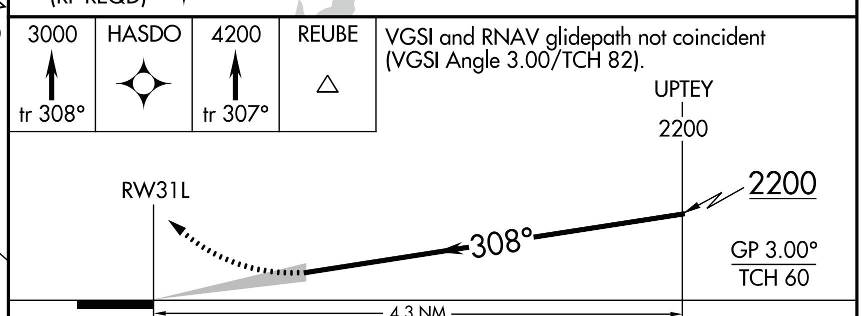
MISSED APPROACH: Climb to 3000 on track 308° to HASDO then climb to 4200 on track 307° to REUBE and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	





TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R



CATEGORY	A	B	C	D
RNP 0.30 DA	1232/50 442 (500-1)			

AUTHORIZATION REQUIRED

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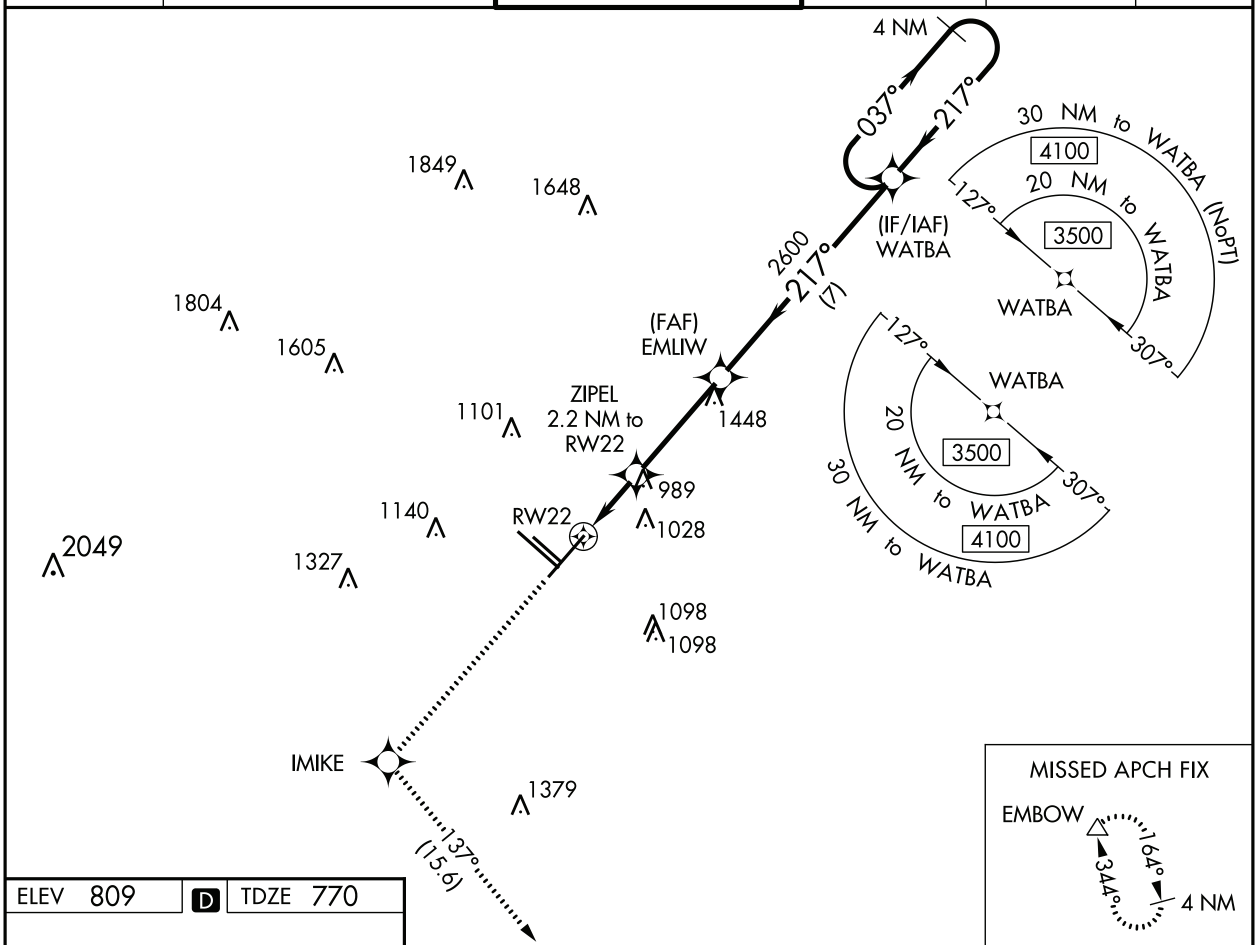
RNAV (GPS) Y RWY 22
SAN ANTONIO INTL (SAT)

WAAS CH 69430 W22A	APP CRS 217°	Rwy Idg 8505 TDZE 770 Apt Elev 809

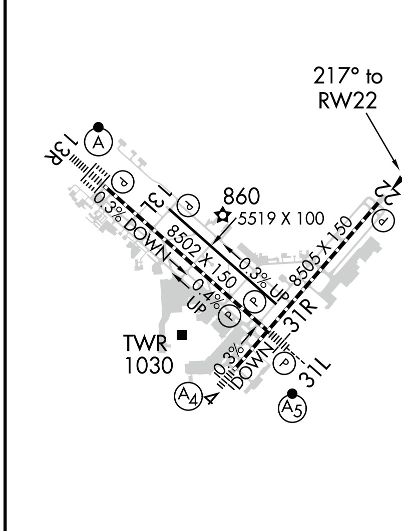
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -4°C (25°F) or above 54°C (130°F). Circling NA west of Rwys 4 and 13R. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3100 direct IMIKE and track 137° to EMBOW and hold.

D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	



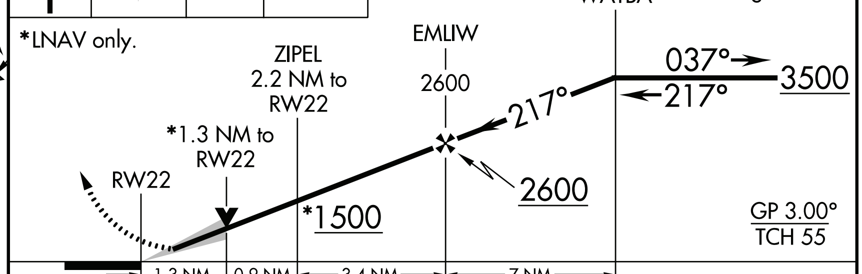
ELEV 809	D	TDZE 770



TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R

3100	IMIKE	tr 137°	EMBOW

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 85).



CATEGORY	A	B	C	D
LPV DA	970-¾ 200 (200-¾)			
LNAV/VNAV DA	1225-1⅝ 455 (500-1⅝)			
LNAV MDA	1240-1 470 (500-1)		1240-1⅜ 470 (500-1⅜)	
CIRCLING	1300-1 491 (500-1)		1320-1½ 511 (600-1½)	1380-2 571 (600-2)

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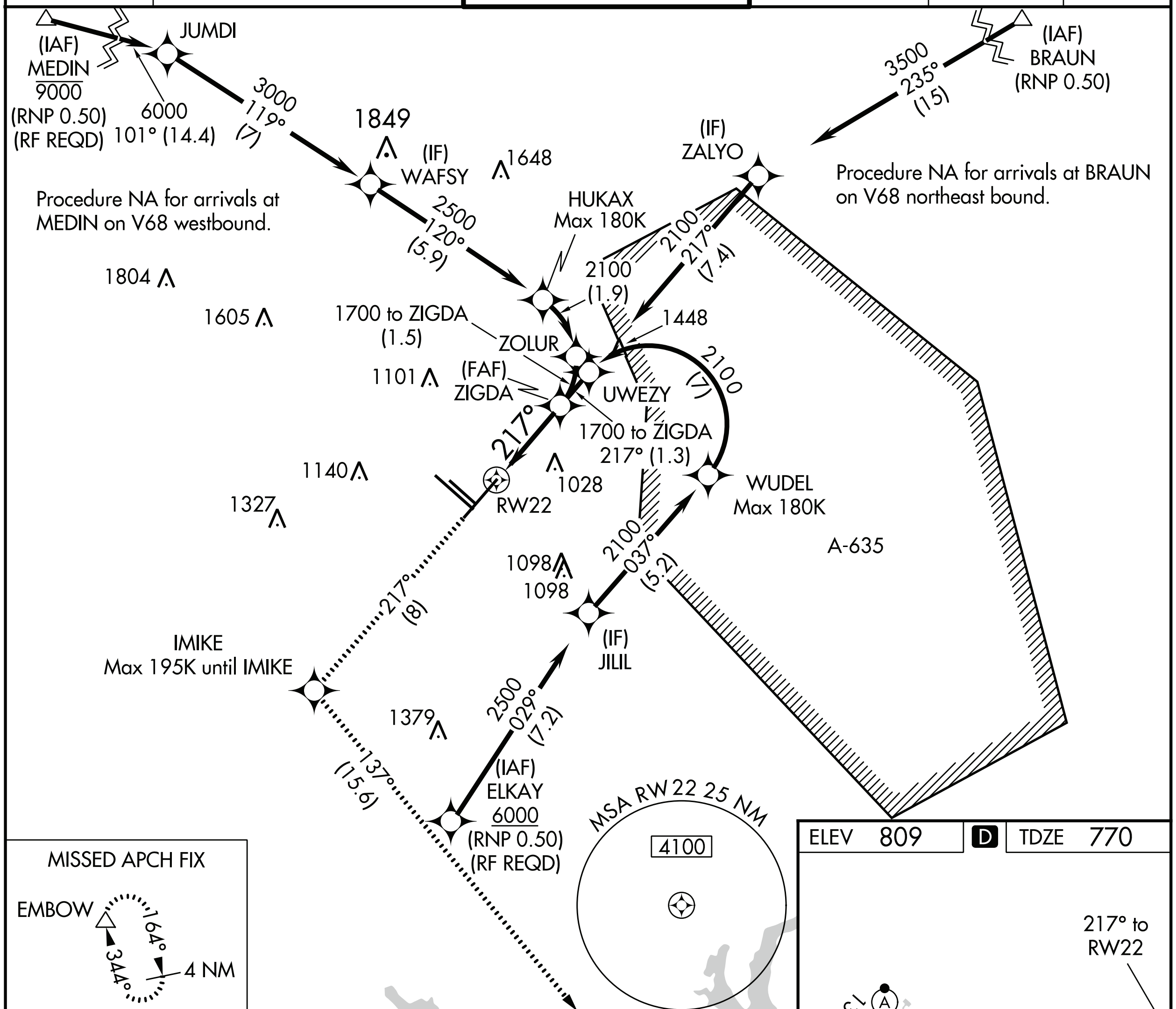
APP CRS	Rwy ldg	8505
217°	TDZE	770
	Apt Elev	809

RNAV (RNP) Z RWY 22
SAN ANTONIO INTL (SAT)

For uncompensated Baro-VNAV systems, procedure NA below -2°C (29°F) or above 54°C (130°F). GPS required.

MISSED APPROACH: Climb to 3100 on track 217° to IMIKE and track 137° to EMBOW and hold.

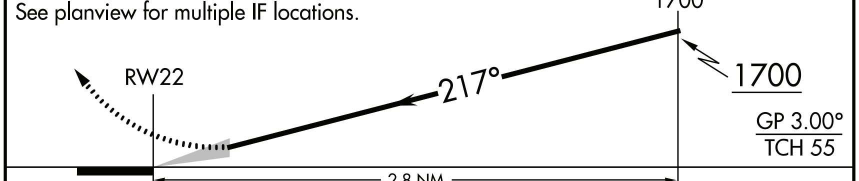
D-ATIS	SAN ANTONIO APP CON	SAN ANTONIO TOWER	GND CON	CLNC DEL	CPDLC
118.9	125.1 307.0	119.8 257.8	121.9 348.6	126.7	



3100 tr 217°	IMIKE	tr 137°	EMBOW

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 85).

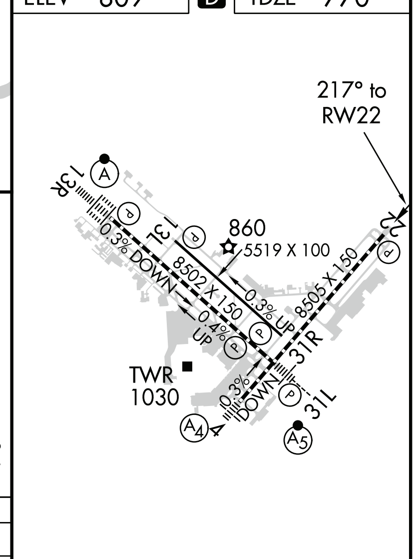
See planview for multiple IF locations.



CATEGORY	A	B	C	D
RNP 0.15 DA	1120-1⅛ 350 (400-1⅛)			
RNP 0.30 DA	1320-1⅞ 550 (600-1⅞)			

AUTHORIZATION REQUIRED

ELEV 809 D TDZE 770



TDZ/CL Rwy 13R
REIL Rwys 13L, 22 and 31R
HIRL Rwys 4-22 and 13R-31L
MIRL Rwy 13L-31R

SC-3, 03 DEC 2020 to 31 DEC 2020

SC-3, 03 DEC 2020 to 31 DEC 2020

Appendix D
Aircraft Noise

APPENDIX D

Aircraft Noise

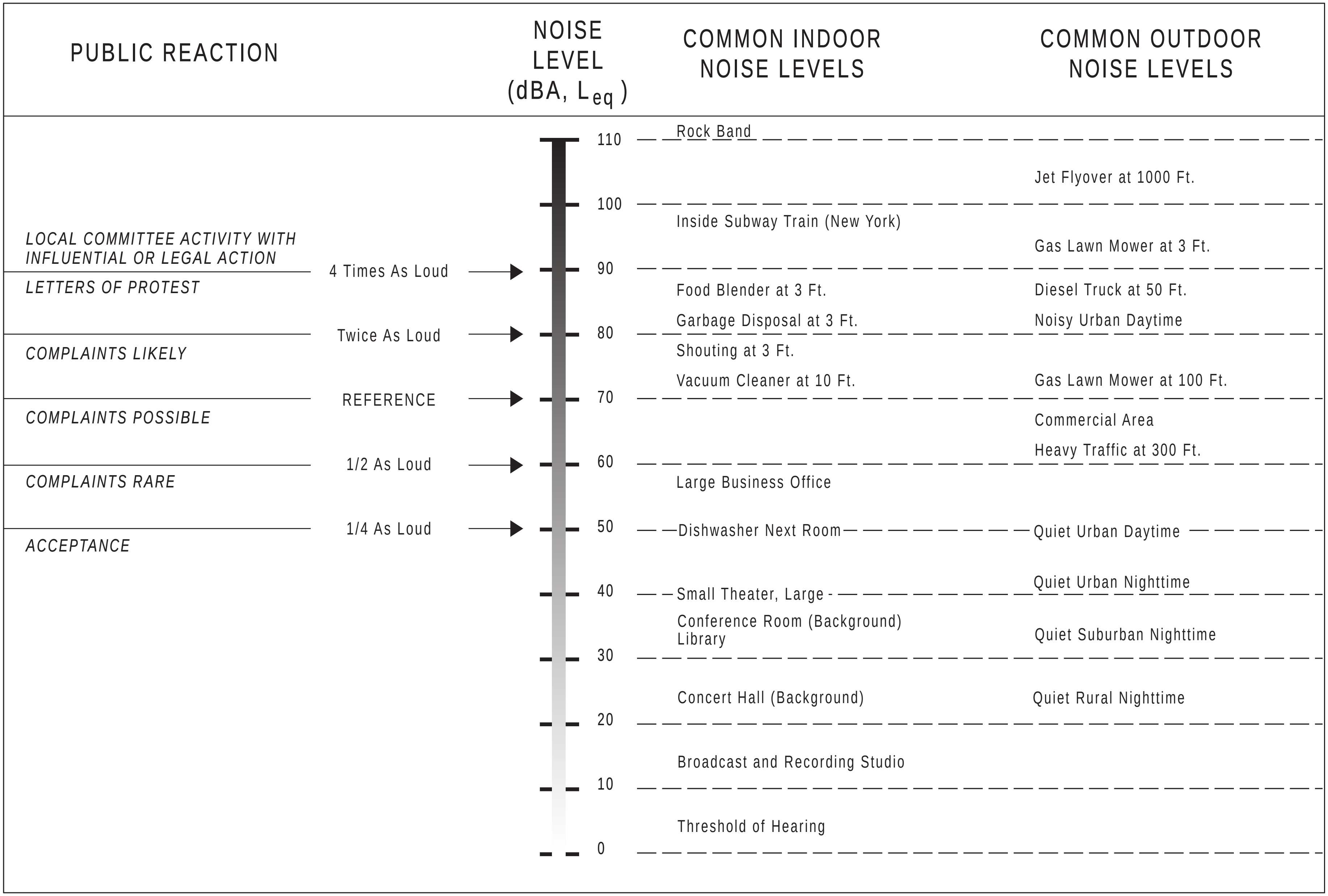
D.1 Environmental Noise Fundamentals

The measurement and human perception of sound involve two basic physical characteristics: intensity and frequency. Intensity is a measure of the acoustic energy of sound vibrations, expressed in terms of sound pressure. The higher the sound pressure, the more energy carried by the sound and the louder the perception of that sound. The second important physical characteristic is sound frequency, which is the number of times per second the air vibrates or oscillates. Low-frequency sounds are characterized as rumbles or roars, while high-frequency sounds are typified by sirens or screeches.

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB). On this scale, zero dB corresponds roughly to the threshold of human hearing and 120 to 140 dB corresponds to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound. Noise is commonly defined as unwanted sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequencies spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts on humans, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear’s decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency weighting and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown on **Figure D-1**.



SOURCE: OSHA, 2013; EPA, 2010; Adapted by ESA, 2020

Figure D-1
Effects of Noise on People
San Antonio International Airport

ESA

D.2 General Characteristics of Aircraft Noise

Outdoor sound levels decrease as a function of distance from the source and as a result of wave divergence, atmospheric absorption, and ground attenuation. If sound is radiated from a source in a homogenous and undisturbed manner, the sound travels as spherical waves. As the sound wave travels away from the source, the sound energy is distributed over a greater area, dispersing the sound power of the wave. Spherical spreading of the sound wave reduces the noise level, for most sound sources, at a rate of 6 dB per doubling of the distance.

Atmospheric absorption also influences the levels that are received by the observer. The greater the distance sound travels, the greater the influence of atmospheric effects. Atmospheric absorption becomes important at distances of greater than 1,000 feet. The degree of absorption is a function of the sound frequency, as well as the humidity and temperature of the air. For example, atmospheric absorption is lowest at high humidity and higher temperatures. Turbulence and gradients of wind, temperature, and humidity also play a significant role in determining the degree of attenuation. Certain conditions, such as inversions, can also result in higher sound levels that would result from spherical spreading as a result of channeling or focusing the sound waves.

The absorptive effects of the atmosphere vary with frequency. The higher frequencies are more readily absorbed than the lower frequencies. Over large distances, the lower frequencies become the dominant sound as the higher frequencies are attenuated.

The effects of ground attenuation on aircraft noise propagation are a function of the height of the source and/or receiver and the characteristics of the terrain. The closer the source of the noise is to the ground, the greater the ground absorption. Terrain consisting of soft surfaces, such as vegetation, provide for more ground absorption than hard surfaces, such as a large parking lot.

Aircraft noise originates from both the engines and the airframe of an aircraft, but the engines are, by far, the more significant source of noise. Meteorological conditions affect the transmission of aircraft noise through the air. Wind speed and direction, and the temperature immediately above ground level, cause diffraction and displacement of sound waves. Humidity and temperature materially affect the transmission of air-to-ground sound through absorption associated with the instability and viscosity of the air.

D.3 Aircraft Noise Descriptors

The description, analysis, and reporting of aircraft noise levels is made difficult by the complexity of human response to sound and the myriad of sound-rating scales and metrics that have been developed for describing acoustic effects. Various rating scales have been devised to approximate the human response to the “loudness” or “noisiness” of a sound. Noise metrics have been developed to account for additional parameters, such as duration and cumulative effect of multiple events.

Noise metrics can be categorized as single-event metrics and cumulative metrics. Single-event metrics describe the noise from individual events, such as an aircraft flyover. Cumulative metrics describe the noise in terms of the total noise exposure over a period of time. The primary noise descriptors/metrics that are used in this Part 150 Study are described below.

D.3.1 A-Weighted Sound Pressure Level

The decibel is a unit used to describe sound pressure level. When expressed in dBA, the sound has been filtered to reduce the effect of very low and very high frequency sounds, much as the human ear filters sound frequencies. Without this filtering, calculated and measured sound levels would include events that the human ear cannot hear (e.g., dog whistles and low frequency sounds, such as the groaning sounds emanating from large buildings with changes in temperature and wind). With A-weighting, calculations and sound monitoring equipment approximate the sensitivity of the human ear to sounds of different frequencies.

Some common sound levels on the dBA scale are listed in **Table D-1**. As shown, the relative perceived loudness of a sound doubles for each increase of 10 dBA, although a 10-dBA change in the sound level corresponds to a factor of 10 changes in relative sound energy. Generally, single-event sound levels with differences of 2 dBA or less are not perceived to be noticeably different by most listeners.

TABLE D-1
COMMON SOUNDS ON THE A-WEIGHTED DECIBEL SCALE

Sound	Sound level (dBA)	Relative loudness (approximate)	Relative sound energy
Rock music, with amplifier	120	64	1,000,000
Thunder, snowmobile (operator)	110	32	100,000
Boiler shop, power mower	100	16	10,000
Orchestral crescendo at 25 feet, noisy kitchen	90	8	1,000
Busy street	80	4	100
Interior of department store	70	2	10
Ordinary conversation, 3 feet away	60	1	1
Quiet automobiles at low speed	50	1/2	.1
Average office	40	1/4	.01
City residence	30	1/8	.001
Quiet country residence	20	1/16	.0001
Rustle of leaves	10	1/32	.00001
Threshold of hearing	0	1/64	.000001

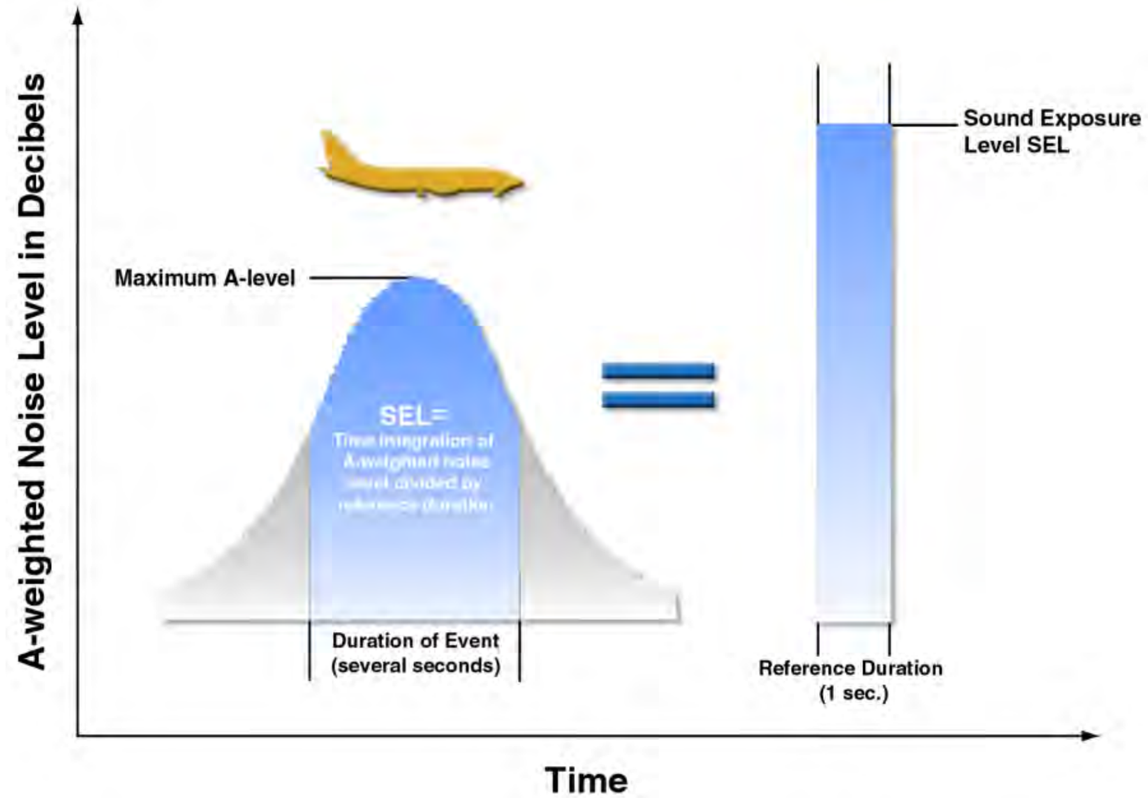
SOURCE: U.S. Department of Housing and Urban Development, Aircraft Noise Impact—Planning Guidelines for Local Agencies, 1972.

D.3.2 Maximum A-Weighted Sound Level (Lmax)

Lmax is the maximum, or peak, sound level during a noise event. The metric only accounts for the highest A-weighted sound level measured during a noise event, not for the duration of the event. For example, as an aircraft approaches, the sound of the aircraft begins to rise above ambient levels. The closer the aircraft gets, the louder the sound until the aircraft is at its closest point. As the aircraft passes, the sound level decreases until the sound returns to ambient levels.

Some sound level meters measure and record the maximum sound level (Lmax). The Lmax for an aircraft flyover is illustrated on **Figure D-2**.

Figure D-2
Sound Exposure Level and Maximum Sound Level



SOURCE: Brown-Buntin Associates, Inc., November 2004.

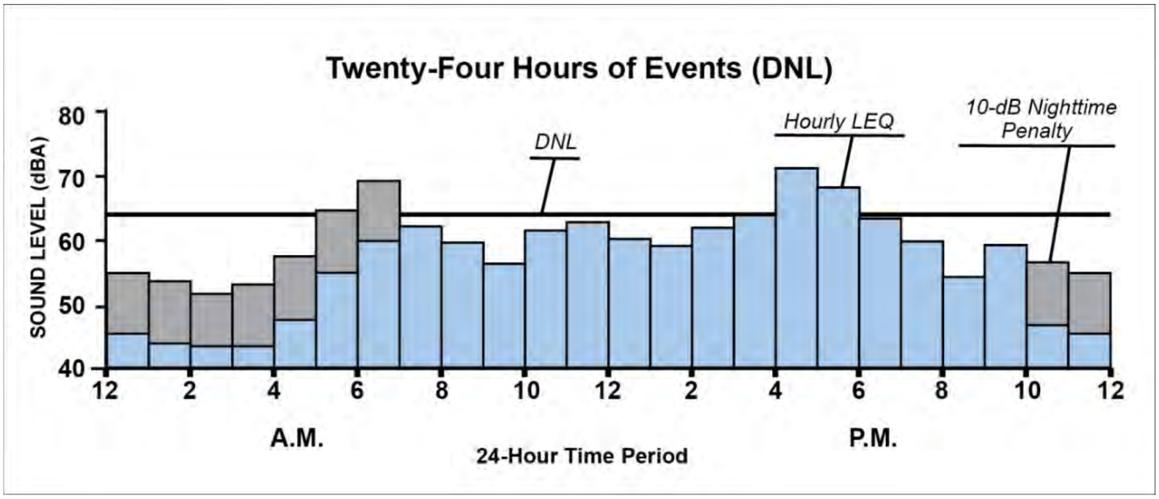
D.3.3 Sound Exposure Level (SEL)

Sound Exposure Level (SEL), is a time integrated measure, expressed in decibels, of the sound energy of a single noise event at a reference duration of one second. The sound level is integrated over the period that the level exceeds a threshold. Therefore, SEL accounts for both the maximum sound level and the duration of the sound. The standardization of discrete noise events into a one-second duration allows calculation of the cumulative noise exposure of a series of noise events that occur over a period of time. The SEL of an aircraft noise event is typically 7 to 12 dBA greater than the Lmax of the event. SELs for aircraft noise events depend on the location of the aircraft relative to the noise receptor, the type of operation (landing, takeoff, or overflight), and the type of aircraft. The SEL for an aircraft flyover is also illustrated on **Figure D-2**.

D.3.4 Equivalent Noise Level (L_{eq})

Equivalent Noise Level (Leq) is the sound level corresponding to a steady state, A-weighted sound level containing the same total energy as a time-varying signal over a given sample period. Leq is the “energy” average noise level during the time period of the sample. It is based on the observation that the potential for a noise to impact people is dependent on the total acoustical energy content of the noise. It is the energy sum of all the sound that occurs during that time period. This is graphically illustrated in the middle graph on **Figure D-3**. Leq can be measured for any time period, but is typically measured for 15 minutes, 1 hour, or 24 hours.

Figure D-3
Day-Night Average Sound Level



SOURCE: Environmental Science Associates, 2018.

D.3.5 Day-Night Average Sound Level

Day-Night Average Sound Level (DNL), formerly referred to as Ldn, is expressed in dBA and represents the noise level over a 24-hour period. DNL includes the cumulative effects of a number of sound events rather than a single event. It also accounts for increased sensitivity to noise during relaxation and sleeping hours. DNL is used to estimate the effects of specific noise levels on land uses. The U.S. Environmental Protection Agency (EPA) introduced the DNL metric in 1976 as a single number; however, it wasn't until when 14 CFR Part 150 was introduced in 1984 that DNL became the standard metric for measuring aircraft noise. In the calculation of DNL, for each hour during the nighttime period (10:00 P.M. to 6:59 A.M.), the sound levels are increased by a 10 decibel-weighting penalty (equivalent to a 10-fold increase in aircraft operations) before the 24-hour value is computed. The weighting penalty accounts for the more intrusive nature of noise during the nighttime hours. The weighting penalty is illustrated on **Figure D-3**.

DNL is expressed as an average noise level on the basis of annual aircraft operations for a calendar year. To calculate the DNL at a specific location, the SELs at that location associated with each individual aircraft operation (landing or takeoff) are determined. Using the SEL for each noise event and applying the 10-dB penalty for nighttime operations as appropriate, a partial DNL is then calculated for each aircraft operation. The partial DNLs for each aircraft operation are added logarithmically to determine the total DNL.

DNL is used to describe existing and predicted noise exposure in communities in airport environs based on the average daily operations over the year and the average annual operational conditions at the airport. Therefore, at a specific location near an airport, the noise exposure on a particular day is likely to be higher or lower than the annual average noise exposure, depending on the specific operations at the airport on that day. DNL is widely accepted as the best available method to describe aircraft noise exposure and is the noise descriptor required for aircraft noise exposure analyses and land use compatibility planning under 14 CFR Part 150 and for federal environmental reviews of airport improvement projects (Federal Aviation Administration (FAA) Order 1050.1F).[1]

The DNL metric used for this aircraft noise analysis is based on an average annual day of aircraft operations, generally derived from data for a calendar year. An annual-average day (AAD) activity profile is computed by adding all aircraft operations occurring during the course of a year and dividing the result by 365. As such, AAD does not reflect activities on any one specific day, but represents average conditions as they occur during the course of the year.

D.4 Aviation Environmental Design Tool

The noise analyses were conducted using the most current version of the FAA's Aviation Environmental Design Tool (AEDT). The AEDT is the FAA's standard model for evaluating aircraft noise, fuel burn/consumption, and emissions at airports. For this analysis, AEDT, Version 3c, was used to model aircraft noise exposure at the San Antonio International Airport for the 2021 Existing Conditions and the 2026 Future Conditions scenarios.

The AEDT produces noise exposure contours that are used for land use compatibility maps. The program includes a built-in Geographic Information System (GIS) platform and tools for comparing contours and utilities that facilitate easy export to other GIS software suites. The model can also calculate predicted noise at specific sites such as hospitals, schools, or other noise-sensitive locations. For these discrete locations, the AEDT has the capability to report noise exposure levels at the specific location.

During an average 24-hour period, the AEDT accounts for each aircraft flight along flight tracks to or from the airport, or aircraft overflying the airport. Flight track definitions are coupled with information in the model's databases relating to noise levels at varying distances and flight performance data for each distinct type of aircraft selected. In general, the model computes noise levels at regularly-spaced grid receptors at ground level around the airport. The distance to each aircraft in flight is computed (slant distance), and the associated noise exposure of each aircraft flying along each flight track within the vicinity of the grid receptor is determined. The logarithmic acoustical energy levels for each individual aircraft single-event are then summed for each grid receptor. The AEDT can create contours of specific noise levels based on the acoustical energy summed at each of the grid receptors for the selected metric. The cumulative values of noise exposure at each grid receptor are used to interpolate contours of equal noise exposure. The AEDT can also compute noise levels at user-defined points on the ground.

1 U.S. Department of Transportation. Federal Aviation Administration. Order 1050.1F, *Environmental Impacts: Policies and Procedures*. July 16, 2015.

Information required to run the AEDT includes:

- A physical description of the airport layout, including location, length and orientation of all runways, and airport elevation.
- The aircraft fleet mix for the average day.
- The number of daytime flight and run-up operations (7:00 A.M. to 9:59 P.M.).
- The number of nighttime flight and run-up operations (10:00 P.M. to 6:59 A.M.).
- Runway utilization rates.
- Primary departure and arrival flight tracks.
- Flight track utilization rates.

D.5 DNL and Noise Exposure Ranges

Noise exposure values of DNL 65, 70, and 75 were used as the criterion levels for the noise analysis. Three specific ranges of noise exposure were modeled: (1) DNL 65 to 70, (2) DNL 70 to 75, and (3) DNL 75 and higher. Although the FAA considers aircraft noise exposure lower than DNL 65 to be compatible with residential land uses, persons residing outside the area exposed to DNL 65 and higher may still be annoyed by aircraft noise. The frequently cited "Schultz Curve"[2] shows that, at an aircraft noise exposure of DNL 65, approximately 15% of the population would be expected to be "highly annoyed." At DNL 60, approximately 9% of the population would be expected to be highly annoyed by aircraft noise. At DNL 55, approximately 5% of the population would be expected to be highly annoyed by aircraft noise.

DNL mapping was developed as a tool to assist in land use planning around airports. The mapping is best used for comparative purposes rather than for providing absolute values. DNL calculations provide valid comparisons between different projected conditions, as long as consistent assumptions and data are used for all calculations.

Sets of DNL calculations can show anticipated changes in aircraft noise exposure over time, or can indicate which series of simulated situations is better, and generally how much better, from the standpoint of noise exposure. However, a line drawn on a map does not imply that a particular noise condition exists on one side of the line and not on the other. DNL calculations are for comparing noise effects, not for precisely defining them relative to specific parcels of land.

DNL contours can be used to: (1) highlight an existing or potential aircraft noise problem that requires attention, (2) assist in the preparation of noise compatibility programs, and (3) provide guidance in developing land use controls, such as zoning ordinances, subdivision regulations, and building codes. DNL is considered to be the best methodology available for depicting aircraft noise exposure by the FAA.

[2] Schultz, T.J. "Synthesis of Social Surveys on Noise Annoyance." *Journal of the Acoustical Society of America*. V. 64 (2). 1978.

D.5.1 Graphic Representation of Aircraft Noise Exposure

Noise exposure contours are lines on a map that connect points of equal DNL values, much like topographic contours are drawn to indicate area of equal ground elevation. For example, a contour may be drawn to connect all points of DNL 70; another may be drawn to connect all points of DNL 65; and so forth. Generally, noise contours are plotted at 5-dB intervals. Noise contours were developed for the Airport in conformance with FAA guidelines included in 14 CFR Part 150.

For this Part 150 Study, the AEDT was used to produce contours to delineate areas exposed to DNL 65, 70, and 75. These contours were used in conjunction with U.S. Census data and land use data provided by Bexar County. These data were also used to determine land uses and estimate the number of dwelling units, residents, and noise-sensitive facilities located within the areas exposed to aircraft noise levels of 1) DNL 65 to 70, 2) between DNL 70 and 75, 3) DNL 75 and higher, and 4) the sum of the previous, totaling the impacts within DNL 65 and higher.

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Appendix E
Radar Flight Tracks

APPENDIX E
Radar Flight Tracks

This Appendix includes the radar flight track figures used in this Noise Exposure Map (NEM) Update Report. Flight tracks included in this Appendix were used in the Federal Aviation Administration Aviation Environmental Design Tool (AEDT) to generate the NEMs.

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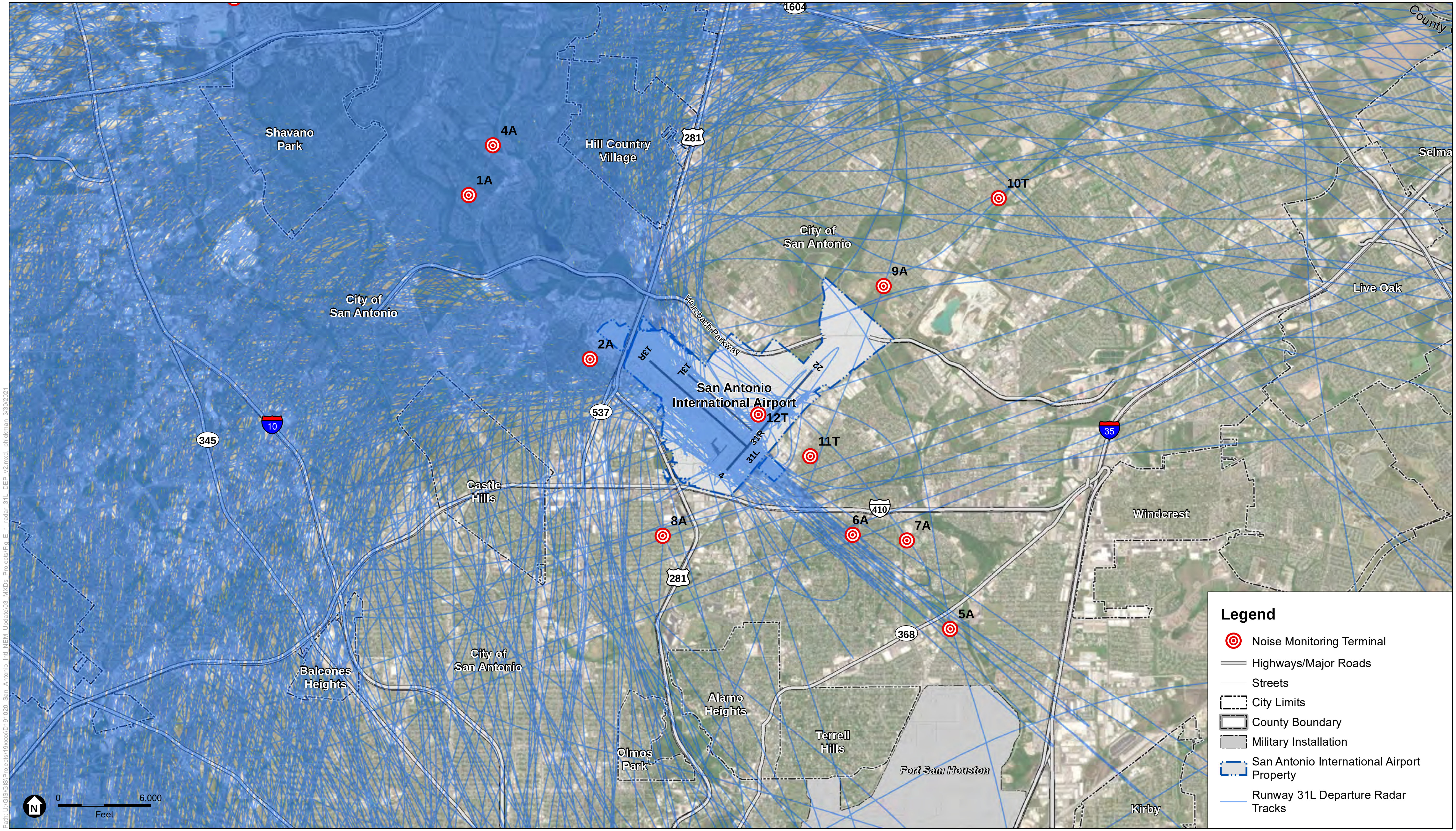
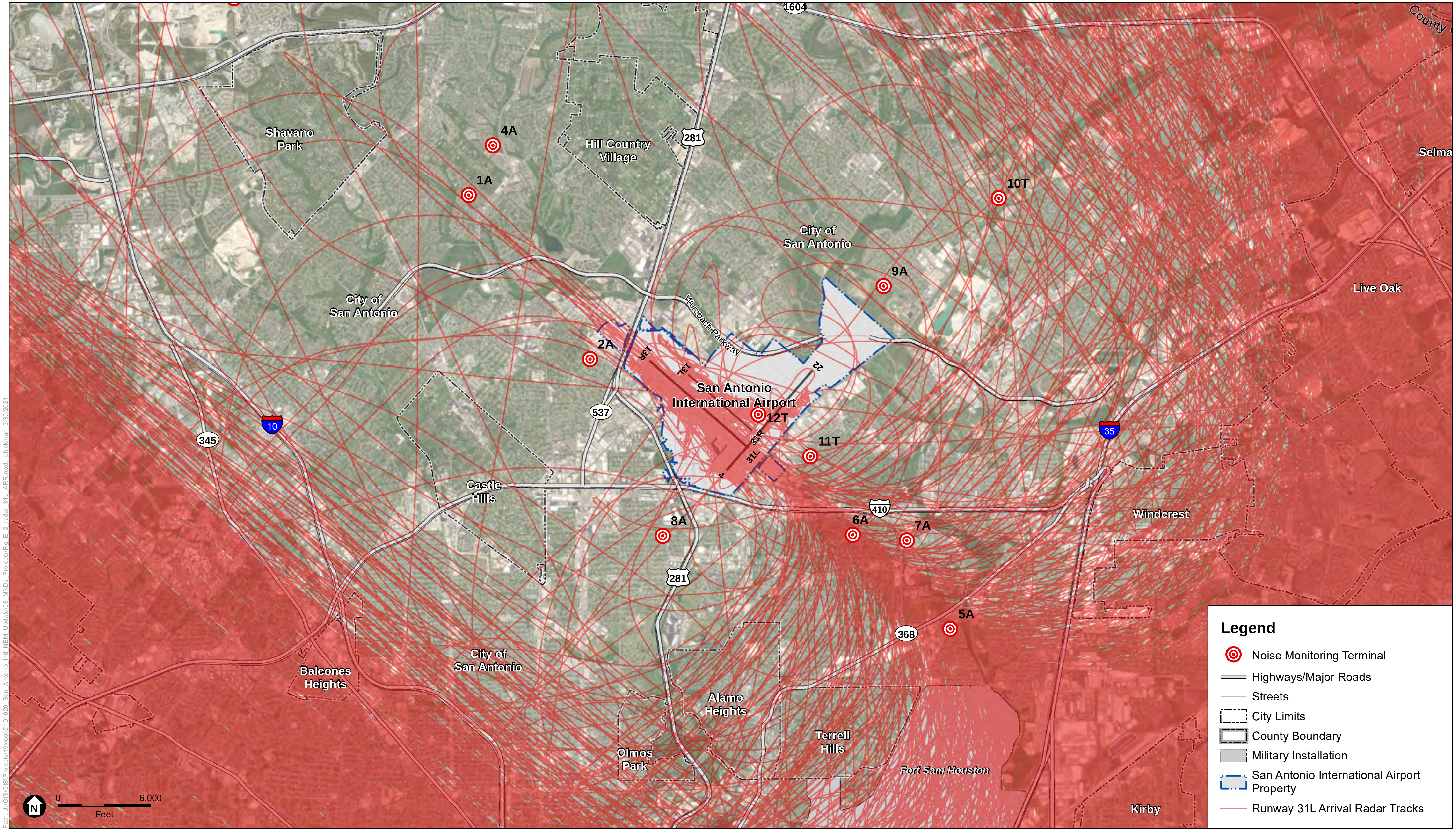


SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Figure E-1
Departure Radar Flight Tracks - Runway 31L
San Antonio International Airport

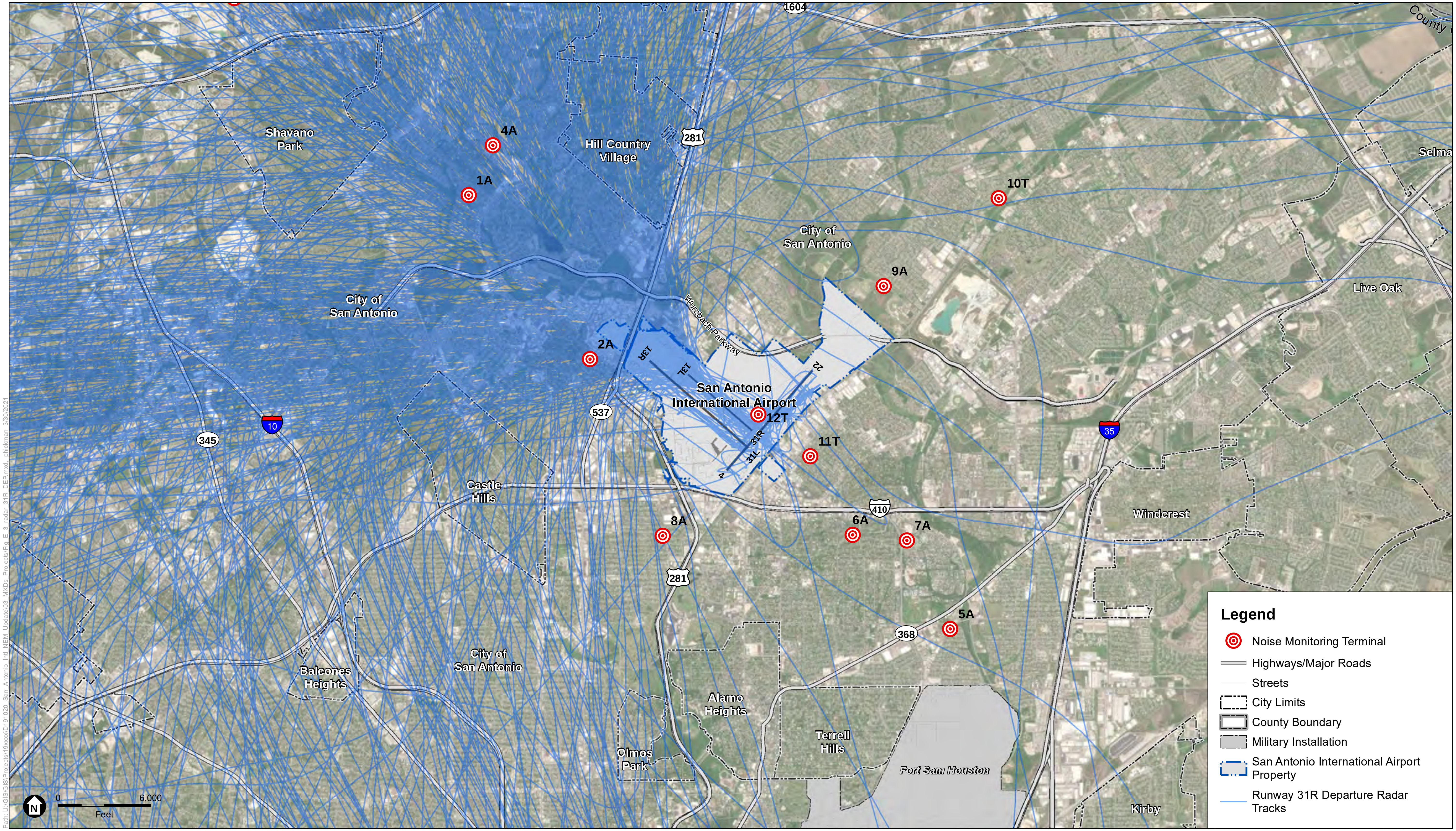


SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), ESA, 2020.

Noise Exposure Map Update Report

Figure E-2
Arrival Radar Flight Tracks - Runway 31L
San Antonio International Airport

ESA

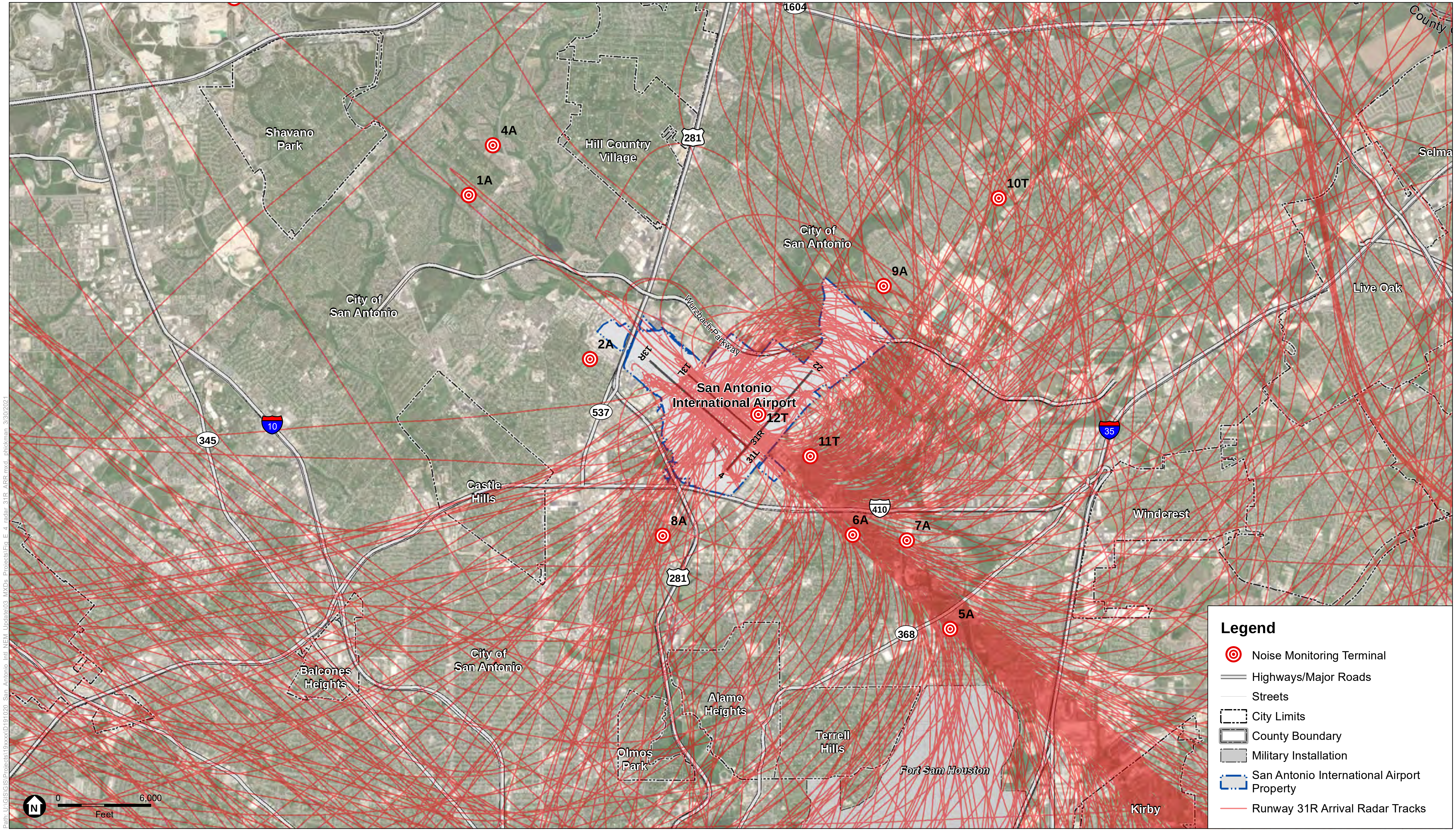


SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Noise Exposure Map Update Report

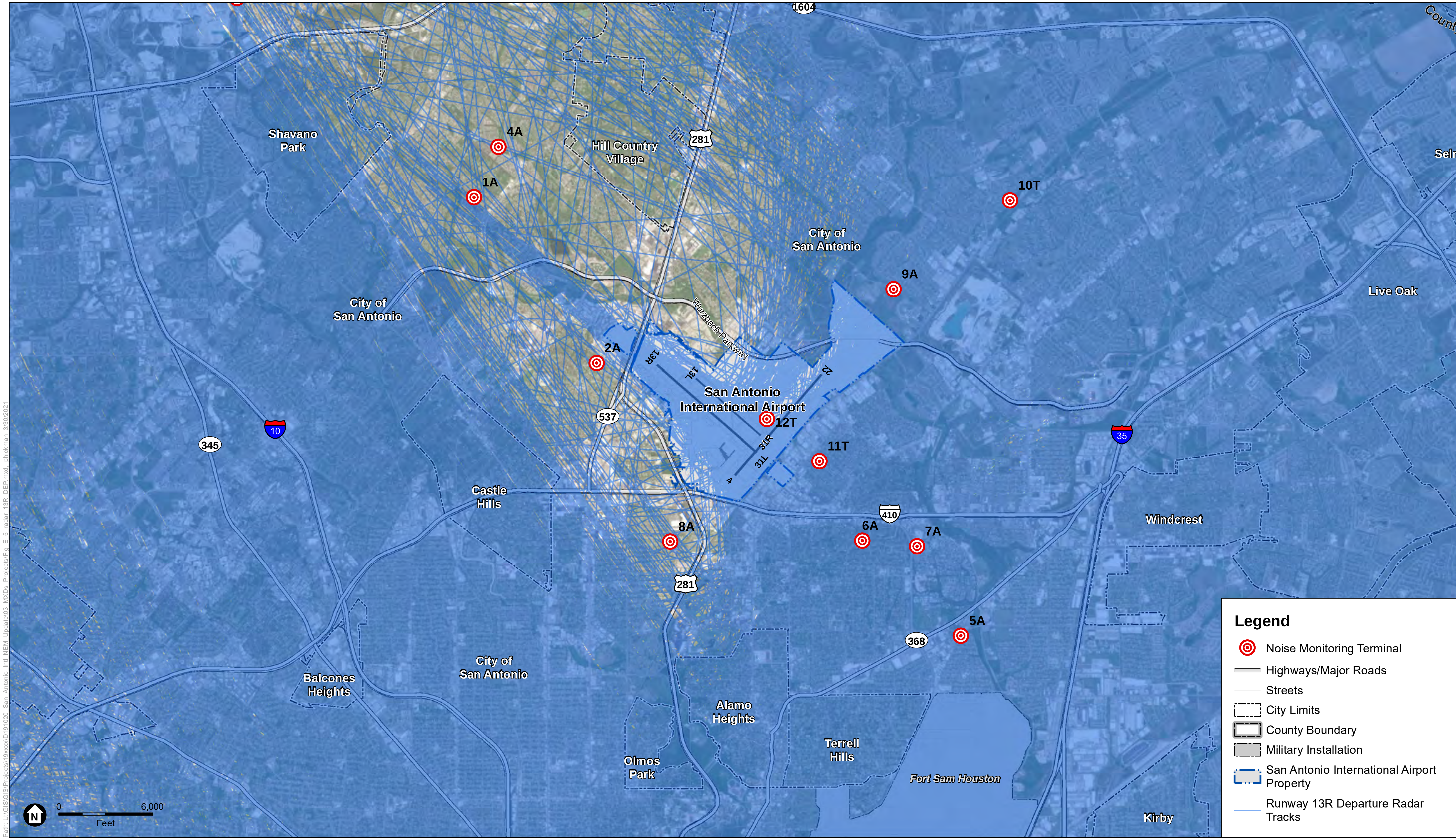
Figure E-3
Departure Radar Flight Tracks - Runway 31R
San Antonio International Airport

ESA



SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

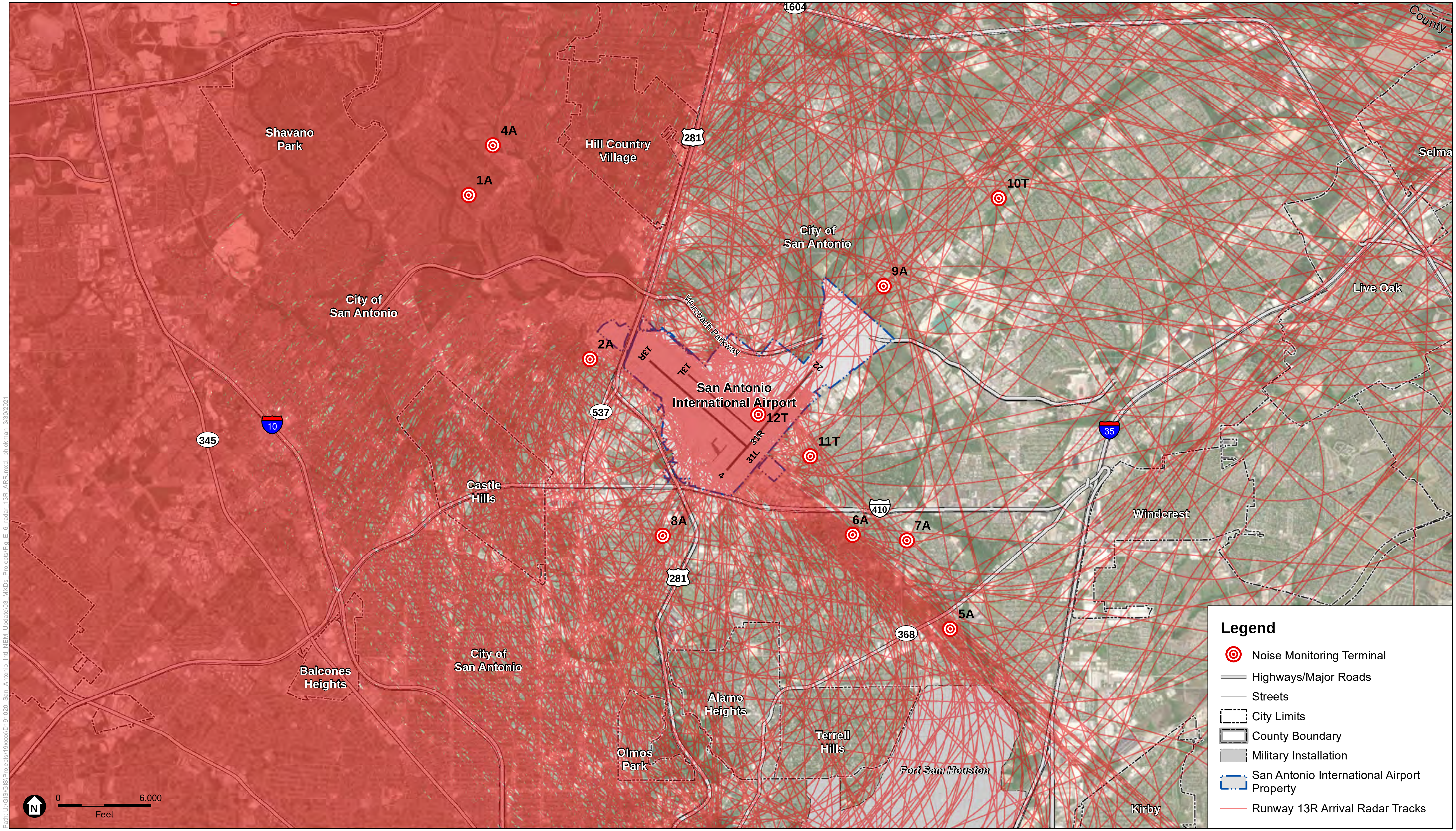
Figure E-4
Arrival Radar Flight Tracks - Runway 31R
San Antonio International Airport



SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Figure E-5
Departure Radar Flight Tracks - Runway 13R
San Antonio International Airport

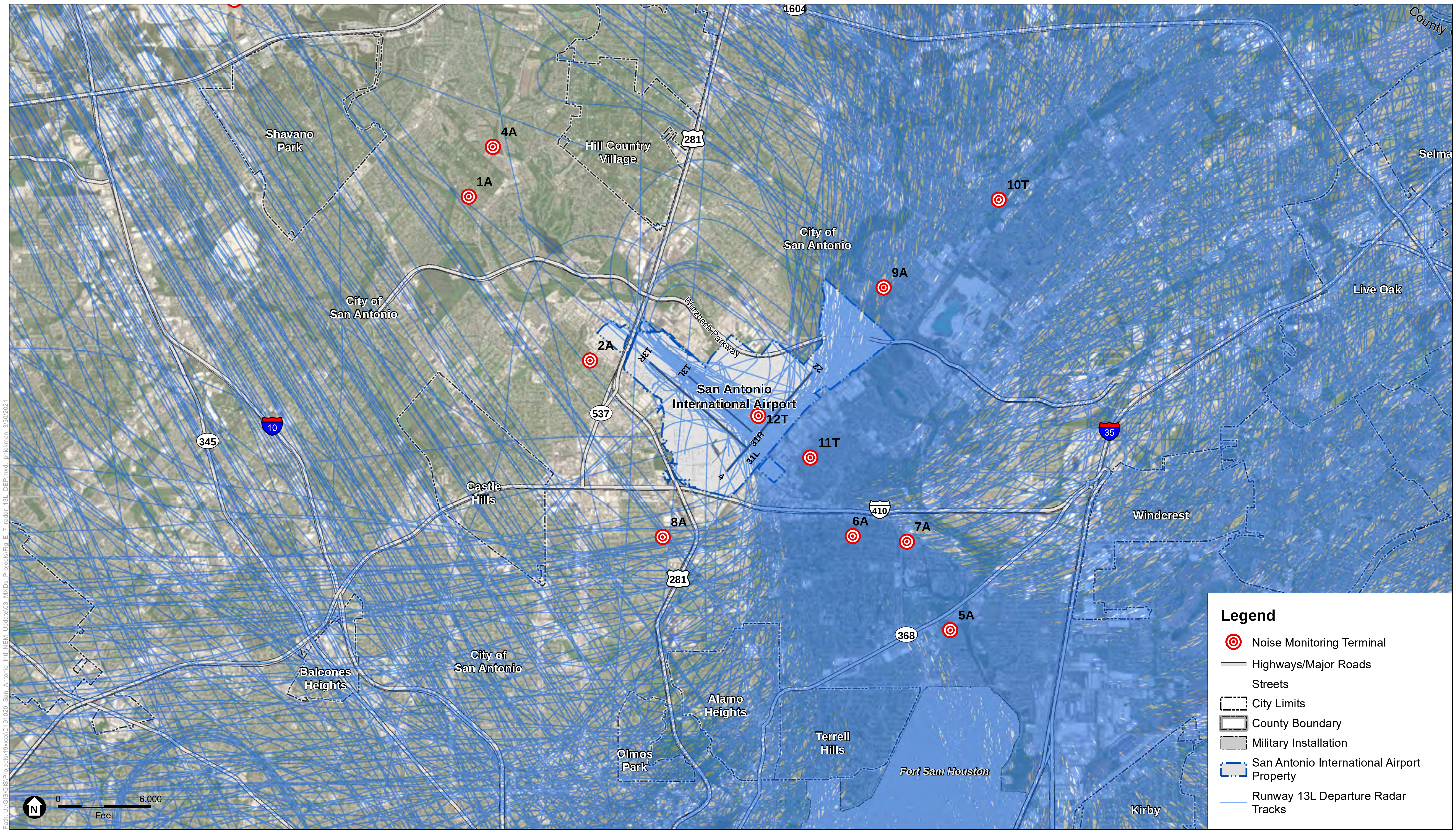
ESA



SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Figure E-6
Arrival Radar Flight Tracks - Runway 13R
San Antonio International Airport

ESA

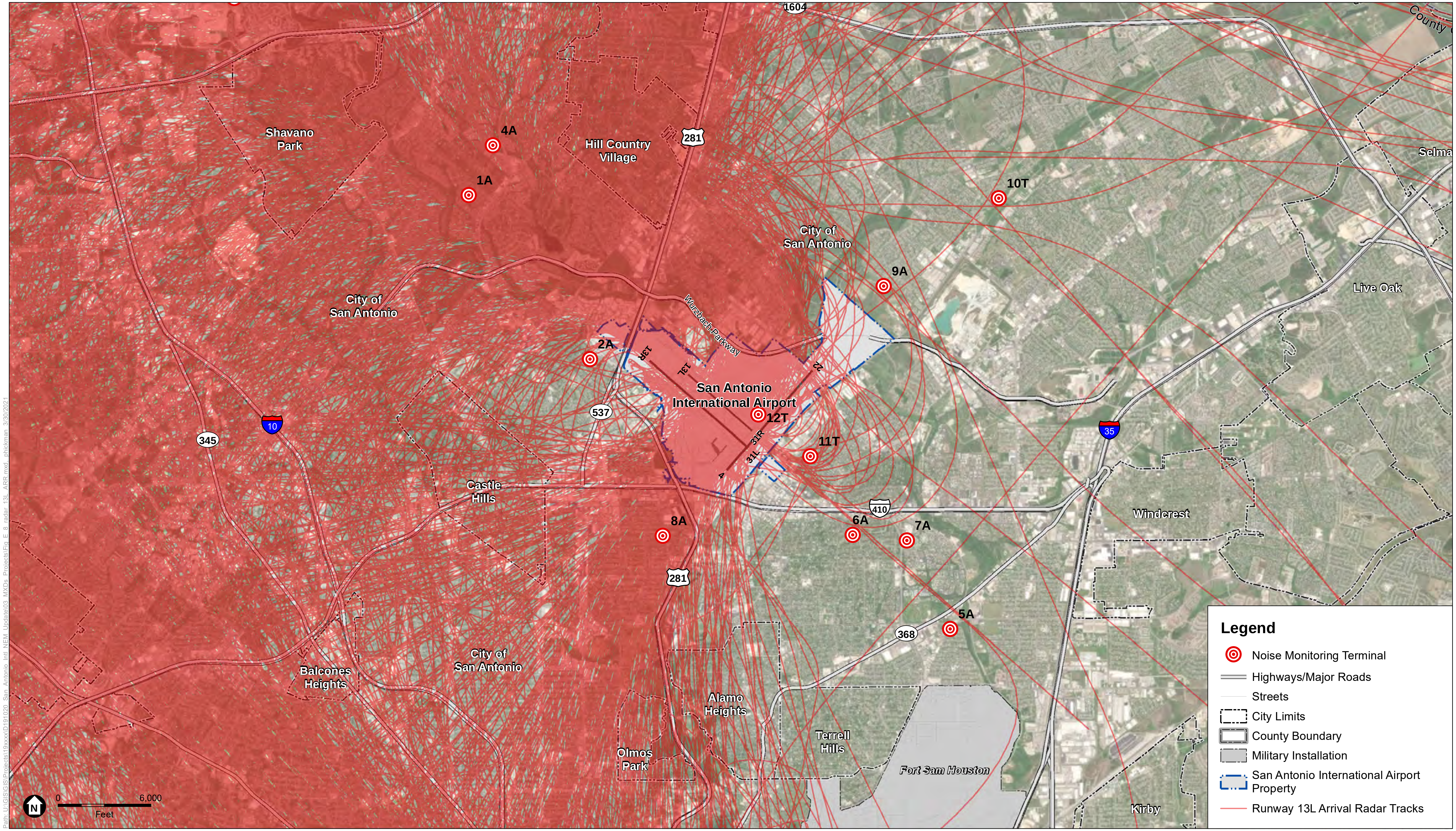


SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Noise Exposure Map Update Report

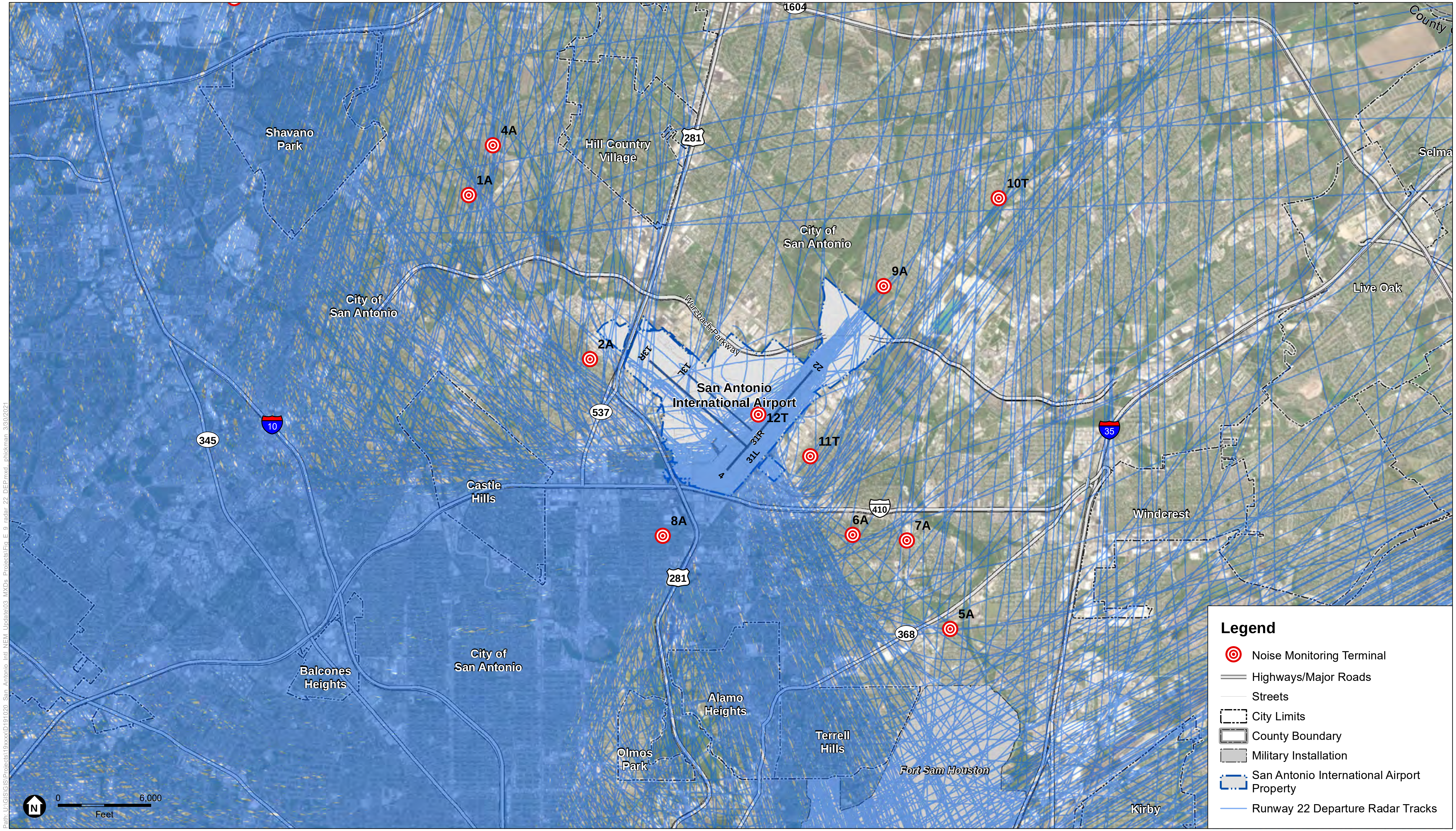
Figure E-7
Departure Radar Flight Tracks - Runway 13L
San Antonio International Airport

ESA



SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

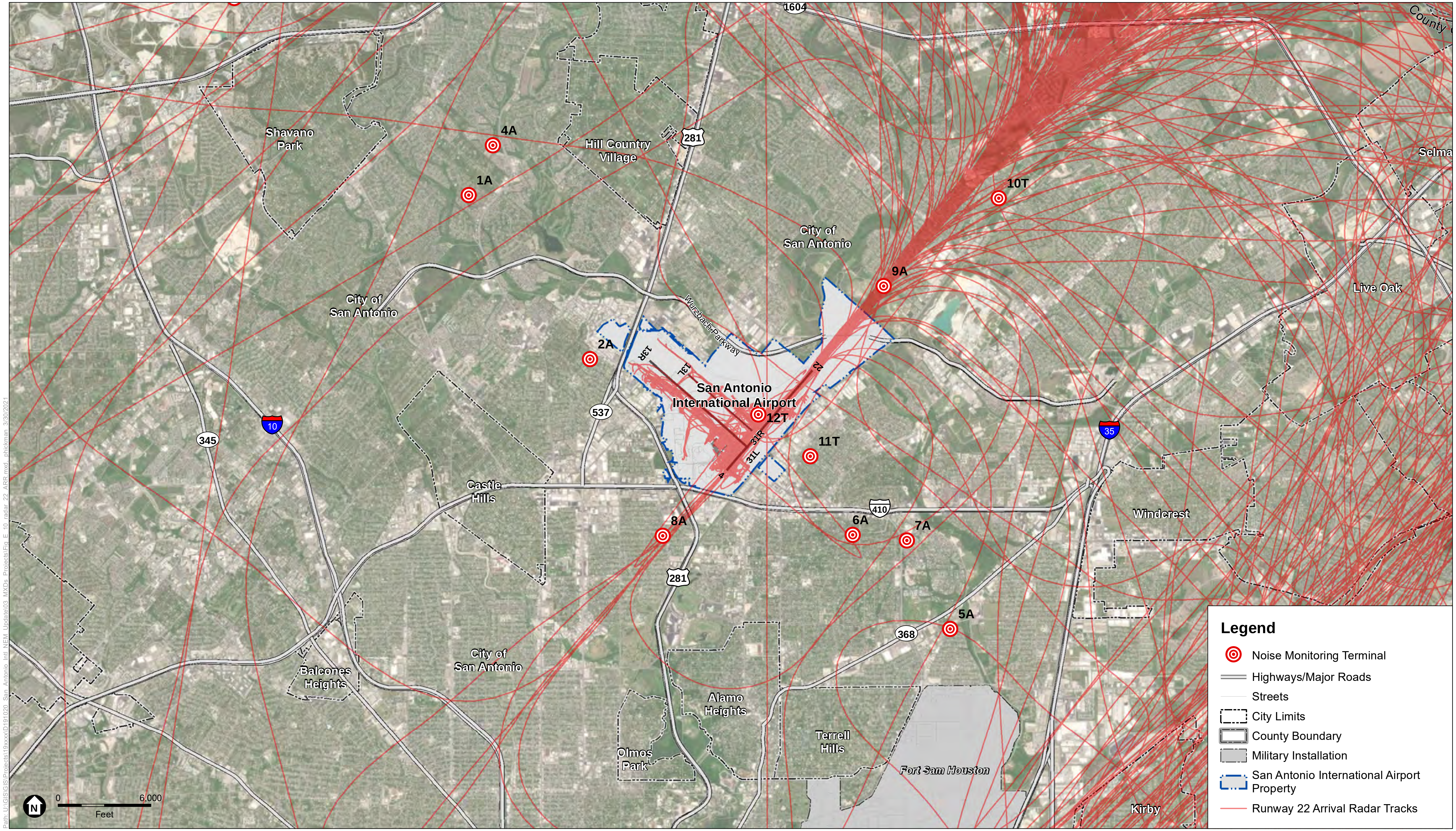
Figure E-8
Arrival Radar Flight Tracks - Runway 13L
San Antonio International Airport



SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Figure E-9
Departure Radar Flight Tracks - Runway 22
San Antonio International Airport

ESA

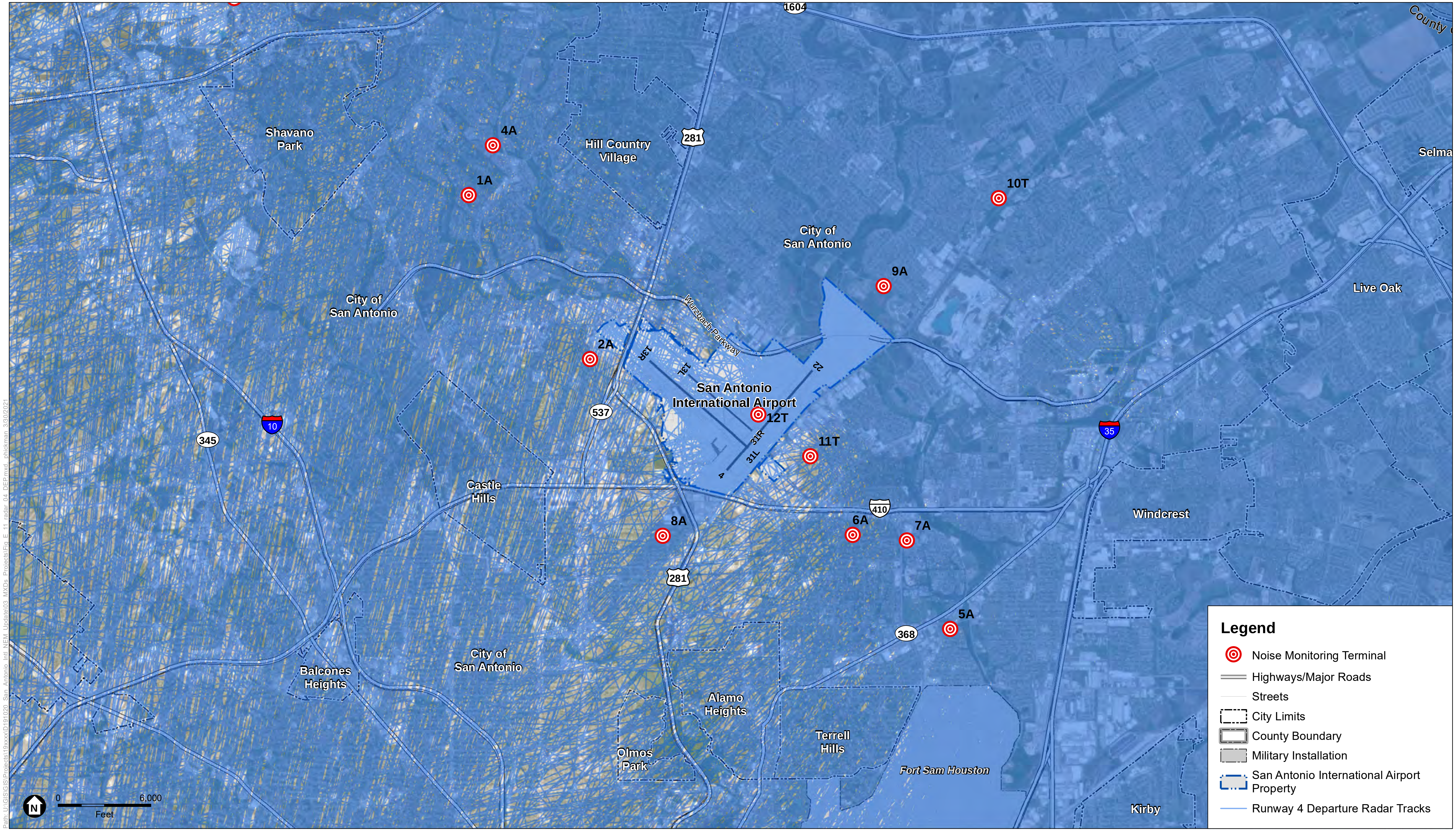


SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Noise Exposure Map Update Report

Figure E-10
Arrival Radar Flight Tracks - Runway 22
San Antonio International Airport

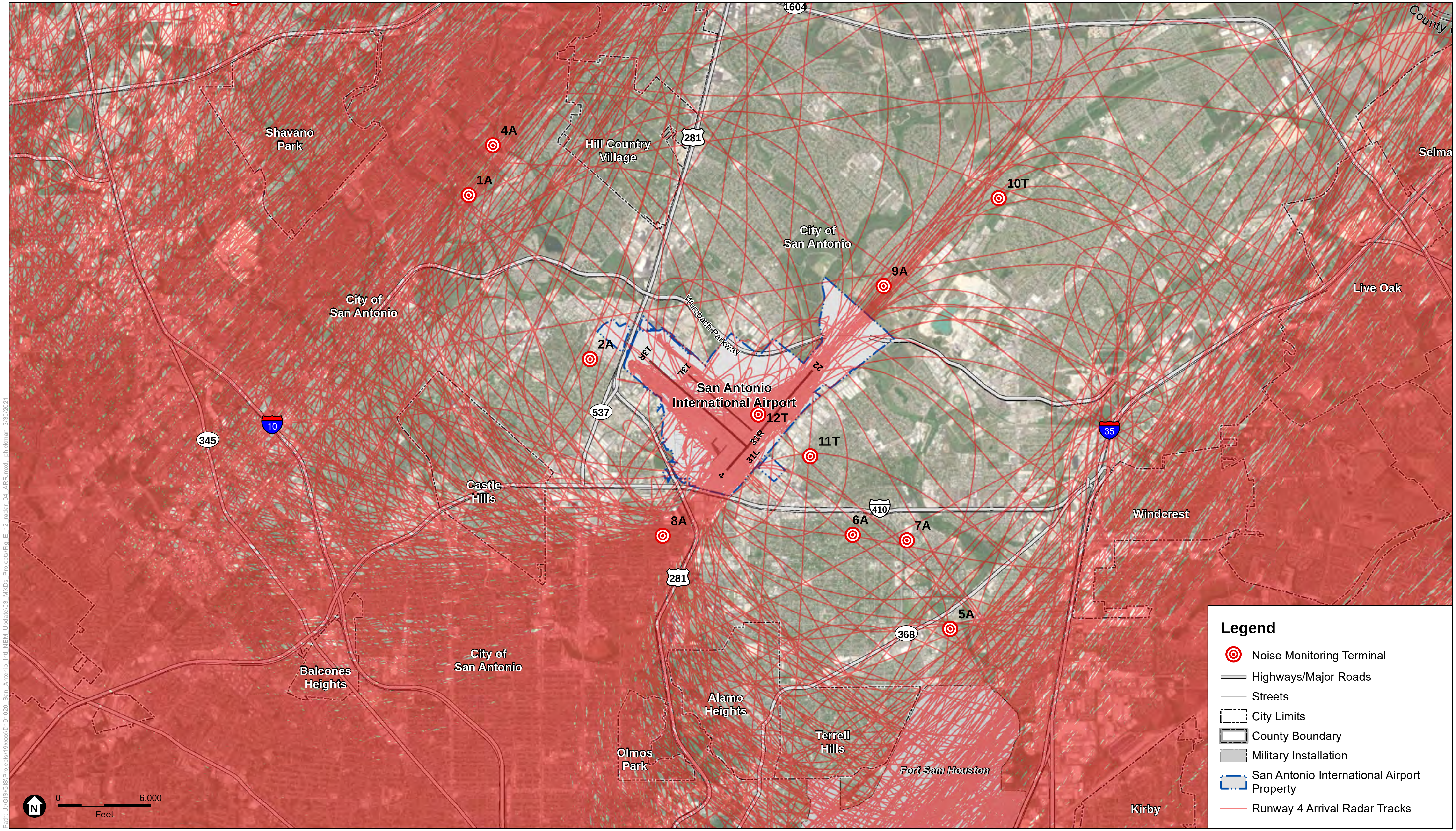
ESA



SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Figure E-11
Departure Radar Flight Tracks - Runway 4
San Antonio International Airport

ESA



SOURCE: Airport Noise and Operations Monitoring System, 2020; City of San Antonio, 2019 (streets); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways), AEDT 3c (flight tracks), Environmental Science Associates, 2020.

Figure E-12
Arrival Radar Flight Tracks - Runway 4
San Antonio International Airport

ESA

Appendix F
Consultation and Correspondence

APPENDIX F

Consultation and Correspondence

This Appendix includes correspondence and consultation associated with San Antonio International Airport Part 150 Noise Exposure Map Update Report.

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CITY OF SAN ANTONIO
AVIATION DEPARTMENT
INTERDEPARTMENTAL CORRESPONDENCE SHEET

TO:	Erik Walsh, City Manager
FROM:	Jesus H. Saenz, Jr., IAP, Director, Aviation
COPIES TO:	Mayor and City Council; Carlos Contreras, Assistant City Manager
SUBJECT:	Noise Exposure Maps Update
DATE:	September 22, 2020

This memo will provide information on the upcoming virtual public workshops that the Airport System will host next month to serve as a kick-off to update the Noise Exposure Maps (NEMs) around the San Antonio International Airport (Airport). Commercial airports are required to update their NEMs to comply with 14 CFR Part 150 (Part 150) every five years to be eligible for federal grants for approved airport noise programs. The NEM identifies the boundaries of eligibility for the voluntary Residential Acoustical Treatment Program (RATP), which has provided acoustical treatment to eligible residences. This NEM is a tool that can be used for future planning and projects at the airport. This process is separate from the Strategic Development Plan (SDP) process but utilizes the same consultant for efficiency of efforts and funding.

Background on Part 150
Part 150 provides airport owners a voluntary process to address compatibility of aircraft operations with surrounding communities and establishes the methodology to be followed when preparing NEMs and maintaining a noise compatibility program. The first step is to develop NEMs that identify the compatible and non-compatible land uses around the Airport. The NEM helps communities understand the areas affected by different levels of noise in a consistent and scientific way approved by the FAA. At the end of the process, the Airport System will have two NEMs that illustrate residences that are within the 65 decibels day-night average levels (DNLs) contours for existing conditions (2021) and forecast future conditions (2026). These maps are tools that are used as part of our established noise compatibility program and will help the Aviation Department answer questions from citizens about the average level of noise at their homes.

Timeline through April 2021
The Airport System is hosting four public workshops to educate residents on the Part 150 process. A key component to these workshops and other outreach efforts described below is to solicit comments from the residents on the NEM Update. While federal law only requires public hearings when the proposed NEMs are ready for submittal to the FAA, the Aviation Department determined it was important that the public receive information on the Part 150 update process early to be fully transparent.

The Aviation Department coordinated with District 9 and 10 on the kickoff process and both offices support holding the workshops to engage the community and begin the public comment process. Our four planned NEM update workshops will be hosted virtually on a Zoom video teleconferencing platform (which can handle 3,000 participants per each video meeting) and includes a live Spanish translation. The same presentation will be provided at each meeting:

- Monday, October 26, 2020 from 6:00 p.m. to 8:00 p.m.;
- Tuesday, October 27, 2020 from 1:00 p.m. to 3:00 p.m.; and,
- Thursday, October 29, 2020 from 10:00 a.m. to 12 p.m. and 6:00 p.m. to 8:00 p.m.

I have provided a copy of the advertisement that will run in the *Express-News* on September 26 and September 27. We will also advertise on our social media sites and provide information to City Council offices for distribution to residents.

During the presentation, the consultants will provide information on Part 150 update process and review the 2021 NEM baseline conditions. Residents will have an opportunity to ask questions of the consultant during the Q&A sessions after the presentation. Residents can request a copy of the presentation or view recorded presentations on the Aviation Department website. Residents are also able to review the information at five public libraries closest to the Airport. Comments on the process will be collected from emails, calls or mail through November 13, 2020.

The consultant will commence reviewing the comments received from the community. The consultant will then develop the 2026 Future Conditions noise contours. In early 2021, the consultant will prepare and present the 2026 Future Conditions in four public workshops and allow for another round of public comments. Once the public comments have been received, the NEM Update Report be finalized and we will present to City Council before submitting the report to the FAA for approval.

If you would like additional information on this process, please do not hesitate to contact me at (210) 207-3444 or Jesus.Saenz@sanantontio.gov.

Attachment: Advertisement

Subject: FW: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

From: Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>
Sent: Monday, March 15, 2021 1:41 PM
To: Neal Wolfe <NWolfe@esassoc.com>
Cc: Steven Southers (Aviation) <Steven.Southers@sanantonio.gov>
Subject: FW: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

Please see the email below. Zoning has no concerns.

From: Logan Sparrow (DSD) <Logan.Sparrow@sanantonio.gov>
Sent: Monday, March 15, 2021 11:25 AM
To: Kristie Flores (DSD) <Kristie.Flores@sanantonio.gov>; Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>
Cc: Catherine J Hernandez (DSD) <Catherine.Hernandez@sanantonio.gov>
Subject: RE: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

We have no comments.

From: Kristie Flores (DSD) <Kristie.Flores@sanantonio.gov>
Sent: Monday, March 15, 2021 11:24 AM
To: Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>
Cc: Catherine J Hernandez (DSD) <Catherine.Hernandez@sanantonio.gov>; Logan Sparrow (DSD) <Logan.Sparrow@sanantonio.gov>
Subject: RE: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

Hi Josh,

Yes, we are reviewing it. I sent it to the Policy team and I am waiting on our Administrator.

We will be in touch soon.

Kristie

Kristie M. Flores
Planning Manager - Land Development/Zoning Section
City of San Antonio
Development Services Department
210-207-5889 voice
210-207-4459 fax
210-207-1111 customer service
Kristie.Flores@sanantonio.gov

Physical:

1901 S Alamo Street
San Antonio, TX 78204

Mailing:
Post Office Box 839966
San Antonio, TX 78233

Please take a moment to complete our customer service survey: http://www.sanantonio.gov/dsd/survey.asp

"Partnering with our community to build and maintain a safer San Antonio"

From: Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>
Sent: Monday, March 15, 2021 10:13 AM
To: Kristie Flores (DSD) <Kristie.Flores@sanantonio.gov>
Subject: RE: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

Ms. Flores,

Even if you have no comments, you are welcome to respond that you have no comments or concerns.

Thanks,

Joshua

Joshua Heiss
Noise Abatement and Special Projects Manager
San Antonio International Airport
Office: 210-207-3847
Fax: 210-207-3544

Our Mission
Empowered, professional team providing optimal air service and a phenomenal customer experience.

From: Kristie Flores (DSD) <Kristie.Flores@sanantonio.gov>
Sent: Wednesday, March 10, 2021 3:07 PM

To: Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>
Subject: RE: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

We'll take a look – thanks.

Kristie M. Flores
Planning Manager - Land Development/Zoning Section
City of San Antonio
Development Services Department
210-207-5889 voice
210-207-4459 fax
210-207-1111 customer service
Kristie.Flores@sanantonio.gov

Physical:
1901 S Alamo Street
San Antonio, TX 78204

Mailing:
Post Office Box 839966
San Antonio, TX 78233

CITY OF SAN ANTONIO
DEVELOPMENT SERVICES DEPARTMENT
IAS ACCREDITED Building Department

Please take a moment to complete our customer service survey: http://www.sanantonio.gov/dsd/survey.asp

"Partnering with our community to build and maintain a safer San Antonio"

From: Joshua Heiss (Aviation) <Joshua.Heiss@sanantonio.gov>
Sent: Wednesday, March 10, 2021 10:23 AM
To: Kristie Flores (DSD) <Kristie.Flores@sanantonio.gov>
Subject: RE: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

Ms. Flores,

I just wanted to check in and see if your department might have any comments or concerns related to the Draft NEM Update Report. With the recent winter storm events that affected the city, we pushed our comment due date back to March 19, 2021.

Any comments should be sent to the following email address:

Airportnoisehotline@sanantonio.gov

Thanks,

Joshua Heiss (Aviation)

Joshua Heiss
Noise Abatement and Special Projects Manager
San Antonio International Airport
Office: 210-207-3847
Fax: 210-207-3544

From: Joshua Heiss (Aviation)
Sent: Thursday, February 4, 2021 11:13 AM
To: Kristie Flores (DSD) <Kristie.Flores@sanantonio.gov>
Cc: Steven Southers (Aviation) <Steven.Southers@sanantonio.gov>
Subject: Draft Noise Exposure Map (NEM) Update - Outreach to DSD

Ms. Flores,

The Aviation Department has been preparing an update to the Noise Exposure Map (NEM) per CFR Part 150 requirements. We wanted to provide you the opportunity to review the Draft NEM Update. The link below provides access to our community workshop presentations, and the Draft NEM Update Report.

https://flysanantonio.com/business/about-saas/environmental-stewardship/

You are welcome to participate in one of our Virtual public workshops offered between Feb 16-22, 2021. The links to register are featured on the link provided above.

Please let us know if you have any questions.

Thanks,

Joshua

Joshua Heiss
Noise Abatement and Special Projects Manager
San Antonio International Airport
Office: 210-207-3847
Fax: 210-207-3544

CITY OF SAN ANTONIO
AVIATION DEPARTMENT

Our Mission

Empowered, professional team providing optimal air service and a phenomenal customer experience.

Update on the Noise Exposure Map and eGSE

12-10-2020

Presentation by Steve Southers, Joshua Heiss

Environmental Stewardship Division

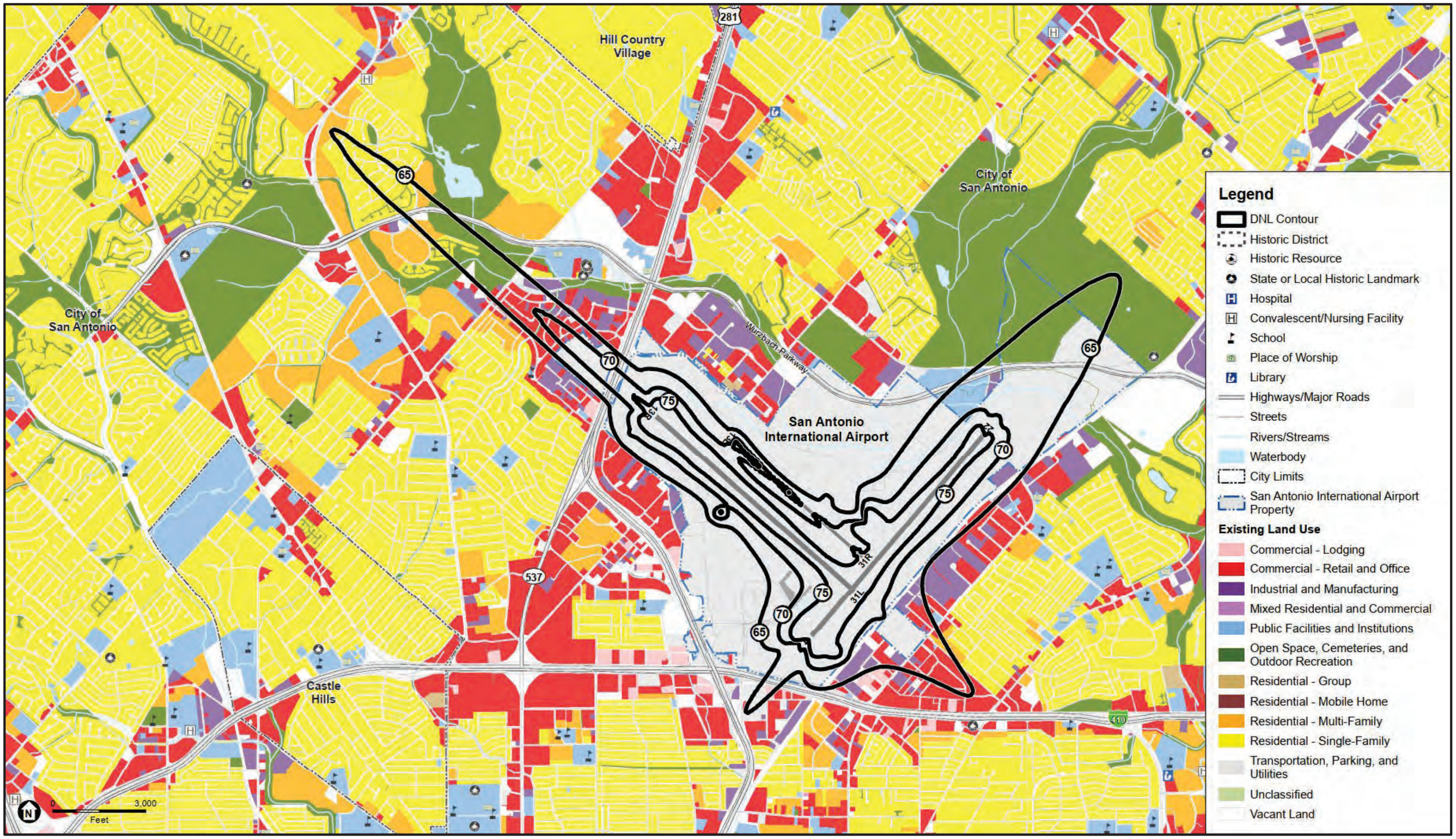
NEM Update - Workshop Overview

Initial NEM Public Workshops (Oct 26 – 30, 2020)

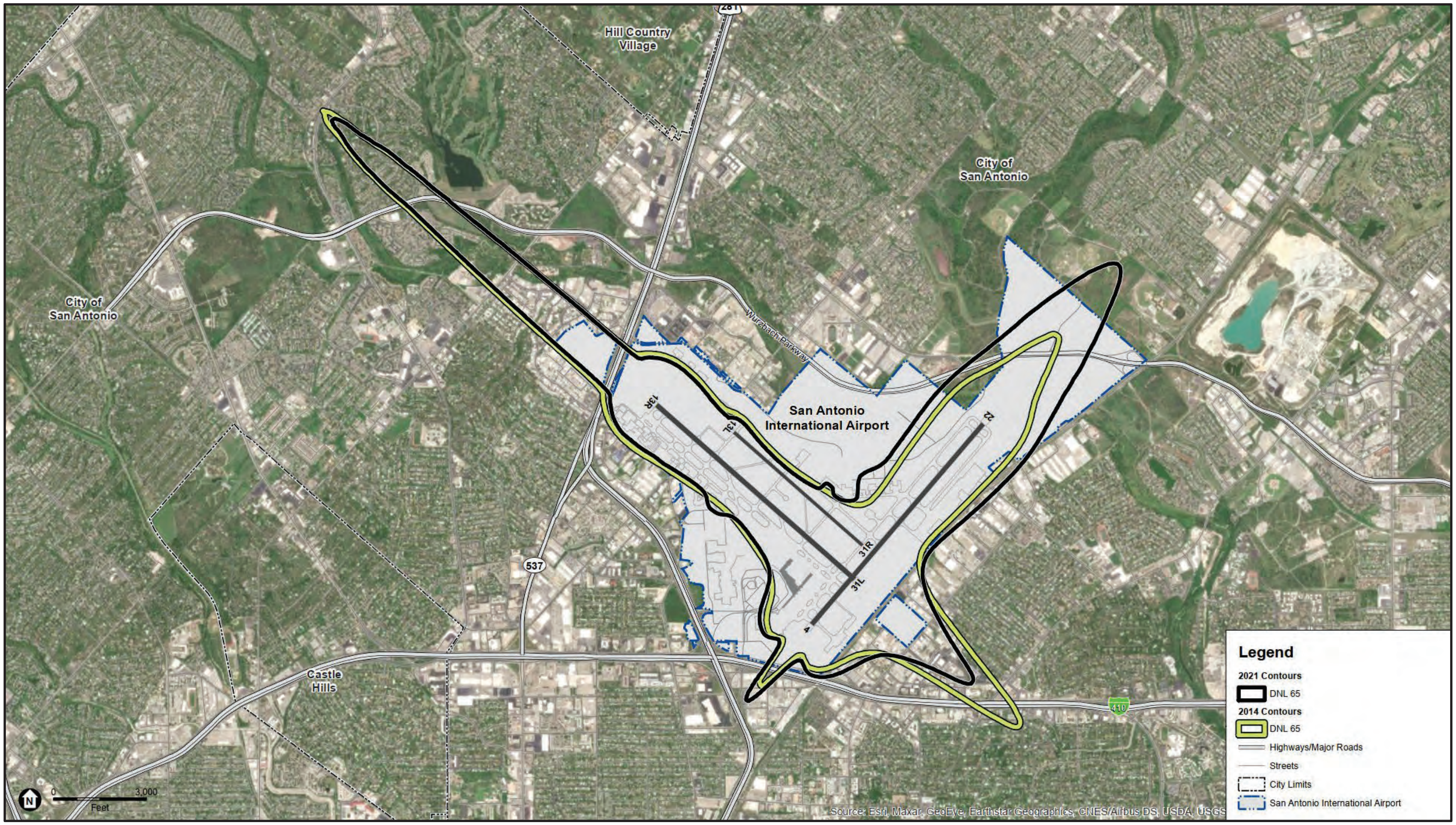
- Interactive overview of NEM process and inputs used to develop contours
- 2021 Baseline contours were presented to the public with an opportunity for them to provide feedback on modeling and land use map inputs/assumptions
- Virtual meetings were staggered through the week to best interact with community
- SAT staff and ESA served as workshop presenters
- Attendees asked questions "live" or submitted questions/comments via email

Draft NEM Public Workshops (Mid-February 2021)

- Same approach as initial set of workshops
- 2026 Future Conditions contours will be presented, as well as contents of Draft NEM Report
- Comments from 2021 Baseline workshop will be addressed

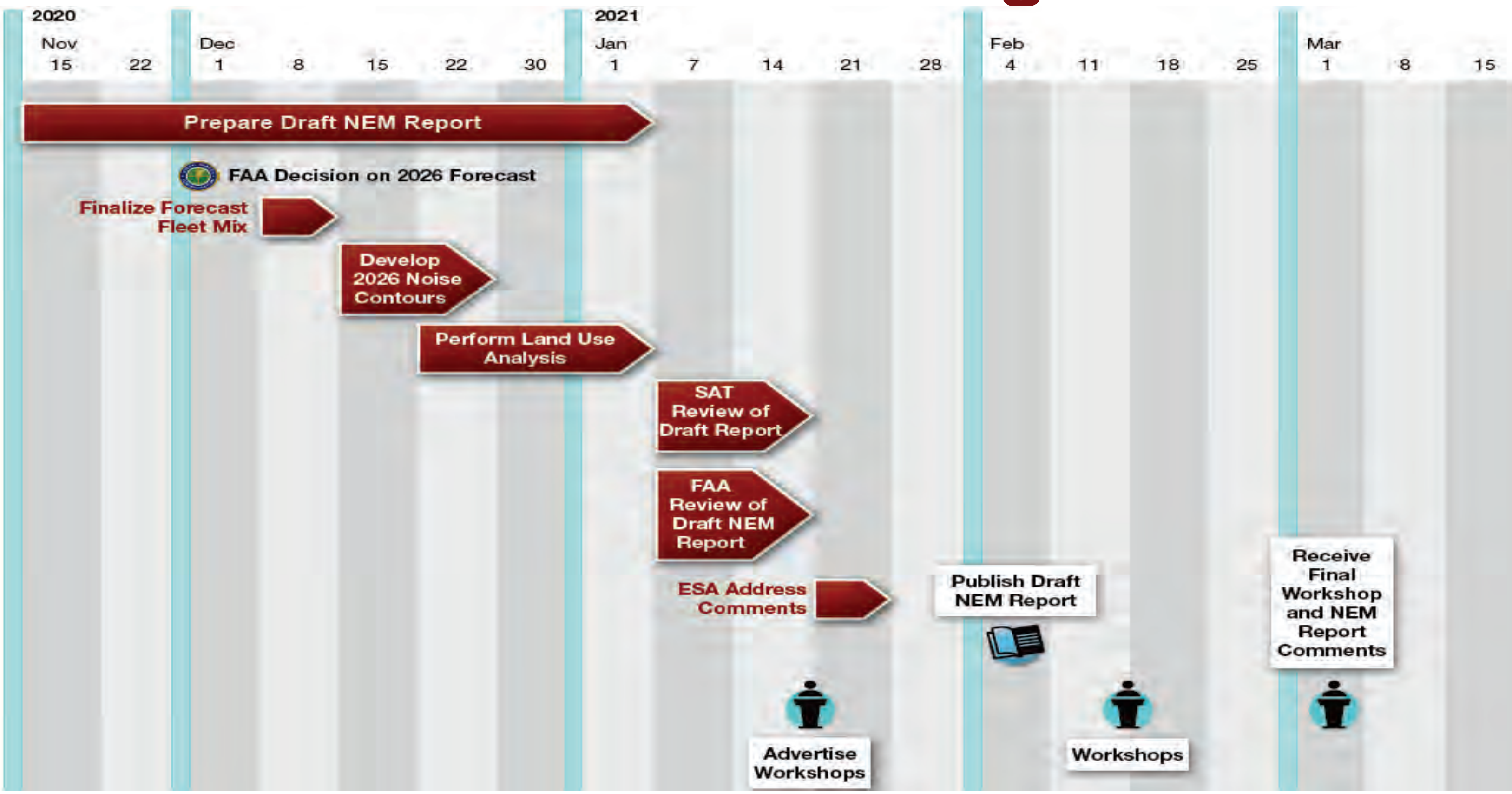


NEM Update – 2021 Baseline Conditions



NEM Update – 2014 Baseline and 2021 Baseline Contours

Future Conditions Meeting Schedule



NEM Update - Path Forward

Update on the Noise Exposure Map and eGSE

12-10-2020

Presentation by Steve Southers, Joshua Heiss

Environmental Stewardship Division

CITY OF SAN ANTONIO
AVIATION DEPARTMENT
INTERDEPARTMENTAL CORRESPONDENCE SHEET

TO:	Erik Walsh, City Manager
FROM:	Jesus H. Saenz, Jr., IAP, Director, Aviation
COPIES TO:	Mayor and City Council; Carlos Contreras, Assistant City Manager
SUBJECT:	Noise Exposure Maps Update
DATE:	September 22, 2020

This memo will provide information on the upcoming virtual public workshops that the Airport System will host next month to serve as a kick-off to update the Noise Exposure Maps (NEMs) around the San Antonio International Airport (Airport). Commercial airports are required to update their NEMs to comply with 14 CFR Part 150 (Part 150) every five years to be eligible for federal grants for approved airport noise programs. The NEM identifies the boundaries of eligibility for the voluntary Residential Acoustical Treatment Program (RATP), which has provided acoustical treatment to eligible residences. This NEM is a tool that can be used for future planning and projects at the airport. This process is separate from the Strategic Development Plan (SDP) process but utilizes the same consultant for efficiency of efforts and funding.

<u>Background on Part 150</u>
Part 150 provides airport owners a voluntary process to address compatibility of aircraft operations with surrounding communities and establishes the methodology to be followed when preparing NEMs and maintaining a noise compatibility program. The first step is to develop NEMs that identify the compatible and non-compatible land uses around the Airport. The NEM helps communities understand the areas affected by different levels of noise in a consistent and scientific way approved by the FAA. At the end of the process, the Airport System will have two NEMs that illustrate residences that are within the 65 decibels day-night average levels (DNLs) contours for existing conditions (2021) and forecast future conditions (2026). These maps are tools that are used as part of our established noise compatibility program and will help the Aviation Department answer questions from citizens about the average level of noise at their homes.

<u>Timeline through April 2021</u>
The Airport System is hosting four public workshops to educate residents on the Part 150 process. A key component to these workshops and other outreach efforts described below is to solicit comments from the residents on the NEM Update. While federal law only requires public hearings when the proposed NEMs are ready for submittal to the FAA, the Aviation Department determined it was important that the public receive information on the Part 150 update process early to be fully transparent.

The Aviation Department coordinated with District 9 and 10 on the kickoff process and both offices support holding the workshops to engage the community and begin the public comment process. Our four planned NEM update workshops will be hosted virtually on a Zoom video teleconferencing platform (which can handle 3,000 participants per each video meeting) and includes a live Spanish translation. The same presentation will be provided at each meeting:

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I have provided a copy of the advertisement that will run in the ***Express-News*** on September 26 and September 27. We will also advertise on our social media sites and provide information to City Council offices for distribution to residents.

During the presentation, the consultants will provide information on Part 150 update process and review the 2021 NEM baseline conditions. Residents will have an opportunity to ask questions of the consultant during the Q&A sessions after the presentation. Residents can request a copy of the presentation or view recorded presentations on the Aviation Department website. Residents are also able to review the information at five public libraries closest to the Airport. Comments on the process will be collected from emails, calls or mail through November 13, 2020.

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If you would like additional information on this process, please do not hesitate to contact me at (210) 207-3444 or Jesus.Saenz@sanantontio.gov.

Attachment: Advertisement

Update on the Noise Exposure Map – (NEM)

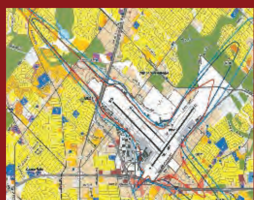
AVI33 - Town Hall

01-08-2021

Presentation by Steve Southers, Joshua Heiss

Environmental Stewardship Division

Noise Exposure Map (NEM) Goals and Objectives



Determine existing and future noise exposure and identify noncompatible land uses

Educate stakeholders on existing noise program and regulatory environment

Enhance community relationships through transparency

Secure FAA compliance determination on updated NEMs

NEM Update - Workshop Overview

Initial NEM Public Workshops (Oct 26 – 30, 2020)

- Interactive overview of NEM process and inputs used to develop contours
- 2021 Baseline contours were presented to the public with an opportunity for them to provide feedback on modeling and land use map inputs/assumptions
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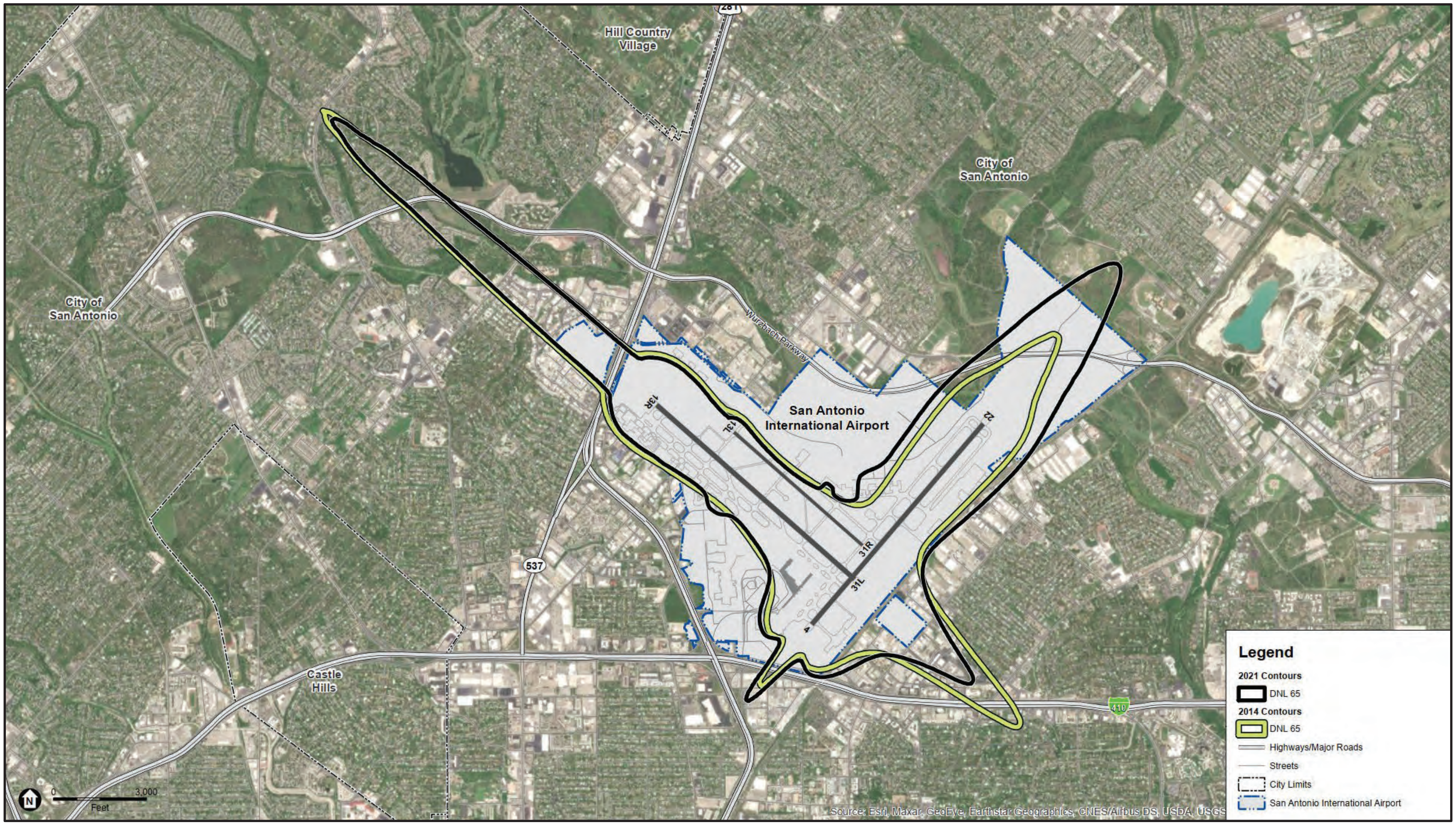

NEM Update – 2014 Baseline and 2021 Baseline Contours

AIRPORT ADVISORY COMMISSION MEETING MINUTES
FOR JANUARY 19, 2021
VIA VIDEOCONFERENCE

MEMBERS PRESENT
1. Marco Barros
2. Vaugh Caudill
3. Charnelle Chin
4. Frank Cruz
5. Mark Fessler, Chairman
6. John Grisell
7. Marsha Hendler, Secretary
8. Earl Jackson, Jr., Vice Chairman
9. Maureen McCann
10. Valerie Peak
11. Aurelina Prado
12. Diane Rath
13. Tripp Riedel

MEMBERS NOT PRESENT
1. Les Hobgood
2. Deborah Omowale Jarmon
3. Ed Onwe
4. Landon Phillips

VISITORS
1. Christine Rajpal, Senior Architect, Jacobs

CITY STAFF
- Jesus H. Saenz, Jr. IAP, Director of Airports
- Nicole Fowles, Sr. Special Projects Manager/Board Liaison
- Mark Triesh, City Attorney
- Jennifer Pysher, Chief Commercial Officer
- David Robbins, Chief Development Officer
- Michael Garnier, Chief Budget and Administration Officer
- Syed Mehdi, Chief Strategy and Innovation Officer
- Dennis Fiemeyer, Construction and Development Manager
- Karen Ellis, Chief Customer Service Office

Chairman Mark Fessler called the meeting to order at 3:34 p.m. After a quorum was established, roll call was taken on the videoconference. Mr. Fessler asked the Board Liaison if there were any Public Comments to share with the Commission. It was noted that no comments were received.

Mr. Fessler asked the Commission members if they had reviewed the minutes from the November 17, 2020 teleconference meeting. No changes were noted and a motion to approve the minutes was made and seconded. The Commissioners voted to accept the approval of the minutes.

Aviation Department Director Jesus Saenz wished the Commission members a happy new year’s and introduced three new members to the Aviation Department:
- Chief Commercial Officer Jennifer Mills Pysher: Ms. Pysher, who began in November 2020, most recently served as the Airports Business Development Manager with Uber. Prior to that, she served as the Properties and Airport Affairs Manager for American Airlines.

- Chief Development Officer David Robbins: Mr. Robbins, who began earlier this month, most recently served as the Project Administrator for Design and Construction for the $8.5 billion O'Hare Modernization Program (OMP) at the Chicago Department of Aviation. He has served in a variety of positions at O'Hare and with the Wayne County Department of Airports (home of Detroit International Airport).
- Chief Budget and Administration Officer Michael Garnier: Michael, who also began in November 2020, recently retired from Southwest Airlines where he served as the Senior Regional Leader for Airport Affairs.

Mr. Saenz then introduced the next topic for consideration an update on the Strategic Development Plan and the development of Design Standards for the San Antonio Airport System. Chief Strategy and Innovation Officer Syed Mehdi presented the Commission members with the update on the Strategic Development Plan, reviewing the preliminary preferred 20-year airfield layout, terminal facilities survey results and the overall schedule of the plan. Mr. Saenz added that the survey information was important to ensure the consultants heard from airport users on what they would like to incorporate into future terminal facilities. Commissioner Earl Jackson, Jr. asked about work on Runway 13R and potential impact on military operations. Mr. Saenz said work performed on Runway 13R and 13L would be coordinated with the FAA.

Construction and Development Manager Dennis Fiemeyer introduced the development of design standards presentation by indicating that the current facilities at San Antonio International Airport did not provide a sense of San Antonio to passengers when they arrived at the airport. He noted that the Airport had tasked Jacobs, one of its on-call General Engineering Consultants, to first identify what is meant by a sense of place for San Antonio and then develop a design visioning book that will be given to design engineers and consultants when the airport system initiates new facilities. Mr. Fiemeyer asked the Commission members to please provide input following the presentation to let the team know the proposed design standards was aligned with what the Commission members felt represented San Antonio. He introduced Christine Rajpal, Senior Engineer and Buildings Delivery Leader for Jacobs, who briefed the commission members on the process of developing the design principles. Ms. Rajpal discussed the idea of a distinct airport district and how this process aligned with the Strategic Development Plan. She explained the process of developing the proposed principals from concepts to key phrases to design elements.

Commission members offered the following comments or questions:

- The design principal presentation was incredible especially the research. Well-done. What was your approach capturing [this type of information]?
    - Ms. Rajpal: We met with various committees and organizations. As we have presented our results, we haven't received any comments that our proposed principals were not aligned with the community's thoughts.
- Ms. Rajpal confirmed that the most photos were not from the airport or Visit San Antonio but from the internet.
    - Mr. Fiemeyer noted that participants in the visioning sessions were asked to bring images that the individual felt reflected the San Antonio region.
- Thank you for all the work to develop a sense of place – hat's off to those involved in these efforts.
- What an impressive presentation.

- On the Strategic Development Plan, it looks like there will be different phrases when the new projects become operational?
    - Our consultants will develop a phasing and implementation program that will be part of the plan when it is presented to City Council for approval and then submitted to the FAA. The identified projects will then be incorporated into the Capital Improvement Program for the next five to 10 years.
    - Our recovery from COVID will help determine the dates. We need to be flexible in our funding strategy for the implementation of new projects.

Mr. Fessler asked the Commission members if they had any questions on the monthly reports. No questions were asked. Mr. Saenz encouraged Commission members to participate in the Noise Exposure Maps workshops that were being held virtually. Mr. Fessler thanked everyone for attending the meeting.

This meeting adjourned at 4:48 p.m.

From:	Nicole Fowles (Aviation)
To:	Andrew Solano (City Council); Ashley Barth (City Council); Charles Mazuca (City Council); Derek Roberts (City Council); Erin Nichols (City Council); Frankie Trynoski (City Council); Hannah Santino (City Council); Jay Podjenski (City Council); Jed Maebius (City Council); Kristy Hernandez (City Council); Laura Garza (City Council); Lawson Picasso (City Council); Lexi Bachran (City Council); Lou Miller (City Council); Matteo Trevino (City Council); Matthew Baiza (City Council); Michelle Lugalia-Hollon (Mayor Office); Noah Barshop (City Council); Pat Wallace (City Council); Paul C. Jimenez (City Council); Rosana Galaviz (City Council); Ruben Lizalde (City Council); Samantha Hernandez (City Council); Samantha Wickwire (City Council); Teresa Myers (City Council); Tim Salas (City Council); Victor Landa (City Council)
Cc:	Steven Southers (Aviation); Joshua Heiss (Aviation)
Subject:	Noise Exposure Map Workshops in February 2021

Good morning,

The San Antonio Airport System will host its final round of workshops as part of the Noise Exposure Map (NEM) Updates for the San Antonio International Airport in February (please see the dates and times below).

If you would like additional information to share on social media, please contact Steve Southers or Josh Heiss (cc'd on this email).

In October, the Airport System hosted its first round of workshops to inform the public on the Part 150 process. The current NEM was presented and the public was able to provide comments for the consultant to use in the development of the Future Considerations Map. This map will be presented to the public during the February 2021 workshops and the public will have an opportunity to provide comment. More information is below.

Thank you,

Nicole

Nicole E. Fowles

Sr. Special Projects Manager, San Antonio Airport System

nicole.fowles@sanantonio.gov

210/207-1666

Our Mission: *Empowered, professional team providing optimal air service and a phenomenal customer experience.*

2021-2026 NEM Update

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport. This study, a "Part 150 NEM Update," will follow the process as outlined in Title 14 of the Code of Federal Regulations Part 150, Airport Noise Compatibility Planning.

At the end of the Part 150 process, two noise exposure maps will be developed: one depicting homes currently within the 65 DNL (Day-Night Average Sound Level) contour, and one depicting homes that will be within the 65 DNL contour five years in the future.

Public Information Workshop

The San Antonio International Airport conducted an initial series of Public Information Workshops in October 2020 to introduce the Part 150 NEM Update process and solicit your questions and comments on the 2021 Existing Conditions NEM.

This upcoming set of Public Information Workshops will continue the Part 150 NEM conversation and introduce the 2026 Future Conditions NEM, and provide another opportunity for the public to provide comments on the Part 150 NEM Update and the 2026 Future Conditions NEM.

After this series of workshops, the NEMs and public comments will be forwarded to the Federal Aviation Administration (FAA) for review. Following a 20-minute presentation, the workshops will provide the opportunity for the community to submit questions and receive answers, in real-time, from the project study team.

Virtual workshops will be conducted on:

Tuesday, February 16, 2021 (English Only)
6:00 pm - 8:00 pm

Wednesday, February 17, 2021 (Spanish Only)
10:00 am - 12:00 pm

Thursday, February 18, 2021 (English Only)
1:00 pm - 3:00 pm

Monday, February 22, 2021 (Spanish Only)
6:00 pm - 8:00pm

NOTE: Spanish translation services will not be available for the "English Only" workshops listed above.

Register for the Virtual Workshops

Due to the on-going health and safety concerns related to COVID-19, the workshops will be conducted virtually through an internet-based meeting platform, which will include a teleconference option. The virtual workshop will be recorded, and the videos will be posted to the project website to allow the community members to view them at a later time.

Click on the link below for English registration
SAT English Workshop(opens in new window)

Or dial in at 833 548 0276
Enter Webinar ID: 865 8583 9338

Clic en el enlace de abajo para Español registro
SAT Español Taller

O marcar a 877 853 5247
Entrar ID de seminario web: 820 9390 1670

Materials and presentations from the October Workshops can be accessed at
https://flysanantonio.com/business/about-saas/environmental-stewardship/

CITY OF SAN ANTONIO
AVIATION DEPARTMENT

Public Information Workshops for Part 150 Noise Exposure Map Update San Antonio International Airport

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport vicinity, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport. This study, a "Part 150 NEM Update," will follow the process as outlined in Title 14 of the Code of Federal Regulations Part 150, Airport Noise Compatibility Planning. At the end of the Part 150 process, there will be two noise exposure maps: one depicting homes currently within the 65 DNL (Decibels Day Night Sound Level) contour, and one depicting homes that will be within the 65 DNL contour line five years in the future. The 65 DNL is considered to be the area of severe aircraft noise exposure.

The San Antonio International Airport will be hosting a series of preliminary workshops that are designed to introduce you to the Part 150 process and solicit your questions and comments on the 2021 Existing Conditions noise contours map. After receiving your workshop comments, the City's consultant will begin to draft the 2026 Future Conditions noise maps. The City will provide another opportunity for the public to provide comments on the Part 150 NEM Update and the future conditions noise map at a public meeting to be held in early 2021. After the public meeting, the Part 150 NEM Update, the maps and public comments will be forwarded to the FAA Federal Aviation Administration (FAA) for review. Once approved by the FAA, the NEMs will take effect from 2021 to 2026, barring any significant increases in aircraft noise.

The City invites you to attend the preliminary series of virtual public workshops that will provide information on the Part 150 NEM Update process and solicit feedback from the community. Due to the ongoing health and safety concerns related to COVID-19, the workshops will be conducted virtually through an internet-based meeting platform, which will include a teleconference option. The meetings will have a Spanish translation option. The virtual workshops will include an introduction to aircraft noise, information about modeling aircraft noise exposure, runway use and aircraft operational information, the 2021 "Baseline" NEM noise contours, and the project schedule.

Following a 20-minute presentation, the workshops will provide the opportunity for the community to submit questions and receive answers, in real time, from the project study team. The virtual workshops will be conducted at the following times:

DATE: **Monday, October 26, 2020**
TIME: **6:00PM - 8:00PM**

DATE: **Tuesday, October 27, 2020**
TIME: **1:00 PM - 3:00PM**

DATE: **Thursday, October 29, 2020**
TIME: **10:00 AM - 12:00PM**

DATE: **Thursday, October 29, 2020**
TIME: **6:00 PM - 8:00 PM**

To register for the virtual workshops, and to obtain any updated meeting information, please visit https://flysanantonio.com/business/about-saas/environmental-stewardship/. The virtual workshop will be recorded, and the videos will be posted to the project website to allow the community members to view at a later time.

Community members can also call in to attend the workshops at: 877-853-5247
Conference ID Number: 865 8583 9338

Community members with limited ability to attend the virtual workshops can request printed presentation materials by calling **(210) 207-3847** or sending an email to **AirportNoiseHotline@sanantonio.gov**.
The San Antonio International Airport's NEM Update presentation and supporting documentation will also available for review from October 19 through November 13, 2020, at the following locations:

1. Central Library, 600 Soledad, San Antonio, TX 78205 - (210) 207-2500
2. Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233 - (210) 207-9190
3. Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209 - (210) 207-9040
4. Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232 - (210) 207-9030
5. Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201 - (210 207-9220
6. SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216 - (210) 207-3847

Please call in advance to support the individual library's contact-free pickup requirements.

In early 2021, the City will conduct additional public meetings to present the Part 150 Noise Exposure Map Update containing the 2026 Future Conditions NEM. All interested parties are encouraged to submit formal comments in writing. To maximize the opportunity for feedback, the formal comment period will begin on October 26, 2020 and end on November 13, 2020.

There are 2 (two) options to submit comments:
(1) Email AirportNoiseHotline@sanantonio.gov by 5 PM November 13, 2020
(2) Mail (must be postmarked by November 13, 2020) at:

San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

The Part 150 NEM Update process is independent from the Airport's on-going Strategic Development Program (Master Plan), so the NEM workshops and subsequent public meetings will only discuss the Airport's existing noise conditions in 2021 and future noise conditions in 2026.
The City encourages all interested parties to monitor the project website for the latest study-related information, including Frequently Asked Questions (FAQs), and announcements at https://flysanantonio.com/business/about-saas/environmental-stewardship/.

Anyone with questions, should contact Mr. Joshua Heiss at **(210) 207-3847**

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

- The City of San Antonio is currently updating the Airport's Noise Exposure Maps
- This is the first of two sets of workshops to provide the public the opportunity to submit comments for the official project record
- A second set of workshops will be conducted in early 2021 to present the 2026 Future Conditions Noise Contours, which will determine eligibility for future Airport noise mitigation efforts

Four virtual workshops will be hosted on Zoom!

- Monday October 26th 6pm – 8pm
- Tuesday October 27th 1pm – 3pm
- Thursday October 29th 10am – 12pm
- Thursday October 29th 6pm – 8pm

Please visit the link below for more information on how to Register for the Virtual Workshop!

https://flysanantonio.com/business/about-saas/environmental-stewardship/

Call 210-207-3847 if you have questions

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Appendix G
Public Outreach

APPENDIX G

Public Outreach

This Appendix includes details of public outreach conducted for the San Antonio International Airport Part 150 Study Noise Exposure Map (NEM) Update Report. Documentation in this Appendix includes copies of Public Information Workshop materials and a sample of questions submitted during the workshops. The workshop materials include a report that contains sign-in sheets, notices, postcards, and newsletters pertaining to each workshop listed below.

- Appendix G-1 Initial Public Information Workshops - October 26 - 29, 2020
  - Workshop Report
  - Presentation Materials
- Appendix G-2 Draft NEM Update Public Information Workshops - February 22 - 25, 2021
  - Workshop Report
  - Presentation Materials
- Appendix G-3 Representative Public Information Workshop Questions

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G-1 Initial Public Information Workshops October 26-29, 2020

Initial Public Information Workshops

Workshop Report

NEM Update Round 1 Workshop Engagement Report

JANUARY 2021

POZNECKI CAMARILLO

SAN ANTONIO INTERNATIONAL AIRPORT

Table of Contents

BACKGROUND

The San Antonio Airport System (SAAS) has undertaken a Title 14 Code of Federal Regulations (CFR) Part 150 Noise and Land Use Compatibility Study (the "Part 150 Study") Noise Exposure Map (NEM) Update to evaluate the compatibility of San Antonio International Airport ("SAT" or "the Airport") with the surrounding communities in consideration of the current operational environment. The last set of NEMs produced for the Airport through a Part 150 Noise Study was completed in 2015. Preparing a Part 150 Study is a voluntary action on the part of SAAS. However, once a Part 150 Study is undertaken, an airport sponsor is obligated to prepare an update whenever there is a significant change to the noise environment. The primary objective of this study is to prepare an updated NEM that identifies SAT's existing and future noise conditions around the Airport in addition to the existing and future land uses that are and are not compatible with aircraft noise based on guidelines outlined in 14 CFR Part 150.

FEDERAL OUTREACH REQUIREMENTS

Title 14 CFR Part 150 §150.21(b) and §A150.105(a) require that NEMs and documentation submitted be developed and prepared "in consultation with states, public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the DNL 65 dB contour depicted on the map, FAA regional officials, and other Federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport."

Consultation required by 14 CFR Part 150 includes the following entities:

- Aviation users (e.g., airlines, fixed base operators, based aircraft operators).
- Jurisdictional authorities with land located within the Day-Night Average Sound Level (DNL) 65 decibel (dB) or greater contours (Bexar County is the sole land use agency for land located within the DNL 65 dB and higher contours).
- Interested parties (i.e., the public).

PUBLIC OUTREACH GOALS:

- Provide early and frequent opportunities for stakeholders, the public, and agencies concerned with Airport noise with sufficient opportunity to provide input to inform and help shape the NEM update process.
- Conduct outreach to potentially affected property owners in the study area, with care to reach low-income, minority, limited English proficiency (LEP), and people with special needs.
- Use visually informative presentations to help communicate technical concepts and retain public interest.
- Collect outreach metrics to help track, and continually correct for, the goal of representative participation.

PUBLIC WORKSHOPS

During the Part 150 Study, SAAS held several public workshops and accepted comments from the public. Due to the COVID-19 pandemic, the public workshops were completed virtually to provide opportunities for engagement, while also adhering to public health guidelines recommended by local health officials and the U.S. Centers for Disease Control and Prevention. This summary document outlines the public outreach conducted in support of the first round of public workshops that were conducted by SAAS in October 2020.

The first of two rounds of public workshops for the Part 150 Study was hosted virtually on a Zoom video and teleconferencing platform in October 2020. All four virtual workshops were identical in content and included live Spanish translation. Table 1 below lists the date and time of each virtual workshop.

TABLE 1 PUBLIC WORKSHOPS Dates and Times

Date	Location	Time
Monday, Oct. 26, 2020	Virtual	6 p.m. – 8 p.m.
Tuesday, Oct. 27, 2020	Virtual	1 p.m. – 3 p.m.
Thursday, Oct. 29, 2020	Virtual	10 a.m. – 12 p.m.
Thursday, Oct. 29, 2020	Virtual	6 p.m. – 8 p.m.

SOURCE: Environmental Science Associates, 2020.

PUBLIC WORKSHOP PARTICIPATION

In total, attendance exceeded 360 members of the general public and public officials (see attendee reports included in **Appendix A**). The purpose of the first round of public workshops was to inform attendees about the initiation of the Part 150 Study, discuss the Part 150 process and requirements, and solicit feedback from the public. The information presented provided an overview of the 14 CFR Part 150 process, SAAS's noise program, noise modeling, and instructions to provide comments and stay involved in the Part 150 Study process. The workshops also provided preliminary results on the Draft 2021 Existing Conditions DNL 65, 70, and 75 contours for public review and comment. Workshop informational materials included a slide presentation (with a pre-recorded narration in both English and Spanish).

361
Workshop Participants

WORKSHOP OUTREACH

To secure the best possible participation and engagement from affected stakeholders, SAAS implemented a multi-faceted outreach effort that included both traditional and non-traditional outreach methods. Following is a summary of the outreach conducted.

Legal Notices

Notice of these workshops was advertised in the primary daily newspaper for the area, *San Antonio Express-News*, and a Spanish-language newspaper, *La Prensa*. The *San Antonio Express-News* has been the voice of South Texas since 1865. Their audience consists of more than 900,000+ readers with circulation reaching 645,000 people Monday-Sunday. *La Prensa* has provided community news for 40 years to the San Antonio community and circulates 15,000 printed copies delivered weekly to subscribers. Copies of the workshop notices can be found in **Appendix B.**

- September 26, 2020 and September 27, 2020 in San Antonio Express-News (in English).
- October 10, 2020 and October 11, 2020 in San Antonio Express-News (in English).
- September 27, 2020 in La Prensa Texas (in Spanish).
- October 11, 2020 in La Prensa Texas (in Spanish).

Postcards

To ensure geographic coverage of the area, 15,376 postcards were mailed to addresses within one mile of the Draft 2021 Existing Conditions DNL 65 dB contour. Copies of the postcard can be found in **Appendix C**.

15,376

Postcards sent to addresses within one mile of the Draft 2021 Existing Conditions DNL 65 dB contour

Information Repositories

Given that the public workshops were conducted online via Zoom, SAAS worked with local libraries to establish information repositories where people could view and print electronic copies of the public workshop materials. These materials were available at the following locations between October 19, 2020 and November 13, 2020 (the end of the public comment period):

- Central Library, 600 Soledad, San Antonio, TX 78205
- Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233
- Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209
- Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232
- Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201
- SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216
- Central Library, 600 Soledad, San Antonio, TX 78205
- Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233
- Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209
- Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232
- Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201
- SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216

Social Media Outreach

SAAS created a social media toolkit to help enhance outreach and inform the public about the upcoming workshops. Below is a table summary of the posts that were published. Copies of the posts can be found in **Appendix D**.

TABLE 2 SOCIAL MEDIA OUTREACH

Date	Platform	Handle	Followers	Engagements	Shares/Retweets
9/26/2020	Facebook	San Antonio International Airport @SATairport	40,418	12	5
9/29/2020	Facebook	Councilman John Courage @JohnCourageD9	1,021	1	1
9/29/2020	Twitter	Councilman John Courage @JohnCourageD9	1,283	0	4
10/26/2020	Twitter	San Antonio International Airport (RT) @SATairport	9,445	1	3
9/28/2020	Nextdoor	Councilman Clayton Perry	N/A	3	N/A

Email Blast

An email blast was sent to 71 individuals on the NEM email list, which includes neighborhoods and homeowner association representatives in the vicinity of the Airport. The email blast had a 36.2% open rate. A copy of the email can be seen in **Appendix E**.

36.2%
Open Rate on Eblast Sent to NEM Email List

SAAS Noise Office Website

The SAAS's environmental stewardship webpage is being used as an access portal for materials related to the Part 150 Study. The website includes information and documents available to stakeholders, agencies, and the general public, including:

- Background materials and schedule updates for the Part 150 Study.
- Printed materials used for the public workshops (in English and Spanish).
- Links to access recordings of each public workshop (in English and Spanish).
- Draft NEM Update Report.
- Frequently Asked Questions.
- SAAS staff contact information.
- Instructions and email link to submit formal comments.

From the initial outreach of the public workshop until the end of the workshop comment period (Sep. 1, 2020 to Nov. 15, 2020) the SAAS website had 2,338 unique pageviews and a total of 3,094 pageviews.

ADDITIONAL ENGAGEMENT

As a result of the additional outreach conducted in support of the public workshops, SAAS also received additional engagement via increased calls to the Environmental Stewardship hotline and requests for mailed copies of the workshop presentation materials. Following is a summary of each.

59
Paper copies of workshop presentation mailed

Mailed Presentations

SAAS received 59 requests for hard copies of the workshop presentation from the public. These individuals were mailed packets with the presentation materials upon request.

SAAS Community Hotline

A total of 147 phone calls from the public were fielded by SAAS staff throughout the engagement process. Below is a table summary of the different types of concerns/themes of the calls. A list of the names of callers can be found in **Appendix F**.

TABLE 3 THEMES FROM PHONE CALLS

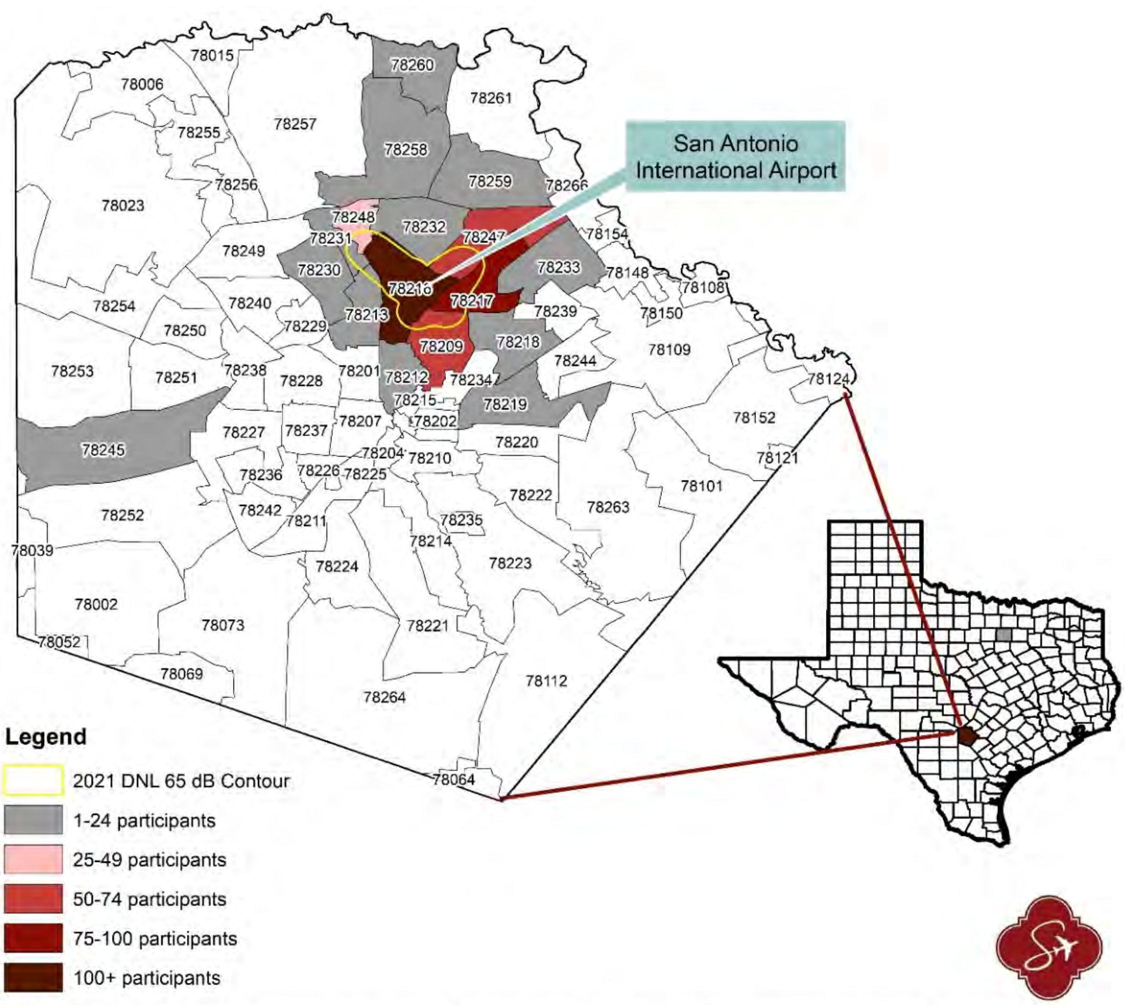
Themes from Phone Calls	Number*
Inquiring about flight paths being changed	5
Inquiring if their property qualifies for NEM	11
Inquiring about noise solutions for their home and surrounding homes	6
Inquiring about available resources such as window upgrades	11
Inquiring about the status of the noise abatement program and what options are available	4

Themes from Phone Calls	Number*
Asking questions about the NEM process	9
Inquiring about the noise abatement program	26
Wondering if the website had information on flight plans and noise solutions.	3
Sending in noise levels	1
Inquiries about the Zoom workshop	17
Requesting printed presentation materials/minutes for the workshop	36
Asking to expand the current noise abatement map	4
Requesting noise level testing at their property	3
Inquiring about the residential acoustical treatment program	4
Not pleased with the workshop	3
Complaints about noise	38

*The total number of calls were 147; however, each call could include more than one theme thus the difference in number of calls vs theme of calls.

GEOGRAPHIC REACH

The SAAS public outreach concentration area included a one-mile buffer around the 2021 DNL 65 dB contour. A total of eight zip codes exist within this target area. One hundred percent public participation was documented within these zip codes, with participation from nine additional zip codes.



Note: there were also out-of-state participants, including participants in California (n=5), Florida (n=1), and North Carolina (n=1).

CONCLUSION

SAAS implemented a proactive agency consultation and public outreach program that exceeded the requirements of 14 CFR Part 150 and provided opportunities for meaningful public engagement and participation in the development of the Draft NEMs. SAAS successfully garnered combined outreach via U.S. mail, social media, hotline/website, email blasts, and newspaper ads and produced significant and geographically representative participation.

Several opportunities for outreach enhancement were identified that could encourage increased meaningful public participation and feedback. These include:

- Increase the number of social media posts and add video clips with movement to capture people's attention.
- Request for airport social media posts to be shared by the main City of San Antonio social media sites and local social media influencers.
- Purchase a Spanish language Facebook ad targeted at Spanish Facebook users near the airport.
- Send an email invitation out at least twice - once two weeks prior to the workshops and once two days prior to the workshops.

Appendix A
Attendee Reports

Workshop Attendees

First Name	Last Name	Email
Graham	Livingstone	[redacted]
Regina	Riddle	[redacted]
Juan	Salinas	[redacted]
Noelle	Cheek	[redacted]
Aracelia	Montalvo	[redacted]
Christi	Warren	[redacted]
Amanda	Montemayor	[redacted]
Tonya	Hope	[redacted]
Carolyn	berger	[redacted]
Chris	Anderson	[redacted]
moto	z4	[redacted]
Joyce	Chramosta	[redacted]
Marlon & Benigna	Ruiz	[redacted]
Ilene	Devlin	[redacted]
Susan	Corona	[redacted]
Della	Savage	[redacted]
Susan	DeLeon	[redacted]
David	Kay	[redacted]
Mario	Delgado	[redacted]
Ryan	C.	[redacted]
Kevin	Ott	[redacted]
Della	Savage	[redacted]
Mary	McDonald	[redacted]
Kathleen	Zurawel	[redacted]
Josh	Baugh	[redacted]
Brenda	Allen	[redacted]
Alejandra	Sepulveda	[redacted]
Gina	Mitchell	[redacted]
bradley	Cudnik	[redacted]
Samira		[redacted]
James	Cosgrove	[redacted]
Jacqueline	Pugh	[redacted]
Susan	St Cyr	[redacted]
Jose Luis	Garica	[redacted]
Ellaine	Ferioli	[redacted]
Parviz	Chavol	[redacted]
John	Luther	[redacted]
Feliciano	Lopez	[redacted]
Lewis	Sanders	[redacted]
Mimi	Doan	[redacted]
Ryder	Billo	[redacted]

First Name	Last Name	Email
Sergio	Aranda	[redacted]
Rogelio	Mata	[redacted]
Debbie	Drew	[redacted]
Michael	Armour	[redacted]
John	Courage	[redacted]
ruthann	ventura	[redacted]
Rosy	Lopez	[redacted]
Clark	Stevens	[redacted]
William	Garrison	[redacted]
kent	simnitt	[redacted]
William	Stojanik	[redacted]
john	van woensel	[redacted]
Philip	Gonzalez	[redacted]
Brendan	Baic	[redacted]
Randy	Mcconnell	[redacted]
Sandra	Yzaguirre	[redacted]
Douglas	Sehres	[redacted]
Marisa	Rodriguez	[redacted]
Brenda	Gomez	[redacted]
Mike	Smith	[redacted]
David	Sellers	[redacted]
Alan	Nguyen	[redacted]
solis		[redacted]
Ruth	Pon	[redacted]
Melissa	Guerrero	[redacted]
Barry	England	[redacted]
Michael	McArdle	[redacted]
Claudine	Martinez	[redacted]
Robert	Hartman	[redacted]
Dusty	Ramsey	[redacted]
Elizabeth	Gongora	[redacted]
Marilyn	Werling	[redacted]
Gary	Walston	[redacted]
Rogelio	Mata	[redacted]
Timothy	Horgan	[redacted]
Jesse	Cortinas	[redacted]
Joleen	Lammons	[redacted]
Tom	Bartlett	[redacted]
Valerie	Humphreys	[redacted]
Steven K	Southers	[redacted]
Helen	Jacobs	[redacted]

First Name	Last Name	Email
Dora	Zamora	[redacted]
Cecilia	Bruce	
Suyapa	Dodge	
Spencer	Mains	
Gretchen	Roufs	
Laura	Douglass	
Carrie	Johnson	
Ranae	Diaz	
Monica	Lezzana	
Walter	Hayne	
Dahlia	Garcia	
Linda	Vivenza	
Tracy	Beach	
Syed	Mehdi	
Christina	Torgerson	
Robert	Finch	
Rebekah	Gergen	
Vanessa	Rolon	
Vicki	Leach	
Erica	Saliceti	
Denise	Cortes	
Clayton	Perry	
Harold J	Foster Sr	
Lee		
Olivia	Davis	
Lara	Hernandez	
Jenn		
Laura	Gonzalez	
Joyce	Chramosta	
Toni	Sanders	
Tom	Willems	
John	Pickard	
David	Ross	
Mirtala	Boman	
Abby	Kurth	
Steven	Southers	
Robert	Allen	
bradley		
Amanda	McWilliams	
Gracie	Farias	
Jorge	Rodarte	

First Name	Last Name	Email
Moto	G(7)Supra	[redacted]
Charles	Bustamante	[redacted]
Colleen	Fitzgerald	[redacted]
George	Muellich	[redacted]
Kelly	Nettles	[redacted]
Brenda	Garza	[redacted]
Rory	Miller	[redacted]
Scott		[redacted]
Courtland	Olivet-Smith	[redacted]
Angela	Manning-Thompson	[redacted]
Spencer	iPhone.	[redacted]
Alan	Wagner-Krankel	[redacted]
Lizette	Guajardo PT	[redacted]
David	Williams	[redacted]
Karol	Ross	[redacted]
Marta	Fischer	[redacted]
Ryan	Roberts	[redacted]
Lizzy	Perez	[redacted]
Paul	Jimenez	[redacted]
Chrissy		[redacted]
Nanette	Sanchez	[redacted]
Debra	Hansen	[redacted]
Ruthann	Ventura	[redacted]
Beth	Walthall	[redacted]
Joe	Lopez	[redacted]
Dolores	Hernandez	[redacted]
S	Mains	[redacted]
Stanislas	Renard	[redacted]
Mike	Lee	[redacted]
Claudia	Lillemon	[redacted]
Jay	Strawn	[redacted]
Lacey	Tauber	[redacted]
Jessica	Leslie	[redacted]
Mary	Lomax	[redacted]
Paul	Foster	[redacted]
Mark	O’Donnell	[redacted]
Mary	Matthews	[redacted]
Jerry		[redacted]
Janice	Henry	[redacted]
Cory	Miller	[redacted]
Norma Jean	DeSpain	[redacted]

First Name	Last Name	Email
Scott	Smith	[redacted]
Alex	Eremian	[redacted]
Haven	Boisjoly	[redacted]
Darrell	Sargent	[redacted]
J R	Heward	[redacted]
Andy	W	[redacted]
Eddie	Kaufman	[redacted]
Alan	Shultz	[redacted]
Eileen	Pace	[redacted]
Michelle	Brown	[redacted]
Tom	Wirth	[redacted]
Natalina		[redacted]
Travis	Tingle	[redacted]
Dodie	Ramsey	[redacted]
Kathleen	Tauber	[redacted]
Dennis	Mergele	[redacted]
Christina	Torgerson	[redacted]
Galaxy	Tab A	[redacted]
Rudy	Rodriguez	[redacted]
Doris	Zamzow	[redacted]
Terry	Ramirez	[redacted]
Sarah	Conner	[redacted]
Belinda	Gomez	[redacted]
Alberto	Rodriguez	[redacted]
Lane	Dobscha	[redacted]
David	Coffman	[redacted]
Mark	Wanke	[redacted]
Janet's	PC	[redacted]
Krystal-Rose	Perez	[redacted]
Todd	Bushman	[redacted]
Alicia	Viveros	[redacted]
Elda	Galvez	[redacted]
Mike	Gallagher	[redacted]
Jeffrey	Hetrick	[redacted]
Denise	Wittekind	[redacted]
Bob	Dugas	[redacted]
Anne	Gomez	[redacted]
Barbara	Jacoby	[redacted]
Gerald	Fuller	[redacted]
Denise	Bryan	[redacted]
Ed	Mergele	[redacted]

First Name	Last Name	Email
George	Campos	[redacted]
Bradley	Hunt	
Beto	Camarillo	
Winchester	Kelso	
Luis	Villarreal	
Renee	Alton	
Susan	Brewer	
Jim	Olson	
Liz	Wagner	
Nancy	Breit	
Daniel	Aguilar	
David	DeLeon	
Richard	George	
Arthur	Del Negro	
Lisa	Breshears	
Rosario	Hamilton	
John	Davis	
doug	mccoy	
Herbert	Klein	
Terri	Alvarado	
Nicolas	Dib	
Steve	Baker	
Anna	Canter	
Brent	Strong	
Ann	Alwood	
Ryan	McLeaird	
Pat		
Joe	Kboudi	
Willie	Villarreal	
Maria		
Rebecca	Heady	
Laura	Hodge	
Linda	Edwards	
Dane	Embrey	
Richard	Wood	
Anna	Alwood	
Ronda	French	
David	Beyer	
Shahin	Asgari	
Annette	Olmsted	
Janice	Tapp	

First Name	Last Name	Email
Spencer	Mains	[redacted]
Jose	Gonzalez	
Trent	Garmoe	
Alvin	Loewenberg	
Sylvia	Griffith	
P Joseph	Brake	
Gerald	Zwernemann	
Charlie	Perrin	
Alex	Sanchez	
Ryan	Rocha	
Richard	Rose	
Chuck	Saxer	
Deborah	Caise	
Lizette	Guajardo	
Debi		
Barry		
Jacob	Floyd	
Eddie.Robinson		
Jerry	Kusenberger	
Carol Elizabeth	Thompson	
Thomas	Delavan	
Daniel	Flores	
Max	M	
Nicolas	Dib	
Lynn	Martinez	
Sarah	Scurlock	
Henry	Reindl	
Leah	Yedlicka	
John	MacFarlane	
James	Faz	
Paul	Palmer	
Ashley	Harris	
Jennive	Salinas	
Linda	Barfield	
Christina	Leal	
Deborah	Proctor	
Jennifer	Morgan	
Jacob	Martinez	
Laura	Noe	
Gregory	Asvestas	
Alison	Hermann	

First Name	Last Name	Email
Kelly	Cole	[redacted]
Marilynne	Herbster	
Louis	Gomez	
Stephen	charles	
Leticia	Hart	
John	Wallace	
Holly	Iragorri	
James	Clark	
Nathan	Turnage	
Monica	Singh	
Martha	Torres	
Enrique	Martinez	
Carolina	Zamora	
Efrain	Gonzales	
Kristen	Lynch	
Sylvia or Chris	Apoilnar	
Gabriel	Garcia	
Gergen,	Rebekah	
Dee Dee	Davenport	
Nancy	Griffin	
Maggie	White	
Cherie	Sharp	
Irene	Lazo	
Kim	Guerrero	
Jordan	Points	
Nelda	Contreras	
Rebecca	Paiz	
Damon	Franklin	
Hollis	Grizzard Jr	
Patti	Boren	
Ashley	Markgraf	
Ramiro	Davila	
Richard	Backus	
Omar	Cavazos	
Melvin	Cohen	
Lanita	Wiltshire	
John	Kemp	
Dennis		
Winston	Cannicle	
Joe	Kboudi	
Elizabeth	Tiemann	

First Name	Last Name	Email
Mark	Kuttrus	[redacted]
Ann	Ross	
Keith	McCulloch	
Dirk	Dekoch	
Marco A	Candia	
George	Moncravie	
George	Ruiz	
Jill	Rips	
Mallory	Marcone	
Mark	Molina	
John	Miller	
Juvenal	Rodriguez	
Terese	Swartz	
Storm	Taliaferrow	
MaryAnne	Owens	
Vicente & Leticia	Serrano	
Sylvia	Villarreal	
Charles	Ondrej	
Mary	Subealdea	
Jeffrey	Friday	
Maureen	Ortiz	
Gabriella	Scott	
Jeff	Talley	
Joseph	Molina	
Phil	Lacasse	
Michael	Wood	
Joe	Lopez	
Veronica	Stephens	
Nina	Hunter	

Appendix B
Notices

HEARST

MEDIA SOLUTIONS

San Antonio Express News | ExpressNews.com | mySA.com

SAN ANTONIO EXPRESS - NEWS
AFFIDAVIT OF PUBLICATION

STATE OF TEXAS:
COUNTY OF BEXAR

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared: Geena Garza, who after being duly sworn, says that she is the Bookkeeper of HEARST NEWSPAPERS, LLC - dba: SAN ANTONIO EXPRESS - NEWS, a newspaper published in Bexar County, Texas and that the publication, of which the annexed is a true copy, was published to wit:

Customer ID	Customer	Order ID	Publication	Pub Date
20005571	CITY OF SA - AVIATION	34054871	SAE Express-News	09/26/20
			SAE Express-News	09/27/20

Geena Garza

Geena Garza
Bookkeeper

Sworn and subscribed to before me, this 28 **day of** Sept **A.D.** 2020

Notary public in and for the State of Texas

Monique Egan

MONIQUE EGAN
My Notary ID # 3183735
Expires June 3, 2024

Part 150 Noise Exposure Map Update
San Antonio International Airport

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport vicinity, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport. This study, a "Part 150 NEM Update," will follow the process as outlined in Title 14 of the Code of Federal Regulations Part 150, Airport Noise Compatibility Planning. At the end of the Part 150 process, there will be two noise exposure maps: one depicting homes currently within the 65 DNL (Decibels Day Night Sound Level) contour, and one depicting homes that will be within the 65 DNL contour line five years in the future. The 65 DNL is considered to be the area of severe aircraft noise exposure.

The San Antonio International Airport will be hosting a series of preliminary workshops that are designed to introduce you to the Part 150 process and solicit your questions and comments on the 2021 Existing Conditions noise contours map. After receiving your workshop comments, the City's consultant will begin to draft the 2026 Future Conditions noise maps. The City will provide another opportunity for the public to provide comments on the Part 150 NEM Update and the future conditions noise map at a public meeting to be held in early 2021. After the public meeting, the Part 150 NEM Update, the maps and public comments will be forwarded to the Federal Aviation Administration (FAA) for review. Once approved by the FAA, the NEMs will take effect from 2021 to 2026, barring any significant increases in aircraft noise.

The City invites you to attend the preliminary series of virtual public workshops that will provide information on the Part 150 NEM Update process and solicit feedback from the community. Due to the ongoing health and safety concerns related to COVID-19, the workshops will be conducted virtually through an internet-based meeting platform, which will include a teleconference option. The meetings will have a Spanish translation option. The virtual workshops will include an introduction to aircraft noise, information about modeling aircraft noise exposure, runway use and aircraft operational information, the 2021 "Baseline" NEM noise contours, and the project schedule.

Following a 20-minute presentation, the workshops will provide the opportunity for the community to submit questions and receive answers, in real time, from the project study team. The virtual workshops will be conducted at the following times:

DATE: Monday, October 26, 2020
TIME: 6:00 PM - 8:00 PM

DATE: Tuesday, October 27, 2020
TIME: 1:00 PM - 3:00 PM

DATE: Thursday, October 29, 2020
TIME: 10:00 AM - 12:00 PM

DATE: Thursday, October 29, 2020
TIME: 6:00 PM - 8:00 PM

To register for the virtual workshops, and to obtain any updated meeting information, please visit https://flysanantonio.com/business/about-saas/environmental-stewardship/. The virtual workshop will be recorded, and the videos will be posted to the project website to allow the community members to view at a later time.

Community members can also call in to attend the workshops at: 877-853-5247 (toll free) or 213-388-8417
Conference ID Number: 865 8583 9338

Community members with limited ability to attend the virtual workshops can request printed presentation materials by calling (210) 207-3847 or sending an email to AirportNoiseHotline@sanantonio.gov.

The San Antonio International Airport's NEM Update presentation and supporting documentation will also available for review from October 19 through November 13, 2020, at the following locations:

San Antonio Express - News
Attn: Advertising AR Department
PO BOX 2171
San Antonio, TX 78297

CITY OF SA - AVIATION
9800 AIRPORT BLVD MEZZANINE A
ATTN: JOSHUA HEISS
SAN ANTONIO, TX, 78216

1. Central Library, 600 Soledad, San Antonio, TX 78205 - (210) 207-2500
2. Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233 - (210) 207-9190
3. Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209 - (210) 207-9040
4. Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232 - (210) 207-9030
5. Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201 - (210 207-9220
6. SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216 - (210) 207-3847

Please call in advance to support the individual library's contact-free pickup requirements.

In early 2021, the City will conduct additional public meetings to present the Part 150 Noise Exposure Map Update containing the 2026 Future Conditions NEM. All interested parties are encouraged to submit formal comments in writing.
To maximize the opportunity for feedback, the formal comment period will begin on October 26, 2020 and end on November 13, 2020.

There are 2 (two) options to submit comments:
(1) Email AirportNoiseHotline@sanantonio.gov by 5 PM November 13, 2020
(2) Mail (must be postmarked by November 13, 2020) at:

San Antonio International Airport
457 Sandau Road
Attn Environmental Stewardship
San Antonio, TX 78216

The Part 150 NEM Update process is independent from the Airport's on-going Strategic Development Plan (Master Plan), so the NEM workshops and subsequent public meetings will only discuss the Airport's existing noise conditions in 2021 and future noise conditions in 2026.

The City encourages all interested parties to monitor the project website for the latest study-related information, including Frequently Asked Questions (FAQs), and announcements at https://flysanantonio.com/business/about-saas/environmental-stewardship/.

Anyone with questions should contact Mr. Joshua Heiss at (210) 207-3847

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MEDIA SOLUTIONS

San Antonio Express News | ExpressNews.com | mySA.com

SAN ANTONIO EXPRESS - NEWS
AFFIDAVIT OF PUBLICATION

STATE OF TEXAS:
COUNTY OF BEXAR

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared: Geena Garza, who after being duly sworn, says that she is the Bookkeeper of HEARST NEWSPAPERS, LLC - dba: SAN ANTONIO EXPRESS - NEWS, a newspaper published in Bexar County, Texas and that the publication, of which the annexed is a true copy, was published to wit:

Customer ID	Customer	Order ID	Publication	Pub Date
20005571	CITY OF SA - AVIATION	34056695	SAE Express-News	10/10/20
			SAE Express-News	10/11/20

Geena Garza

Geena Garza
Bookkeeper

Sworn and subscribed to before me, this 12 **day of** Oct. **A.D.** 2020

Notary public in and for the State of Texas

Monique Egan

NOTARY PUBLIC STATE OF TEXAS
MONIQUE EGAN
My Notary ID # 3183735
Expires June 3, 2024

Public Information Workshops for Part 150 Noise Exposure Map Update San Antonio International Airport

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport vicinity, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport. This study, a "Part 150 NEM Update," will follow the process as outlined in Title 14 of the Code of Federal Regulations Part 150, Airport Noise Compatibility Planning. At the end of the Part 150 process, there will be two noise exposure maps: one depicting homes currently within the 65 DNL (Decibels Day Night Sound Level) contour, and one depicting homes that will be within the 65 DNL contour line five years in the future. The 65 DNL is considered to be the area of severe aircraft noise exposure.

The San Antonio International Airport will be hosting a series of preliminary workshops that are designed to introduce you to the Part 150 process and solicit your questions and comments on the 2021 Existing Conditions noise contours map. After receiving your workshop comments, the City's consultant will begin to draft the 2026 Future Conditions noise maps. The City will provide another opportunity for the public to provide comments on the Part 150 NEM Update and the future conditions noise map at a public meeting to be held in early 2021. After the public meeting, the Part 150 NEM Update, the maps and public comments will be forwarded to the Federal Aviation Administration (FAA) for review. Once approved by the FAA, the NEMs will take effect from 2021 to 2026, barring any significant increases in aircraft noise.

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To register for the virtual workshops and to obtain any updated meeting information, please visit https://flysanantonio.com/business/about-saas/environmental-stewardship/. The virtual workshop will be recorded, and the videos will be posted to the project website to allow the community members to view at a later time.

Community members can also call in to attend the workshops at: 877-853-5247 (toll free) or 213-338-8477
Conference ID Number: 865 8583 9338

Community members with limited ability to attend the virtual workshops can request printed presentation materials by calling (210) 207-3847 or sending an email to AirportNoiseHotline@sanantonio.gov.

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Anyone with questions, should contact Mr. Joshua Heiss at (210) 207-3847

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Talleres de información pública para la Parte 150 Actualización del mapa de exposición al ruido Aeropuerto Internacional de San Antonio

La Ciudad de San Antonio está llevando a cabo una Actualización del Mapa de Exposición al Ruido (NEM por sus siglas en inglés) para las cercanías del Aeropuerto Internacional de San Antonio, lo que dará como resultado NEM actualizados que reflejarán las condiciones de exposición al ruido existentes y futuras de cinco años cerca del Aeropuerto. Este estudio, una "Actualización NEM Parte 150", seguirá el proceso como se describe en el Título 14 del Código de Regulaciones Federales Parte 150, Planificación de Compatibilidad de Ruido en el Aeropuerto. Al final del proceso de la Parte 150, habrá dos mapas de exposición al ruido: uno que representa las casas que actualmente se encuentran dentro del contorno de 65 DNL (Nivel de Decibelios de Sonido Día Noche), y otro que representa las casas que estarán dentro de la línea de contorno 65 DNL cinco años en el futuro. El 65 DNL se considera el área de fuerte exposición del ruido de la aeronave.

El Aeropuerto Internacional de San Antonio organizará una serie de talleres preliminares diseñados para presentarle el proceso de la Parte 150 y solicitar sus preguntas y comentarios sobre el mapa de contornos de ruido de las Condiciones Existentes para 2021. Después de recibir los comentarios de su taller, el consultor de la Ciudad comenzará a redactar los mapas de ruido de las Condiciones Futuras 2026. La Ciudad brindará otra oportunidad para que el público brinde comentarios sobre la Actualización NEM de la Parte 150 y el mapa de ruido de las condiciones futuras en una reunión pública que se realizará a principios de 2021. Después de la reunión pública, la Actualización NEM de la Parte 150, los mapas y el público los comentarios serán enviados a la Administración Federal de Aviación (FAA) para su revisión. Una vez aprobados por la FAA, los NEM entrarán en vigencia de 2021 a 2026, salvo cualquier aumento significativo en el ruido de las aeronaves.

La Ciudad lo invita a asistir a la serie preliminar de talleres públicos virtuales que proporcionarán información sobre el proceso de Actualización NEM de la Parte 150 y solicitarán comentarios de la comunidad. Debido a las preocupaciones actuales de salud y seguridad relacionadas con COVID-19, los talleres se llevarán a cabo virtualmente a través de una plataforma de reunión basada en Internet, que incluirá una opción de teleconferencia. Las reuniones tendrán una opción de traducción al español. Los talleres virtuales incluirán una introducción al ruido de la aeronave, información sobre el modelado de la exposición al ruido de la aeronave, el uso de la pista y la información operativa de la aeronave, los contornos de ruido NEM "Línea base" de 2021 y el cronograma del proyecto.

Después de una presentación de 20 minutos, los talleres brindarán la oportunidad a la comunidad de enviar preguntas y recibir respuestas, en tiempo real, del equipo de estudio del proyecto. Los talleres virtuales se llevarán a cabo en los siguientes horarios:

FECHA: lunes 26 de octubre de 2020
HORA: 6:00PM - 8:00PM

FECHA: martes 27 de octubre de 2020
HORA: 1:00PM - 3:00PM

FECHA: jueves 29 de octubre de 2020
HORA: 10:00AM - 12:00PM

FECHA: jueves 29 de octubre de 2020
HORA: 6:00PM - 8:00PM

Para registrarse en los talleres virtuales y obtener información actualizada sobre las reuniones, visite https://flysanantonio.com/business/about-saas/environmental-stewardship/. El taller virtual se grabará y los videos se publicarán en el sitio web del proyecto para que los miembros de la comunidad puedan verlos más adelante.
Los miembros de la comunidad también pueden llamar para asistir a los talleres al: 877-853-5247
Número de identificación de la conferencia: 865 8583 9338

Los miembros de la comunidad con capacidad limitada para asistir a los talleres virtuales pueden solicitar materiales de presentación impresos llamando al (210) 207-3847 o enviando un correo electrónico a AirportNoiseHotline@sanantonio.gov.

La presentación de la Actualización NEM del Aeropuerto Internacional de San Antonio y la documentación de respaldo también estarán disponibles para su revisión desde el 19 de octubre hasta el 13 de noviembre de 2020, en los siguientes lugares:

Biblioteca Central, 600 Soledad, San Antonio, TX 78205 - (210) 207-2500
Biblioteca Thousand Oaks Branch, 4618 Thousand Oaks, San Antonio TX 78233 - (210) 207-9190
Biblioteca Tobin Branch, 4134 Harry Wurzbach, San Antonio TX 78209 - (210) 207-9040
Biblioteca Brookhollow Branch, 530 Heimer, San Antonio, TX 78232 - (210) 207-9030
Biblioteca Westfall Branch, 6111 Rosedale Court, San Antonio, TX 78201 - (210 207-9220
Oficina de Administración Ambiental de SAAS, 457 Sandau Road, San Antonio TX 78216 - (210) 207-3847

Llame con anticipación para cumplir con los requisitos de recolección sin contacto de la biblioteca individual.

A principios de 2021, la Ciudad llevará a cabo reuniones públicas adicionales para presentar la Actualización del Mapa de Exposición al Ruido de la Parte 150 que contiene el 2026 Condiciones Futuras NEM. Se alienta a todas las partes interesadas a presentar comentarios formales por escrito. Para maximizar la oportunidad de retroalimentación, el periodo formal de comentarios comenzará el 26 de octubre de 2020 y finalizará el 13 de noviembre de 2020.

Hay 2 (dos) opciones para enviar comentarios:

(1) Envíe un correo electrónico a AirportNoiseHotline@sanantonio.gov antes de las 5 p.m. del 13 de noviembre de 2020

(2) Correo (debe tener sello postal anterior al 18 de septiembre de 2020) en:

Aeropuerto Internacional de San Antonio
457 Sandau Road
Edificio 1039
A la atención de: Gestión Ambiental
San Antonio, TX 78216

El proceso de Actualización NEM de la Parte 150 es independiente del Programa de Desarrollo Estratégico (Plan Maestro) en curso del Aeropuerto, por lo que los talleres NEM y las

Talleres de información pública para la Parte 150 Actualización del mapa de exposición al ruido Aeropuerto Internacional de San Antonio

La Ciudad de San Antonio está llevando a cabo una Actualización del Mapa de Exposición al Ruido (NEM por sus siglas en inglés) para las cercanías del Aeropuerto Internacional de San Antonio, lo que dará como resultado NEM actualizados que reflejarán las condiciones de exposición al ruido existentes y futuras de cinco años cerca del Aeropuerto. Este estudio, una "Actualización NEM Parte 150", seguirá el proceso como se describe en el Título 14 del Código de Regulaciones Federales Parte 150, Planificación de Compatibilidad de Ruido en el Aeropuerto. Al final del proceso de la Parte 150, habrá dos mapas de exposición al ruido: uno que representa las casas que actualmente se encuentran dentro del contorno de 65 DNL (Nivel de Decibelios de Sonido Día Noche), y otro que representa las casas que estarán dentro de la línea de contorno 65 DNL cinco años en el futuro. El 65 DNL se considera el área de fuerte exposición del ruido de la aeronave.

El Aeropuerto Internacional de San Antonio organizará una serie de talleres preliminares diseñados para presentarle el proceso de la Parte 150 y solicitar sus preguntas y comentarios sobre el mapa de contornos de ruido de las Condiciones Existentes para 2021. Después de recibir los comentarios de su taller, el consultor de la Ciudad comenzará a redactar los mapas de ruido de las Condiciones Futuras 2026. La Ciudad brindará otra oportunidad para que el público brinde comentarios sobre la Actualización NEM de la Parte 150 y el mapa de ruido de las condiciones futuras en una reunión pública que se realizará a principios de 2021. Después de la reunión pública, la Actualización NEM de la Parte 150, los mapas y el público los comentarios serán enviados a la Administración Federal de Aviación (FAA) para su revisión. Una vez aprobados por la FAA, los NEM entrarán en vigencia de 2021 a 2026, salvo cualquier aumento significativo en el ruido de las aeronaves.

La Ciudad lo invita a asistir a la serie preliminar de talleres públicos virtuales que proporcionarán información sobre el proceso de Actualización NEM de la Parte 150 y solicitarán comentarios de la comunidad. Debido a las preocupaciones actuales de salud y seguridad relacionadas con COVID-19, los talleres se llevarán a cabo virtualmente a través de una plataforma de reunión basada en Internet, que incluirá una opción de teleconferencia. Las reuniones tendrán una opción de traducción al español. Los talleres virtuales incluirán una introducción al ruido de la aeronave, información sobre el modelado de la exposición al ruido de la aeronave, el uso de la pista y la información operativa de la aeronave, los contornos de ruido NEM "Línea base" de 2021 y el cronograma del proyecto.

Después de una presentación de 20 minutos, los talleres brindarán la oportunidad a la comunidad de enviar preguntas y recibir respuestas, en tiempo real, del equipo de estudio del proyecto. Los talleres virtuales se llevarán a cabo en los siguientes horarios:

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FECHA: **martes 27 de octubre de 2020**
HORA: **1:00PM - 3:00PM**
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Los miembros de la comunidad también pueden llamar para asistir a los talleres al: 877-853-5247

Número de identificación de la conferencia: 865 8583 9338

Los miembros de la comunidad con capacidad limitada para asistir a los talleres virtuales pueden solicitar materiales de presentación impresos llamando al **(210) 207-3847** o enviando un correo electrónico a AirportNoiseHotline@sanantonio.gov.

La presentación de la Actualización NEM del Aeropuerto Internacional de San Antonio y la documentación de respaldo también estarán disponibles para su revisión desde el 19 de octubre hasta el 13 de noviembre de 2020, en los siguientes lugares:

1. Biblioteca Central, 600 Soledad, San Antonio, TX 78205 - (210) 207-2500
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6. Oficina de Administración Ambiental de SAAS, 457 Sandau Road, San Antonio TX 78216 - (210) 207-3847

Llame con anticipación para cumplir con los requisitos de recolección sin contacto de la biblioteca individual.

A principios de 2021, la Ciudad llevará a cabo reuniones públicas adicionales para presentar la Actualización del Mapa de Exposición al Ruido de la Parte 150 que contiene el 2026 Condiciones Futuras NEM. Se alienta a todas las partes interesadas a presentar comentarios formales por escrito. Para maximizar la oportunidad de retroalimentación, el período formal de comentarios comenzará el 26 de octubre de 2020 y finalizará el 13 de noviembre de 2020.

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El proceso de Actualización NEM de la Parte 150 es independiente del Programa de Desarrollo Estratégico (Plan Maestro) en curso del Aeropuerto, por lo que los talleres NEM y las reuniones públicas posteriores solo discutirán las condiciones de ruido existentes en el Aeropuerto en 2021 y las futuras condiciones de ruido en 2026.

La Ciudad alienta a todas las partes interesadas a monitorear el sitio web del proyecto para obtener la información más reciente relacionada con el estudio, incluidas las Preguntas frecuentes (FAQ) y los anuncios en https://flysanantonio.com/business/about-saas/environmental-stewardship/**.**

Cualquier persona que tenga preguntas, debe comunicarse con el Sr. Joshua Heiss al **(210) 207-3847.**

Appendix C
Postcard

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

The City of San Antonio is currently updating the Airport's Noise Exposure Maps (NEM) and the public has the opportunity to submit comments for the official project record.

Four virtual workshops will be hosted on Zoom
Monday October 26th 6pm – 8pm
Tuesday October 27th 1pm – 3pm
Thursday October 29th 10am – 12pm
Thursday October 29th 6pm – 8pm

Please go to the Airport's Noise Office website to register for one of the Zoom workshops:

https://flysanantonio.com/business/about-saas/environmental-stewardship/

or scan the QR code here

Community members with limited ability to attend the virtual workshops can request printed presentation materials by calling **210.207.3847** or sending an email to **AirportNoiseHotline@sanantonio.gov**

Anuncio de Taller Público para la Actualización del Mapa de Exposición al Ruido del Aeropuerto SAT

La ciudad de San Antonio está actualizando los Mapas de Exposición al Ruido del Aeropuerto (NEM) y el público tiene la oportunidad de enviar comentarios para el registro oficial del proyecto.

Cuatro talleres virtuales se realizarán en Zoom
lunes 26 de octubre de 6pm – 8pm
martes 27 de octubre de 1pm – 3pm
jueves 29 de octubre de 10am – 12pm
jueves 29 de octubre de 6pm – 8pm

Visite el sitio web de la Oficina de Ruido del Aeropuerto para registrarse en uno de los talleres de Zoom:

https://flysanantonio.com/business/about-saas/environmental-stewardship/

O escanea el código QR aquí

Los miembros de la comunidad con capacidad limitada para asistir a los talleres virtuales pueden solicitar materiales de presentación impresos llamando al **210.207.3847** o enviando un correo electrónico a **AirportNoiseHotline@sanantonio.gov**

San Antonio International Airport
9800 Airport Blvd
San Antonio, TX 78216

Appendix D
Social Media Outreach

San Antonio International Airport
September 26, 2020 ·

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport vicinity, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport.

There will be a preliminary series of public workshops to provide information on the Part 150 NEM Update process and solicit feedback from the community. Due to the ongoing health and safety concerns related to COVID-19, the workshops will be conducted virtually through an internet-based meeting platform, which will include a teleconference option. Spanish translation will be available.
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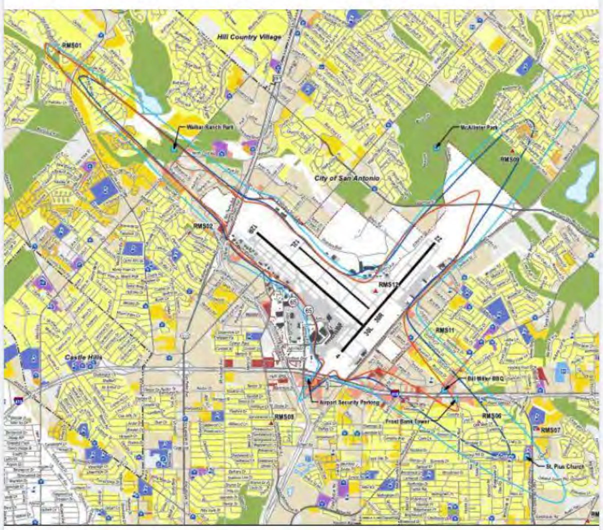


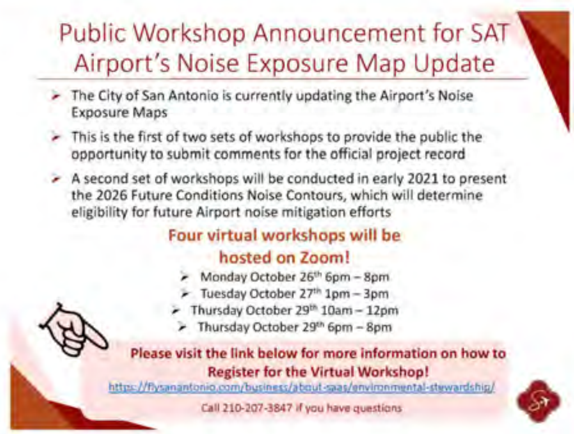
12 5 Shares

Councilman John Courage
September 29, 2020 ·

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport vicinity, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport. Following a 20-minute presentation, the workshops will provide the opportunity for the community to submit questions and receive answers, in real-time, from the project study team. #D9SA

To register for the virtual workshops, and to obtain any updated meeting information, please visit:

https://flysanantonio.com/.../environmental-stewardship/



1 1 Comment 1 Share

CM John Courage - D9
@JohnCourageD9

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the @SATairport vicinity. To register for the virtual workshops, and to obtain any updated meeting information, please visit: flysanantonio.com/.../environmen...

#D9SA

San Antonio Airport

11:48 AM · Sep 29, 2020 · Twitter Web App

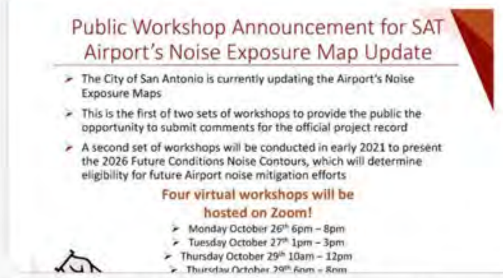
4 Retweets

San Antonio Airport Retweeted

CM John Courage - D9 @JohnCourageD9 · Oct 26, 2020

Tonight begins the Noise Workshops for the @SATairport vicinity. If you haven't registered yet, here's the link: esa-zoom-api.azurewebsites.net

#D9SA



3 1

Nextdoor

SAT Noise Exposure Map Update

Councilman Clayton Perry from City of San Antonio Mayor and City Council · 28 Sep

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport vicinity, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport.

There will be a preliminary series of public workshops to provide information on the Part 150 NEM Update process and solicit feedback from the community. Due to the ongoing health and safety concerns related to COVID-19, the workshops will be conducted virtually through an internet-based meeting platform, which will include a teleconference option. Spanish translation will be available. The virtual workshops will be conducted on the following dates and times:

DATE: Monday, October 26, 2020 - TIME: 6:00PM - 8:00PM
DATE: Tuesday, October 27, 2020 - TIME: 1:00 PM - 3:00PM
DATE: Thursday, October 29, 2020 - TIME: 10:00 AM - 12:00PM
DATE: Thursday, October 29, 2020 - TIME: 6:00 PM - 8:00 PM

To register for the virtual workshops, and to obtain any updated meeting information, please visit https://flysanantonio.com/…/abou…/enviro...

Community members can call in to attend the workshops at: 877-853-5247 (toll free) or 213-388-8417 - Conference ID Number: 865 8583 9338

Community members with limited ability to attend virtual workshops can request printed presentation materials by calling (210) 207-3847 or emailing AirportNoiseHotline@sanantonio.gov

Environmental Stewardship - San Antonio Internati…
The San Antonio Airport System Environmental Stewardshi…
FLYSANANTONIO.COM

28 Sep · Subscribers of District 10 in 1 area in General

THANK 3 REPLY

Appendix E
Email Blast

Virtual Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

Dear Community Members,

Join the City of San Antonio at a **virtual public workshop** to learn about and provide input to the Airport's Noise Exposure Map Update.

- The City of San Antonio is currently updating the Airport's Noise Exposure Maps.
- This is the first of two sets of workshops to provide the public the opportunity to submit comments for the official project record.
- A second set of workshops will be conducted in early 2021 to present the 2026 Future Conditions Noise Contours, which will determine eligibility for future Airport noise mitigation efforts.

Four virtual workshops will be hosted on Zoom!

- Monday October 26th 6pm - 8pm
- Tuesday October 27th 1pm - 3 pm
- Thursday October 29th 10am - 12 pm
- Thursday October 29th 6pm - 8pm

Please visit the link below for more information on how to register for the Virtual Workshop!

Visite el enlace a continuación para obtener más información sobre cómo registrarse para el Taller Virtual.

https://flysanantonio.com/business/about-saas/environmental-stewardship/

or scan the QR code here:

O escanea el código QR aquí:

Community members with limited ability to attend the virtual workshops can request printed presentation materials by calling **210.207.3847** or sending an email to AirportNoiseHotline@sanantonio.gov.

Thank you for your interest!

Sincerely,

SAT Airport's Noise Exposure Map Update Team

Appendix F
Hotline Phone Call Log

Phone Call Log

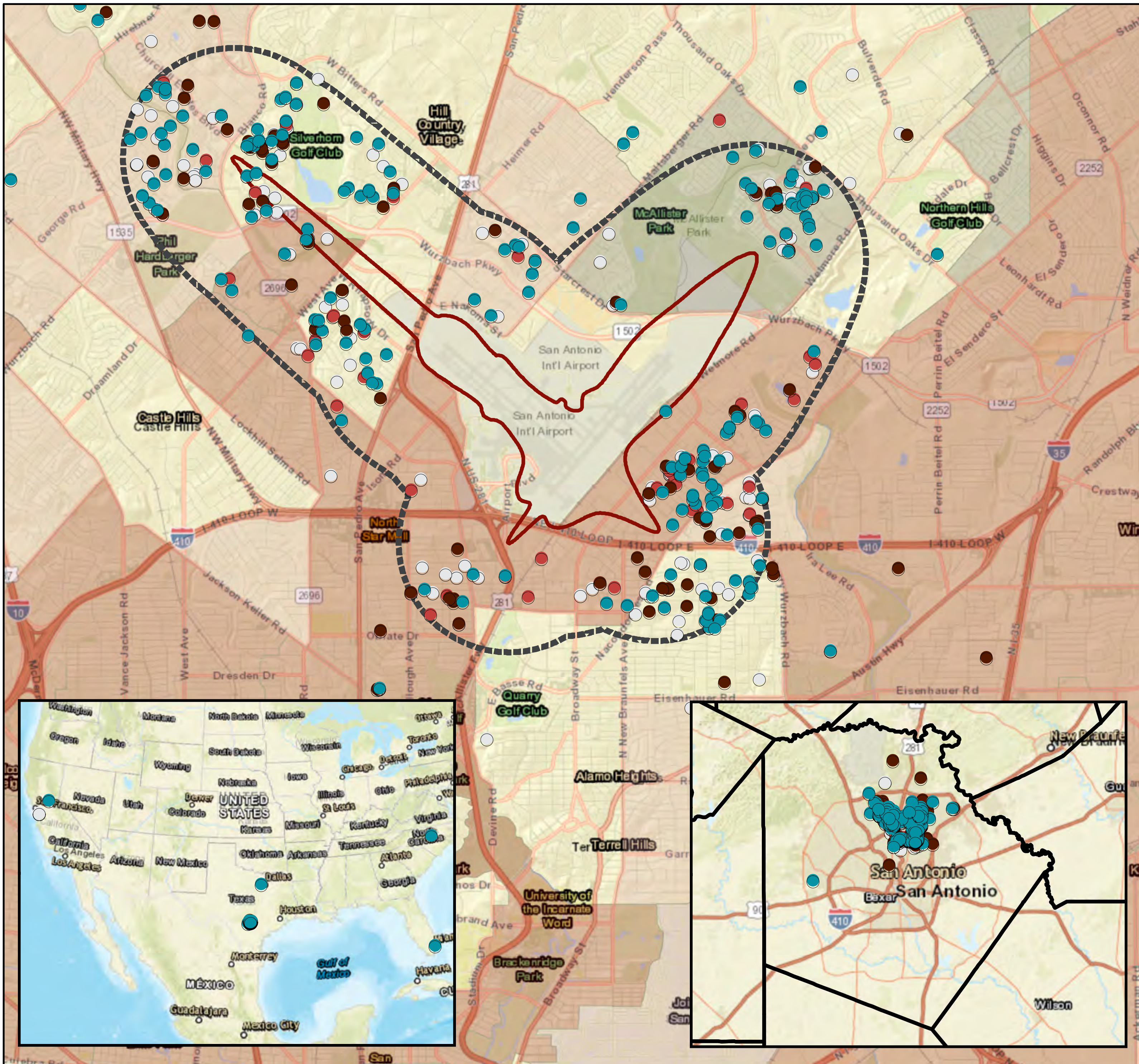
Last Name	First Name	Address	Address 2	City	State	Zip Code
Green	Robert	240 W Oak Estates Drive	Oak Moss	Hollywood Park	Bexar County, TX	78260
Rubeola	Jc	8206 Robin Rest Drive		San Antonio	Bexar County, TX	78209
Neuhouse	Christine	11839 Parliament Street	Calais Villas	San Antonio	Bexar County, TX	78216
Neuhaus	Chris	Parliament Street		San Antonio	Bexar County, TX	78216
Chipman	Kristen	13306 Roe Drive		San Antonio	Bexar County, TX	
Turpin	Xavier	21543 Bubbling Creek	Encino Creek (NE)	San Antonio	Bexar County, TX	78259
Hollowman	Hailey	151 Rockhill Drive		San Antonio	Bexar County, TX	78209
Styles	Linda	13515 Vista Bonita		San Antonio	Bexar County, TX	78216
Styles	Linda	13515 Vista Bonita		San Antonio	Bexar County, TX	78216
Montez	Antania	14807 Bold Venture Street	Churchill Estates	San Antonio	Bexar County, TX	78248
Spaulding	Vicky	214 Sonata Drive		San Antonio	Bexar County, TX	78216
Bruce	Ray	13406 Vista Del Mar	Vista Del Norte	San Antonio	Bexar County, TX	78216
Kostelny	Charlotte	12802 Laguna Vista Drive	Vista Del Norte	San Antonio	Bexar County, TX	78216
Rondo	Lisa	819 Magnolia Mist		San Antonio	Bexar County, TX	78216
White	David	1313 Walkers Way	Walkers Ranch	San Antonio	Bexar County, TX	78216
Enriquez	Melissa	13502 Vista Bonita	Vista Del Norte	San Antonio	Bexar County, TX	78216
Bagge	Kristina	14215 Bold Ruler Street	Churchill Estates	San Antonio	TX	78248
Solis	Sonia	12118 Ridge Summit St	Stoneridge	San Antonio	Bexar County, TX	78247
Stavinoha	Trisha	12907 Vista Haven		San Antonio	Bexar County, TX	78216
Tights	Cheryl	3834 Wetmore Ridge		San Antonio	Bexar County, TX	78247
Neuhauser	Kimberly	2229 Lotus Blossom Street		San Antonio	Bexar County, TX	78247
Dobscha	Kristen	15310 Antler Creek Drive	Deer Hollow	San Antonio	TX	78248
Cox	Jeremy	627 Chauncey Drive	Enchanted Village	San Antonio	Bexar County, TX	78216
Garcia	David	1738 Fawn Gate		San Antonio	Bexar County, TX	78248
Garcia	David	1738 Fawn Gate		San Antonio	Bexar County, TX	78248
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Shero	John	1703 Antler Crossing Drive		San Antonio	Bexar County, TX	78248
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Hall	Robert	306 Pinewood Lane	Ridgeview	San Antonio	Bexar County, TX	78216

Last Name	First Name	Address	Address 2	City	State	Zip Code
Garcia	Dahlia			New York City	New York	10003
Pickard	Crystal	9607 La Rue Street		San Antonio	Bexar County, TX	78217
Romero	Mike	2307 Blossom Drive		San Antonio	Bexar County, TX	78217
Bell	Rachel	1211 Walkers Way	Walker Ranch	San Antonio	TX	78216
Weiss	Fred	14315 Mill Run	Summerfield	San Antonio	TX	78231
Olson	Jim	13415 Vista Del Mar	Vista Del Norte	San Antonio	Bexar County, TX	78216
Hite	Gerron	1979 Pape Farms Lane		San Antonio	Bexar County, TX	78217
Smart	Lorie	11631 Sandman Street		San Antonio	Bexar County, TX	78216
Allen	Brenda	34 Courtside Circle		San Antonio	Bexar County, TX	78216
Horgan	Cindy	1501 Bellshire Street		San Antonio	Bexar County, TX	78216
Cole	Pat	12130 Stoney Cove		San Antonio	Bexar County, TX	78247
Green	Robert	240 W Oak Estates Drive	Oak Moss	Hollywood Park	Bexar County, TX	78260
DeHoyos	Anthony	3939 Starhill Drive		San Antonio	Bexar County, TX	78218
Martin	John	12838 Country Ridge	Countryside	San Antonio	Bexar County, TX	78216
Park	Jean	239 Busby Drive		San Antonio	Bexar County, TX	78209
Hector	Jack	438 Sandalwood Lane	Ridgeview	San Antonio	Bexar County, TX	78216
Cosgrove	James	818 Magnolia Mist		San Antonio	Bexar County, TX	78216
Williams	Carl	3614 Eagle Canyon Drive	Redland Springs	San Antonio	Bexar County, TX	78247
Cox	Jeremy	627 Chauncey Drive	Enchanted Village	San Antonio	Bexar County, TX	78216
Moncravie	George	2019 Riva Ridge		San Antonio	Bexar County, TX	78248
Whitek	Denise	4 Inwood Way Drive		San Antonio	Bexar County, TX	78248
Surname	Garcia	No Address Supplied				
Henry	Janice	3415 Stoney Country	Stone Ridge	San Antonio	TX	78247
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Blackmon	Gilda	13211 Shorecliff Street		San Antonio	Bexar County, TX	78248
Avila	Michael	6910 Teton Ridge	Raintree	San Antonio	Bexar County, TX	78233
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Schwimmer	David	551 Artemis Drive		San Antonio	Bexar County, TX	78218
Rodriguez	Marisa			Mountain View	CA	94043
Saliceti	Erica	3907 Elmcroft	Oak Ridge	San Antonio	Bexar County, TX	78247

Last Name	First Name	Address	Address 2	City	State	Zip Code
Cox	Vicki			New York City	New York	10003
Ramirez	Terry	3134 Candlewood Lane		San Antonio	Bexar County, TX	78217
Ramirez	Terry	3134 Candlewood Lane		San Antonio	Bexar County, TX	78217
Siggelow	John	1223 Walkers Way		San Antonio	Bexar County, TX	78216
Loewenberg	Alvin	3007 Renker Drive		San Antonio	Bexar County, TX	78217
Loewenberg	Alvin	3007 Renker Drive		San Antonio	Bexar County, TX	78217
Siggelow	John	1223 Walkers Way		San Antonio	Bexar County, TX	78216
Lee	Michael	No Address Provided				
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Wagner	Hector	1707 Typhoon Street	Churchill Estates	San Antonio	TX	78248
Green	Robert	240 W Oak Estates Drive	Oak Moss	Hollywood Park	Bexar County, TX	78260
Strawn	Jay	13514 Vista Bonita	Vista Del Norte	San Antonio	Bexar County, TX	78216
Molina	Mark	3011 Samar Drive	Mcarthur Terrace	San Antonio	TX	78217
	No Name	No Address				
Suarez	Patricia			Mountain View	CA	94043
Saxer	Chuck	2426 Mill Creek Drive		San Antonio	Bexar County, TX	78231
Johnson	Brenda	No Address				
Kurth	Abby	2806 Urban Crest Dr	North Park	San Antonio	TX	78209
Siggelow	John	1223 Walkers Way		San Antonio	Bexar County, TX	78216
Pon	Ruth	8807 Sagebrush Lane		San Antonio	Bexar County, TX	78217
Kilford	Tim	8702 Sagebrush Lane		San Antonio	TX	78217
Allen	Brenda	34 Courtside Circle		San Antonio	Bexar County, TX	78216
Hayden	Janice	10922 Lake Path Drive	Town Lake	San Antonio	Bexar County, TX	78217
Coleman	Jerome	622 Shadywood Lane	San Antonio	San Antonio	Bexar County, TX	78216
Moncravie	George	423 Forrest Hill Dr	Northwoods	San Antonio	Bexar County, TX	78209
Wirth	Tom	2462 Toftrees Drive	Northwood	San Antonio	Bexar County, TX	78209
Robb	Susan	323 Cave Lane		San Antonio	Bexar County, TX	78209
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216
Martinez	Claudine	125 Rilla Vista Drive Shearer Hills	North Shearer Hills	San Antonio	Bexar County, TX	78216

Last Name	First Name	Address	Address 2	City	State	Zip Code
Maloney	Julie	2611 Brookhurst Drive		San Antonio	Bexar County, TX	78209
Hayden	Janice	10922 Lake Path Drive	Town Lake	San Antonio	Bexar County, TX	78217
Hayden	Janice	10922 Lake Path Drive	Town Lake	San Antonio	Bexar County, TX	78217
Strawn	Jay	13514 Vista Bonita	Vista Del Norte	San Antonio	Bexar County, TX	78216
Sutton	Troy	151 Treasure Way		San Antonio	Bexar County, TX	78209
Volpe	John	8101 Country Side Drive		San Antonio	Bexar County, TX	78209
Stephens	Veronica	2218 Knights Wood		San Antonio	Bexar County, TX	78231
Lopez	Ed	422 Sandalwood Lane	Ridgeview	San Antonio	Bexar County, TX	78216
Ross		14806 River Mill		San Antonio	Bexar County, TX	78216
Denton	Michael	2446 Toftrees Drive	San Antonio	San Antonio	Bexar County, TX	78209
Rodriguez	Janet			No Address		
Beyer	David	1519 Haskin Drive		San Antonio	Bexar County, TX	78209
Gesing	Matt	414 Arch Bluff		San Antonio	Bexar County, TX	78216
Edden	Trey	151 Treasure Way		San Antonio	Bexar County, TX	78209
Montanez	Sandra	3018 Old R Anch Road		San Antonio	TX	78217
Stephens	Veronica	2218 Knights Wood		San Antonio	Bexar County, TX	78231
Mamabelle52.Ih				No Address		
Corrigan	Sylvia	11511 Raindrop Drive		San Antonio	Bexar County, TX	78216
Garza	Venus	207 Haverford Drive		San Antonio	Bexar County, TX	78217
Kubinski	Dan	2610 Old Moss Road		San Antonio	Bexar County, TX	78217
Pickard	Crystal	9607 La Rue Street	Northeast Park	San Antonio	Bexar County, TX	78217
Pickard	Crystal	9607 La Rue Street	Northeast Park	San Antonio	Bexar County, TX	78217
Hermann	Alison	7776 Woodridge Drive	Northwood	San Antonio	Bexar County, TX	78209
Szeman	Xavier	203 Oakhurst Place		San Antonio	Bexar County, TX	78209
Weiss	Fred	14315 Mill Run	Summerfield	San Antonio	TX	78231
Naylor	Bryan	16500 San Pedro Avenue	Suite 290	San Antonio	Bexar County, TX	78232
Johnson	Brad	13410 Vista Del Rey	Vista Del Norte	San Antonio	Bexar County, TX	78216
Hayden	Jackie	427 Springwood Lane		San Antonio	Bexar County, TX	78216
Fletcher	Maria	631 Redcliff Drive		San Antonio	Bexar County, TX	78216
Maloney	Julie	2611 Brookhurst Drive		San Antonio	Bexar County, TX	78209

Last Name	First Name	Address	Address 2	City	State	Zip Code
Bowen	Margot	223 N Guilford Drive		San Antonio	Bexar County, TX	78217
Stanco	Jessie	13711 Bluffgate		San Antonio	Bexar County, TX	78216
Weynand	Sarah	122 Meadowood Ln	Shearer Hills / Ridgeview	San Antonio	Bexar County, TX	78216
Weynand	Sarah	122 Meadowood Ln	Shearer Hills / Ridgeview	San Antonio	Bexar County, TX	78216
Kozlowski	Adam	13858 Wondering Oak		San Antonio	Bexar County, TX	78247
Nolan	Kelly	3319 Stoney Country		San Antonio	Bexar County, TX	78247
Nolan	Kelly	3319 Stoney Country		San Antonio	Bexar County, TX	78247
Franklin	Trey	3103 Old Ranch Road		San Antonio	Bexar County, TX	78217
Aguirre	S.	No Address				
Gomez	Ligia	3311 Flamingo Basin		San Antonio	Bexar County, TX	78247
McCabe	Barbara	742 Susie Court		San Antonio	Bexar County, TX	78216
Green	Robert	240 W Oak Estates Drive	Oak Moss	Hollywood Park	Bexar County, TX	78260
Green	Robert	240 W Oak Estates Drive	Oak Moss	Hollywood Park	Bexar County, TX	78260
Curry	John J.	1340 Blanco Road		San Antonio	Bexar County, TX	78216
Stevens	Clark	3518 Stoney Meadow Street		San Antonio	Bexar County, TX	78247
Acevedo	Elias	2902 Chisolm Trail		San Antonio	Bexar County, TX	78217
Kennedy	Lupe	826 Big Sky Bend		San Antonio	Bexar County, TX	78216
Kennedy	Lupe	826 Big Sky Bend		San Antonio	Bexar County, TX	78216
Edwards	Jason	2642 Woodbury Dr	Northeast Park	San Antonio	Bexar County, TX	78217
Denton	Michael	2446 Toftrees Drive		San Antonio	Bexar County, TX	78209
Hutton	Trey	151 Treasure Way	Chelesa Apartments	San Antonio	Bexar County, TX	78209
Killen	Rob	100 Ne Loop 410		San Antonio	Bexar County, TX	78216
Killen	Rob	100 Ne Loop 410		San Antonio	Bexar County, TX	78216
Symington	Kurtis	14 Inwood Manor		San Antonio	Bexar County, TX	78248
Horstman	Mark	8218 Robin Rest Drive		San Antonio	Bexar County, TX	78209
Banks	Michael	2706 Old Ranch Road		San Antonio	Bexar County, TX	78217
Guerro	Kelly	7218 Seidel Road		San Antonio	Bexar County, TX	78209



Legend

Engagement Type:

- Attended a workshop
- Mailed copies of the presentation upon request
- Phone call conversations
- Registered for workshops (but did not attend)
- 2021 DNL 65 dB Contour
- Geographic distribution of postcards (1-mile buffer from DNL 65 dB contour)

EJ/LEP Populations:

- Limited English Proficiency (LEP) Population (over 2%)
- Minority Population (over 50%)
- Minority and LEP Population

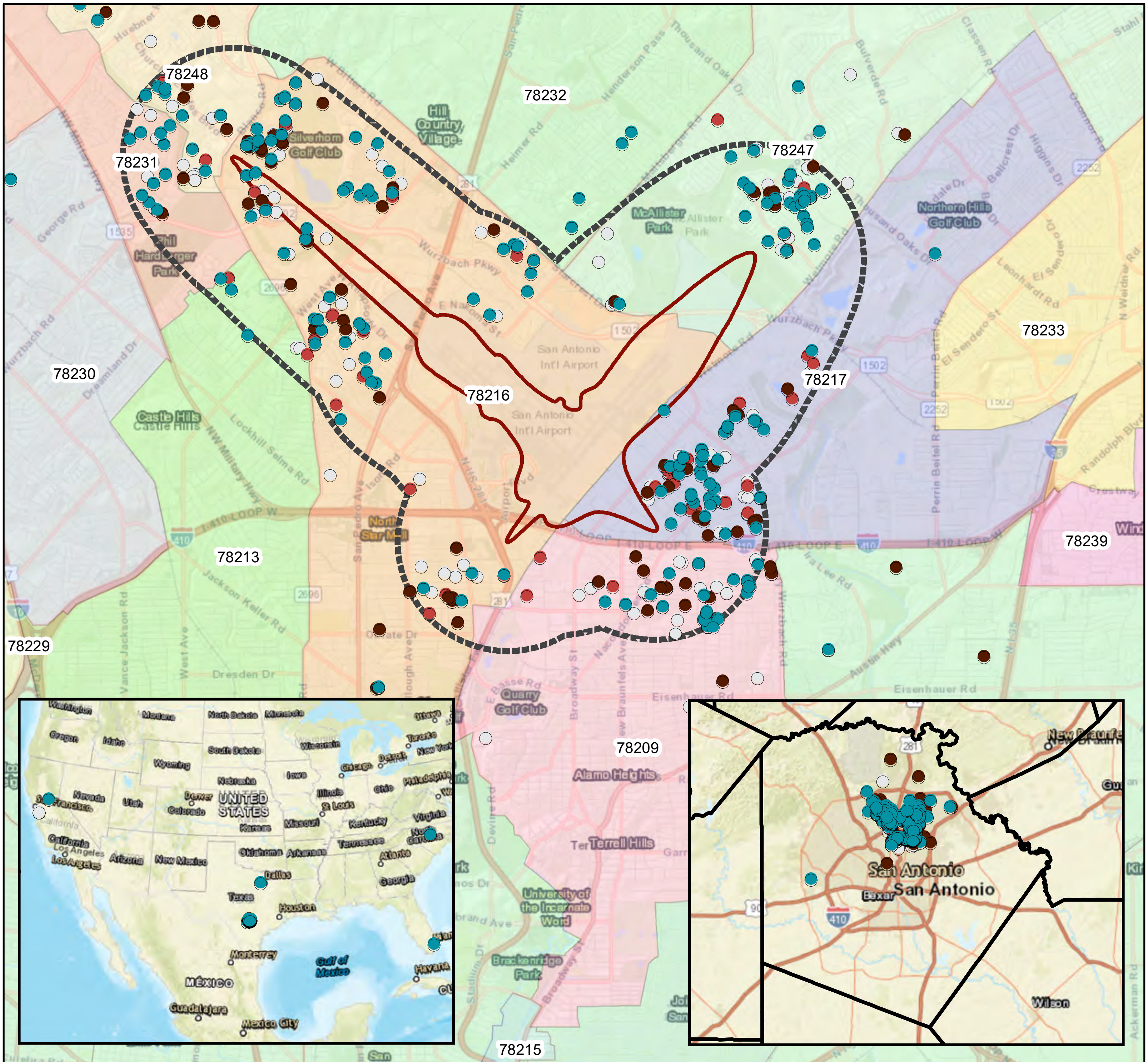
0 0.5 1 2 3 4 Miles

N

Geographic Reach (with LEP/EJ overlay) of Stakeholder Engagement During the October 2020 Public Workshops

San Antonio International Airport
Noise Exposure Map Update

POZNECKI CAMARILLO



Legend

Engagement Type:

- Attended a workshop
- Mailed copies of the presentation upon request
- Phone call conversations
- Registered for workshops (but did not attend)
- Geographic distribution of postcards (1-mile buffer from DNL 65 dB contour)
- 2021 DNL 65 dB Contour

N

0 0.5 1 2 3 4 Miles

Geographic Reach (by zip code) of Stakeholder Engagement During the October 2020 Public Workshops

San Antonio International Airport
Noise Exposure Map Update

POZNECKI CAMARILLO

SAN ANTONIO INTERNATIONAL AIRPORT

NEM Update Fall 2020 Workshop Outreach Results

- Workshop attendees, phone calls, and mailed paper presentations resulting from outreach put total participation at 566.
- Airport staff successfully engaged Councilman John Courage, District 9, to assist with outreach. He posted information on his Facebook, Twitter, and the city's Nextdoor app.
- The number of paper presentations requested indicates the efficacy of the postcard announcement encouraging people to ask for paper copies if they did not have access to Zoom or could not attend a workshop.
- The number of phone calls leading up to and just after the workshops indicate that many people were able to get their questions answered prior to or immediately following the workshops one-on-one.
- The email open rate of 36.5% far exceeds average open rates, which run from 17-25%.
- Public outreach resulted in 100% representation from within the eight zip codes in the one-mile buffer around the 2021 DNL 65 dB contour.
- **Combined outreach via mail, social media, hotline/website, email blasts, and newspaper ads far exceeded federal requirements for outreach and produced significant and geographically representative participation.**

Opportunities for Enhancement

- Increase the number of social media posts and add video clips with movement to capture people's attention.
- Request for airport social media posts to be shared by the main City of San Antonio social media sites and local social media influencers.
- Purchase a Spanish language Facebook ad targeted at Spanish Facebook users near the airport.
- Send the email out at least twice - once two weeks prior to the workshops and once two days prior to the workshops.

361
Workshop Participants

15,376
Postcards sent to addresses within one mile of the Draft 2021 Existing Conditions DNL 65 dB contour

10,728
Twitter Reach

7
Retweets

41,430
Facebook Reach

6
Shares

147
Phone calls were received and responded to regarding workshops

36.5%
Open Rate on Eblast Sent to NEM Email List

59
Paper copies of workshop presentation mailed

Official Notice Publish Dates

- September 26, 2020 and September 27, 2020, *San Antonio Express News* (English)
- October 10, 2020 and October 11, 2020, *San Antonio Express News* (English)
- September 27, 2020, *La Prensa Texas* (Spanish)
- October 11, 2020, *La Prensa Texas* (Spanish)

Initial Public Information Workshops

Presentation Materials

Overview – What is Part 150?

Established in 1985, Title 14 Code of Federal Regulations Part 150 (14 CFR Part 150, or "Part 150") provides a process for airport operators to address compatibility of aircraft operations with surrounding communities

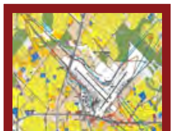
Part 150 establishes the methodology to be followed when preparing aircraft noise exposure maps (NEMs) and developing airport/airport environs noise compatibility programs (NCPs)*

Part 150 is a voluntary process that helps airport operators become eligible for federal grant funds for approved airport noise programs

Part 150 requires that members of the public have the opportunity to participate in the process, including providing comments

*SAT's current Part 150 Study only involves updating the NEMs and will help determine if a future NCP update is warranted

Overview – Part 150 NEM Update Study Goals and Objectives



- Determine existing and future noise exposure and identify noncompatible land uses
- Educate community and stakeholders on existing noise program and regulatory environment
- Identify areas of noncompatible noise exposure and their potential eligibility for noise mitigation*
- Enhance community relationships through transparency
- Secure NEM finding of compliance from the Federal Aviation Administration (FAA)

*The 2021 Baseline/Existing Conditions noise contours presented here will not be used to determine eligibility for future noise mitigation. Eligibility will be determined using the 2026 Future Conditions noise contours, which will be presented to the public for review in early 2021.

3

Overview – Regulation of Airport Noise

Framework		Stakeholders
Federal law sets aircraft noise standards, prescribes operating rules, establishes the compatibility planning process, and limits an airport's ability to restrict aircraft operations	Federal Aviation Administration	The FAA: (1) Controls aircraft while in flight; (2) Responsible for controlling noise at its source (i.e., aircraft engines); (3) Certifies aircraft and pilots
State law sets forth compatibility planning guidelines and noise standards, but aircraft are exempt	Local Governments and States	Local Governments and States: (1) Promote compatible land use through zoning; (2) Require real estate disclosure; (3) Mandate sound-insulating building materials
Local noise ordinances set noise standards and provide for compatible land use planning, but aircraft are exempt	Airport Operators/SAT	Airport Operators (SAT): (1) Very limited authority to adopt local restrictions; (2) Responsible for capital improvement projects and infrastructure

4

Overview – Noise Exposure Maps

- Part 150 requires documentation of the Day-Night Average Sound Level (DNL) 65, 70, and 75 contours
- The Federal Aviation Administration considers all land uses to be compatible with aircraft noise below the DNL 65 contour
- NEMs reflect the DNL contours presented over land use base maps

A noise contour depicts levels of equal aircraft noise exposure surrounding an airport

5

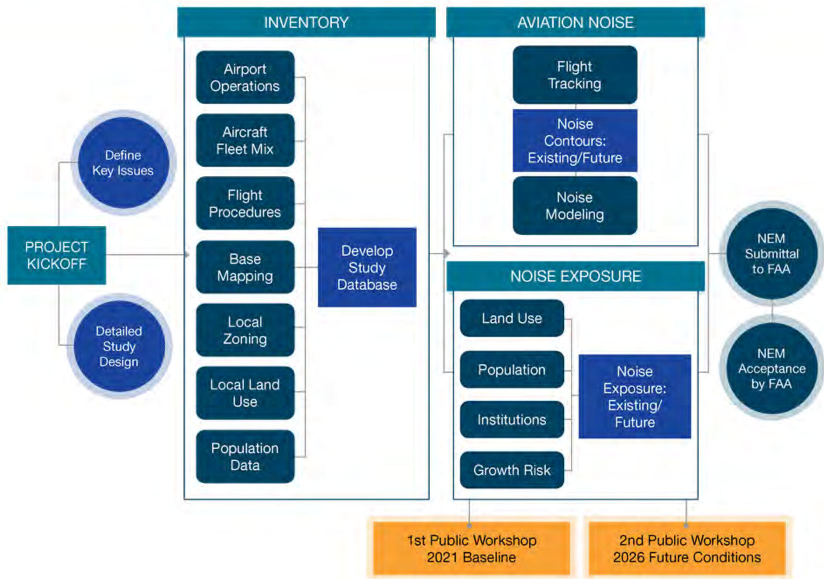
Overview – Noise Exposure Maps

- Base maps depict an airport's layout, local land use control jurisdictions, major land use categories, noise-sensitive "receptors" and other information required by Part 150
- Part 150 requires NEMs for the year of FAA submittal and a 5-year forecast; as such, this NEM Update will develop noise contours for:
  - 2021 Baseline Year
  - 2026 Future Conditions Year
- Land use categories in this Part 150 Study reflect current and future development patterns around SAT

For this Part 150 Study, 2019 Airport operations were used to represent the 2021 Baseline operations. In consultation with the FAA, it was assumed that no growth in aircraft operations occurred between 2019 and 2021, given the global slowdown in aviation activity due to the COVID-19 pandemic

6

Overview – Noise Exposure Map Update Study Process



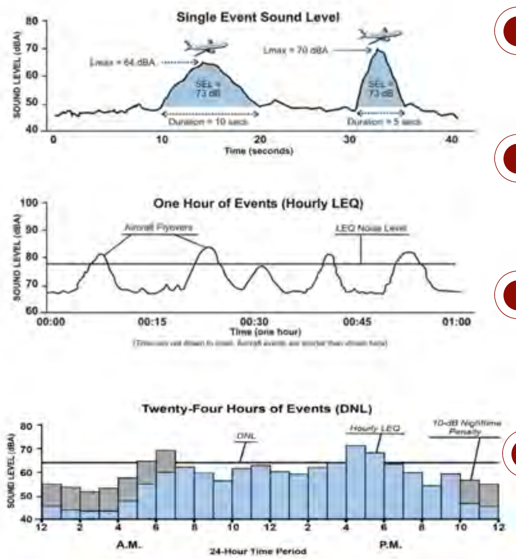
7

Physics of Noise – Day-Night Average Sound Level

- The decibel (dB) is the unit used to describe sound pressure level and when expressed in dBA, it is weighted to account for human hearing
- 24-hour time-weighted energy average noise level based on A-weighted decibels (dBA), which correlates well with the human hearing response
- Noise occurring between 10 p.m. and 7 a.m. is weighted by an additional 10 dB to account for the higher sensitivity to noise during nighttime hours and for the expected further decrease in background levels that typically occur in the nighttime
- Average Annual Day aircraft noise exposure is calculated over a broad area and then depicted using contour lines of equal noise levels
- Reflects cumulative average day noise exposure for the purposes of determining overall compatibility – not noise generated by a single event

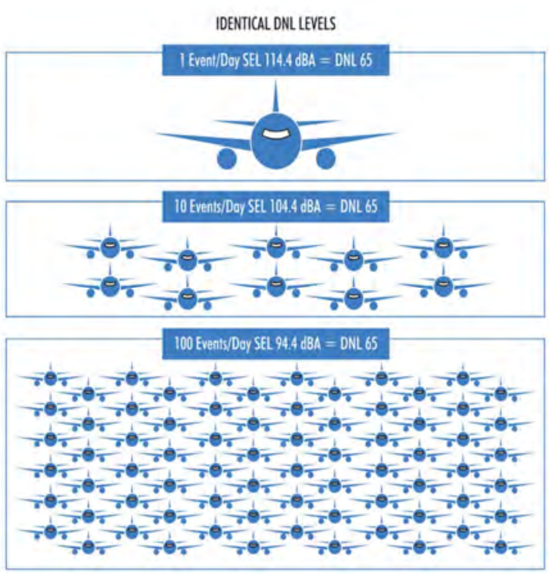
8

Physics of Noise – Understanding Sound Levels



- Maximum A-Weighted Sound Level (Lmax) is the maximum, or peak, sound level during a noise event
- Sound Exposure Level (SEL) is a time integrated measure, expressed in decibels, of the sound energy of a single noise event at a reference duration of one second
- Equivalent Noise Level (Leq) is the "energy" average noise level during the time period of the sample
- DNL is expressed in dBA and represents the noise level over a 24-hour period

Physics of Noise – Cumulative Noise Exposure



DNL represents cumulative noise exposure; therefore, a single loud (high SEL) noise event that occurs each day can have the same DNL level as multiple, quieter (low SEL) noise events over the same period of time

Noise Modeling – Methodology

Inputs

- Detailed Operations and Fleet Mix
- Flight Track Locations and Use
- Runway Utilization
- Time of Day
- Stage Length
- Meteorological conditions
- Terrain

Modeling Program

Aviation Environmental Design Tool Version 3c

Noise Contour Results

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Noise Modeling – The Basics

Aircraft noise modeling allows

- Calculation of noise exposure throughout the community
- Depicting annual average aircraft noise exposure
- Predicting future aircraft noise exposure
- Assessing changes in noise impacts resulting from runway configuration changes
- Assessing changes in fleet mix and/or number of operations
- Evaluating changes in operational procedures

The Aviation Environmental Design Tool (AEDT) replaced the Integrated Noise Model (INM) when it was released in 2015. The current version, AEDT 3c, will be used for this Part 150 Study

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Compatible Land Use Planning

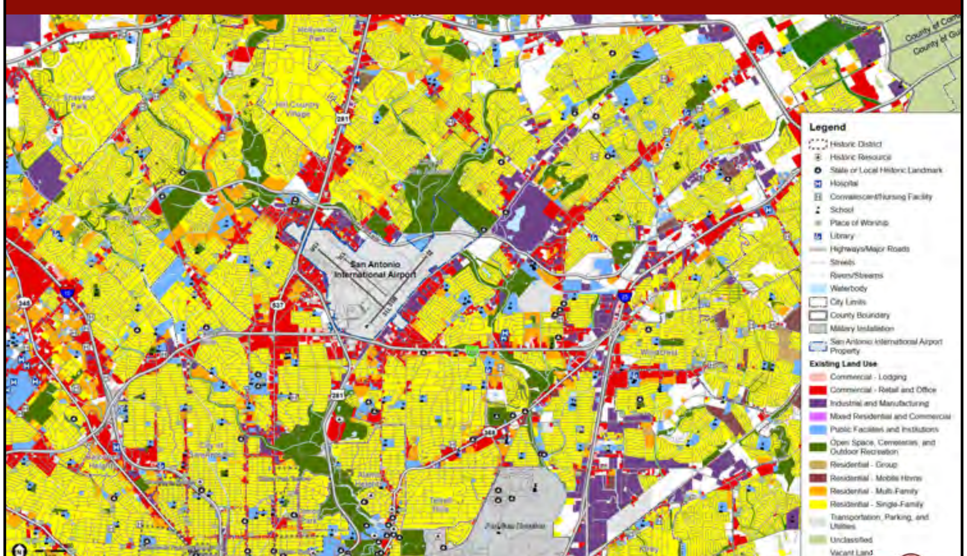
Table 1 in Appendix A of 14 CFR Part 150 provides regulatory guidelines for noise and land use compatibility

Deems levels below DNL 65 to be compatible with all land uses

Allows for the adoption of appropriate local land use standards for land use compatibility planning purposes

The 14 CFR Part 150 process is the Airport's mechanism to improve the compatibility between the Airport and surrounding communities

2021 Baseline Land Use Map



Please visit the Noise Office website for an opportunity to review this map as well as other materials associated with the NEM Update

2021 Baseline Land Use Map – Data Sources

Bexar County Appraisal District	Existing Land Use Convalescent\Nursing Facilities	Hospitals Places of Worship
City of San Antonio	City Corporate Boundary Historic Districts Local Historic Landmarks	Park Boundaries Streets
Bexar County GIS	Libraries	Schools
National Park Service	Historic Resources (National Register)	
San Antonio River Authority	Existing Land Use (supplemental) Future Land Use	Military Installations Suburban City Limits
Texas Historical Commission	State Historic Landmarks	
U.S. Census Bureau	County Boundaries	Highways and Major Roads
U.S. Geological Survey	Rivers and Streams	Water Bodies

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SAT's Noise Program

1991

First Part 150 Study Accepted by FAA and Noise Program Begins at SAT

Established:
- Noise Abatement Officer, Noise Abatement Advisory Committee, and Pilot Advisory Committee
- Noise Complaint Monitoring Program
- Urge greater use of Stage 3 aircraft
- Land Use and Zoning Plan
- Voluntary Use Noise Abatement Departure Procedure
- Restrictions on Nighttime Engine Run-ups
- Acoustical Treatment for Public Buildings
- Real Estate Noise Disclosure

1997

Part 150 Study NCP Update
- Ground Run-Up Enclosure (GRE) recommended to reduce noise related to engine run-ups
- Permanent noise monitoring system

2002

Part 150 Study NEM and NCP Update
- Residential Acoustical Treatment Program (RATP) (2006 – 2020)
GRE constructed

2009	2012	2015	2017	2020
Part 150 Study NEM Update	Obtained Avigation Easements	Part 150 Study NEM and NCP Update	New Noise Monitoring System Installed	Current Part 150 NEM Update

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SAT's Noise Program

Noise and Operations Monitoring System (NOMS)

12 permanent noise monitoring terminals (NMT) located around the Airport

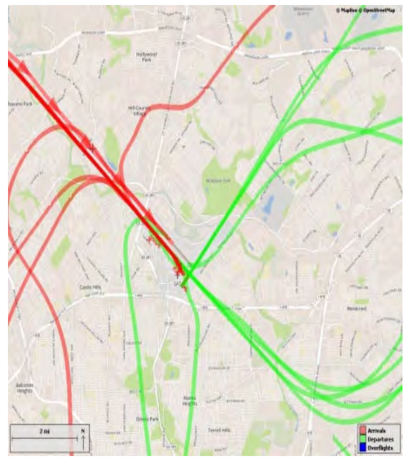
Noise data integrated with FAA air traffic control tower radar data

Analyze flight tracks, complaints and noise levels

NOMS allows the Airport community to...

- View actual flight tracks and noise levels
- File noise complaints
- Understand flight patterns

Sample Flight Tracks Over SAT



More information can be found at:
https://flysanantonio.com/business/about-saas/environmental-stewardship/noise-programs/

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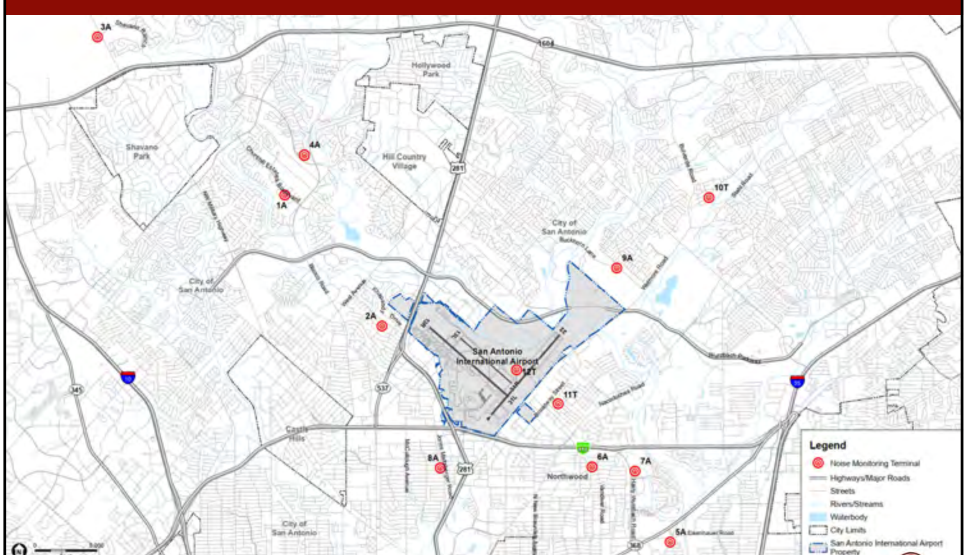
Noise Monitoring Terminal Locations



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2021 Baseline - Aircraft Operations and Time of Day

2021 Annual Aircraft Operations

Aircraft Category	Operations
Widebody	4,287
Narrowbody	83,886
Regional Jet	20,666
Business Jet	26,756
Turboprop	15,301
Prop	10,219
Helicopter	2,756
Total	163,870

Note: An aircraft operation is equal to one arrival/landing or one departure/takeoff.
The total number does not add up due to rounding.
Source: SAT, 2019. Environmental Science Associates, 2020.

2021 Annual Aircraft Operations by Time of Day

Arrivals		Departures	
Day	Night	Day	Night
82.74%	17.26%	83.99%	16.01%

Note: An aircraft operation is equal to one arrival/landing or one departure/takeoff.
Source: SAT, 2019. Environmental Science Associates, 2020.

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2021 Baseline - Aircraft Departure Stage Length

Stage length is the distance an airplane flies directly from one airport to another

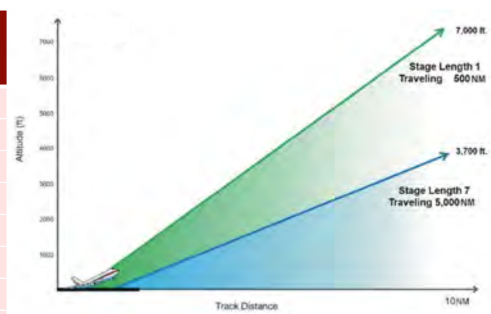
Aviation Environmental Design Tool (AEDT)
Departure Stage Length Categories

Stage Length Category	Departure Route Length (nautical miles)	Departures from SAT
1	0 - 500	55.455%
2	501 – 1,000	32.855%
3	1,001 - 1,500	10.935%
4	1,501 - 2,500	0.733%
5	2,501 - 3,500	0.001%
6	3,501 - 4,500	0.016%
7	4,501 - 5,500	0.004%
8	5,501 - 6,500	0.002%

Source: Environmental Science Associates, 2020.

Note: Values may not add to 100% due to rounding. No aircraft flew a departure stage length greater than 8.

Stage Length Comparison for Boeing 747-400



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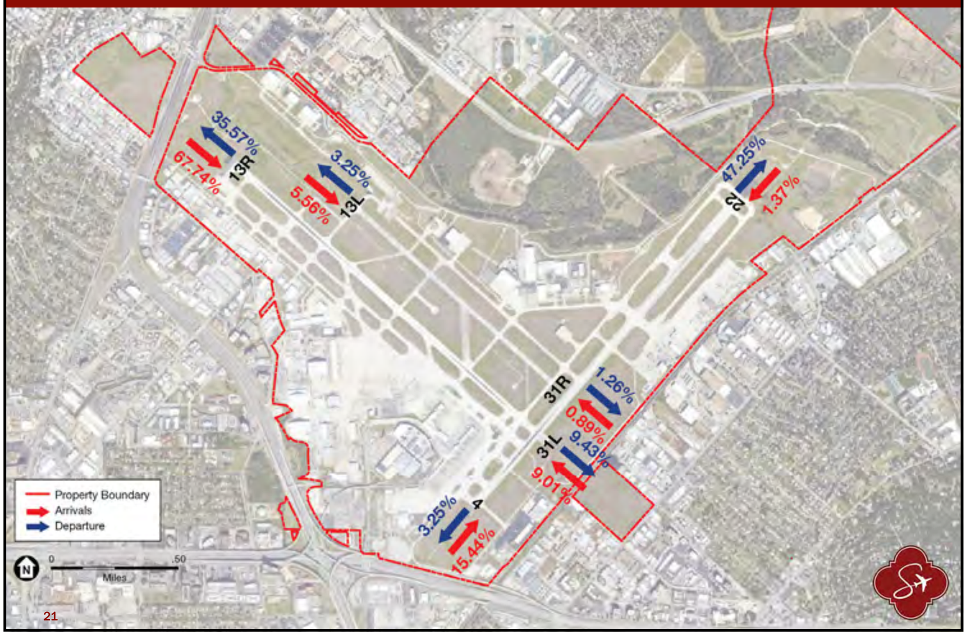
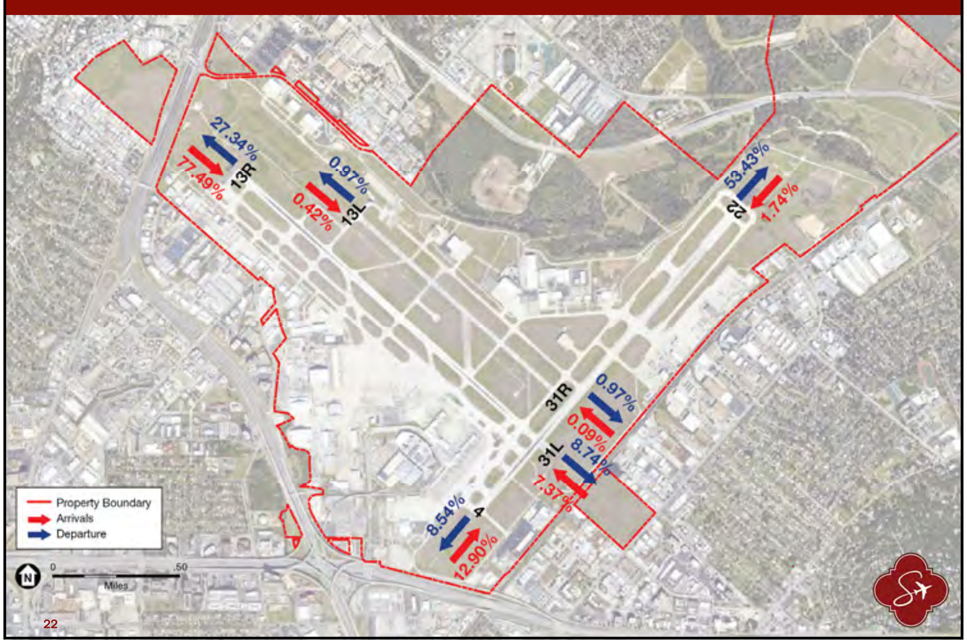
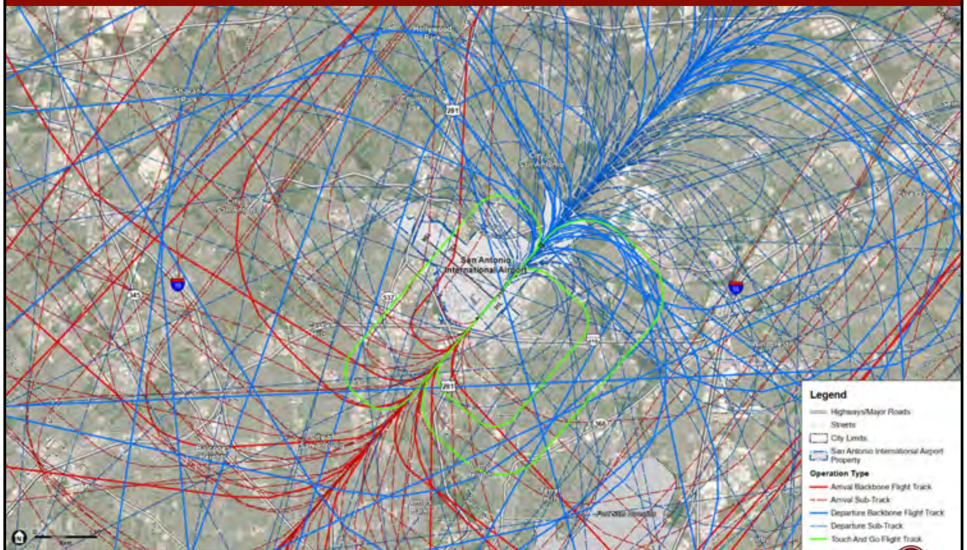
2021 Baseline – Daytime Runway Utilization



2021 Baseline – Nighttime Runway Utilization



2021 Baseline - AEDT Flight Tracks – Runway 4



Draft for deliberative purposes only and subject to change

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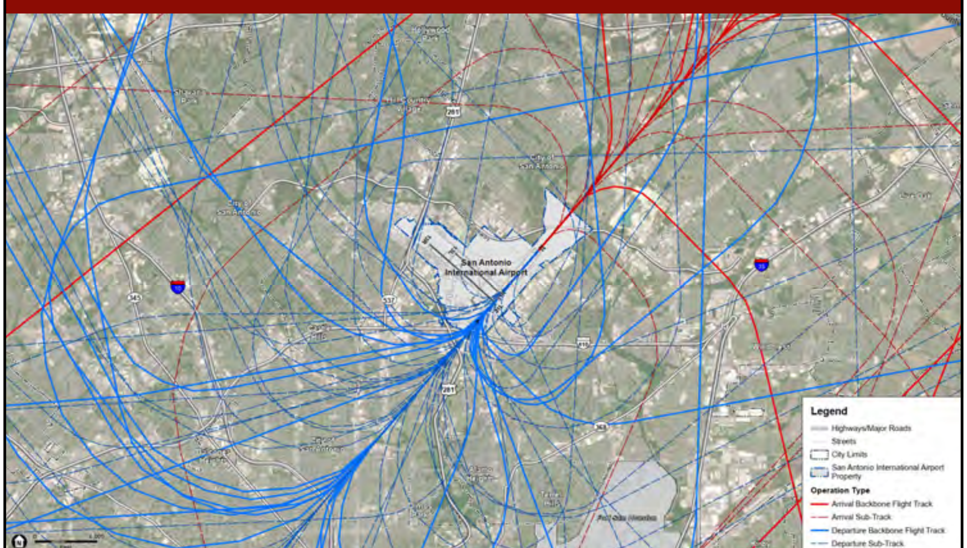
2021 Baseline - AEDT Flight Tracks – Runway 22



Draft for deliberative purposes only and subject to change

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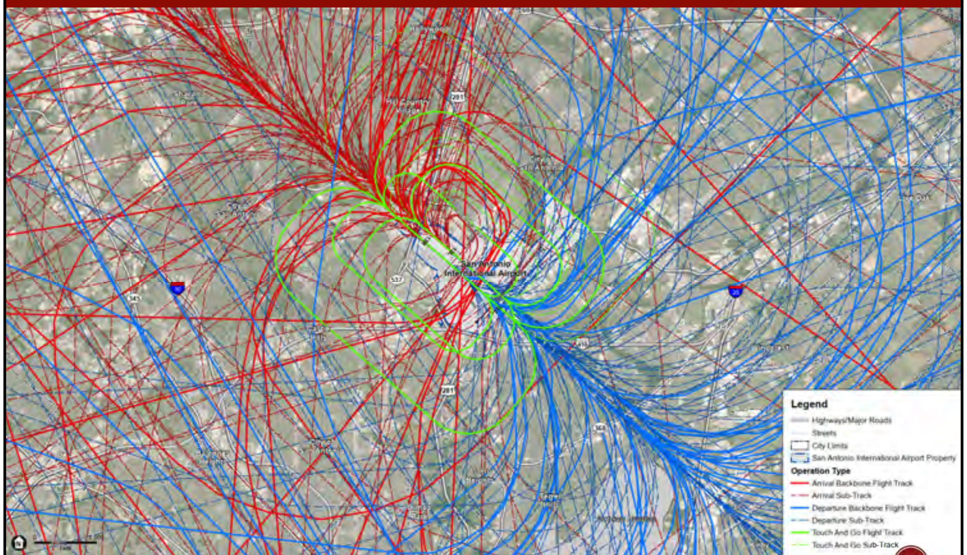
2021 Baseline - AEDT Flight Tracks – Runways 13L and 13R



Draft for deliberative purposes only and subject to change

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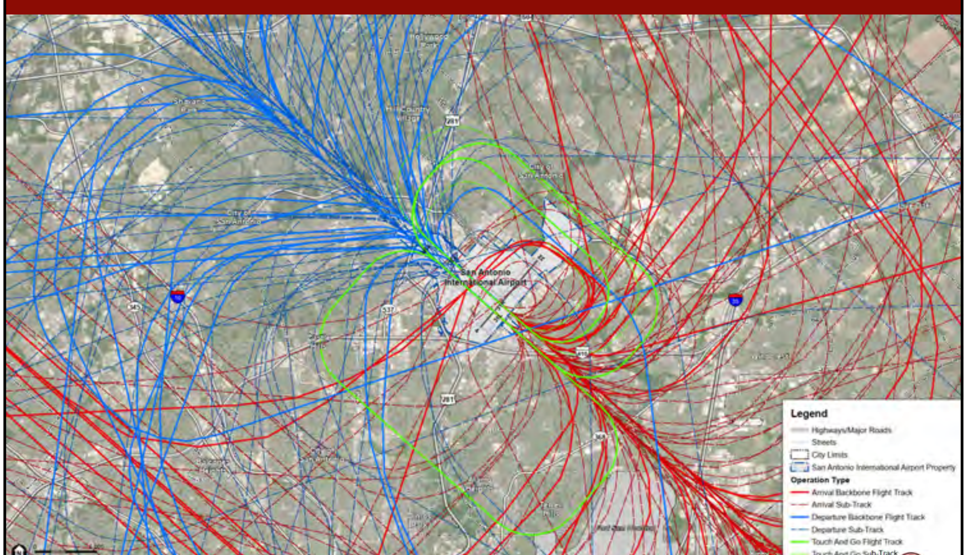
2021 Baseline - AEDT Flight Tracks – Runways 31L and 31R



Draft for deliberative purposes only and subject to change

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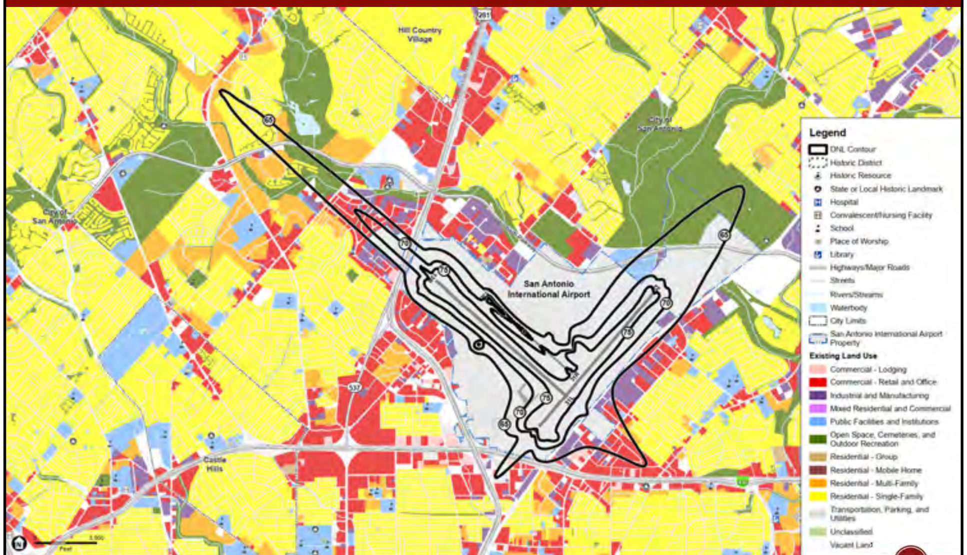
2021 Baseline - DNL 65, 70, and 75 Contours



The draft 2021 Baseline noise contours are for deliberative purposes only, are subject to change, and will not be used to determine eligibility for future noise mitigation efforts

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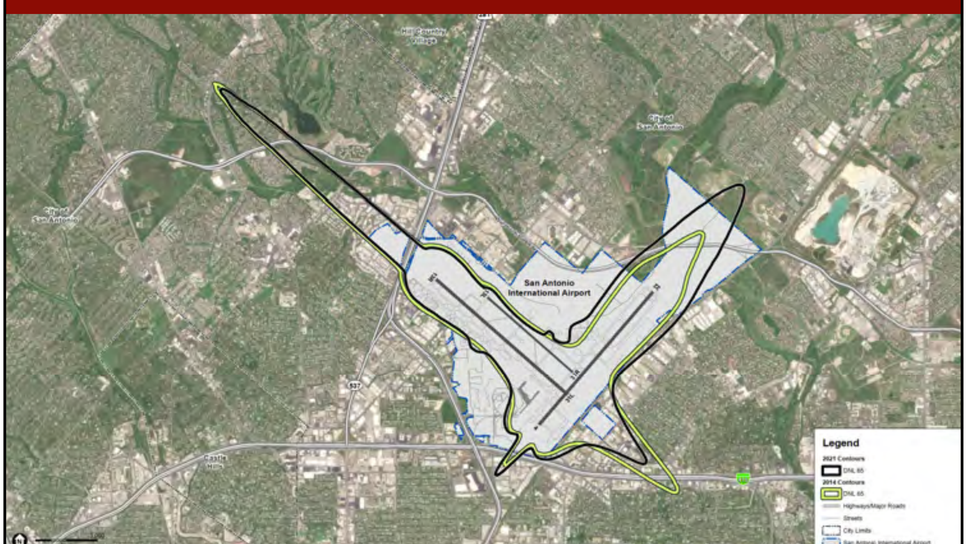
2014 Baseline and 2021 Baseline DNL 65 Contours



The draft 2021 Baseline DNL 65 contour is for deliberative purposes only, is subject to change, and will not be used to determine eligibility for future noise mitigation efforts

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Next Steps

Fall 2020
Review community stakeholder comments relative to the assumptions used in the noise modeling

Fall 2020
Identify populations and noise-sensitive structures located within the DNL 65 contour

Late 2020
Develop the 2026 Future Conditions airport activity forecast and the 2026 Future Conditions noise contours

Early 2021
Prepare and circulate the Noise Exposure Map Update Report for public review

Early 2021
Conduct 2nd Public Workshop

Spring 2021
Submit NEM Update Report to the FAA

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Comments or Questions?

All formal comments on the NEM Update effort will become part of the official study record and must be submitted to the **SAT Noise Office by 5pm November 13, 2020**, via either email or regular mail.

Email (submitted by 5pm):

AirportNoiseHotline@sanantonio.gov

Regular Mail (postmarked by 5pm):

San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

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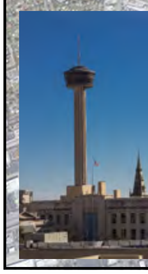
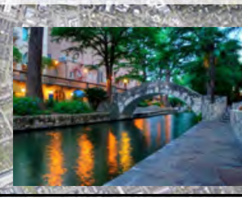
14 CFR PARTE 150 ACTUALIZACIÓN DEL MAPA DE EXPOSICIÓN AL RUIDO

AEROPUERTO INTERNACIONAL DE SAN ANTONIO

TALLER PÚBLICO

Fecha por determinar





Descripción General: ¿Qué es la Parte 150?

Establecido en 1985, el Título 14 del Código de Regulaciones Federales Parte 150 (14 CFR Parte 150, o "Parte 150") proporciona un proceso para que los operadores de aeropuertos aborden la compatibilidad de las operaciones de aeronaves con las comunidades circundantes

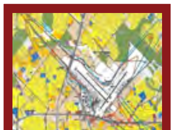
La Parte 150 establece la metodología a seguir cuando se preparan mapas de exposición al ruido de las aeronaves (NEM por sus siglas en inglés) y se desarrollan programas de compatibilidad de ruido (NCP por sus siglas en inglés) en los aeropuertos / alrededores del aeropuerto *

La Parte 150 es un proceso voluntario que ayuda a los operadores del aeropuerto a ser elegibles para fondos de subvención federales para programas aprobados de ruido del aeropuerto

La Parte 150 requiere que los miembros del público tengan la oportunidad de participar en el proceso, lo que incluye proporcionar comentarios

* El estudio actual de la Parte 150 del SAT solo implica actualizar los NEM y ayudará a determinar si se justifica una futura actualización del NCP.

Resumen - Parte 150 NEM Actualización Metas y Objetivos del Estudio



Determinar la exposición al ruido existente y futuro e identificar los usos del suelo que no son compatibles

Educar a las partes interesadas y la comunidad sobre el programa de ruido existente y las regulaciones relacionadas

Identificar áreas de exposición al ruido no compatible y su elegibilidad potencial para la mitigación del ruido*

Mejorar las relaciones con la comunidad a través de la transparencia

Asegurar un NEM que cumple con las reglas de la Administración Federal de Aviación (FAA por sus siglas en inglés)

* Los contornos de ruido de referencia / condiciones existentes de 2021 que se presentan aquí no se utilizarán para determinar la elegibilidad para la mitigación de ruido en el futuro. La elegibilidad se determinará utilizando los contornos de ruido de las condiciones futuras de 2026, que se presentarán al público para su revisión a principios de 2021.

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Descripción General - Regulación del Ruido del Aeropuerto

Marco de referencia		Partes interesadas
La ley federal establece los estándares de ruido de las aeronaves, prescribe las reglas de operación, establece el proceso de planificación de compatibilidad y limita la capacidad de un aeropuerto para restringir las operaciones de la aeronave.	Administración Federal de Aviación	La FAA: (1) Controla la aeronave mientras está en vuelo; (2) Responsable de controlar el ruido en su fuente (es decir, motores de aeronaves); (3) Certifica aeronaves y pilotos.
La ley estatal establece pautas de planificación de compatibilidad y estándares de ruido, pero las aeronaves están exentas.	gobiernos locales y estados	Gobiernos locales y estados: (1) Promover el uso compatible del suelo mediante la zonificación; (2) Requerir divulgación de bienes inmuebles; (3) Materiales de construcción de aislamiento acústico obligatorios.
Las ordenanzas locales sobre ruido establecen estándares de ruido y proporcionan una planificación compatible del uso del suelo, pero las aeronaves están exentas.	operadores de aeropuerto / SAT	Operadores de aeropuertos (SAT): (1) Autoridad muy limitada para adoptar restricciones locales; (2) Responsable de proyectos de mejora de capital e infraestructura.

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Descripción General – Mapas de Exposición al Ruido

- La parte 150 requiere documentación de los contornos del nivel de sonido promedio día-noche (DNL) 65, 70 y 75
- La Administración Federal de Aviación considera que todos los usos del suelo son compatibles con el ruido de las aeronaves por debajo del contorno DNL 65
- Los NEM reflejan los contornos DNL presentados sobre mapas base de uso del suelo

Un contorno de ruido representa niveles de exposición al ruido de aeronaves iguales en los alrededores de un aeropuerto

5

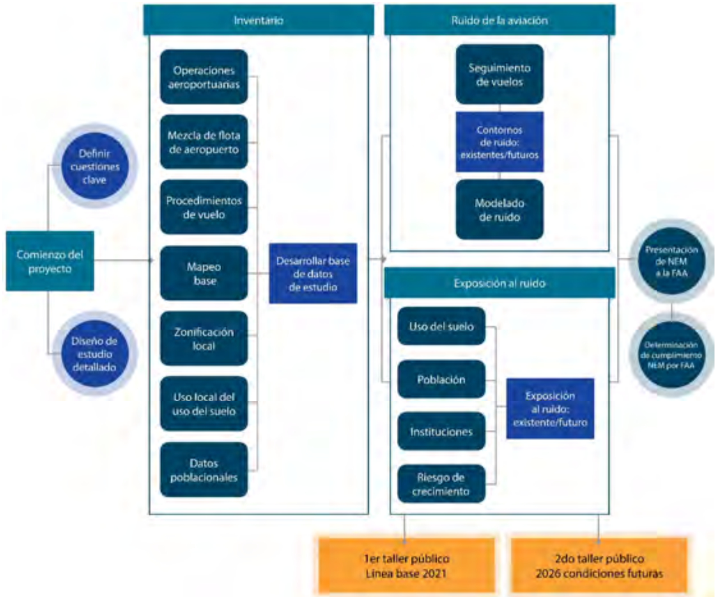
Descripción General – Mapas de Exposición al Ruido

- Los mapas base representan el diseño de un aeropuerto, las jurisdicciones locales de control del uso del suelo, las principales categorías de uso del suelo, los "receptores" sensibles al ruido y otra información requerida por la Parte 150
- La Parte 150 requiere NEM para el año de presentación de la FAA y un pronóstico de 5 años; como tal, esta actualización NEM desarrollará contornos de ruido para:
  - Año base 2021
  - 2026 Condiciones futuras Año
- Las categorías de uso del suelo en este Estudio de la Parte 150 reflejan los patrones de desarrollo actuales y futuros en torno al SAT

Para este estudio de la Parte 150, las operaciones del aeropuerto de 2019 se utilizaron para representar las operaciones de línea de base de 2021. En consulta con la FAA, se supuso que no hubo crecimiento en las operaciones de aeronaves entre 2019 y 2021, dada la desaceleración global en la actividad de la aviación debido a la pandemia de COVID-19.

6

Descripción General - Proceso de Estudio de Actualización del Mapa de Exposición al Ruido



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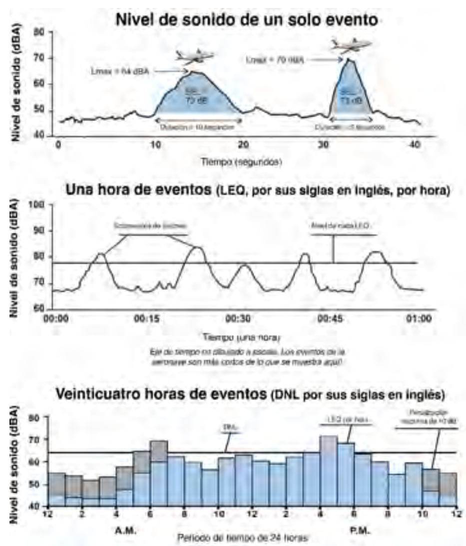
Física del Ruido: Nivel de Sonido Promedio Día-Noche

- El decibel (dB) es la unidad que se utiliza para describir el nivel de presión sonora y, cuando se expresa en dBA, se pondera para tener en cuenta la audición humana.
- Nivel de ruido promedio de energía ponderado en el tiempo de 24 horas basado en decibeles ponderados A (dBA por sus siglas en inglés), que se correlaciona bien con la respuesta auditiva humana
- Ruido que ocurre entre las 10 p.m. y las 7 a.m. está ponderada por 10 dB adicionales para tener en cuenta la mayor sensibilidad al ruido durante las horas nocturnas y la disminución adicional esperada en los niveles de fondo que generalmente ocurren durante la noche
- El promedio anual de exposición al ruido de las aeronaves se calcula sobre un área amplia y luego se representa usando curvas de niveles de ruido iguales
- Refleja la exposición acumulativa al ruido de día promedio con el fin de determinar la compatibilidad general, no el ruido generado por un solo evento

8

Física del Ruido: Comprensión de los Niveles de Sonido



- El nivel de sonido máximo ponderado A (Lmax) es el nivel de sonido máximo, o pico, durante un evento de ruido
- El nivel de exposición al sonido (SEL) es una medida integrada en el tiempo, expresada en decibelios, de la energía sonora de un solo evento de ruido con una duración de referencia de un segundo.
- El nivel de ruido equivalente (Leq) es el nivel de ruido promedio de "energía" durante el período de tiempo de la muestra
- DNL se expresa en dBA y representa el nivel de ruido durante un período de 24 horas

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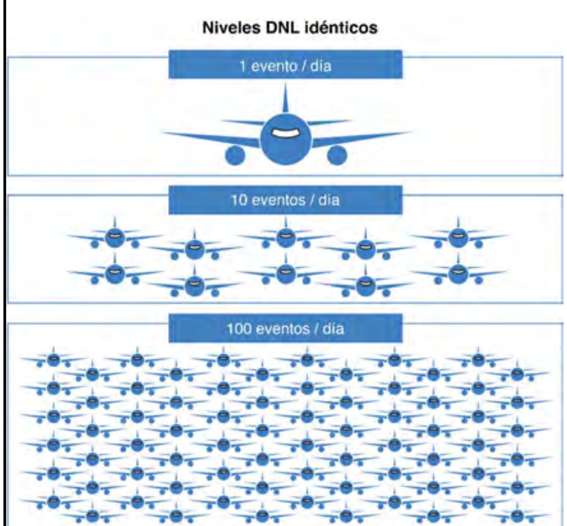
Física del Ruido: Exposición Acumulativa al Ruido



DNL representa la exposición acumulada al ruido; por lo tanto, un solo evento de ruido fuerte (SEL alto) que ocurre cada día puede tener el mismo nivel de DNL que varios eventos de ruido más silenciosos (SEL bajo) durante el mismo período.

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Modelado de Ruido - Metodología

Entradas

- Operaciones detalladas y mezcla de flota
- Ubicaciones y uso de la pista de vuelo
- Utilización de la pista
- Hora del día
- Longitud de la etapa
- Condiciones meteorológicas
- Terreno

Programa de modelado

Herramienta de diseño ambiental de aviación versión 3c

Resultados de contorno de ruido

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Modelado de Ruido: Lo Básico

El modelado de ruido de aeronaves permite

- Cálculo de la exposición al ruido en toda la comunidad
- Representación de la exposición anual al ruido promedio de las aeronaves
- Predecir la futura exposición al ruido de las aeronaves
- Evaluar los cambios en los impactos del ruido como resultado de cambios en la configuración de la pista
- Evaluar cambios en la combinación de flota y / o número de operaciones
- Evaluar los cambios en los procedimientos operativos

La Herramienta de diseño ambiental de aviación (AEDT por sus siglas en inglés) reemplazó al Modelo de ruido integrado (INM por sus siglas en inglés) cuando se lanzó en 2015. La versión actual, AEDT 3c, se utilizará para este Estudio de la Parte 150.

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Planificación de Uso de Suelo Compatible

La Tabla 1 en el Apéndice A de 14 CFR Parte 150 proporciona pautas regulatorias para el ruido y la compatibilidad del uso del suelo	Considera que los niveles menos de DNL 65 son compatibles con todos los usos del suelo	Permite la adopción de estándares locales apropiados de uso del suelo para propósitos de planificación de compatibilidad de uso del suelo

El proceso 14 CFR Parte 150 es el mecanismo del aeropuerto para mejorar la compatibilidad entre el aeropuerto y las comunidades circundantes.

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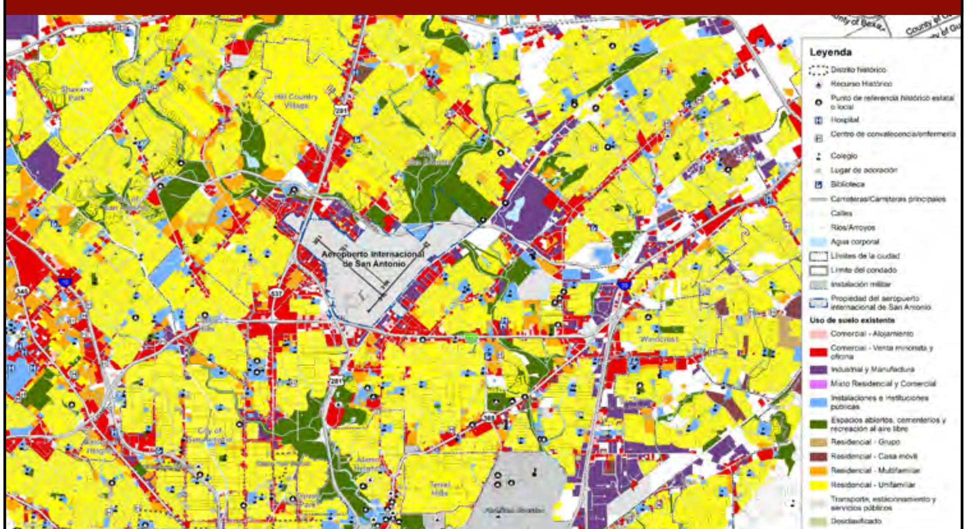
2021 Mapa de Referencia del Uso del Suelo



Visite el sitio web de La Oficina de Ruido para tener la oportunidad de revisar este mapa, así como otros materiales asociados con la actualización de NEM.

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2021 Mapa de Referencia del Uso del Suelo - Fuentes de Datos

Fuente	Datos	
Distrito de evaluación del condado de Bexar	Uso de suelo existente Convalecientes \ Instalaciones de enfermería	Hospitales Lugares de adoración
Ciudad de San Antonio	Límite corporativo de la ciudad Distritos Históricos Monumentos históricos locales	Límites del parque Calles
Condado de Bexar	Bibliotecas	Escuelas
Servicio de parques nacionales	Recursos Históricos (Registro Nacional)	
Autoridad del río San Antonio	Uso del suelo existente (suplementario) Uso futuro del suelo	Instalaciones militares Límites de la ciudad suburbana
Comisión Histórica de Texas	Monumentos históricos estatales	
Oficina del censo de los Estados Unidos	Límites del condado	Carreteras y carreteras principales
Encuesta geológica de los Estados Unidos	Rios y arroyos	Cuerpos de agua

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Programa de Ruido de SAT

1991

El primer Estudio de la Parte 150 aceptado por la FAA y el programa de ruido comienza en SAT

Establecido:

- Oficial de reducción de ruido, Comité asesor de reducción de ruido y Comité consultivo de pilotos
- Programa de monitoreo de quejas de ruido
- Instar a un mayor uso de aviones de la Etapa 3
- Uso del suelo y plan de zonificación
- Procedimiento de salida de reducción de ruido de uso voluntario
- Restricciones en los arranques nocturnos del motor
- Tratamiento acústico para edificios públicos
- Divulgación de ruido inmobiliario

1997

Actualización del NCP del Estudio de la Parte 150

- Recinto de puesta a tierra (GRE) recomendado para reducer el ruido relacionado con las puestas en marcha del motor
- Sistema de monitoreo de ruido permanente

2002

Estudio de la Parte 150 NEM y actualización de NCP

- Programa de tratamiento acústico residencial (RATP por sus siglas en inglés) (2006-2020)
  GRE construido

2009	2012	2015	2017	2020
Actualización del Estudio de la Parte 150 NEM	Servidumbres de navegación obtenidas	Actualización de NEM y NCP para el Estudio de la Parte 150	Nuevo sistema de monitoreo de ruido instalado	Actualización actual del NEM existente en la Parte NEM

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Programa de Ruido de SAT

Sistema de monitoreo de ruido y operaciones (NOMS por sus siglas en inglés)

12 ubicaciones permanentes de monitoreo de ruido (NMT) ubicadas alrededor del aeropuerto

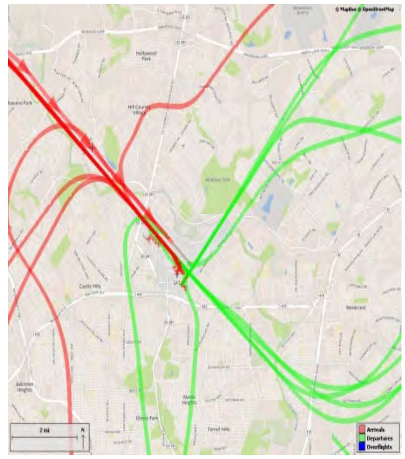
Datos de ruido integrados con datos de radar de la torre de control de tráfico aéreo de la FAA

Analizar pistas de vuelo, quejas y niveles de ruido

NOMS permite a la comunidad del aeropuerto ...

- Ver pistas de vuelo reales y niveles de ruido
- Archivo de Quejas de Ruido
- Comprender los patrones de vuelo

Muestra de pistas de vuelo sobre SAT



Puede encontrar más información en: https://flysanantonio.com/business/about-saas/environmental-stewardship/noise-programs/

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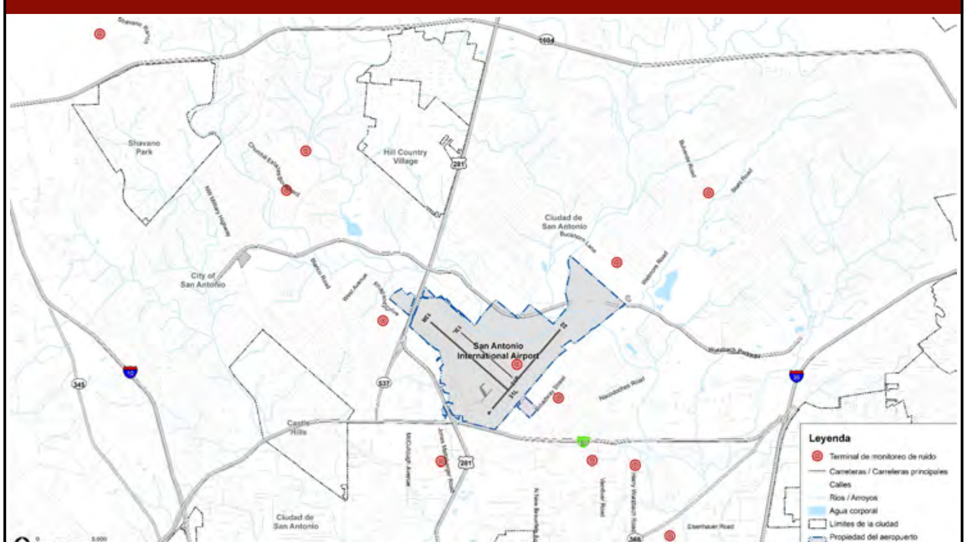
Ubicaciones del Monitor de Ruido



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Línea de Base 2021 - Operaciones de Aeronaves y Hora del Día

2021 operaciones anuales de aeronaves

Categoría de aeronave	Operaciones
Cuerpo ancho	4,287
Cuerpo estrecho	83,886
Jet regional	20,666
Jet de negocios	26,756
Turbohélice	15,301
Apuntalar	10,219
Helicóptero	2,756
Total	163,870

Nota: Una operación de aeronave es igual a una llegada / aterrizaje o una salida / despegue. El número total no se suma debido al redondeo.
Fuente: SAT, 2019. Environmental Science Associates, 2020.

2021 Operaciones anuales de aeronaves por hora del día

Llegadas		Salidas	
Día	Noche	Día	Noche
82.74%	17.26%	83.99%	16.01%

Nota: Una operación de aeronave es igual a una llegada / aterrizaje o una salida / despegue.
Fuente: SAT, 2019. Environmental Science Associates, 2020.

Línea de Base 2021 - Duración de la Etapa de Salida de la Aeronave

La duración de la etapa es la distancia que vuela un avión directamente de un aeropuerto a otro

Categorías de longitud de la etapa de salida de la herramienta de diseño ambiental de aviación (AEDT por sus siglas en íngles)

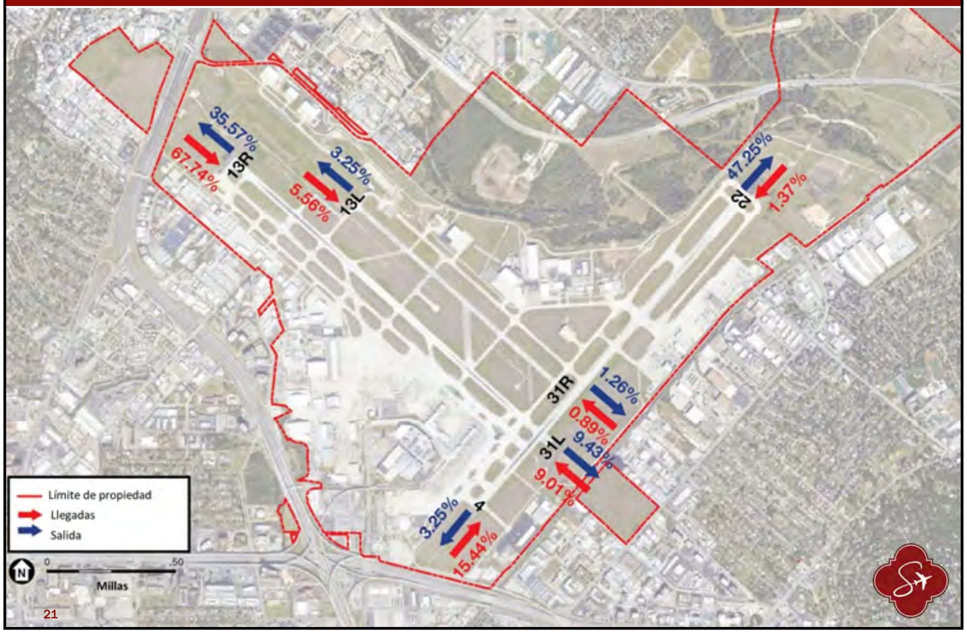
Categoría de longitud de etapa	Longitud de la ruta de salida (millas náuticas)	Salidas del SAT
1	0 - 500	55.455%
2	501 – 1,000	32.855%
3	1,001 - 1,500	10.935%
4	1,501 - 2,500	0.733%
5	2,501 - 3,500	0.001%
6	3,501 - 4,500	0.016%
7	4,501 - 5,500	0.004%
8	5,501 - 6,500	0.002%

Fuente: Environmental Science Associates, 2020.

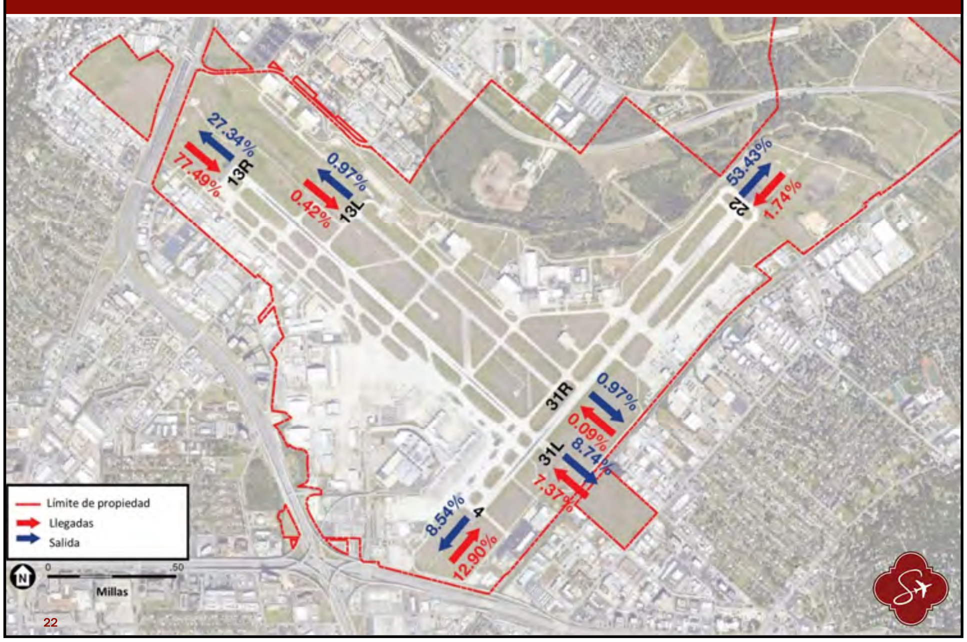
Es posible que los valores no sumen 100% debido al redondeo. Ningún avión voló con una longitud de etapa de salida superior a 8.

Comparación de longitud de etapa para Boeing 747-400

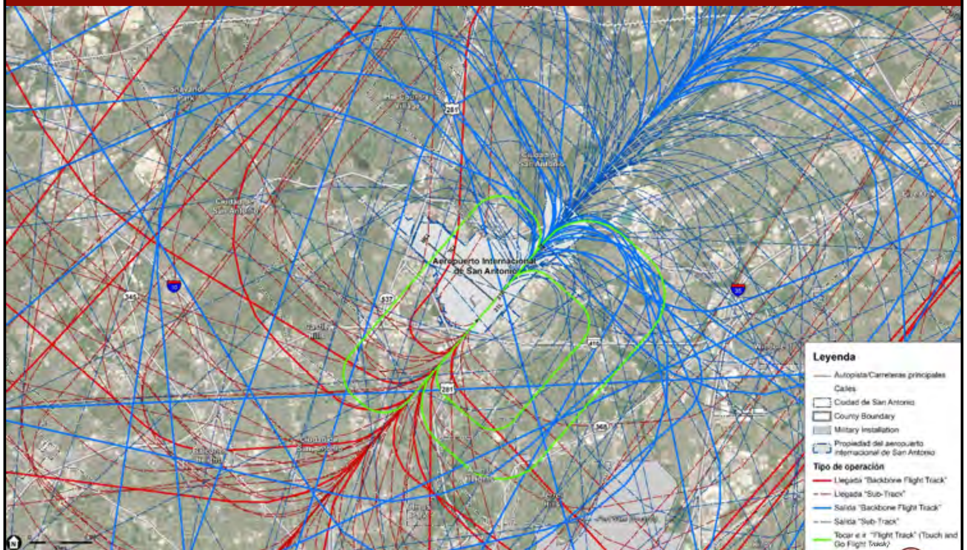
Línea de Base 2021 - Utilización Diurna de la Pista



Línea de Base 2021 - Utilización Nocturna de la Pista



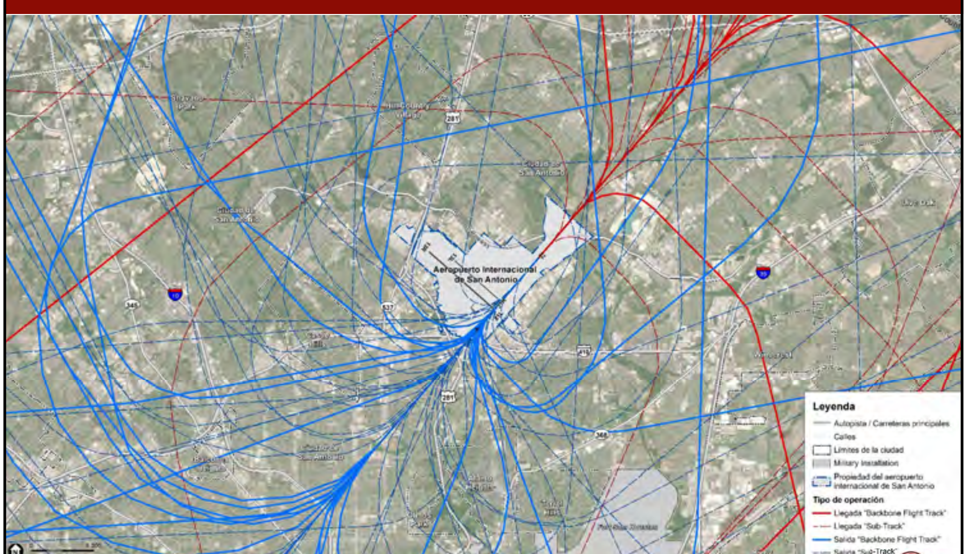
Línea de Base 2021 - Pistas de Vuelo AEDT - Pista 4



Borrador: solo con fines deliberativos y sujeto a cambios.

23

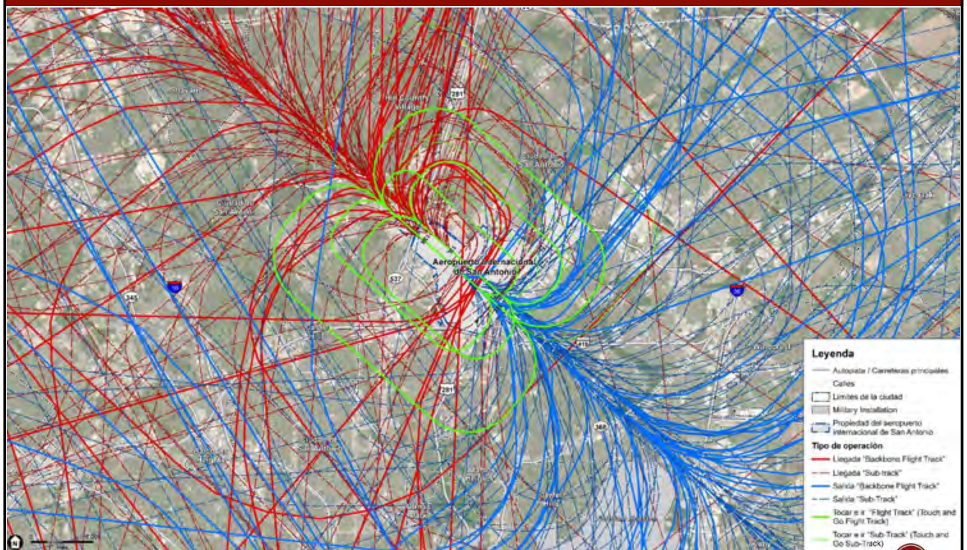
Línea de Base 2021 – Pistas de Vuelo AEDT - Pista 22



Borrador: solo con fines deliberativos y sujeto a cambios.

24

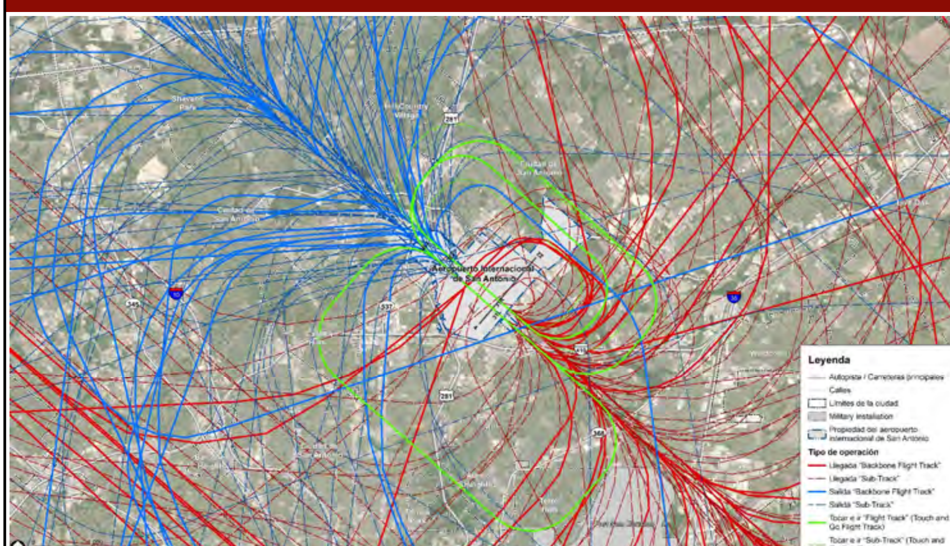
Linea de Base 2021 - Pistas de Vuelo AEDT - Pistas 13L y 13R



Borrador: solo con fines deliberativos y sujeto a cambios.

25

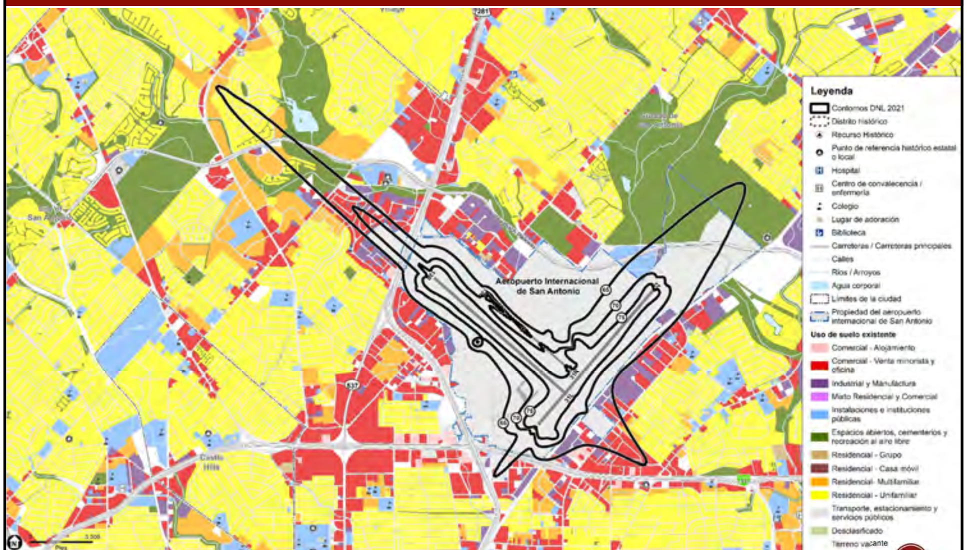
Línea Base 2021 - Pistas de Vuelo AEDT - Pistas 31L y 31R



Borrador: solo con fines deliberativos y sujeto a cambios.

26

Línea de Base 2021 - DNL 65, 70 y 75 Contornos



El borrador de los contornos de ruido de referencia de 2021 son solo para fines deliberativos, están sujetos a cambios y no se utilizarán para determinar la elegibilidad para futuros esfuerzos de mitigación del ruido.

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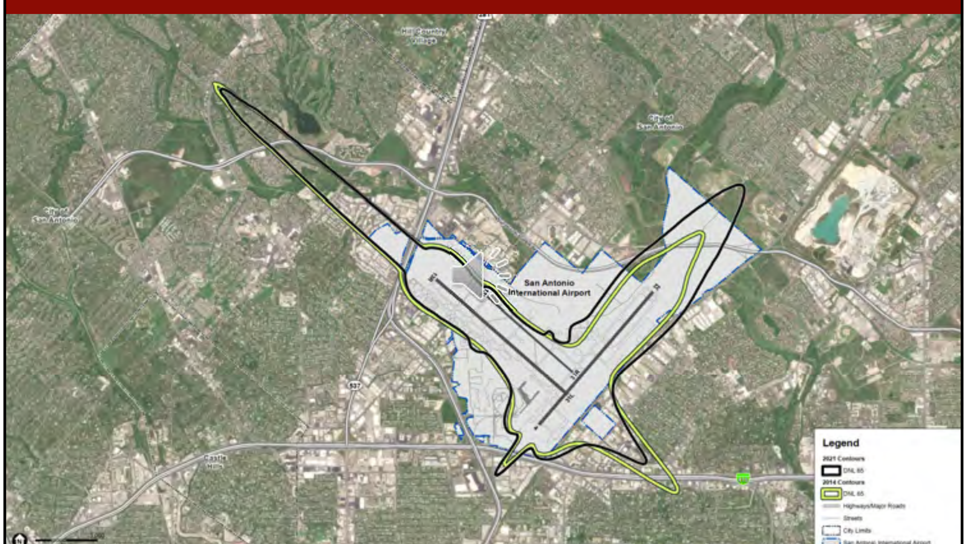
Contornos DNL 65 de Referencia 2014 y 2021



El borrador del contorno de línea base DNL 65 de 2021 es solo para fines deliberativos, está sujeto a cambios y no se utilizará para determinar la elegibilidad para futuros esfuerzos de mitigación del ruido.

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Próximos Pasos

- **Otoño 2020**: Revisar los comentarios de las partes interesadas de la comunidad en relación con los supuestos utilizados en el modelado de ruido.
- **Otoño 2020**: Identificar poblaciones y estructuras sensibles al ruido ubicadas dentro del contorno DNL 65
- **Finales de 2020**: Desarrollar el pronóstico de actividad aeroportuaria de las Condiciones Futuras de 2026 y los contornos de ruido de las Condiciones Futuras de 2026
- **Principios de 2021**: Preparar y distribuir el Informe de Actualización del Mapa de Exposición al Ruido para su revisión pública
- **Principios de 2021**: Realizar el segundo taller público
- **Primavera 2021**: Enviar informe de actualización de NEM a la FAA

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¿Comentarios o Preguntas?

Todos los comentarios formales sobre el esfuerzo de actualización de NEM se convertirán en parte del registro oficial del estudio y deben enviarse a la **Oficina de Ruido del SAT antes de las 5 pm del 13 de noviembre de 2020**, ya sea por correo electrónico o correo postal.

Correo electrónico (enviado antes de las 5 pm):

AirportNoiseHotline@sanantonio.gov

Correo regular (enviado antes de las 5 pm):

San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

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G-2 Draft NEM Update Public Information Workshops - February 22 - 25, 2021

Draft NEM Update Public Information Workshops

Workshop Report

NEM Update Round 2 Workshop Engagement Report

MARCH 2021

POZNECKI CAMARILLO

SAN ANTONIO INTERNATIONAL AIRPORT

Table of Contents

BACKGROUND

The San Antonio Airport System (SAAS) has undertaken a Title 14 Code of Federal Regulations (CFR) Part 150 Noise and Land Use Compatibility Study (the "Part 150 Study") Noise Exposure Map (NEM) Update to evaluate the compatibility of San Antonio International Airport ("SAT" or "the Airport") with the surrounding communities in consideration of the current operational environment. The last set of NEMs produced for the Airport through a Part 150 Noise Study was completed in 2015. Preparing a Part 150 Study is a voluntary action on the part of SAAS. However, once a Part 150 Study is undertaken, an airport sponsor is obligated to prepare an update whenever there is a significant change to the noise environment. The primary objective of this study is to prepare an updated NEM that identifies SAT's existing and future noise conditions around the Airport in addition to the existing and future land uses that are and are not compatible with aircraft noise based on guidelines outlined in 14 CFR Part 150.

FEDERAL OUTREACH REQUIREMENTS

Title 14 CFR Part 150 §150.21(b) and §A150.105(a) require that NEMs and documentation submitted be developed and prepared "in consultation with states, public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the DNL 65 dB contour depicted on the map, FAA regional officials, and other Federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport."

Consultation required by 14 CFR Part 150 includes the following entities:

- Aviation users (e.g., airlines, fixed base operators, based aircraft operators).
- Jurisdictional authorities with land located within the Day-Night Average Sound Level (DNL) 65 decibel (dB) or greater contours (Bexar County is the sole land use agency for land located within the DNL 65 dB and higher contours).
- Interested parties (i.e., the public).

PUBLIC OUTREACH GOALS:

- Provide early and frequent opportunities for stakeholders, the public, and agencies concerned with Airport noise with sufficient opportunity to provide input to inform and help shape the NEM update process.
- Conduct outreach to potentially affected property owners in the study area, with care to reach low-income, minority, limited English proficiency (LEP), and people with special needs.
- Use visually informative presentations to help communicate technical concepts and retain public interest.
- Collect outreach metrics to help track, and continually correct for, the goal of representative participation.

PUBLIC WORKSHOPS

During the Part 150 Study, SAAS held several public workshops and accepted comments from the public. Due to the COVID-19 pandemic, the public workshops were completed virtually to provide opportunities for engagement, while also adhering to public health guidelines recommended by local health officials and the U.S. Centers for Disease Control and Prevention.

SAAS held the first round of virtual public workshops for the Part 150 Study in October 2020. The second round of public workshops for the SAT Airport's NEM Update were held virtually, via Zoom, in February 2021. This summary document outlines the public outreach conducted in support of the second round of NEM virtual public workshops in February 2021.

The February 2021 virtual workshops included four individual workshops that were identical in content. Two of these workshops were conducted in English and two were conducted in Spanish. **Table 1** lists the date and time of each virtual workshop.

TABLE 1 PUBLIC WORKSHOPS DATES AND TIMES

Date	Location	Time	Number of Attendees
Tuesday, February 16, 2021 (English Only)	Virtual	6 p.m. – 8 p.m. POSTPONED*	N/A
Wednesday, February 17, 2021 (Spanish Only)	Virtual	10 a.m. – 12 p.m. POSTPONED*	N/A
Thursday, February 18, 2021 (English Only)	Virtual	1 p.m. – 3 p.m. POSTPONED*	N/A
Monday, February 22, 2021 (Spanish Only)	Virtual	6 p.m. – 8 p.m.	0
Tuesday, February 23, 2021 (English Only)	Virtual	6 p.m. – 8 p.m.	90
Thursday, February 25, 2021 (Spanish Only)	Virtual	3 p.m. – 5 p.m.	0
Thursday, February 25, 2021 (English Only)	Virtual	6 p.m. – 8 p.m.	107

*Due to unforeseen inclement weather and associated power outages across the state, the City of San Antonio postponed the originally scheduled workshops on February 16-18, 2021 and rescheduled them for the following week.

PUBLIC WORKSHOP PARTICIPATION

In total, attendance was 197 members of the general public and public officials (see attendee reports included in **Appendix A**). The purpose of the public workshops was to provide the public with an opportunity to provide feedback for the official project record. The information presented included an overview of the 14 CFR Part 150 process, SAAS's noise program, noise modeling, the 2026 Future Conditions NEM, and instructions to provide comments and stay involved in the Part 150 Study process. Workshop informational materials included a slide presentation (with a pre-recorded narration in both English and Spanish).

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Participants

WORKSHOP OUTREACH

To secure the best possible participation and engagement from the community, SAAS implemented a multi-faceted outreach effort that included both traditional and non-traditional outreach methods. Following is a summary of the outreach conducted.

Legal Notices

Notice of these workshops was advertised in the primary daily newspaper for the area, *San Antonio Express-News*, and a Spanish-language newspaper, *La Prensa*. The *San Antonio Express-News* has been the voice of South Texas since 1865. Their audience consists of more than 900,000+ readers with circulation reaching 645,000 people Monday-Sunday. *La Prensa* has provided community news for 40 years to the San Antonio community and circulates 15,000 printed copies delivered weekly to subscribers. Copies of the workshop notices can be found in **Appendix B**.

- January 16, 2021 in the San Antonio Express-News (in English).
- January 17, 2021 in the San Antonio Express-News (in English).
- January 30, 2021 in the San Antonio Express-News (in English).
- January 31, 2021 in the San Antonio Express-News (in English).
- January 24, 2021 in La Prensa Texas (in Spanish).
- January 31, 2021 in La Prensa Texas (in Spanish).

Postcards

To ensure geographic coverage of the area, 15,376 postcards were mailed to addresses within one mile of the Draft 2021 Existing Conditions DNL 65 dB contour. Copies of the postcard can be found in **Appendix C.**

15,376

Postcards sent to addresses within one mile of the Draft 2021 Existing Conditions DNL 65 dB contour

Information Repositories

Given that the public workshops were conducted online via Zoom, SAAS worked with local libraries to establish information repositories where people could view and print electronic copies of the public workshop materials. These materials were available at the following locations between February 2, 2021 and March 19, 2021 (the end of the public comment period):

- Central Library, 600 Soledad, San Antonio, TX 78205
- Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233
- Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209
- Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232
- Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201
- SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216

Social Media Outreach

SAAS created a social media toolkit to help enhance outreach and inform the public about the upcoming workshops. Below is a table summary of the posts that were published. Copies of the posts can be found in **Appendix D.**

TABLE 2 SOCIAL MEDIA OUTREACH

Date	Platform	Handle	Followers	Engagements	Shares/Retweets
1/17/2021	Facebook	San Antonio International Airport @SATairport	40,732	7	2
1/26/2021	Facebook	Oak Park-Northwood Neighborhood Association	247	-	-
1/27/2021	Facebook	KABB FOX 29 News, San Antonio	785,065	3	-
1/28/2021	Facebook	San Antonio International Airport @SATairport	40,732	11	2

Date	Platform	Handle	Followers	Engagements	Shares/Retweets
1/28/2021	Facebook Event	San Antonio International Airport @SATairport	40,732	14	-
2/10/20201	Facebook	Councilman Clayton Perry, District 10	1,773	1	2
2/12/2021	Facebook	Oak Park-Northwood Neighborhood Association	247	-	-
2/13/2021	Facebook	San Antonio International Airport @SATairport	40,732	6	-

Media Coverage

Below is a table summary of the stories that were published. Copies of the stories can be found in **Appendix E.**

TABLE 3 MEDIA COVERAGE

Date	Media Outlet	Story Name
1/27/2021	KABB FOX 29 News, San Antonio	*San Antonio Airport Works to alleviate noise, but area home alliance says it's not enough*

Email Blast

Several email blasts were sent to neighborhoods and homeowner association representatives in the vicinity of the Airport, as well as to participants from the October 2020 workshops. Overall, the email blasts had a 45.5% open rate. Copies of these email blasts can be seen in **Appendix F**.

45.5%
Overall Open Rate on Eblast Sent to NEM Email Lists

TABLE 4 EMAIL BLASTS

Date	Subject	Audience	Number of Recipients	Number of Opens	Number of Clicks
2/12/2021	SAT NEM Workshops #2	October 2020 Meeting Attendees	351	600	-
2/12/2021	SAT NEM Workshops #2	Neighborhoods	65	67	-
2/12/2021	SAT NEM Workshops #2	Noise Commenters	7	10	-
2/16/2021	Rescheduled SAT NEM Workshops #2	Feb. 16 Registrants	150	183	12
2/16/2021	Rescheduled SAT NEM Workshops #2	Feb. 17 Registrants	6	4	-

Date	Subject	Audience	Number of Recipients	Number of Opens	Number of Clicks
2/16/2021	Rescheduled SAT NEM Workshops #2	Noise Commenters	7	11	2
2/16/2021	Rescheduled SAT NEM Workshops #2	Neighborhoods	65	46	-
2/16/2021	Rescheduled SAT NEM Workshops #2	October 2020 Meeting Attendees	351	298	13
2/17/2021	Rescheduled #2 SAT NEM Workshops #2	October 2020 Meeting Attendees	351	314	20
2/17/2021	Rescheduled #2 SAT NEM Workshops #2	Feb. 16 Registrants	148	180	18
2/17/2021	Rescheduled #2 SAT NEM Workshops #2	Neighborhoods	65	26	-
2/17/2021	Rescheduled #2 SAT NEM Workshops #2	Noise Commenters	65	14	-
2/17/2021	Rescheduled #2 SAT NEM Workshops #2	Feb. 18 Registrants	83	113	17
2/23/2021	SAT NEM Workshops – Spanish Reminder	Feb. 17 Registrants	3	-	-
2/24/2021	SAT NEM Workshops #2 – English Reminder	NEM English Registrants	193	260	-
2/24/2021	SAT NEM Workshops #2 – English Reminder	NEM English Registrants	2	6	-
3/5/2021	SAT NEM Workshops Survey	NEM Feb. 2021 Workshop Attendees and Registrants	254	336	46
3/16/2021	SAT NEM Workshops Survey - Reminder	2020 and 2021 NEM Workshop Attendees	526	564	61

SAAS Noise Office Website

The SAAS's environmental stewardship webpage is being used as an access portal for materials related to the Part 150 Study. The website includes information and documents available to stakeholders, agencies, and the general public, including:

- Background materials and schedule updates for the Part 150 Study.
- Printed materials used for the public workshops (in English and Spanish).

- Links to access recordings of each public workshop (in English and Spanish).
- Draft NEM Update Report.
- Frequently Asked Questions.
- SAAS staff contact information.
- Instructions and email link to submit formal comments.

In addition, the SAAS posted social videos on their website announcing the upcoming workshops. From the initial outreach of the public workshop until the end of the workshop comment period (Jan. 1, 2021 – March 19, 2021) the SAAS website had 1,368 unique pageviews and a total of 1,713 pageviews.

ADDITIONAL ENGAGEMENT

As a result of the additional outreach conducted in support of the public workshops, SAAS also received additional engagement via increased calls to the Environmental Stewardship hotline and requests for mailed copies of the workshop presentation materials. Following is a summary of each.

41

Paper copies of workshop presentation mailed

Mailed Presentations

SAAS received 41 requests for hard copies of the workshop presentation from the public. These individuals were mailed packets with the presentation materials upon request.

SAAS Community Hotline

From Jan. 1, 2021 to March 15, 2021, a total of 57 phone calls and 63 emails from the public were fielded by SAAS staff throughout the engagement process. The below tables summarize the different types of concerns/themes of the calls and emails. A list of the names of individuals can be found in **Appendix G**.

TABLE 5 THEMES FROM PHONE CALLS

Themes from Phone Calls	Number*
Inquiring about the noise abatement program	6
Inquiring if their property qualifies for the residential acoustic treatment program	7
Wanting to know if the noise abatement area has been adjusted	1
Inquiring about assistance for replacing windows	5
Stating a complaint about the noise in the area	15
Inquiring about when the updated (2021) noise abatement map will be released	1
Inquiring if they qualify for the noise abatement program	6
Inquiring about updates to their home	1
Calling in regards to a previous meeting	2
Calling in regards to the upcoming meeting	15
Calling with concerns about existing noise cancellation windows and doors	1
Inquiring if their property is within the current noise exposure map	2
Would like to apply to the noise abatement program	1

*The total number of calls were 57; however, each call could include more than one theme thus the difference in number of calls vs. theme of calls.

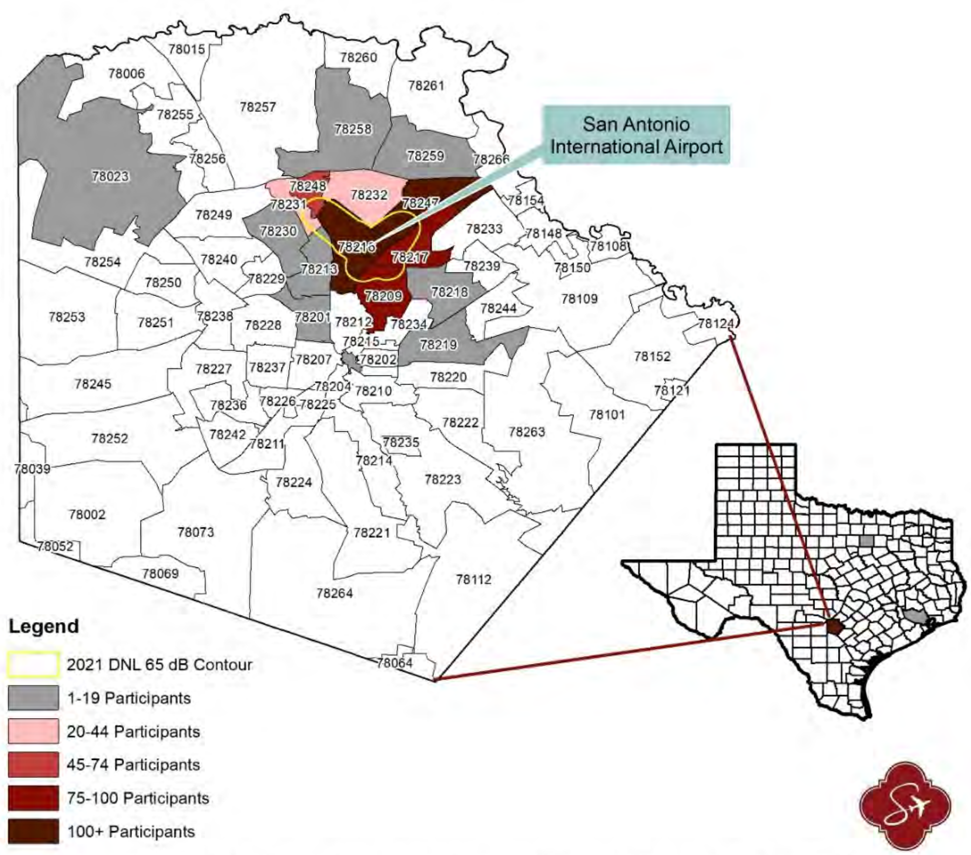
TABLE 6 THEMES FROM PHONE CALLS

Themes from Emails	Number*
Asking for outreach materials	1
Wanting an in-person meeting vs virtual	1
Inquiring if their property qualifies for the residential acoustic treatment program	10
Inquiring if/when funds for the noise abatement program will be replenished	1
Inquiring about an update on how/when the new noise exposure map will impact the noise abatement program	4
Inquiring about assistance/qualification for replacing windows	9
Request for printed presentation materials	25
Stating a complaint about the noise in the area	8
Inquiring if the improvements will affect their property	2
Questions about the upcoming meeting	3

*The total number of emails were 63; however, each email could include more than one theme thus the difference in number of emails vs. theme of emails.

GEOGRAPHIC REACH

The SAAS public outreach concentration area included a one-mile buffer around the 2021 DNL 65 dB contour. Each zip code within this buffer had at least one participant at the workshops, with the majority of the zip codes represented by 75 or more participants.



Note: there were also out-of-state participants, including participants in California (n=8), Colorado (n=3), and Florida (n=3),

CONCLUSION

SAAS implemented a proactive agency consultation and public outreach program that exceeded the requirements of 14 CFR Part 150 and provided opportunities for meaningful public engagement and participation in the development of the Draft NEMs. SAAS successfully garnered combined outreach via U.S. mail, social media, hotline/website, email blasts, and newspaper ads and produced significant and geographically representative participation.

APPENDIX A
Attendee Reports

February 23, 2021 Attendance Report

First Name	Last Name	Email
Dolores	Hernandez-Kuttruff	[redacted]
Lisa	Breshears	
Donna	Mayle	
Henri-Ann	Reynolds	
Mario	Solis	
Mary	McDonald	
Cynthia	Coss	
Marian	Paul	
Jessica	Bryan	
Belinda	Roman	
Brent	Strong	
vincent	McDonald	
Louis	Dracoulis	
Matthew	Dolder	
Kerry		
John	VanWoensel	
Carol	Ertl	
Arthur	Knott	
Morgan	Forke	
Nancy	Griffin	
Richard	Wood	
solis	Solis	
Cherie	Sharp	
Susan	Hancock	
Sarah	Conner	
Gerald	Werling	
Richard	Backus	
MELVIN	COHEN	
Ray	Steidel	
Mary	Barnett	
Winston	Cannicle	
David	Langefeld	
Stephany	McCafferty	
Jenny	Finkbiner	
Phoebe	Weiman	
Spencer	Mains	
Teresa	Maslonka	
Gretchen	Roufs	
Clare	Lassus	
Jana	Powell	
Walter	Hayne	
Mark	Cooper	
Barbara	Martin	
Anne	Gomez	
Elaine	Marshall	
Delaney	Honaker	

First Name	Last Name	Email
Carmen	Knolle	[redacted]
Johnna	Schroeder	
Michael	Gardoni	
Lana	Collins	
Elizabeth	Oliver	
Ashley	Helms	
Tara	Olivares	
Ryan	Caldwell	
Kenneth	Kanagaki	
Connie	Verastique	
Scott	Smith	
teri	swartz	
Brian	Buchanan	
Charles	Ondrej	
Marta	Fischer	
Michelyn	Smith	
JEFFREY	FRIDAY	
Grace	Apolinar	
David	Allen	
William	Scott	
Laura	Brunn	
Nancy	Breit	
Carrol	Peters	
Cheryl	Franklin	
Christine	Stabile	
John	Rowe	
Zachary	Shipley	
Michael	BALDWIN	
Michael	Wood	
David	DeLeon	
Linda	Barfield	
Joshua	Heiss	
Chris	Sequeira	
Michael	Arnold	
Spencer	Mains	
Steve	Alverson	
Autumn	Ward	
Tracy	Beach	
Jean-Christophe	Dick	
Susumu	Shirayama	
Neal	Wolfe	
Patrick	Hickman	
Linda	Vela	
Steve	Southers	

February 25, 2021 Attendance Report

First Name	Last Name	Email
Jim	Hollerbach	[redacted]
Patricia	Arriola	[redacted]
Robert	Boedecker	[redacted]
Julie	Vaello	[redacted]
Rebecca	Galindo	[redacted]
Claudine	Martinez	[redacted]
Michael	Gardoni	[redacted]
mark	moore	[redacted]
Crystal	Pickard	[redacted]
David	Kay	[redacted]
Monica	Lezzana	[redacted]
Ismael	Hernandez	[redacted]
John	Thompson	[redacted]
Alfonso	Gonzalez	[redacted]
Michael	Wood	[redacted]
Belinda	Roman	[redacted]
Nina	Nixon-Mendez	[redacted]
Kathleen	Clancy	[redacted]
Efrain	Gonzales	[redacted]
Marta	Fischer	[redacted]
Scott	Smith	[redacted]
Cherie Renee	Sharp	[redacted]
Grace	Apolinar	[redacted]
Aryan	Hedayati	[redacted]
DE	Dwyer	[redacted]
James	Faz	[redacted]
Ismael	Hernandez	[redacted]
David	Langefeld	[redacted]
Dale	Woods	[redacted]
Spencer	Mains	[redacted]
Joe	Brake	[redacted]
Laura	Hodge	[redacted]
Mark	Schenk	[redacted]
Victoria	Prince	[redacted]
Lupe	Kennedy	[redacted]
Bradley	Werling	[redacted]
Michael	BALDWIN	[redacted]
John	Collins	[redacted]
Gerald	Werling	[redacted]
Rebecca	Heady	[redacted]
Linda	Carolan	[redacted]
Jerry	Zwernemann	[redacted]
Lisa	Grant	[redacted]
Beverly	Pichardo	[redacted]
Barbara	Alexander	[redacted]
JON	APRIL	[redacted]

First Name	Last Name	Email
Mike	Wueste	[redacted]
Ethel	Valla	
Dugan	Sheehan	
Raymond	Steidel	
Susan	Robb	
Chris	Neuhaus	
Michael	Armour	
Kim	Ploetz	
Shirley	Koepnick	
David	White	
Kathleen	Tauber	
CHARLES	WOOD	
Laurann	Barborak	
Barbara	Moss	
Alisia	Murphy	
Teri	Swartz	
Stacey	Waldron	
Sonia	Almanza	
Peter	De Luna	
David	Allen	
David	Allen	
Mark	Kuttrus	
paul	taylor	
James	Neville	
Chris	Anderson	
john	vanwoensel	
Tara	Olivares	
Pat	Finley	
Dennis	Mergele	
Jim	Cosgrove	
Mike	Lemoine	
Margret	Bamford	
Lewis	Andrews	
Natalina	Martinez	
Eric	Weis	
Lanita	Wiltshire	
Stephanie	Hutchison	
Ron	Clary	
Lisa	Breshears	
Maureen	Book	
Mary	Owens	
Robert	Bucci	
Rosario	Hamilton	
Melinda	Adams	
ANNETTE	Olmsted	
Paul	Foster	

First Name	Last Name	Email
Linda	Barfield	[redacted]
Nancy	Breit	
MELVIN	COHEN	
Marta	Fischer	
Liz	Wagner	
Chuck	Saxer	
Alan	Nguyen	
David	Garcia	
Danny	Valverde	
Delaney	Honaker	
John	MacFarlane	
Ruben	Garcia	
Cynthia	Penta	
Anna	Alwood	
Alan	Nguyen	

APPENDIX B
Notices

HEARST

MEDIA SOLUTIONS

San Antonio Express News | ExpressNews.com | mySA.com

SAN ANTONIO EXPRESS - NEWS
AFFIDAVIT OF PUBLICATION

STATE OF TEXAS:
COUNTY OF BEXAR

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared: Geena Garza, who after being duly sworn, says that she is the Bookkeeper of HEARST NEWSPAPERS, LLC - dba: SAN ANTONIO EXPRESS - NEWS, a newspaper published in Bexar County, Texas and that the publication, of which the annexed is a true copy, was published to wit:

Customer ID	Customer	Order ID	Publication	Pub Date
20005571	CITY OF SA - AVIATION	34086783	SAE Express-News	01/16/21
			SAE Express-News	01/17/21
			SAE Express-News	01/30/21
			SAE Express-News	01/31/21

Geena Garza

Geena Garza
Bookkeeper

Sworn and subscribed to before me, this 1st **day of** Feb. **A.D.** 2021

Notary public in and for the State of Texas

Monique Egan

NOTARY PUBLIC STATE OF TEXAS
MONIQUE EGAN
My Notary ID # 3183735
Expires June 3, 2024

Public Information Workshops for Part 150 Noise Exposure Map Update San Antonio International Airport

The City of San Antonio is conducting a Noise Exposure Map (NEM) Update for the San Antonio International Airport, which will result in updated NEMs that will reflect both the existing and expected five-year future noise exposure conditions near the Airport. This study, a "Part 150 NEM Update," will follow the process as outlined in Title 14 of the Code of Federal Regulations Part 150, Airport Noise Compatibility Planning. At the end of the Part 150 process, two noise exposure maps will be developed: one depicting homes currently within the 65 DNL (Day-Night Average Sound Level) contour, and one depicting homes that will be within the 65 DNL contour five years in the future.

Public Information Workshop

The San Antonio International Airport conducted an initial series of Public Information Workshops in October 2020 to introduce the Part 150 NEM Update process and solicit your questions and comments on the 2021 Existing Conditions NEM. This upcoming set of Public Information Workshops will continue the Part 150 NEM conversation and introduce the 2026 Future Conditions NEM, and provide another opportunity for the public to provide comments on the Part 150 NEM Update and the 2026 Future Conditions NEM. After this series of workshops, the NEMs and public comments will be forwarded to the Federal Aviation Administration (FAA) for review. Following a 20-minute presentation, the workshops will provide the opportunity for the community to submit questions and receive answers, in real time, from the project study team. The workshops will be conducted at the following times:

DATE: Tuesday, February 16, 2021
(English Only)
TIME: 6:00PM - 8:00PM

DATE: Wednesday, February 17, 2021
(Spanish Only)
TIME: 10:00AM - 12:00PM

DATE: Thursday, February 18, 2021
(English Only)
TIME: 1:00PM - 3:00PM

DATE: Monday, February 22, 2021
(Spanish Only)
TIME: 6:00PM - 8:00PM

Please note that Spanish translation services will not be available for the "English Only" workshops listed above.

Due to the on-going health and safety concerns related to COVID-19, the workshops will be conducted virtually through an internet-based meeting platform, which will include a teleconference option. To register for the virtual workshops, and to obtain any updated meeting information, please visit https://flysanantonio.com/business/about-saas/environmental-stewardship/. The virtual workshop will be recorded, and the videos will be posted to the project website to allow the community members to view at a later time.

Community members can also call in to attend the workshops at: 877-853-5247 Conference ID Number: 865 8583 9338

Community members with limited ability to attend the virtual workshops can request printed presentation materials by

SAN ANTONIO EXPRESS - NEWS
AFFIDAVIT OF PUBLICATION

STATE OF TEXAS:
COUNTY OF BEXAR

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared: Geena Garza, who after being duly sworn, says that she is the Bookkeeper of HEARST NEWSPAPERS, LLC - dba: SAN ANTONIO EXPRESS - NEWS, a newspaper published in Bexar County, Texas and that the publication, of which the annexed is a true copy, was published to wit:

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			SAE Express-News	01/31/21

Geena Garza

Geena Garza
Bookkeeper

Sworn and subscribed to before me, this 1st **day of** Feb. **A.D.** 2021

Notary public in and for the State of Texas

Monique Egan

MONIQUE EGAN
My Notary ID # 3183735
Expires June 3, 2024
NOTARY PUBLIC STATE OF TEXAS

calling (210) 207-3847 or sending an email to AirportNoiseHotline@sanantonio.gov.

The Part 150 NEM Update presentation and supporting documentation will also be available for review from February 16, 2021 through March 8, 2021, at the following locations:

1. Central Library, 600 Soledad, San Antonio, TX 78205 - (210) 207-2500
2. Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233 - (210) 207-9190
3. Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209 - (210) 207-9040
4. Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232 - (210) 207-9030
5. Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201 - (210) 207-9220
6. SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216 - (210) 207-3847

Please call in advance to support the individual library's contact-free pickup requirements.

All interested parties are encouraged to submit formal comments in writing. To maximize the opportunity for feedback, the formal comment period will begin on February 16, 2021 and end on March 8, 2021. There are two options to submit comments:

(1) Email AirportNoiseHotline@sanantonio.gov by 5 PM March 8, 2021
(2) Mail (must be postmarked by March 8, 2021) at:
San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

Noise Exposure Map Update Report

The City is making the Draft NEM Update Report, which includes the Draft NEMs and supporting documentation, available for public review and comment. After review and consideration of comments, the City will submit the Draft NEM Update Report to the FAA for its determination that the NEMs comply with applicable requirements. Once found to be in compliance by the FAA, the NEMs will take effect from 2021 to 2026.

Printed copies of the Draft NEM Update Report will be available for review, starting on February 2, during normal hours at the same six locations listed above. In addition, the Draft NEM Update Report will be available for download from the Airport's website: https://flysanantonio.com/business/about-saas/environmental-stewardship/. To maximize the opportunity for feedback on the Draft NEM Update Report, the formal comment period will begin on February 2, 2021 and end on March 8, 2021. Comments on the Draft NEM Update Report can be submitted to the City via email and mail, as outlined above.

The Part 150 NEM Update process is independent from the Airport's on-going Strategic Development Plan (Master Plan), so the NEM workshops and the draft NEM Update Report will only discuss the Airport's existing noise conditions in 2021 and future noise conditions in 2026.

The City encourages all interested parties to monitor the project website for the latest study-related information, including Frequently Asked Questions (FAQs), and announcements at https://flysanantonio.com/business/about-saas/environmental-stewardship/.
Anyone with questions should contact Mr. Joshua Heiss at (210) 207-3847.

Talleres De Información Pública Para La Actualización Del Mapa De Exposición Al Ruido De La Parte 150 Aeropuerto Internacional De San Antonio

CITY OF SAN ANTONIO
AVIATION DEPARTMENT

La Ciudad de San Antonio está llevando a cabo una Actualización del Mapa de Exposición al Ruido (NEM) para el Aeropuerto Internacional de San Antonio, que resultará en NEM actualizados que reflejarán las condiciones de exposición al ruido existentes y esperadas en el futuro de cinco años cerca del Aeropuerto. Este estudio, una "Actualización de NEM Parte 150", seguirá el proceso descrito en el Título 14 del Código de Regulaciones Federales Parte 150, planificación de compatibilidad de ruido en aeropuertos. Al final del proceso de la Parte 150, se desarrollarán dos mapas de exposición al ruido: uno que representará las viviendas que se encuentran actualmente dentro del contorno de 65 DNL (Nivel de sonido medio día-noche) y otro que describirá las viviendas que estarán dentro del contorno de 65 DNL durante cinco años en el futuro.

Taller de información pública

El Aeropuerto Internacional de San Antonio llevó a cabo una serie inicial de talleres de información pública en octubre de 2020 para presentar el proceso de actualización de la NEM de la Parte 150 y solicitar sus preguntas y comentarios sobre las condiciones existentes NEM de 2021. Este próximo conjunto de talleres de información pública continuará la conversación de la NEM de la Parte 150 e introducirá la NEM de condiciones futuras de 2026, y brindará otra oportunidad para que el público proporcione comentarios sobre la Actualización de la NEM de la Parte 150 y la NEM 2026 Condiciones Futuras. Después de esta serie de talleres, los NEM y los comentarios públicos se enviarán a la Administración Federal de Aviación (FAA) para su revisión. Luego de una presentación de 20 minutos, los talleres brindarán la oportunidad a la comunidad de enviar preguntas y recibir respuestas, en tiempo real, del equipo de estudio del proyecto. Los talleres se llevarán a cabo en los siguientes horarios:

FECHA: Martes, 16 de febrero de 2021 (solo en inglés)
HORA: 6:00PM - 8:00PM

FECHA: Miércoles 17 de febrero de 2021 (solo en español)
HORA: 10:00AM - 12:00PM

FECHA: Jueves, 18 de febrero de 2021 (solo en inglés)
HORA: 1:00PM - 3:00PM

FECHA: Lunes 22 de febrero de 2021 (solo en español)
HORA: 6:00PM - 8:00PM

Tenga en cuenta que los servicios de traducción al español no estarán disponibles para los talleres que se mencionan estar "solo en inglés" anteriormente.
Debido a las preocupaciones actuales sobre salud y seguridad relacionadas con COVID-19, los talleres se llevarán a cabo virtualmente a través de una plataforma de reuniones en Internet, que incluirá una opción de teleconferencia. Para registrarse en los talleres virtuales y obtener información actualizada sobre la reunión, visite https://flysanantonio.com/business/about-saas/environmental-stewardship/. El taller virtual se grabará y los videos se publicarán en el sitio web del proyecto para que los miembros de la comunidad puedan verlos más adelante.
Los miembros de la comunidad de habla hispana también pueden llamar para asistir a los talleres al:
877-853-5247
Número de identificación de la conferencia: 820 9390 1670

Los miembros de la comunidad con capacidad limitada para asistir a los talleres virtuales pueden solicitar materiales de presentación impresos llamando al (210) 207-3847 o enviando un correo electrónico a AirportNoiseHotline@sanantonio.gov.

La presentación de la Actualización de NEM de la Parte 150 y la documentación de respaldo también estarán disponibles para su revisión desde el 16 de febrero de 2021 hasta el 8 de marzo de 2021, en las siguientes ubicaciones:

1. Central Library, 600 Soledad, San Antonio, TX 78205 - (210) 207-2500
2. Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233 - (210) 207-9190
3. Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209 - (210) 207-9040
4. Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232 - (210) 207-9030
5. Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201 - (210) 207-9220
6. SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216 - (210) 207-3847

Llame con anticipación para apoyar los requisitos de recogida sin contacto de la biblioteca individual.

Se anima a todas las partes interesadas a enviar comentarios formales por escrito. Para maximizar la oportunidad de recibir comentarios, el período de comentarios formal comenzará el 16 de febrero de 2021 y finalizará el 8 de marzo de 2021. Hay dos opciones para enviar comentarios:

(1) Envíe un correo electrónico a AirportNoiseHotline@sanantonio.gov antes de las 5 p.m. del 8 de marzo de 2021
(2) Correo (debe tener sello postal anterior al 8 de marzo de 2021) a:
San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

Informe de actualización del mapa de exposición al ruido

La Ciudad está haciendo el Borrador del Informe de Actualización de NEM, que incluye los Borradores de NEM y la documentación de respaldo, disponible para revisión y comentarios públicos. Después de revisar y considerar los comentarios, la Ciudad enviará el Borrador del Informe de Actualización de NEM a la FAA para su determinación de que los NEM cumplen con los requisitos aplicables. Una vez que la FAA determine que cumplen, los NEM entrarán en vigor de 2021 a 2026.

Las copias impresas del Borrador del Informe de Actualización de NEM estarán disponibles para su revisión, a partir del 2 de febrero, durante el horario normal en las mismas seis ubicaciones mencionadas anteriormente. Además, el borrador del informe de actualización de NEM estará disponible para su descarga desde el sitio web del aeropuerto: https://flysanantonio.com/business/about-saas/environmental-stewardship/. Para maximizar la oportunidad de recibir comentarios sobre el Borrador del Informe de Actualización de NEM, el período de comentarios formales comenzará el 2 de febrero de 2021 y finalizará el 8 de marzo de 2021. Los comentarios sobre el Borrador del Informe de Actualización de NEM se pueden enviar a la Ciudad por correo electrónico y por correo como se describe arriba.

El proceso de actualización de NEM de la Parte 150 es independiente del Plan de Desarrollo Estratégico (Plan Maestro) en curso del aeropuerto, por lo que los talleres de NEM y el borrador del Informe de actualización de NEM solo discutirán las condiciones de ruido existentes en el aeropuerto en 2021 y las condiciones de ruido futuras en 2026.

La Ciudad alienta a todas las partes interesadas a monitorear el sitio web del proyecto para obtener la información más reciente relacionada con el estudio, incluidas las Preguntas frecuentes (FAQ) y los anuncios en

https://flysanantonio.com/business/about-saas/environmental-stewardship/.

Cualquier persona que tenga preguntas debe comunicarse con el Sr. Joshua Heiss al (210) 207-3847.

Talleres de información pública para la actualización del mapa de exposición al ruido de la Parte 150 Aeropuerto Internacional de San Antonio

CITY OF SAN ANTONIO
AVIATION DEPARTMENT

La Ciudad de San Antonio está llevando a cabo una Actualización del Mapa de Exposición al Ruido (NEM) para el Aeropuerto Internacional de San Antonio, que resultará en NEM actualizados que reflejarán las condiciones de exposición al ruido existentes y esperadas en el futuro de cinco años cerca del Aeropuerto. Este estudio, una "Actualización de NEM Parte 150", seguirá el proceso descrito en el Título 14 del Código de Regulaciones Federales Parte 150, planificación de compatibilidad de ruido en aeropuertos. Al final del proceso de la Parte 150, se desarrollarán dos mapas de exposición al ruido: uno que representará las viviendas que se encuentran actualmente dentro del contorno de 65 DNL (Nivel de sonido medio día-noche) y otro que describirá las viviendas que estarán dentro del contorno de 65 DNL durante cinco años en el futuro.

Taller de información pública

El Aeropuerto Internacional de San Antonio llevó a cabo una serie inicial de talleres de información pública en octubre de 2020 para presentar el proceso de actualización de la NEM de la Parte 150 y solicitar sus preguntas y comentarios sobre las condiciones existentes NEM de 2021. Este próximo conjunto de talleres de información pública continuará la conversación de la NEM de la Parte 150 e introducirá la NEM de condiciones futuras de 2026, y brindará otra oportunidad para que el público proporcione comentarios sobre la Actualización de la NEM de la Parte 150 y la NEM 2026 Condiciones Futuras. Después de esta serie de talleres, los NEM y los comentarios públicos se enviarán a la Administración Federal de Aviación (FAA) para su revisión. Luego de una presentación de 20 minutos, los talleres brindarán la oportunidad a la comunidad de enviar preguntas y recibir respuestas, en tiempo real, del equipo de estudio del proyecto. Los talleres se llevarán a cabo en los siguientes horarios:

FECHA: **Martes, 16 de febrero de 2021 (solo en inglés)**
HORA: **6:00PM - 8:00PM**

FECHA: **Miércoles 17 de febrero de 2021 (solo en español)**
HORA: **10:00AM - 12:00PM**

FECHA: **Jueves, 18 de febrero de 2021 (solo en inglés)**
HORA: **1:00PM - 3:00PM**

FECHA: **Lunes 22 de febrero de 2021 (solo en español)**
HORA: **6:00PM - 8:00PM**

Tenga en cuenta que los servicios de traducción al español no estarán disponibles para los talleres que se mencionan estar "solo en inglés" anteriormente.
Debido a las preocupaciones actuales sobre salud y seguridad relacionadas con COVID-19, los talleres se llevarán a cabo virtualmente a través de una plataforma de reuniones en Internet, que incluirá una opción de teleconferencia. Para registrarse en los talleres virtuales y obtener información actualizada sobre la reunión, visite https://flysanantonio.com/business/about-saas/environmental-stewardship/. El taller virtual se grabará y los videos se publicarán en el sitio web del proyecto para que los miembros de la comunidad puedan verlos más adelante.
Los miembros de la comunidad de habla hispana también pueden llamar para asistir a los talleres al:
877-853-5247
Número de identificación de la conferencia: 820 9390 1670

Los miembros de la comunidad con capacidad limitada para asistir a los talleres virtuales pueden solicitar materiales de presentación impresos llamando al (210) 207-3847 o enviando un correo electrónico a AirportNoiseHotline@sanantonio.gov.

La presentación de la Actualización de NEM de la Parte 150 y la documentación de respaldo también estarán disponibles para su revisión desde el 2 de febrero de 2021 hasta el 8 de marzo de 2021, en las siguientes ubicaciones:
Central Library, 600 Soledad, San Antonio, TX 78205 - (210) 207-2500
Thousand Oaks Branch Library, 4618 Thousand Oaks, San Antonio TX 78233 - (210) 207-9190
Tobin Branch Library, 4134 Harry Wurzbach, San Antonio TX 78209 - (210) 207-9040
Brookhollow Branch Library, 530 Heimer, San Antonio, TX 78232 - (210) 207-9030
Westfall Branch Library, 6111 Rosedale Court, San Antonio, TX 78201 - (210) 207-9220
SAAS Environmental Stewardship Office, 457 Sandau Road, San Antonio TX 78216 - (210) 207-3847

Llame con anticipación para apoyar los requisitos de recogida sin contacto de la biblioteca individual.

Se anima a todas las partes interesadas a enviar comentarios formales por escrito. Para maximizar la oportunidad de recibir comentarios, el período de comentarios formal comenzará el 16 de febrero de 2021 y finalizará el 8 de marzo de 2021. Hay dos opciones para enviar comentarios:

(1) Envíe un correo electrónico a AirportNoiseHotline@sanantonio.gov antes de las 5 p.m. del 8 de marzo de 2021
(2) Correo (debe tener sello postal anterior al 8 de marzo de 2021) a:
San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

Informe de actualización del mapa de exposición al ruido

La Ciudad está haciendo el Borrador del Informe de Actualización de NEM, que incluye los Borradores de NEM y la documentación de respaldo, disponible para revisión y comentarios públicos. Después de revisar y considerar los comentarios, la Ciudad enviará el Borrador del Informe de Actualización de NEM a la FAA para su determinación de que los NEM cumplen con los requisitos aplicables. Una vez que la FAA determine que cumplen, los NEM entrarán en vigor de 2021 a 2026.
Las copias impresas del Borrador del Informe de Actualización de NEM estarán disponibles para su revisión, a partir del 2 de febrero, durante el horario normal en las mismas seis ubicaciones mencionadas anteriormente.
Además, el borrador del informe de actualización de NEM estará disponible para su descarga desde el sitio web del aeropuerto: https://flysanantonio.com/business/about-saas/environmental-stewardship/. Para maximizar la oportunidad de recibir comentarios sobre el Borrador del Informe de Actualización de NEM, el período de comentarios formales comenzará el 2 de febrero de 2021 y finalizará el 8 de marzo de 2021. Los comentarios sobre el Borrador del Informe de Actualización de NEM se pueden enviar a la Ciudad por correo electrónico y por correo como se describe arriba.

El proceso de actualización de NEM de la Parte 150 es independiente del Plan de Desarrollo Estratégico (Plan Maestro) en curso del aeropuerto, por lo que los talleres de NEM y el borrador del Informe de actualización de NEM solo discutirán las condiciones de ruido existentes en el aeropuerto en 2021 y las condiciones de ruido futuras en 2026.

La Ciudad alienta a todas las partes interesadas a monitorear el sitio web del proyecto para obtener la información más reciente relacionada con el estudio, incluidas las Preguntas frecuentes (FAQ) y los anuncios en
https://flysanantonio.com/business/about-saas/environmental-stewardship/.
Cualquier persona que tenga preguntas debe comunicarse con el Sr. Joshua Heiss al **(210) 207-3847.**

APPENDIX C
Postcard

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

The City of San Antonio is currently updating the Airport's Noise Exposure Maps (NEM) and the public has another opportunity to submit comments for the official project record.

Four virtual workshops will be hosted on Zoom
English Only
Tuesday February 16th 6pm - 8pm
Thursday February 18th 1pm - 3pm
Spanish Only
Wednesday February 17th 10am - 12pm
Monday February 22nd 6pm - 8pm

Please go to the Airport's Noise Office website to register for one of the Zoom workshops:

https://flysanantonio.com/business/about-saas/environmental-stewardship/

or scan the QR code here

Community members with limited ability to attend the virtual workshops can request printed presentation materials by calling **210.207.3847** or sending an email to **AirportNoiseHotline@sanantonio.gov**

Anuncio de taller público para la actualización del mapa de exposición al ruido del aeropuerto SAT

La ciudad de San Antonio está actualizando los mapas de exposición al ruido (NEM) del aeropuerto y el público tiene otra oportunidad de enviar comentarios para el registro oficial del proyecto.

Cuatro talleres virtuales se realizarán en Zoom
Solo en inglés
martes 16 de febrero 6pm - 8pm
jueves 18 de febrero 1pm – 3pm
Solo en español
miércoles 17 de febrero 10am – 12pm
lunes 22 de febrero 6pm - 8pm

Por favor visite el sitio web de la oficina de ruido del aeropuerto para registrarse en uno de los talleres de Zoom:

https://flysanantonio.com/business/about-saas/environmental-stewardship/

O escanea el código QR aquí

Los miembros de la comunidad con capacidad limitada para asistir a los talleres virtuales pueden solicitar materiales de presentación impresos llamando al **210.207.3847** o enviando un correo electrónico a **AirportNoiseHotline@sanantonio.gov**

San Antonio International Airport
9800 Airport Blvd
San Antonio, TX 78216

PRSRT STD
US POSTAGE
PAID
AUSTIN, TX
PERMIT NO. 718

APPENDIX D
Social Media Outreach

San Antonio International Airport
January 17 ·

Noise Exposure Map Public Workshop Announcement

https://flysanantonio.com/.../environmental-stewardship/

FLYSANANTONIO.COM

Environmental Stewardship - San Antonio International Airport

The San Antonio Airport System Environmental Stewardship Division is responsible for ensuring compliance with federal, state and local environmental laws through education, training, inspection, analysis, desig...

7 2 Shares

Like Comment Share

Oak Park-Northwood Neighborhood Association
February 26 at 6:51 PM ·

Logo
Dear Community Members and Airport Neighbors,

Hello from the San Antonio Airport System Strategic Development Plan (SDP) team.

We're writing to give you an update on the SDP virtual public meetings that were held on February 9 and 11. If you were unable to join us for one of these three meetings, we invite you to view the video and submit any questions or comments you might have on the SDP.

Comments or questions submitted through March 8, 2021, will be included in the meeting report. (Due to the storm-related issues the week of February 15, the original March 1 deadline for inclusion of comments/questions in the report was extended to March 8, 2021.)

Videos of the meetings are available in both English and Spanish for viewing at www.sanantonio.gov/SATfuture, under the "Strategic Development Events" section. You may also access the videos by scanning the QR code below.

If you have any questions or comments, or would like to request printed presentation materials, please send an email to SATfuture@sanantonio.gov. And please feel free to share this email with others.

Sincerely,

The Strategic Development Plan Team

Email: SATfuture@sanantonio.gov Website: www.sanantonio.gov/SATfuture Phone: 210-207-3403, during regular business hours

FLYSANANTONIO.COM

Strategic Development - San Antonio International Airport

San Antonio Airport System's Strategic Development Plan examines long-term growth and expansion of the airport system to...

Like Comment Share

KABB FOX 29 News, San Antonio

January 27 ·

"They fly the routes that are prescribed to them for departures or arrivals to maintain safe flight operations," says Joshua Heiss with San Antonio Airport's noise abatement team. "And they have to take into consideration the available runways and the area traffic."

FOXSANANTONIO.COM

San Antonio Airport works to alleviate noise, but area home alliance says it's not enough

2

1 Comments

San Antonio International Airport
January 28 ·

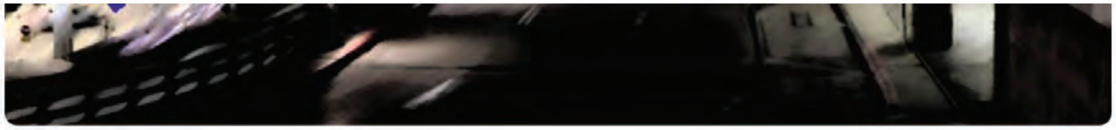
Do you experience noise from the airport? Register today to learn more about changes that may impact you. See comments below for registration links #flyeasier #flysanantonio

SAN ANTONIO
INTERNATIONAL AIRPORT

Don't miss your opportunity to share your thoughts with us!

0:17 / 0:18

9 · 2 Comments · 1 Share



16

FEB 16 AT 6 PM CST – FEB 22 AT 8 PM CST

Airport Noise Exposure Map Workshops

San Antonio International Airport

About Discussion ···

Post permissions for this event have been turned off for guests. The posts you see were made by the host or were posted before the permissions changed.

RECENT ACTIVITY

San Antonio International Airport added an event.
January 28 ·

TUE, FEB 16
Airport Noise Exposure Map Workshops
San Antonio
You've checked in to San Antonio International Airport before

Interested

Details

14 people responded

Event by **San Antonio International Airport**

San Antonio International Airport

Feb 16 at 6 PM CST – Feb 22 at 8 PM CST

Price: Free · Duration: 6 days

Public · Anyone on or off Facebook

Councilman Clayton Perry, District 10

February 10 ·

Register now for the virtual workshop on the Noise Exposure Map update! Copy and paste the link below!

https://flysanantonio.com/.../environmental-stewardship/

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

- The City of San Antonio is currently updating the Airport's Noise Exposure Maps.
- This is the second of two sets of workshops to provide the public the opportunity to submit comments for the official project record.
- This upcoming set of workshops will present the 2026 Future Conditions Noise Contours.

Four virtual workshops will be hosted on Zoom!

- English Only -

- Tuesday, February 16th 6pm – 8pm
- Thursday, February 18th 1pm – 3pm

- Spanish Only -

- Wednesday, February 17th 10am – 12pm
- Monday, February 22nd 6pm – 8pm

1

2 Shares

Like Comment Share

Oak Park-Northwood Neighborhood Association
February 12 ·

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

- The City of San Antonio is currently updating the Airport's Noise Exposure Maps.
- This is the second of two sets of workshops to provide the public the opportunity to submit comments for the official project record.
- This upcoming set of workshops will present the 2026 Future Conditions Noise Contours.

Four virtual workshops will be hosted on Zoom!

- English Only -

- Tuesday, February 16th 6pm – 8pm
- Thursday, February 18th 1pm – 3pm

- Spanish Only -

- Wednesday, February 17th 10am – 12pm
- Monday, February 22nd 6pm – 8pm

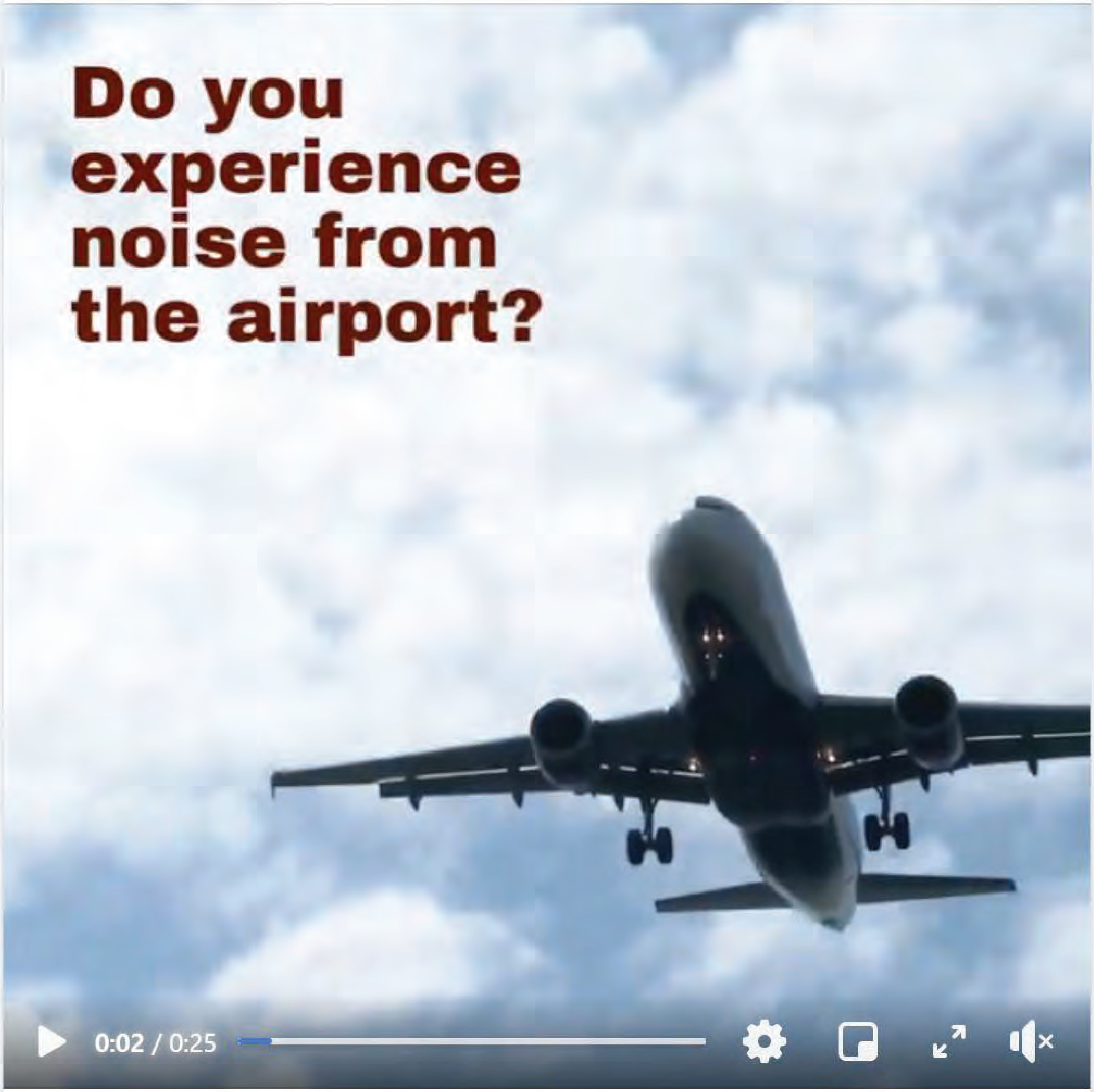
Like Comment Share

Write a comment...

San Antonio International Airport

February 13 ·

Do you experience noise from the airport? Use the link in the comments to register for one of the upcoming Noise Exposure Workshops ✈️ #flysanantonio



5

2 Comments

APPENDIX E
Media Coverage

San Antonio Airport works to alleviate noise, but area home alliance says it's not enough

by Robyn Oguinye
Wednesday, January 27th 2021

AA

PIC FOR ROBYN.PNG

SAN ANTONIO (KABB/WOAI) - Pat Garrison, with the Northeast Neighborhood Alliance, has [illegible] by the airport for decades and he himself, a pilot, has had his home renovated to protect against airport noise thanks to a federal grant.

lots may not stay the ... ould be
raft sound.

76° 80° 86°

Search Site

KABB

"The aircraft can fly straight down the runway departure path or the arrival path, but that doesn't necessarily happen," says Garrison. "Winds blow the aircraft off course, they turn prematurely so that the noise isn't over the houses that had been sound mitigated, but they fly over the non-mitigated homes."

"They fly the routes that are prescribed to them for departures or arrivals to maintain safe flight operations," says Joshua Heiss with San Antonio Airport's noise abatement team. "And they have to take into consideration the available runways and the area traffic."

The San Antonio Airport's noise abatement program re-evaluates what makes homes eligible for sound mitigation every five years.

Homes must have been built before October of 1998 and must receive 65 decibels or above from aircraft.

These areas, which the airport calls contours, change from year to year.

They told us they use community feedback to understand where noise exists and how it can change over time.

But money for the abatement program isn't available right now.

The new sound study just began - it'll run through 2026.

We asked the airport what homeowners can do if they find out they are eligible for the am.

back up and the airp 76° 80° 86° al
t and it partners with treat
those properties."

Search Site

Until then, this pilot is asking for some noise re-distribution.

"If they're going to remain where they are than they need to be a good neighbor also as far as sharing the noise, as well as placing the noise where he belongs."

The airport will be having four virtual workshops next month to get community input on airport noise.

The schedule is listed below.

You can sign up for the English workshop here or the Spanish workshop here.

Tuesday, February 16, 2021 (English Only)

6:00 pm 8:00 pm

Wednesday, February 17, 2021 (Spanish Only)

10:00 am 12:00 pm

Thursday, February 18, 2021 (English Only)

1:00 pm 3:00 pm

Monday, February 22, 2021 (Spanish Only)

6:00 pm 8:00pm

MORE TO EXPLORE

Utah woman, 39, dies 4 days after 2nd dose of COVID-19 vaccine; autopsy now completed

APPENDIX F
Email Blasts

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

Dear Community Members,

Join the City of San Antonio at a **virtual public workshop** to learn about and provide input to the Airport's Noise Exposure Map Update.

- The City of San Antonio is currently updating the Airport's Noise Exposure Maps.
- This is the second of two sets of workshops to provide the public the opportunity to submit comments for the official project record.
- This upcoming set of workshops will present the 2026 Future Conditions Noise Contours.

Four virtual workshops will be hosted on Zoom!

- English Only -

- Tuesday, February 16th, 6pm - 8pm
- Thursday, February 18th, 1pm - 3pm

- Spanish Only -

- Wednesday, February 17th, 10am - 12pm
- Monday, February 22nd, 6pm - 8pm

Please visit the link below for more information on how to register for the Virtual Workshop!

Visite el enlace a continuación para obtener más información sobre cómo registrarse para el Taller Virtual.

https://flysanantonio.com/business/about-saas/environmental-stewardship/

Please call **210.207.3847** if you have any questions.

Thank you for your interest!

Sincerely,

SAT Airport's Noise Exposure Map Update Team

Estimados miembros de la comunidad,

¡Recordatorio! Únase a la ciudad de San Antonio en un **taller público virtual** para conocer y brindar información sobre la actualización del mapa de exposición al ruido del aeropuerto.

- La ciudad de San Antonio está actualizando los mapas de exposición al ruido del aeropuerto.

- Este es el segundo de dos grupos de talleres para brindar al público la oportunidad de enviar comentarios para el registro oficial del proyecto.

- Este próximo conjunto de talleres presentará los Contornos de ruido de condiciones futuras de 2026.

¡Cuatro talleres virtuales se realizarán en Zoom!

- Solo inglés -
- martes, 23 de febrero, 6pm - 8pm
- jueves, 25 de febrero, 6pm - 8 pm

- Solo español -
- lunes, 22 de febrero, 6pm - 8 pm
- jueves, 25 de febrero, 3pm - 5pm

Visite el enlace a continuación para obtener más información sobre cómo registrarse para el Taller Virtual.

https://flysanantonio.com/business/about-saas/environmental-stewardship/

Llame al **210.207.3847** si tiene alguna preguntas.

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

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- The City of San Antonio is currently updating the Airport's Noise Exposure Maps.
- This is the second of two sets of workshops to provide the public the opportunity to submit comments for the official project record.
- This upcoming set of workshops will present the 2026 Future Conditions Noise Contours.

Four virtual workshops will be hosted on Zoom!

- English Only -

- Tuesday, February 23rd, 6pm - 8pm - ***COMPLETE!***
- Thursday, February 25th, 6pm - 8pm

- Spanish Only -

- Monday, February 22nd, 6pm - 8pm - ***COMPLETE!***
- Thursday, February 25th, 3pm - 5pm

Please visit the link below for more information on how to register for the Virtual Workshop!

Visite el enlace a continuación para obtener más información sobre cómo registrarse para el Taller Virtual.

https://flysanantonio.com/business/about-saas/environmental-stewardship/

Please call **210.207.3847** if you have any questions.

Thank you for your interest!

Sincerely,

SAT Airport's Noise Exposure Map Update Team

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

Dear Community Members,

Join the City of San Antonio at a **virtual public workshop** to learn about and provide input to the Airport's Noise Exposure Map Update.

- The City of San Antonio is currently updating the Airport's Noise Exposure Maps.
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- English Only -
- Tuesday, February 23rd, 6pm - 8pm - ***COMPLETE!***
- Thursday, February 25th, 6pm - 8pm

- Spanish Only -
- Monday, February 22nd, 6pm - 8pm - ***COMPLETE!***
- Thursday, February 25th, 3pm - 5pm

Please visit the link below for more information on how to register for the Virtual Workshop!

Visite el enlace a continuación para obtener más información sobre cómo registrarse para el Taller Virtual.

https://flysanantonio.com/business/about-saas/environmental-stewardship/

Please call **210.207.3847** if you have any questions.

Thank you for your interest!

Sincerely,

SAT Airport's Noise Exposure Map Update Team

Anuncio de taller público para la actualización del mapa de exposición al ruido del aeropuerto SAT

Estimados miembros de la comunidad,

Gracias por registrarse para el taller público virtual de mañana para el Estudio de Ruido de Parte 150 del Aeropuerto Internacional de San Antonio. Desafortunadamente, debido a las inclemencias del tiempo y los cortes de energía en todo el estado asociados, la ciudad de San Antonio ha decidido **posponer el taller de mañana** y **reprogramarlo para las 3 pm el 25 de febrero**.

Nos disculpamos por cualquier inconveniente que esto pueda causar, pero creemos que es necesario posponerlo para asegurar que todos tengan la oportunidad de participar en el taller y brindar sus comentarios. Esperamos que todos se mantengan calientes y seguros.

Tenga en cuenta que ya estamos organizando otro taller público virtual en español el lunes 22 de febrero a las 6 pm. Su enlace de acceso a Zoom existente (incluido en su correo electrónico de confirmación de registro) le proporcionará acceso al taller del 22 de febrero.

Si prefiere asistir al taller del 25 de febrero a las 3 p.m., tendrá que volver a registrarse haciendo clic en el siguiente enlace:
https://esa-zoom-api.azurewebsites.net/es

Consulte a continuación las fechas actualizadas de los talleres.

¡Cuatro talleres virtuales se realizarán en Zoom!

- Solo inglés -
- martes, 16 de febrero, 6 p.m. a 8 p.m. - ***APLAZADO!***
- jueves, 18 de febrero, 1 p.m. a 3 p.m.
- martes, 23 de febrero, 6 p.m. a 8 p.m.

- Solo español -
- miércoles, 17 de febrero, 10 a.m. a 12 p.m. - ***APLAZADO!***
- lunes, 22 de febrero, 6 p.m. a 8 p.m.
- jueves, 25 de febrero, 3 p.m. a 5 p.m.

Llame al **210.207.3847** si tiene alguna pregunta.

¡Gracias por su interés!

Atentamente,
Equipo de actualización del mapa de exposición al ruido del aeropuerto SAT

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

Dear Community Members,

Thank you for your interest in the San Antonio International Airport's Part 150 Noise Study. Unfortunately, due to the inclement weather and associated power outages across the state, the City of San Antonio has decided to **postpone tonight's and tomorrow's workshops** and **reschedule them for next week**. Please see below for the **updated dates** for the workshops.

We apologize for any inconvenience this may cause, but we feel postponing is necessary to ensure that everyone has an opportunity to participate in the workshop and provide their feedback. We hope you all stay warm and stay safe.

If you have already registered for the February 16th English-only workshop, you can use the same Zoom access link to attend the February 18th English-only workshop. If you would prefer to attend the February 23rd English-only workshop, please register by clicking here: https://esa-zoom-api.azurewebsites.net/en

If you have already registered for the February 17th Spanish-only workshop, you can use the same Zoom access link to attend the February 22nd Spanish-only workshop. If you would prefer to attend the February 25th Spanish-only workshop, please register by clicking here: https://esa-zoom-api.azurewebsites.net/es

Four virtual workshops will be hosted on Zoom!

- English Only -

- Tuesday, February 16th, 6pm - 8pm - ***POSTPONED!***
- Thursday, February 18th, 1pm - 3pm
- Tuesday, February 23rd, 6pm - 8pm

- Spanish Only -

- Wednesday, February 17th, 10am - 12pm - ***POSTPONED!***
- Monday, February 22nd, 6pm - 8pm
- Thursday, February 25th, 3pm - 5pm

Please call **210.207.3847** if you have any questions.

Thank you for your interest!

Sincerely,

SAT Airport's Noise Exposure Map Update Team

Public Workshop Announcement for SAT Airport's Noise Exposure Map Update

Dear Community Members,

Due to the continued inclement weather and associated power outages across the state, the City of San Antonio has decided to also **postpone tomorrow's workshop** and **reschedule it for next week**. Again, we apologize for the inconvenience.

To register for one of next week's English-only virtual public workshops, please click the following link: https://esa-zoom-api.azurewebsites.net/en

To register for one of next week's Spanish-only virtual public workshops, please click the following link: https://esa-zoom-api.azurewebsites.net/es

Please see below for the **updated dates** of the workshops.

Four virtual workshops will be hosted on Zoom!

- English Only -

- Tuesday, February 16th, 6pm - 8pm - ***POSTPONED!***
- Thursday, February 18th, 1pm - 3pm - ***POSTPONED!***
- Tuesday, February 23rd, 6pm - 8pm
- Thursday, February 25th, 6pm - 8pm

- Spanish Only -

- Wednesday, February 17th, 10am - 12pm - ***POSTPONED!***
- Monday, February 22nd, 6pm - 8pm
- Thursday, February 25th, 3pm - 5pm

Please call **210.207.3847** if you have any questions.

Thank you for your interest!

Sincerely,

SAT Airport's Noise Exposure Map Update Team

Dear Community Members,

Thank you for your interest in the Part 150 Noise Exposure Map Update for the San Antonio International Airport. We appreciate your interest and feedback!

If you were unable to join us for one of the recent Public Workshops held the week of February 22, 2021, we invite you to view recordings of each Public Workshop, review associated presentation materials, and read the Draft Noise Exposure Map Update Report at:

https://flysanantonio.com/business/about-saas/environmental-stewardship/

If you have any questions or comments regarding the information presented in the Part 150 Noise Exposure Map Update Public Workshops, please send an email to AirportNoiseHotline@sanantonio.gov if you want them to be included as part of the official project record. **All comments must be submitted by March 19, 2021, to become part of the official project record.**

If you have any additional questions or comments, or would like to request printed presentation materials, please send an email to AirportNoiseHotline@sanantonio.gov.

Sincerely,
The San Antonio International Airport Noise Office

Estimados miembros de la comunidad,

Gracias por su interés en la actualización del mapa de exposición al ruido Parte 150 para el Aeropuerto Internacional de San Antonio. ¡Agradecemos su interés y comentarios!

Si no pudo estar con nosotros en uno de los talleres públicos recientes que se llevaron a cabo la semana del 22 de febrero de 2021, lo invitamos a ver las grabaciones de cada taller público, revisar los materiales de presentación asociados y leer el borrador del informe de actualización del mapa de exposición al ruido en:

https://flysanantonio.com/business/about-saas/environmental-stewardship/

Si tiene preguntas o comentarios con respecto a la información presentada en los talleres públicos de actualización del mapa de exposición al ruido de la Parte 150, envíe un correo electrónico a AirportNoiseHotline@sanantonio.gov si desea que se incluyan como parte del registro oficial del proyecto. **Todos los comentarios deben enviarse antes del 19 de marzo de 2021 para que formen parte del registro oficial del proyecto.**

Si tiene preguntas o comentarios adicionales, o si desea solicitar materiales de presentación impresos, envíe un correo electrónico a AirportNoiseHotline@sanantonio.gov.

Atentamente,
La Oficina de Ruido del Aeropuerto Internacional de San Antonio

APPENDIX G
SAAS Community Hotline Log

First Name	Last Name	Date of Contact	Type
Jessica	Valdez	January 4, 2021	Telephone
Jessica	Valdez	January 4, 2021	Telephone
David	Garcia	January 4, 2021	Telephone
Jerome	Coleman	January 5, 2021	Telephone
Samantha	Garrett	January 5, 2021	Telephone
Steven	Sato	January 6, 2021	Telephone
Delaney	Honaker	January 6, 2021	Telephone
Sylvia	Moth	January 7, 2021	Telephone
Samantha	Garrett	January 14, 2021	Telephone
Clay	Click	January 14, 2021	Telephone
Dugan	Sheehan	January 15, 2021	Email
Sherry	Chaudhry	January 18, 2021	Telephone
Sherry	Chaudhry	January 18, 2021	Telephone
Patricia	Herzig	January 18, 2021	Telephone
Jose	Gutierrez	January 19, 2021	Email
Jose	Gutierrez	January 19, 2021	Email
Brianna	Damm	January 19, 2021	Telephone
Claudine	Martinez	January 20, 2021	Telephone
Ciro	Barragon	January 21, 2021	Telephone
Nicole	Michelle	January 21, 2021	Telephone
Sonya	Solis	January 21, 2021	Telephone
Sonya	Solis	January 21, 2021	Telephone
Sherry	Chaudhry	January 22, 2021	Email
David	Gregory	January 24, 2021	Telephone
Claudine	Martinez	January 24, 2021	Email
Megan	Hudson	January 25, 2021	Telephone
Sherry	Chaudhry	January 25, 2021	Email
Tiffany	Meyer	January 26, 2021	Telephone
Claudine	Martinez	January 26, 2021	Telephone
Adam	Kelly	January 28, 2021	Telephone
Leroy	Arocha	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone
Claudine	Martinez	January 28, 2021	Telephone

First Name	Last Name	Date of Contact	Type
Claudine	Martinez	January 28, 2021	Telephone
Johnna	Schroeder	January 28, 2021	Email
Leroy	Arocha	January 29, 2021	Telephone
James	Faz	January 30, 2021	App
James	Faz	January 30, 2021	App
Jen	Finkbiner	January 30, 2021	Email
Hector	Luna	February 1, 2021	Telephone
John	Brogan	February 1, 2021	Email
Andre	Csihas	February 1, 2021	Email
Katy	Garza	February 1, 2021	Email
Joseph De La	Garza	February 1, 2021	Email
Jessica	Whitton	February 2, 2021	App
Jessica	Whitton	February 2, 2021	App
Jessica	Whitton	February 2, 2021	App
Bobby	Hendricks	February 2, 2021	Email
Remy	Mimun	February 2, 2021	Email
Barbara	Lettunich	February 2, 2021	Email
Bryan	Mayo	February 2, 2021	Email
Annie	Cookson	February 3, 2021	Email
Debbie	Proctor	February 3, 2021	Telephone
Gary	Wolfe	February 3, 2021	Email
Michael	Carew	February 3, 2021	Email
John	Brogan	February 3, 2021	Email
Tammy	Cowan	February 3, 2021	Email
Alexa	Murphy	February 4, 2021	Telephone
Delaney	Honacher	February 4, 2021	Telephone
Lea	Rodriguez	February 4, 2021	Email
Dc	Carlson	February 4, 2021	Email
Donald	Metzger	February 5, 2021	Email
Andre	Csihas	February 5, 2021	Email
	Dsanchez	February 5, 2021	Email
Bill	Lawrence	February 6, 2021	Email
Teresa	Martinez	February 7, 2021	Email
Robert	Stuart	February 7, 2021	Telephone
Romelia	Switzer	February 7, 2021	Email
Diana	Martinez	February 8, 2021	Email
	Dsanchez	February 8, 2021	Email
Sue	Mebane	February 10, 2021	Email
Teresa6t66555rtrf	Hernandez	February 10, 2021	Email
Claudine	Martinez	February 10, 2021	Telephone
Teresa6t66555rtrf	Hernandez	February 10, 2021	Email
Debra	Hansen	February 17, 2021	Email
Julie	Vaello	February 18, 2021	Email
Nick	Wallace	February 19, 2021	Email
Gerald	Sanders	February 19, 2021	Email

First Name	Last Name	Date of Contact	Type
Nick	Wallace	February 19, 2021	Email
Lynn	Hernandez	February 19, 2021	Email
Jolyn	Warren	February 20, 2021	Email
Joe	Ramirez	February 22, 2021	Telephone
Lorie	Smart	February 22, 2021	Email
Irasema	Flores	February 23, 2021	Email
Mona	Laura	February 23, 2021	Email
Diana	Pena	February 24, 2021	Telephone
Bob	Boedecker	February 24, 2021	Email
Lupe	Kennedy	February 24, 2021	Email
Barbara	Alexander	February 24, 2021	Email
Barb	Alexander	February 25, 2021	Email
Wayne	Alexander	February 25, 2021	Email
Claudine	Martinez	February 25, 2021	Telephone
Claudine	Martinez	February 25, 2021	Telephone
Nina	Nixon-Mendez	February 25, 2021	Email
David	Garcia	February 26, 2021	Email
Michael	Banks	February 26, 2021	Telephone
Michael	Banks	February 26, 2021	Telephone
Claudine	Martinez	February 26, 2021	Email
Isabel	Reyes	March 1, 2021	Telephone
Jennifer	Martin	March 2, 2021	Email
Lauren	Abaii	March 3, 2021	Email
Rebecca	Allen	March 8, 2021	Telephone
Bob	Finch	March 8, 2021	Email
David	Garcia	March 8, 2021	Email
Lauren	Abaii	March 9, 2021	Email
Teresa6t66555rtrf	Hernandez	March 14, 2021	Email
Rachel	Herrera	March 15, 2021	Telephone

Draft NEM Update Public Information Workshops

Presentation Materials

14 CFR PARTE 150 ACTUALIZACIÓN DEL MAPA DE EXPOSICIÓN AL RUIDO

AEROPUERTO INTERNACIONAL DE SAN ANTONIO

TALLER PÚBLICO

FEBRERO 2021

Descripción General: ¿Qué es la Parte 150?

El Título 14 del Código de Regulaciones Federales Parte 150 (14 CFR Parte 150, o "Parte 150") proporciona un proceso para que los operadores de aeropuertos aborden la compatibilidad de las operaciones de aeronaves con las comunidades circundantes

La Parte 150 establece la metodología a seguir cuando se preparan mapas de exposición al ruido de las aeronaves (NEM por sus siglas en inglés) y se desarrollan programas de compatibilidad de ruido (NCP por sus siglas en inglés) en los aeropuertos / alrededores del aeropuerto *

La Parte 150 es un proceso voluntario que ayuda a los operadores del aeropuerto a ser elegibles para fondos de subvención federales para programas aprobados de ruido del aeropuerto

La Parte 150 requiere que los miembros del público tengan la oportunidad de participar en el proceso, lo que incluye proporcionar comentarios

* Este estudio de la Parte 150 del SAT solo implica actualizar los NEM y ayudará a determinar si se justifica una futura actualización del NCP.

Resumen - Parte 150 NEM Actualización Metas y Objetivos del Estudio

- Determinar la exposición al ruido existente y futuro e identificar los usos del suelo que no son compatibles
- Educar a las partes interesadas y la comunidad sobre el programa de ruido existente y las regulaciones relacionadas
- Identificar áreas de exposición al ruido no compatible y su elegibilidad potencial para la mitigación del ruido.
- Mejorar las relaciones con la comunidad a través de la transparencia
- Asegurar un NEM que cumple con las reglas de la Administración Federal de Aviación (FAA por sus siglas en inglés)

Descripción General - Regulación del Ruido del Aeropuerto

Marco de referencia		Partes interesadas
La ley federal establece los estándares de ruido de las aeronaves, prescribe las reglas de operación, establece el proceso de planificación de compatibilidad y limita la capacidad de un aeropuerto para restringir las operaciones de la aeronave.	Administración Federal de Aviación	La FAA: (1) Controla la aeronave mientras está en vuelo; (2) Responsable de controlar el ruido en su fuente (es decir, motores de aeronaves); (3) Certifica aeronaves y pilotos.
La ley estatal establece pautas de planificación de compatibilidad y estándares de ruido, pero las aeronaves están exentas.	gobiernos locales y estados	Gobiernos locales y estados: (1) Promover el uso compatible del suelo mediante la zonificación; (2) Requerir divulgación de bienes inmuebles; (3) Materiales de construcción de aislamiento acústico obligatorios.
Las ordenanzas locales sobre ruido establecen estándares de ruido y proporcionan una planificación compatible del uso del suelo, pero las aeronaves están exentas.	operadores de aeropuerto / SAT	Operadores de aeropuertos (SAT): (1) Autoridad muy limitada para adoptar restricciones locales; (2) Responsable de proyectos de mejora de capital e infraestructura.

Descripción General – Mapas de Exposición al Ruido

- La parte 150 requiere documentación de los contornos del nivel de sonido promedio día-noche (DNL) 65, 70 y 75
- La Administración Federal de Aviación considera que todos los usos del suelo son compatibles con el ruido de las aeronaves por debajo del contorno DNL 65
- Los NEM reflejan los contornos DNL presentados sobre mapas base de uso del suelo

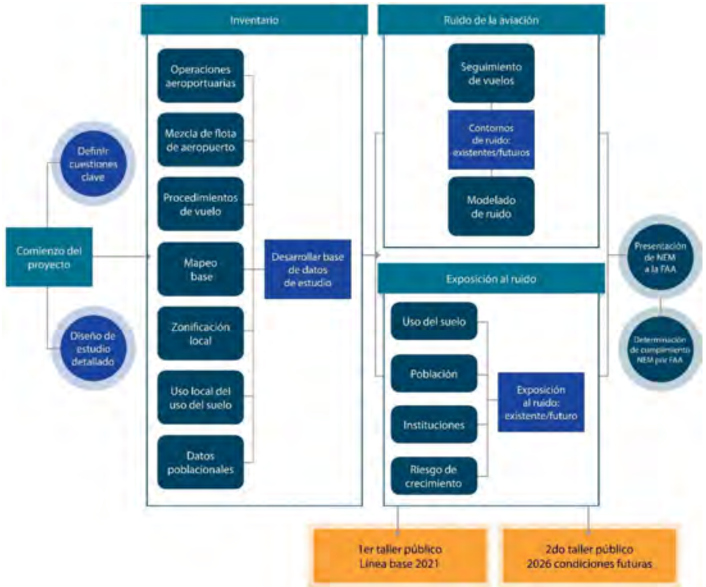
Un contorno de ruido representa niveles de exposición al ruido de aeronaves iguales en los alrededores de un aeropuerto

Descripción General – Mapas de Exposición al Ruido

- Los mapas base representan el diseño de un aeropuerto, las jurisdicciones locales de control del uso del suelo, las principales categorías de uso del suelo, los "receptores" sensibles al ruido y otra información
- La Parte 150 requiere NEM para el año de presentación de la FAA y un pronóstico de 5 años; como tal, esta actualización NEM desarrollará contornos de ruido para:
  - 2021 Condiciones existentes Año
  - 2026 Condiciones futuras Año
- Las categorías de uso del suelo en este Estudio de la Parte 150 reflejan los patrones de desarrollo actuales y futuros en torno al SAT

Las operaciones del aeropuerto de 2019 se utilizaron para representar las condiciones existentes de 2021. En consulta con la FAA, se supuso que no hubo crecimiento en las operaciones de aeronaves entre 2019 y 2021, debido a la pandemia de COVID-19. De manera similar, se supuso un retraso de dos años en el crecimiento para el año de condiciones futuras 2026.

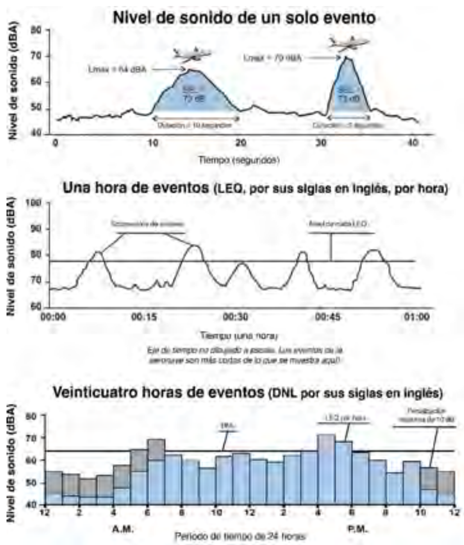
Descripción General - Proceso de Estudio de Actualización del Mapa de Exposición al Ruido



Física del Ruido: Nivel de Sonido Promedio Día-Noche

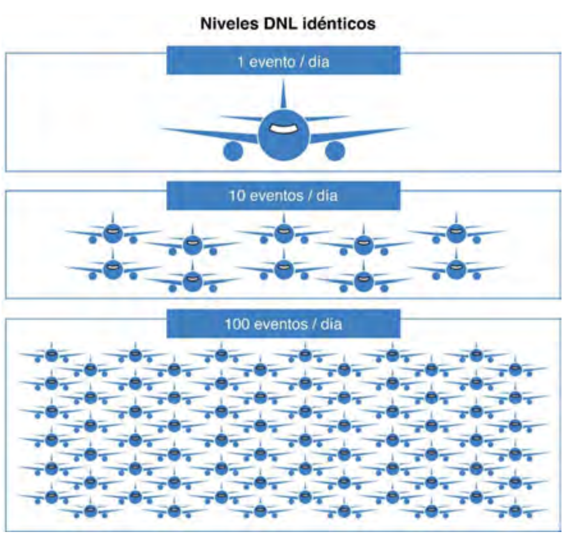
- El decibel (dB) es la unidad que se utiliza para describir el nivel de presión sonora y, cuando se expresa en dBA, se pondera para tener en cuenta la audición humana.
- Nivel de ruido promedio de energía ponderado en el tiempo de 24 horas basado en decibeles ponderados A (dBA por sus siglas en inglés), que se correlaciona bien con la respuesta auditiva humana
- Ruido que ocurre entre las 10 p.m. y las 7 a.m. está ponderada por 10 dB adicionales para tener en cuenta la mayor sensibilidad al ruido durante las horas nocturnas
- El promedio anual de exposición al ruido de las aeronaves se calcula sobre un área amplia y luego se representa usando curvas de niveles de ruido iguales
- Refleja la exposición acumulativa al ruido de día promedio con el fin de determinar la compatibilidad general, no el ruido generado por un solo evento

Física del Ruido: Comprensión de los Niveles de Sonido



- El nivel de sonido máximo ponderado A (Lmax) es el nivel de sonido máximo, o pico, durante un evento de ruido
- El nivel de exposición al sonido (SEL) es una medida integrada en el tiempo de la energía sonora de un solo evento de ruido con una duración de un segundo
- El nivel de ruido equivalente (Leq) es el nivel de ruido promedio de "energía" durante el período de tiempo de la muestra
- DNL se expresa en dBA y representa el nivel de ruido durante un período de 24 horas

Física del Ruido: Exposición Acumulativa al Ruido



DNL representa la exposición acumulada al ruido; por lo tanto, un solo evento de ruido fuerte (SEL alto) que ocurre cada día puede tener el mismo nivel de DNL que varios eventos de ruido más silenciosos (SEL bajo) durante el mismo período.

Modelado de Ruido - Metodología

Entradas

- Operaciones detalladas y mezcla de flota
- Ubicaciones y uso de la pista de vuelo
- Utilización de la pista
- Hora del día
- Longitud de la etapa
- Condiciones meteorológicas
- Terreno

Programa de modelado

Herramienta de diseño ambiental de aviación versión 3c

Resultados de contorno de ruido

Modelado de Ruido: Lo Básico

El modelado de ruido de aeronaves permite

- Cálculo de la exposición al ruido en toda la comunidad
- Representación de la exposición anual al ruido promedio de las aeronaves
- Predecir la futura exposición al ruido de las aeronaves
- Evaluar los cambios en los impactos del ruido como resultado de cambios en la configuración de la pista
- Evaluar cambios en la combinación de flota y / o número de operaciones
- Evaluar los cambios en los procedimientos operativos

La Herramienta de diseño ambiental de aviación (AEDT por sus siglas en inglés) versión 3c se está utilizando para este estudio de la Parte 150.

Planificación de Uso de Suelo Compatible

La Tabla 1 en el Apéndice A de 14 CFR Parte 150 proporciona pautas regulatorias para el ruido y la compatibilidad del uso del suelo	Considera que los niveles menos de DNL 65 son compatibles con todos los usos del suelo	Permite la adopción de estándares locales apropiados de uso del suelo para propósitos de planificación de compatibilidad de uso del suelo

El proceso 14 CFR Parte 150 es el mecanismo del aeropuerto para mejorar la compatibilidad entre el aeropuerto y las comunidades circundantes.

Mapa de Uso del Suelo: Fuentes de Datos

Distrito de evaluación del condado de Bexar	Uso de suelo existente Convalecientes \ Instalaciones de enfermería	Hospitales Lugares de adoración
Ciudad de San Antonio	Límite corporativo de la ciudad Distritos históricos Monumentos históricos locales	Límites del parque Calles
Condado de Bexar	Bibliotecas	Escuelas
Servicio de parques nacionales	Recursos Históricos (Registro Nacional)	
Autoridad del río San Antonio	Uso del suelo existente (suplementario) Uso futuro del suelo	Instalaciones militares Límites de la ciudad suburbana
Comisión Histórica de Texas	Monumentos históricos estatales	
Oficina del censo de los Estados Unidos	Límites del condado	Carreteras y carreteras principales
Encuesta geológica de los Estados Unidos	Rios y arroyos	Cuerpos de agua

Programa de Ruido de SAT

1991

El primer Estudio de la Parte 150 y el programa de ruido comienza en SAT

Establecido :

- Oficial de reducción de ruido
- Programa de monitoreo de quejas de ruido
- Uso del suelo y plan de zonificación
- Procedimiento de salida de reducción de ruido de uso voluntario
- Restricciones en los arranques nocturnos del motor
- Tratamiento acústico para edificios públicos
- Divulgación de ruido inmobiliario

1997

Actualización del NCP del Estudio de la Parte 150

- Recinto de puesta a tierra (GRE) recomendado para reducir el ruido del motor a marcha
- Sistema de monitoreo de ruido permanente

2002

Estudio de la Parte 150 NEM y actualización de NCP

- Programa de tratamiento acústico residencial (RATP por sus siglas en inglés) (2006-2020)
- GRE construido

2009 – Actualización del Estudio de la Parte 150 NEM

2012 – Servidumbres de navegación obtenidas

2015 – Actualización de NEM y NCP para el Estudio de la Parte 150

2017 – Nuevo sistema de monitoreo de ruido instalado

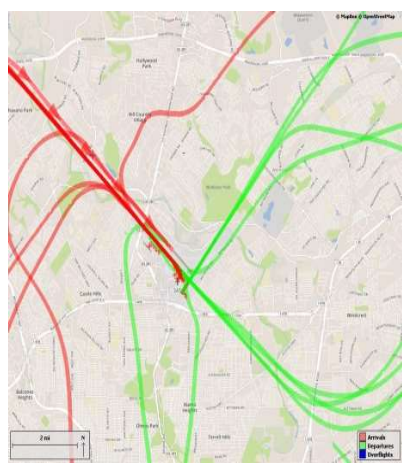
2020 – Actualización actual del NEM existente en la Parte NEM

Programa de Ruido de SAT

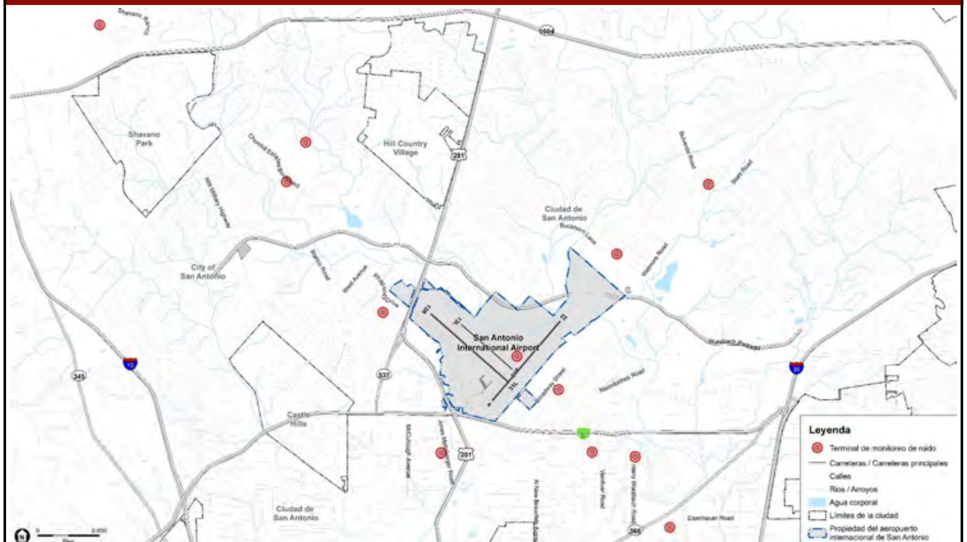
Sistema de monitoreo de ruido y operaciones (NOMS por sus siglas en inglés)

- 12 ubicaciones permanentes de monitoreo de ruido (NMT) ubicadas alrededor del aeropuerto
- Datos de ruido integrados con datos de radar de la torre de control de tráfico aéreo de la FAA
- Analizar pistas de vuelo, quejas y niveles de ruido

Muestra de pistas de vuelo sobre SAT



Ubicaciones del Monitor de Ruido



2021 y 2026 Operaciones de Aeronaves y Hora del Día

Operaciones de aeronaves anuales

Categoría de aeronave	Operaciones 2021	Operaciones 2026
Cuerpo ancho	4,287	4,727
Cuerpo estrecho	83,886	85,480
Jet regional	20,666	22,012
Jet de negocios	26,756	28,131
Turbohélice	15,301	22,514
Apuntalar	10,219	17,074
Helicóptero	2,756	2,756
Total	**163,870**	**182,695**

Operaciones anuales de aeronaves por hora del día

Año de estudio	Llegadas		Salidas	
	Día	Noche	Día	Noche
2021	82.74%	17.26%	83.99%	16.01%
2026	83.69%	16.31%	84.97%	15.03%

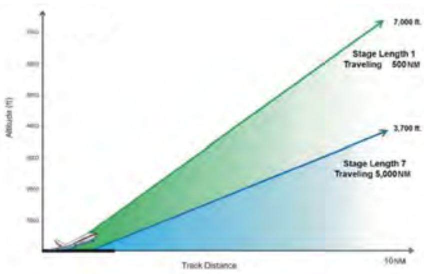
2021 y 2026 Duración de la etapa de salida de aeronaves

La duración de la etapa es la distancia que vuela un avión directamente de un aeropuerto a otro

Categorías de longitud de la etapa de salida de la herramienta de diseño ambiental de aviación (AEDT por sus siglas en íngles)

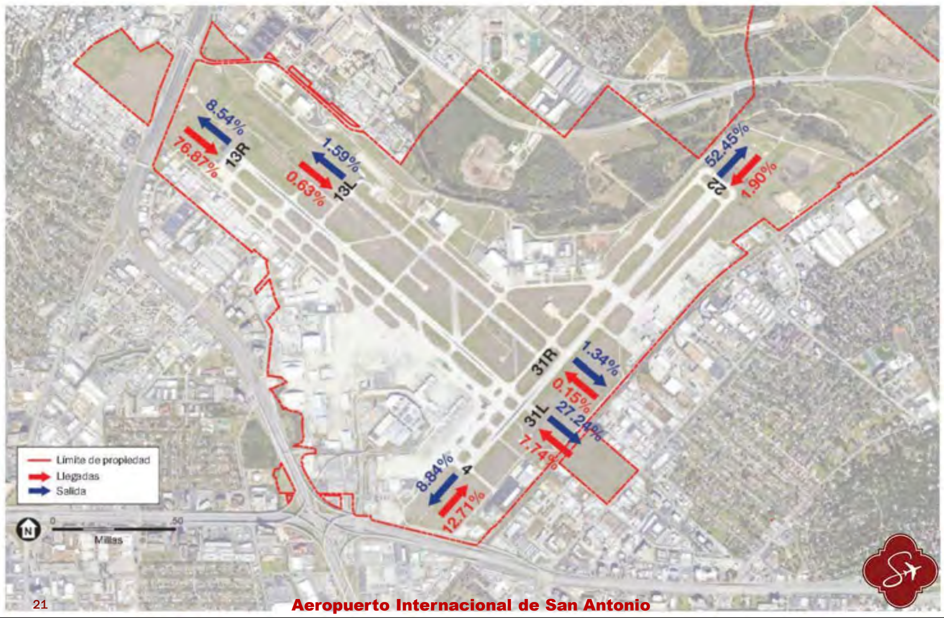
Categoría de longitud de etapa	Longitud de la ruta de salida (millas náuticas)	Salidas del SAT 2021	Salidas del SAT 2026
1	0 - 500	55.45%	55.45%
2	501 – 1,000	32.85%	32.85%
3	1,001 - 1,500	10.93%	10.93%
4	1,501 - 2,500	0.73%	0.73%
5	2,501 - 3,500	0.00%	0.00%
6	3,501 - 4,500	0.02%	0.02%
7	4,501 - 5,500	0.00%	0.00%
8	5,501 - 6,500	0.00%	0.00%

Stage Length Comparison for Boeing 747-400



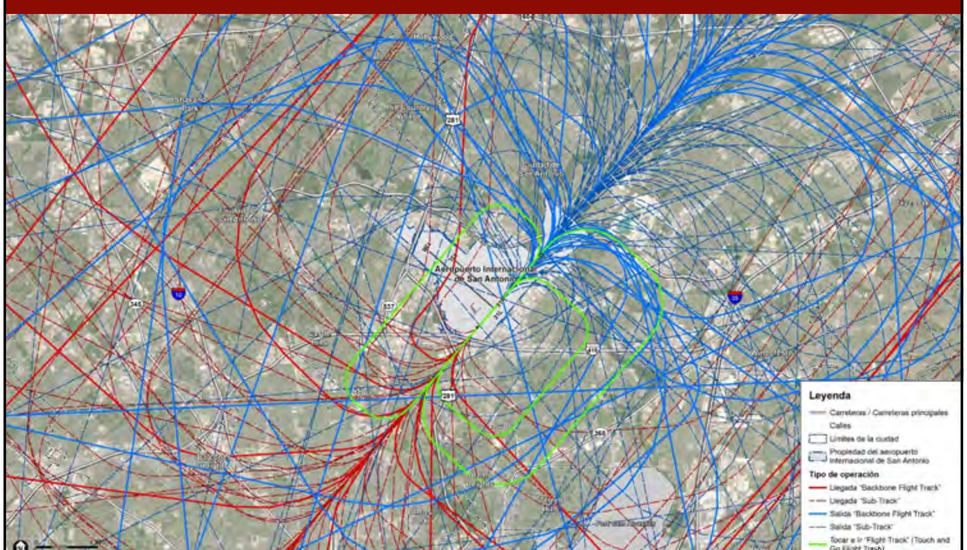
Condiciones Futuras Para 2026: Utilización Diurna de la Pista

Condiciones Futuras Para 2026: Utilización Nocturna de la Pista



21 **Aeropuerto Internacional de San Antonio**

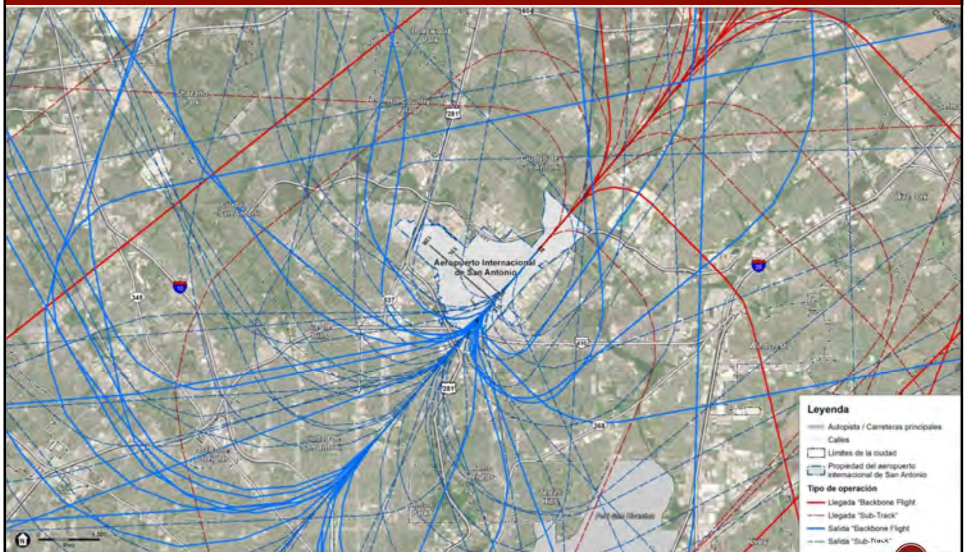
Condiciones Futuras 2026 - Pistas de Vuelo AEDT - Pista 4



Borrador: solo con fines deliberativos y sujeto a cambios.

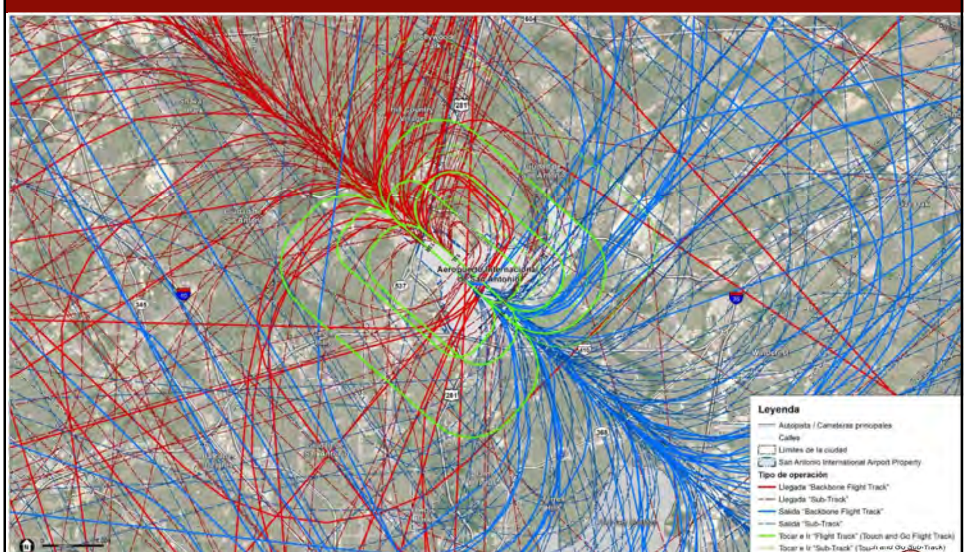
22 **Aeropuerto Internacional de San Antonio**

Condiciones Futuras 2026 - Pistas de Vuelo AEDT - Pista 22



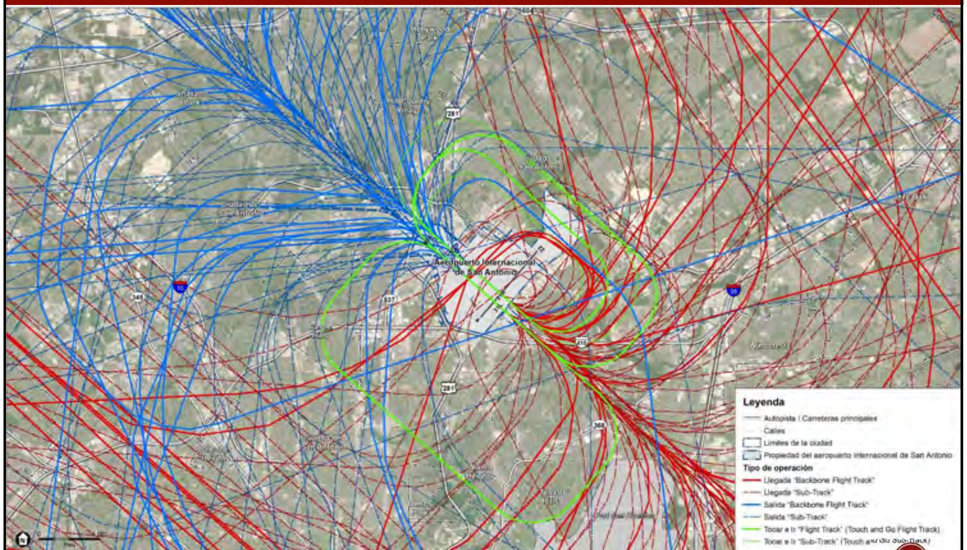
Borrador: solo con fines deliberativos y sujeto a cambios.

Condiciones Futuras 2026 - Pistas de Vuelo AEDT - Pistas 13L y 13R



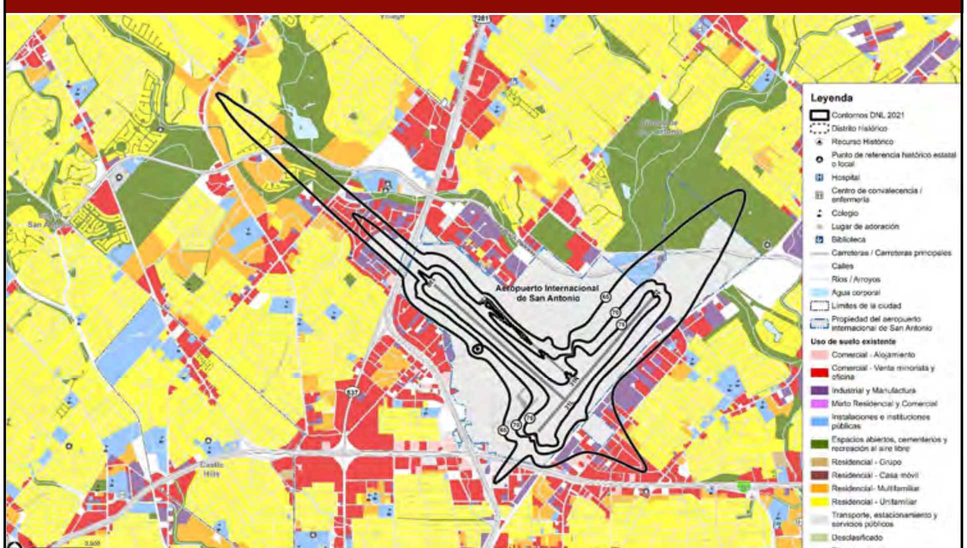
Borrador: solo con fines deliberativos y sujeto a cambios.

Condiciones Futuras 2026 - Pistas de Vuelo AEDT - Pistas 31L y 31R



Borrador: solo con fines deliberativos y sujeto a cambios.

Línea de Base 2021 - DNL 65, 70 y 75 Contornos



El borrador de los contornos de ruido de las Condiciones Existentes de 2021 son solo para fines deliberativos, están sujetos a cambios y no se utilizarán para determinar la elegibilidad para futuros esfuerzos de mitigación del ruido.

Exposición al Ruido Dentro de los Contornos DNL 65, 70 y 75 de 2021

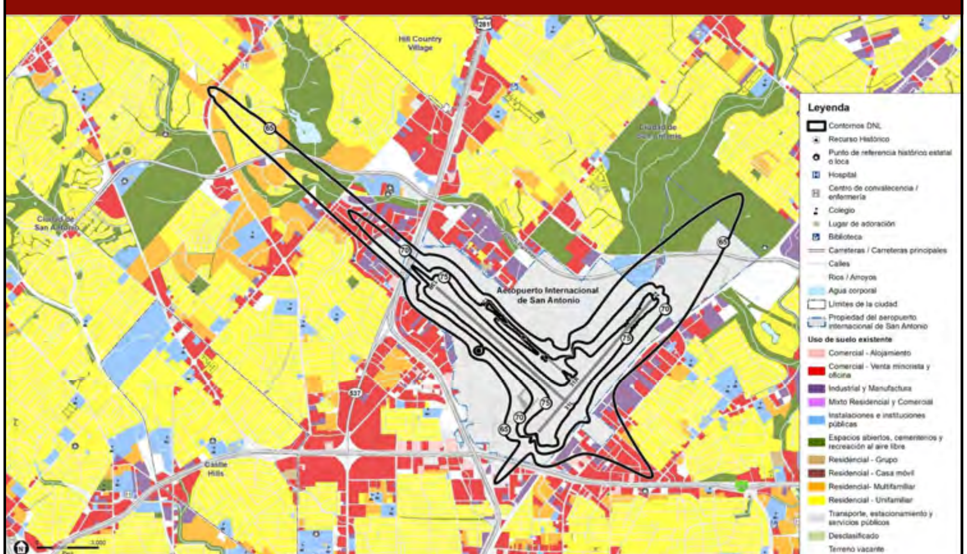
Uso del suelo expuesto a DNL 65 y superior - Condiciones existentes en 2021

Categoría de uso del suelo	Usos terrestres fuera del aeropuerto expuestos a DNL 65 y superiores (acres)				Unidades habitacionales	Población
	DNL 65-70	DNL 70-75	DNL 75+	Total		
Residencial - Unifamiliar	53.5	-	-	53.5	259	714
Residencial - Multifamiliar	17.2	-	-	17.2	385	795
Comercial - Retail y Oficina	108.7	8.7	-	117.1	-	-
Comercial - Alojamiento	2.0	-	-	2.0	-	-
Industrial y Manufactura	61.2	1.6	-	62.7	-	-
Transporte, estacionamiento y servicios públicos	21.9	-	-	21.9	-	-
Instalaciones e instituciones públicas	35.2	-	-	35.2	-	-
Espacio abierto, cementerios y recreación al aire libre	114.0	0.4	-	114.5	-	-
Vacante	14.0	-	-	14.0	-	-
Total	**427.7**	**10.7**	**-**	**438.4**	**644**	**1,509**

Sitios sensibles al ruido expuestos a DNL 65 y superior - Condiciones existentes en 2021

Nivel de ruido	Área total fuera del aeropuerto (acres)	Unidades habitacionales	Población	Religioso	Escuelas	Hospitales	Recursos históricos	Bibliotecas	Hogares de ancianos
DNL 65-70	427.7	644	1,509	-	-	-	-	-	-
DNL 70-75	10.7	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**438.4**	**644**	**1,509**	**-**	**-**	**-**	**-**	**-**	**-**

Condiciones Futuras Para 2026 - DNL 65, 70 y 75 Contornos



El borrador de los contornos de ruido de las Condiciones Futuras de 2026 son solo para fines deliberativos y están sujetos a cambios.

Exposición al Ruido Dentro de los Contornos 2026 DNL 65, 70 y 75

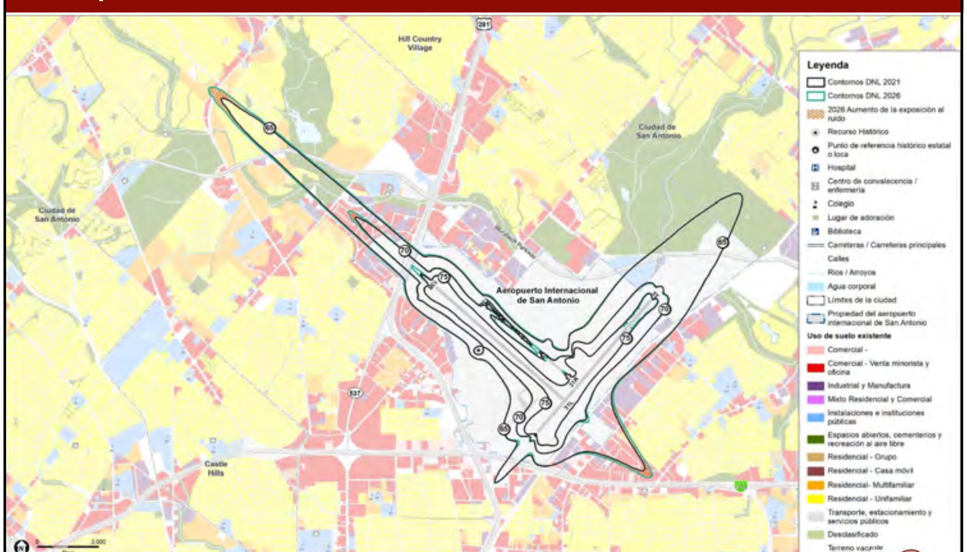
Uso de suelo expuesto a DNL 65 y superior - 2026 Condiciones futuras

Categoría de uso del suelo	Usos de terrenos fuera del aeropuerto expuestos a DNL 65 y superiores (acres)				Unidades habitacionales	Población
	DNL 65-70	DNL 70-75	DNL 75+	Total		
Residencial - Unifamiliar	66.4	-	-	66.4	310	846
Residencial - Multifamiliar	32.2	-	-	32.2	658	1,382
Comercial - Retail y Oficina	122.5	13.8	-	136.4	-	-
Comercial - Alojamiento	2.5	-	-	2.5	-	-
Industrial y Manufactura	65.2	2.5	-	67.7	-	-
Transporte, estacionamiento y servicios públicos	24.1	0.3	-	24.4	-	-
Instalaciones e instituciones públicas	37.6	-	-	37.6	-	-
Espacio abierto, cementerios y recreación al aire libre	119.7	0.8	-	120.5	-	-
Vacante	15.4	-	-	15.4	-	-
Total	**485.8**	**17.4**	**-**	**503.2**	**968**	**2,228**

Sitios sensibles al ruido expuestos a DNL 65 y superiores - 2026 Condiciones existentes

Nivel de ruido	Área total fuera del aeropuerto (acres)	Unidades habitacionales	Población	Religioso	Escuelas	Hospitales	Recursos históricos	Bibliotecas	Hogares de ancianos
DNL 65-70	485.8	968	2,228	-	-	-	-	-	-
DNL 70-75	17.4	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**503.2**	**968**	**2,228**	**-**	**-**	**-**	**-**	**-**	**-**

Condiciones existentes en 2021 y condiciones futuras en 2026: comparación de contornos DNL



Condiciones existentes en 2021 y condiciones futuras en 2026: comparación de la exposición al ruido

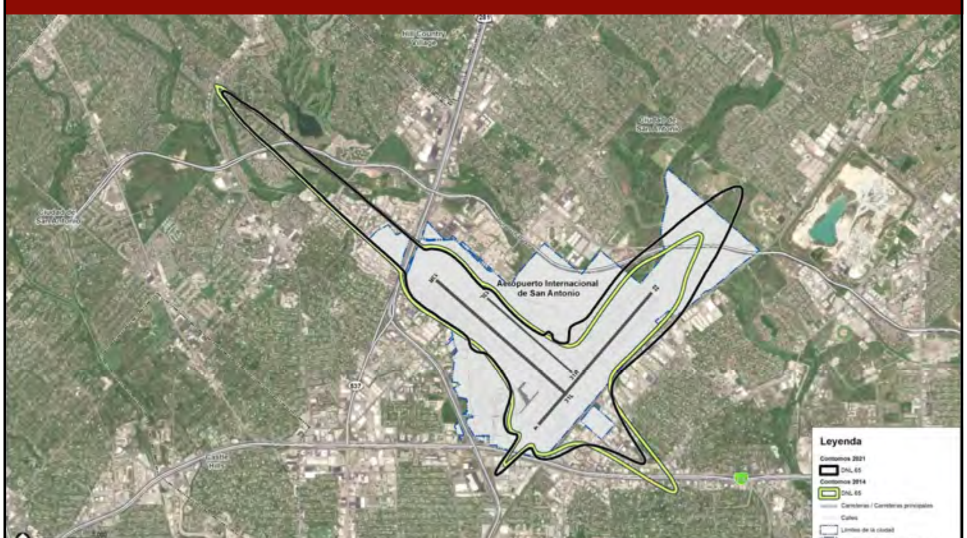
Cambios en la exposición al uso de la tierra - 2021 a 2026

Categoría de uso del suelo	Cambio neto en la superficie cultivada por uso de la tierra (acres)			
	DNL 65-70	DNL 70-75	DNL 75+	Total
Residencial - Unifamiliar	12.9	-	-	12.9
Residencial - Multifamiliar	15.0	-	-	15.0
Comercial - Retail y Oficina	13.8	5.2	-	19.0
Comercial - Alojamiento	0.5	-	-	0.5
Industrial y Manufactura	4.0	0.9	-	4.9
Transporte, estacionamiento y servicios públicos	2.2	0.3	-	2.5
Instalaciones e instituciones públicas	2.5	-	-	2.5
Espacio abierto, cementerios y recreación al aire libre	5.7	0.3	-	6.0
Vacante	1.4	-	-	1.4
Cambio total	**58.1**	**6.7**	**-**	**64.8**

Cambios en los sitios sensibles al ruido - 2021 a 2026

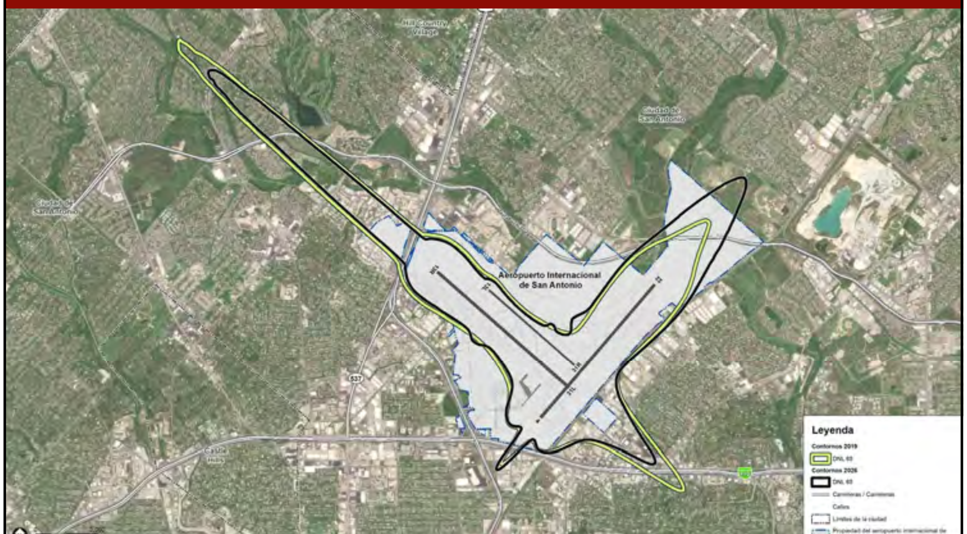
Nivel de ruido	Área total fuera del aeropuerto (acres)	Unidades habitacionales	Población	Religioso	Escuelas	Hospitales	Recursos históricos	Bibliotecas	Hogares de ancianos
DNL 65-70	58.1	324	719	-	-	-	-	-	-
DNL 70-75	6.7	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**64.8**	**324**	**719**	**-**	**-**	**-**	**-**	**-**	**-**

2014 y 2021 Condiciones Existentes DNL 65 Contornos



El borrador del contorno de 2021 Condiciones Existentes DNL 65 es solo para propósitos deliberativos, está sujeto a cambios y no se utilizará para determinar la elegibilidad para futuros esfuerzos de mitigación del ruido.

2019 y 2026 Condiciones Futuras DNL 65 Contornos



El borrador del contorno 2026 Future DNL 65 es solo para fines deliberativos y está sujeto a cambios.

Próximos Pasos

Febrero 2021
Realizar la segunda ronda de talleres públicos

Marzo 2021
Recibir y responder a comentarios públicos

Abril de 2021
La FAA revisa el borrador del informe de actualización del mapa de exposición al ruido

Junio 2021
Aviso de mapas de exposición al ruido publicados en el Registro Federal

Agosto 2021
La FAA emite una determinación de cumplimiento para mapas de exposición al ruido

¿Comentarios o Preguntas?

Todos los comentarios formales sobre el esfuerzo de actualización de NEM se convertirán en parte del registro oficial del estudio y deben enviarse a la Oficina de Ruido del SAT antes de las 5 pm del 8 de marzo de 2021, ya sea por correo electrónico o correo postal.

Email (submitted by 5pm):

AirportNoiseHotline@sanantonio.gov

Regular Mail (postmarked by 5pm):

San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

14 CFR PART 150 NOISE EXPOSURE MAP UPDATE

SAN ANTONIO INTERNATIONAL AIRPORT

PUBLIC WORKSHOP

FEBRUARY 2021

Overview – What is Part 150?

Title 14 Code of Federal Regulations Part 150 (14 CFR Part 150, or "Part 150") provides a process for airport operators to address compatibility of aircraft operations with surrounding communities

Part 150 establishes the methodology to be followed when preparing aircraft noise exposure maps (NEMs) and developing airport/airport environs noise compatibility programs (NCPs)*

Part 150 is a voluntary process that helps airport operators become eligible for federal grant funds for approved airport noise programs

Part 150 requires that members of the public have the opportunity to participate in the process, including providing comments

*This Part 150 Study only involves updating the NEMs and will help determine if a future NCP update is warranted

Overview – Part 150 NEM Update Study Goals and Objectives

- Determine existing and future noise exposure and identify noncompatible land uses
- Educate community and stakeholders on existing noise program and regulatory environment
- Identify areas of noncompatible noise exposure and their potential eligibility for noise mitigation
- Enhance community relationships through transparency
- Secure NEM finding of compliance from the Federal Aviation Administration (FAA)

Overview – Regulation of Airport Noise

Framework		Stakeholders
Federal law sets aircraft noise standards, prescribes operating rules, establishes the compatibility planning process, and limits an airport's ability to restrict aircraft operations	Federal Aviation Administration	The FAA: (1) Controls aircraft while in flight; (2) Responsible for controlling noise at its source (i.e., aircraft engines); (3) Certifies aircraft and pilots
State law sets forth compatibility planning guidelines and noise standards, but aircraft are exempt	Local Governments and States	Local Governments and States: (1) Promote compatible land use through zoning; (2) Require real estate disclosure; (3) Mandate sound-insulating building materials
Local noise ordinances set noise standards and provide for compatible land use planning, but aircraft are exempt	Airport Operators/SAT	Airport Operators (SAT): (1) Very limited authority to adopt local restrictions; (2) Responsible for capital improvement projects and infrastructure

Overview – Noise Exposure Maps

- Part 150 requires documentation of the Day-Night Average Sound Level (DNL) 65, 70, and 75 contours
- The Federal Aviation Administration considers all land uses to be compatible with aircraft noise below the DNL 65 contour
- NEMs reflect the DNL contours presented over land use base maps

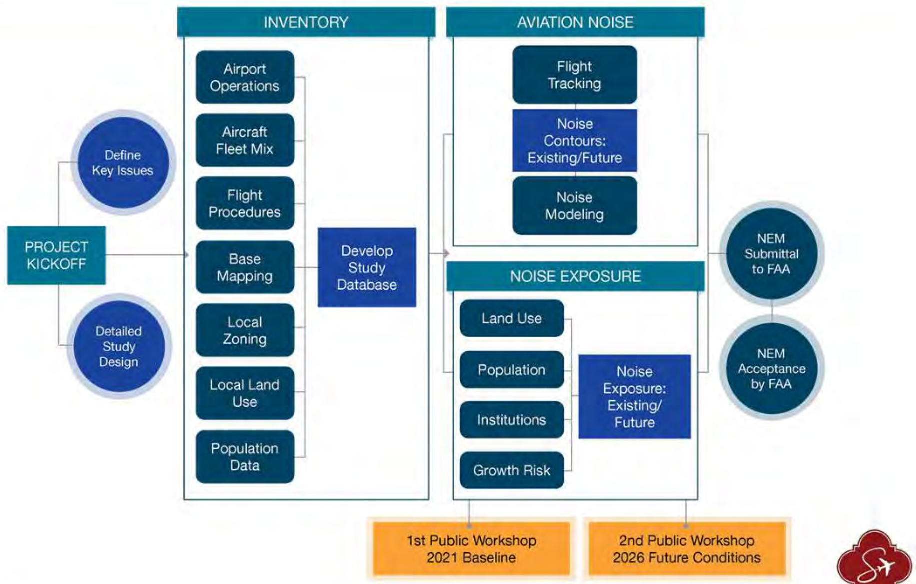
A noise contour depicts levels of equal aircraft noise exposure surrounding an airport

Overview – Noise Exposure Maps

- Base maps depict an airport's layout, local land use control jurisdictions, major land use categories, noise-sensitive "receptors" and other information
- Part 150 requires NEMs for the year of FAA submittal and a 5-year forecast; as such, this NEM Update will develop noise contours for:
  - 2021 Existing Conditions Year
  - 2026 Future Conditions Year
- Land use categories in this Part 150 Study reflect current and future development patterns around SAT

2019 Airport operations were used to represent 2021 Existing Conditions. In consultation with the FAA, it was assumed that no growth in aircraft operations occurred between 2019 and 2021, due to the COVID-19 pandemic. Similarly, a two-year delay in growth was assumed for the 2026 Future Conditions Year.

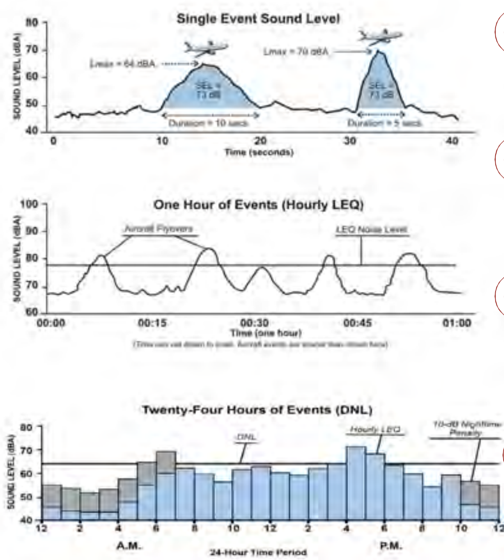
Overview – Noise Exposure Map Update Study Process



Physics of Noise – Day-Night Average Sound Level

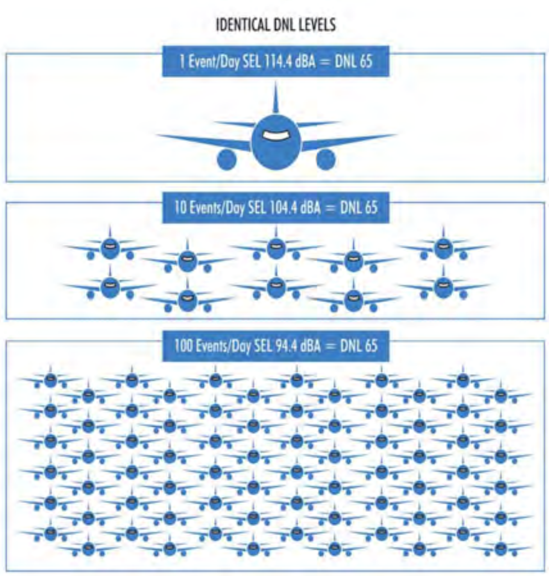
- The decibel (dB) is the unit used to describe sound pressure level and when expressed in dBA, it is weighted to account for human hearing
- 24-hour time-weighted energy average noise level based on A-weighted decibels (dBA), which correlates well with the human hearing response
- Noise occurring between 10 p.m. and 7 a.m. is weighted by an additional 10 dB to account for the higher sensitivity to noise during nighttime hours
- Average Annual Day aircraft noise exposure is calculated over a broad area and then depicted using contour lines of equal noise levels
- Reflects cumulative average day noise exposure for the purposes of determining overall compatibility – not noise generated by a single event

Physics of Noise – Understanding Sound Levels



- Maximum A-Weighted Sound Level (Lmax) is the maximum, or peak, sound level during a noise event
- Sound Exposure Level (SEL) is a time integrated measure of the sound energy of a single noise event at a duration of one second
- Equivalent Noise Level (Leq) is the “energy” average noise level during the time period of the sample
- DNL is expressed in dBA and represents the noise level over a 24-hour period

Physics of Noise – Cumulative Noise Exposure



DNL represents cumulative noise exposure; therefore, a single loud (high SEL) noise event that occurs each day can have the same DNL level as multiple, quieter (low SEL) noise events over the same period of time

Noise Modeling – Methodology

Inputs

- Detailed Operations and Fleet Mix
- Flight Track Locations and Use
- Runway Utilization
- Time of Day
- Stage Length
- Meteorological conditions
- Terrain

Modeling Program

Aviation Environmental Design Tool Version 3c

Noise Contour Results

Noise Modeling – The Basics

Aircraft noise modeling allows

- Calculation of noise exposure throughout the community
- Depicting annual average aircraft noise exposure
- Predicting future aircraft noise exposure
- Assessing changes in noise impacts resulting from runway configuration changes
- Assessing changes in fleet mix and/or number of operations
- Evaluating changes in operational procedures

The Aviation Environmental Design Tool (AEDT) version 3c is being used for this Part 150 Study

Compatible Land Use Planning

Table 1 in Appendix A of 14 CFR Part 150 provides regulatory guidelines for noise and land use compatibility	Deems levels below DNL 65 to be compatible with all land uses	Allows for the adoption of appropriate local land use standards for land use compatibility planning purposes

The 14 CFR Part 150 process is the Airport's mechanism to improve the compatibility between the Airport and surrounding communities

Land Use Map – Data Sources

Bexar County Appraisal District	Existing Land Use Convalescent\Nursing Facilities	Hospitals Places of Worship
City of San Antonio	City Corporate Boundary Historic Districts Local Historic Landmarks	Park Boundaries Streets
Bexar County GIS	Libraries	Schools
National Park Service	Historic Resources (National Register)	
San Antonio River Authority	Existing Land Use (supplemental) Future Land Use	Military Installations Suburban City Limits
Texas Historical Commission	State Historic Landmarks	
U.S. Census Bureau	County Boundaries	Highways and Major Roads
U.S. Geological Survey	Rivers and Streams	Water Bodies

SAT's Noise Program

1991

First Part 150 Study and Noise Program Begins at SAT

Established:

- Noise Abatement Officer
- Noise Complaint Monitoring Program
- Land Use and Zoning Plan
- Voluntary Use Noise Abatement Departure Procedure
- Restrictions on Nighttime Engine Run-ups
- Acoustical Treatment for Public Buildings
- Real Estate Noise Disclosure

1997

Part 150 Study NCP Update

- Ground Run-Up Enclosure (GRE) recommended to reduce noise from engine run-ups
- Permanent noise monitoring system

2002

Part 150 Study NEM and NCP Update

- Residential Acoustical Treatment Program (RATP) (2006 – 2020)
- GRE constructed

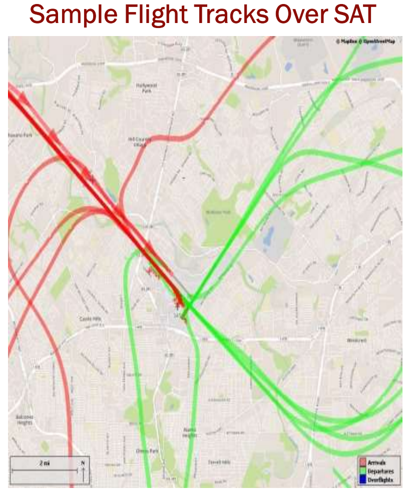
2009	2012	2015	2017	2020
Part 150 Study NEM Update	Obtained Avigation Easements	Part 150 Study NEM and NCP Update	New Noise Monitoring System Installed	Current Part 150 NEM Update

SAT's Noise Program

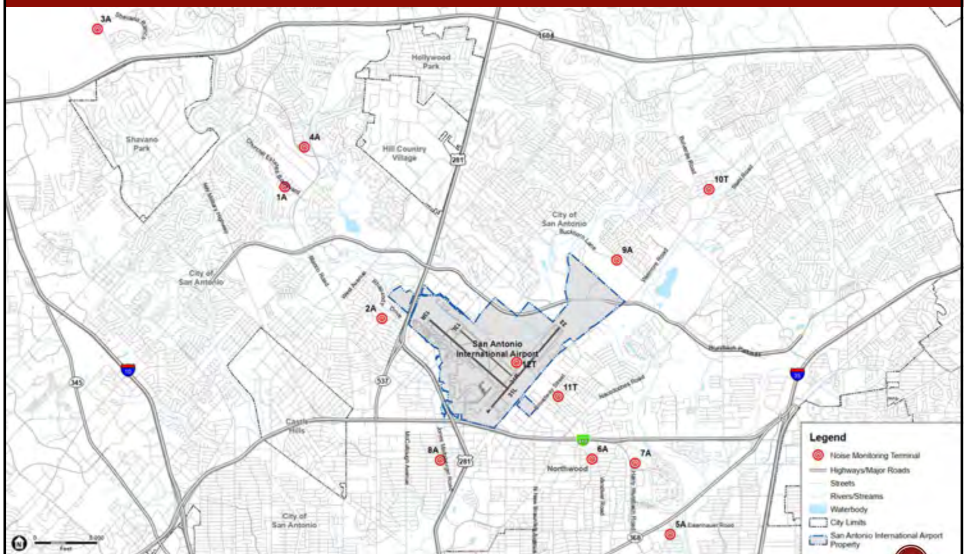
Noise and Operations Monitoring System (NOMS)

- 12 permanent noise monitoring terminals (NMT) located around the Airport
- Noise data integrated with FAA air traffic control tower radar data
- Analyze flight tracks, complaints and noise levels

Sample Flight Tracks Over SAT



Noise Monitoring Terminal Locations



2021 and 2026 Aircraft Operations and Time of Day

Annual Aircraft Operations

Aircraft Category	2021 Operations	2026 Operations
Widebody	4,287	4,727
Narrowbody	83,886	85,480
Regional Jet	20,666	22,012
Business Jet	26,756	28,131
Turboprop	15,301	22,514
Prop	10,219	17,074
Helicopter	2,756	2,756
Total	163,870	182,695

Annual Aircraft Operations by Time of Day

Study Year	Arrivals		Departures	
	Day	Night	Day	Night
2021	82.74%	17.26%	83.99%	16.01%
2026	83.69%	16.31%	84.97%	15.03%

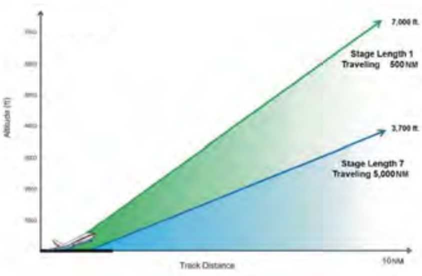
2021 and 2026 Aircraft Departure Stage Length

Stage length is the distance an airplane flies directly from one airport to another

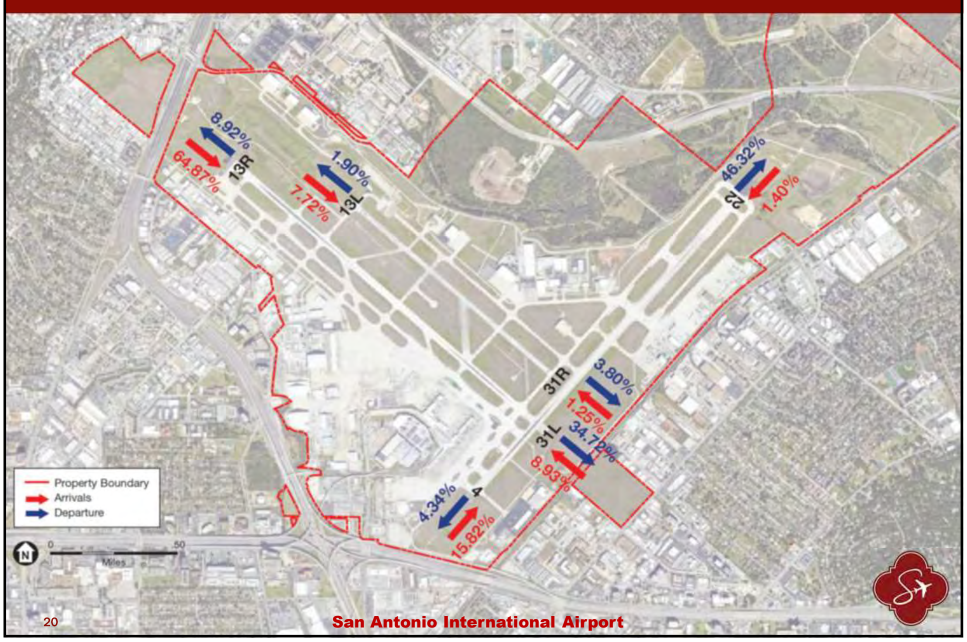
Aviation Environmental Design Tool (AEDT)
Departure Stage Length Categories

Stage Length Category	Departure Route Length (nautical miles)	Departures from SAT 2021	Departures From SAT 2026
1	0 - 500	55.45%	55.45%
2	501 – 1,000	32.85%	32.85%
3	1,001 - 1,500	10.93%	10.93%
4	1,501 - 2,500	0.73%	0.73%
5	2,501 - 3,500	0.00%	0.00%
6	3,501 - 4,500	0.02%	0.02%
7	4,501 - 5,500	0.00%	0.00%
8	5,501 - 6,500	0.00%	0.00%

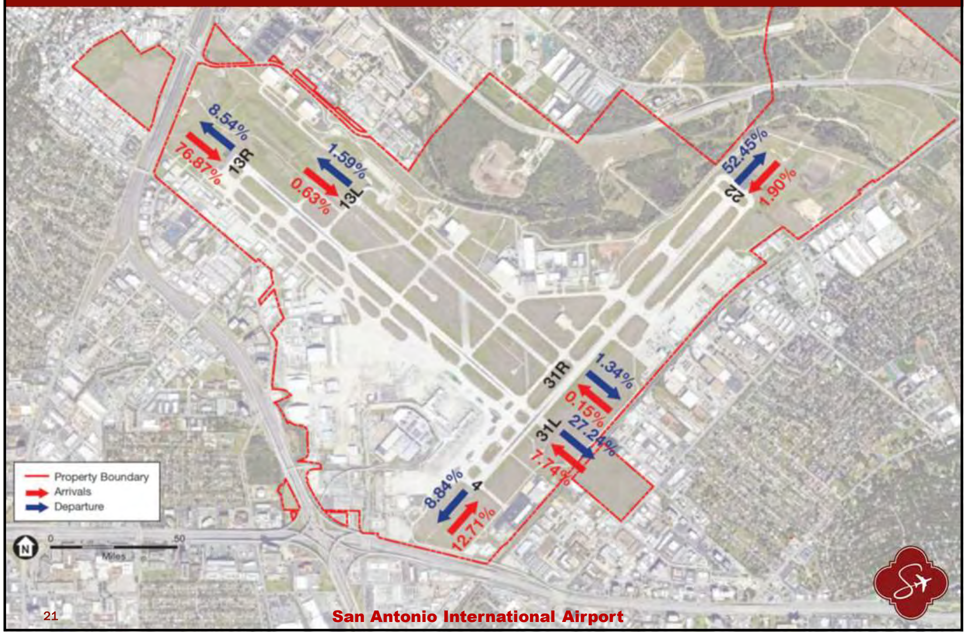
Stage Length Comparison for Boeing 747-400



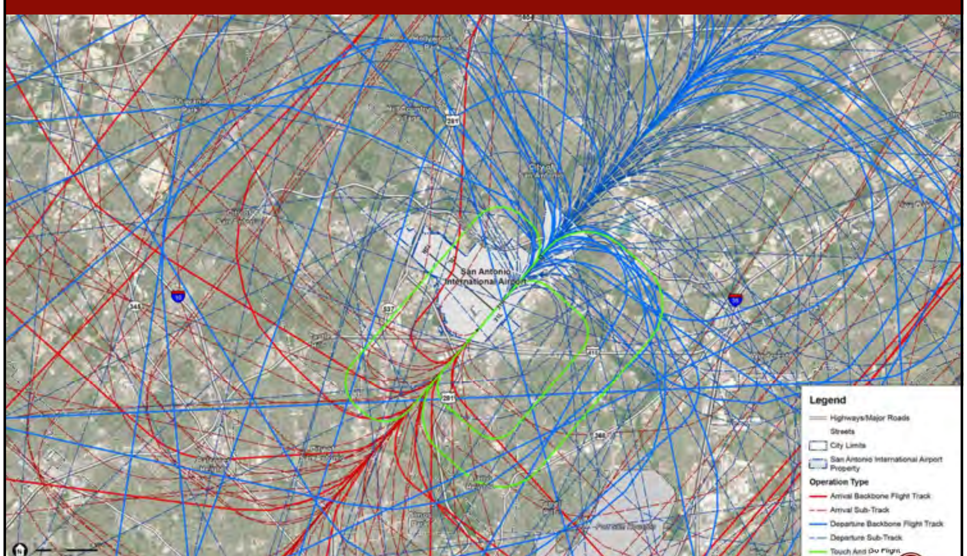
2026 Future Conditions – Daytime Runway Utilization



2026 Future Conditions – Nighttime Runway Utilization

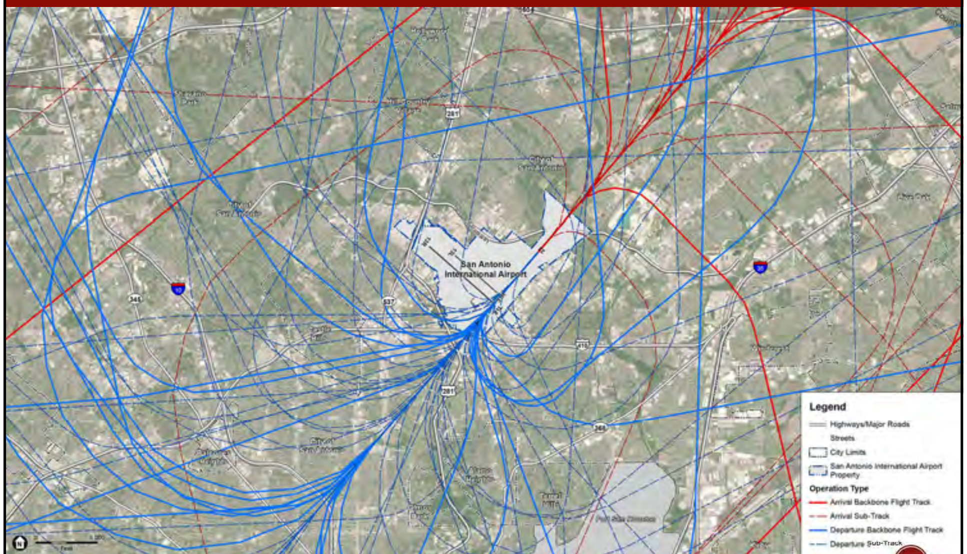


2026 Future Conditions - AEDT Flight Tracks – Runway 4



Draft for deliberative purposes only and subject to change

2026 Future Conditions - AEDT Flight Tracks – Runway 22

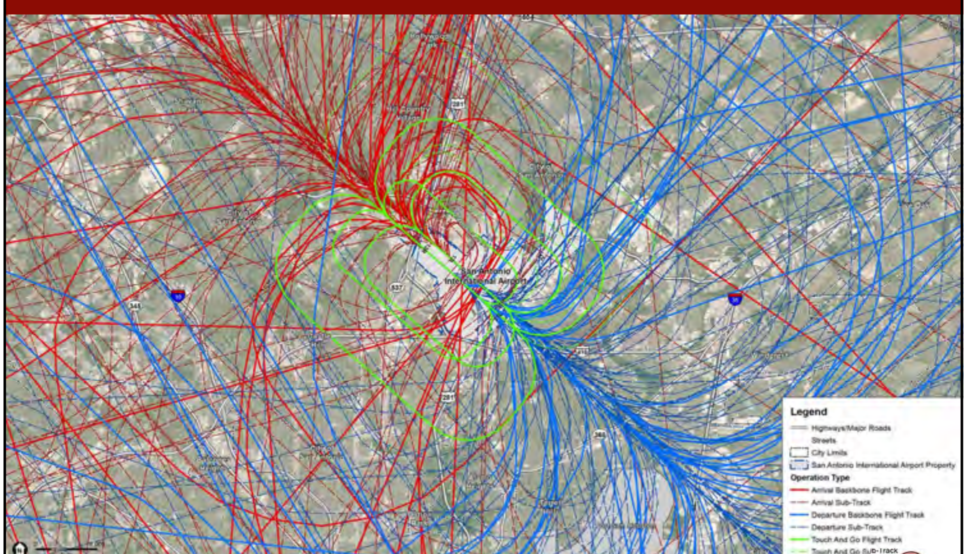


Draft for deliberative purposes only and subject to change

23

San Antonio International Airport

2026 Future Conditions - AEDT Flight Tracks – Runways 13L and 13R

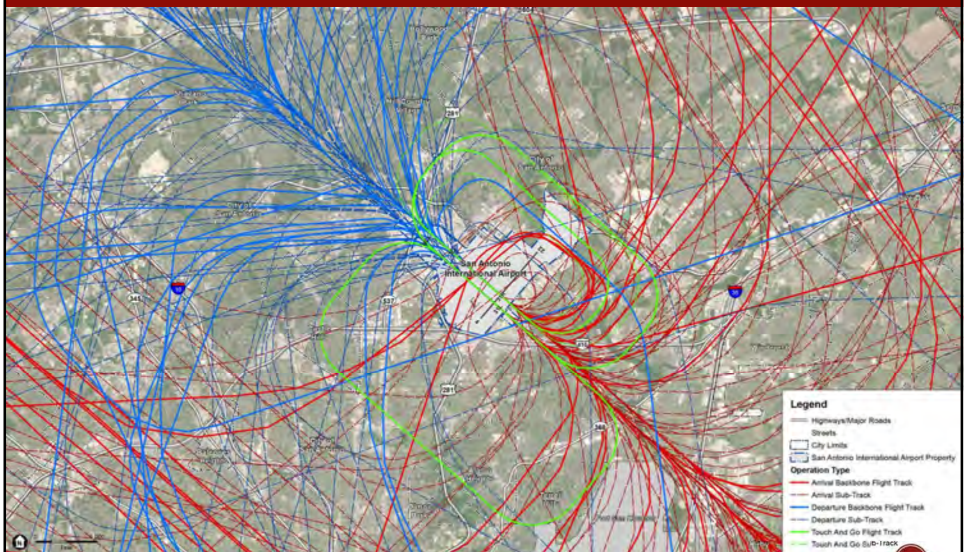


Draft for deliberative purposes only and subject to change

24

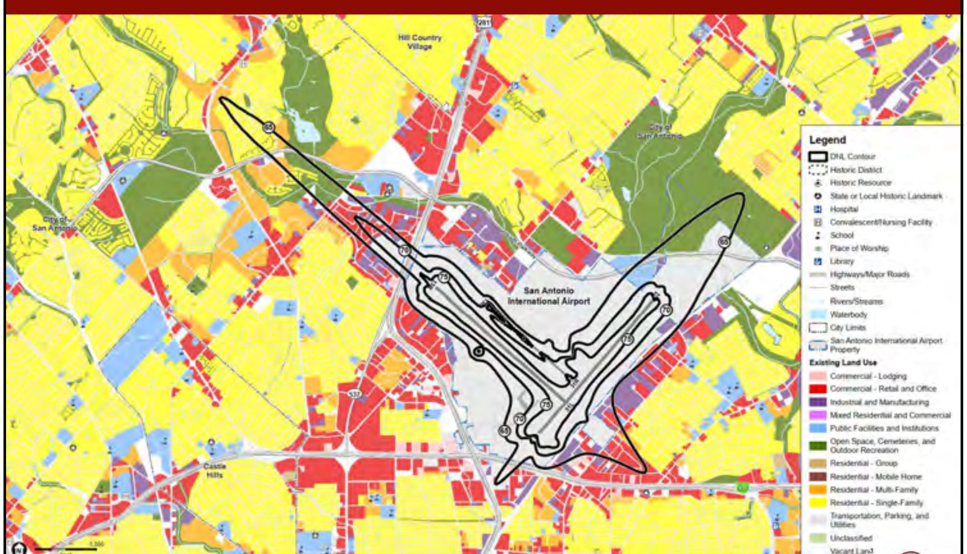
San Antonio International Airport

2026 Future Conditions - AEDT Flight Tracks – Runways 31L and 31R



Draft for deliberative purposes only and subject to change

2021 Existing Conditions - DNL 65, 70, and 75 Contours



The draft 2021 Existing Conditions noise contours are for deliberative purposes only, are subject to change, and will not be used to determine eligibility for future noise mitigation efforts

Noise Exposure Within the 2021 DNL 65, 70, and 75 Contours

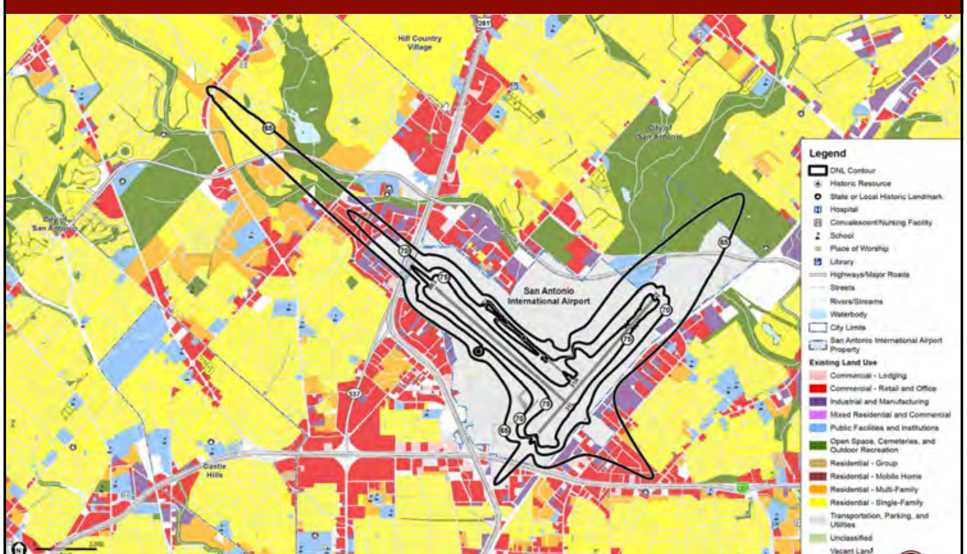
Land Use Exposed to DNL 65 and Higher – 2021 Existing Conditions

Land Use Category	Off- Airport Land Uses exposed to DNL 65 and Higher (acres)				Housing Units	Population
	DNL 65-70	DNL 70-75	DNL 75+	Total		
Residential - Single Family	53.5	-	-	53.5	259	714
Residential - Multi-Family	17.2	-	-	17.2	385	795
Commercial - Retail and Office	108.7	8.7	-	117.1	-	-
Commercial - Lodging	2.0	-	-	2.0	-	-
Industrial and Manufacturing	61.2	1.6	-	62.7	-	-
Transportation, Parking, and Utilities	21.9	-	-	21.9	-	-
Public Facilities and Institutions	35.2	-	-	35.2	-	-
Open Space, Cemeteries, and Outdoor Recreation	114.0	0.4	-	114.5	-	-
Vacant	14.0	-	-	14.0	-	-
Total	**427.7**	**10.7**	**-**	**438.4**	**644**	**1,509**

Noise Sensitive Sites Exposed to DNL 65 and Higher – 2021 Existing Conditions

Noise Level	Total Off-Airport Area (Acres)	Housing Units	Population	Religious	Schools	Hospitals	Historic Resources	Libraries	Nursing Homes
DNL 65-70	427.7	644	1,509	-	-	-	-	-	-
DNL 70-75	10.7	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**438.4**	**644**	**1,509**	**-**	**-**	**-**	**-**	**-**	**-**

2026 Future Conditions - DNL 65, 70, and 75 Contours



The draft 2026 Future Conditions noise contours are for deliberative purposes only and are subject to change.

Noise Exposure Within the 2026 DNL 65, 70, and 75 Contours

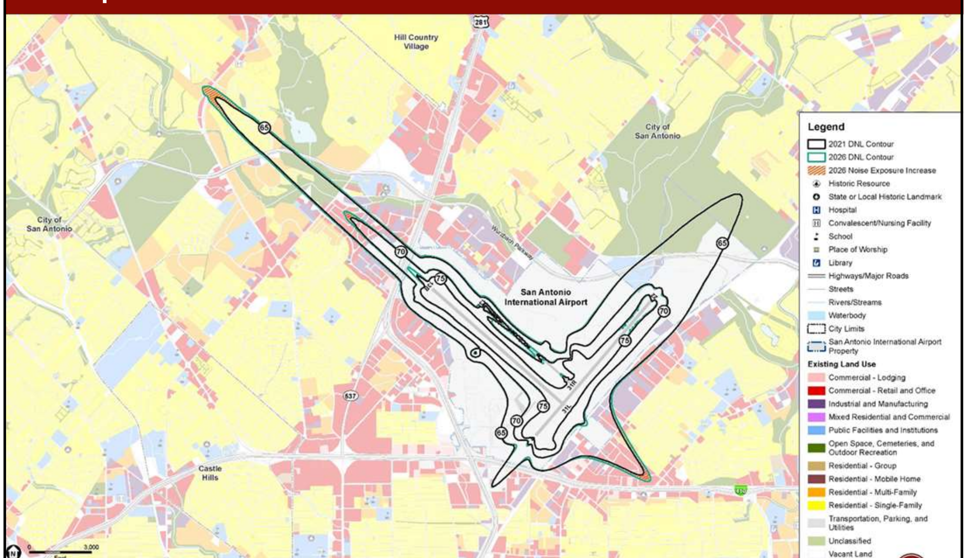
Land Use Exposed to DNL 65 and Higher – 2026 Future Conditions

Land Use Category	Off-Airport Land Uses exposed to DNL 65 and Higher (acres)				Housing Units	Population
	DNL 65-70	DNL 70-75	DNL 75+	Total		
Residential - Single Family	66.4	-	-	66.4	310	846
Residential - Multi-Family	32.2	-	-	32.2	658	1,382
Commercial - Retail and Office	122.5	13.8	-	136.4	-	-
Commercial - Lodging	2.5	-	-	2.5	-	-
Industrial and Manufacturing	65.2	2.5	-	67.7	-	-
Transportation, Parking, and Utilities	24.1	0.3	-	24.4	-	-
Public Facilities and Institutions	37.6	-	-	37.6	-	-
Open Space, Cemeteries, and Outdoor Recreation	119.7	0.8	-	120.5	-	-
Vacant	15.4	-	-	15.4	-	-
Total	**485.8**	**17.4**	**-**	**503.2**	**968**	**2,228**

Noise Sensitive Sites Exposed to DNL 65 and Higher – 2026 Existing Conditions

Noise Level	Total Off-Airport Area (Acres)	Housing Units	Population	Religious	Schools	Hospitals	Historic Resources	Libraries	Nursing Homes
DNL 65-70	485.8	968	2,228	-	-	-	-	-	-
DNL 70-75	17.4	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**503.2**	**968**	**2,228**	**-**	**-**	**-**	**-**	**-**	**-**

2021 Existing Conditions and 2026 Future Conditions - Comparison of DNL Contours



2021 Existing Conditions and 2026 Future Conditions - Comparison of Noise Exposure

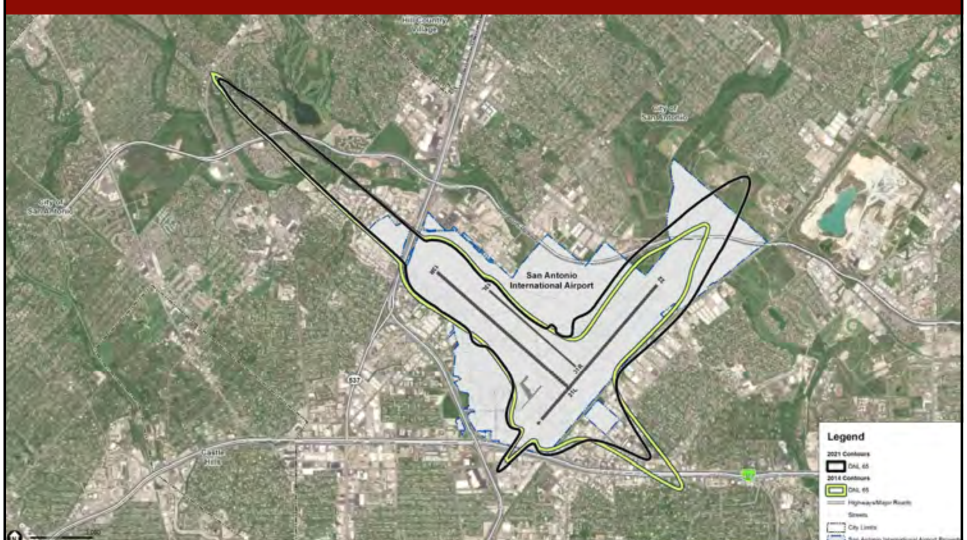
Changes in Land Use Exposure – 2021 to 2026

Land Use Category	Net Change in Acreage by Land Use (acres)			
	DNL 65-70	DNL 70-75	DNL 75+	Total
Residential - Single Family	12.9	-	-	12.9
Residential - Multi-Family	15.0	-	-	15.0
Commercial - Retail and Office	13.8	5.2	-	19.0
Commercial - Lodging	0.5	-	-	0.5
Industrial and Manufacturing	4.0	0.9	-	4.9
Transportation, Parking and Utilities	2.2	0.3	-	2.5
Public Facilities and Institutions	2.5	-	-	2.5
Open Space, Cemeteries, and Outdoor Recreation	5.7	0.3	-	6.0
Vacant	1.4	-	-	1.4
Total Change	**58.1**	**6.7**	**-**	**64.8**

Changes in Noise Sensitive Sites – 2021 to 2026

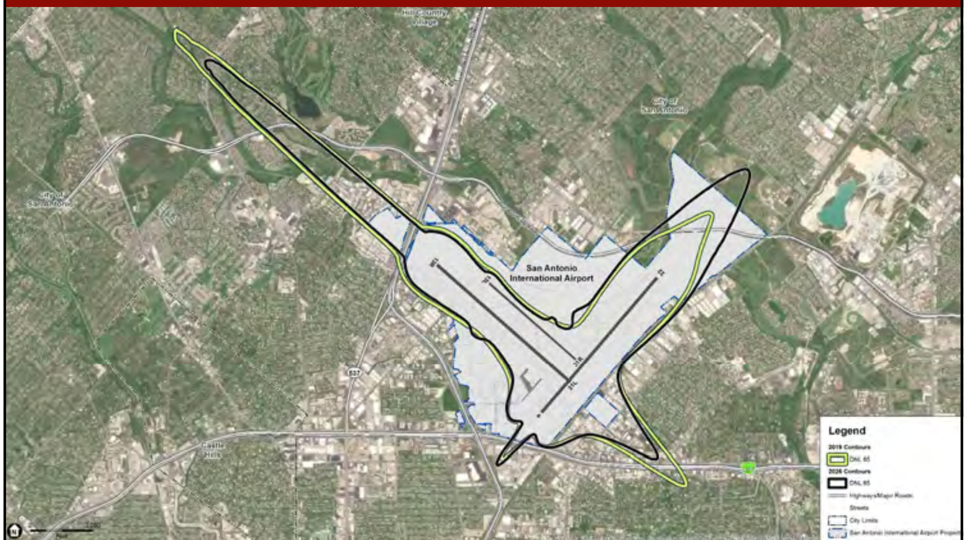
Noise Level	Total Off-Airport Area (Acres)	Housing Units	Population	Religious	Schools	Hospitals	Historic Resources	Libraries	Nursing Homes
DNL 65-70	58.1	324	719	-	-	-	-	-	-
DNL 70-75	6.7	-	-	-	-	-	-	-	-
DNL 75+	-	-	-	-	-	-	-	-	-
Total	**64.8**	**324**	**719**	**-**	**-**	**-**	**-**	**-**	**-**

2014 and 2021 Existing Conditions DNL 65 Contours



The draft 2021 Existing Conditions DNL 65 contour is for deliberative purposes only, is subject to change, and will not be used to determine eligibility for future noise mitigation efforts.

2019 and 2026 Future Conditions DNL 65 Contours



The draft 2026 Future DNL 65 contour is for deliberative purposes only and is subject to change.

Next Steps

February 2021
Conduct 2nd Round of Public Workshops

March 2021
Receive and Respond to Public Comments

April 2021
FAA Reviews Draft Noise Exposure Map Update Report

June 2021
Notice of Noise Exposure Maps Published in Federal Register

August 2021
FAA Issues Compliance Determination for Noise Exposure Maps

Comments or Questions?

All formal comments on the NEM Update effort will become part of the official study record and must be submitted to the SAT Noise Office by 5pm March 8, 2021, via either email or regular mail.

Email (submitted by 5pm):

AirportNoiseHotline@sanantonio.gov

Regular Mail (postmarked by 5pm):

San Antonio International Airport
457 Sandau Road
Building 1039
Attn: Environmental Stewardship
San Antonio, TX 78216

All Part 150 Study materials can be found at the Airport's website:
https://flysanantonio.com/business/about-saas/environmental-stewardship/

G-3 Representative Public Information Workshop Questions

Representative Public Information Workshop Questions

Commentor/Username	Question/Comment
Richard Wood	I live in Walker Ranch and many times aircraft taking off to the Northeast will turn early to Northbound and go right over my neighborhood. They also seem to be powering out earlier than they are supposed to. Thank you, Richard Wood
Ryan Caldwell	Departure noise issues need to be addressed especially with respect to westbound departures off runway 4 utilizing the ALISS FIVE departure. A/C are being given early turns to the west once they are above 1000 AGL and it is causing significant noise for the neighborhoods 1NM south of the San Antonio VORTAC. We have aircraft pass over our neighborhood as low as 3600 MSL causing significant noise in the late and early hours of the morning as they are given or continue a climb to their initial clearance altitudes. I currently live on the 190 radial approximately 1NM south of the KSAT VORTAC. We need a comprehensive climb out profile that reduces or eliminates the issue. John Wayne airport in Orange County has a departure model that may work.
Ryan Caldwell	Here is a previous email to Concilman Courage: Cole, I wanted to follow-up with you concerning our discussion about the jet noise affecting our Big Springs neighborhood and once again ask that Councilman Courage step in and help us. I know there is a city council meeting tomorrow that will discuss airport expansion and a new runway, so I feel that this issue should be relevant to and at the forefront of that discussion. Since we spoke, our neighborhood has been bombarded by excessive noise from aircraft departing the airport and transiting westbound as well as some arrival. As I type, the noise problem continues to get worse and the amount of traffic overflying our area seems to grow each day… After our initial discussion, I began conducting a rudimentary study which tracked and documented over 100 westbound departure aircraft and resulted in some very pertinent observations. As I indicated during our conversation, the majority of our noise issues come from commercial aircraft departing San Antonio on the ALISS FIVE ("Alice Five," see depiction below) departure routing. In the bulk of cases which result in heavy noise in our area, departing aircraft are taking off on runway 4 and are being given an early turn to the west to join the departure or proceed directly to Fort Stockton. When this happens, aircraft overfly our area at an average altitude of 5,500 feet while climbing to a higher assigned altitude. Because of the elevation of our neighborhood, this places each aircraft only 4,000 feet above our homes and their angle of climb directs the noise of their engines directly at our houses. Here are a few examples of the ground tracks seen when an aircraft receives an early turn out: [GRAPHIC MISSING] In these particular cases, the aircraft flew right over my home as they climbed out providing a thunderous blast of jet noise which rattled my windows and caused my dogs to bark. There are some instances where controller delay the turn of the commercial traffic departing on runway 4 which helps lessen the noise some, but the effects are still distracting: [GRAPHIC MISSING] When departing commercial traffic is routed farther north prior to being turned to the west, we don't get any noise and I am certain the effects to other neighborhoods are also lessened. The best option is shown by the following ground tracks: [GRAPHIC MISSING] These examples represent a small part of the data I have been collecting. I have called the airport noise complaint line on numerous occasions to ask that they try to intervene and move the western departure turnouts to a distance farther away from the airport in order to miss the neighborhoods. Each time I have called, I have been put off and told various reasons with the majority being due to Randolph traffic. While at times that may be a valid reason, the majority of noise we get is very early in the morning or late in the night when Randolph is not conduction flying operations. I tried to keep this document as succinct as possible; so, if you want more examples or data please let me know and I will work to get it to you. Bottom line, we need help with this issue especially as the airport looks to expand.
solis Solis	We live in the Ridgestone area and planes fly very low be our street, to a point that our windows rattle. During the study 1. are weather conditions going to taken into consideration? 2. The time of flights last night at 10:58 & 11:04 woke me up too low & too loud! This also needs to be taken into consideration.
David Allen	Do you use actual empirical data to verify your noise models? If not, how do you know the models are accurately depicting reality?
David Allen	What is the purpose of the noise monitoring terminals if you don't use the data in the modeling?
Marian Paul	Just as I qualified for the windows program, it was discontinue. Will there be any future window program?
Scott Smith	Is the airport expecting to start the RATP program as a result of this NEP?
David Allen	What is the definition of "day" and "night"?
David DeLeon	I live between Jones Maltsberger and Mertz - the noise meter equipment is located several street away- How is this noise meter recording the noise level accurately? Because every morning between 6 and 7 am I am awaken by large cargo planes (Fed Ex, UPS). I can feel the vibration in my house.
Christine Stabile	What recourse do citizens have if they disagree with the noise exposure maps?
Teresa Maslonka	There was a lot of information to digest during the presentation so I probably have missed this figure - so sorry. But what is the expected increase in number of flights on runway 13R by 2026? How many flights are using that runway now vs how many flights will use that runway by 2026?
Text line submittal	How do I know if my house is affected by the airport noise that I hear?
Brian Buchanan	Your map showed quite a spread of flight patterns for 13R. Why is the noise contour line so focused inline with the runway and not more spread based on the flight patterns?
Christine Stabile	Can the airport provide information and recommendations about noise reduction products such specific insulation, window or doors?
Anne Gomez	Did you visit any homes in the area to experience what we experience on a daily basis? Your models don't reflect what we deal with. The windows in my home rattle with every plane that takes off or lands.
solis Solis	Did I misunderstand or was Steve speaking of a different noise abatement when he stated that currently "no one qualifies for noise abatement" ? We are currently on the path of runway #4 and we have both flights arrivals and departures causing and your stating your study is done?? KSAT NEWS
Christine Stabile	Are cargo (FedEx/UPS) departures scheduled minutes prior to 10PM to avoid the 10 decibel addition?
Kenneth Kanagaki	What are the planes which can land/takeoff at SAT vs AUS[?] Can all planes using AUS also use SAT[?]
Carol Ertl	I have lived in my home since 1970 on and off and I notice the planes coming in for landing are so low and the engines so loud especially the fed-ex planes. Is this going to get worse? Is there any window noise compensation for getting new windows? I was never aware of any noise reduction items in place.

David DeLeon	I see aircraft flying low to land at the airport and my front door video sensor is set off by the noise and vibration on a regular basis. Does making a formal. compliant with our Regional FAA. Noise Ombudsman - Kristi Ashley make a difference?
Mark Cooper	I am well outside the 65 DB contour in the Woodlawn Lake area. Sometimes for extended periods many aircraft will fly directly over my home. From the presentation, I understand this is the responsibility of the controllers (FAA). Is there a contact to address concerns about overuse of an exactly identical landing flight path?
Scott Smith	With the uncertainty about how fast airplane travel will revcover, if the actual growth in flights exceeds the current projection wil the NEM be updated sooner that 2026-2027?
Johnna Schroeder	When I moved to this neighborhood in 2012, I looked into the Acoustical program. My small cul-de-sac was on the map within the areas that were to receive treatment, however when I called, I was told my street address was not "on the list". So how was my street located on the map, but not on the list? I feel my street was cheated out of this program.
David Allen	My understanding is that you are using FAA approved modeling parameters and not empirical data. Since we don't have access to the modelling, what is the end result of our input, since our input represents empirical reality.
John Rowe	An add on to our question about smaller flights now going directly over our house - has there been a change in flight patterns going over Naco/Country lane near 410 and is this temporary or permanent change[?]
Scott Smith	During 2019 morning rush hour (6:00-7:30) runway 13R was approaching full capacity of approx 30 takeoffs and landings per hour. Does your study take runway capacity into account?
Richard Backus	I notice the military does touch and goes and are sometimes very loud. Are they exempt from the noise requirements?
Zachary Shipley	I've lived here 12 yrs and never heard of window replacement. it's 74 db day and night how do we alleviate this matter in our area. directly in take off and landing pending on season?
Michael Wood	We bought in 2015 in right of Ramsey. Why if my neighbors homes previously received new windows would we not qualify[?] Airtrafic has increased since 2015
Teresa Maslonka	My apologies. I have to leave early. I don't have another question, but I did want to thank you all for your work on this mapping. I understand this is a voluntary study and believe you are trying to manage an incredible amount of complexity. I also know this isn't an easy topic to discuss. Thanks again.
David DeLeon	The gentleman just stated the noise level is between 55 to 57 at the Ridgeview subdivision however at times it can reach or exceed 65 so why wouldn't this area qualify for new Windows?
Susan Hancock	If you're only using the model information, how does a resident prove that the interior decibels are above 45?
Carol Ertl	So I have 2 homes in the the maps one on Waxwood built in 1964 and Lawndale in 1952 have had them since 1952 and 1970. How come I have never heard of the abatement window program? And how do I apply when it is available?
David Allen	If one of the criteria items is a noise level of 45db inside the house, and you don't empirically measure the noise (inside the house or anywhere), then how do you know what the noise level is in the house?
Laurann Barborak	Will you all recommend some things that we can do to our homes to decrease noise when planes fly over?
Efrain Gonzales	Is there a better map that outlines the areas no included in the affected area. We were included originally then removed to at Alamo Heights. I would argue that we experienced more noise than alamo heights and it continues today. Thanks.
Barbara Alexander	It's hard to tell how many flights in 2026 will be added PER DAY/PER NIGHT from what we currently experience (or what was experienced in 2019). We live on the direct approach for 13R, so that particular approach would be of particular interest.
Scott Smith	Is the RATP program no longer active? We were told that our home was to be included in that, but that the program ran out of funds before it got to us. Now, it appears that we are no longer in the 65db contour and would miss out. Also, why has the 65db contour for runway 4 shortened so significantly, especially in comparison to the NW/SW runways?
Nina Nixon-Mendez	With the affordable housing initiave, the area around Blanco and West were proposed for more high density residential as well as the entire Blanco corridor. The neighborhood defeated this concept; however, SA Tomorrow is allowing high densisty along major corridors. Would this not be a conflict with compatible land use and will the airport express any concerns related to more high density residential along corridors in and near the noise contours? It appear to be competing interests.
Chris Neuhaus	Knowing that the noise has increased and will be increasing even more within the next few years, I would like to know what will be done to compensate residents that will be impacted? Will windows be replaced with sound proof windows.
Barbara Alexander	At what altitude (for the airplane passing over) was the noise measured on the approach for 13R? What is the difference in noise from a wide body versus smaller airplanes? Sound insulation is great, but if you want to be outside your house and use your pool or yard, what can you do to mitigate the noise?
Mike Lemoine	Are the parameters for noise abatement or sound insulation going to be widened. The current parameters exclude many houses that are nearing 20 years old. Windows and noise mitigation building was not considered when these were built.
Nina Nixon-Mendez	Will the report be used to update SA Tommorrow's futureland use map?
Nina Nixon-Mendez	will the airport cooridnate with the City's planning department to update the future land use map based on the new noise exposures?
Monica Lezzana	Good evening, Our question is regarding the number of flights increase on a daily basis, not percentages. How many flights depart from SAT now per day? and what is the increase that is expected on the next 3, 6 years in you model?
Efrain Gonzales	After speaking with representative on phone it seemed the lines included McAllister park and ended at the edge of the park. Was it not considered to extend the map beyond the park since the only thing affected there are deer and squirrels. :) in order to include those homes just south of the park and pretty much up against the airport?
Chris Neuhaus	The noise has significantly increased around the Churchill High School area on Blanco/West Ave. Will it be possible to change the times of departures/ arrivals so we are not woken up so early and again late at night? It makes it difficult to sleep. This area was built in the mid 1980's and were not built to be sound or noise proof. Maybe changing runways?
Mike Lemoine	Is the city / airport developing a plan to notify individual home owners that are or will be within the 65 contour. I don't know of any homeowners that were told prior to purchasing a house in the contour that it was in fact within this contour. Shouldn't this be a disclosure required to be made just as buyers are made aware of flood plains.
Barbara Alexander	Don't we needprojections for the noise contour afterthe airport expansion, since it won't be completed by 2026?

Appendix H

Public Comments and Responses

APPENDIX H

Public Comments and Responses

This appendix contains 19 emailed public comments received during the Part 150 Noise Exposure Map (NEM) Update comment period, and responses to comments.

Comment Letter Coding

The enclosed table includes a list of public comment letters, with the name(s) of each party that provided a comment. Each comment letter was assigned a unique Letter Code to catalog the submittal.

Letter Codes consist of a character and a number to identify each comment letter. The first character identifies the type of commenter (affiliation code):

- G – Government/Elected Official
- P – Public

The number identifies the specific comment letter. For example, a Letter Code "P-41" describes the comment letter as being the 41st letter received from the general public.

Affiliation Code **Numeric Identifier**

P-41

It should be noted that the comment letters included in this Appendix are presented exactly as they were received and may contain typographical errors and/or misspellings. They have not been edited in any way and are provided in this manner to show that they were quoted exactly as they were in their original form. Additionally, it is worth noting that typed comment letters were received via the project website.

Each submitted comment letter included in this appendix also has an associated response. Similar to the coding approach used for the comments (e.g., "P-41"), each response has an affiliation code of "R" and a numeric identifier. For example, the third comment response is labeled as "R-03." Because a majority of the submissions contain multiple comments or questions, most will be associated with multiple responses. **Table H-1** contains a cross index of comment number, associated response number(s), name of submitter, and the page number of where the comment and response(s) are located. For purposes of privacy, one commenter requested that their name not appear with their submission; as such, the name associated with Comment P-05 appears as "<Name Redacted>."

TABLE H-1
INDEX OF PUBLIC COMMENT LETTERS

Comment Number	Response Number(s)	Name	Page Number (starting on)
P-01	R-01, R-02, R-03, R-04	Alison Hermann	H-4
P-02	R-05	Fred Weiss	H-5
P-03	R-06	Pat Garrison	H-6
P-04	R-07, R-08, R-09, R-10, R-11, R-12, R-13, R-14, R-15, R-16	Pat Garrison	H-7
P-05	R-17, R-18	<Name Redacted>	H-9
P-06	R-19, R-20	Lauren Leckie	H-10
P-07	R-21, R-22	David Garcia	H-11
P-08	R-23, R-24, R-25, R-26, R-27, R-28	Christine Stabile	H-12
P-09	R-29, R-30, R-31, R-32	Lisa Grant	H-14
P-10	R-33, R-34	Raymond W. Steidel	H-15
P-11	R-35, R-36	Nick Wallace	H-16
P-12	R-37, R-38	Jennifer Haigh	H-17
P-13	R-39	Nathan Schmidt	H-18
P-14	R-40, R-41, R-42	Julie Vaello	H-19
P-15	R-43	Nina Nixon-Mendez	H-19
P-16	R-44, R-45	Barb Alexander	H-20
P-17	R-46, R-47	Ronda French	H-21
P-18	R-48, R-49	Jessica Gomez	H-22
P-19	R-50	Wayne Alexander	H-23

Workshop 1	Name	Comment	Response
P-01	Alison Hermann	Hi there, I've been through the slides as a resident of the Northwood area and I have to admit they are still a bit confusing jargon wise. Is there a potential outcome where the airport noise can lead to some sort of noise abatement or residential relief? I know this happened in the past with window relief that stopped about a block from our home. However, I only noticed acoustical treatment for "public buildings" vs any residential relief. To that point, Is the noise sensitive area you are evaluating only within the DNL 65 contour? Or any further resi areas? I realize planes take off from different runways based on wind/time of day, but I'm curious if the flight paths or takeoff elevation has changed from prior years- I didn't see any data on that, but can definitely hear it more (could be because home more with work from home), but also have window rattles, too. Finally, will nothing be decided until 2026 or when the NEM is released in 2021 there will be a final decision on whether or not any need to fix. At that point is there a potential monetary amount the city has reserved at all to address a potential fix? And what happens at the 2nd public workshop- perhaps further questions or discussion of a more complete map? Thanks so much for the clarifications. Best, Alison Hermann	Dear Alison Hermann: Thank you for submitting your comments regarding the San Antonio International Airport (the Airport) Part 150 Noise Exposure Map (NEM) Update. **R-01** The purpose of this Part 150 NEM Update is to determine existing and future noise exposure conditions around the Airport. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. **R-02** In the Draft 2021 Existing Conditions NEM, 644 housing units have been identified to be exposed to aircraft noise of Day-Night Average Sound Level (DNL) 65 and higher. Of those 644 housing units, 423 have been previously treated through the Airport's Residential Acoustical Treatment Program (RATP) and the remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. In the Draft 2026 Future Conditions NEM, 968 housing units are expected to be exposed to aircraft noise of DNL 65 and higher. Of those 968 housing units, 701 have been treated as part of the Airport's RATP and the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. Accordingly, no new housing units, that may potentially be eligible for future sound treatment, have been identified to be located in either the Draft 2021 or the Draft 2026 DNL 65 contours. See Sections 5.2.2 and 5.3.2 of the Draft NEM Update Report for additional information. **R-03** This Part 150 NEM Update deals solely with developing an understanding of the current and 5-year future noise conditions surrounding the Airport, which includes consideration of the number of operations, aircraft types, flight track paths, and land use. The aircraft flight patterns, or aircraft flight tracks, and runway use for the 2021 Existing Conditions scenario represent actual aircraft arrival and departure flight paths that occurred at the Airport in 2019, which is the most recent year of normal activity prior to the COVID-19 pandemic. Additional discussion regarding the impacts of the COVID-19 pandemic on this Part 150 Study can be found in Chapter 4 of the Draft NEM Update Report. **R-04** The 2nd set of Public Information Workshops were conducted the week of February 22, 2021 and presented both the Draft 2026 Future Conditions noise contours and the Draft NEM Update Report for public review and comment.

Workshop 1	Name	Comment	Response
P-02	Fred Weiss	My house is located just outside the draft 2021 Baseline DNL 65 contour. I have visually noticed that flight patterns have recently changed and now are closer to my home. This change has resulted in louder noise from aircraft landing/taking off from SAT Airport. This louder noise is noticeable indoors and outdoors. Many of my neighbors have expressed similar concerns to me. -- Best Regards, ============ Fred Weiss	Dear Fred Weiss: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-05** The aircraft flight patterns, or aircraft flight tracks, for the 2021 Existing Conditions scenario represent actual aircraft arrival and departure flight paths that occurred at the Airport in 2019. The two-year shift in flight track representation reflects the impacts associated with the current COVID-19 pandemic. While there are no changes in flight procedures at the Airport, there have been temporary operational changes during airfield maintenance activities. Additionally, activity in 2020 included some months with significant decreases in activity. With the less congested airspace, the routing of arriving and departing aircraft may have occasionally been different due to the reduced need for specific aircraft turns, spacing between aircraft, etc. It is anticipated that any such changes will be temporary in nature and will return to normal as activity rebounds. Additional discussion regarding the impacts of the COVID-19 pandemic on this Part 150 Study can be found in Chapter 4 of the Draft NEM Update Report.

Workshop 1	Name	Comment	Response
P-03	Pat Garrison	Jesus, I am sharing the attached with you. It was posted on Next Door and the Oak Park Northwood Association Facebook account yesterday. In addition to my expressed observations, several of my neighbors complained that there was no opportunity for feedback with the consutants and that their answers were incomplete or jargon-filled and non responsive. I suspect that there was little, to no feedback, after the sessions; I wrote no response. Pat Garrison Northeast Neighborhood Alliance Aviation Advisor	Dear Pat Garrison: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-06** Due to the COVID-19 pandemic, the Public Information Workshops were completed virtually to provide opportunities for engagement while also adhering to public health guidelines recommended by local health officials and the U.S. Centers for Disease Control and Prevention. The virtual approach to conducting the Public Information Workshops was approved by the Federal Aviation Administration (FAA). Four two-hour virtual Public Information Workshops were conducted the week of October 26, 2020. Attendees were afforded the opportunity to ask questions of the Part 150 NEM Update Study team (Airport staff and the consultant team). Attendees were notified that their comments/questions would not be considered part of the official project record and were encouraged to submit them, in writing, by the November 13, 2020 deadline. Attendees were also notified that copies of all the materials presented during the Public Information Workshops were available for download from the Airport's Noise Office website: https://flysanantonio.com/business/about-saas/environmental-stewardship/ Materials available for download include: • The Draft NEM Update Report • Frequently Asked Questions • High-resolution Draft 2021 Existing Conditions Noise Exposure Map • High-resolution Draft 2026 Future Conditions Noise Exposure Map • Public Information Workshop Presentation • Video recordings of all four Public Information Workshops For additional materials or comments, attendees were encouraged to contact Airport staff at 210.361.9632 or airportnoisehotline@sanantonio.gov. Additional discussion regarding Public Outreach can be found in Chapter 6 of the Draft NEM Update Report.

Workshop 1	Name	Comment	Response
P-04	Pat Garrison	**NOISE EXPOSURE MAP(NEM) UPDATE** First, thanks to all that participated. It shows the level of concern and expertise by our neighbors. My Takeaways: Nothing beneficial to our neighborhood will happen as a result of this study. The consultant showed annualized decreased traffic and runway 4 having almost an equal number of departures as runway 13R. Also, for those that participated, you heard the consultant confirm that the neighborhood sound monitors are not used- only the takeoff and landing noise values provided to the FAA by the aircraft manufacturers. In other words, the consultant's computer program tells them we do not experience noise of a significant lever to warrant further sound mitigation. I submitted questions that the consultant refused to answer in advance. The airport personnel did not think my having advance knowledge was fair. Advance knowledge would have provided me the opportunity to ask pointed, specific questions rather than general issue questions. The fact that we were provided no opportunity for face-to-face or Zoom-to-Zoom interface or rebuttal was telling that this was a secretive undertaking with a foregone set of conclusions without exacting anything but minimum REQUIRED involvement with the public. I asked on three different occasions what weather variables were used with vague non answers. Only going through Councilman Perry's office and the help of his Chief of Staff, Paul Jimenez. was I able to ascertain the values used. With most takeoffs occurring during the day, the higher SAT temperature affects aircraft performance adversely. The consultants used a 24 hour average, thus skewing and enhancing performance. Additionally, the barometric pressure reading used was, I think, 29.10". This would indicate that we were in the eye of a CAT IV hurricane! For instance, today it is 30.23". This was not unexpected. Our relief needs to come from the Strategic Development Plan(SDP). The case is being made that, for SAT to remain an inner city airport, certain considerations to its neighbors need to occur. NOISE SHARING NOISE PLACEMENT These need to be the operative words in any ongoing future plans for SAT.	Dear Pat Garrison: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-07** The purpose of this Part 150 NEM Update was to determine existing and future noise exposure conditions around the Airport. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. **R-08** Data provided by the Airport's Noise Operations Monitoring System (NOMS) shows that 38,801 and 27,571 fixed-wing departures occurred on Runway 4 and Runway 13R in 2019, respectively. This equates to 48.2% and 34.3%, respectively, of all total fixed-wing departures from the Airport in 2019. A comparison of these relative values indicates that Runway 4 is more heavily used than Runway 13R for departures by approximately 14%. This is also consistent with the general observation that the footprint of the Draft 2021 DNL 65 contour extending from Runway 4 is larger than that of the Draft 2021 DNL 65 contour extending from Runway 13R. **R-09** As discussed in Section 4.1 of the Draft NEM Update Report, while the Airport's Noise Monitoring Terminals (NMTs) provide useful information, this information is only related to actual noise measurements of a single aircraft event (e.g., overflight) at a specific geographic location. NMT data, however, is not useful to help calculate cumulative noise exposure around the entire area of the Airport, which is what is required by the FAA for all Part 150 Studies. For these studies, the FAA requires the use of the Aviation Environmental Design Tool (AEDT) noise model, which is a computerized software program that calculates noise exposure from multiple aircraft over a wide, geographic area. AEDT modeling also allows for determining future noise exposure conditions based on changes in aircraft fleet, activity levels and runway use. It is important to note that, per FAA requirements, NMT data were not used to compare or "calibrate" against AEDT model outputs. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled. **R-10** Due to the COVID-19 pandemic, the Public Information Workshops were completed virtually to provide opportunities for engagement while also adhering to public health guidelines recommended by local health officials and the U.S. Centers for Disease Control and Prevention. The virtual approach to conducting the Public Information Workshops was approved by the FAA. Additional discussion regarding the impacts of the COVID-19 pandemic on this Part 150 Study can be found in Chapters 4 and 6 of the Draft NEM Update Report. **R-11** AEDT determines aircraft weight and climb performance based on the distance an aircraft flies. Maximum Takeoff Weight (MTOW) includes total fuel, total payload (passenger/cargo), and aircraft weight. For example, MTOW of Boeing 737-800 is 174,200 pounds. This exact MTOW is included in FAA's AEDT. The AEDT uses departure stage length to assign the trip distance. There are nine departure stage lengths in AEDT, which allows the modeling of a range of flight distance and associated aircraft

Workshop 1	Name	Comment	Response
		Dallas-Ft. Worth, Houston and Austin have all had the foresight to move to a regional location. The results are apparent, major airline hubs for the first two and transoceanic service for Austin. San Antonio's leadership's shortsightedness at SAT has been apparent for decades. I have witnessed many squandered opportunities first hand. I am hopeful Aviation Director Saenz can give us better guidance for our future. I requested in my letter to Syed a list of assumptions that were not given to the consultants in advance. Last night Chris refused my question about assumptions and said it would be in the final report-far too long to have a difference. Why it matters: Load Factor-only fuel and trip length are mentioned. 100 passengers averaging 170 lbs. adds 17,000 pounds. Engine Life-Test pilots use new and most efficient engines for their data. A jet engine turning approximately 30,000 r.p.m. when new, might at its half life require an additional 5% thrust to attain the same amount of power. That is 1500 additional r.p.m.s to achieve the desired thrust, This is not accounted for in their simulations. Temperature at airport-Most manufacturing data uses a baseline obtained at a standard day-59* at sea level. How many days is our average temperature 59*-higher temperature, less performance. Our actual field elevation 809'. If this is not accounted for the data is much improved versus actual performance. Takeoff procedure used-Test pilots use a much steeper climb gradient at a reduced power setting to have a quiet profile-not realistic in real life. Additional data misrepresentation. NEM study purposely under-counted departures off of 13R and over-counted on runway 4. Why-keep 65db inside last study lines. What air pressure setting did you use? Paul, I think nothing will come from this, but I hate being patted on the head and patronized. Additionally several of us experienced technical issues at the start.	weights. Stage length 1 is a trip distance less than 500 nautical miles (NM) and Stage length 9 is the trip distance greater than 6,500 NM. For example, Boeing 737-800 is capable of flying up to Stage length 6, which is greater than 3,500 NM and less than 4,500 NM in AEDT. Aircraft departure weight will be heavier when the destination is farther and lighter when the destination is closer. Additional information on stage length assignments can be found in Appendix B of the Draft NEM Update Report. **R-12** The AEDT does not take into account the age of aircraft engines. However, all aircraft flying under FAA regulations are routinely maintained, especially for commercial airliners. Please note that the AEDT considers annual average day operations from a variety of aircraft (new and old). It is not practical to consider the age of engines per aircraft unless the additional 5% of RPM would result in a significant increase in noise. According to the FAA's Environmental Desk Reference for Airport Actions, a 3-dB increase in Lmax is barely perceptible. If the additional 5% RPM would be logarithmically scaled, the noise increase would be 0.2 dB, which is far less than a noticeable level. Due to many variations in aircraft and operational conditions throughout the year, the age of the engines would not significantly affect noise exposure. **R-13** The AEDT takes into account ten years averaged weather condition. The current version of AEDT includes the averaged weather conditions between 2009 and 2018. The AEDT uses the Airport-specific conditions of 70°F, 61% humidity, and a field elevation of 809 feet. **R-14** For the purposes of modeling, noise abatement departure profiles were not used. Use of these procedures is difficult to verify and therefore modified profiles were not used in generating the contours. The Airport's NOMS captures data that includes the actual operational information, such as aircraft type, time of day, departures, arrivals, runway used, destination/origin airport, airline, registration number, and flight number. The 2021 Existing Conditions runway usage was obtained from Airport's NOMS and was not adjusted by the consultant. The primary reason the Draft 2021 DNL 65 contour is smaller, overall, than the last NEM DNL 65 contour is due to the newer/quieter aircraft being operated in 2019. **R-15** Based on data provided by the Airport's NOMS, 38,801 and 27,571 fixed-wing departures occurred on Runway 4 and Runway 13R in 2019, respectively. This is consistent with the general observation that, despite the decrease in overall contour footprint between the 2015 and Draft 2021 DNL 65 contours, the Draft 2021 DNL 65 contour extending from Runway 4 is larger than the Draft 2021 DNL 65 contour extending from Runway 13R. **R-16** The AEDT assumes a barometric pressure value of 29.15 inches of Hg at the Airport. This number is in very close alignment with other sources of historical weather data. The website www.wunderground.com, which provides historical weather records for thousands of locations across the country, shows that San Antonio's 10-year average barometric pressure is 29.102 inches of Hg, which is within 99.8% of the default AEDT value.

Workshop 1	Name	Comment	Response
P-05	<Name Redacted>	Thank you, Joshua, I'd like to ask my name or initials aren't used in any publicly available documents. Here are my comments: I've lived in Castle Hills Forest for 4 years, about halfway between NW Military and the back of the neighborhood along the Salado Creek Greenway, and the airplane noise has increasingly gotten worse. When I'm outside, I can see planes, large cargo type planes not small aircraft, flying directly over my house. My daily experience with the airplane noise is not reflected in the linear noise to the northwest of the airport, neatly over the Salado Creek Greenway and currently on the Airport Noise Exposure Map. I hope the updated noise exposure map matches what we are experiencing and the updated Residential Acoustical Treatment Program includes Castle Hills Forest. Thanks! <Name Redacted>	Dear <Name Redacted>: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-17** The aircraft flight patterns, or aircraft flight tracks, for the 2021 Existing Conditions and 2026 Future Conditions scenarios represent actual aircraft arrival and departure flight paths that occurred at the Airport in 2019, which is the most recent year of normal activity prior to the COVID-19 pandemic. Additional discussion regarding the impacts of the COVID-19 pandemic on this Part 150 Study can be found in Chapter 4 of the Draft NEM Update Report. **R-18** In the Draft 2021 Existing Conditions NEM, 644 housing units have been identified to be exposed to aircraft noise of DNL 65 and higher. Of those 644 housing units, 423 have been previously treated through the Airport's RATP and the remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. In the Draft 2026 Future Conditions NEM, 968 housing units are expected to be exposed to aircraft noise of DNL 65 and higher. Of those 968 housing units, 701 have been treated as part of the Airport's RATP and the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. Accordingly, no new housing units, that may potentially be eligible for future sound treatment, have been identified to be located in either the Draft 2021 or the Draft 2026 DNL 65 contours. See Sections 5.2.2 and 5.3.2 of the Draft NEM Update Report for additional information.

Workshop 2	Name	Comment	Response
P-06	Lauren Leckie	Hello, I live on Temptation street in harmony hills. The plane noise has woken me up in the early mornings (between 4-7am) for as long as we have lived here (we moved in August of 2009). We had a child in 2015 and in 2018 and the aircraft noise has definitely disturbed both my boys' sleep in the early morning and during nap time. I have grown used to the aircraft noise during the day but still over 11 years later they still wake me several times a week. Please let me know if you have any other questions or need any more information. Thank you! ~ Lauren Leckie 11626 Temptation street San Antonio TX 78216	Dear Lauren Leckie: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-19** Because the Airport receives federal funding, it is obligated to remain "open for business" 24 hours a day. As such, all types of aircraft, including commercial and cargo carriers, are allowed to arrive at and depart from the Airport in a manner that best meets their national and global operating schedules. **R-20** In evaluating noise exposure, 14 Code of Federal Regulations (CFR) Part 150 uses the DNL metric which considers nighttime noise exposure. DNL, or day-night average sound level, is a function of equivalent sound level, or Leq, which is the logarithmic average of all the individual sound events occurring over a specified unit of time, expressed in A-weighted decibels. DNL is Leq measured over a 24-hour period with a 10 dB penalty applied to nighttime sound levels to account for the greater annoyance that nighttime noise (between 10 p.m. and 7 a.m.) is presumed to cause for most people. This extra weight treats one nighttime noise event as equivalent to 10 daytime events of the same magnitude. The average annual day is used for the quantification and evaluation of airport noise and is determined by averaging operations over a 24-hour period for 365 days. DNL applied on the basis of an average annual day is the required metric specified in 14 CFR Part 150 to be used for noise compatibility planning and provides the basis for land use compatibility guidelines. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled.

Workshop 2	Name	Comment	Response
P-07	David Garcia	Hello Joshua, I attended the webinar yesterday and had a question. I was looking through the documents outlining the baseline noise contours. In viewing the map, I could not make out the single family homes that fall within the contours. Can you please tell me if we fall in to the baseline to take advantage of noise mitigation efforts sound solution? I am basically asking if we can have our windows replaced due to the aircraft noise we experience daily. Our address is 1738 Fawn Gate Drive. Please let me know as I could not tell with the map provided. Thank you, David Garcia 1738 Fawn Gate,78248 956-286-9887	Dear David Garcia: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-21** In the Draft 2021 Existing Conditions NEM, 644 housing units have been identified to be exposed to aircraft noise of DNL 65 and higher. Of those 644 housing units, 423 have been previously treated through the Airport's RATP and the remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. In the Draft 2026 Future Conditions NEM, 968 housing units are expected to be exposed to aircraft noise of DNL 65 and higher. Of those 968 housing units, 701 have been treated as part of the Airport's RATP and the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. Accordingly, no new housing units, that may potentially be eligible for future sound treatment, have been identified to be located in either the Draft 2021 or the Draft 2026 DNL 65 contours. See Sections 5.2.2 and 5.3.2 of the Draft NEM Update Report for additional information. **R-22** High-resolution Draft 2021 Existing Conditions and Draft 2026 Future Conditions NEMs are available for download at the Airport's Noise Office website: https://flysanantonio.com/business/about-saas/environmental-stewardship/ For additional materials, please contact Airport staff at 210.361.9632 or airportnoisehotline@sanantonio.gov.

Workshop 2	Name	Comment	Response
P-08	Christine Stabile	Sir/Ma'am, This message is to submit formal comments to be part of the official Noise Exposure Map study. 1. The findings of Noise Exposure Maps concluded noise levels around the San Antonio International Airport are decreasing. However, this is not the experience of residence of the North Central Thousand Oaks Neighborhood Association. The noise levels in our neighborhoods dramatically increased in the past five years due frequent departure on the "crosswinds" runway and new flight patterns which deviate from the longtime established routes along an industrial corridor parallel to Wetmore Road. These new flight patterns allow aircraft to routinely deviate from the Airport's own land use recommendations and the city's zoning plans by flying west of Jones-Maltsberger Road at low altitude over our homes. Aircraft should be required to fly the designated noise abatement route over McAllister Park and along Wetmore Road. 2. Additionally airport noise is increasing due to an increase in cargo flights. The cargo aircraft sound or noise characteristics are louder and more bothersome than passenger planes. To make matters worse, these planes typically depart at times that negatively impact critical sleep times (9-11 PM and 5-7AM). Cargo planes should be required to upgrade their engines to quieter models. Until then cargo planes should not be permitted to depart between 5-7AM or 9-11 PM. 3. The noise standard of a 24 hour average decibel level inadequately assesses the disturbances created by aircraft noise because it only measures one characteristic of sound and the averaging of decibels when the airport is not in use with busy times dilutes the noise levels. This practice favors the aviation industry and damages the health and wellbeing of the community. The standard should be lowered to 45 decibels for a 24 hour average or be replaced with a new standard that more accurately addresses all sound characteristics. My house was in a peaceful and serene neighborhood, but now it is bombarded by aircraft noise and vibrations. The findings of the Noise Exposure Maps are contrary to my experience. Sincerely, Christine Stabile	Dear Christine Stabile: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-23** The aircraft flight patterns, or aircraft flight tracks, for the 2021 and 2026 scenarios represent actual aircraft arrival and departure flight paths that occurred at the Airport in 2019, which is the most recent year of normal activity prior to the COVID-19 pandemic. Additional discussion regarding the impacts of the COVID-19 pandemic on this Part 150 Study can be found in Chapter 4 of the Draft NEM Update Report. **R-24** Data provided by the Airport's NOMS shows that 38,801 and 27,571 fixed-wing departures occurred on Runway 4 and Runway 13R in 2019, respectively. A comparison of these relative values indicates that Runway 4 is more heavily used than Runway 13R for departures by approximately 14%. The FAA's Air Traffic Control Tower has the sole discretion to assign departure runways and routes (once in the air), which is heavily influenced by current weather conditions and activity in adjacent airspace. **R-25** While we appreciate your suggestions to potentially mitigate aircraft noise by changing existing flight routes and implementing engine upgrades for cargo aircraft, this Part 150 NEM Update deals solely with developing an understanding of the current and 5-year future noise conditions surrounding the Airport, which includes the number of operations, aircraft types, flight track paths, and land use. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. Accordingly, any proposed changes to existing aircraft arrival and departure procedures and/or upgrades for cargo aircraft engines are beyond the scope of this Part 150 Study. **R-26** Because the Airport receives federal funding, it is obligated to remain "open for business" 24 hours a day. As such, all types of aircraft, including commercial and cargo carriers, are allowed to arrive at and depart from the Airport in a manner that best meets their national and global operating schedules. **R-27** DNL, or day-night average sound level, is a function of equivalent sound level, or Leq, which is the logarithmic average of all the individual sound events occurring over a specified unit of time, expressed in A-weighted decibels. DNL is Leq measured over a 24-hour period with a 10 dB penalty applied to nighttime sound levels to account for the greater annoyance that nighttime noise (between 10 p.m. and 7 a.m.) is presumed to cause for most people. This extra weight treats one nighttime noise event as equivalent to 10 daytime events of the same magnitude. The average annual day is used for the quantification and evaluation of airport noise and is determined by averaging operations over a 24-hour period for 365 days. DNL applied on the basis of an average annual day is the required metric specified in 14 CFR Part 150 to be used for noise compatibility planning and provides the basis for land use compatibility

Workshop 2	Name	Comment	Response
			guidelines. It is important to note that DNL is a measurement of cumulative noise (over the course of a year); therefore, DNL values are not equivalent to noise measurements made for a single aircraft overflight event. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled. **R-28** The FAA has adopted DNL 65 as the threshold of significant noise exposure (or annoyance), below which residential land uses are compatible. Annoyance is a cumulative measure of the general adverse reaction of people to noise that causes interference with speech, sleep, the desire for a tranquil environment, etc., although the predicted annoyance, in terms of absolute levels, may vary among people and different communities. Similar to changing existing aircraft arrival and departure routes and cargo aircraft engine upgrades, revising/lowering the current significant noise standard (DNL 65) is beyond the scope of this Part 150 Study. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled.

Workshop 2	Name	Comment	Response
P-09	Lisa Grant	Hello, I grew up near Ohare airport and the planes were very loud then. I remember being on the dial phone and then hearing a plane and both people on the phone stopped talking until the plane went by. Airplanes were very loud then. The driving distance was 4.1 miles from the airport but we were much closer than that to the runways. We could read the names of the planes above us. The planes did not fly after 10pm in our glide path. I now live near San Antonio airport and the driving distance is 1.5 miles to the Airport. The planes are much quieter than they were in the 1970's but even though we live near the flight path for the runway less used, the planes are louder due to the closer distance. It doesn't matter much during the daytime but in the middle of the night, it is quite loud. You see the plane flies right over one side of my house and the noise reverberates in my bedroom. We have dual pane windows and have blown in extra insulation in the attic but they still wake me up. I know that my sound level is higher than what you are reporting for the neighborhood. I think it would be a nice jester from the airlines to provide sound proofing for my house and the couple of neighbors on my street and maybe the next one over where your flight path flies directly above or kitty corner from the residences affected. Attached please see video of where the plane flies. By the way, the Southwest Planes appear to be noisier or fly lower. I did not sit outside to locate the Southwest Plane noise but I am sending you video of a Delta plane and also a white plane with no markings. Please advise if you will be able to accommodate me and a couple of the neighbors with this request. Thank you, Lisa Grant 210-862-6999	Dear Lisa Grant: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-29** The purpose of this Part 150 NEM update was to determine existing and future noise exposure conditions around the Airport. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. **R-30** In the Draft 2021 Existing Conditions NEM, 644 housing units have been identified to be exposed to aircraft noise of DNL 65 and higher. Of those 644 housing units, 423 have been previously treated through the Airport's RATP and the remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. In the Draft 2026 Future Conditions NEM, 968 housing units are expected to be exposed to aircraft noise of DNL 65 and higher. Of those 968 housing units, 701 have been treated as part of the Airport's RATP and the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. Accordingly, no new housing units, that may potentially be eligible for future sound treatment, have been identified to be located in either the Draft 2021 or the Draft 2026 DNL 65 contours. See Sections 5.2.2 and 5.3.2 of the Draft NEM Update Report for additional information. **R-31** DNL, or day-night average sound level, is a function of equivalent sound level, or Leq, which is the logarithmic average of all the individual sound events occurring over a specified unit of time, expressed in A-weighted decibels. DNL is Leq measured over a 24-hour period with a 10 dB penalty applied to nighttime sound levels to account for the greater annoyance that nighttime noise (between 10 p.m. and 7 a.m.) is presumed to cause for most people. This extra weight treats one nighttime noise event as equivalent to 10 daytime events of the same magnitude. The average annual day is used for the quantification and evaluation of airport noise and is determined by averaging operations over a 24-hour period for 365 days. DNL applied on the basis of an average annual day is the required metric specified in 14 CFR Part 150 to be used for noise compatibility planning and provides the basis for land use compatibility guidelines. It is important to note that DNL is a measurement of cumulative noise (over the course of a year); therefore, DNL values are not equivalent to noise measurements made for a single aircraft overflight event. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled. **R-32** The FAA is responsible for the safe and efficient operation of aircraft arriving to and departing from the Airport; as such, aircraft flight paths are dictated by the FAA and heavily influenced by weather and local airspace congestion.

Workshop 2	Name	Comment	Response
P-10	Raymond W. Steidel	I have called the 'Noise Abatement' office in the past regarding low flying Helicopter traffic right over our houses in the 100 block of Fantasia. I requested that these Helicopters fly in & out over or East of Highway 281. My concern was addressed for a while, but it is getting worse now. Have also noticed that smaller airplanes when departing NW divert West immediately after takeoff. These are also & often times very loud. Can you address these concerns in your Webinar? Ray 100 Block of Fantasia St.	Dear Raymond W. Steidel: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-33** While we appreciate your suggestions to potentially mitigate aircraft noise by changing existing flight routes, including changing the flight routes of helicopters, this Part 150 NEM Update deals solely with developing an understanding of the current and 5-year future noise conditions surrounding the Airport, which includes the number of operations, aircraft types, flight track paths, and land use. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. Accordingly, any proposed changes to existing aircraft and helicopter arrival and departure procedures are beyond the scope of this Part 150 Study. **R-34** The FAA is responsible for the safe and efficient operation of aircraft arriving to and departing from the Airport; as such, aircraft flight paths are dictated by the FAA and heavily influenced by weather and local airspace congestion.

Workshop 2	Name	Comment	Response
P-11	Nick Wallace	The airport noise map updates need to be rescheduled. The only one left is the 22nd and its spanish. Also, the airport noise map shows where the airport deems more noise exposure in favor of areas where there are no homes. Very fishy. I would like to know why the noise exposure map shows more noise exposure heading north east than north west when the runways are clearly the same size both directions. Im sure it has something to do with the north east runway pointing right toward and closer to a large neighborhood. Will yall be posting the noise exposure levels and places measured soon? Take Care, Nick Wallace	Dear Nick Wallace: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-35** Noise exposure takes into consideration the diverse range of noise levels that depend on the type of engine used by aircraft, the size of aircraft, and whether an aircraft is taxiing on the airfield, landing or taking off. Furthermore, aircraft noise exposure is determined by the number of aircraft operations, airport operating conditions, aircraft performance, and flight patterns, while also considering local terrain. It is important to note that the FAA is ultimately responsible for the safe and efficient operation of aircraft arriving to and departing from the Airport; as such, aircraft flight paths are dictated by the FAA and are heavily influenced by weather and local airspace congestion. See Section 4.3 of the Draft NEM Update Report for additional information. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled. **R-36** Documentation of existing and expected future noise exposure levels (the Draft 2021 Existing Conditions NEM, the Draft 2026 Future Conditions NEM, and the Draft NEM Update Report) are available for download at the Airport's Noise Office website: https://flysanantonio.com/business/about-saas/environmental-stewardship/ For additional materials, please contact Airport staff at 210.361.9632 or airportnoisehotline@sanantonio.gov.

Workshop 2	Name	Comment	Response
P-12	Jennifer Haigh	I missed the last session, but in the prior session they discussed in great detail how they have all the noise monitors around the city and one very nearish my home. But they also said that do not use them when making the noise contour maps, they only use computer models. 1) Why disregard this data? 2) Why bother to have the noise monitors at all if they are not used for purposes like noise contour mapping? Computer models are indeed very helpful, but BETTER when matched against real real data from an independent source to confirm. Why not use the noise monitors to compliment the computer models? Also, I called the airport one morning to report EXCESSIVE airplane noise in the middle of the night. Probably cargo planes but perhaps not. And I was informed I did not hear a plane at my house at that time. I think that's incredible to be told that what Im hearing is clearly a hallucination. Thank you for including my comments in the written feedback to this report. Sincerely, Jennifer Haigh	Dear Jennifer Haigh: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-37** While the Airport's NMTs provide useful information, this information is only related to actual noise measurements of a single aircraft event (e.g., overflight) at a specific geographic location. NMT data, however, is not useful to help calculate cumulative noise exposure around the entire area of the Airport, which is what is required by the FAA for all Part 150 Studies. For these studies, the FAA requires the use of the AEDT noise model, which is a computerized software program that calculates noise exposure from multiple aircraft over a wide, geographic area. AEDT modeling also allows for determining future noise exposure conditions based on changes in aircraft fleet, activity levels and runway use. It is important to note that, per FAA requirements, NMT data were not used to compare or "calibrate" against AEDT model outputs. See Section 4.1 of the Draft NEM Update Report for additional information. **R-38** DNL, or day-night average sound level, is a function of equivalent sound level, or Leq, which is the logarithmic average of all the individual sound events occurring over a specified unit of time, expressed in A-weighted decibels. DNL is Leq measured over a 24-hour period with a 10 dB penalty applied to nighttime sound levels to account for the greater annoyance that nighttime noise (between 10 p.m. and 7 a.m.) is presumed to cause for most people. This extra weight treats one nighttime noise event as equivalent to 10 daytime events of the same magnitude. The average annual day is used for the quantification and evaluation of airport noise and is determined by averaging operations over a 24-hour period for 365 days. DNL applied on the basis of an average annual day is the required metric specified in 14 CFR Part 150 to be used for noise compatibility planning and provides the basis for land use compatibility guidelines. It is important to note that DNL is a measurement of cumulative noise (over the course of a year); therefore, DNL values are not equivalent to noise measurements made for a single aircraft overflight event. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled.

<table>
<tr><th>Workshop 2</th><th>Name</th><th>Comment</th><th>Response</th></tr>
<tr><td>P-13</td><td>Nathan Schmidt</td><td>Hello, I just tried watching the presentation on YouTube and while I know a bit of work was put into this presentation, it’s just excruciating to watch a PowerPoint for over an hour while presenters read off of scripts presenting technical data in monotone voices on information that can be just as easily read and digested.

Is there a copy of this presentation that can be downloaded along with a written transcript of the presentation so I can just read this content?

I live near the airport right across Wurzbach parkway on the edge of McAllister in Blossom Park, and it’s loud at times (deafening loud) while at other times it’s manageable or fine. Typically, it can be very loud in the early hours of the morning. Like, “Oh my God, is this the Apocalypse?!” kinds of loud to wake you up for work.

I’m interested in more information. It’s just unfortunate that the information is so hard to digest or absorb because of the way the information is being presented. A written transcript would be helpful. It would seem this could be made available as the presenters are seemingly reading from a written script prepared for the video.

If you all have this, a link can be made available in the YouTube video description or you can just send a copy.

Thanks!
– Nathan</td><td>Dear Nathan Schmidt:

Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update.

R-39 Copies of all the materials presented during the Public Information Workshops are available for download from the Airport’s Noise Office website:

https://flysanantonio.com/business/about-saas/environmental-stewardship/

Materials available for download include:
• The Draft NEM Update Report
• Frequently Asked Questions
• High-resolution Draft 2021 Existing Conditions Noise Exposure Map
• High-resolution Draft 2026 Future Conditions Noise Exposure Map
• Public Information Workshop Presentation
• Video recordings of all four Public Information Workshops

For additional materials, please contact Airport staff at 210.361.9632 or airportnoisehotline@sanantonio.gov.</td></tr>
</table>

Workshop 2	Name	Comment	Response
P-14	Julie Vaello	Hello! I have a question for the upcoming Noise Webinar. Lately (the last few weeks) there have been planes taking off at 2am and around 4-4:15am. Is this normal? (I'm not sure if they are taking off or landing.) One took off the other morning around 2:15am and I was literally awake until I heard the next one at 4am. It wakes us up in the middle of the night and it's difficult to get back to sleep after that. It's tough when you have to work the next day. We have the noise reduction windows but the noise comes through some doors and through our chimney. Thank you for listening! Julie V.	Dear Julie Vaello: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-40** Because the Airport receives federal funding, it is obligated to remain "open for business" 24 hours a day. As such, all types of aircraft, including commercial and cargo carriers, are allowed to arrive at and depart from the Airport in a manner that best meets their national and global operating schedules. **R-41** DNL, or day-night average sound level, is a function of equivalent sound level, or Leq, which is the logarithmic average of all the individual sound events occurring over a specified unit of time, expressed in A-weighted decibels. DNL is Leq measured over a 24-hour period with a 10 dB penalty applied to nighttime sound levels to account for the greater annoyance that nighttime noise (between 10 p.m. and 7 a.m.) is presumed to cause for most people. This extra weight treats one nighttime noise event as equivalent to 10 daytime events of the same magnitude. The average annual day is used for the quantification and evaluation of airport noise and is determined by averaging operations over a 24-hour period for 365 days. DNL applied on the basis of an average annual day is the required metric specified in 14 CFR Part 150 to be used for noise compatibility planning and provides the basis for land use compatibility guidelines. It is important to note that DNL is a measurement of cumulative noise (over the course of a year); therefore, DNL values are not equivalent to noise measurements made for a single aircraft overflight event. See Appendix D of the Draft NEM Update Report for additional information on how aircraft noise is modeled. **R-42** For concerns about a specific aircraft operation, please contact Airport staff at 210.361.9632 or airportnoisehotline@sanantonio.gov.

Workshop 2	Name	Comment	Response
P-15	Nina Nixon-Mendez	Please coordinate with the Planning Department to update the SA Tomorrows future land use map to eliminate any additional future high density designation that is not currently constructed along Blanco and West Avenue so that SA Tomorrow is compatible with the updated noise contours. The Planning Department is advocating for high density along these corridors which is not compatible with the airport operations and could jeopardize federal funding for the airport.	Dear Nina Nixon-Mendez: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-43** This Part 150 NEM Update deals solely with developing an understanding of the current and 5-year future noise conditions surrounding the Airport, which includes the number of operations, aircraft types, flight track paths, and land use. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. While the Draft NEM Update Report has coordinated with the City of San Antonio Planning Department, any changes to future land use designations in the San Antonio area is beyond the scope of this Part 150 Study.

Workshop 2	Name	Comment	Response
P-16	Barb Alexander	Joshua, I very much appreciate your response. I have a very special interest in this issue. My address is 2 Lost Timbers, San Antonio TX 78248, and if you take a ruler and draw a straight line on a street map of San Antonio from the main runway west you will actually draw that line directly over my roof. And the noise profile currently shows that the noise is loudest most directly straight under the airplane and dissipates as it spreads out from the plane. So we get the direct noise. The planes are low. Gear is down. So it's loud. Naturally we are concerned with increased frequency. Truly, if the airport gets busier than it is currently (we have enjoyed the fewer flights this last year), it will make being outside in our yard unpleasant at best. You can't continue a conversation when a plane goes over. Generally, Inwood and anything east on the flight path will be untenable unless the FAA starts varying the approach to the right or left and then lines the planes up more directly as they get over the industrial area closer to 281. The other option would be to buy out the homes on this direct path in. St. Louis had to do this (I'm from St. Louis and knew the director of the airport). I have not heard any real practical discussion of how to deal with this. It will add to costs associated with this expansion if homes/subdivisions must be removed. Is this included in the budget and costing of the project? I do understand why the choice has been proposed to expand our existing airport. Convenience is primary. But living directly under that approach pattern will have to be addressed. Double pane windows are not the answer (we have them). They help if you're inside, but they do nothing to allow one to enjoy the outside area. What is the answer? I'm sorry there is no daytime option to attend. But basically, I'm hoping a substantive solution will be discussed. Planes higher over residential areas with a steeper glide path? If the main runway is extended west, as presented in the last meeting, that will actually make the noise worse because the planes will be lower still as they come over in preparation for landing. More larger planes? Louder still. Barbara Alexander 2 Lost Timbers San Antonio, TX 78248 barbalex@swbell.net	Dear Barb Alexander: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-44** While we appreciate your suggestions to potentially mitigate aircraft noise by changing existing flight routes, this Part 150 NEM Update deals solely with developing an understanding of the current and 5-year future noise conditions surrounding the Airport, which includes the number of operations, aircraft types, flight track paths, and land use. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. Accordingly, any changes to existing aircraft arrival and departure procedures are beyond the scope of this Part 150 Study. **R-45** In the Draft 2021 Existing Conditions NEM, 644 housing units have been identified to be exposed to aircraft noise of DNL 65 and higher. Of those 644 housing units, 423 have been previously treated through the Airport's RATP and the remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. In the Draft 2026 Future Conditions NEM, 968 housing units are expected to be exposed to aircraft noise of DNL 65 and higher. Of those 968 housing units, 701 have been treated as part of the Airport's RATP and the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. Accordingly, no new housing units, that may potentially be eligible for future sound treatment, have been identified to be located in either the Draft 2021 or the Draft 2026 DNL 65 contours. See Sections 5.2.2 and 5.3.2 of the Draft NEM Update Report for additional information.

Workshop 2	Name	Comment	Response
P-17	Ronda French	It This is just one of several videos of low flying loud planes flying over our home. Tell me that this wouldn't upset you and you would like living in these conditions. It's CONSTANT and 1 to 2 minutes apart. It seems like it's getting worse and more and more frequent. I fail to understand the fact that since our house was built in 1999 it doesn't qualify for assistance. Had to be built in 1998. We STILL have a horrendous noise issue. Ronda French 12915 Laguna Vista Dr 210-912-5001 Artoftheshell.com	Dear Ronda French: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-46** The purpose of this Part 150 NEM update was to determine existing and future noise exposure conditions around the Airport. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. **R-47** In the Draft 2021 Existing Conditions NEM, 644 housing units have been identified to be exposed to aircraft noise of DNL 65 and higher. Of those 644 housing units, 423 have been previously treated through the Airport's RATP and the remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. In the Draft 2026 Future Conditions NEM, 968 housing units are expected to be exposed to aircraft noise of DNL 65 and higher. Of those 968 housing units, 701 have been treated as part of the Airport's RATP and the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. Accordingly, no new housing units, that may potentially be eligible for future sound treatment, have been identified to be located in either the Draft 2021 or the Draft 2026 DNL 65 contours. See Sections 5.2.2 and 5.3.2 of the Draft NEM Update Report for additional information.

Workshop 2	Name	Comment	Response
P-18	Jessica Gomez	Name: jessica gomez Email: jessica.hinojosa@ampf.com Phone #: 2103653804 Request: [11] Message: Good afternoon, I'm curious if residents in the Regency Place neighborhood will be given grant to purchase new windows due to the increase in noise? it's loud now, I can't imagine how much louder it will get. Thank your for you time.	Dear Jessica Gomez: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-48** The purpose of this Part 150 NEM update was to determine existing and future noise exposure conditions around the Airport. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. **R-49** In the Draft 2021 Existing Conditions NEM, 644 housing units have been identified to be exposed to aircraft noise of DNL 65 and higher. Of those 644 housing units, 423 have been previously treated through the Airport's RATP and the remaining 221 single and multi-family homes have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. In the Draft 2026 Future Conditions NEM, 968 housing units are expected to be exposed to aircraft noise of DNL 65 and higher. Of those 968 housing units, 701 have been treated as part of the Airport's RATP and the remaining 267 single and multi-family units have either been determined to be ineligible for RATP treatment due to reasons such as date of construction or have declined participation. Accordingly, no new housing units, that may potentially be eligible for future sound treatment, have been identified to be located in either the Draft 2021 or the Draft 2026 DNL 65 contours. See Sections 5.2.2 and 5.3.2 of the Draft NEM Update Report for additional information.

Workshop 2	Name	Comment	Response
P-19	Wayne Alexander	A solution similar to how planes have to maneuver along the Potomac when landing at Reagan International to mitigate noise levels over residential and businesses in DC seems a possibility.	Dear Wayne Alexander: Thank you for submitting your comments regarding the San Antonio International Airport Part 150 NEM Update. **R-50** While we appreciate your suggestions to potentially mitigate aircraft noise by changing existing flight routes, this Part 150 NEM Update deals solely with developing an understanding of the current and 5-year future noise conditions surrounding the Airport, which includes the number of operations, aircraft types, flight track paths, and land use. A clear understanding of these conditions will serve as a basis when determining the future compatibility of land uses with aircraft noise. Accordingly, any proposed changes to existing aircraft arrival and departure procedures are beyond the scope of this Part 150 Study.

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Appendix I
Official Noise Exposure Maps

APPENDIX I

Official Noise Exposure Maps

This Appendix contains the official Noise Exposure Maps (NEMs) developed as a part of the San Antonio International Airport NEM Update Report.

- Figure I-1 2021 Existing Conditions Noise Exposure Map
- Figure I-2 2026 Future Conditions Noise Exposure Map
- Figure I-3 Modeled Fixed-Wing Flight Tracks - Runways 31L and 31R
- Figure I-4 Modeled Fixed-Wing Flight Tracks - Runways 13L and 13R
- Figure I-5 Modeled Fixed-Wing Flight Tracks - Runway 4
- Figure I-6 Modeled Fixed-Wing Flight Tracks - Runway 22
- Figure I-7 Modeled Helicopter Flight Tracks - All Helipads and Runways

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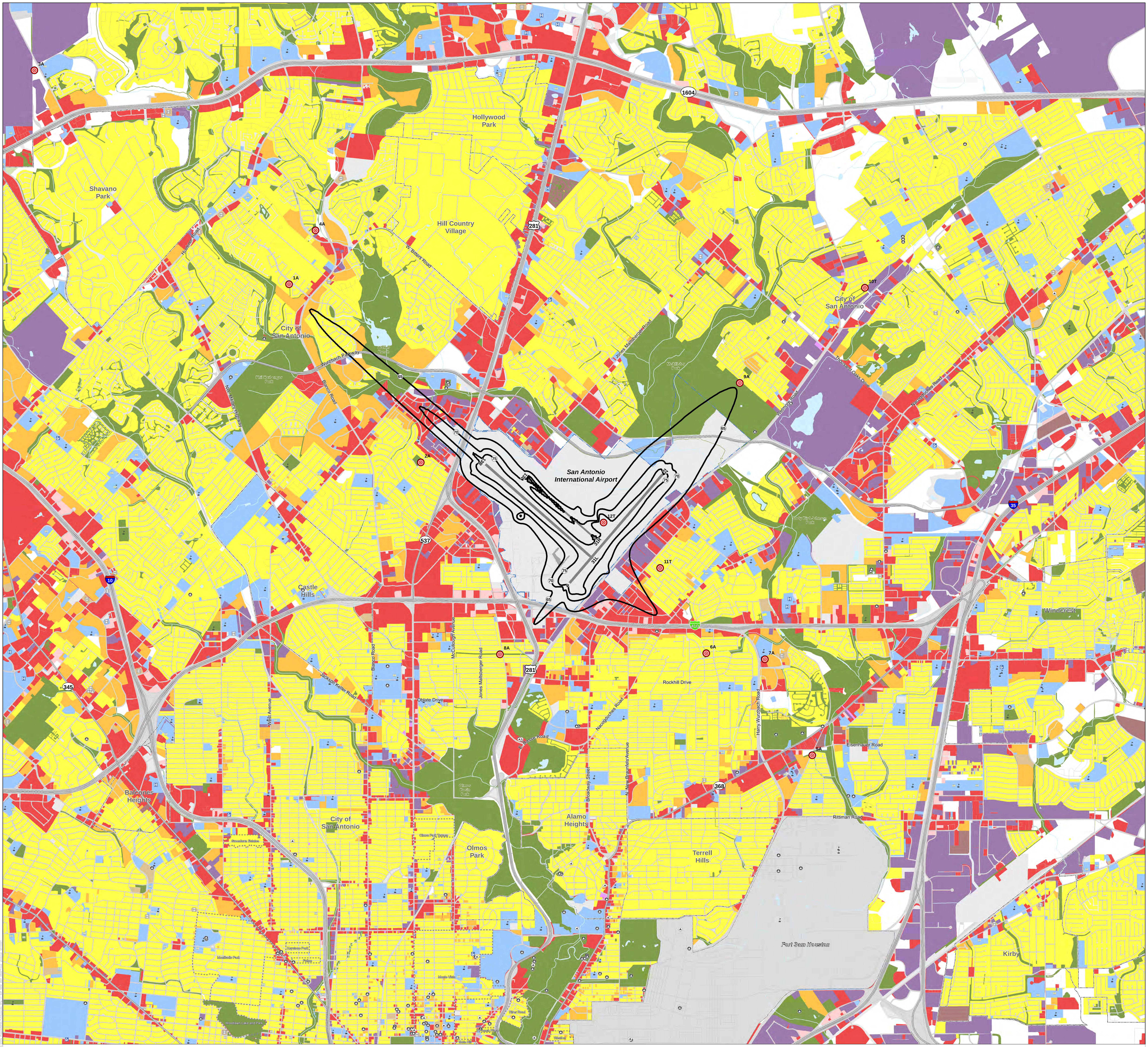


Legend

Existing Land Use

- Commercial - Lodging
- Commercial - Retail and Office
- Industrial and Manufacturing
- Mixed Residential and Commercial
- Public Facilities and Institutions
- Open Space, Cemeteries, and Outdoor Recreation
- Residential - Group
- Residential - Mobile Home
- Residential - Multi-Family
- Residential - Single Family
- Transportation, Parking, and Utilities
- Unclassified
- Vacant Land
- Hospital
- Convalescent/Nursing Facility
- Place of Worship
- Library
- School
- Historic Resource
- State or Local Historic Landmark
- Historic District
- City Limits
- Highways/Major Roads
- Rivers/Streams
- Waterbody
- Military Installation
- San Antonio International Airport Property
- DNL Contour
- Noise Monitoring Terminal

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

N

0 4,000

Feet

1" = 2,000'

Sponsor's Certification

The San Antonio Airport System certifies that it has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the San Antonio International Airport 2021 Noise Exposure Map and descriptions of forecast aircraft operations. The 2021 operations at San Antonio International Airport are hereby certified to be consistent with fleet mix, forecast operational levels, and flight procedures depicted on this 2021 Noise Exposure Map.

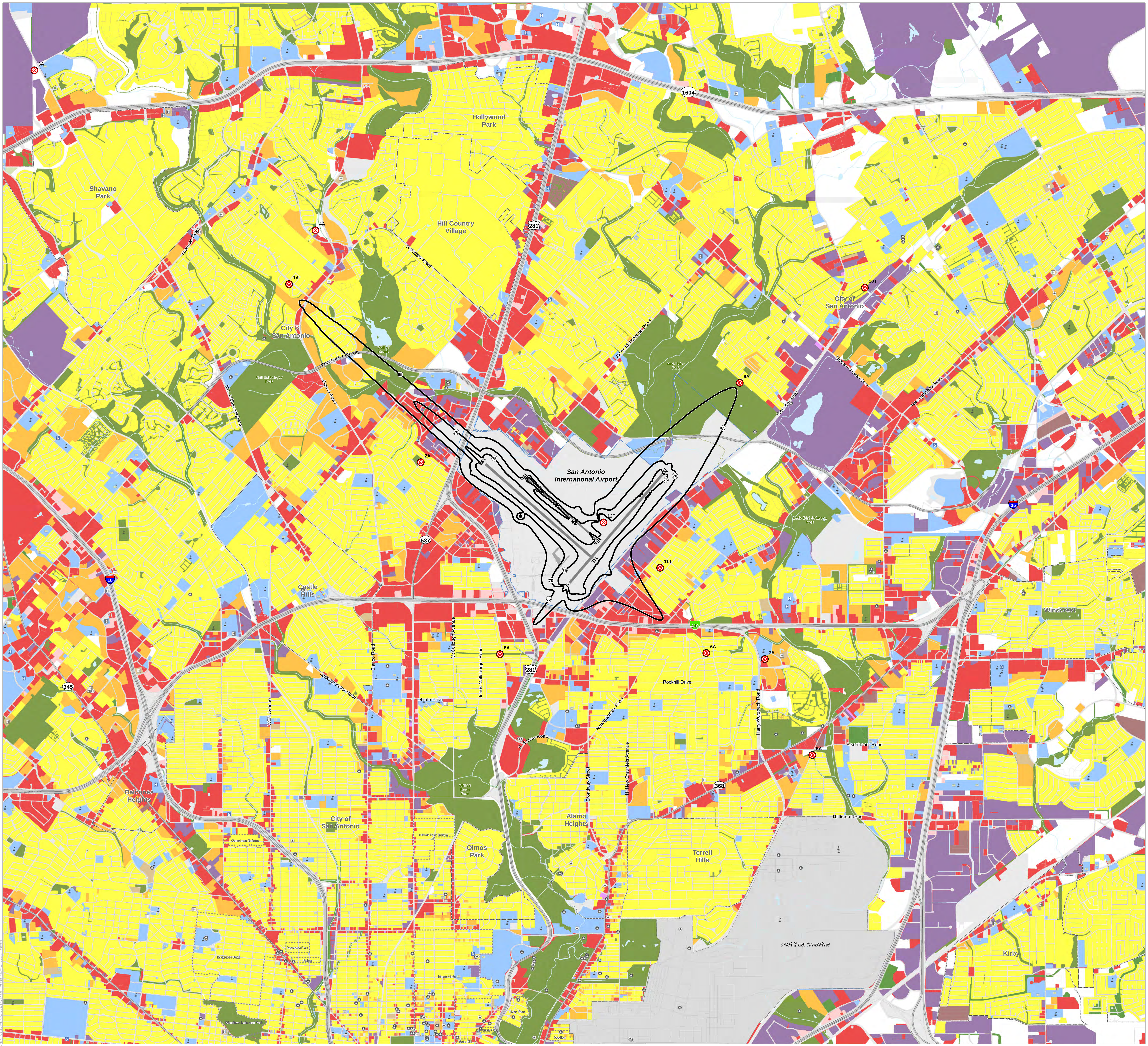
By: Jesus H. Saenz., Jr., IAP

Title: Director of Airports, City of San Antonio, Aviation Department

Address: 9800 Airport Boulevard, San Antonio, TX 78216

Signature: [signature] Date: April 28, 2021

Figure I-1
2021 Existing Conditions Noise Exposure Map
Map 1 of 2
San Antonio International Airport



Legend

Existing Land Use

- Commercial - Lodging
- Commercial - Retail and Office
- Industrial and Manufacturing
- Mixed Residential and Commercial
- Public Facilities and Institutions
- Open Space, Cemeteries, and Outdoor Recreation
- Residential - Group
- Residential - Mobile Home
- Residential - Multi-Family
- Residential - Single Family
- Transportation, Parking, and Utilities
- Unclassified
- Vacant Land
- Hospital
- Convalescent/Nursing Facility
- Place of Worship
- Library
- School
- Historic Resource
- State or Local Historic Landmark
- Historic District
- City Limits
- Highways/Major Roads
- Rivers/Streams
- Waterbody
- Military Installation
- San Antonio International Airport Property
- DNL Contour
- Noise Monitoring Terminal

N

0 4,000
Feet
1" = 2,000'

Sponsor's Certification

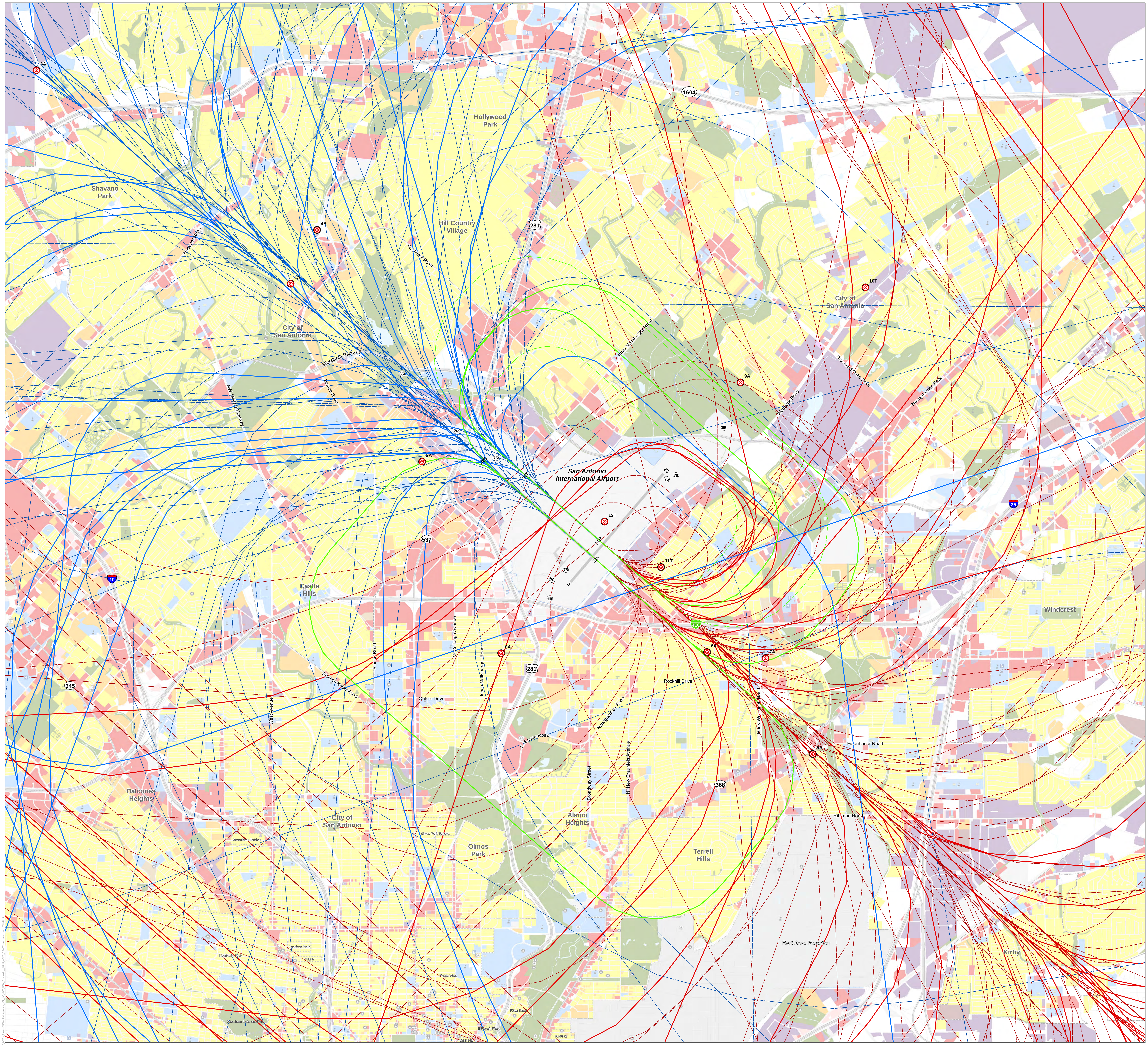
The San Antonio Airport System certifies that it has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the San Antonio International Airport 2026 Noise Exposure Map and descriptions of forecast aircraft operations. The 2026 operations at San Antonio International Airport are hereby certified to be consistent with fleet mix, forecast operational levels, and flight procedures depicted on this 2026 Noise Exposure Map.

By: Jesus H. Saenz. Jr., IAP
Title: Director of Airports, City of San Antonio, Aviation Department
Address: 9800 Airport Boulevard, San Antonio, TX 78216

Signature: J.H. Saenz. Jr. — Date: April 28, 2021

Figure I-2
2026 Future Conditions
Noise Exposure Map
Map 2 of 7
San Antonio International Airport

SOURCE: City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).



Legend

Existing Land Use
- Commercial - Lodging
- Commercial - Retail and Office
- Industrial and Manufacturing
- Mixed Residential and Commercial
- Public Facilities and Institutions
- Open Space, Cemeteries, and Outdoor Recreation
- Residential - Group
- Residential - Mobile Home
- Residential - Multi-Family
- Residential - Single Family
- Transportation, Parking, and Utilities
- Unclassified
- Vacant Land

- Hospital
- Convalescent/Nursing Facility
- Place of Worship
- Library
- School
- Historic Resource
- State or Local Historic Landmark
- Historic District
- City Limits
- Highways/Major Roads
- Rivers/Streams
- Waterbody
- Military Installation
- San Antonio International Airport Property

Operation Type
- Arrival Backbone Flight Track
- Arrival Sub-Track
- Departure Backbone Flight Track
- Departure Sub-Track
- Touch and Go Flight Track
- Touch and Go Sub-Track

- Noise Monitoring Terminal

N

0 4,000

Feet

1" = 2,000'

Figure I-3
Modeled Fixed-Wing Flight Tracks - Runways 31L and 31R
Map 3 of 7
San Antonio International Airport

SOURCE: AEDT 3c (flight tracks), ESA, 2020; City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

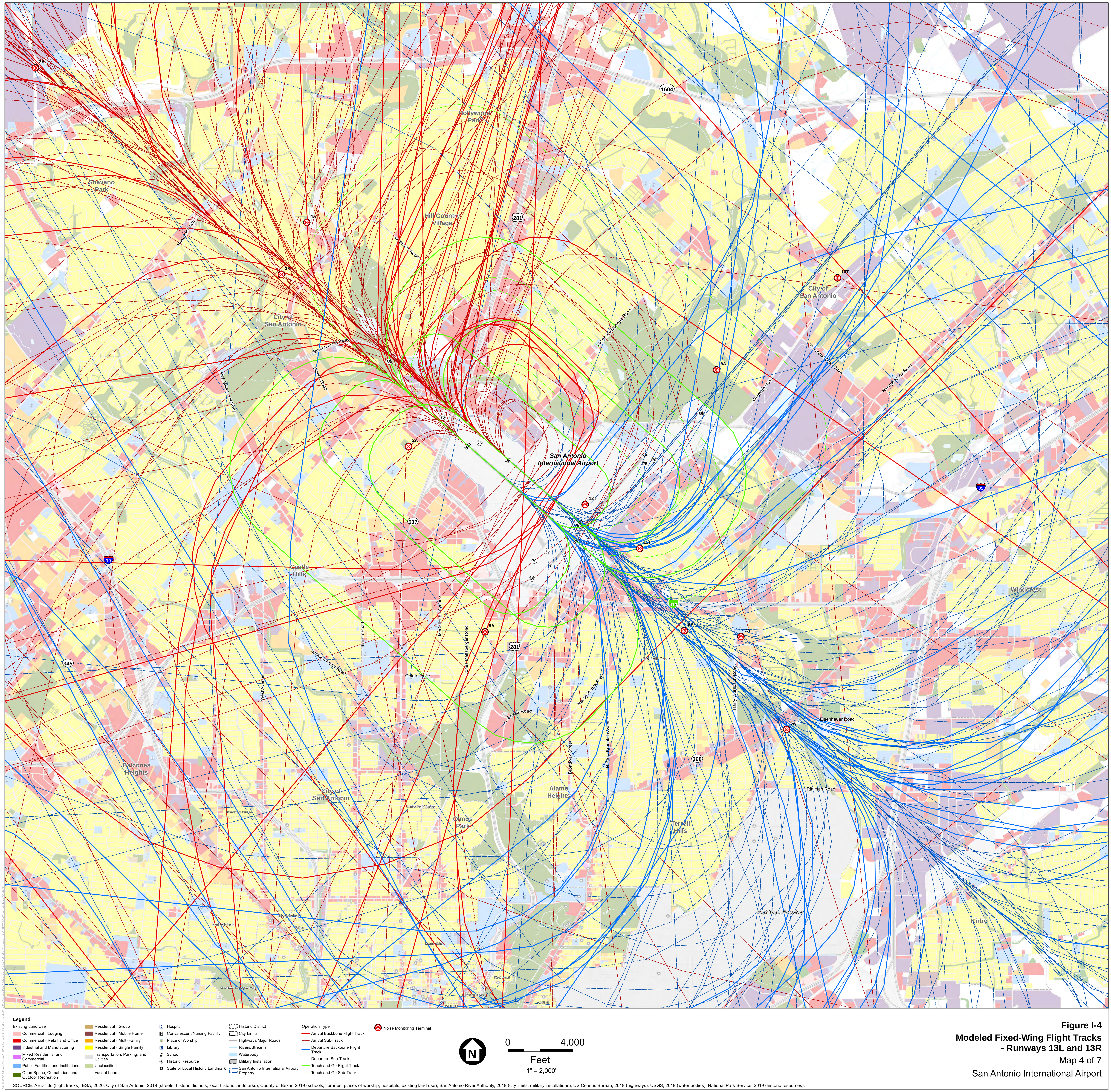
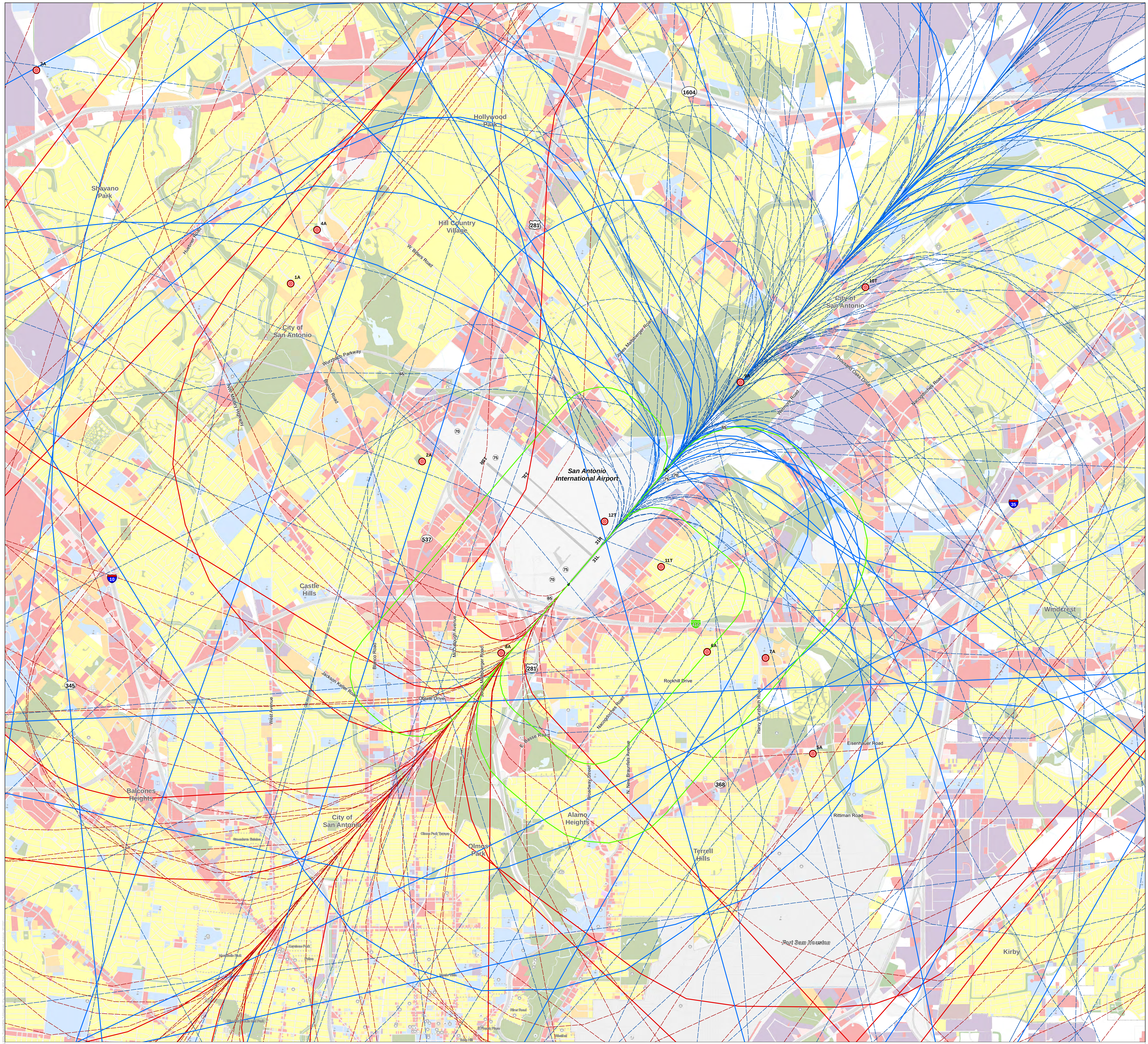


Figure I-4
Modeled Fixed-Wing Flight Tracks - Runways 13L and 13R
Map 4 of 7
San Antonio International Airport

SOURCE: AEDT 3c (flight tracks), ESA, 2020; City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).



Legend

Existing Land Use
- Commercial - Lodging
- Commercial - Retail and Office
- Industrial and Manufacturing
- Mixed Residential and Commercial
- Public Facilities and Institutions
- Open Space, Cemeteries, and Outdoor Recreation
- Residential - Group
- Residential - Mobile Home
- Residential - Multi-Family
- Residential - Single Family
- Transportation, Parking, and Utilities
- Unclassified
- Vacant Land
- Hospital
- Convalescent/Nursing Facility
- Place of Worship
- Library
- School
- Historic Resource
- State or Local Historic Landmark
- Historic District
- City Limits
- Highways/Major Roads
- Rivers/Streams
- Waterbody
- Military Installation
- San Antonio International Airport Property

Operation Type
- Arrival Backbone Flight Track
- Arribal Sub-Track
- Departure Backbone Flight Track
- Departure Sub-Track
- Touch and Go Flight Track

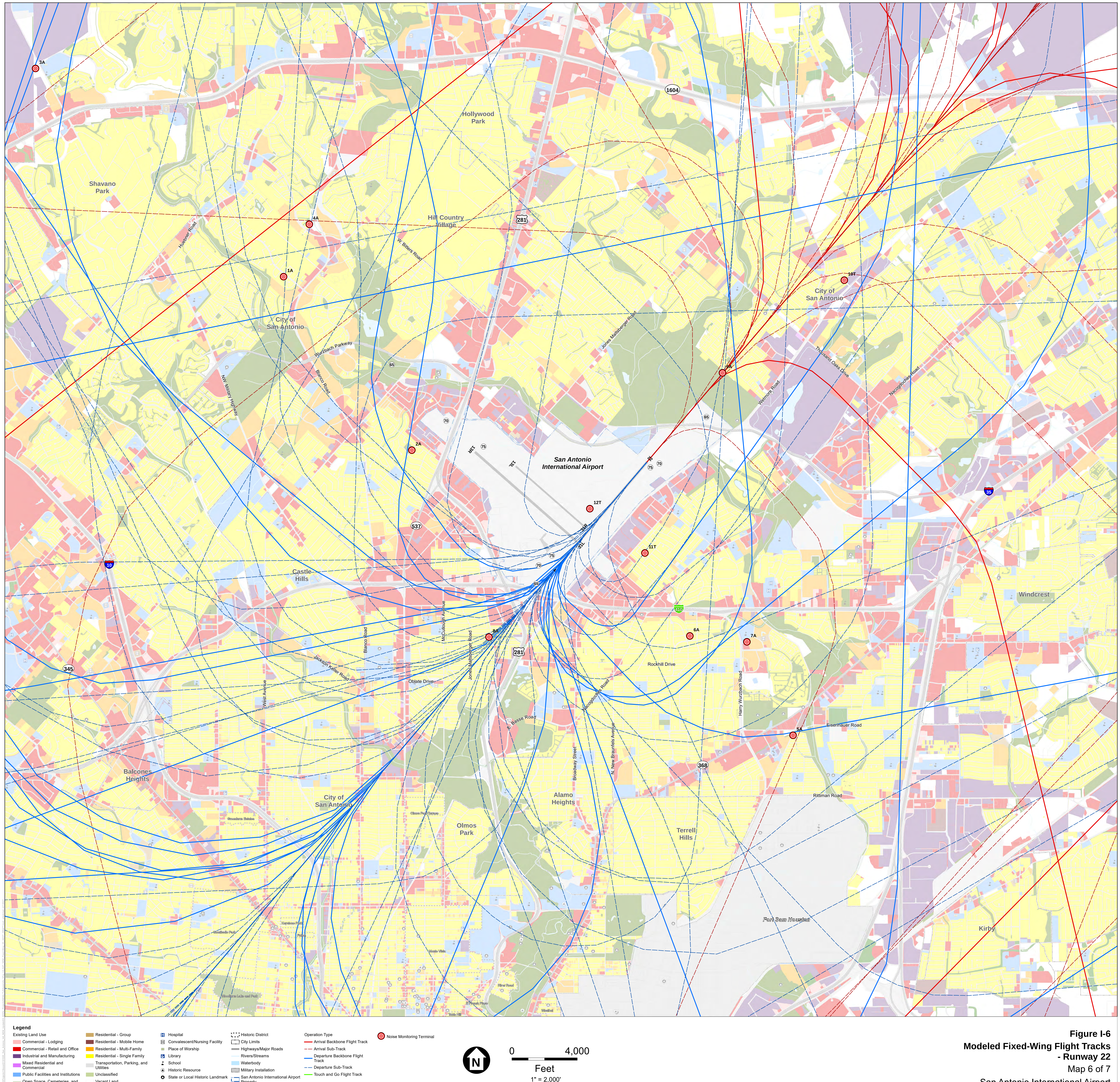
Noise Monitoring Terminal

N

0 4,000
Feet
1" = 2,000'

Figure I-5
Modeled Fixed-Wing Flight Tracks - Runway 4
Map 5 of 7
San Antonio International Airport

SOURCE: AEDT 3c (flight tracks), ESA, 2020; City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).



SOURCE: AEDT 3c (flight tracks), ESA, 2020; City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).

Figure I-6
Modeled Fixed-Wing Flight Tracks - Runway 22
Map 6 of 7
San Antonio International Airport

Legend

Existing Land Use
- Commercial - Lodging
- Commercial - Retail and Office
- Industrial and Manufacturing
- Mixed Residential and Commercial
- Public Facilities and Institutions
- Open Space, Cemeteries, and Outdoor Recreation
- Residential - Group
- Residential - Mobile Home
- Residential - Multi-Family
- Residential - Single Family
- Transportation, Parking, and Utilities
- Unclassified
- Vacant Land
- Hospital
- Convalescent/Nursing Facility
- Place of Worship
- Library
- School
- Historic Resource
- State or Local Historic Landmark
- Historic District
- City Limits
- Highways/Major Roads
- Rivers/Streams
- Waterbody
- Military Installation
- San Antonio International Airport Property

Operation_, SubtrackNu
- Arrival Backbone Flight Track
- Arrival Sub-Track
- Departure Backbone Flight Track
- Departure Sub-Track

- Noise Monitoring Terminal

N

0 4,000
Feet
1" = 2,000'

Figure I-7
Modeled Helicopter Flight Tracks – All Helipads and Runways
Map 7 of 7
San Antonio International Airport

SOURCE: AEDT 3c (flight tracks), ESA, 2020; City of San Antonio, 2019 (streets, historic districts, local historic landmarks); County of Bexar, 2019 (schools, libraries, places of worship, hospitals, existing land use); San Antonio River Authority, 2019 (city limits, military installations); US Census Bureau, 2019 (highways); USGS, 2019 (water bodies); National Park Service, 2019 (historic resources).