

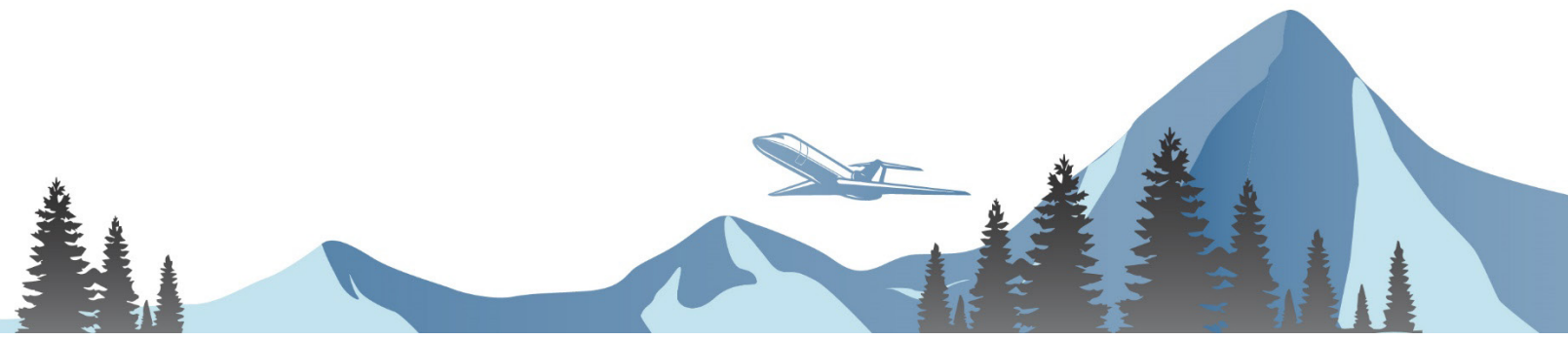


EAGLE COUNTY
Regional Airport



EAGLE COUNTY REGIONAL AIRPORT MASTER PLAN

Appendix E



E NOISE CONTOURS REPORT

E.1 Background

An aircraft noise analysis was completed to assess the current and forecasted aircraft activity at EGE. The FAA's Aviation Environmental Design Tool (AEDT) was used to model the current (forecast year 2022) and future (forecast year 2032) noise contours. Results of this analysis were two distinct sets of noise contours. This analysis did not include any field measurements.

The FAA evaluates noise impact through the Day Night Average Noise Level (DNL) metric, to estimate a person's average exposure to sound over a 24-hour period. This is expressed as the noise level for the average day of the year on the basis of annual aircraft operations. DNL calculations utilize a number of variables, including aircraft models and engine types, approach and departure tracks, number of operations, and time of day. DNL uses the A-Weighted decibel [dB(A)] for aircraft sound estimates. A-Weighted measures account for how the human ear hears noise. A 10 dBA penalty (double the noise level) is added to noise occurring during the nighttime, between 10 p.m. to 7 a.m., to account for peoples' higher sensitivity to noise and expectation for quieter noise levels during these hours.

The first public release was AEDT 2a in 2012. The latest version, AEDT 3e, was released for use on May 2022, which was the version used for noise modeling at EGE. The purpose of DNL noise contours generated by AEDT is to graphically the expected annualized noise exposure in a general area. These contours are computer-driven models based on inputted data and assumptions, and do not depict noise levels occurring in a specific location or for a single aircraft event. The FAA and Environmental Protection Agency (EPA) have set a guideline of 65 DNL to determine compatible land use around airports.

E.2 Input

Input data for AEDT falls into six general categories: aircraft operations, aircraft fleet mix, runway utilization, approach and departure profiles, and time. The more detailed data that is input into the model, the higher confidence that output contours are realistic. As such, significant effort was expended to create accurate estimates of aviation activity at EGE, based primarily on the approved forecast. Discussions with Airport management and staff, coordination with Air Traffic Control Tower (ATCT) staff, data collected from an on-site ADS-B receiver, published ATCT operation counts, historical commercial service schedules, FAA's Traffic Flow Management System Counts (TFMSC) and Terminal Area Forecast (TAF), and research into flight training schools were all used to identify aircraft makes, models, activity levels, and operational patterns at EGE. Both scenarios contain commercial service, military, and general aviation operations. Given the steep terrain surrounding the airport, the noise modeling included digital elevation model (DEM) data.

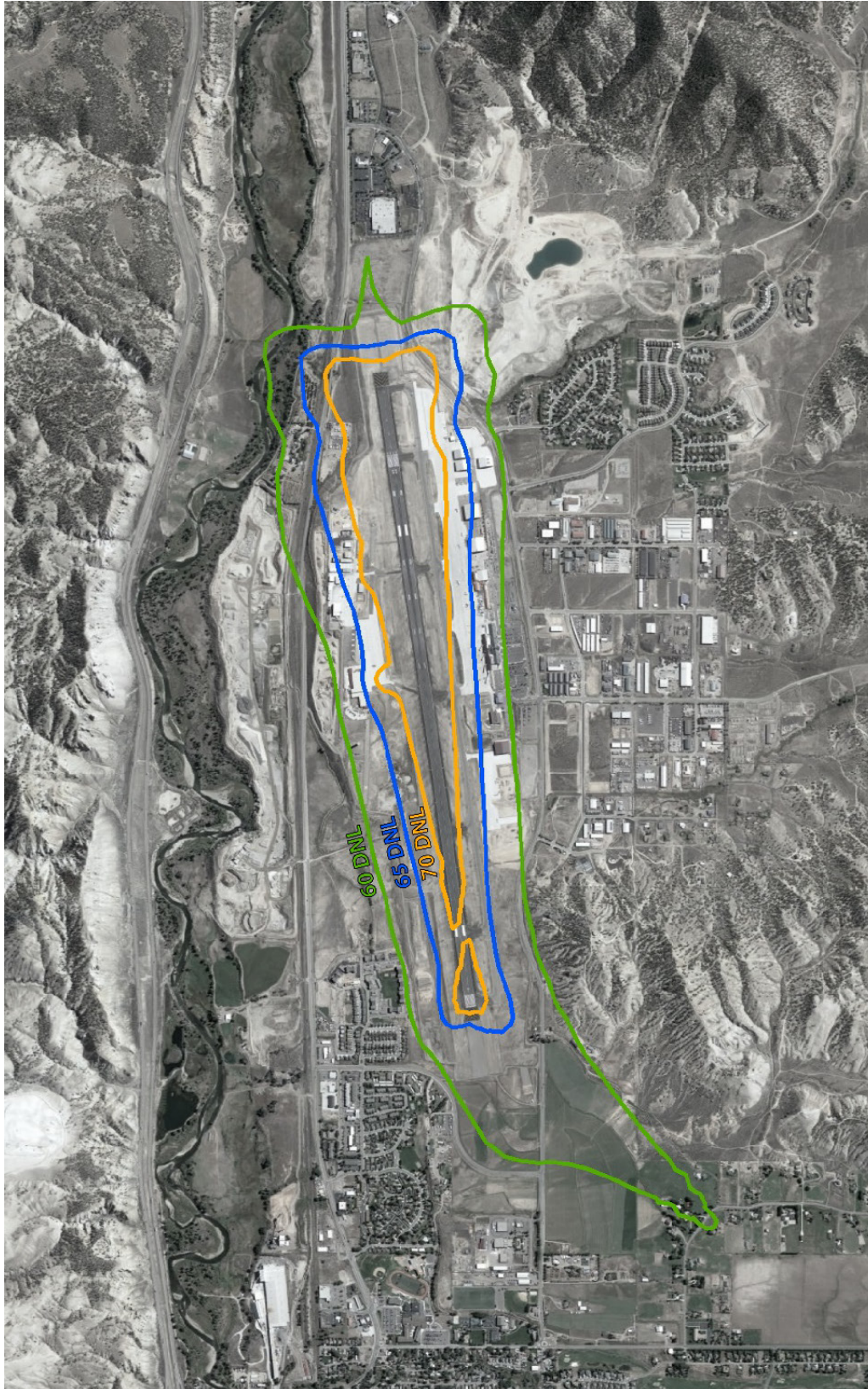


E.3 Output

In total, two scenarios were modeled and are presented. Scenario 1: Baseline (see Figure X) was based on the aviation activity in 2022, and Scenario 2: Future (see Figure Y) was based on the aviation traffic forecasted for 2023. The size of the calculated 60 (green), 65 (blue), and 70 (orange) DNL noise contours for the two scenarios are listed below. In comparison, the area of future scenario 65 DNL is 8.2% larger than the baseline scenario, representing the forecasted aviation growth expected at EGE over the next decade. In general, the 65 DNL contour for either scenario rarely extends beyond the airport property line and the contours from the two scenarios are extremely comparable in the area covered.

	Contour (dB)	Area (Acres)	Future Compared to Baseline
BASELINE SCENARIO (2022)	60	726.4	
	65	350.6	
	70	179.5	
FUTURE SCENARIO (2023)	60	812.1	+11.8%
	65	379.3	+8.2%
	70	199.0	+10.9%

Noise Contours (Scenario 1: Baseline 2022)



Noise Contours (Scenario 2: Future 2032)

