APPENDIX I

NOISE AND NOISE COMPATIBLE LAND USE

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APPENDIX I.1

NOISE AND NOISE COMPATIBLE LAND USE BACKGROUND

I.1 Noise and Noise-Compatible Land Use Background

Day-Night Average Sound Level (DNL) is based on sound levels measured in relative intensity of sound decibels (dB) on the A-weighted scale (dBA) over a time-weighted average normalized to 24-hours. A penalty of 10 dB is added to sound levels for the periods between 10 p.m. and 7 a.m. local time to aircraft operations occurring during those hours to account for greater sensitivity to noise during the nighttime hours as well as reduced ambient noise. DNL has been widely accepted as the best method to describe aircraft noise exposure. The U.S. Environmental Protection Agency (USEPA) identifies DNL as the principal metric for airport noise analysis. The Federal Aviation Administration (FAA) requires DNL as the noise descriptor in aircraft noise exposure analysis and noise compatibility planning. DNL levels are commonly shown as lines of equal noise exposure, similar to terrain contour maps, referred to as noise contours. FAA's approved Aviation Environmental Design Tool (AEDT), version 3e model developed aircraft noise contours for the existing conditions and potential noise impacts for the No Action Alternative and the Proposed Action for 2028, 2029, 2030, and 2035.

As described in **Section 4.3.8** of the Environmental Assessment (EA), residential areas are located within the General Study Area, with the closest homes approximately 200 feet north of the Runway 10R construction area and buffered by Interstate 84, vegetation, and noise barriers. The existing noise environment was analyzed using 2019 operational data and modeled with FAA's AEDT 3e to generate DNL 65–75 dB contours, which primarily encompass vacant and industrial land but also include some residential areas, a place of worship, and eligible historic resources. Within the DNL 65+ dB contour, approximately 1,591 acres contain 254 residents and 96 housing units, and avigation easements have been acquired to ensure compatibility with airport operations. The following information serves as an in-depth analysis of the affected environment, environmental consequences, and significance threshold related to noise and noise-compatible land use.

I.1.1 Affected Environment

The noise environment is commonly depicted in lines of equal noise levels, or noise contours. These noise contours are supplemented with noise data for selected points such as noise-sensitive receptors. The noise analysis takes the following operational characteristics into account:

- number of aircraft operations;

- aircraft fleet mix;
- aircraft noise and performance characteristics;
- flight tracks; and
- runway use.

Noise modeling requires the use of specific noise data and performance data for each aircraft type operating at Boise Airport (Airport). Noise data includes particular aircraft with engines at a range of thrust levels at a range of distances (from 200 feet to 25,000 feet). Performance data include thrust, speed and altitude profiles for takeoff and landing operations. AEDT has standard aircraft flight profiles for takeoffs, landings, and flight patterns or touch-and-go operations, which were used for all civilian aircraft types and military aircraft types. The AEDT database contains standard noise and performance data for over 300 different fixed-wing aircraft types, most of which are civilian aircraft. Within the AEDT database, it is standard for aircraft takeoff or departure profiles to be defined by a range of trip distances identified as “stage lengths.” Higher stage lengths (longer trip distances) are associated with heavier aircraft due to the flight’s increased fuel requirements. For the Boise Airport (BOI) EA, stage lengths are defined using city pair distances, determined by the great-circle distance from the originating airport to the planned arrival city. Air carrier operations at the Airport typically fall in the Stage Lengths 1, 2 and 3 categories, with only one aircraft (Airbus 320-211) falling in the Stage Length 4 category:

- Stage Length 1: 0 to 500 nautical miles flight distance
- Stage Length 2: 500 to 999 nautical miles flight distance
- Stage Length 3: 1000 to 1499 nautical miles flight distance
- Stage Length 4: 1500 to 2499 nautical miles flight distance
- Stage Length 5: 2500 to 3499 nautical miles flight distance
- Stage Length 6: 3500 to 4499 nautical miles flight distance
- Stage Length 7: +4500 nautical miles flight distance

The flight tracks used in the modeling were developed from the Envirosuite data and using an industry-standard method to develop model tracks that entails analyzing all radar data for the Airport by splitting the flight tracks into similar and manageable groups. The standard procedure separates tracks by operation type, runway end, aircraft type, and destination or direction. Flight tracks were analyzed with the same operation type, runway end, and destination or direction for similar geometry, and this

resulted in the final radar track bundles used to create model tracks. See **Section 5** of **Appendix I.2** for more information on flight tracks.

The primary factor affecting runway use at airports is the weather, specifically, wind direction and wind speed. An additional factor that may affect runway use is the location of the facility or ramp relative to the runway. The Envirosuite data was used to compile runway use tables. **Table 13** in **Appendix I.2** shows the runway use for each of the Airport's runways by aircraft category and engine type.

Using FAA's approved AEDT, version 3e model, **Figure I-1** displays the DNL[1] 65-75 dB noise contours for the 2019 Existing Conditions over a map of the existing land use in the General Study Area. **Table I-1** and **Figure I-1** also show land uses and individual noise-sensitive locations such as schools, places of worship, and eligible historic resources. The FAA's guidelines for land use compatibility presented in Appendix A of 14 Code of Federal Regulations (CFR) Part 150 state that all land uses are compatible with aircraft noise below the DNL 65 dB noise contour. The DNL 65 dB noise contour extends into mostly vacant and industrial land to the northwest and southeast. One place of worship, the Kingdom Hall of Jehovah's Witnesses at 3299 South Roosevelt Street is within the 2019 DNL 65 dB noise contour. One eligible historic resource, three of the four Large Single Bay Hangars, are within the DNL 65 dB noise contour. A portion of the 2019 DNL 65 and 70 dB noise contours extend into residential land uses immediately to the north of the end of Runway 10L.[2] Additionally, one eligible historic resource, the Compass Swing Base, is within the DNL 75 dB noise contour (see **Figure I-1**).

[1] DNL is a metric that reflects a person's cumulative exposure to sound over a 24-hour period, expressed as the noise level of the average day of the year based on annual aircraft operations.

[2] USEPA. (2022). NEPAssist, Places. Accessed January 2022, from USEPA: https://nepassisttool.epa.gov/nepassist/nepamap.aspx?wherestr=boi+airport.

Table I-1
2019 Existing Conditions Noise Contours and Noise-Sensitive Sites

DNL Noise Contour (dB)	Place of Worship – Kingdom Hall of Jehovah's Witnesses	Eligible Historic Resource – Four Large Single Bay Hangar	Eligible Historic Resource – Compass Swing Base
65-70	X	3 of 4	-
70-75	-	-	-
>75	-	-	X

Sources: HMMH, 2025.

Table I-2 provides population exposure, housing unit count, and contour areas for the 2019 DNL noise contours. The DNL 65+ dB noise contour covers about 1,591 acres and contains 254 residents and 96 housing units in the Hillcrest neighborhood.

Table I-2
2019 Existing Conditions Noise Contours Population, Housing, and Contour area

DNL Noise Contour (dB)	Population	Housing Units	Contour Area (acres)
65-70	254	96	855.85
70-75	0	0	307.40
>75	0	0	427.90
Total	**254**	**96**	**1,591.15**

Sources: HMMH, 2025; U.S. Census Bureau (USCB), 2020.

The Airport completed a Part 150 Noise Compatibility Program (NCP) in 2015, and in compliance with one of the mitigation measures, the City of Boise (Airport Sponsor) purchased avigation easements over noise-sensitive land uses to make them compatible land uses (see **Figure I-2**).[3] The residential areas and place of worship north of the Airport have avigation easements on the properties to ensure the Airport Sponsor's right to use navigable airspace, to generate noise associated with aircraft operations, and to prohibit future airspace obstructions.

[3] Boise Airport. (2015, December). 14 CFR Part 150 Study Update. Accessed May 2025, from Boise Airport: https://www.iflyboise.com/about-boi/noise-compatibility-program/.

Figure I-1
2019 Existing Conditions Noise Contours

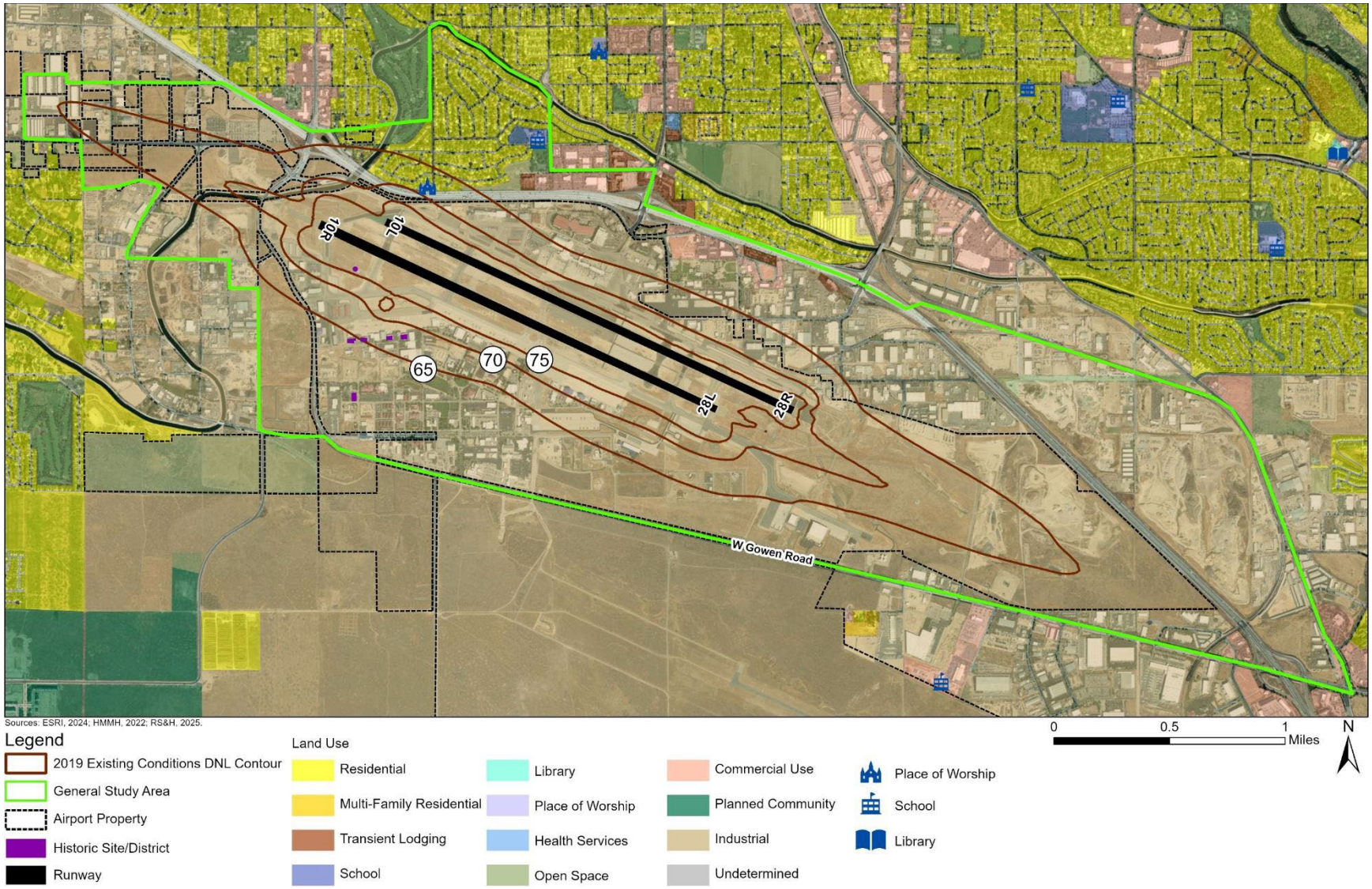
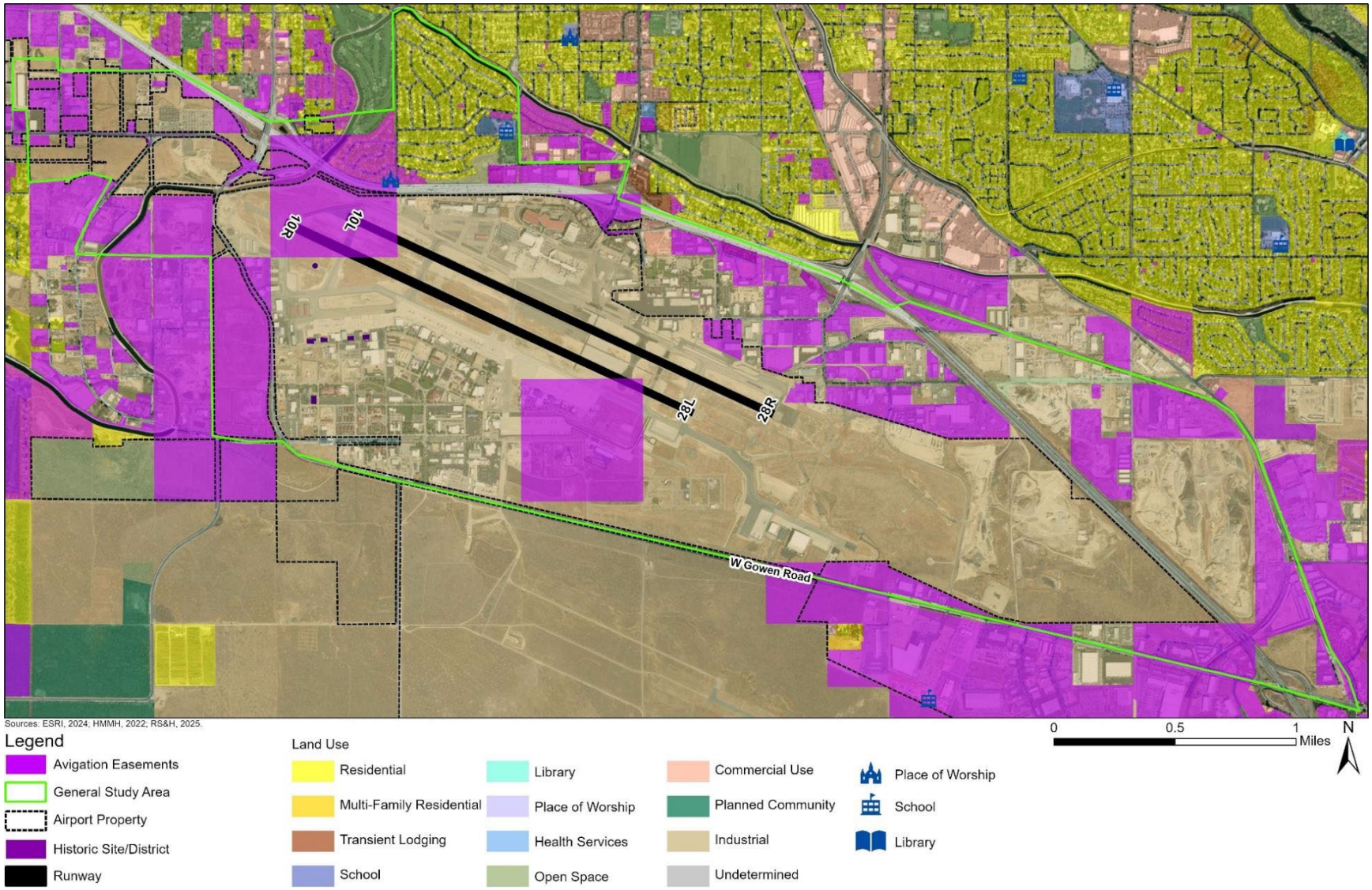


Figure I-2
Avigation Easements



I.1.2 Environmental Consequences

The potential noise effects associated with the Proposed Action were evaluated using the FAA's approved noise model, AEDT, version 3e. Modeling for the Proposed Action scenarios used the same noise data, performance data, and runway use percentages for each aircraft type operating at the Airport as in the 2019 Existing Conditions. However, flight tracks and runway use for the various Proposed Action analysis years varied based on how the Airport would operate during those years, each of which are described in the Proposed Action sections.

For purposes of this EA, it is assumed that the existing flight path end point for Runway 28L would shift to the east by 1,578 feet when Runway 28L is extended to match the Runway 28R end during the first construction year (2028) for a total runway length of 11,341 feet. It is assumed that the existing flight path endpoint for Runway 10R would shift to the east by 1,341 feet when the pavement is removed from the Runway 10R end to match the Runway 10L end during the second construction year (2029) for a total runway length of 10,000 feet. **Appendix I.2** discusses the inputs and methods used to specify the data used in the modeling.

As outlined in **Section I.1.3**, the FAA considers a noise impact to be significant if an action would cause noise sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above the DNL 65 dB noise contour when compared to the No Action Alternative. The analysis for this EA compared eight future scenarios using the operations data presented in **Table 4-1** in the EA: the No Action Alternative and the Proposed Action in 2028 (the first construction year for the Proposed Action when 1,578 feet would be added to the end of Runway 28L), the No Action Alternative and the Proposed Action in 2029 (the second construction year for the Proposed Action when 1,341 feet would be removed from the end of Runway 10R), the No Action Alternative and the Proposed Action in 2030 (the opening year for the Proposed Action), and the No Action Alternative and the Proposed Action in 2035 (five years after opening year).

I.1.2.1 No Action Alternative

Under the No Action Alternative, the Airport Sponsor would not implement the runway shift and extension, taxiway construction, and relocation or replacement of Navigational Aids (NAVAIDs). There would be no change to the existing runway configuration and the forecasted increase in operations would occur naturally under the No Action Alternative.

As such, the No Action Alternative represents forecast conditions for future years 2028 2029, 2030, and 2035 as presented in subsequent sections, with no improvements being made to the Airport.

I.1.2.2 No Action Alternative (2028)

Figure I-3 shows the DNL 65+ dB noise contours for the 2028 No Action Alternative, including individual noise-sensitive land uses such as schools, places of worship, and historic resources. The 2028 No Action Alternative DNL 65 dB noise contour extends into mostly vacant and industrial land to the northwest and southeast; however, a portion of the DNL 65 and 70 dB contours extends into residential land uses immediately to the north of the end of Runway 10L (see **Table I-3** and **Figure I-3**).

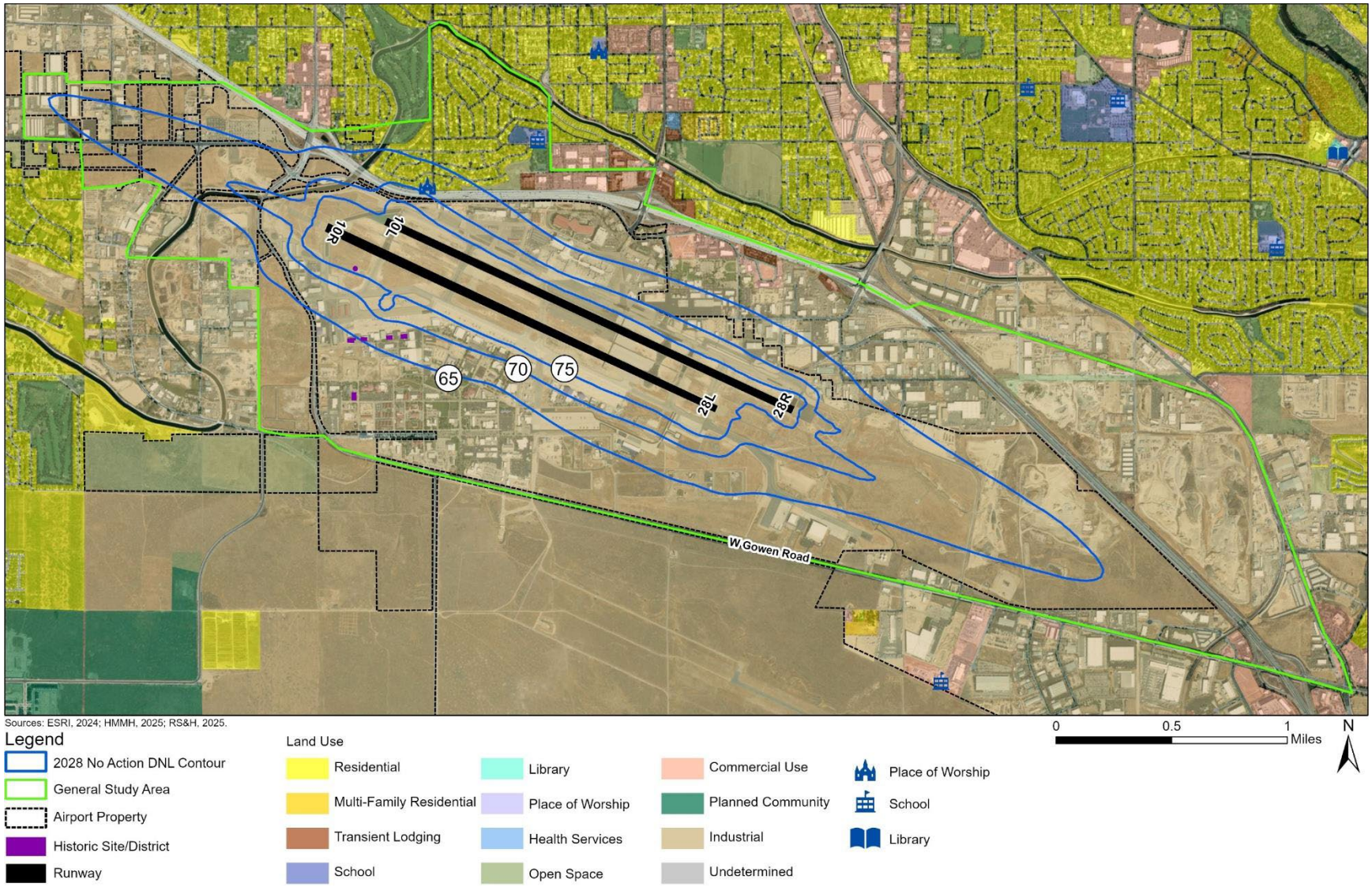
Table I-3 provides the population exposure, housing unit count, and contour areas for the 2028 No Action Alternative. A total of 283 residents and 107 housing units in the Hillcrest neighborhood would be within the DNL 65+ dB noise contours in 2028. The total area of the DNL 65+ dB noise contours under the 2028 No Action Alternative is about 1,681 acres.

Table I-3
2028 No Action Alternative Noise Contours Population, Housing, and Contour Area

DNL Noise Contour (dB)	Population	Housing Units	Contour Area (acres)
65-70	281	106	940.02
70-75	2	1	309.68
>75	0	0	431.35
Total	**283**	**107**	**1,681.05**

Sources: HMMH, 2025; USCB, 2020.

Figure I-3
2028 No Action Alternative Noise Contours



I.1.2.3 No Action Alternative (2029)

Figure I-4 shows the DNL 65+ dB noise contours for the 2029 No Action Alternative. The individual noise-sensitive locations such as schools, places of worship, and historic resources would be the same as those identified for the 2028 No Action Alternative (see **Table I-1**).

Table I-4 provides population exposure, housing unit count, and contour areas for the 2029 No Action Alternative. A total of 288 residents and 110 housing units in the Hillcrest neighborhood would be within the DNL 65+ dB noise contours in 2029. The total area of the DNL 65+ noise contours under the 2029 No Action Alternative is about 1,695 acres.

Table I-4
2029 No Action Alternative Noise Contours Population, Housing, and Contour Area

DNL Noise Contour (dB)	Population	Housing Units	Contour Area (acres)
65 - 70	285	109	949.72
70 - 75	3	1	312.19
> 75	0	0	432.97
Total	**288**	**110**	**1,694.88**

Sources: HMMH, 2025; USCB, 2020.

I.1.2.4 No Action Alternative (2030)

Figure I-5 shows the DNL 65+ dB noise contours for the 2030 No Action Alternative. The individual noise-sensitive locations such as schools, places of worship, and historic resources would be the same as the 2028 No Action Alternative, 2029 No Action Alternative, and 2019 Existing Conditions (see **Table I-1**).

Table I-5 provides the population exposure, housing unit count, and contour areas for the 2030 No Action Alternative. A total of 292 residents and 111 housing units in the Hillcrest neighborhood would be within the DNL 65+ dB noise contours in 2030. The total area of the DNL 65+ dB noise contours under the 2030 No Action Alternative is about 1,705 acres.

Table I-5
2030 No Action Alternative Noise Contours Population, Housing, and Contour Area

DNL Noise Contour (dB)	Population	Housing Units	Contour Area (acres)
65 - 70	289	109	956.99
70 - 75	3	2	314.04
> 75	0	0	434.13
Total	**292**	**111**	**1,705.16**

Sources: HMMH, 2025; USCB, 2020.

Figure I-4
2029 No Action Alternative Noise Contours

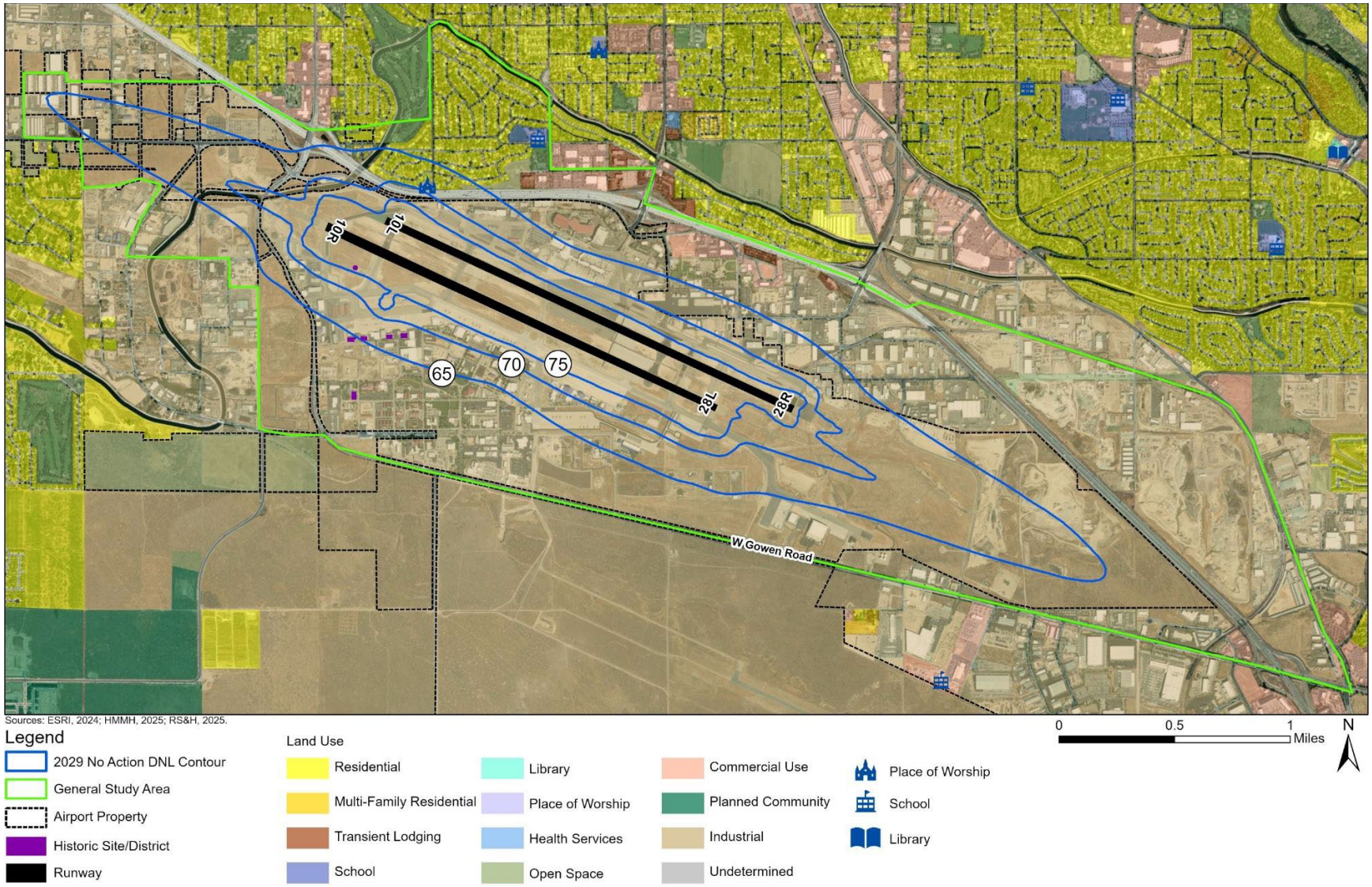
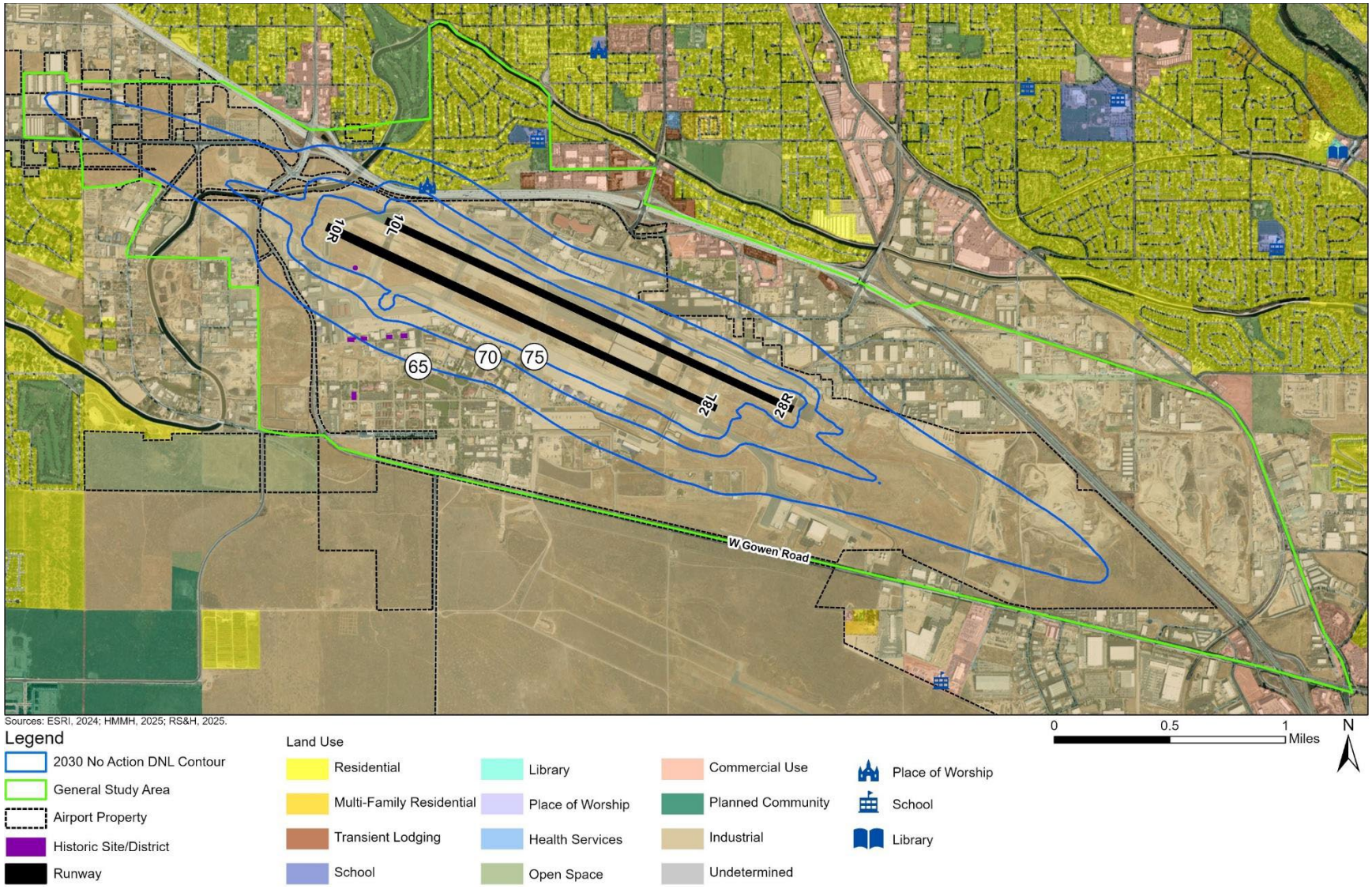


Figure I-5
2030 No Action Alternative Noise Contours



I.1.2.5 No Action Alternative (2035)

Figure I-6 shows the DNL 65+ dB noise contours for the 2035 No Action Alternative. The individual noise-sensitive locations such as schools and places of worship, would be the same as the 2028 No Action Alternative, 2029 No Action Alternative, 2030 No Action Alternative, and 2019 Existing Conditions (see **Table I-1**). All four of the Four Large Single Bay Hangars are inside the DNL 65 dB contour, whereas the 2028, 2029, and 2030 No Action Alternatives have three of the four hangars inside the DNL 65 dB contour.

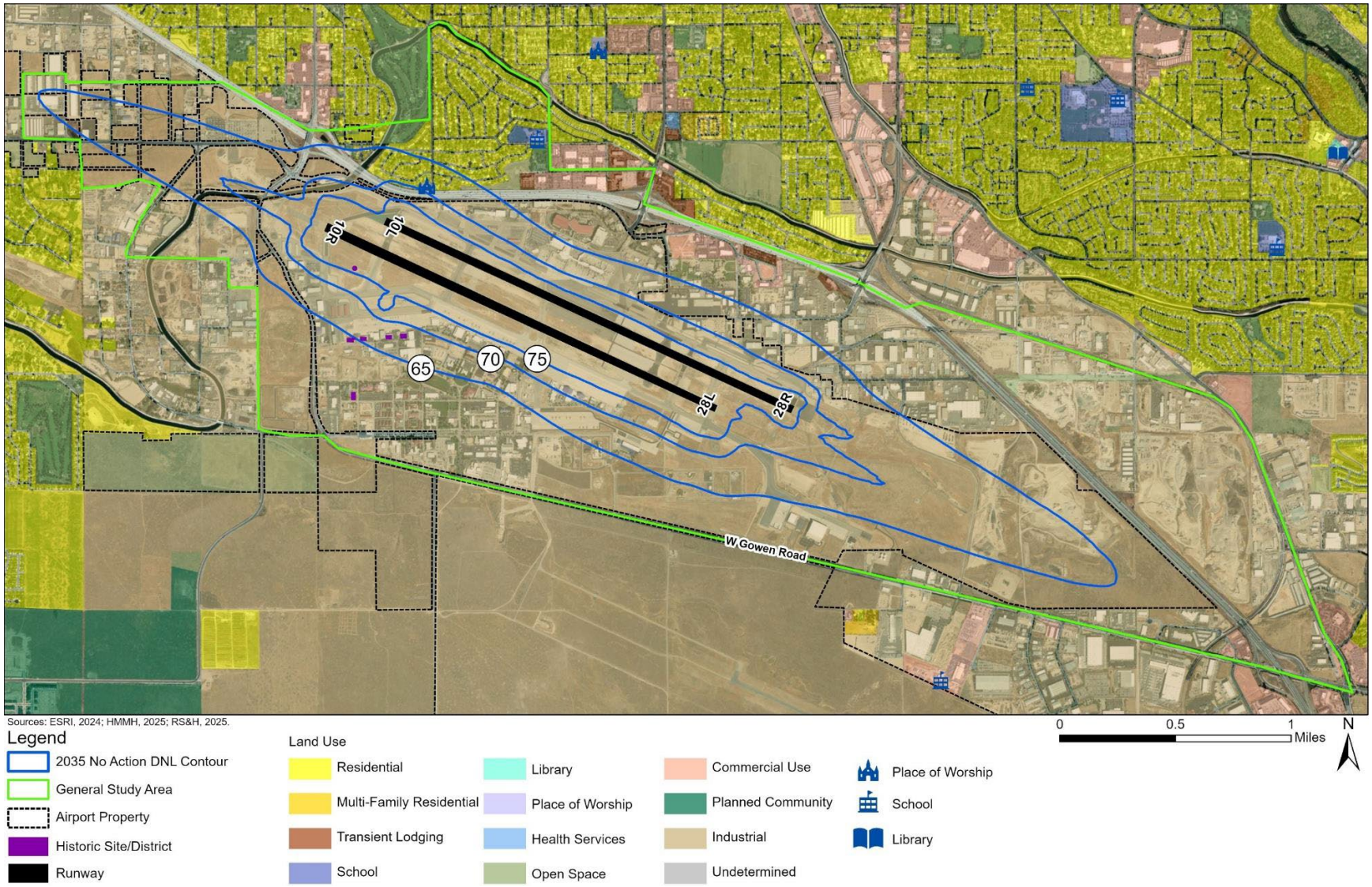
Table I-6 provides population exposure, housing unit count, and contour areas for the 2035 No Action Alternative. A total of 306 residents and 115 housing units in the Hillcrest neighborhood would be within the DNL 65+ dB noise contours in 2035. The total area of the DNL 65+ dB noise contours under the 2035 No Action Alternative is about 1,749 acres.

Table I-6
2035 No Action Alternative Noise Contours Population, Housing, and Contour Area

DNL Noise Contour (dB)	Population	Housing Units	Contour Area (acres)
65 - 70	300	112	986.93
70 - 75	6	3	322.82
> 75	0	0	439.19
Total	**306**	**115**	**1,748.94**

Sources: HMMH, 2025; USCB, 2020.

Figure I-6
2035 No Action Alternative Noise contours



I.1.2.6 Proposed Action (2028)

The year 2028 represents the first construction year for the Proposed Action. Although aircraft operations were modeled on an annual average basis as required by AEDT, the operations for this year were divided into three separate phases. In the first phase (accounting for three months prior to construction starting, or 25 percent of the annual operations), the airfield operates as it normally would without the Proposed Action. In the second phase (accounting for up to seven months of construction, or 58 percent of the annual operations), the airfield operates solely on Runway 10L/28R to represent a full closure of Runway 10R/28L for construction. In the third phase (accounting for two months following construction, or the final 17 percent of the annual operations), the airfield operates as it normally would without the construction of the Proposed Action, with the exception that the end of Runway 28L is extended by 1,578 feet. Flight tracks for the 2028 Proposed Action are assumed to be the same as the 2019 Existing Conditions for Runway 10R; however, the flight tracks for Runway 28L end are assumed to be extended by 1,578 feet to account for the runway extension occurring during this analysis year. Runway use was assumed to be the same as the 2019 Existing Conditions except when the runway is closed for the seven-month construction period when all operations would shift to Runway 10L/28R.

Construction of the Proposed Action would result in noise from construction vehicles and machinery and would generally be limited to the immediate vicinity of the construction activity. Noise levels would vary depending on the nature of the construction activity and the type and model of equipment in use. Grading and scraping operations are typically the noisiest activities, with noise levels as high as 70 to 90 dBA within 50 feet of their operations; however, distance rapidly attenuates noise levels. Noise from point sources attenuates at a rate of about 6 dB per doubling of distance; in other words, noise levels would be 6 dB less at 100 feet from the equipment, 12 dB less at 200 feet, and 24 dB less at 400 feet. While construction could occur during night-time hours, the majority of construction is expected to occur during day-light hours. As shown in **Figure I-7**, the closest residential areas are about 2,800 feet north of the Project Construction Area on the Runway 28L end, where construction is proposed to occur in 2028. This residential area is buffered from the Project Construction Area by Interstate 84, a roadway noise barrier between the residential area and Interstate 84, and industrial development on the south side of Interstate 84. While construction noise associated with the Proposed Action may be heard in this residential area, it is not

anticipated to significantly affect the area given the distance from the Project Construction Area, the existing interstate traffic, the roadway noise barrier, and industrial development between the residential area and the Project Construction Area.

Figure I-8 shows the DNL 65+ dB noise contours for the 2028 Proposed Action, including individual noise-sensitive locations such as residences, schools, places of worship, and historic resources. The place of worship is in the DNL 70 dB noise contour compared to the 2028 No Action Alternative where it is in the DNL 65 dB noise contour. Two of the four Large Single Bay Hangars are within the DNL 65 dB noise contour compared to the 2028 No Action Alternative where three are in the DNL 65 dB noise contour. The Compass Swing Base is in the DNL 70 dB noise contour compared to the 2028 No Action Alternative where it is in the DNL 75 dB noise contour. **Figure I-9** and **Figure I-10** show the 2028 Proposed Action compared to the 2028 No Action Alternative and the increases or decreases in the DNL 65+ dB noise contours.

Figure I-7
Distance from Project Construction Area to Closest Residential Area in 2028

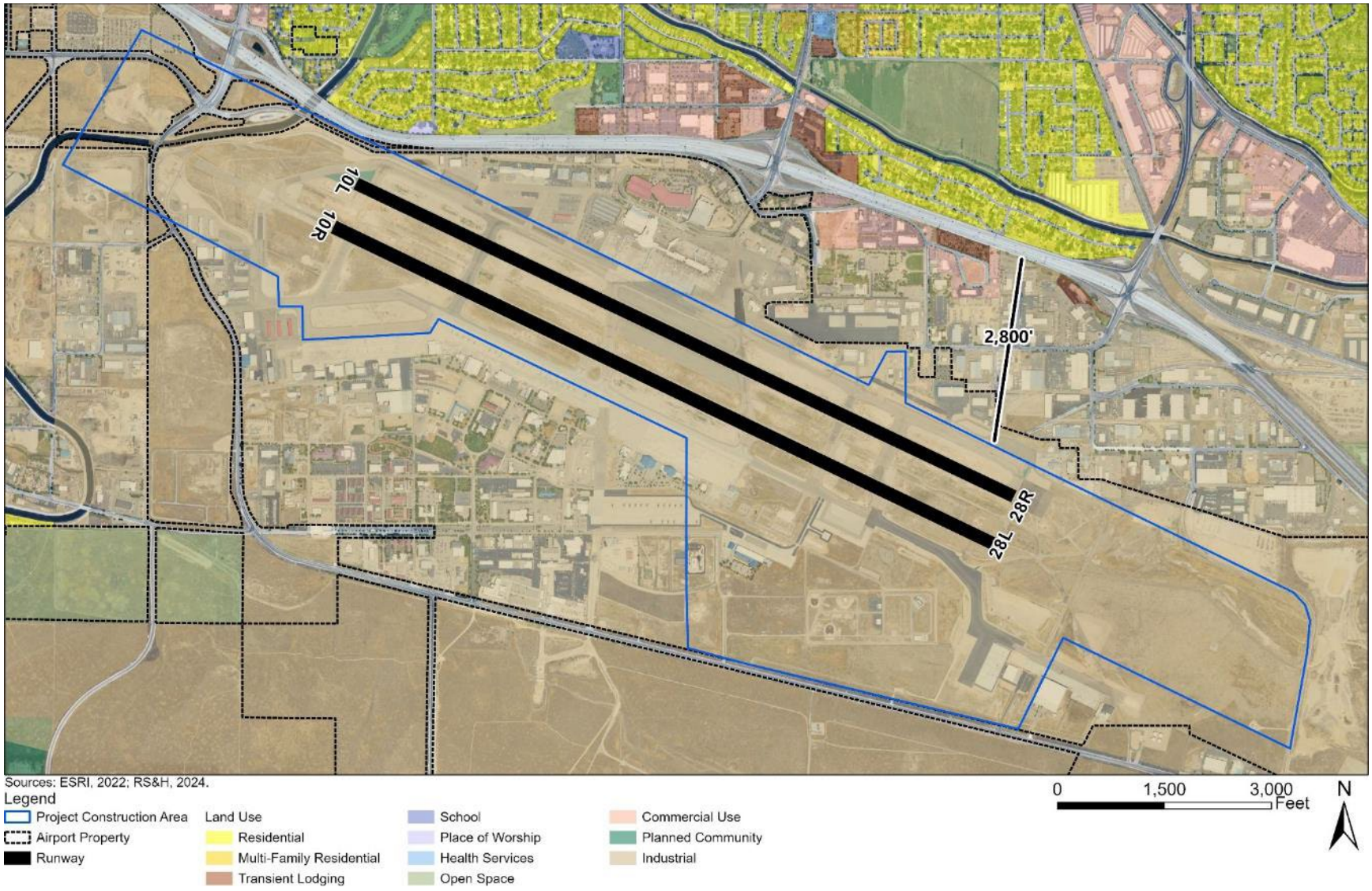


Figure I-8
2028 Proposed Action Noise Contours

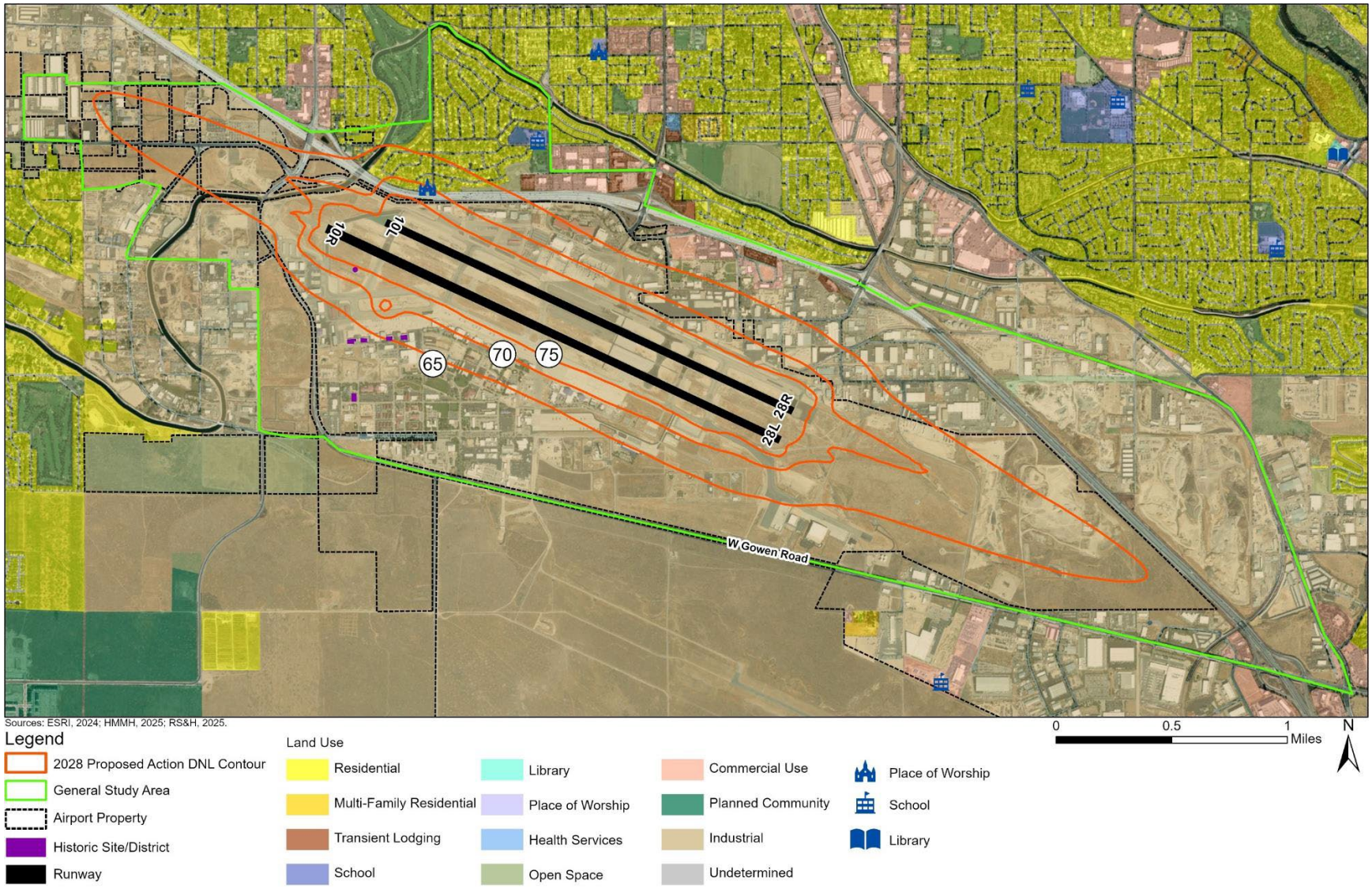


Figure I-9

2028 Proposed Action Noise Contours Compared to 2028 No Action Alternative Noise Contours

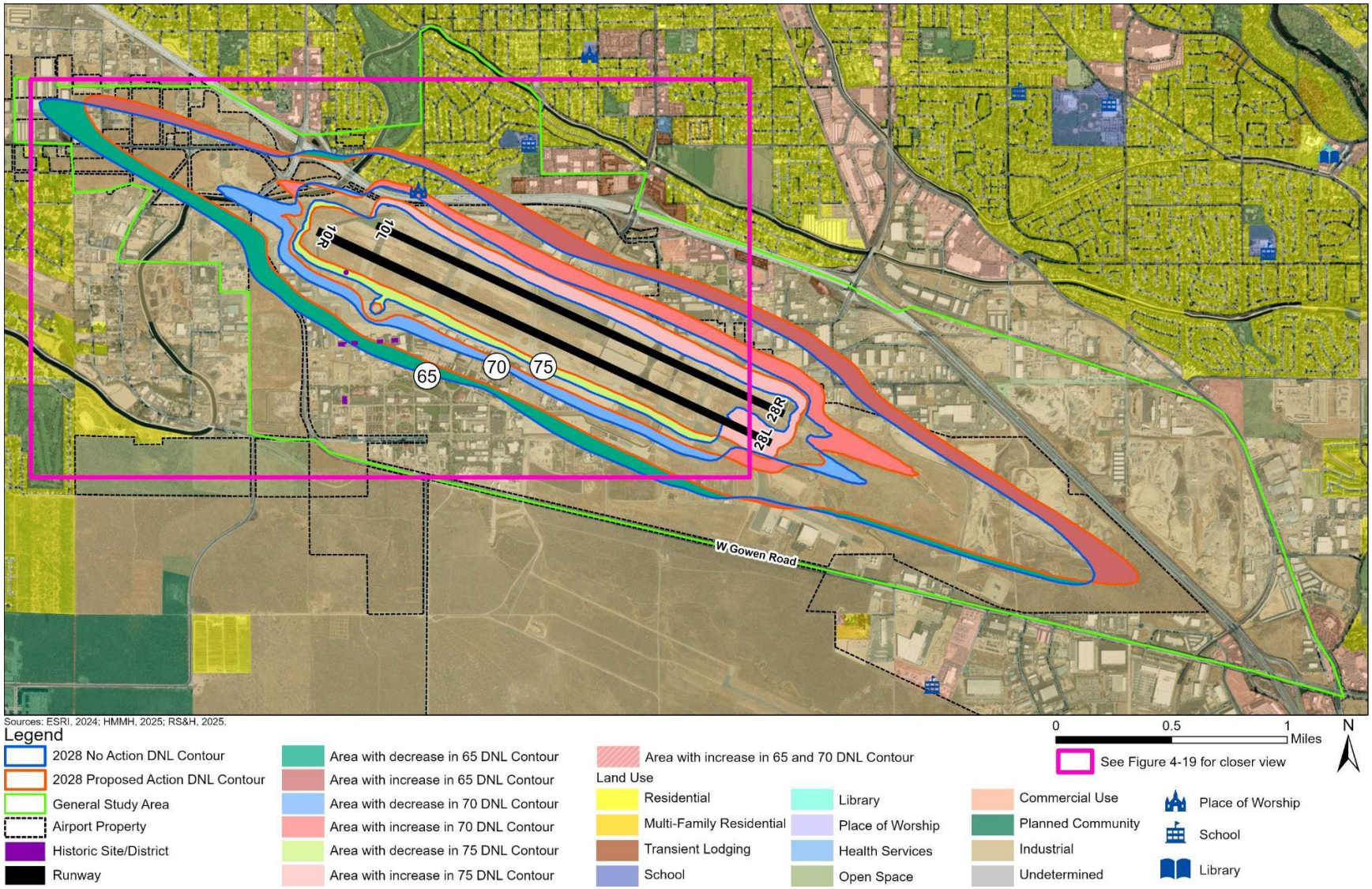


Figure I-10

2028 Proposed Action Noise Contours Compared to 2028 No Action Alternative Noise Contours – Close-Up View of Noise Sensitive Sites

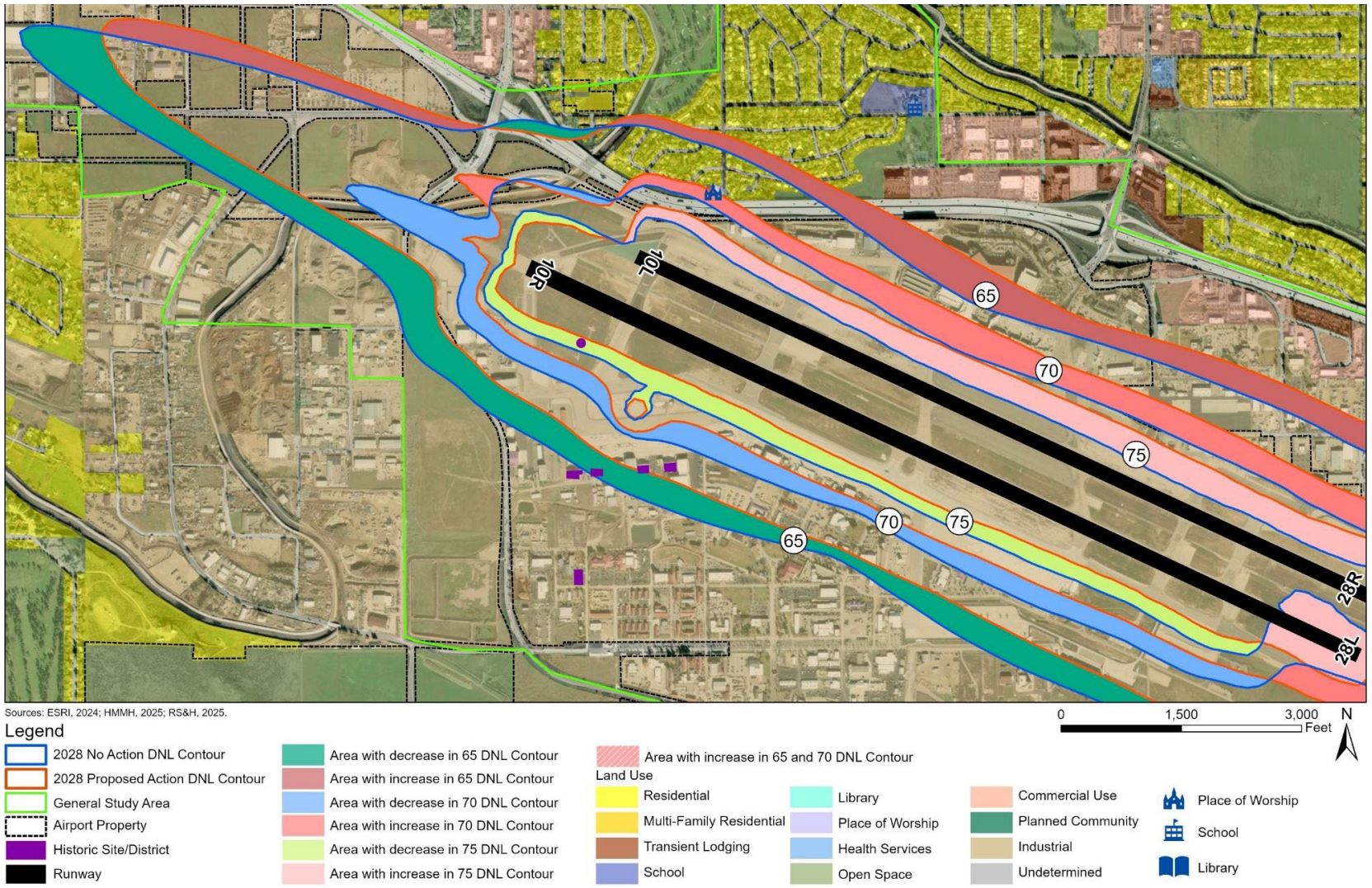


Table I-7 provides the population exposure, housing unit count, and contour areas for the 2028 Proposed Action compared to the 2028 No Action Alternative. A total of 377 residents and 143 housing units in the Hillcrest neighborhood would be within the 2028 Proposed Action DNL 65+ dB noise contours, which is an increase of 94 residents, and 36 housing units compared to the 2028 No Action Alternative. The increases in residents and housing units are due to the shift in operations from Runway 10R/28L to Runway 10L/28R during the seven-month construction period, which results in a temporary expanded 2028 Proposed Action DNL 65 dB noise contour. The total area of the DNL 65+ dB noise contours under the 2028 Proposed Action is about 1,700 acres, decreasing about 19 acres compared to the 2028 No Action Alternative.

Table I-7
2028 No Action Alternative Compared to 2028 Proposed Action Noise Contours Population, Housing, and Contour Area

	DNL 65-70 dB Noise Contour	DNL 70-75 dB Noise Contour	DNL 75+ dB Noise Contour	Total
2028 No Action Alternative Population	281	2	0	283
2028 Proposed Action Population	349	28	0	377
Difference	**+68**	**+26**	**-**	**+94**
2028 No Action Alternative Housing Units	106	1	0	107
2028 Proposed Action Housing Units	130	13	0	143
Difference	**+24**	**+12**	**-**	**+36**
2028 No Action Alternative Contour Area (Acres)	940.02	309.68	431.35	1,681.05
2028 Proposed Action Contour Area (Acres)	926.13	298.18	475.95	1,700.26
Difference	**-13.89**	**-11.50**	**+44.60**	**-19.21**

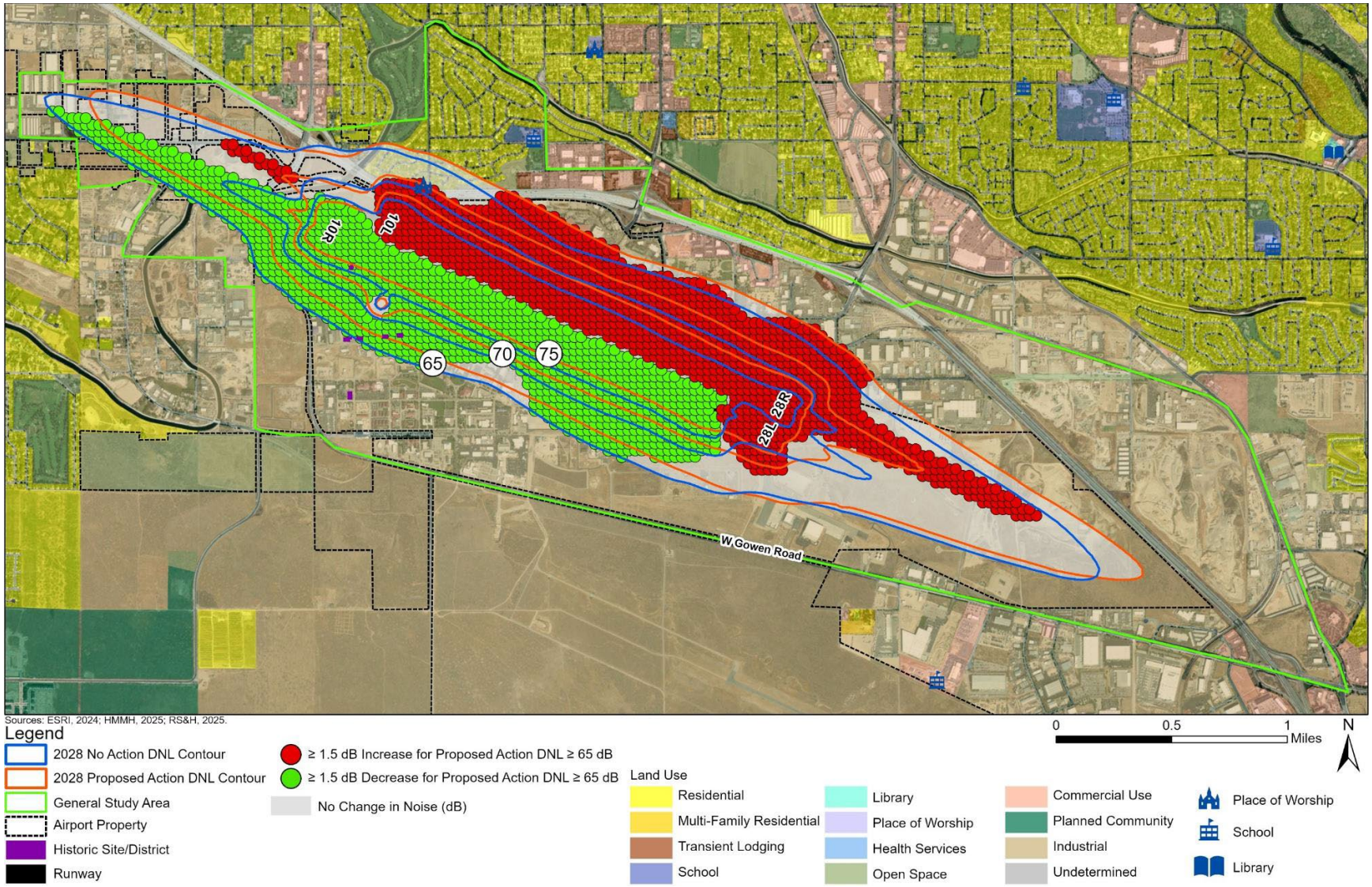
Sources: HMMH, 2025; USCB, 2020.

Figure I-11 shows areas of change greater than or equal to DNL 1.5 dB due to the 2028 Proposed Action compared to the 2028 No Action Alternative within the DNL 65+ dB noise contours. The green grid points represent a DNL 1.5 dB decrease, the red grid points represent a DNL 1.5 dB increase, while the grey areas would experience no dB change because of the 2028 Proposed Action. All areas that would experience either a DNL 1.5 dB increase, or decrease are either on Airport property, industrial land uses, or residential units. 24 housing units and 68 residents would move into the DNL 65+ dB noise contours because of the 2028 Proposed Action compared to the 2028 No Action Alternative. Nine of these housing units and the place of worship north of the Runway 10L threshold would experience a DNL 1.5 dB increase because of the 2028 Proposed Action compared to the 2028 No Action Alternative. However, these sites experiencing a DNL 1.5 dB increase have avigation easements over the property as a mitigation measure of the Airport's Part 150 Study NCP, making them compatible land uses (see **Figure I-2**).[4]

[4] Boise Airport. (2015, December). 14 CFR Part 150 Study Update. Accessed May 2025, from Boise Airport: https://www.iflyboise.com/about-boi/noise-compatibility-program/.

Figure I-11

2028 Proposed Action Noise Contours Compared to 2028 No Action Alternative Noise Contours with 1.5 dB Changes



I.1.2.7 Proposed Action (2029)

The year 2029 represents the second construction year for the Proposed Action. As with the 2028 Proposed Action, aircraft operations were modeled on an annual average basis as required by AEDT. However, the operations for this year were divided into three separate phases for the year. In the first phase (accounting for or three months prior to construction starting, or 25 percent of the annual operations), the airfield operates as it normally would without the Proposed Action, with the exception that the end of Runway 28L is extended by 1,578 feet. In the second phase (accounting for the proposed up to eight months of construction, or 67 percent of the annual operations), the airfield operates solely on Runway 10L/28R to represent a full closure of Runway 10R/28L for construction. In the third phase (accounting for the one month following construction, or the final eight percent of the annual operations), the airfield operates as it normally would without the Proposed Action, with the exception that the end of Runway 10R is shortened by 1,341 feet and Runway 28L is extended by 1,578 feet. Flight tracks for the 2029 Proposed Action are assumed to be the same as the 2029 Proposed Action for Runway 28L; however, the flight tracks for Runway 10R end are assumed to be shortened by 1,341 feet to account for the runway removal occurring during this analysis year. Runway use was assumed to be the same as the 2019 Existing Conditions except for when the runway was closed for the eight-month construction period when all operations would shift to Runway 10L/28R.

Construction of the Proposed Action would result in noise from construction vehicles and machinery and would generally be limited to the immediate vicinity of the construction activity. Noise levels would vary depending on the nature of the construction activity and the type and model of equipment in use. Grading and scraping operations are typically the noisiest activities, with noise levels as high as 70 to 90 dB within 50 feet of their operations; however, distance rapidly attenuates noise levels. Noise from point sources attenuates at a rate of about 6 dB per doubling of distance; in other words, noise levels would be 6 dB less at 100 feet from the equipment, 12 dB less at 200 feet, and 24 dB less at 400 feet. While construction could occur during night-time hours, the majority of construction is expected to occur during day-light hours. **Figure I-12** shows the closest residential areas are just over 200 feet north of the Project Construction Area on the Runway 10R end, where construction is proposed to occur in 2029. This residential area is buffered from the Project Construction Area by Interstate 84 and has a roadway noise barrier between the residential area and

Interstate 84. While construction noise associated with the Proposed Action may be heard in this residential area, it is not anticipated to significantly affect the area given the distance from the Project Construction Area and the existing interstate and roadway noise barrier between the residential area and the Project Construction Area.

Figure I-13 shows the DNL 65+ dB noise contours for the 2029 Proposed Action, including individual noise-sensitive locations such as schools, places of worship, and historic resources. The place of worship is in the DNL 70 dB noise contour compared to the 2029 No Action Alternative where it is in the DNL 65 dB noise contour. Two of the four Large Single Bay Hangars are within the DNL 65 dB noise contour compared to the 2029 No Action Alternative where three are in the DNL 65 dB noise contour. The Compass Swing Base is in the DNL 70 dB noise contour compared to the 2029 No Action Alternative where it is in the DNL 75 dB noise contour. **Figure I-14** and **Figure I-15** show the 2029 Proposed Action compared to the 2029 No Action Alternative and the increases or decreases in the DNL 65+ dB contours.

Figure I-12

Distance from Project Construction Area to Closest Residential Area in 2029

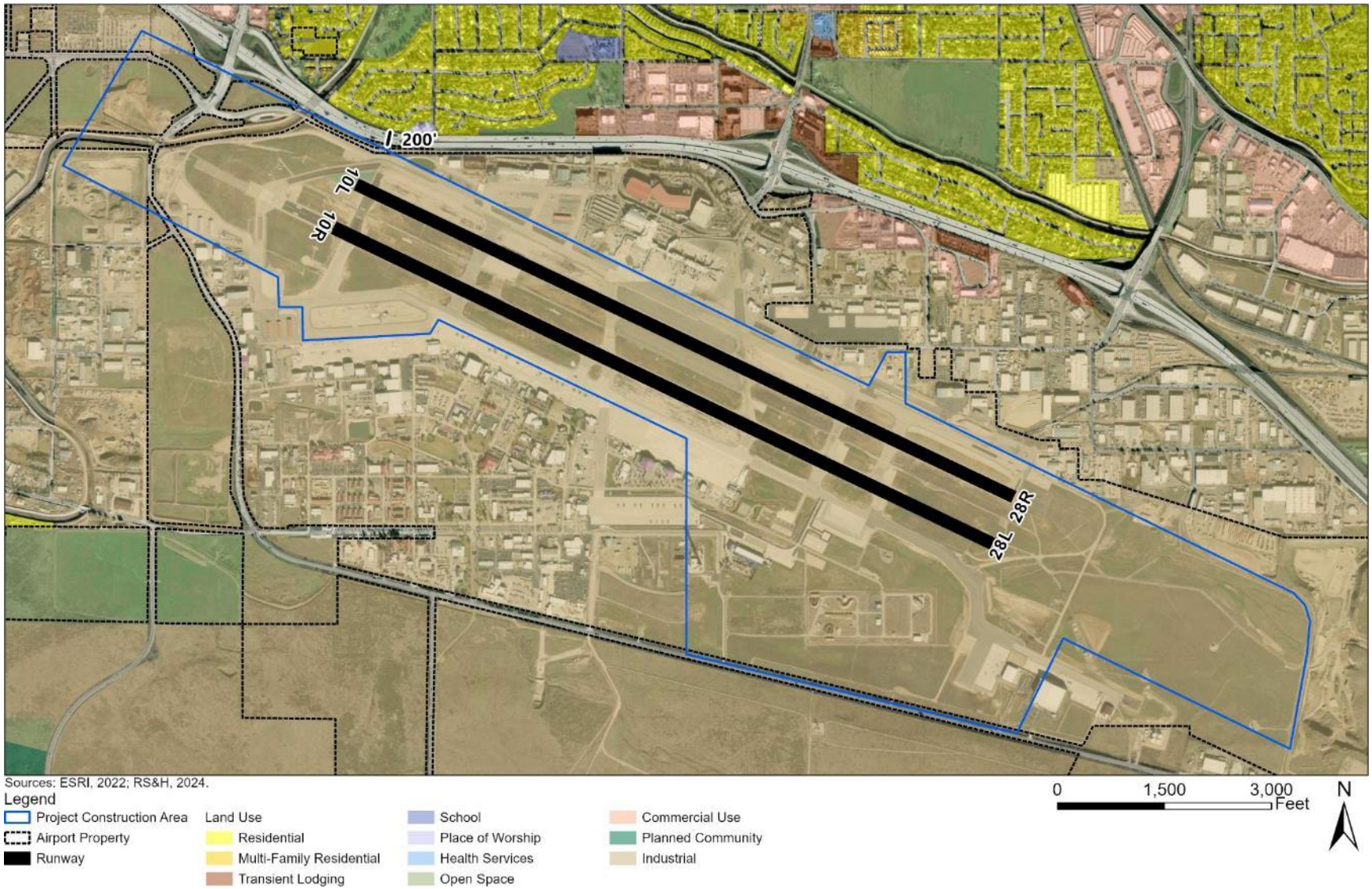


Figure I-13
2029 Proposed Action Noise Contours

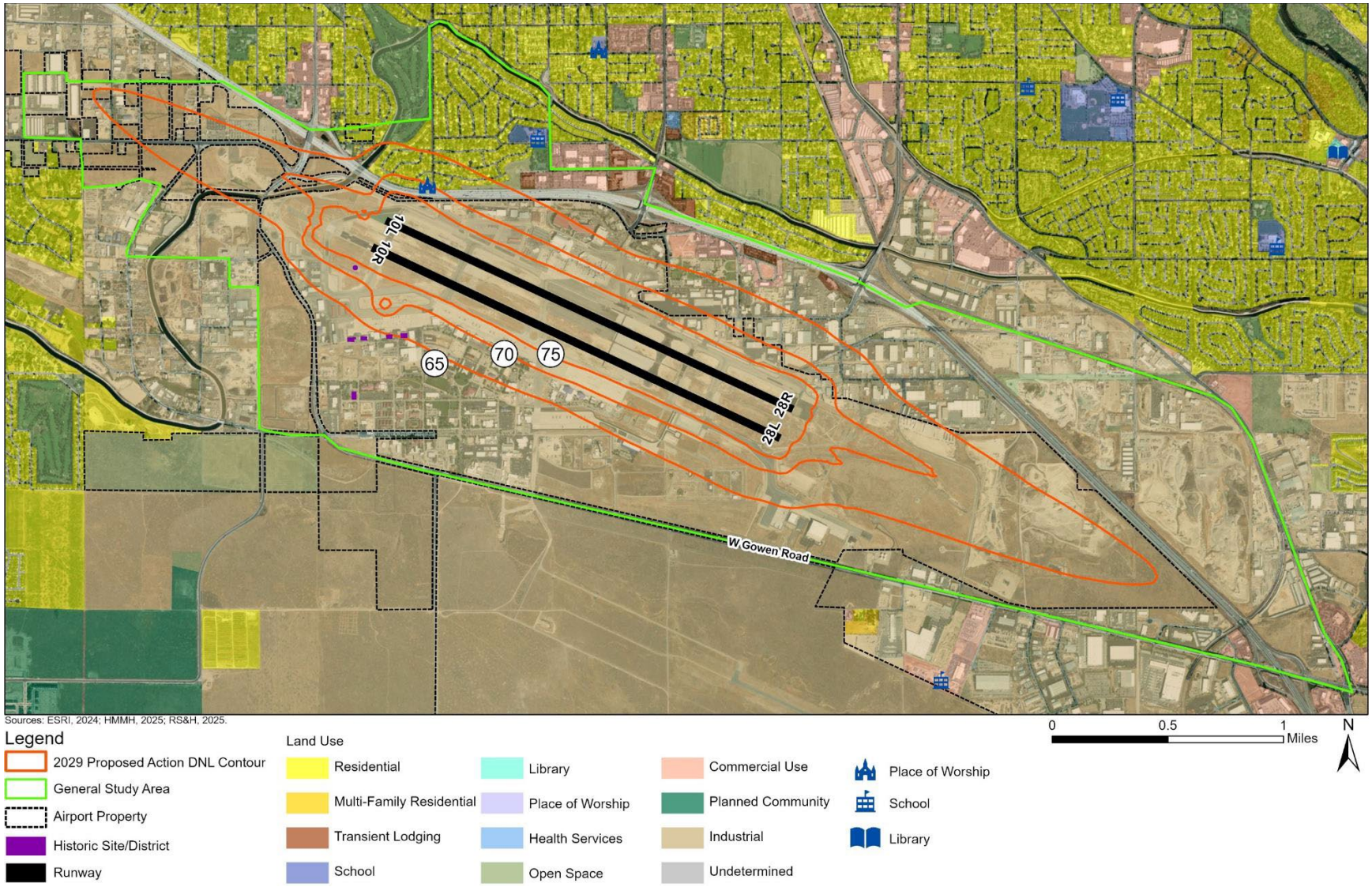


Figure I-14

2029 Proposed Action Noise Contours Compared to 2029 No Action Alternative Noise Contours

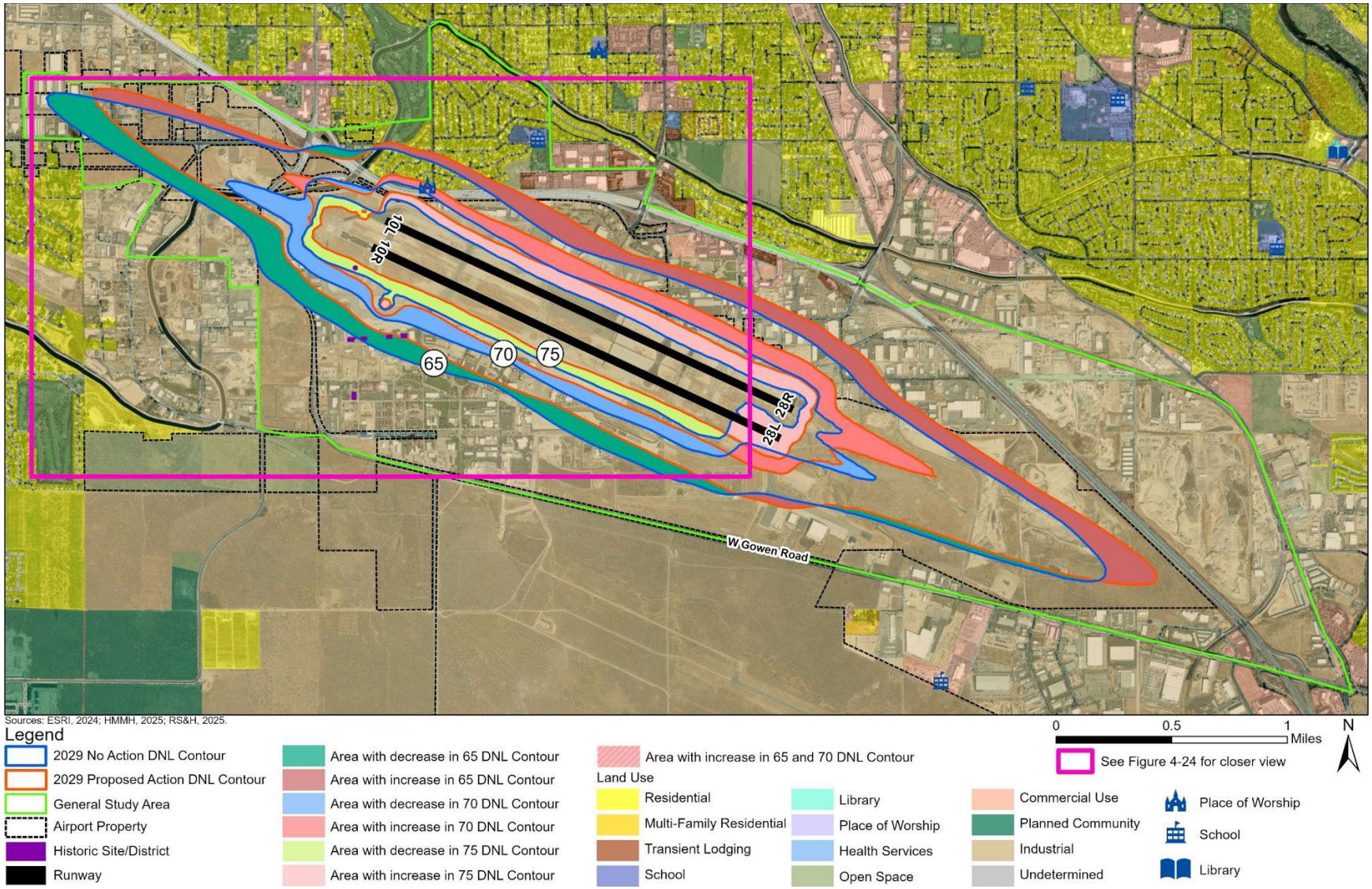


Figure I-15

2029 Proposed Action Noise Contours Compared to 2029 No Action Alternative Noise Contours – Close-Up View of Noise Sensitive Sites

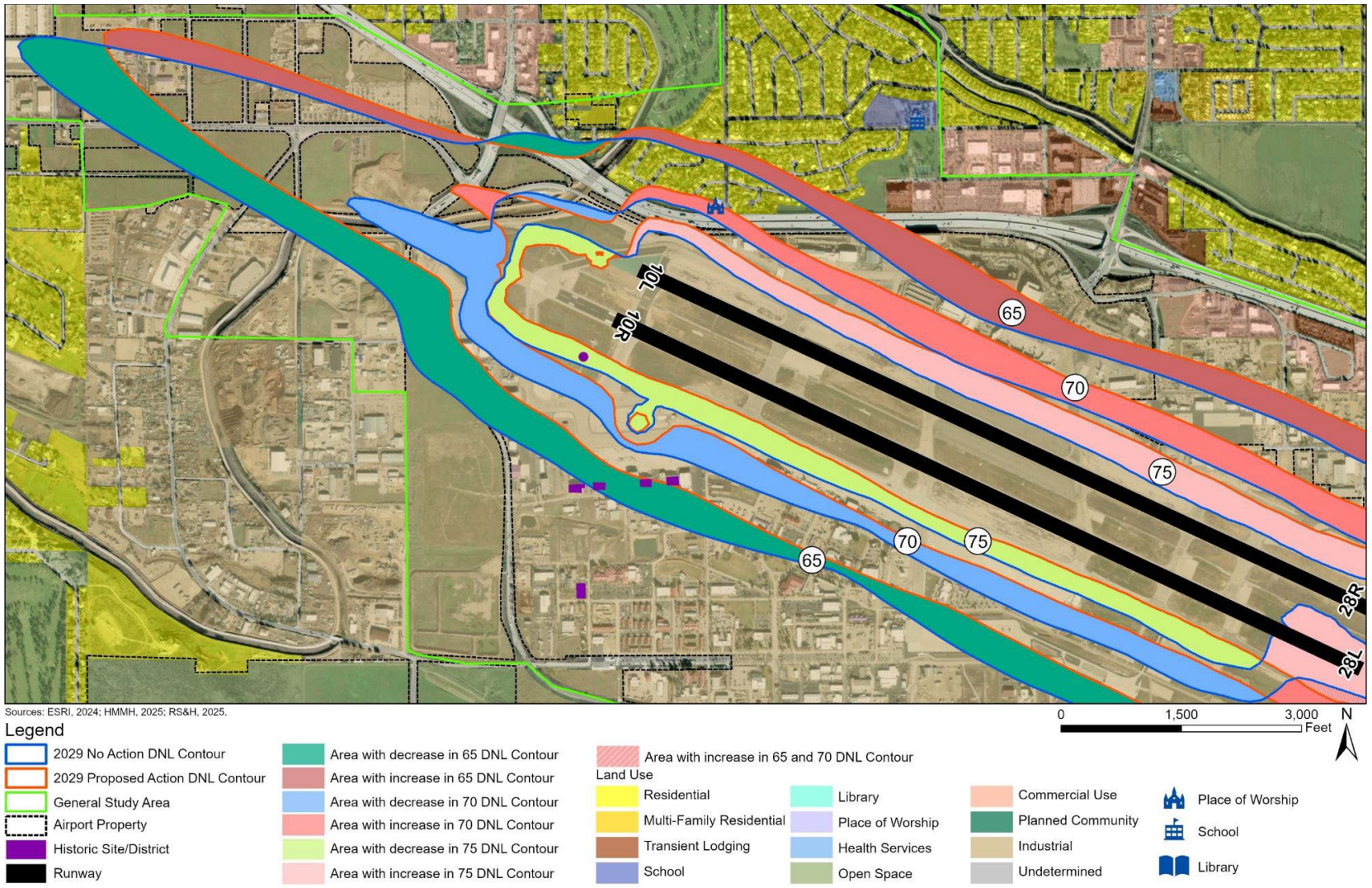


Table I-8 provides the population exposure, housing unit count, and contour areas for the 2029 Proposed Action compared to the 2029 No Action Alternative. A total of 360 residents and 29 housing units in the Hillcrest neighborhood would be within the 2029 Proposed Action DNL 65+ dB noise contours, which is an increase of 101 residents, and 37 housing units compared to the 2029 No Action Alternative. The increases in residents and housing units are due to the shift in operations from Runway 10R/28L to Runway 10L/28R during the eight-month closure of Runway 10R/28L during the construction period, which results in a temporary expanded 2029 Proposed Action DNL 65 dB noise contour north of the Airport. The total area of the DNL 65+ dB noise contours under the 2029 Proposed Action is about 1,707 acres, which is an increase of about 12 acres compared to the 2029 No Action Alternative.

Table I-8
2029 No Action Alternative Compared to 2029 Proposed Action Noise Contours
Population, Housing, and Contour Area

	DNL 65-70 dB Noise Contour	DNL 70-75 dB Noise Contour	DNL 75+ dB Noise Contour	Total
2029 No Action Alternative Population	285	3	0	288
2029 Proposed Action Population	360	29	0	389
Difference	**+75**	**+26**	**-**	**+101**
2029 No Action Alternative Housing Units	109	1	0	110
2029 Proposed Action Housing Units	133	14	0	147
Difference	**+24**	**+13**	**-**	**+37**
2029 No Action Alternative Contour Area (Acres)	949.72	312.19	432.97	1,694.88

	DNL 65-70 dB Noise Contour	DNL 70-75 dB Noise Contour	DNL 75+ dB Noise Contour	Total
2029 Proposed Action Contour Area (Acres)	931.49	305.27	470.29	1,707.05
Difference	**-18.23**	**-6.92**	**+37.32**	**+12.17**

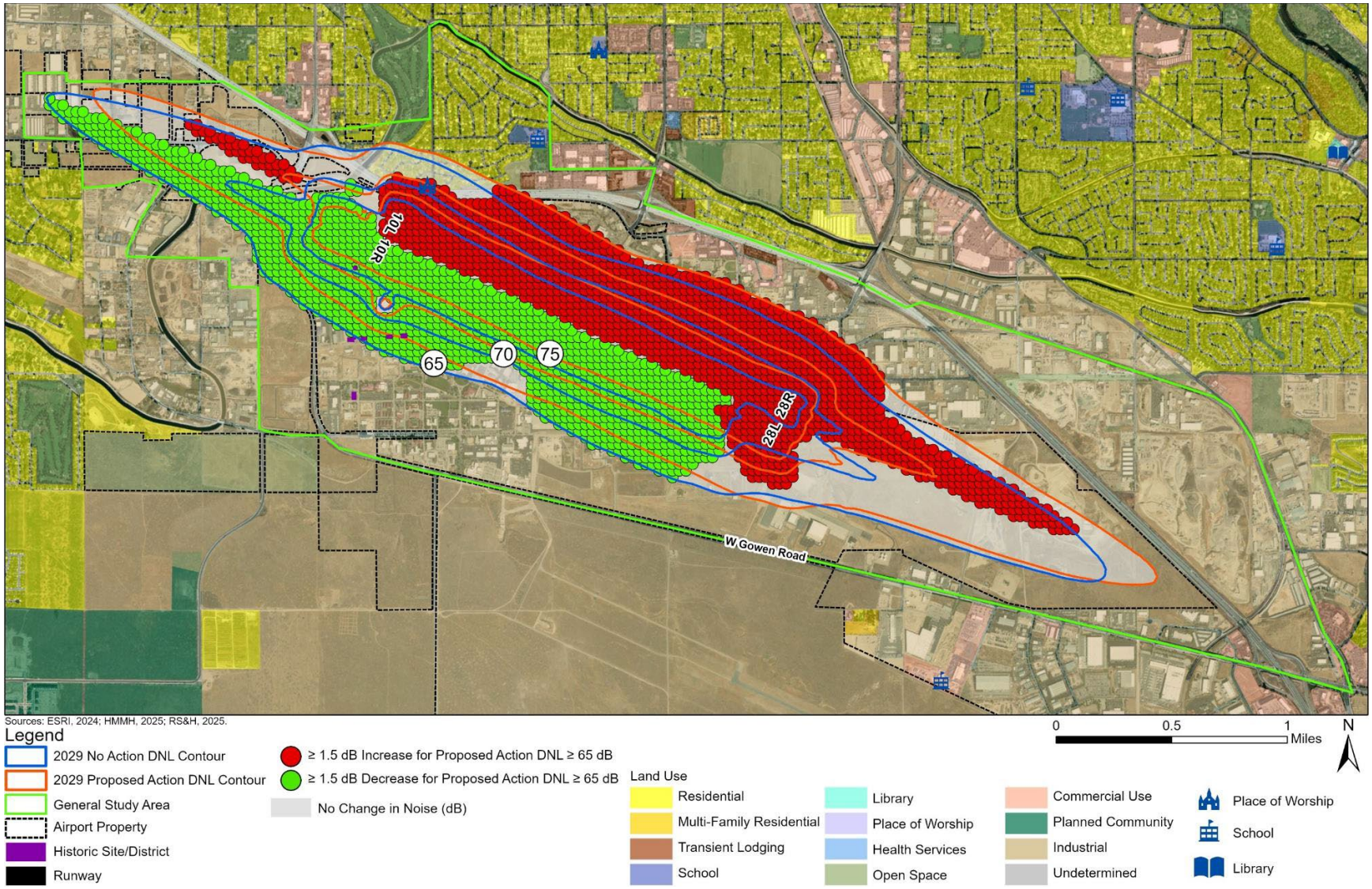
Sources: HMMH, 2025; U.S. Census Bureau, 2020.

Figure I-16 shows areas of change due to the 2029 Proposed Action compared to the 2029 No Action Alternative within the DNL 65+ dB contours using green and red grid points to represent a DNL 1.5 dB decrease and increase, respectively. The green grid points represent a DNL 1.5 dB decrease, the red grid points represent a DNL 1.5 dB increase, while the grey areas would experience no dB change because of the 2028 Proposed Action. All areas that would experience either a DNL 1.5 dB increase, or decrease are either on Airport property, industrial land uses, or residential units. 24 housing units and 75 residents would move into the DNL 65+ dB noise contours because of the 2029 Proposed Action over the 2029 No Action Alternative. Additionally, 12 of these house units and the place of worship north of the Runway 10L threshold would experience a DNL 1.5 dB increase because of the 2029 Proposed Action as compared to the 2029 No Action Alternative. However, these sites experiencing a DNL 1.5 dB increase have avigation easements over the property as a mitigation measure of the Airport's Part 150 NCP[5], making them compatible land uses (see **Figure I-2**).

[5] Boise Airport. (2015, December). 14 CFR Part 150 Study Update. Accessed May 2025, from Boise Airport: https://www.iflyboise.com/about-boi/noise-compatibility-program/.

Figure I-16

2029 Proposed Action Noise Contours Compared to 2029 No Action Alternative Noise Contours with 1.5 dB Changes



I.1.2.8 Proposed Action (2030)

The year 2030 represents the opening year for the Proposed Action. This scenario represents the same conditions, including flight tracks and runway use, as the No Action Alternative scenario with the exception that operations on Runway 10R/28L would use the shifted and extended runway thresholds (aligned thresholds) from the 2030 Proposed Action scenario.

Figure I-17 shows the DNL 65+ dB noise contours for the 2030 Proposed Action, including individual noise-sensitive locations such as schools, places of worship, and historic resources. The place of worship, the Compass Swing Base, and the four Large Single Bay Hangars are in the same DNL noise contours as they are in the 2030 No Action Alternative. **Figure I-18** and **Figure I-19** show the 2030 Proposed Action compared to the 2030 No Action Alternative and the increases or decreases in the DNL 65+ dB contours.

Table I-9 provides the population exposure, housing unit count, and contour areas for the 2030 Proposed Action compared to the 2030 No Action Alternative. A total of 245 residents and 93 housing units in the Hillcrest neighborhood would be within the DNL 65+ dB noise contours in 2030, which is a decrease of 47 residents and 18 housing units compared to the 2030 No Action Alternative. The total area of the DNL 65+ dB noise contours under the 2030 Proposed Action is about 1,698 acres, decreasing about seven acres compared to the 2030 No Action Alternative.

Table I-9
2030 No Action Alternative Compared to 2030 Proposed Action Noise Contours
Population, Housing, and Contour Area

	DNL 65-70 dB Noise Contour	DNL 70-75 dB Noise Contour	DNL 75+ dB Noise Contour	Total
2030 No Action Alternative Population	289	3	0	292
2030 Proposed Action Population	245	0	0	245
Difference	**-44**	**-3**	**-**	**-47**

	DNL 65-70 dB Noise Contour	DNL 70-75 dB Noise Contour	DNL 75+ dB Noise Contour	Total
2030 No Action Alternative Housing Units	109	2	0	111
2030 Proposed Action Housing Units	93	0	0	93
Difference	**-16**	**-2**	**-**	**-18**
2030 No Action Alternative Contour Area (Acres)	956.99	314.04	434.13	1,705.16
2030 Proposed Action Contour Area (Acres)	957.28	310.11	430.96	1,698.35
Difference	**+0.29**	**-3.93**	**-3.17**	**-6.81**

Sources: HMMH, 2025; USCB, 2020.

Figure I-20 shows areas of change due to the 2030 Proposed Action compared to the 2030 No Action Alternative within the DNL 65+ dB noise contours using green and red grid points, representing a DNL 1.5 dB decrease and increase, respectively. All the grid points depicting a DNL 1.5 dB decrease, or increase are on Airport property. The areas shaded in grey in the DNL 65+ dB noise contours represent no change in noise (in dB). The 2030 Proposed Action would decrease residents, housing units, and area (in acres) compared to the 2030 No Action Alternative. None of these resources would experience a DNL 1.5 dB increase in noise because of the 2030 Proposed Action. Additionally, no other noise-sensitive sites or eligible historic resources experience a DNL 1.5 dB increase because of the 2030 Proposed Action. Therefore, the grid point analysis results show less than reportable levels of change in DNL because of the 2030 Proposed Action compared to the 2030 No Action Alternative.

Figure I-17
2030 Proposed Action Noise Contours

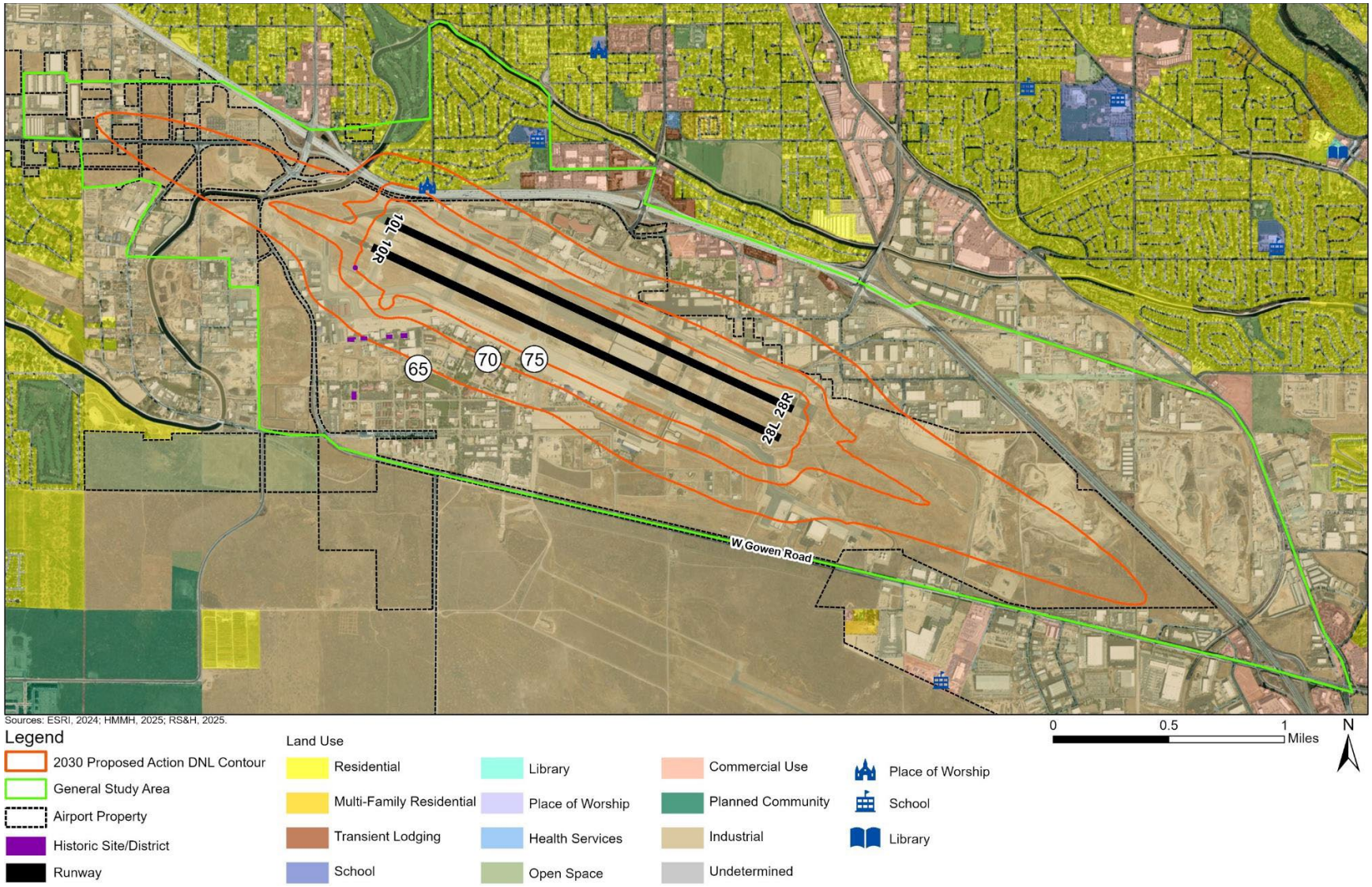


Figure I-18

2030 Proposed Action Noise Contours Compared to 2030 No Action Alternative Noise Contours

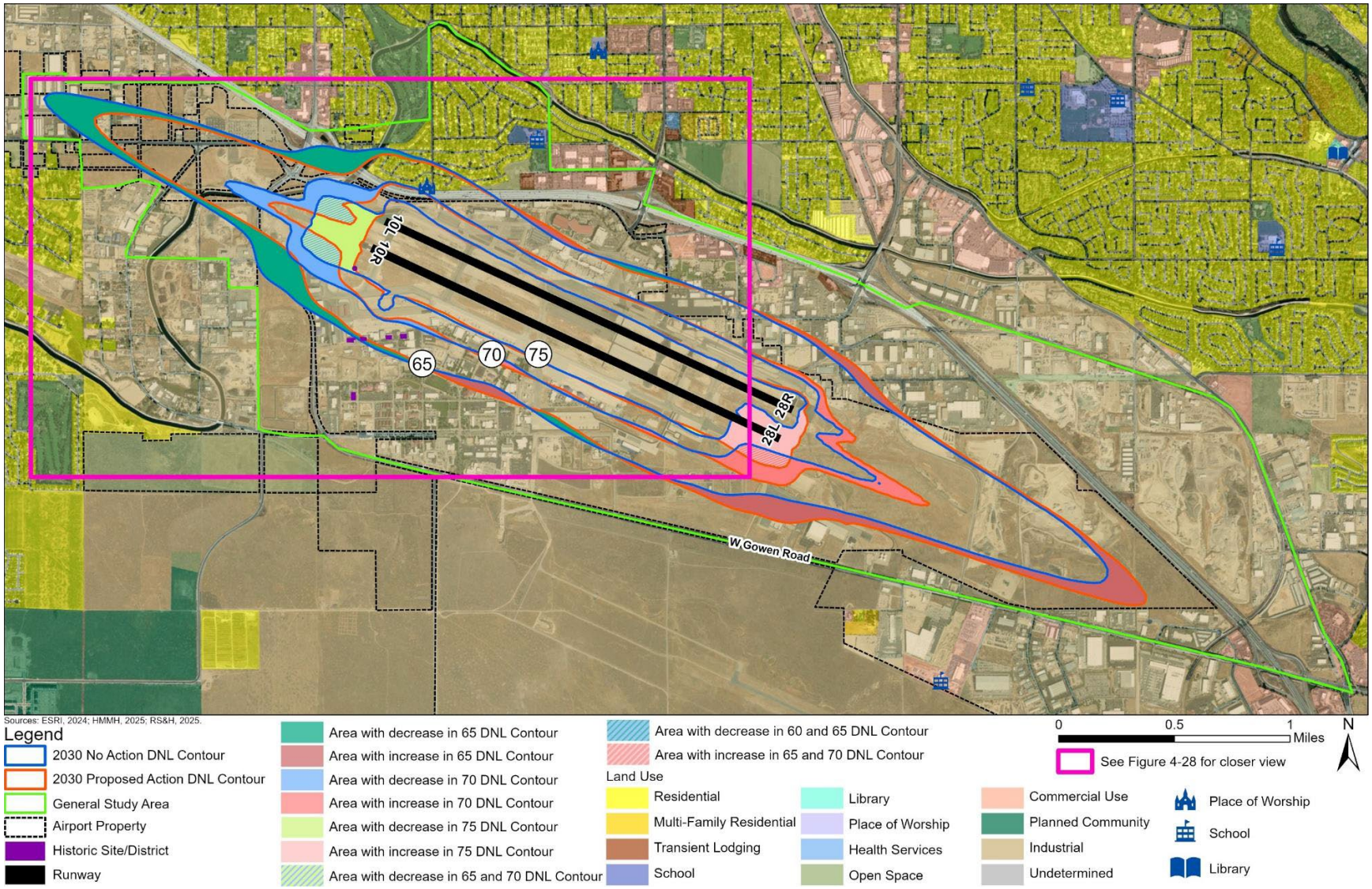


Figure I-19

2030 Proposed Action Noise Contours Compared to 2030 No Action Alternative Noise Contours – Close-Up View of Noise Sensitive Sites

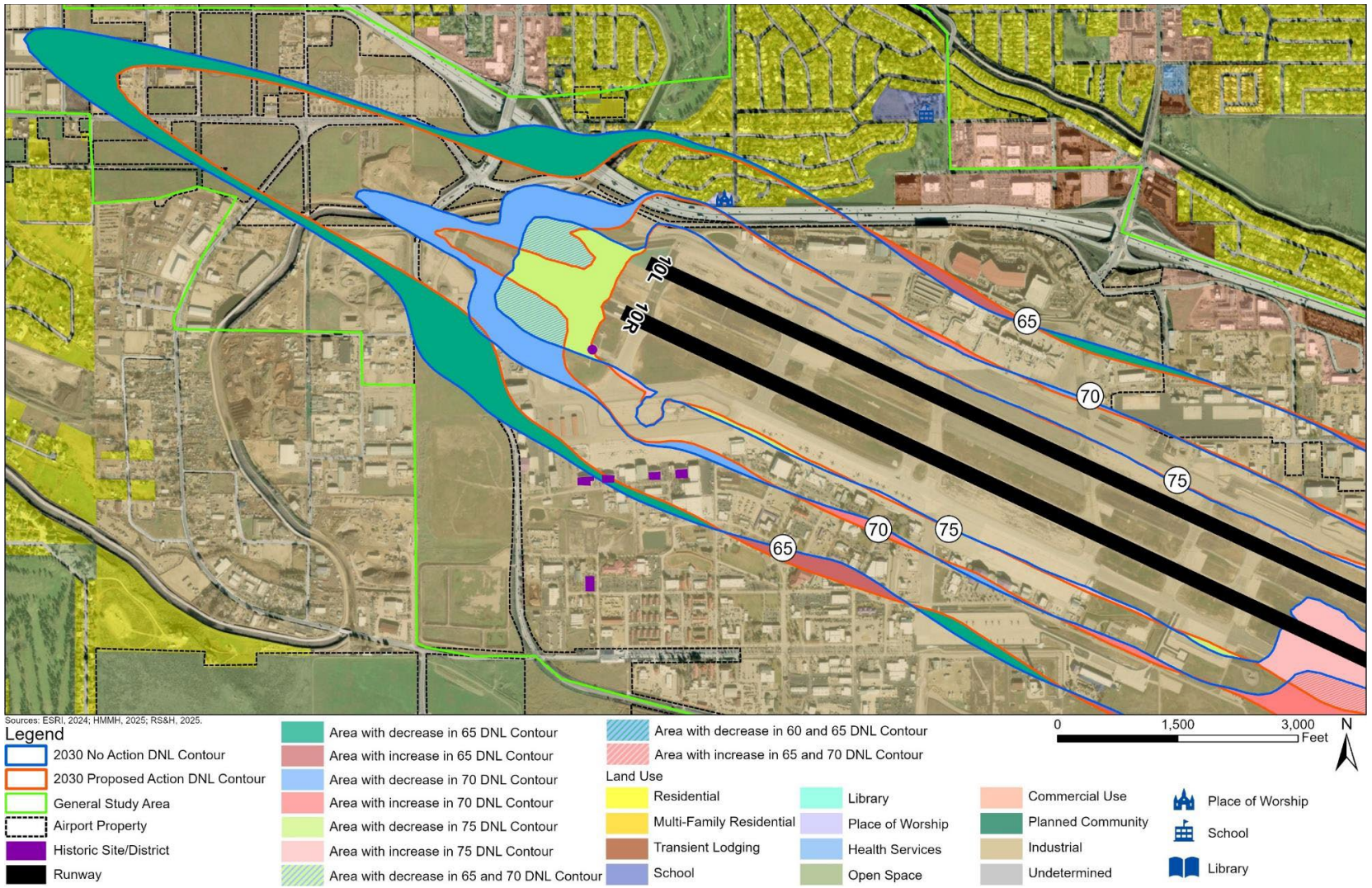
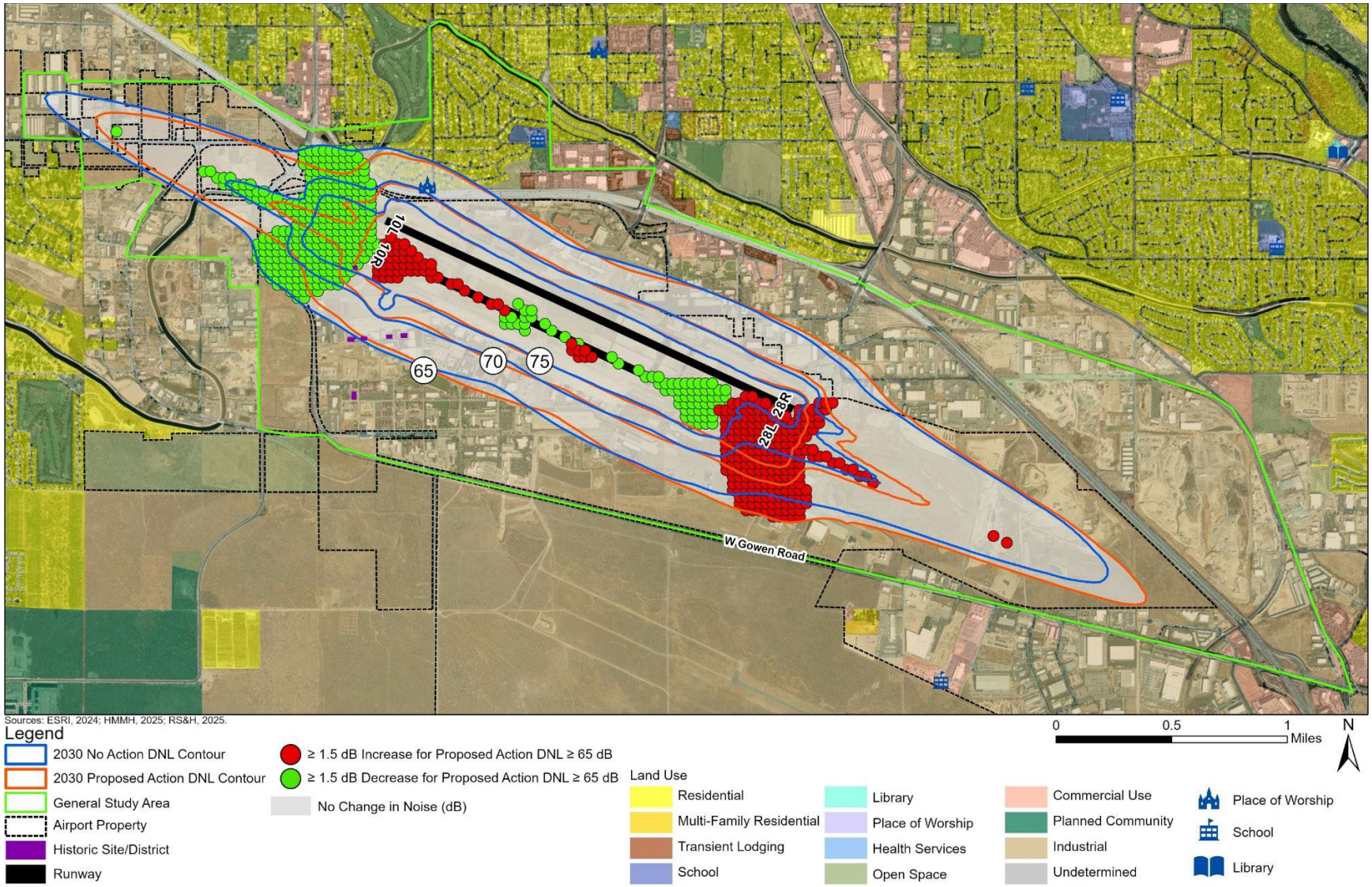


Figure I-20

2030 Proposed Action Noise Contours Compared to 2030 No Action Alternative Noise Contours with 1.5 dB Changes



I.1.2.9 Proposed Action (2035)

The year 2035 represents five years after the opening year for the Proposed Action. Flight tracks and runway use for the 2035 Proposed Action are assumed to be the same as the 2030 Proposed Action.

Figure I-21 shows the 2035 Proposed Action noise contours, including individual noise-sensitive locations such as schools, places of worship, and historic resources. All the eligible noise-sensitive resources in the 2035 Proposed Action DNL 65+ dB noise contours are the same as the 2035 No Action Alternative DNL 65+ dB noise contours. **Figure I-22** and **Figure I-23** show the 2035 Proposed Action compared to the 2035 No Action Alternative and the increases or decreases in the DNL 65+ dB contours.

Table I-10 provides the population exposure, housing unit count, and contour area associated with DNL 65+ dB noise contours for the 2035 Proposed Action compared to the 2035 No Action Alternative. A total of 262 residents and 98 housing units in the Hillcrest neighborhood would be within the DNL 65+ dB noise contours in 2035 because of the Proposed Action, which is a decrease of 44 residents and 17 housing units compared to the 2035 No Action Alternative. The total area for the 2035 Proposed Action DNL 65+ dB noise contours is about 1,741 acres, which is about eight acres less than the area for the 2035 No Action Alternative DNL 65+ dB noise contours.

Table I-10
2035 No Action Alternative Compared to 2035 Proposed Action Noise Contours Population, Housing, and Contour Area

	DNL 65-70 dB Noise Contour	DNL 70-75 dB Noise Contour	DNL 75+ dB Noise Contour	Total
2035 No Action Alternative Population	300	6	0	306
2035 Proposed Action Population	260	2	0	262
Difference	**-40**	**-4**	**-**	**-44**
2035 No Action Alternative Housing Units	112	3	0	115

	DNL 65-70 dB Noise Contour	DNL 70-75 dB Noise Contour	DNL 75+ dB Noise Contour	Total
2035 Proposed Action Housing Units	97	1	0	98
Difference	**-15**	**-2**	**-**	**-17**
2035 No Action Alternative Contour Area (Acres)	986.93	322.82	439.19	1,748.94
2035 Proposed Action Contour Area (Acres)	985.97	319.57	435.32	1,740.86
Difference	**-0.96**	**-3.25**	**-3.87**	**-8.08**

Sources: HMMH, 2022; USCB, 2020.

Figure I-24 shows areas of change greater than or equal to a DNL 1.5 dB decrease or increase due to the 2035 Proposed Action within the DNL 65+ dB noise contours depicted with green and red grid points, respectively. All these grid points are on Airport property. All other areas in the DNL 65+ dB noise contours would not experience a DNL 1.5 dB increase in noise are depicted in grey shading. The 2035 Proposed Action would decrease the number of residents, housing units, and area (in acres), and no noise-sensitive resources would experience a DNL 1.5 dB increase. Additionally, no other noise-sensitive sites or eligible historic resources experience a DNL 1.5 dB increase because of the 2035 Proposed Action compared to the 2035 No Action Alternative. Therefore, the grid point analysis results show less than reportable levels of change in DNL because of the 2035 Proposed Action compared to the 2035 No Action Alternative.

Figure I-21
2035 Proposed Action Noise Contours

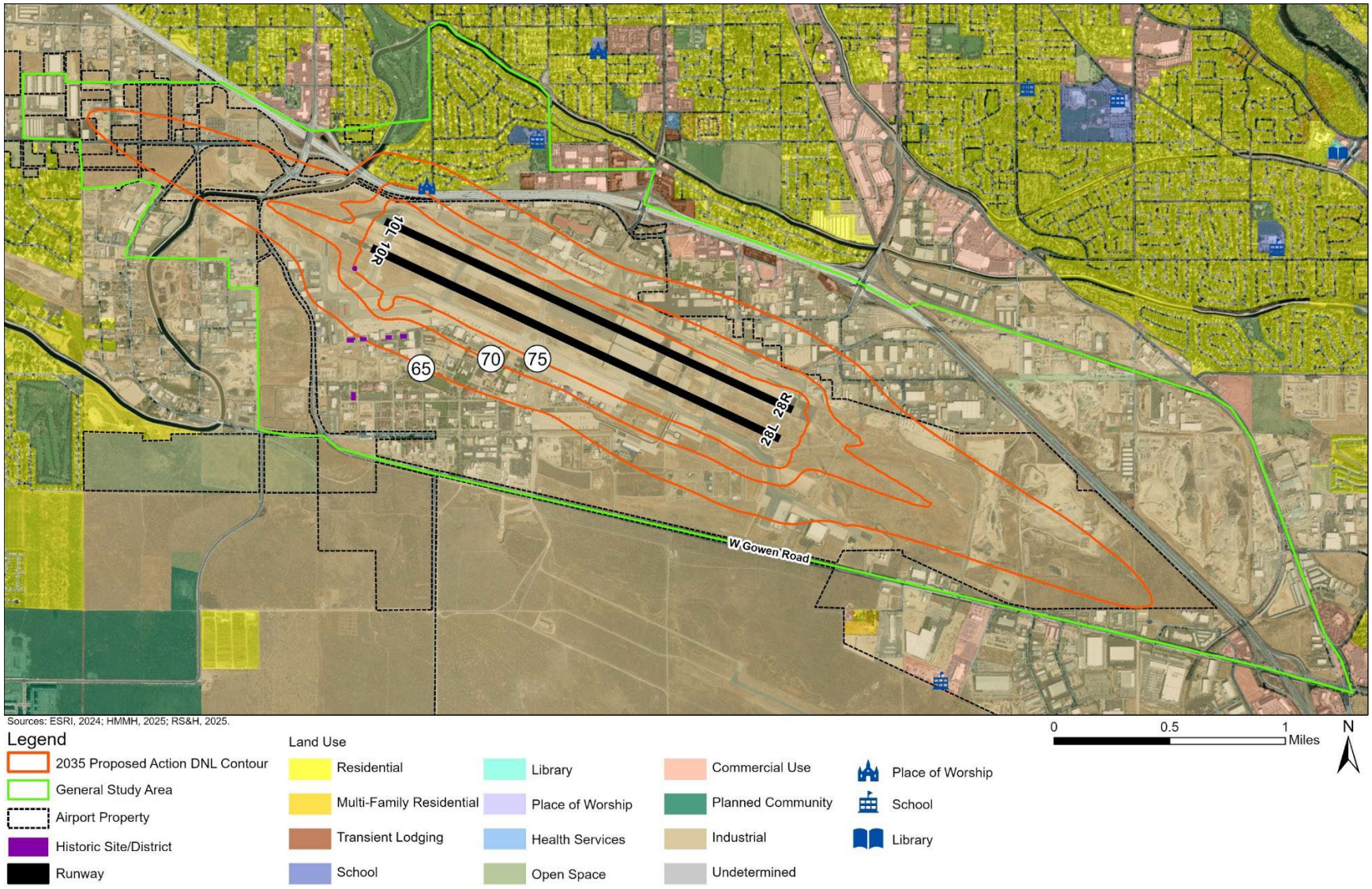


Figure I-22

2035 Proposed Action Noise Contours Compared to 2035 No Action Alternative Noise Contours

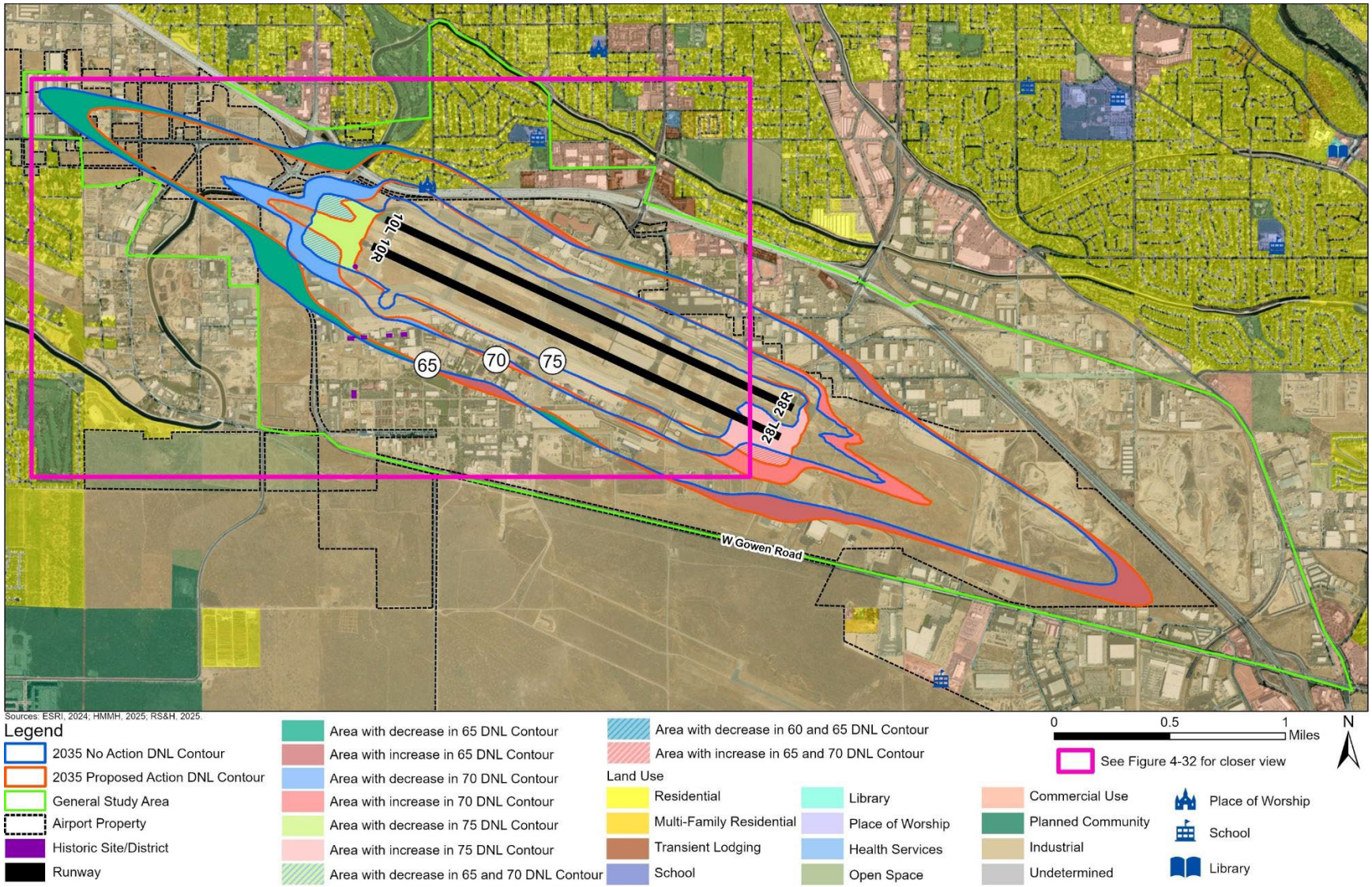


Figure I-23

2035 Proposed Action Noise Contours Compared to 2035 No Action Alternative Noise Contours – Close-Up View of Noise Sensitive Sites

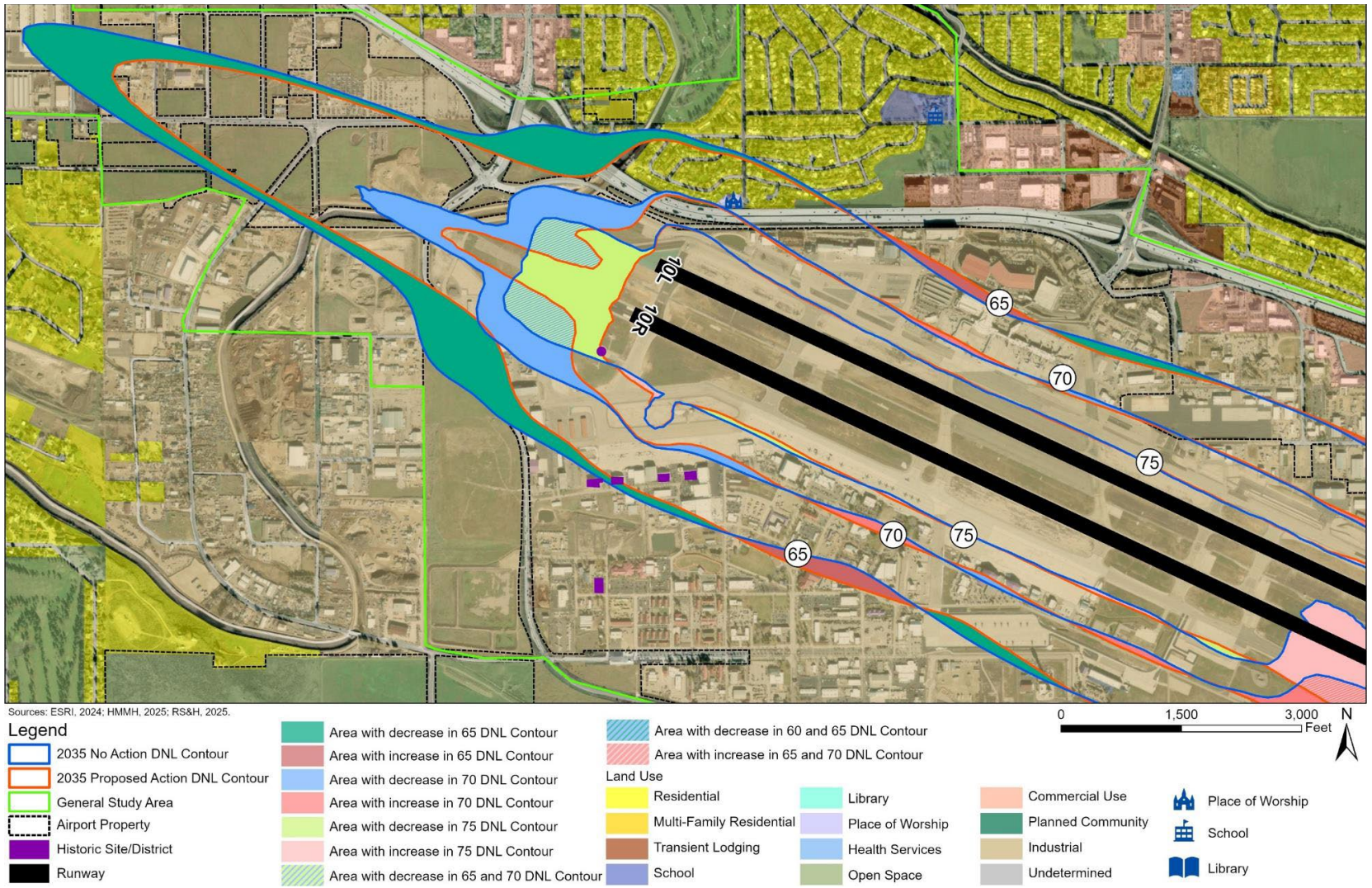
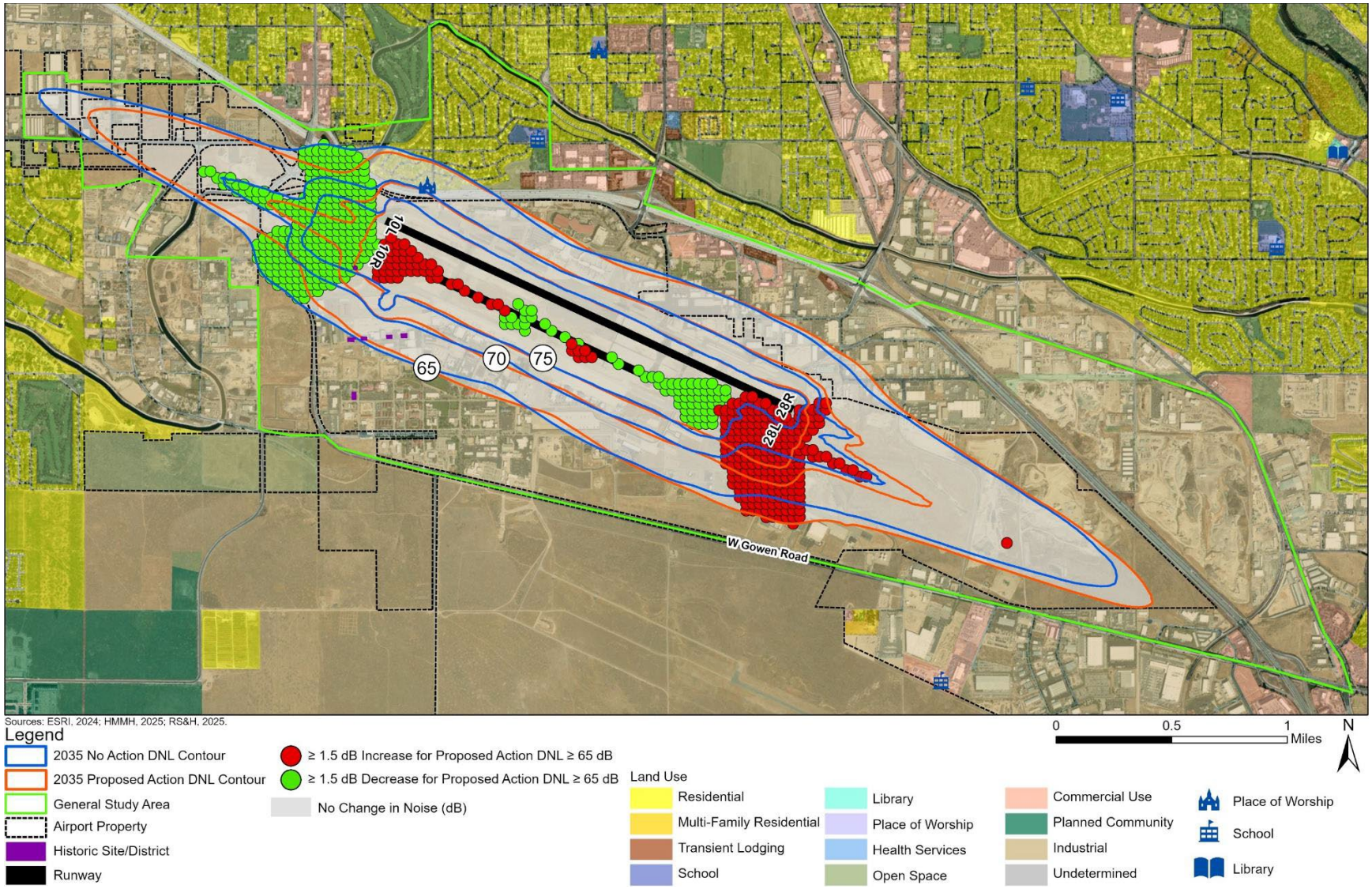


Figure I-24

2035 Proposed Action Noise Contours Compared to 2035 No Action Alternative Noise Contours with Changes



APPENDIX I.2

NOISE TECHNICAL MEMO

HMMH
700 District Avenue, Suite 800
Burlington, MA 01803
781.229.0707

TECHNICAL MEMORANDUM

To:	Julie Barrow RS&H 4582 South Ulster Street, Suite 1100 Denver, CO 80237
From:	Robert Mentzer Jr., Principal Consultant Aofei Li, Senior Consultant
Date:	4/28/2025
Subject:	Boise Airport Runway 10R/28L Incursion Mitigation and RIM Improvements Environmental Assessment Aircraft Noise and Air Quality Modeling Memorandum
Reference:	HMMH Project Number 24-0242A.001

As a subconsultant to RS&H, Harris Miller Miller & Hanson Inc. (HMMH) is assisting Boise Airport (BOI) with the aircraft noise assessment element of the Environmental Assessment (EA) for the Runway 10R/28L Incursion Mitigation and RIM Improvements. The purpose of this technical memorandum is to summarize the baseline (calendar year 2019) and forecast (calendar years 2028, 2029, 2030, and 2035) aircraft noise and air quality modeling inputs. The baseline year consists of a single modeling scenario, and the forecast years include both a No Action scenario (representing no airfield changes) and a Proposed Action scenario (representing construction conditions for 2028 and 2029 and airfield build-out conditions for 2030 and build out plus five 2035) for each year.

HMMH used the Federal Aviation Administration (FAA) Aviation Environmental Design Tool (AEDT), Version 3d[1], to generate the aircraft noise exposure contours for the baseline year. HMMH will use the latest version of AEDT, Version 3g[2], to generate the aircraft noise exposure contours for the forecast years. The subsequent sections describe the AEDT required noise and air quality modeling inputs for the existing and future conditions, which include:

- Physical description of the airport layout
- Aircraft operations
- Aircraft noise and performance characteristics
- Runway utilization
- Flight track geometry and use
- Meteorological conditions
- Terrain data

1.0 Physical Description of the Airport Layout

BOI is located approximately three miles south of downtown Boise in Ada County, Idaho. The airport layout is comprised of two parallel runways, Runway 10L/28R and Runway 10R/28L. **Figure 1** shows the current airport diagram, and **Table 1** provides the runway specifications used in modeling the existing and forecast conditions.

The number used to designate each runway end reflects, with the addition of a trailing "0", the magnetic heading of the runway to the nearest 10 degrees from the perspective of the pilot. Runway 10L/28R is oriented along approximate magnetic headings of 102 degrees and 282 degrees and is 10,000 feet long by 150 feet wide. Runway 10R/28L is oriented along approximate magnetic headings of 102 degrees and

[1] AEDT Version 3d released on March 29, 2021. https://aedt.faa.gov/3d_information.aspx
[2] AEDT Version 3g released on August 28, 2024. https://aedt.faa.gov/3g_information.aspx

282 degrees and is 9,763 feet long by 150 feet wide. There is one helipad location, and it is located southeast of the threshold of Runway 10R. Runway length, runway width, instrumentation, and declared distances affect which runway an aircraft will use and under what conditions, and therefore, will determine the rate of utilization of a runway relative to the other runways at the airport.

Under the Proposed Action conditions, Runway 10R/28L will be shifted and extended to the southeast. The year 2028 represents the first construction year for the Proposed Action. The operations for this year were divided into three separate phases. In the first phase (Three months - accounting for 25 percent of the annual operations), the airfield operates as it normally would without the Proposed Action. In the second phase (Seven months - accounting for 58.3 percent of the annual operations), the airport operates solely on Runway 10L/28R to represent a full closure of Runway 10R/28L. In the third phase (Two months - accounting for the final 16.7 percent of the annual operations), the airfield operates as it normally would without the Proposed Action, with the exception that the end of Runway 28L is extended by 1,578 feet to the east.

The year 2029 represents the second construction year for the Proposed Action. The operations for this year were divided into three separate phases. In the first phase (Three months - accounting for 25 percent of the annual operations), the airfield operates as it normally would without the Proposed Action, with the exception that the end of Runway 28L is extended by 1,578 feet to the east. In the second phase (Eight months - accounting for 66.7 percent of the annual operations), the airport operates solely on Runway 10L/28R to represent a full closure of Runway 10R/28L. In the third phase (One month - accounting for the final 8.3 percent of the annual operations), the airfield operates as it normally would without the Proposed Action, with the exception that the west end of Runway 10R is shortened by 1,341 feet and Runway 28L is extended by 1,578 feet to the east.

The years 2030 and 2035 represent the opening year for the Proposed Action, and five years after opening year for the Proposed Action, respectively. These scenarios represent the same conditions as the No Action scenario with the exception that the operations on Runway 10R/28L use the shifted and extended runway coordinates from the third phase of the 2029 Proposed Action scenario.

Table 1. Runway Specifications

Source: HMMH 2025, FAA the Airport Data and Information Portal (ADIP), accessed on Dec 31, 2024

Runway End	Latitude	Longitude	Elevation (feet MSL)	Length (feet)	Approach Angle (degrees)	Threshold Crossing Height (feet)	Displaced Thresholds
10L	43.570210	-116.236911	2,830.6	10,000	3.0	53	0
10R	43.570034	-116.242616	2,824.2	9,763	3.0	64	0
10RX**	43.568472	-116.238036	2,824.2	10,000***	3.0	64	0
28L	43.558656	-116.209276	2,858.3	9,763	3.0	50	0
28LX**	43.556816	-116.203888	2,858.3	10,000***	3.0	50	0
28R	43.558554	-116.202765	2,871.7	10,000	3.0	70	0
H1*	43.565261	-116.237669	2,823.0	N/A	N/A	N/A	N/A

Key: MSL = mean sea level
Notes:
* H1 denotes location of the helipad
** 10RX and 28LX designate the shifted coordinates of Runway 10R/28L under the Proposed Action.
*** Represents the length of the runway after completion of construction.

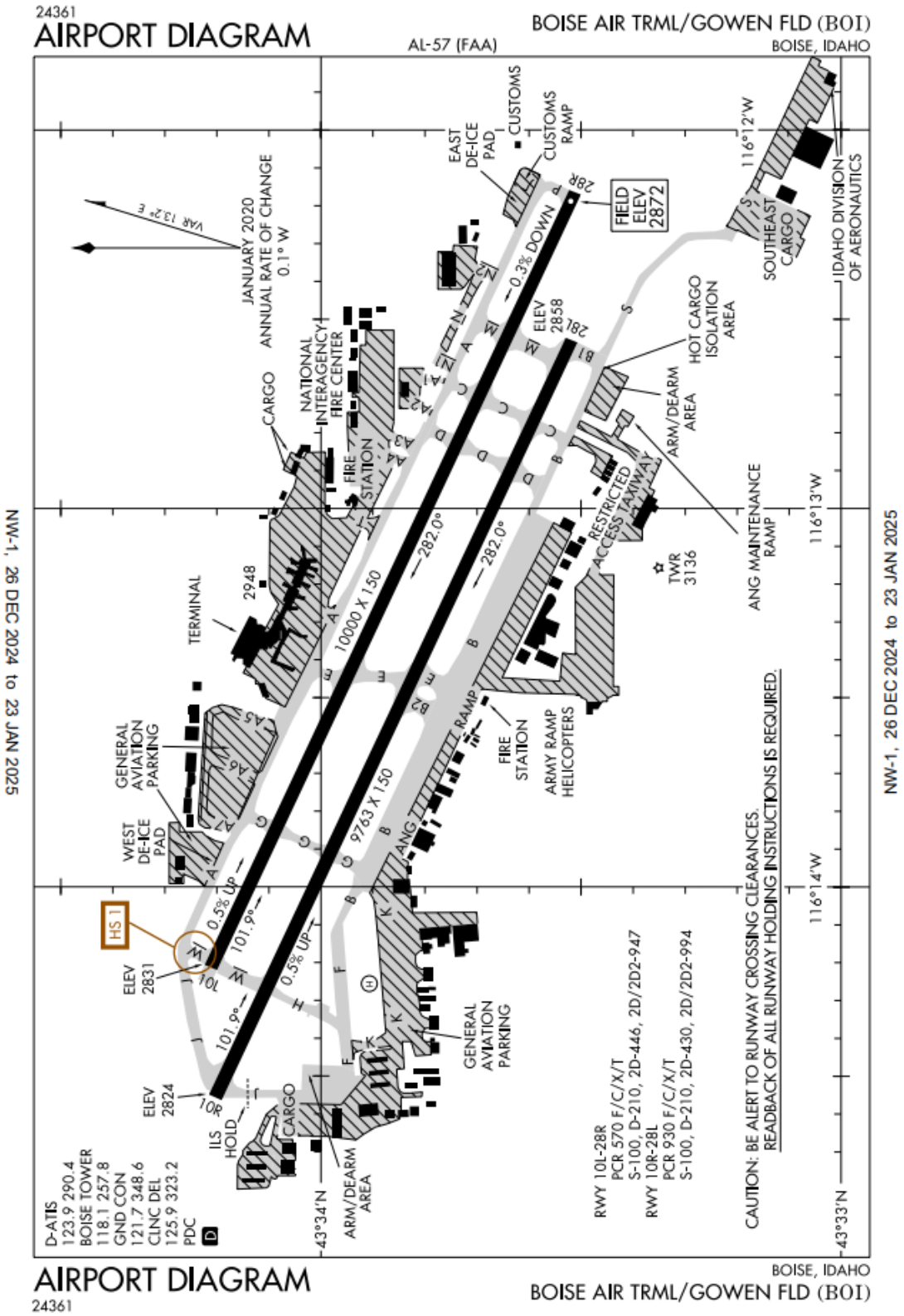


Figure 1. Airport Diagram

Source: FAA, accessed on Dec 31, 2024

2.0 Airport Operations

HMMH obtained flight track data from Envirosuite for calendar year 2019. This data was used to develop the fleet mix, day/night split, and model flight tracks. The radar data was then scaled to the forecasted operational counts for all modeling years from the BOI Master Plan Update Forecasts as shown in **Table 2** below. HMMH also obtained the FAA CountOps data for calendar year 2023. This data was used as supplemental data to update the fleet mix for the forecast years, to ensure the forecast data reflects the current fleet mix operating at BOI.

Table 2. Operation Counts by Master Plan Category

Source: BOI Master Plan Update Forecast

Year	Passenger (Itinerant)	Cargo (Itinerant)	Air Taxi (Itinerant)	General Aviation (Itinerant)	Military (Itinerant)	General Aviation (Local)	Military (Local)	Total
2019	45,487	5,484	6,490	40,593	10,047	25,832	6,302	140,235
2028	50,994	6,703	7,346	46,023	10,047	29,287	6,302	156,702
2029	51,616	6,832	7,442	46,881	10,047	29,834	6,302	158,954
2030	52,229	6,956	7,535	47,802	10,047	30,420	6,302	161,291
2035	54,540	7,541	7,904	52,980	10,047	33,714	6,302	173,028

Note: Totals may not match exactly due to rounding.

The derivation of the fleet mix utilized existing aircraft operations at BOI and included itinerant passenger, cargo, air taxi, general aviation, and military, as well as local general aviation and military operations. The operations described below comprise the existing condition for submittal of the BOI EA. The aircraft operations data entered into AEDT included the number of day and night arrivals, departures, and pattern (circuit) operations. Pattern (circuit) operations are local pattern operations modeled on closed-circuit flight paths, which are flight tracks that depart and turn into a downwind pattern before landing back on the same runway. It should be noted that a "local" operation departs and lands at BOI rather than going to or arriving from another airport, but a local operation is not necessarily a closed-circuit flight path. Any aircraft that arrives and departs from the same airport but uses a different runway end or flies a different path than a unidirectional turn would be considered a "local" operation, but not a closed-circuit flight path. For the purposes of this analysis, all local civil operations are modeled as circuits, and local military operations are modeled as arrival and departure operations. **Table 3** and **Key:** GA = General Aviation

Note: Totals may not match exactly due to rounding.

Table 4 list the modeled annual arrival, departure, circuit, and overall operations by category and aircraft type at BOI for the existing conditions.

The fleet mix for the forecast years (2028, 2029, 2030 and 2035) was adjusted based on the current fleet mix from the 2023 CountOps for BOI. This resulted in adding the Boeing 737-8 MAX, Airbus A220 and Airbus A320neo aircraft into the Passenger jet fleet, and the Boeing 767-300 into the Cargo jet fleet. The Dash 8 turboprop was removed as they were replaced with regional jets. The ratio between the Boeing 737 models and the Airbus A319/A320/A321 models in the Passenger jet fleet was also adjusted to reflect current trends. In the cargo jet fleet, Boeing 757 operations increased while Airbus A300 operations decreased. Similar tables for the construction and buildout years are presented in **Table 5** through **Table 12**. As the Proposed Action will not affect airport capacity, the operations for the No Action and Proposed Action are the same for a given modeling year in 2030 and 2035.

Table 3. Modeled 2019 Annual Itinerant Operations

Source: HMMH 2021, BOI Master Plan Update, FAA OPSNET, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
Passenger	Jet	737700	2,955	902	3,857	3,216	641	3,857	7,713
Passenger	Jet	737800	1,971	701	2,673	2,159	514	2,673	5,345
Passenger	Jet	A319-131	745	122	866	730	136	866	1,733
Passenger	Jet	A320-211	162	25	187	100	88	187	375
Passenger	Jet	A320-232	201	206	407	237	170	407	814
Passenger	Jet	A321-232	22	113	135	23	112	135	270
Passenger	Jet	CRJ9-ER	480	16	497	492	5	497	993
Passenger	Jet	EMB175	6,769	1,993	8,762	7,366	1,396	8,762	17,524
Passenger	Turboprop	DHC830	4,856	504	5,360	4,833	527	5,360	10,720
Passenger Subtotal	-	-	**18,160**	**4,584**	**22,744**	**19,156**	**3,588**	**22,744**	**45,487**
Cargo	Jet	757PW	374	408	782	772	10	782	1,564
Cargo	Jet	757RR	331	367	698	688	10	698	1,396
Cargo	Jet	A300-622R	1,088	175	1,262	1,227	35	1,262	2,524
Cargo Subtotal	-	-	**1,793**	**949**	**2,742**	**2,687**	**55**	**2,742**	**5,484**
Air Taxi	Jet	CL600	1,468	133	1,600	1,482	118	1,600	3,200
Air Taxi	Jet	CNA55B	62	3	65	64	1	65	130
Air Taxi	Jet	CNA560XL	84	5	89	84	4	89	177
Air Taxi	Jet	CNA750	71	7	78	68	9	78	155
Air Taxi	Jet	IA1125	53	4	57	42	15	57	115
Air Taxi	Jet	LEAR35	77	3	79	72	7	79	159
Air Taxi	Piston Prop	BEC58P	157	47	204	24	181	204	409
Air Taxi	Piston Prop	CNA182	45	4	48	48	-	48	96
Air Taxi	Piston Prop	CNA206	95	10	106	106	-	106	211
Air Taxi	Turboprop	1900D	49	-	49	49	-	49	98
Air Taxi	Turboprop	CNA208	109	29	138	120	18	138	275
Air Taxi	Turboprop	DHC6	595	137	732	633	99	732	1,464
Air Taxi Subtotal	-	-	**2,864**	**381**	**3,245**	**2,792**	**453**	**3,245**	**6,490**
GA	Helicopter	B206L	38	45	83	68	15	83	165
GA	Helicopter	B407	111	-	111	109	1	111	221
GA	Helicopter	R22	255	23	278	255	23	278	557
GA	Helicopter	R44	56	11	67	57	10	67	134
GA	Helicopter	SA350D	84	28	112	106	6	112	224
GA	Jet	A7D	28	-	28	28	-	28	56
GA	Jet	CIT3	71	17	88	85	3	88	175
GA	Jet	CL600	253	11	264	241	23	264	528
GA	Jet	CL601	260	26	286	261	24	286	571
GA	Jet	CNA500	106	13	119	114	5	119	238
GA	Jet	CNA510	338	22	360	334	26	360	720
GA	Jet	CNA525C	1,006	58	1,064	1,003	61	1,064	2,127
GA	Jet	CNA55B	488	19	507	473	34	507	1,014
GA	Jet	CNA560U	441	18	460	399	61	460	919
GA	Jet	CNA560XL	632	24	656	520	137	656	1,313
GA	Jet	CNA680	446	15	461	406	55	461	921
GA	Jet	CNA750	220	5	225	220	5	225	450
GA	Jet	ECLIPSE500	100	-	100	100	-	100	199
GA	Jet	FAL900EX	63	-	63	62	1	63	126
GA	Jet	LEAR35	288	10	298	278	19	298	596
GA	Jet	MU3001	129	6	135	124	11	135	270
GA	Piston Prop	BEC58P	1,042	58	1,100	1,011	89	1,100	2,200
GA	Piston Prop	CNA172	2,479	98	2,577	2,452	125	2,577	5,154
GA	Piston Prop	CNA182	1,432	17	1,449	1,411	38	1,449	2,898
GA	Piston Prop	CNA206	895	81	976	907	69	976	1,952
GA	Piston Prop	COMSEP	278	1	280	276	4	280	559
GA	Piston Prop	GASEPF	604	38	642	625	17	642	1,284
GA	Piston Prop	GASEPV	1,926	40	1,966	1,856	109	1,966	3,931
GA	Piston Prop	PA28	1,066	32	1,098	1,059	39	1,098	2,195
GA	Piston Prop	PA30	79	13	92	71	22	92	185

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
GA	Turboprop	CNA208	2,521	285	2,807	2,466	340	2,807	5,613
GA	Turboprop	CNA441	213	1	214	208	6	214	428
GA	Turboprop	DHC6	1,084	75	1,160	1,107	53	1,160	2,319
GA	Turboprop	GASEPV	174	2	176	174	3	176	353
GA Subtotal	-	-	**19,203**	**1,094**	**20,297**	**18,864**	**1,433**	**20,297**	**40,593**
Military	Helicopter	S70	495	26	520	512	8	520	1,040
Military	Jet	737800	826	34	860	820	40	860	1,720
Military	Jet	A10A	2,399	30	2,429	2,429	-	2,429	4,858
Military	Jet	A7D	99	-	99	99	-	99	197
Military	Jet	F15E20	157	-	157	157	-	157	315
Military	Jet	F-18	450	20	470	466	4	470	940
Military	Turboprop	DHC6	484	4	489	451	38	489	977
Military Subtotal	-	-	**4,910**	**114**	**5,024**	**4,933**	**90**	**5,024**	**10,047**
Itinerant Total	-	-	**46,930**	**7,121**	**54,051**	**48,432**	**5,619**	**54,051**	**108,101**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 4. Modeled 2019 Annual Local Operations

Source: HMMH 2021, BOI Master Plan Update, FAA OPSNET, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Day	Night	Total
GA	Piston Prop	BEC58P	560	15	575
GA	Piston Prop	CNA172	11,914	170	12,083
GA	Piston Prop	CNA182	855	37	892
GA	Piston Prop	CNA206	501	66	567
GA	Piston Prop	COMSEP	317	-	317
GA	Piston Prop	DC3	7	-	7
GA	Piston Prop	DC6	7	-	7
GA	Piston Prop	GASEPF	1,754	37	1,790
GA	Piston Prop	GASEPV	5,747	103	5,850
GA	Piston Prop	PA30	192	7	199
GA	Turboprop	CNA208	1,253	74	1,326
GA	Turboprop	CNA441	273	-	273
GA	Turboprop	DHC6	1,518	221	1,739
GA	Turboprop	DHC830	44	7	52
GA	Turboprop	GASEPV	147	-	147
GA	Turboprop	PA42	7	-	7
GA Subtotal	-	-	**25,095**	**737**	**25,832**
Military	Jet	A10A	6,302	-	6,302
Military Subtotal	-	-	**6,302**	-	**6,302**
Local Total	-	-	**31,397**	**737**	**32,134**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 5. Modeled 2028 Annual Itinerant Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Day Departures	Night Departures	Total Departures	Total
Passenger	Jet	737700	2,482	696	3,178	2,701	478	3,178	6,356
Passenger	Jet	737800	3,052	1,086	4,138	3,343	795	4,138	8,275
Passenger	Jet	7378MAX	855	295	1,150	1,021	128	1,150	2,299
Passenger	Jet	A319-131	1,042	170	1,213	1,022	190	1,213	2,426
Passenger	Jet	A320-211	447	70	517	276	241	517	1,034
Passenger	Jet	A320-232	554	569	1,123	653	470	1,123	2,246
Passenger	Jet	A320-270N	188	51	239	239	-	239	477
Passenger	Jet	A321-232	93	481	574	97	477	574	1,147
Passenger	Jet	CRJ9-ER	275	9	285	282	3	285	570
Passenger	Jet	EMB175	10,106	2,976	13,082	10,998	2,084	13,082	26,164
Passenger Subtotal	-	-	**19,094**	**6,403**	**25,497**	**20,632**	**4,865**	**25,497**	**50,994**
Cargo	Jet	757PW	620	675	1,296	1,279	17	1,296	2,592
Cargo	Jet	757RR	548	608	1,156	1,140	16	1,156	2,312
Cargo	Jet	7673ER	79	12	90	85	6	90	181
Cargo	Jet	A300-622R	697	112	809	787	23	809	1,618
Cargo Subtotal	-	-	**1,944**	**1,407**	**3,352**	**3,290**	**61**	**3,352**	**6,703**
Air Taxi	Jet	CL600	1,660	150	1,810	1,676	134	1,810	3,620
Air Taxi	Jet	CNA55B	71	3	74	73	1	74	147
Air Taxi	Jet	CNA560XL	94	6	100	96	5	100	201
Air Taxi	Jet	CNA750	80	8	88	77	11	88	176
Air Taxi	Jet	IA1125	60	5	65	48	17	65	130
Air Taxi	Jet	LEAR35	89	3	92	84	8	92	183
Air Taxi	Piston Prop	BEC58P	178	53	231	27	204	231	462
Air Taxi	Piston Prop	CNA182	50	4	54	54	-	54	109
Air Taxi	Piston Prop	CNA206	108	12	119	119	-	119	239
Air Taxi	Turboprop	1900D	55	-	55	55	-	55	111
Air Taxi	Turboprop	CNA208	123	32	156	135	20	156	311
Air Taxi	Turboprop	DHC6	673	155	828	716	112	828	1,656
Air Taxi Subtotal	-	-	**3,243**	**430**	**3,673**	**3,161**	**512**	**3,673**	**7,346**
GA	Helicopter	B206L	43	51	94	77	17	94	188
GA	Helicopter	B407	126	-	126	124	1	126	251
GA	Helicopter	R22	290	27	316	290	26	316	632
GA	Helicopter	R44	63	12	76	65	11	76	152
GA	Helicopter	SA350D	96	31	127	120	7	127	254
GA	Jet	CIT3	80	19	99	97	3	99	199
GA	Jet	CL600	287	13	299	273	26	299	599
GA	Jet	CL601	295	29	324	297	28	324	649
GA	Jet	CNA510	384	25	408	379	29	408	817
GA	Jet	CNA525C	1,262	81	1,343	1,268	75	1,343	2,685
GA	Jet	CNA55B	555	21	575	537	39	575	1,151
GA	Jet	CNA560U	501	21	522	453	69	522	1,043
GA	Jet	CNA560XL	718	28	745	590	155	745	1,490
GA	Jet	CNA680	506	17	523	461	62	523	1,046
GA	Jet	CNA750	250	6	255	250	6	255	511
GA	Jet	ECLIPSE500	113	-	113	113	-	113	226
GA	Jet	FAL900EX	72	-	72	70	1	72	144
GA	Jet	LEAR35	327	11	338	316	22	338	676
GA	Jet	MU3001	146	7	153	141	12	153	306
GA	Piston Prop	BEC58P	1,183	66	1,249	1,148	101	1,249	2,498
GA	Piston Prop	CNA172	2,815	111	2,926	2,783	142	2,926	5,851
GA	Piston Prop	CNA182	1,626	19	1,645	1,602	43	1,645	3,290
GA	Piston Prop	CNA206	1,016	92	1,108	1,029	79	1,108	2,216
GA	Piston Prop	COMSEP	316	1	317	313	4	317	635
GA	Piston Prop	GASEPF	1,895	79	1,975	1,911	63	1,975	3,950
GA	Piston Prop	GASEPV	2,186	45	2,231	2,107	124	2,231	4,463
GA	Piston Prop	PA30	90	15	105	80	25	105	210

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Day Departures	Night Departures	Total Departures	Total
GA	Turboprop	CNA208	3,104	325	3,429	3,036	393	3,429	6,859
GA	Turboprop	DHC6	1,231	86	1,317	1,256	60	1,317	2,633
GA	Turboprop	GASEPV	197	3	200	197	3	200	400
GA Subtotal	-	-	**21,770**	**1,242**	**23,012**	**21,384**	**1,627**	**23,012**	**46,023**
Military	Helicopter	S70	504	26	531	522	9	531	1,061
Military	Jet	737800	843	35	877	837	41	877	1,754
Military	Jet	A10A	2,447	30	2,478	2,478	-	2,478	4,955
Military	Jet	F15E20	160	-	160	160	-	160	321
Military	Jet	F-18	459	20	479	475	4	479	958
Military	Turboprop	DHC6	494	4	498	460	39	498	997
Military Subtotal	-	-	**4,908**	**116**	**5,024**	**4,932**	**92**	**5,024**	**10,047**
Itinerant Total	-	-	**50,958**	**9,599**	**60,557**	**53,398**	**7,158**	**60,557**	**121,113**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 6. Modeled 2028 Annual Local Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Day	Night	Total
GA	Piston Prop	BEC58P	637	17	653
GA	Piston Prop	CNA172	13,546	193	13,739
GA	Piston Prop	CNA182	972	42	1,014
GA	Piston Prop	CNA206	570	75	645
GA	Piston Prop	GASEPF	7,263	126	7,389
GA	Piston Prop	COMSEP	360	-	360
GA	Piston Prop	GASEPV	1,265	34	1,298
GA	Piston Prop	PA30	218	8	226
GA	Turboprop	CNA208	1,734	84	1,818
GA	Turboprop	DHC6	1,726	251	1,977
GA	Turboprop	GASEPV	168	-	168
GA Subtotal	-	-	**28,458**	**829**	**29,287**
Military	**Jet**	A10A	6,302	-	6,302
Military Subtotal	-	-	**6,302**	**-**	**6,302**
Local Total	-	-	**34,760**	**829**	**35,589**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 7. Modeled 2029 Annual Itinerant Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
Passenger	Jet	737700	2,512	705	3,217	2,734	483	3,217	6,434
Passenger	Jet	737800	3,089	1,099	4,188	3,383	805	4,188	8,376
Passenger	Jet	7378MAX	865	299	1,164	1,034	130	1,164	2,327
Passenger	Jet	A319-131	1,055	172	1,228	1,035	193	1,228	2,455
Passenger	Jet	A320-211	453	71	523	279	244	523	1,046
Passenger	Jet	A320-232	560	576	1,137	661	475	1,137	2,273
Passenger	Jet	A320-270N	190	52	242	242	-	242	483
Passenger	Jet	A321-232	94	487	581	98	482	581	1,161
Passenger	Jet	CRJ9-ER	279	9	288	285	3	288	576
Passenger	Jet	EMB175	10,229	3,012	13,241	11,132	2,109	13,241	26,483
Passenger Subtotal	-	-	**19,326**	**6,482**	**25,808**	**20,883**	**4,925**	**25,808**	**51,616**
Cargo	Jet	757PW	632	688	1,321	1,304	17	1,321	2,641
Cargo	Jet	757RR	559	620	1,178	1,162	17	1,178	2,357
Cargo	Jet	7673ER	80	12	92	86	6	92	184
Cargo	Jet	A300-622R	711	114	825	802	23	825	1,649
Cargo Subtotal	-	-	**1,982**	**1,434**	**3,416**	**3,353**	**63**	**3,416**	**6,832**
Air Taxi	Jet	CL600	1,682	152	1,834	1,698	136	1,834	3,668
Air Taxi	Jet	CNA55B	71	3	75	74	1	75	149
Air Taxi	Jet	CNA560XL	96	6	102	97	5	102	203
Air Taxi	Jet	CNA750	81	8	89	78	11	89	178
Air Taxi	Jet	IA1125	61	5	66	48	18	66	132
Air Taxi	Jet	LEAR35	90	3	93	85	8	93	186
Air Taxi	Piston Prop	BEC58P	180	54	234	27	207	234	468
Air Taxi	Piston Prop	CNA182	51	4	55	55	-	55	110
Air Taxi	Piston Prop	CNA206	109	12	121	121	-	121	242
Air Taxi	Turboprop	1900D	56	-	56	56	-	56	112
Air Taxi	Turboprop	CNA208	125	33	158	137	21	158	315
Air Taxi	Turboprop	DHC6	682	157	839	726	113	839	1,678
Air Taxi Subtotal	-	-	**3,285**	**436**	**3,721**	**3,202**	**519**	**3,721**	**7,442**
GA	Helicopter	B206L	44	52	96	78	17	96	191
GA	Helicopter	B407	128	-	128	126	1	128	256
GA	Helicopter	R22	295	27	322	295	27	322	644
GA	Helicopter	R44	65	13	77	66	11	77	155
GA	Helicopter	SA350D	97	32	129	122	7	129	259
GA	Jet	CIT3	82	20	101	98	3	101	202
GA	Jet	CL600	292	13	305	278	27	305	610
GA	Jet	CL601	300	30	330	302	28	330	661
GA	Jet	CNA510	391	25	416	386	30	416	832
GA	Jet	CNA525C	1,286	82	1,368	1,292	76	1,368	2,736
GA	Jet	CNA55B	565	21	586	547	39	586	1,172
GA	Jet	CNA560U	510	21	531	461	70	531	1,063
GA	Jet	CNA560XL	731	28	759	601	158	759	1,518
GA	Jet	CNA680	516	17	533	470	63	533	1,066
GA	Jet	CNA750	254	6	260	254	6	260	520
GA	Jet	ECLIPSE500	115	-	115	115	-	115	231
GA	Jet	FAL900EX	73	-	73	72	1	73	146
GA	Jet	LEAR35	333	12	344	322	22	344	689
GA	Jet	MU3001	149	7	156	143	13	156	312
GA	Piston Prop	BEC58P	1,205	67	1,272	1,170	103	1,272	2,544
GA	Piston Prop	CNA172	2,867	113	2,980	2,835	145	2,980	5,960
GA	Piston Prop	CNA182	1,656	20	1,676	1,632	44	1,676	3,351
GA	Piston Prop	CNA206	1,035	94	1,129	1,049	80	1,129	2,258
GA	Piston Prop	COMSEP	322	1	323	319	4	323	647
GA	Piston Prop	GASEPF	1,931	81	2,012	1,947	65	2,012	4,023
GA	Piston Prop	GASEPV	2,227	46	2,273	2,147	127	2,273	4,546
GA	Piston Prop	PA30	91	15	107	82	25	107	214

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
GA	Turboprop	CNA208	3,162	331	3,493	3,093	401	3,493	6,986
GA	Turboprop	DHC6	1,254	87	1,341	1,280	61	1,341	2,682
GA	Turboprop	GASEPV	201	3	204	201	3	204	408
GA Total	-	-	**22,176**	**1,265**	**23,441**	**21,783**	**1,657**	**23,441**	**46,881**
Military	Helicopter	S70	504	26	531	522	9	531	1,061
Military	Jet	737800	843	35	877	837	41	877	1,754
Military	Jet	A10A	2,447	30	2,478	2,478	-	2,478	4,955
Military	Jet	F15E20	160	-	160	160	-	160	321
Military	Jet	F-18	459	20	479	475	4	479	958
Military	Turboprop	DHC6	494	4	498	460	39	498	997
Military Subtotal	-	-	**4,908**	**116**	**5,024**	**4,932**	**92**	**5,024**	**10,047**
Itinerant Total	-	-	**51,676**	**9,733**	**61,409**	**54,153**	**7,256**	**61,409**	**122,818**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 8. Modeled 2029 Annual Local Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Day	Night	Total
GA	Piston Prop	BEC58P	649	17	666
GA	Piston Prop	CNA172	13,799	196	13,995
GA	Piston Prop	CNA182	990	43	1,033
GA	Piston Prop	CNA206	580	77	657
GA	Piston Prop	GASEPF	7,399	128	7,527
GA	Piston Prop	COMSEP	367	-	367
GA	Piston Prop	GASEPV	1,289	34	1,323
GA	Piston Prop	PA30	222	9	230
GA	Turboprop	CNA208	1,766	85	1,852
GA	Turboprop	DHC6	1,758	256	2,014
GA	Turboprop	GASEPV	171	-	171
GA Subtotal	-	-	**28,989**	**845**	**29,834**
Military	Jet	A10A	6,302	-	6,302
Military Subtotal	-	-	**6,302**	**-**	**6,302**
Local Total	-	-	**35,291**	**845**	**36,136**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 9. Modeled 2030 Annual Itinerant Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
Passenger	Jet	737700	2,542	713	3,255	2,766	489	3,255	6,510
Passenger	Jet	737800	3,126	1,112	4,238	3,424	814	4,238	8,476
Passenger	Jet	7378MAX	875	302	1,177	1,046	131	1,177	2,355
Passenger	Jet	A319-131	1,068	175	1,242	1,047	195	1,242	2,484
Passenger	Jet	A320-211	458	71	529	282	247	529	1,059
Passenger	Jet	A320-232	567	583	1,150	669	481	1,150	2,300
Passenger	Jet	A320-270N	192	52	244	244	-	244	489
Passenger	Jet	A321-232	95	492	587	99	488	587	1,175
Passenger	Jet	CRJ9-ER	282	9	292	289	3	292	583
Passenger	Jet	EMB175	10,350	3,048	13,399	11,264	2,134	13,399	26,797
Passenger Subtotal	**-**	**-**	**19,556**	**6,559**	**26,115**	**21,131**	**4,983**	**26,115**	**52,229**
Cargo	Jet	757PW	644	701	1,345	1,327	17	1,345	2,689
Cargo	Jet	757RR	569	631	1,200	1,183	17	1,200	2,400
Cargo	Jet	7673ER	82	12	94	88	6	94	188
Cargo	Jet	A300-622R	723	116	840	816	23	840	1,679
Cargo Subtotal	**-**	**-**	**2,018**	**1,460**	**3,478**	**3,414**	**64**	**3,478**	**6,956**
Air Taxi	Jet	CL600	1,703	154	1,857	1,720	137	1,857	3,714
Air Taxi	Jet	CNA55B	72	3	75	74	1	75	151
Air Taxi	Jet	CNA560XL	97	6	103	98	5	103	206
Air Taxi	Jet	CNA750	82	8	90	79	11	90	180
Air Taxi	Jet	IA1125	62	5	67	49	18	67	133
Air Taxi	Jet	LEAR35	91	3	94	86	8	94	188
Air Taxi	Piston Prop	BEC58P	183	54	237	27	210	237	474
Air Taxi	Piston Prop	CNA182	52	4	56	56	-	56	112
Air Taxi	Piston Prop	CNA206	111	12	122	122	-	122	245
Air Taxi	Turboprop	1900D	57	-	57	57	-	57	114
Air Taxi	Turboprop	CNA208	126	33	160	139	21	160	319
Air Taxi	Turboprop	DHC6	690	159	850	735	115	850	1,699
Air Taxi Subtotal	**-**	**-**	**3,326**	**442**	**3,768**	**3,242**	**525**	**3,768**	**7,535**
GA	Helicopter	B206L	44	53	97	80	18	97	195
GA	Helicopter	B407	130	-	130	129	1	130	261
GA	Helicopter	R22	301	28	328	301	27	328	656
GA	Helicopter	R44	66	13	79	67	12	79	158
GA	Helicopter	SA350D	99	33	132	125	7	132	264
GA	Jet	CIT3	83	20	103	100	3	103	206
GA	Jet	CL600	298	13	311	284	27	311	622
GA	Jet	CL601	306	30	337	308	29	337	674
GA	Jet	CNA510	398	26	424	394	31	424	849
GA	Jet	CNA525C	1,311	84	1,395	1,317	77	1,395	2,789
GA	Jet	CNA55B	576	22	598	558	40	598	1,195
GA	Jet	CNA560U	520	22	542	470	72	542	1,084
GA	Jet	CNA560XL	745	29	774	613	161	774	1,548
GA	Jet	CNA680	526	18	543	479	65	543	1,086
GA	Jet	CNA750	259	6	265	259	6	265	530
GA	Jet	ECLIPSE500	118	-	118	118	-	118	235
GA	Jet	FAL900EX	75	-	75	73	1	75	149
GA	Jet	LEAR35	339	12	351	328	23	351	702
GA	Jet	MU3001	152	7	159	146	13	159	318
GA	Piston Prop	BEC58P	1,229	68	1,297	1,193	105	1,297	2,594
GA	Piston Prop	CNA172	2,923	115	3,039	2,891	148	3,039	6,077
GA	Piston Prop	CNA182	1,688	20	1,709	1,664	44	1,709	3,417
GA	Piston Prop	CNA206	1,055	96	1,151	1,069	82	1,151	2,302
GA	Piston Prop	COMSEP	328	1	330	325	4	330	659
GA	Piston Prop	GASEPF	1,969	82	2,051	1,985	66	2,051	4,102
GA	Piston Prop	GASEPV	2,271	47	2,318	2,189	129	2,318	4,635
GA	Piston Prop	PA30	93	16	109	83	26	109	218

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
GA	Turboprop	CNA208	3,224	338	3,562	3,153	409	3,562	7,124
GA	Turboprop	DHC6	1,279	89	1,367	1,305	62	1,367	2,735
GA	Turboprop	GASEPV	205	3	208	205	3	208	416
GA Subtotal	**-**	**-**	**22,611**	**1,290**	**23,901**	**22,211**	**1,690**	**23,901**	**47,802**
Military	Helicopter	S70	504	26	531	522	9	531	1,061
Military	Jet	737800	843	35	877	837	41	877	1,754
Military	Jet	A10A	2,447	30	2,478	2,478	-	2,478	4,955
Military	Jet	F15E20	160	-	160	160	-	160	321
Military	Jet	F-18	459	20	479	475	4	479	958
Military	Turboprop	DHC6	494	4	498	460	39	498	997
Military Subtotal	**-**	**-**	**4,908**	**116**	**5,024**	**4,932**	**92**	**5,024**	**10,047**
Itinerant Total	**-**	**-**	**52,419**	**9,866**	**62,285**	**54,930**	**7,354**	**62,285**	**124,569**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 10. Modeled 2030 Annual Local Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Day	Night	Total
GA	Piston Prop	BEC58P	661	17	679
GA	Piston Prop	CNA172	14,070	200	14,270
GA	Piston Prop	CNA182	1,009	44	1,053
GA	Piston Prop	CNA206	592	78	670
GA	Piston Prop	GASEPF	7,544	131	7,675
GA	Piston Prop	COMSEP	374	-	374
GA	Piston Prop	GASEPV	1,314	35	1,349
GA	Piston Prop	PA30	226	9	235
GA	Turboprop	CNA208	1,801	87	1,888
GA	Turboprop	DHC6	1,792	261	2,054
GA	Turboprop	GASEPV	174	-	174
GA Subtotal	**-**	**-**	**29,559**	**861**	**30,420**
Military	Jet	A10A	6,302	-	6,302
Military Subtotal	**-**	**-**	**6,302**	**-**	**6,302**
Local Total	**-**	**-**	**35,861**	**861**	**36,722**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 11. Modeled 2035 Annual Itinerant Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
Passenger	Jet	737700	2,655	745	3,399	2,888	511	3,399	6,798
Passenger	Jet	737800	3,264	1,161	4,425	3,575	850	4,425	8,851
Passenger	Jet	7378MAX	914	315	1,230	1,092	137	1,230	2,459
Passenger	Jet	A319-131	1,115	182	1,297	1,094	204	1,297	2,594
Passenger	Jet	A320-211	478	75	553	295	258	553	1,106
Passenger	Jet	A320-232	592	609	1,201	699	502	1,201	2,402
Passenger	Jet	A320-270N	201	55	255	255	-	255	510
Passenger	Jet	A321-232	99	514	613	104	510	613	1,227
Passenger	Jet	CRJ9-ER	295	10	305	302	3	305	609
Passenger	Jet	EMB175	10,808	3,183	13,992	11,763	2,229	13,992	27,983
Passenger Subtotal	-	-	**20,421**	**6,849**	**27,270**	**22,066**	**5,204**	**27,270**	**54,540**
Cargo	Jet	757PW	698	760	1,458	1,439	19	1,458	2,916
Cargo	Jet	757RR	617	684	1,301	1,282	18	1,301	2,601
Cargo	Jet	7673ER	88	13	102	95	7	102	204
Cargo	Jet	A300-622R	784	126	910	885	25	910	1,821
Cargo Subtotal	-	-	**2,187**	**1,583**	**3,771**	**3,701**	**69**	**3,771**	**7,541**
Air Taxi	Jet	CL600	1,786	161	1,948	1,804	144	1,948	3,895
Air Taxi	Jet	CNA55B	76	3	79	78	1	79	158
Air Taxi	Jet	CNA560XL	102	6	108	103	5	108	216
Air Taxi	Jet	CNA750	86	8	95	83	11	95	189
Air Taxi	Jet	IA1125	65	5	70	51	19	70	140
Air Taxi	Jet	LEAR35	96	3	99	90	9	99	197
Air Taxi	Piston Prop	BEC58P	192	57	249	29	220	249	497
Air Taxi	Piston Prop	CNA182	54	4	59	59	-	59	117
Air Taxi	Piston Prop	CNA206	116	12	128	128	-	128	257
Air Taxi	Turboprop	1900D	60	-	60	60	-	60	119
Air Taxi	Turboprop	CNA208	133	35	168	146	22	168	335
Air Taxi	Turboprop	DHC6	724	167	891	771	120	891	1,782
Air Taxi Subtotal	-	-	**3,489**	**463**	**3,952**	**3,401**	**551**	**3,952**	**7,904**
GA	Helicopter	B206L	49	59	108	89	19	108	216
GA	Helicopter	B407	145	-	145	143	2	145	289
GA	Helicopter	R22	333	31	364	334	30	364	728
GA	Helicopter	R44	73	14	87	75	13	87	175
GA	Helicopter	SA350D	110	36	146	138	8	146	292
GA	Jet	CIT3	92	22	114	111	3	114	229
GA	Jet	CL600	330	14	345	315	30	345	689
GA	Jet	CL601	340	34	373	342	32	373	747
GA	Jet	CNA510	442	29	470	436	34	470	940
GA	Jet	CNA525C	1,453	93	1,546	1,460	86	1,546	3,091
GA	Jet	CNA55B	638	24	662	618	44	662	1,325
GA	Jet	CNA560U	577	24	600	521	79	600	1,201
GA	Jet	CNA560XL	826	32	858	679	179	858	1,716
GA	Jet	CNA680	583	19	602	531	71	602	1,204
GA	Jet	CNA750	288	6	294	288	6	294	588
GA	Jet	ECLIPSE500	130	-	130	130	-	130	261
GA	Jet	FAL900EX	83	-	83	81	2	83	165
GA	Jet	LEAR35	376	13	389	364	25	389	778
GA	Jet	MU3001	168	8	176	162	14	176	353
GA	Piston Prop	BEC58P	1,362	76	1,438	1,322	116	1,438	2,875
GA	Piston Prop	CNA172	3,240	128	3,368	3,204	164	3,368	6,736
GA	Piston Prop	CNA182	1,871	22	1,894	1,844	49	1,894	3,787
GA	Piston Prop	CNA206	1,169	106	1,276	1,185	91	1,276	2,551
GA	Piston Prop	COMSEP	364	2	365	361	5	365	731
GA	Piston Prop	GASEPF	2,182	91	2,273	2,200	73	2,273	4,547
GA	Piston Prop	GASEPV	2,517	52	2,569	2,426	143	2,569	5,138
GA	Piston Prop	PA30	103	17	121	92	29	121	241

Category	Engine Type	AEDT Aircraft Type	Arrivals Day	Arrivals Night	Arrivals Total	Departures Day	Departures Night	Departures Total	Total
GA	Turboprop	CNA208	3,573	375	3,948	3,495	453	3,948	7,895
GA	Turboprop	DHC6	1,417	98	1,516	1,446	69	1,516	3,031
GA	Turboprop	GASEPV	227	3	230	227	4	230	461
GA Subtotal	-	-	**25,061**	**1,429**	**26,490**	**24,617**	**1,873**	**26,490**	**52,980**
Military	Helicopter	S70	504	26	531	522	9	531	1,061
Military	Jet	737800	843	35	877	837	41	877	1,754
Military	Jet	A10A	2,447	30	2,478	2,478	-	2,478	4,955
Military	Jet	F15E20	160	-	160	160	-	160	321
Military	Jet	F-18	459	20	479	475	4	479	958
Military	Turboprop	DHC6	494	4	498	460	39	498	997
Military Subtotal	-	-	**4,908**	**116**	**5,024**	**4,932**	**92**	**5,024**	**10,047**
Itinerant Total	-	-	**56,066**	**10,440**	**66,506**	**58,717**	**7,789**	**66,506**	**133,012**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 12. Modeled 2035 Annual Local Operations

Source: HMMH 2025, BOI Master Plan Update, FAA CountOps, Envirosuite

Category	Engine Type	AEDT Aircraft Type	Day	Night	Total
GA	Piston Prop	BEC58P	733	19	752
GA	Piston Prop	CNA172	15,594	222	15,815
GA	Piston Prop	CNA182	1,119	48	1,167
GA	Piston Prop	CNA206	656	87	743
GA	Piston Prop	GASEPF	8,361	145	8,506
GA	Piston Prop	COMSEP	415	-	415
GA	Piston Prop	GASEPV	1,456	39	1,495
GA	Piston Prop	PA30	251	10	260
GA	Turboprop	CNA208	1,996	96	2,093
GA	Turboprop	DHC6	1,987	289	2,276
GA	Turboprop	GASEPV	193	-	193
GA Subtotal	-	-	**32,759**	**955**	**33,714**
Military	Jet	A10A	6,302	-	6,302
Military Subtotal	-	-	**6,302**	**-**	**6,302**
Local Total	-	-	**39,061**	**955**	**40,016**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

3.0 Aircraft Noise and Performance Characteristics

AEDT requires the use of specific noise and performance data for each aircraft type operating at the airport. Noise data is in the form of Sound Exposure Level (SEL) at a range of distances (from 200 feet to 25,000 feet) from a particular aircraft with engines at a range of thrust levels. Performance data include thrust, speed and altitude profiles for takeoff and landing operations. The AEDT database contains standard noise and performance data for over 300 different fixed-wing aircraft types, most of which are civilian aircraft.

Within the AEDT database, it is standard for aircraft takeoff or departure profiles to be defined by a range of trip distances identified as "stage lengths." Higher stage lengths (longer trip distances) are associated with a heavier aircraft due to the increase in fuel requirements for the flight. For the BOI EA, stage lengths are defined using city pair distances, determined by the great-circle distance from the originating airport to the planned arrival city.

Aside from identifying the aircraft type in the database, AEDT has STANDARD and International Civil Aviation Organization (ICAO) aircraft flight profiles for takeoffs, landings, and flight patterns or touch-and-go operations. HMMH used STANDARD profiles for all civilian aircraft types and military aircraft types in the existing condition.

4.0 Runway Utilization

The primary factor affecting runway use at airports is weather; specifically, the wind direction and wind speed. An additional factor that may affect runway use includes the position of the facility or ramp the aircraft is destined for relative to the runway. For example, where the Commercial Terminal is on the north side of the airport, pilots would prefer to land on Runway 10L/28R as it will provide the shortest taxi time to the terminal after landing. The Idaho Air National Guard operates from the Gowen Field Air National Guard Base portion of the airport which is south of Runway 10R/28L.

HMMH utilized 2019 data obtained from Envirosuite to compile runway use tables and categorized this information by arrival, departure, or circuits, as well as day and night. For the military operations, HMMH developed the runway use from FAA information for the same year. HMMH separated the data by category as well as engine type (i.e., jet, piston prop, turboprop, helicopter) since these categories of aircraft types may use the runways differently. **Table 13** presents the runway utilization rates used to model the aircraft noise contours for the existing conditions. **Table 14** through **Table 16** present similar data for the forecast Proposed Action scenarios. As there are no changes to airfield layout under the No Action case, the runway utilization rates for these scenarios are the same as the 2019 baseline. One helicopter landing/takeoff location located just north of the General Aviation Parking area (identified in **Figure 1**) will be used to model helicopter operations, thus its utilization rate is 100 percent.

Table 13. 2019 and Future No Action Runway Utilization for Fixed-Wing Aircraft

Source: HMMH 2025, Envirosuite, FAA OPSNET

Category	Engine Type	Operation Mode	10L (Day)	10R (Day)	28L (Day)	28R (Day)	Total (Day)	10L (Night)	10R (Night)	28L (Night)	28R (Night)	Total (Night)
Passenger	Jet	Arrivals	31%	16%	17%	36%	**100%**	37%	24%	12%	28%	**100%**
Passenger	Jet	Departures	47%	8%	14%	31%	**100%**	65%	14%	7%	14%	**100%**
Passenger	Turboprop	Arrivals	13%	40%	18%	29%	**100%**	7%	54%	21%	19%	**100%**
Passenger	Turboprop	Departures	46%	8%	13%	33%	**100%**	57%	16%	11%	16%	**100%**
Cargo	Jet	Arrivals	15%	42%	20%	23%	**100%**	27%	47%	13%	13%	**100%**
Cargo	Jet	Departures	27%	25%	27%	21%	**100%**	39%	32%	18%	11%	**100%**
Air Taxi	Jet	Arrivals	28%	21%	22%	29%	**100%**	21%	30%	25%	24%	**100%**
Air Taxi	Jet	Departures	36%	13%	20%	31%	**100%**	48%	31%	10%	11%	**100%**
Air Taxi	Piston Prop	Arrivals	38%	19%	22%	21%	**100%**	57%	31%	4%	8%	**100%**
Air Taxi	Piston Prop	Departures	32%	14%	24%	30%	**100%**	50%	14%	12%	24%	**100%**
Air Taxi	Turboprop	Arrivals	7%	48%	37%	8%	**100%**	10%	54%	33%	3%	**100%**
Air Taxi	Turboprop	Departures	8%	35%	48%	9%	**100%**	24%	56%	11%	9%	**100%**
Itinerant GA	Jet	Arrivals	21%	24%	33%	22%	**100%**	26%	38%	25%	11%	**100%**
Itinerant GA	Jet	Departures	24%	28%	29%	19%	**100%**	22%	58%	13%	6%	**100%**
Itinerant GA	Piston Prop	Arrivals	13%	35%	38%	13%	**100%**	13%	51%	29%	6%	**100%**
Itinerant GA	Piston Prop	Departures	15%	41%	31%	13%	**100%**	15%	60%	22%	4%	**100%**
Itinerant GA	Turboprop	Arrivals	16%	26%	37%	22%	**100%**	10%	54%	29%	8%	**100%**
Itinerant GA	Turboprop	Departures	21%	31%	31%	17%	**100%**	20%	55%	20%	5%	**100%**
Itinerant Military	Jet	Arrivals	0%	52%	48%	0%	**100%**	0%	47%	53%	0%	**100%**
Itinerant Military	Jet	Departures	0%	54%	46%	0%	**100%**	0%	0%	100%	0%	**100%**
Itinerant Military	Turboprop	Arrivals	0%	45%	55%	0%	**100%**	0%	50%	50%	0%	**100%**
Itinerant Military	Turboprop	Departures	0%	57%	43%	0%	**100%**	0%	95%	5%	0%	**100%**
Local GA	Piston Prop	Circuits	6%	50%	39%	5%	**100%**	8%	58%	31%	4%	**100%**
Local GA	Turboprop	Circuits	20%	32%	31%	16%	**100%**	67%	13%	10%	10%	**100%**
Local Military	Jet	Arrivals	0%	52%	48%	0%	**100%**	0%	0%	0%	0%	**0%**
Local Military	Jet	Departures	0%	54%	46%	0%	**100%**	0%	0%	0%	0%	**0%**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 14. 2028 Proposed Action Runway Utilization for Fixed-Wing Aircraft

Source: HMMH 2025, Envirosuite, FAA OPSNET

Category	Engine Type	Operation Mode	10L (Day)	10R (Day)	28L (Day)	28LX (Day)	28R (Day)	Total (Day)	10L (Night)	10R (Night)	28L (Night)	28LX (Night)	28R (Night)	Total (Night)
Passenger	Jet	Arrivals	40%	6%	4%	3%	46%	**100%**	48%	10%	3%	2%	37%	**100%**
Passenger	Jet	Departures	54%	3%	4%	2%	36%	**100%**	75%	6%	2%	1%	16%	**100%**
Passenger	Turboprop	Arrivals	24%	17%	4%	3%	52%	**100%**	18%	22%	5%	3%	51%	**100%**
Passenger	Turboprop	Departures	53%	3%	3%	2%	38%	**100%**	70%	7%	3%	2%	19%	**100%**
Cargo	Jet	Arrivals	29%	18%	5%	3%	45%	**100%**	50%	20%	3%	2%	25%	**100%**
Cargo	Jet	Departures	44%	10%	7%	5%	35%	**100%**	62%	13%	4%	3%	17%	**100%**
Air Taxi	Jet	Arrivals	40%	9%	5%	4%	42%	**100%**	36%	13%	6%	4%	41%	**100%**
Air Taxi	Jet	Departures	46%	6%	5%	3%	40%	**100%**	67%	13%	2%	2%	15%	**100%**
Air Taxi	Piston Prop	Arrivals	53%	8%	6%	4%	29%	**100%**	75%	13%	1%	1%	10%	**100%**
Air Taxi	Piston Prop	Departures	43%	6%	6%	4%	41%	**100%**	60%	6%	3%	2%	29%	**100%**
Air Taxi	Turboprop	Arrivals	31%	20%	9%	6%	33%	**100%**	50%	23%	8%	5%	14%	**100%**
Air Taxi	Turboprop	Departures	30%	15%	12%	8%	35%	**100%**	52%	24%	3%	2%	20%	**100%**
Itinerant GA	Jet	Arrivals	37%	10%	8%	5%	39%	**100%**	53%	16%	6%	4%	21%	**100%**
Itinerant GA	Jet	Departures	42%	12%	7%	5%	34%	**100%**	55%	24%	3%	2%	15%	**100%**
Itinerant GA	Piston Prop	Arrivals	35%	15%	10%	6%	35%	**100%**	45%	21%	7%	5%	22%	**100%**
Itinerant GA	Piston Prop	Departures	38%	17%	8%	5%	32%	**100%**	52%	25%	5%	4%	14%	**100%**
Itinerant GA	Turboprop	Arrivals	31%	11%	9%	6%	43%	**100%**	36%	22%	7%	5%	30%	**100%**
Itinerant GA	Turboprop	Departures	41%	13%	8%	5%	33%	**100%**	55%	23%	5%	3%	13%	**100%**
Itinerant Military	Jet	Arrivals	30%	21%	12%	8%	28%	**100%**	28%	20%	13%	9%	31%	**100%**
Itinerant Military	Jet	Departures	32%	23%	11%	8%	27%	**100%**	0%	0%	25%	17%	58%	**100%**
Itinerant Military	Turboprop	Arrivals	26%	19%	14%	9%	32%	**100%**	29%	21%	13%	8%	29%	**100%**
Itinerant Military	Turboprop	Departures	33%	24%	11%	7%	25%	**100%**	55%	39%	1%	1%	3%	**100%**
Local GA	Piston Prop	Circuits	35%	21%	10%	7%	27%	**100%**	42%	24%	8%	5%	21%	**100%**
Local GA	Turboprop	Circuits	41%	13%	8%	5%	32%	**100%**	79%	6%	3%	2%	12%	**100%**
Local Military	Jet	Arrivals	30%	21%	12%	8%	28%	**100%**	0%	0%	0%	0%	0%	**0%**
Local Military	Jet	Departures	32%	23%	11%	8%	27%	**100%**	0%	0%	0%	0%	0%	**0%**

Key: GA = General Aviation

Notes: Totals may not match exactly due to rounding. The Runway 28L end will be extended in 2028.

Table 15. 2029 Proposed Action Runway Utilization for Fixed-Wing Aircraft

Source: HMMH 2025, Envirosuite, FAA OPSNET

Category	Engine Type	Operation Mode	10L (Day)	10R (Day)	10RX (Day)	28LX (Day)	28R (Day)	Total (Day)	10L (Night)	10R (Night)	10RX (Night)	28LX (Night)	28R (Night)	Total (Night)
Passenger	Jet	Arrivals	42%	4%	1%	6%	47%	**100%**	50%	6%	2%	4%	38%	**100%**
Passenger	Jet	Departures	56%	2%	1%	5%	37%	**100%**	77%	4%	1%	2%	16%	**100%**
Passenger	Turboprop	Arrivals	25%	10%	3%	6%	55%	**100%**	20%	13%	4%	7%	56%	**100%**
Passenger	Turboprop	Departures	54%	2%	1%	4%	39%	**100%**	71%	4%	1%	4%	20%	**100%**
Cargo	Jet	Arrivals	31%	11%	4%	7%	48%	**100%**	54%	12%	4%	4%	26%	**100%**
Cargo	Jet	Departures	46%	6%	2%	9%	36%	**100%**	65%	8%	3%	6%	18%	**100%**
Air Taxi	Jet	Arrivals	42%	5%	2%	7%	44%	**100%**	38%	8%	3%	8%	44%	**100%**
Air Taxi	Jet	Departures	48%	3%	1%	7%	41%	**100%**	70%	8%	3%	3%	16%	**100%**
Air Taxi	Piston Prop	Arrivals	56%	5%	2%	7%	31%	**100%**	78%	8%	3%	1%	11%	**100%**
Air Taxi	Piston Prop	Departures	45%	3%	1%	8%	42%	**100%**	62%	3%	1%	4%	30%	**100%**
Air Taxi	Turboprop	Arrivals	35%	12%	4%	12%	37%	**100%**	55%	14%	5%	11%	15%	**100%**
Air Taxi	Turboprop	Departures	33%	9%	3%	16%	39%	**100%**	56%	14%	5%	4%	22%	**100%**
Itinerant GA	Jet	Arrivals	39%	6%	2%	11%	42%	**100%**	56%	9%	3%	8%	23%	**100%**
Itinerant GA	Jet	Departures	45%	7%	2%	10%	36%	**100%**	60%	15%	5%	4%	17%	**100%**
Itinerant GA	Piston Prop	Arrivals	38%	9%	3%	13%	38%	**100%**	49%	13%	4%	10%	24%	**100%**
Itinerant GA	Piston Prop	Departures	41%	10%	3%	10%	35%	**100%**	58%	15%	5%	7%	15%	**100%**
Itinerant GA	Turboprop	Arrivals	33%	6%	2%	12%	46%	**100%**	40%	13%	4%	10%	33%	**100%**
Itinerant GA	Turboprop	Departures	44%	8%	3%	10%	35%	**100%**	61%	14%	5%	7%	14%	**100%**
Itinerant Military	Jet	Arrivals	34%	13%	4%	16%	32%	**100%**	32%	12%	4%	18%	35%	**100%**
Itinerant Military	Jet	Departures	36%	14%	5%	15%	30%	**100%**	0%	0%	0%	33%	67%	**100%**
Itinerant Military	Turboprop	Arrivals	30%	11%	4%	18%	37%	**100%**	33%	13%	4%	17%	33%	**100%**
Itinerant Military	Turboprop	Departures	38%	14%	5%	14%	29%	**100%**	63%	24%	8%	2%	4%	**100%**
Local GA	Piston Prop	Circuits	39%	13%	4%	13%	31%	**100%**	47%	14%	5%	10%	24%	**100%**
Local GA	Turboprop	Circuits	44%	8%	3%	10%	35%	**100%**	80%	3%	1%	3%	12%	**100%**
Local Military	Jet	Arrivals	34%	13%	4%	16%	32%	**100%**	0%	0%	0%	0%	0%	**0%**
Local Military	Jet	Departures	36%	14%	5%	15%	30%	**100%**	0%	0%	0%	0%	0%	**0%**

Key: GA = General Aviation

Note: Totals may not match exactly due to rounding. The Runway 10R end will be reduced in 2029.

Table 16. 2030 and 2035 Proposed Action Runway Utilization for Fixed-Wing Aircraft

Source: HMMH 2025, Envirosuite, FAA OPSNET

Category	Engine Type	Operation Mode	10L (Day)	10RX (Day)	28LX (Day)	28R (Day)	Total (Day)	10L (Night)	10RX (Night)	28LX (Night)	28R (Night)	Total (Night)
Passenger	Jet	Arrivals	31%	16%	17%	36%	**100%**	37%	24%	12%	28%	**100%**
Passenger	Jet	Departures	47%	8%	14%	31%	**100%**	65%	14%	7%	14%	**100%**
Passenger	Turboprop	Arrivals	13%	40%	18%	29%	**100%**	7%	54%	21%	19%	**100%**
Passenger	Turboprop	Departures	46%	8%	13%	33%	**100%**	57%	16%	11%	16%	**100%**
Cargo	Jet	Arrivals	15%	42%	20%	23%	**100%**	27%	47%	13%	13%	**100%**
Cargo	Jet	Departures	27%	25%	27%	21%	**100%**	39%	32%	18%	11%	**100%**
Air Taxi	Jet	Arrivals	28%	21%	22%	29%	**100%**	21%	30%	25%	24%	**100%**
Air Taxi	Jet	Departures	36%	13%	20%	31%	**100%**	48%	31%	10%	11%	**100%**
Air Taxi	Piston Prop	Arrivals	38%	19%	22%	21%	**100%**	57%	31%	4%	8%	**100%**
Air Taxi	Piston Prop	Departures	32%	14%	24%	30%	**100%**	50%	14%	12%	24%	**100%**
Air Taxi	Turboprop	Arrivals	7%	48%	37%	8%	**100%**	10%	54%	33%	3%	**100%**
Air Taxi	Turboprop	Departures	8%	35%	48%	9%	**100%**	24%	56%	11%	9%	**100%**
Itinerant GA	Jet	Arrivals	21%	24%	33%	22%	**100%**	26%	38%	25%	11%	**100%**
Itinerant GA	Jet	Departures	24%	28%	29%	19%	**100%**	22%	58%	13%	6%	**100%**
Itinerant GA	Piston Prop	Arrivals	13%	35%	38%	13%	**100%**	13%	51%	29%	6%	**100%**
Itinerant GA	Piston Prop	Departures	15%	41%	31%	13%	**100%**	15%	60%	22%	4%	**100%**
Itinerant GA	Turboprop	Arrivals	16%	26%	37%	22%	**100%**	10%	54%	29%	8%	**100%**
Itinerant GA	Turboprop	Departures	21%	31%	31%	17%	**100%**	20%	55%	20%	5%	**100%**
Itinerant Military	Jet	Arrivals	0%	52%	48%	0%	**100%**	0%	47%	53%	0%	**100%**
Itinerant Military	Jet	Departures	0%	54%	46%	0%	**100%**	0%	0%	100%	0%	**100%**
Itinerant Military	Turboprop	Arrivals	0%	45%	55%	0%	**100%**	0%	50%	50%	0%	**100%**
Itinerant Military	Turboprop	Departures	0%	57%	43%	0%	**100%**	0%	95%	5%	0%	**100%**
Local GA	Piston Prop	Circuits	6%	50%	39%	5%	**100%**	8%	58%	31%	4%	**100%**
Local GA	Turboprop	Circuits	20%	32%	31%	16%	**100%**	67%	13%	10%	10%	**100%**
Local Military	Jet	Arrivals	0%	52%	48%	0%	**100%**	0%	0%	0%	0%	**0%**
Local Military	Jet	Departures	0%	54%	46%	0%	**100%**	0%	0%	0%	0%	**0%**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

5.0 Flight Track Geometry and Use

The flight tracks used in the modeling were developed from the radar data. HMMH used an industry-standard method to develop model tracks that entails analyzing all radar data for BOI by splitting the flight tracks into similar and manageable groups. The standard procedure separates tracks by operation type, (i.e., arrival, departure, circuit) and runway end, aircraft type (i.e., jet, piston prop, turboprop, helicopter) and destination/direction. HMMH analyzed flight tracks with the same operation type, runway end, and destination direction for similar geometry and this resulted in the final radar track bundles used to create model tracks. Geometrically similar groups with wide dispersion have a 'backbone' track and one to four 'dispersion' sub tracks on either side of the backbone, for three, five, seven, or nine total tracks (e.g., one backbone and two, four, six, or eight 'dispersion' tracks). All model tracks for jet and non-jet aircraft, circuit, and helicopter are presented in **Figure 2** through **Figure 5**. All model track bundles developed as part of this process and the assigned model percent usage are shown in **Table 17** through **Table 20**. Backbone and dispersion tracks are listed as one master bundle name below.

It should be noted that some aircraft types have no standard AEDT circuit profiles, and thus circuit operations modeled for those aircraft must be done with user-defined profiles or another methodology. One such aircraft is the A10A, which has been assumed to be the aircraft conducting local military operations at BOI. For this reason, one A10A local operation is modeled as one arrival and one departure on the same arrival and departure tracks and with the same utilization rates used for itinerant operations.

Figure 2. Modeled Arrival Tracks

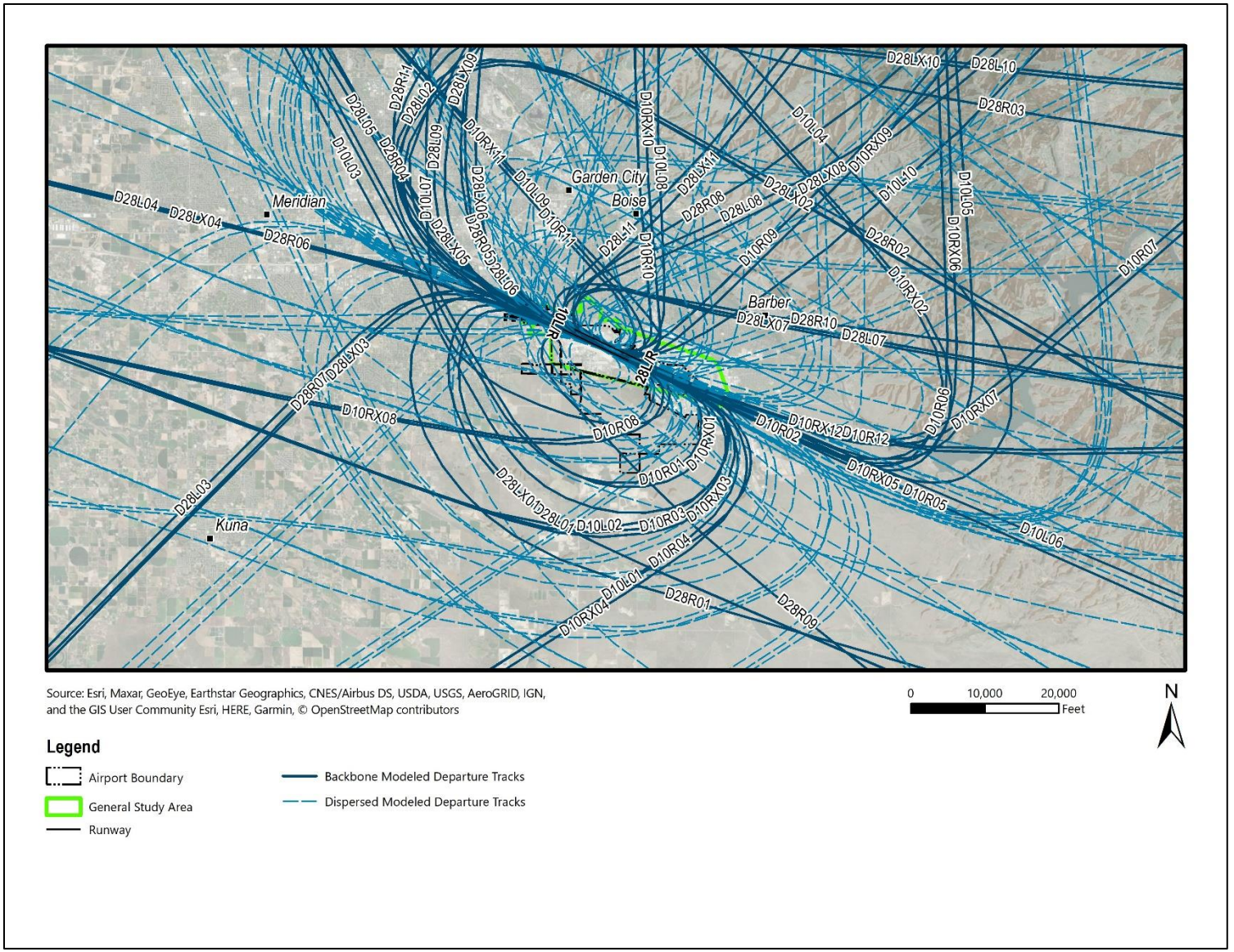


Figure 3. Modeled Departure Tracks

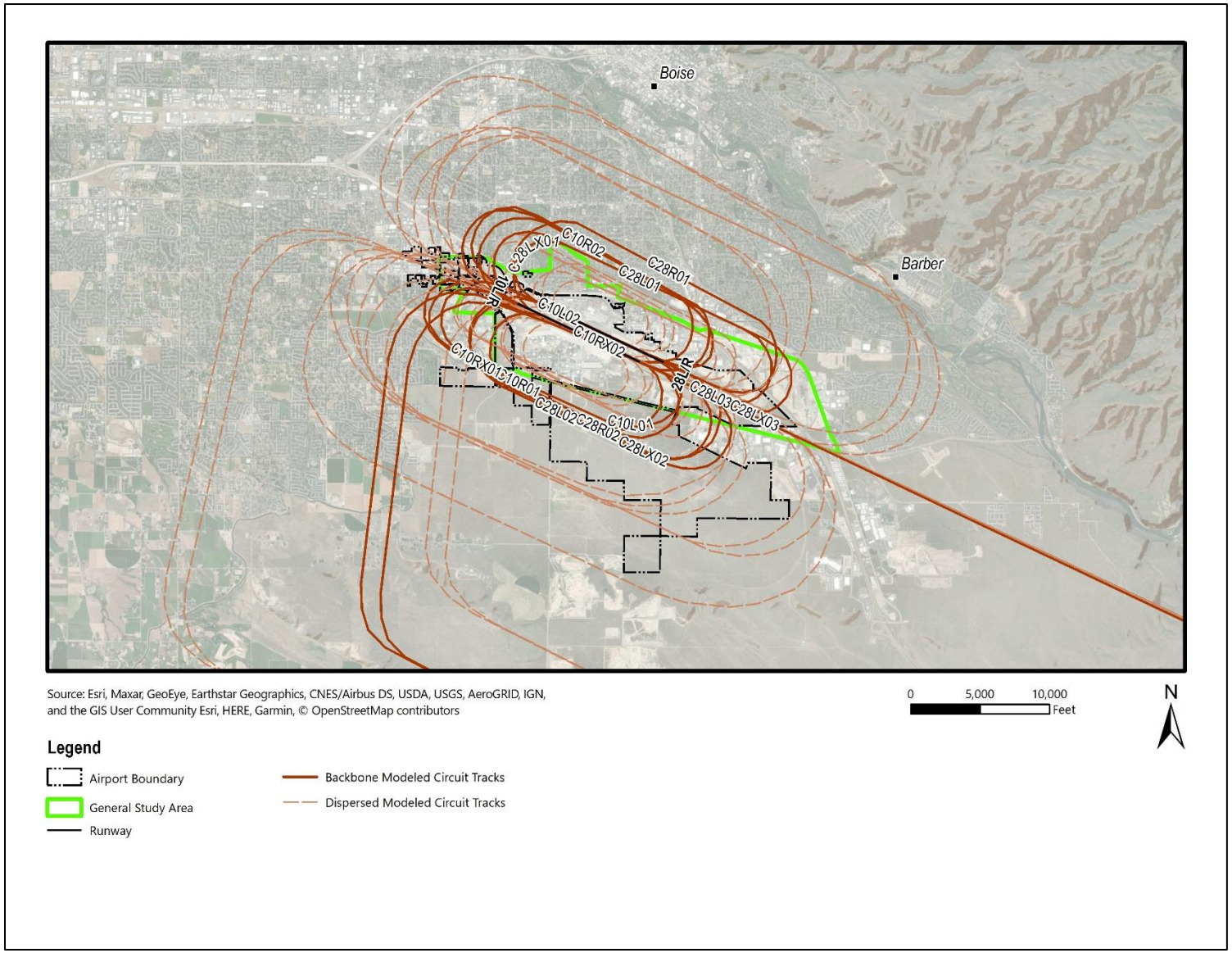


Figure 4. Modeled Circuit Tracks

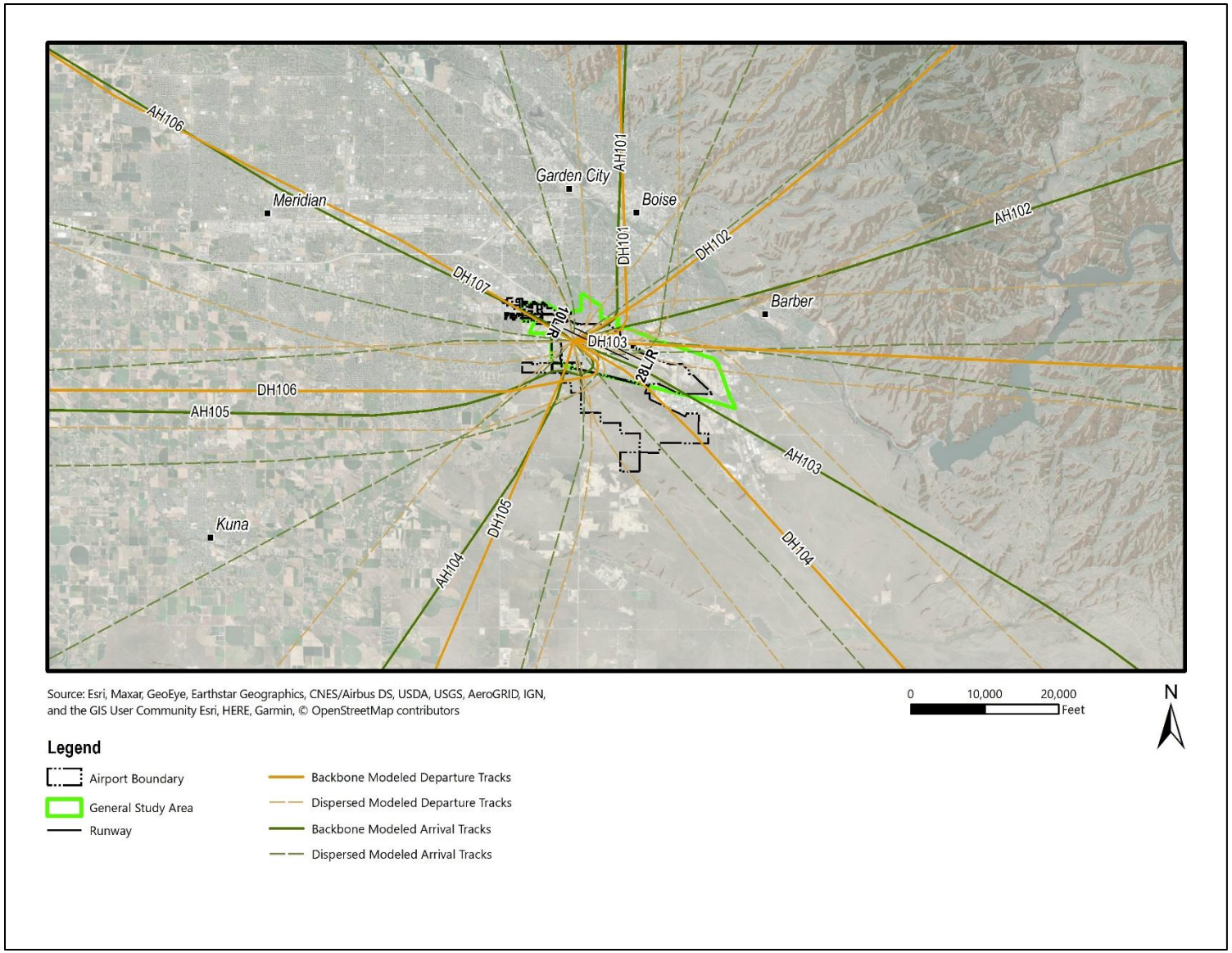


Figure 5. Modeled Helicopter Tracks

Table 17. Daytime Itinerant Fixed-Wing Model Track Utilization

Source: HMMH 2021, FAA OPSNET, Envirosuite

Operation Type	Runway	Track Group	Passenger Jet	Passenger Turbo	Cargo Jet	Air Taxi Jet	Air Taxi Piston	Air Taxi Turbo	GA Jet	GA Piston	GA Turbo	Military Jet	Military Turbo
Arrival	10L	A10L01	36%	0%	8%	5%	3%	59%	20%	7%	13%	36%	0%
Arrival	10L	A10L02	26%	12%	4%	46%	<1%	4%	16%	6%	13%	26%	12%
Arrival	10L	A10L03	21%	69%	<1%	3%	9%	13%	25%	27%	20%	21%	69%
Arrival	10L	A10L04	14%	0%	87%	40%	0%	7%	20%	3%	14%	14%	0%
Arrival	10L	A10L05	4%	18%	0%	5%	13%	7%	11%	6%	8%	4%	18%
Arrival	10L	A10L06	0%	0%	0%	0%	0%	0%	3%	18%	11%	0%	0%
Arrival	10L	A10L07	0%	0%	0%	0%	0%	0%	<1%	7%	7%	0%	0%
Arrival	10L	A10L08	<1%	0%	0%	<1%	74%	11%	4%	13%	12%	<1%	0%
Arrival	10L	A10L09	0%	0%	0%	0%	0%	0%	<1%	12%	3%	0%	0%
Total	**10L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	10R	A10R01	38%	<1%	14%	13%	4%	76%	22%	4%	18%	38%	<1%
Arrival	10R	A10R02	14%	0%	83%	34%	2%	5%	18%	2%	17%	14%	0%
Arrival	10R	A10R03	25%	14%	2%	44%	0%	2%	32%	4%	11%	25%	14%
Arrival	10R	A10R04	24%	86%	1%	8%	16%	12%	23%	23%	34%	24%	86%
Arrival	10R	A10R05	0%	0%	0%	1%	78%	5%	4%	22%	10%	0%	0%
Arrival	10R	A10R06	0%	0%	0%	0%	0%	0%	<1%	19%	3%	0%	0%
Arrival	10R	A10R07	0%	0%	0%	0%	0%	0%	0%	6%	3%	0%	0%
Arrival	10R	A10R08	0%	0%	0%	0%	0%	0%	<1%	20%	4%	0%	0%
Total	**10R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	10RX	A10RX01	38%	<1%	14%	13%	4%	76%	22%	4%	18%	38%	<1%
Arrival	10RX	A10RX02	14%	0%	83%	34%	2%	5%	18%	2%	17%	14%	0%
Arrival	10RX	A10RX03	25%	14%	2%	44%	0%	2%	32%	4%	11%	25%	14%
Arrival	10RX	A10RX04	24%	86%	1%	8%	16%	12%	23%	23%	34%	24%	86%
Arrival	10RX	A10RX05	0%	0%	0%	1%	78%	5%	4%	22%	10%	0%	0%
Arrival	10RX	A10RX06	0%	0%	0%	0%	0%	0%	<1%	19%	3%	0%	0%
Arrival	10RX	A10RX07	0%	0%	0%	0%	0%	0%	0%	6%	3%	0%	0%
Arrival	10RX	A10RX08	0%	0%	0%	0%	0%	0%	<1%	20%	4%	0%	0%
Total	**10RX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	28L	A28L01	18%	32%	1%	0%	0%	0%	5%	<1%	4%	18%	32%
Arrival	28L	A28L02	9%	56%	2%	0%	0%	0%	13%	2%	12%	9%	56%
Arrival	28L	A28L03	0%	0%	0%	<1%	98%	9%	5%	20%	14%	0%	0%
Arrival	28L	A28L04	49%	0%	96%	54%	2%	82%	41%	32%	40%	49%	0%
Arrival	28L	A28L05	24%	12%	1%	46%	0%	10%	29%	5%	12%	24%	12%
Arrival	28L	A28L06	0%	0%	0%	0%	0%	0%	5%	4%	7%	0%	0%
Arrival	28L	A28L07	0%	0%	0%	0%	0%	0%	1%	14%	3%	0%	0%
Arrival	28L	A28L08	0%	0%	0%	0%	0%	0%	<1%	9%	3%	0%	0%
Arrival	28L	A28L09	0%	<1%	0%	0%	0%	0%	<1%	14%	5%	0%	<1%
Total	**28L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	28LX	A28LX01	18%	32%	1%	0%	0%	0%	5%	<1%	4%	18%	32%
Arrival	28LX	A28LX02	9%	56%	2%	0%	0%	0%	13%	2%	12%	9%	56%
Arrival	28LX	A28LX03	0%	0%	0%	<1%	98%	9%	5%	20%	14%	0%	0%
Arrival	28LX	A28LX04	49%	0%	96%	54%	2%	82%	41%	32%	40%	49%	0%
Arrival	28LX	A28LX05	24%	12%	1%	46%	0%	10%	29%	5%	12%	24%	12%
Arrival	28LX	A28LX06	0%	0%	0%	0%	0%	0%	5%	4%	7%	0%	0%
Arrival	28LX	A28LX07	0%	0%	0%	0%	0%	0%	1%	14%	3%	0%	0%
Arrival	28LX	A28LX08	0%	0%	0%	0%	0%	0%	<1%	9%	3%	0%	0%
Arrival	28LX	A28LX09	0%	<1%	0%	0%	0%	0%	<1%	14%	5%	0%	<1%
Total	**28LX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Operation Type	Runway	Track Group	Passenger Jet	Passenger Turbo	Cargo Jet	Air Taxi Jet	Air Taxi Piston	Air Taxi Turbo	GA Jet	GA Piston	GA Turbo	Military Jet	Military Turbo
Arrival	28R	A28R01	26%	15%	2%	55%	0%	14%	0%	0%	0%	26%	15%
Arrival	28R	A28R02	16%	30%	0%	0%	0%	0%	6%	4%	5%	16%	30%
Arrival	28R	A28R03	9%	43%	0%	4%	2%	10%	16%	2%	7%	9%	43%
Arrival	28R	A28R04	47%	<1%	98%	40%	3%	76%	51%	24%	38%	47%	<1%
Arrival	28R	A28R05	0%	0%	0%	<1%	95%	0%	6%	18%	17%	0%	0%
Arrival	28R	A28R06	0%	0%	0%	0%	0%	0%	5%	20%	14%	0%	0%
Arrival	28R	A28R07	0%	0%	0%	0%	0%	0%	12%	6%	11%	0%	0%
Arrival	28R	A28R08	0%	0%	0%	0%	0%	0%	0%	14%	2%	0%	0%
Arrival	28R	A28R09	0%	<1%	0%	<1%	0%	0%	<1%	10%	3%	0%	<1%
Arrival	28R	A28R10	2%	10%	0%	0%	0%	0%	3%	<1%	3%	2%	10%
Total	**28R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	10L	D10L01	29%	16%	17%	62%	5%	24%	20%	4%	13%	29%	16%
Departure	10L	D10L02	3%	35%	0%	0%	0%	0%	7%	19%	9%	3%	35%
Departure	10L	D10L03	6%	14%	0%	0%	0%	0%	3%	1%	5%	6%	14%
Departure	10L	D10L04	12%	22%	0%	0%	0%	0%	5%	<1%	2%	12%	22%
Departure	10L	D10L05	3%	15%	<1%	0%	0%	0%	9%	1%	13%	3%	15%
Departure	10L	D10L06	48%	0%	82%	38%	13%	73%	53%	33%	45%	48%	0%
Departure	10L	D10L07	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%
Departure	10L	D10L08	0%	0%	0%	<1%	76%	2%	<1%	11%	9%	0%	0%
Departure	10L	D10L09	0%	0%	0%	0%	0%	0%	<1%	10%	2%	0%	0%
Departure	10L	D10L10	0%	0%	0%	0%	0%	0%	2%	20%	3%	0%	0%
Total	**10L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	10R	D10R01	7%	9%	<1%	1%	19%	4%	<1%	<1%	7%	7%	9%
Departure	10R	D10R02	10%	18%	<1%	6%	0%	4%	10%	<1%	9%	10%	18%
Departure	10R	D10R03	3%	42%	0%	2%	0%	6%	0%	0%	0%	3%	42%
Departure	10R	D10R04	32%	16%	9%	35%	6%	4%	30%	2%	13%	32%	16%
Departure	10R	D10R05	46%	<1%	90%	51%	0%	73%	35%	24%	29%	46%	<1%
Departure	10R	D10R06	3%	14%	0%	2%	3%	6%	3%	1%	10%	3%	14%
Departure	10R	D10R07	0%	0%	0%	3%	28%	3%	7%	2%	6%	0%	0%
Departure	10R	D10R08	0%	0%	0%	0%	0%	0%	1%	9%	9%	0%	0%
Departure	10R	D10R09	0%	0%	0%	0%	0%	0%	<1%	22%	2%	0%	0%
Departure	10R	D10R10	0%	0%	0%	0%	44%	<1%	<1%	15%	2%	0%	0%
Departure	10R	D10R11	0%	0%	0%	0%	0%	0%	<1%	14%	2%	0%	0%
Departure	10R	D10R12	0%	0%	0%	0%	0%	0%	13%	8%	11%	0%	0%
Total	**10R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	10RX	D10RX01	7%	9%	<1%	1%	19%	4%	<1%	<1%	7%	7%	9%
Departure	10RX	D10RX02	10%	18%	<1%	6%	0%	4%	10%	<1%	9%	10%	18%
Departure	10RX	D10RX03	3%	42%	0%	2%	0%	6%	0%	0%	0%	3%	42%
Departure	10RX	D10RX04	32%	16%	9%	35%	6%	4%	30%	2%	13%	32%	16%
Departure	10RX	D10RX05	46%	<1%	90%	51%	0%	73%	35%	24%	29%	46%	<1%
Departure	10RX	D10RX06	3%	14%	0%	2%	3%	6%	3%	1%	10%	3%	14%
Departure	10RX	D10RX07	0%	0%	0%	3%	28%	3%	7%	2%	6%	0%	0%
Departure	10RX	D10RX08	0%	0%	0%	0%	0%	0%	1%	9%	9%	0%	0%
Departure	10RX	D10RX09	0%	0%	0%	0%	0%	0%	<1%	22%	2%	0%	0%
Departure	10RX	D10RX10	0%	0%	0%	0%	44%	<1%	<1%	15%	2%	0%	0%
Departure	10RX	D10RX11	0%	0%	0%	0%	0%	0%	<1%	14%	2%	0%	0%
Departure	10RX	D10RX12	0%	0%	0%	0%	0%	0%	13%	8%	11%	0%	0%
Total	**10RX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	28L	D28L01	14%	0%	32%	15%	5%	46%	6%	21%	10%	14%	0%
Departure	28L	D28L02	23%	0%	36%	17%	2%	24%	18%	2%	12%	23%	0%
Departure	28L	D28L03	25%	16%	14%	51%	0%	4%	25%	3%	11%	25%	16%
Departure	28L	D28L04	6%	29%	0%	4%	2%	3%	9%	11%	11%	6%	29%
Departure	28L	D28L05	17%	33%	0%	5%	17%	8%	18%	23%	20%	17%	33%
Departure	28L	D28L06	5%	23%	<1%	2%	47%	9%	8%	16%	17%	5%	23%
Departure	28L	D28L07	0%	0%	0%	0%	0%	0%	0%	5%	3%	0%	0%
Departure	28L	D28L08	0%	0%	0%	0%	25%	<1%	0%	9%	1%	0%	0%
Departure	28L	D28L09	2%	0%	<1%	2%	3%	2%	5%	2%	5%	2%	0%
Departure	28L	D28L10	8%	0%	17%	5%	0%	4%	12%	<1%	8%	8%	0%
Departure	28L	D28L11	0%	0%	0%	0%	0%	0%	0%	8%	1%	0%	0%
Total	**28L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Operation Type	Runway	Track Group	Passenger Jet	Passenger Turbo	Cargo Jet	Air Taxi Jet	Air Taxi Piston	Air Taxi Turbo	GA Jet	GA Piston	GA Turbo	Military Jet	Military Turbo
Departure	28LX	D28LX01	14%	0%	32%	15%	5%	46%	6%	21%	10%	14%	0%
Departure	28LX	D28LX02	23%	0%	36%	17%	2%	24%	18%	2%	12%	23%	0%
Departure	28LX	D28LX03	25%	16%	14%	51%	0%	4%	25%	3%	11%	25%	16%
Departure	28LX	D28LX04	6%	29%	0%	4%	2%	3%	9%	11%	11%	6%	29%
Departure	28LX	D28LX05	17%	33%	0%	5%	17%	8%	18%	23%	20%	17%	33%
Departure	28LX	D28LX06	5%	23%	<1%	2%	47%	9%	8%	16%	17%	5%	23%
Departure	28LX	D28LX07	0%	0%	0%	0%	0%	0%	0%	5%	3%	0%	0%
Departure	28LX	D28LX08	0%	0%	0%	0%	25%	<1%	0%	9%	1%	0%	0%
Departure	28LX	D28LX09	2%	0%	<1%	2%	3%	2%	5%	2%	5%	2%	0%
Departure	28LX	D28LX10	8%	0%	17%	5%	0%	4%	12%	<1%	8%	8%	0%
Departure	28LX	D28LX11	0%	0%	0%	0%	0%	0%	0%	8%	1%	0%	0%
Total	**28LX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	28R	D28R01	18%	0%	17%	17%	1%	18%	13%	3%	12%	18%	0%
Departure	28R	D28R02	18%	<1%	7%	15%	0%	8%	25%	4%	12%	18%	<1%
Departure	28R	D28R03	7%	0%	40%	0%	0%	0%	<1%	0%	0%	7%	0%
Departure	28R	D28R04	21%	43%	0%	3%	7%	12%	16%	14%	10%	21%	43%
Departure	28R	D28R05	3%	14%	<1%	<1%	76%	14%	13%	23%	23%	3%	14%
Departure	28R	D28R06	5%	32%	0%	2%	0%	4%	13%	11%	11%	5%	32%
Departure	28R	D28R07	26%	10%	32%	62%	0%	20%	15%	3%	11%	26%	10%
Departure	28R	D28R08	0%	0%	<1%	0%	16%	24%	0%	24%	8%	0%	0%
Departure	28R	D28R09	0%	0%	0%	0%	0%	0%	<1%	12%	5%	0%	0%
Departure	28R	D28R10	0%	0%	0%	0%	0%	0%	<1%	4%	2%	0%	0%
Departure	28R	D28R11	3%	0%	2%	0%	0%	0%	2%	3%	7%	3%	0%
Total	**28R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 18. Nighttime Itinerant Fixed-Wing Model Track Utilization

Source: HMMH 2021, FAA OPSNET, Envirosuite

Operation Type	Runway	Track Group	Passenger Jet	Passenger Turbo	Cargo Jet	Air Taxi Jet	Air Taxi Piston	Air Taxi Turbo	GA Jet	GA Piston	GA Turbo	Military Jet	Military Turbo
Arrival	10L	A10L01	20%	0%	6%	5%	0%	28%	22%	0%	11%	20%	0%
Arrival	10L	A10L02	33%	0%	45%	47%	0%	22%	20%	6%	26%	33%	0%
Arrival	10L	A10L03	28%	97%	0%	8%	3%	44%	28%	39%	22%	28%	97%
Arrival	10L	A10L04	18%	0%	49%	37%	0%	6%	16%	0%	11%	18%	0%
Arrival	10L	A10L05	1%	3%	0%	3%	8%	0%	6%	10%	7%	1%	3%
Arrival	10L	A10L06	0%	0%	0%	0%	0%	0%	4%	13%	7%	0%	0%
Arrival	10L	A10L07	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	0%
Arrival	10L	A10L08	0%	0%	0%	0%	90%	0%	4%	16%	7%	0%	0%
Arrival	10L	A10L09	0%	0%	0%	0%	0%	0%	0%	3%	7%	0%	0%
Total	**10L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	10R	A10R01	32%	0%	25%	11%	6%	52%	12%	1%	12%	32%	0%
Arrival	10R	A10R02	14%	0%	33%	34%	0%	2%	12%	1%	5%	14%	0%
Arrival	10R	A10R03	23%	0%	41%	55%	0%	2%	51%	2%	6%	23%	0%
Arrival	10R	A10R04	31%	100%	1%	0%	0%	32%	18%	41%	57%	31%	100%
Arrival	10R	A10R05	0%	0%	0%	0%	94%	12%	5%	12%	13%	0%	0%
Arrival	10R	A10R06	0%	0%	0%	0%	0%	0%	0%	7%	3%	0%	0%
Arrival	10R	A10R07	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Arrival	10R	A10R08	0%	0%	0%	0%	0%	0%	2%	30%	4%	0%	0%
Total	**10R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	10RX	A10RX01	32%	0%	25%	11%	6%	52%	12%	1%	12%	32%	0%
Arrival	10RX	A10RX02	14%	0%	33%	34%	0%	2%	12%	1%	5%	14%	0%
Arrival	10RX	A10RX03	23%	0%	41%	55%	0%	2%	51%	2%	6%	23%	0%
Arrival	10RX	A10RX04	31%	100%	1%	0%	0%	32%	18%	41%	57%	31%	100%
Arrival	10RX	A10RX05	0%	0%	0%	0%	94%	12%	5%	12%	13%	0%	0%
Arrival	10RX	A10RX06	0%	0%	0%	0%	0%	0%	0%	7%	3%	0%	0%
Arrival	10RX	A10RX07	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Arrival	10RX	A10RX08	0%	0%	0%	0%	0%	0%	2%	30%	4%	0%	0%
Total	**10RX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Operation Type	Runway	Track Group	Passenger Jet	Passenger Turbo	Cargo Jet	Air Taxi Jet	Air Taxi Piston	Air Taxi Turbo	GA Jet	GA Piston	GA Turbo	Military Jet	Military Turbo
Arrival	28L	A28L01	17%	41%	4%	0%	0%	0%	6%	2%	8%	17%	41%
Arrival	28L	A28L02	4%	59%	0%	0%	0%	0%	2%	5%	12%	4%	59%
Arrival	28L	A28L03	0%	0%	0%	0%	100%	8%	4%	20%	3%	0%	0%
Arrival	28L	A28L04	51%	0%	78%	21%	0%	92%	47%	56%	66%	51%	0%
Arrival	28L	A28L05	29%	0%	19%	79%	0%	0%	39%	2%	3%	29%	0%
Arrival	28L	A28L06	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%	0%
Arrival	28L	A28L07	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%
Arrival	28L	A28L08	0%	0%	0%	0%	0%	0%	0%	5%	1%	0%	0%
Arrival	28L	A28L09	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%
Total	**28L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	28LX	A28LX01	17%	41%	4%	0%	0%	0%	6%	2%	8%	17%	41%
Arrival	28LX	A28LX02	4%	59%	0%	0%	0%	0%	2%	5%	12%	4%	59%
Arrival	28LX	A28LX03	0%	0%	0%	0%	100%	8%	4%	20%	3%	0%	0%
Arrival	28LX	A28LX04	51%	0%	78%	21%	0%	92%	47%	56%	66%	51%	0%
Arrival	28LX	A28LX05	29%	0%	19%	79%	0%	0%	39%	2%	3%	29%	0%
Arrival	28LX	A28LX06	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%	0%
Arrival	28LX	A28LX07	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%
Arrival	28LX	A28LX08	0%	0%	0%	0%	0%	0%	0%	5%	1%	0%	0%
Arrival	28LX	A28LX09	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%
Total	**28LX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Arrival	28R	A28R01	30%	3%	36%	64%	0%	0%	0%	0%	0%	30%	3%
Arrival	28R	A28R02	14%	48%	0%	0%	0%	0%	11%	0%	19%	14%	48%
Arrival	28R	A28R03	3%	42%	0%	0%	0%	0%	16%	0%	0%	3%	42%
Arrival	28R	A28R04	50%	0%	64%	36%	0%	100%	42%	33%	56%	50%	0%
Arrival	28R	A28R05	0%	0%	0%	0%	100%	0%	0%	0%	6%	0%	0%
Arrival	28R	A28R06	0%	0%	0%	0%	0%	0%	0%	22%	6%	0%	0%
Arrival	28R	A28R07	0%	0%	0%	0%	0%	0%	32%	22%	0%	0%	0%
Arrival	28R	A28R08	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Arrival	28R	A28R09	0%	0%	0%	0%	0%	0%	0%	22%	0%	0%	0%
Arrival	28R	A28R10	2%	6%	0%	0%	0%	0%	0%	0%	13%	2%	6%
Total	**28R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	10L	D10L01	22%	<1%	10%	61%	0%	10%	12%	12%	6%	22%	<1%
Departure	10L	D10L02	10%	13%	0%	0%	0%	0%	4%	2%	6%	10%	13%
Departure	10L	D10L03	9%	51%	0%	0%	0%	0%	5%	0%	5%	9%	51%
Departure	10L	D10L04	4%	35%	0%	0%	0%	0%	1%	0%	0%	4%	35%
Departure	10L	D10L05	3%	<1%	0%	0%	0%	0%	5%	4%	0%	3%	<1%
Departure	10L	D10L06	52%	0%	90%	39%	0%	90%	70%	26%	83%	52%	0%
Departure	10L	D10L07	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Departure	10L	D10L08	0%	0%	0%	0%	0%	0%	0%	22%	0%	0%	0%
Departure	10L	D10L09	0%	0%	0%	0%	0%	0%	0%	12%	0%	0%	0%
Departure	10L	D10L10	0%	0%	0%	0%	0%	0%	1%	22%	0%	0%	0%
Total	**10L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	10R	D10R01	7%	45%	0%	0%	88%	11%	0%	7%	25%	7%	45%
Departure	10R	D10R02	3%	19%	0%	0%	0%	2%	9%	<1%	2%	3%	19%
Departure	10R	D10R03	5%	32%	0%	3%	0%	11%	0%	0%	0%	5%	32%
Departure	10R	D10R04	22%	5%	11%	10%	0%	3%	48%	2%	4%	22%	5%
Departure	10R	D10R05	58%	0%	89%	87%	0%	64%	11%	31%	24%	58%	0%
Departure	10R	D10R06	4%	0%	0%	0%	12%	8%	1%	0%	5%	4%	0%
Departure	10R	D10R07	0%	0%	0%	0%	0%	2%	19%	2%	13%	0%	0%
Departure	10R	D10R08	0%	0%	0%	0%	0%	0%	<1%	7%	9%	0%	0%
Departure	10R	D10R09	0%	0%	0%	0%	0%	0%	0%	13%	<1%	0%	0%
Departure	10R	D10R10	0%	0%	0%	0%	0%	0%	0%	22%	<1%	0%	0%
Departure	10R	D10R11	0%	0%	0%	0%	0%	0%	0%	5%	1%	0%	0%
Departure	10R	D10R12	0%	0%	0%	0%	0%	0%	11%	10%	16%	0%	0%
Total	**10R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Operation Type	Runway	Track Group	Passenger Jet	Passenger Turbo	Cargo Jet	Air Taxi Jet	Air Taxi Piston	Air Taxi Turbo	GA Jet	GA Piston	GA Turbo	Military Jet	Military Turbo
Departure	10RX	D10RX01	7%	45%	0%	0%	88%	11%	0%	7%	25%	7%	45%
Departure	10RX	D10RX02	3%	19%	0%	0%	0%	2%	9%	<1%	2%	3%	19%
Departure	10RX	D10RX03	5%	32%	0%	3%	0%	11%	0%	0%	0%	5%	32%
Departure	10RX	D10RX04	22%	5%	11%	10%	0%	3%	48%	2%	4%	22%	5%
Departure	10RX	D10RX05	58%	0%	89%	87%	0%	64%	11%	31%	24%	58%	0%
Departure	10RX	D10RX06	4%	0%	0%	0%	12%	8%	1%	0%	5%	4%	0%
Departure	10RX	D10RX07	0%	0%	0%	0%	0%	2%	19%	2%	13%	0%	0%
Departure	10RX	D10RX08	0%	0%	0%	0%	0%	0%	<1%	7%	9%	0%	0%
Departure	10RX	D10RX09	0%	0%	0%	0%	0%	0%	0%	13%	<1%	0%	0%
Departure	10RX	D10RX10	0%	0%	0%	0%	0%	0%	0%	22%	<1%	0%	0%
Departure	10RX	D10RX11	0%	0%	0%	0%	0%	0%	0%	5%	1%	0%	0%
Departure	10RX	D10RX12	0%	0%	0%	0%	0%	0%	11%	10%	16%	0%	0%
Total	**10RX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	28L	D28L01	32%	0%	60%	60%	0%	43%	21%	39%	7%	32%	0%
Departure	28L	D28L02	6%	0%	0%	10%	0%	7%	5%	2%	7%	6%	0%
Departure	28L	D28L03	27%	5%	20%	20%	0%	0%	32%	6%	2%	27%	5%
Departure	28L	D28L04	5%	20%	0%	0%	0%	0%	5%	15%	12%	5%	20%
Departure	28L	D28L05	14%	75%	20%	0%	64%	14%	11%	24%	38%	14%	75%
Departure	28L	D28L06	4%	0%	0%	0%	36%	29%	3%	2%	8%	4%	0%
Departure	28L	D28L07	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	0%
Departure	28L	D28L08	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%
Departure	28L	D28L09	4%	0%	0%	5%	0%	0%	16%	0%	12%	4%	0%
Departure	28L	D28L10	8%	0%	0%	5%	0%	7%	8%	0%	13%	8%	0%
Departure	28L	D28L11	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%
Total	**28L**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	28LX	D28LX01	32%	0%	60%	60%	0%	43%	21%	39%	7%	32%	0%
Departure	28LX	D28LX02	6%	0%	0%	10%	0%	7%	5%	2%	7%	6%	0%
Departure	28LX	D28LX03	27%	5%	20%	20%	0%	0%	32%	6%	2%	27%	5%
Departure	28LX	D28LX04	5%	20%	0%	0%	0%	0%	5%	15%	12%	5%	20%
Departure	28LX	D28LX05	14%	75%	20%	0%	64%	14%	11%	24%	38%	14%	75%
Departure	28LX	D28LX06	4%	0%	0%	0%	36%	29%	3%	2%	8%	4%	0%
Departure	28LX	D28LX07	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	0%
Departure	28LX	D28LX08	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%
Departure	28LX	D28LX09	4%	0%	0%	5%	0%	0%	16%	0%	12%	4%	0%
Departure	28LX	D28LX10	8%	0%	0%	5%	0%	7%	8%	0%	13%	8%	0%
Departure	28LX	D28LX11	0%	0%	0%	0%	0%	0%	0%	7%	0%	0%	0%
Total	**28LX**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Departure	28R	D28R01	34%	0%	67%	28%	0%	75%	21%	8%	15%	34%	0%
Departure	28R	D28R02	5%	0%	33%	0%	0%	0%	16%	0%	15%	5%	0%
Departure	28R	D28R03	4%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%
Departure	28R	D28R04	17%	87%	0%	6%	71%	0%	21%	25%	0%	17%	87%
Departure	28R	D28R05	2%	2%	0%	11%	26%	25%	11%	8%	8%	2%	2%
Departure	28R	D28R06	10%	8%	0%	6%	2%	0%	0%	8%	23%	10%	8%
Departure	28R	D28R07	21%	2%	0%	50%	0%	0%	32%	0%	8%	21%	2%
Departure	28R	D28R08	0%	0%	0%	0%	0%	0%	0%	8%	8%	0%	0%
Departure	28R	D28R09	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	0%
Departure	28R	D28R10	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%
Departure	28R	D28R11	6%	0%	0%	0%	0%	0%	0%	0%	23%	6%	0%
Total	**28R**	-	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 19. Local Fixed-Wing Model Track Utilization

Source: HMMH 2021, FAA OPSNET, Envirosuite

Operation Mode	Runway	Track Group	GA Piston (Day)	GA Turboprop (Day)	GA Piston (Night)	GA Turboprop (Night)
Circuits	10L	C10L01	60%	0%	100%	100%
Circuits	10L	C10L02	40%	100%	0%	0%
Total	**10L**	-	**100%**	**100%**	**100%**	**100%**
Circuits	10R	C10R01	91%	100%	100%	100%
Circuits	10R	C10R02	9%	0%	0%	0%
Total	**10R**	-	**100%**	**100%**	**100%**	**100%**
Circuits	10RX	C10RX01	91%	100%	100%	100%
Circuits	10RX	C10RX02	9%	0%	0%	0%
Total	**10RX**	-	**100%**	**100%**	**100%**	**100%**
Circuits	28L	C28L01	7%	13%	0%	0%
Circuits	28L	C28L02	68%	44%	100%	0%
Circuits	28L	C28L03	25%	44%	0%	100%
Total	**28L**	-	**100%**	**100%**	**100%**	**100%**
Circuits	28LX	C28LX01	7%	13%	0%	0%
Circuits	28LX	C28LX02	68%	44%	100%	0%
Circuits	28LX	C28LX03	25%	44%	0%	100%
Total	**28LX**	-	**100%**	**100%**	**100%**	**100%**
Circuits	28R	C28R01	50%	80%	100%	100%
Circuits	28R	C28R02	50%	20%	0%	0%
Total	**28R**	-	**100%**	**100%**	**100%**	**100%**

Key: GA = General Aviation
Note: Totals may not match exactly due to rounding.

Table 20. Itinerant Helicopter Model Track Utilization

Source: HMMH 2021, FAA OPSNET, Envirosuite

Operation Mode	Track Group	General Aviation (Day)	Military (Day)	General Aviation (Night)	Military (Night)
Arrivals	AH101	13%	13%	0%	0%
Arrivals	AH102	9%	9%	5%	5%
Arrivals	AH103	21%	21%	52%	52%
Arrivals	AH104	8%	8%	5%	5%
Arrivals	AH105	26%	26%	19%	19%
Arrivals	AH106	24%	24%	19%	19%
Total	-	**100%**	**100%**	**100%**	**100%**
Departures	DH101	8%	8%	6%	6%
Departures	DH102	11%	11%	6%	6%
Departures	DH103	11%	11%	0%	0%
Departures	DH104	14%	14%	11%	11%
Departures	DH105	9%	9%	11%	11%
Departures	DH106	22%	22%	28%	28%
Departures	DH107	25%	25%	39%	39%
Total	-	**100%**	**100%**	**100%**	**100%**

Note: Totals may not match exactly due to rounding.

6.0 Meteorological Conditions

The AEDT has several settings that affect aircraft performance profiles and sound propagation based on meteorological data. Meteorological settings include average annual temperature, barometric pressure, and relative humidity at the airport. The AEDT holds the following default values for annual average weather conditions at BOI and these values were used for the existing condition modeling:

- Temperature: 52.09° F
- Pressure: 915.93 millibars
- Sea-level Pressure: 1016.47 millibars
- Relative Humidity 48.6%
- Dew Point: 33.3° F
- Wind Speed: 6.28 Knots

7.0 Terrain Data

Terrain data describes the elevation of the ground surrounding the airport and on airport property. The AEDT uses terrain data to adjust the ground level under the flight paths. The terrain data does not change the aircraft's performance or noise levels but alters the vertical distance between the aircraft and a "receiver" on the ground. This affects assumptions about how noise propagates over ground. HMMH obtained the terrain data from the United States Geological Survey (USGS) National Elevation Dataset with one-third arc second (approximately 33 feet) resolution. Terrain data was utilized in conjunction with the terrain feature of the AEDT to generate the noise contours for the existing condition.

8.0 Operational (Taxiing) Emissions Methodology and Inputs

The sources assessed in the operational aircraft emission inventory will only include aircraft engine operations during taxi as there is no change in the number of aircraft operations due to the Proposed Action. HMMH will conduct the analysis following FAA's *Aviation Emissions and Air Quality Handbook, Version 4*[3] *and* AEDT. AEDT is the FAA-required computer model for assessing air emissions associated with airports. The fleet mix, landing and takeoff (LTO), and touch-and-go operations will be consistent with the noise analysis.

The Environmental Protection Agency (EPA) enforces the Clean Air Act (CAA), established in 1970 and last amended in 1990, which requires the review of seven criteria pollutants in analysis of air quality according to the National Ambient Air Quality Standards (NAAQS). The seven criteria air pollutants analyzed for the purposes of the BOI EA plan include:[4]

1. Carbon monoxide (CO)
2. Nitrogen dioxide (NO_2), calculated and expressed as nitrogen oxides (NO_x)
3. Particulate matter with a diameter of 10 micrometers or less (PM_{10})
4. Particulate matter with a diameter of 2.5 micrometers or less ($PM_{2.5}$)
5. Sulfur dioxide (SO_2)
6. Lead (Pb)
7. Ozone (O_3)

Regarding the seventh pollutant, ozone is an indirect or secondary pollutant that occurs due to chemical reactions primarily between NO_x and volatile organic compounds (VOCs). As a result, VOCs and NOx, the primary precursors to ozone formation, provide surrogate information for assessing ozone levels.

[3] FAA, *Aviation Emissions and Air Quality Handbook,* https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/airquality_handbook
[4] EPA, 2017, *NAAQS Table,* https://www.epa.gov/criteria-air-pollutants/naaqs-table, Accessed September 20, 2017.

AEDT requires additional input data for air quality analysis including aircraft type operating at the airport. Engine type, and taxi times are needed to determine air quality pollutant emissions, including fuel burn. Since there is no change in aircraft operations between the No Action and Proposed Action, ground support equipment and auxiliary power unit usage will not be modeled.

For taxi times, HMMH will use the calendar year 2023 average taxi times obtained from the FAA Aviation System Performance Metrics (ASPM) database for each of the No Action noise model scenarios and for runway ends that have not changed in the Proposed Action as inputs. The ASPM data provided average taxi times for Runway 10L/28R. To estimate taxi times for the existing and modified runway ends for Runway 10R/28L, we assumed a default taxi speed of 15 knots and using the change in distance between the runway ends computed the change in taxi time. This analysis results in the taxi times provided below in **Table 21**. Note that the Runway 28L end will be extended first so the shortened Runway 10R end will only be paired with the extended Runway 28L end.

Table 21. No Action and Proposed Action Taxi Times

Source: HMMH 2025, FAA Aviation System Performance Metrics (ASPM), accessed on January 21, 2025

Runway End	Taxi Out Time (Minutes)	Taxi In Time (Minutes)
10L	14.89	4.61
10R	16.02	3.91
10RX* with 28LX*	15.35	5.07
28L	14.19	5.74
28LX* only	15.35	5.74
28LX* with 10RX*	15.35	5.07
28R	14.89	4.61

* 10RX and 28LX designate the shifted coordinates of Runway 10R/28L under the Proposed Action.

Annual aircraft taxiing emissions are a function of the number of aircraft operations expressed as LTO cycles, the aircraft fleet mix (types of aircraft used), and the length of time aircraft spend in taxiing mode of operation defined in AEDT.

Pollutant emissions for aircraft taxiing operations using the above assumptions will be estimated using AEDT for the LTO modes and touch-and-go (e.g., circuit model) operations in taxing. Lead emissions are associated with leaded aviation fuel used in general aviation piston engine aircraft. AEDT does not estimate lead emissions directly. Therefore, HMMH will calculate these emissions based on fuel consumption and lead fuel content consistent with FAA/EPA methodology described in the *Aviation Emissions and Air Quality Handbook*.[5]

[5] FAA, *Aviation Emissions and Air Quality Handbook,* Equation A1-3 (Lead Emission Calculation), page 4 of Appendix A, page 119 of the full document, https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/airquality_handbook/media/Air_Quality_Handbook_Appendices.pdf