The A330 Tanker is expected to have GE CF6-80 or RR Trent 700 engines and the A310 which is available in NOISEMAP has data for the CF6-80C2A2 engines. Therefore for this analysis the A310 will be the aircraft modeled for the A330 Tanker. The A310 has noise data in NOISEMAP but it does not have any aircraft performance profiles. Standard aircraft performance profiles for the A330 were prepared in the FAA's Integrated Noise Model (INM) and imported into NOISEMAP as A310 profiles. One standard arrival profile was used and seven departure profiles were imported. Each of the seven profiles represents the aircraft performance for various weights with the seventh profile being the heaviest. The fourth profile was selected to be used for all departures for this modeling effort, as this profile represents the middle of the range of weights and is a reasonable profile to be used when one is not known.

INM aircraft performance profiles for various pattern heights were developed and this data was entered into the NOISEMAP model for the closed pattern performance profiles for the A310/A330 and for the 767-300. The distances and altitudes reached during the patterns were not altered from the KC-135R patterns but appropriate thrust and speed values were used.

4.2.4 Maintenance JLUS Scenarios

Unlike the based JLUS scenarios, the maintenance JLUS scenarios could not use the same aircraft substitutions as the noise data needed for this type of modeling was not available. After reviewing the available aircraft types and noise data, it was determined that none of the types/engines were a suitable match for the future tanker operations. However, based on available data in the INM, the KC-135R produces a similar noise footprint than the two newer types of tanker. Also, the maintenance run is only for ground operations on the Airbase and would likely not cause changes to the noise contours outside of the airbase.. Therefore, the Maintenance scenarios reflect the same levels of operations and types used in the AICUZ study.

5 SPOKANE INTERNATIONAL AIRPORT MODELING

The SIA modeling used the latest version of the FAA's INM, Version 7.0a, with the 20-year forecast operations from the 2001 Master Plan Update. Operations, runway use, flight tracks and use were derived directly from the Master Plan INM study and input into the current INM version. No changes were made to these inputs. The airport configuration included a third runway, Runway 05-23, and an approximate 3,000-foot extension to Runway 03-21 by displacing the end of Runway 03.

5.1 Fleet Mix and Operations

The fleet mix of aircraft types was determined from the Master Plan INM data files. The INM data files also provided the approximately 172,746 total operations as shown in Table 7. HMMH used the input aircraft types and operations, and runway and flight track use provided to model the year 2020 forecast operations.

Table 7 SIA INM Aircraft Types and Annual and Daily Operations

INM Aircraft	Annual Operations	Daily Operations
1900D	2,188	5.99
707320	119	0.33
737300	30,913	84.69
737400	8,094	22.18
737700	10,792	29.57
747200	164	0.45
74720B	119	0.33
757PW	540	1.48
757RR	5,409	14.82
767300	820	2.25
A310-304	5,245	14.37
A319-131	1,619	4.44
A320-211	2,698	7.39
BAE146	1,619	4.44
C130	123	0.34
CL601	14,439	39.56
CNA441	1,198	3.28
COMJET	1,201	3.29
DC1030	328	0.90
DHC6	3,938	10.79
DHC8	1,750	4.79
DHC830	10,939	29.97
EMB120	12,117	33.20
F28MK4	4,376	11.99
GASEPF	32,328	88.57
GASEPV	14,307	39.20
KC135	3,256	8.92
MD11PW	492	1.35
MD81	1,619	4.44
Total	172,746	473.28

Source: SIA MP INM Data Files

5.2 Flight Tracks

HMMH used the existing flight tracks and flight track use provided in the Master plan INM study. The flight tracks represent the average flight corridors and extended well beyond the immediate modeling or study area.

5.3 Runway Use

The runway use is generally determined by the prevailing wind direction and/or the preferred direction of flight. Based on the Master Plan INM study, SIA operates primarily in a southwesterly flow for both daytime and nighttime periods. Table 8 lists the day/night runway use derived from the INM input data files.

Table 8 Runway Use from INM Data Files

Runway	Day	Night
03	16.28%	15.41%
05	16.37%	20.89%
07	2.36%	2.18%
21	27.79%	26.29%
23	27.79%	26.29%
25	9.42%	8.94%

Source: SIA MP INM Data Files

5.4 Flight Profiles

The INM provides Standard flight profiles for aircraft in the database. The departure profiles are based on takeoff weights associated with each aircraft and the distance to its destination or stage length. The approach profiles are based on an average landing weight. HMMH mirrored the Master Plan INM study by using these same Standard flight profiles.

6 NOISE CONTOURS FOR EACH FAIRCHILD SCENARIO

HMMH forwarded the shapefiles in Washington State Plane Projection to the Matrix Group under separate cover. For reference, the following figures show the combined contours for each Fairchild scenario and SIA over a basic street level data base. Each figure shows the 60, 65, 70, and 75 DNL contours for the combined aircraft operations.

Figure 2 Fairchild Scenario 1 (KC-767A) and Spokane International Airport DNL Contours

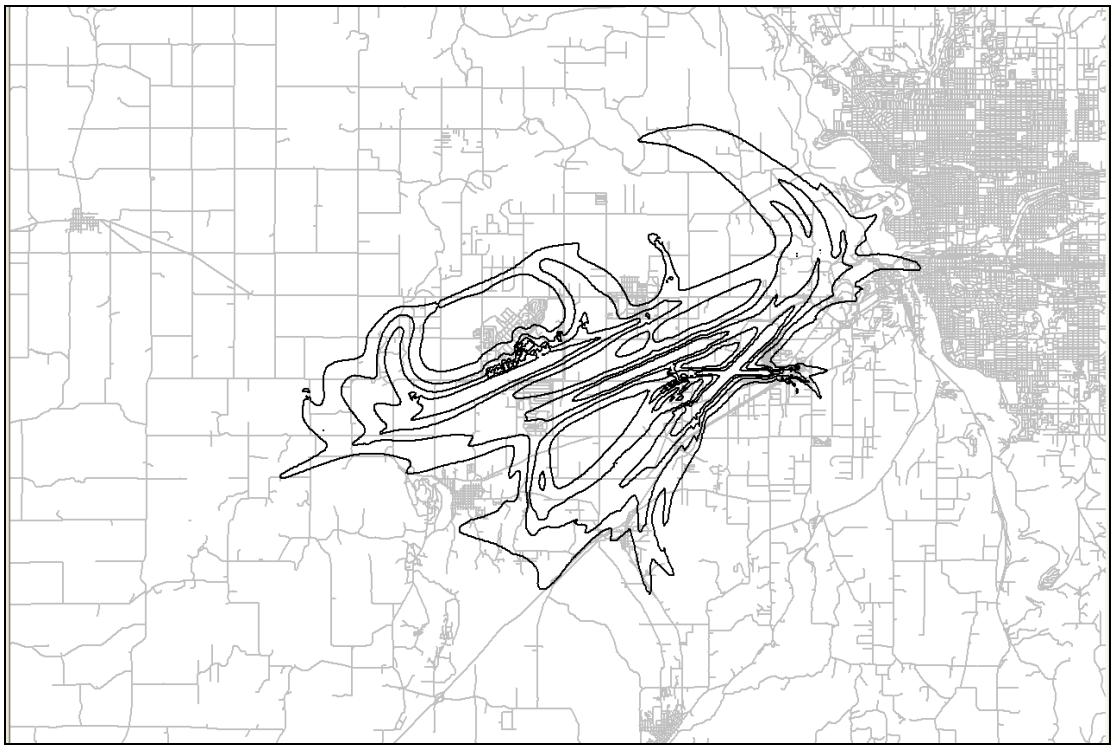


Figure 3 Fairchild Scenario 2 (A330) and Spokane International Airport DNL Contours

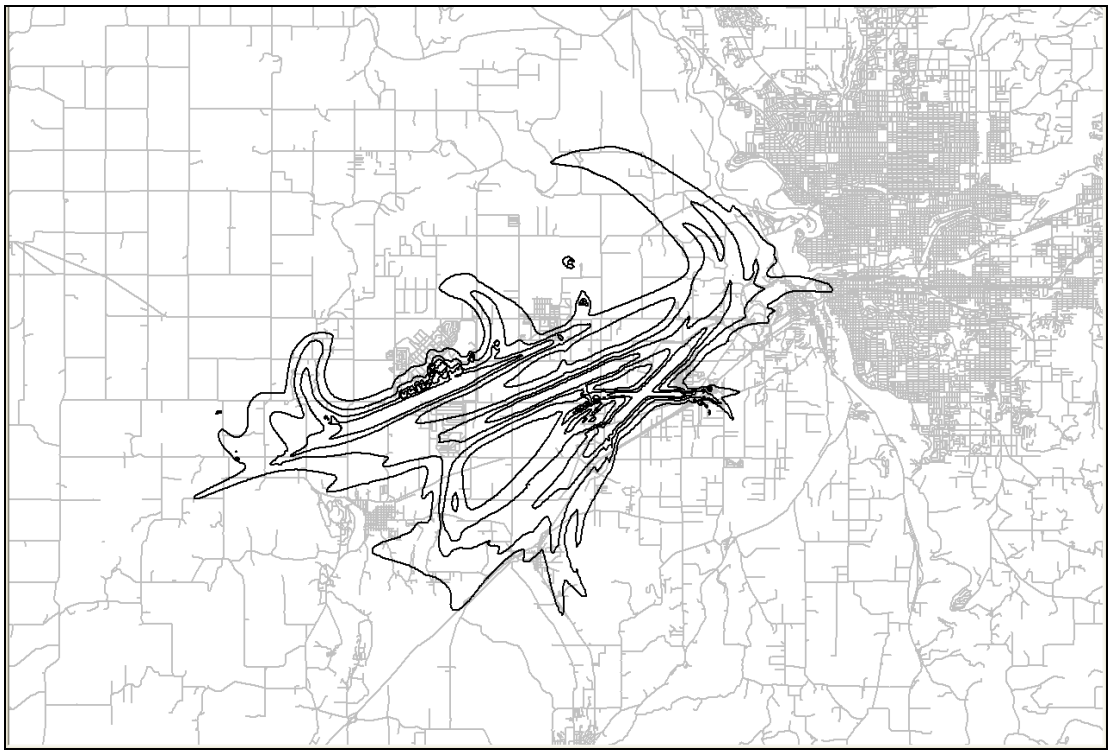


Figure 4 Fairchild Scenario 3 (KC-767A and B-52) and Spokane International Airport DNL Contours

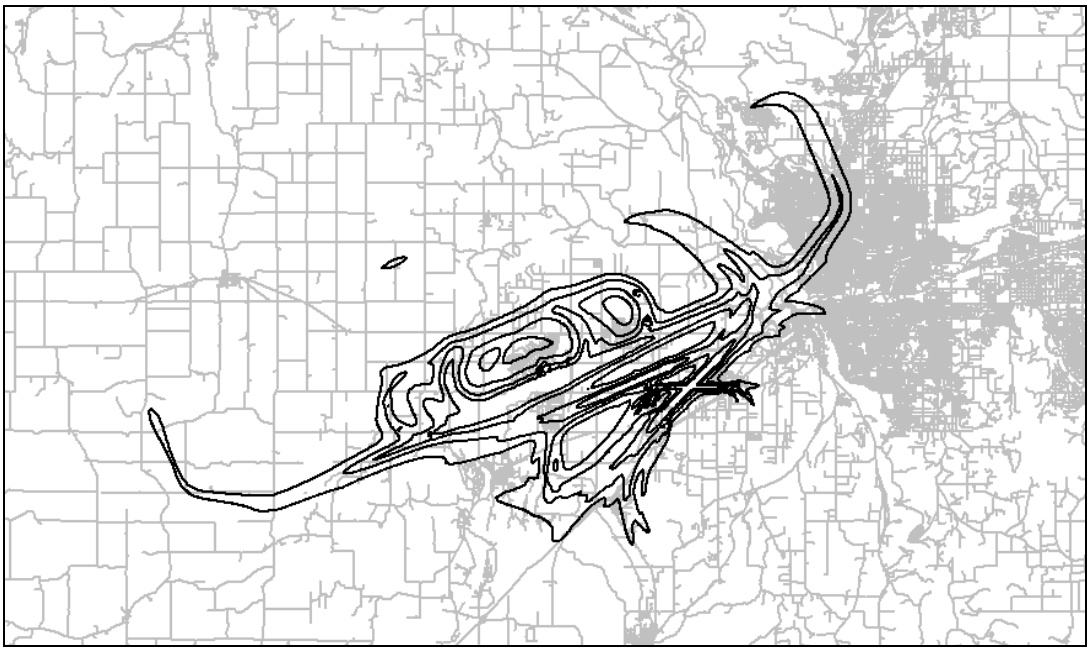
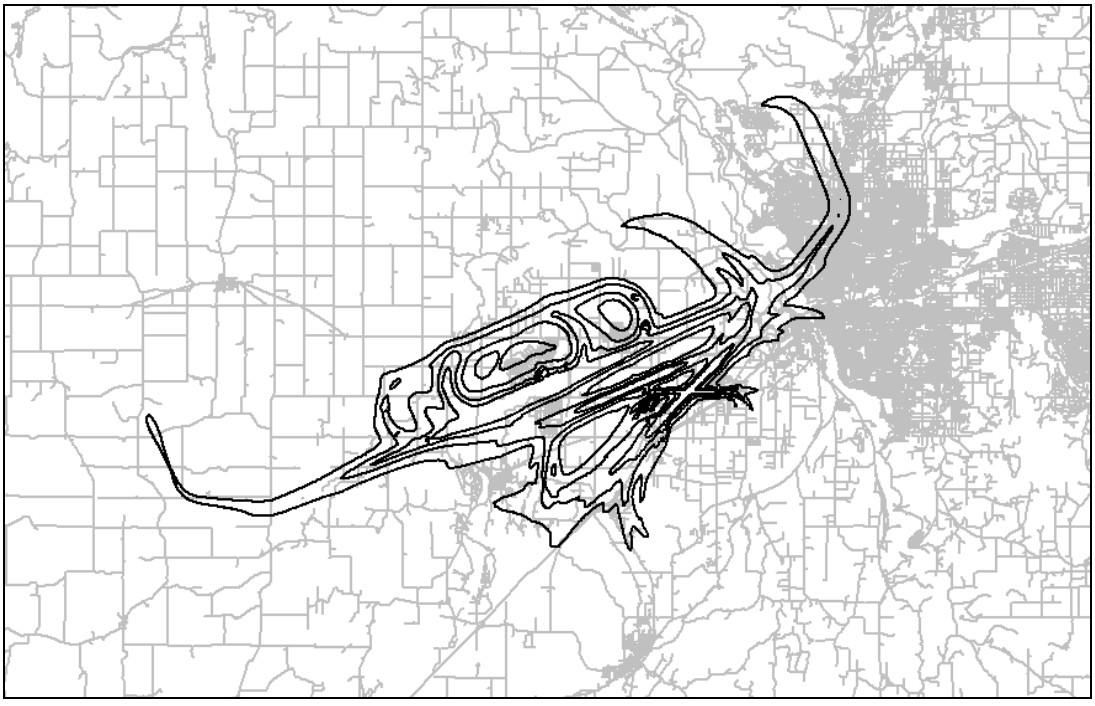


Figure 5 Fairchild Scenario 4 (A330 and B-52) and Spokane International Airport DNL Contours



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BASEOPS User Guide version 7.32

Integrated Noise Model for 2001 Master Plan. Data provided by Spokane International Airport