01SP21-2K-05/29/02

N 1st St.
NW 12th St.
W. McKelvie Rd.
NW 27th St.
NW 40th St.
NW 56th St.
NW 12th St.
W. Cornhusker Hwy
S. Folsom St.
S. Coddington Ave.
W. O St.
W. A St.
SW 40th St.
W. Vine St.
W. Fletcher Ave.
W. Adams Rd.
W. Holdrege St.
NW 48th St.
W. VanDorn St.
SW 56th St.
34
180
80
77
2
8
70
75
65
60

LEGEND

- Airport Property
- Municipal Boundaries
- Extraterritorial Jurisdiction
- Railroad Tracks
- Study Area
- 2002 Noise Exposure Contour, Marginal Effect
- 2002 Noise Exposure Contour, Significant Effect

Source: Base Information and Map: City of Lincoln Geographic Information System, May 2002. Coffman Associates Analysis.

NORTH

0 4000
SCALE IN FEET

Lincoln Airport

Exhibit 2K
2002 NOISE EXPOSURE CONTOUR

As previously mentioned, field noise measurements were taken during primarily average, spring weather for the Lincoln area. On most days, weather conditions were generally considered to be adequate for aircraft using VFR. During the last 48 hours of monitoring, weather conditions deteriorated and several rainstorms passed through the Lincoln area. Winds increased to about 10-15 knots with occasional gusts up to 25 knots. A severe thunderstorm with high winds and heavy rain occurred during the last night of noise monitoring.

A difference of three to four DNL is generally not considered a significant deviation between measured and calculated noise, particularly at levels above 65 DNL. Additional deviation is expected at levels below 65 DNL. In this case, four of the noise monitor sites fall outside the 65 DNL noise contour. The measured and predicted 2002 noise exposure contours for the annual average condition are presented for each aircraft noise measurement site on **Exhibit 2L** and **Table 2H**.

As seen in **Table 2H**, in all but one case (Site 8), the INM over-predicted sound levels at the noise monitor sites. The under-prediction of noise levels is less than one decibel at the site, falling well within the allowable deviation tolerances of the INM. The over-prediction at the remaining seven sites ranges from 1.0 to 8.5 decibels. The rainstorms and high wind conditions during the monitoring period may have contributed to the lower measured DNL levels at sites 1, 3, 4, and 6.

TABLE 2H
Noise Measurement DNL(24) vs. Predicted DNL Values
Lincoln Airport

Monitor Site	Measured DNL(24)[1]	Predicted 2002[2]	Difference
1	60.9	69.4	8.5
2	71.9	73.5	1.6
3	63.7	68.1	4.4
4	71.7	77.0	5.3
5	50.4	51.9	1.5
6	49.5	55.0	5.5
7	57.3	57.8	0.5
8	53.9	53.4	-0.5

Source: Coffman Associates analysis
[1] Measurements were taken May 6-11, 2002. This information is for comparative purposes only and not for input into the Integrated Noise Model (INM).
[2] Annual average 2002 noise exposure contours.

2007 NOISE EXPOSURE CONTOURS

The 2007 noise contours represent the estimated noise conditions based on the forecasts of future operations. This analysis provides a near-future baseline which can subsequently be used to judge the effectiveness of proposed noise abatement procedures. **Exhibit 2M** presents the results of the INM contour analysis for 2007 conditions using input data that has been described in the preceding pages.

The 2007 noise contours are similar in shape to their 2002 counterparts. The contours are slightly smaller in size primarily due to the anticipated change in aircraft utilizing the airport in the future. The military's transition to quieter aircraft and phasing out of Stage 2 business jets due to age and high maintenance and operating costs are the primary factor in the decreasing noise contour size.

The 60 DNL contour, at its longest point, extends approximately 15,000 feet from airport property to the north and 16,000 feet to the south. In all other directions, the contour mirrors what was described for the 2002 60 DNL noise contour.

The 2007 65 DNL contour is slightly smaller than the 2002 65 DNL contour. It extends approximately 6,800 feet from airport property to the north and 7,500 feet to the south. In all other directions, the contour slightly extends off airport property.

The 70 DNL contour extends off airport property only to the north and south. It extends approximately 1,000 feet off airport property to the north and 3,000 feet to the south. The 75 DNL contour is contained entirely on airport property.

The surface areas of the 2007 noise exposure are presented for comparison in **Table 2G**.

2022 NOISE EXPOSURE CONTOURS

The 2022 noise contours represent the estimated noise conditions based on the forecasts of future operations. The analysis provides a long term future baseline which can also be used to judge the effectiveness of proposed noise abatement procedures and land use planning recommendations. **Exhibit 2N** presents the plotted results of the INM contour analysis for 2022 conditions using input data described in the preceding pages.

Due to the significant reduction of loud military jet and Stage 2 business jet aircraft by 2022, the 2022 noise contours are smaller than both the 2002 and 2007 noise contours.

The 60 DNL contour is similar in size and shape to the 2002 and 2007 65 DNL noise contour, extending 6,800 feet off airport property to the north and 8,500 feet to the south.

The 65 DNL contour extends only 500 feet off airport property to the north and 3,000 feet to the south. The 70 and 75 DNL contours are contained entirely within airport property.

01SP21-2L-05/24/02

N 1st St.
NW 12th St.
W. McKelvie Rd.
NW 27th St.
NW 40th St.
NW 56th St.
W. Cornhusker Hwy
W. Fletcher Ave.
W. Adams Rd.
W. Holdrege St.
W. Vine St.
W O St.
W. A St.
S. Folsom St.
S. Coddington Ave.
SW 40th St.
W. VanDorn St.
NW 48th St.
SW 56th St.

53.8 / 53.4 (8)
63.7 / 68.1 (3)
60.8 / 69.4 (1)
71.7 / 77.0 (4)
75
70
65
60
71.9 / 73.6 (2)
57.3 / 57.8 (7)
49.5 / 55.0 (6)
50.4 / 51.9 (5)

LEGEND

- Airport Property
- Municipal Boundaries
- Extraterritorial Jurisdiction
- Railroad Tracks
- Study Area
- Flood Plains
- 2002 DNL Noise Contour Marginal Effect
- 2002 DNL Noise Contour, Significant Effect

(3) Noise Monitor Location

63.7 / 63.5 — Actual DNL Noise Measure DNL (24)[1], May 6, 2002 - May 11, 2002; INM-Predicted DNL, 2002

Source: Base Information and Map: City of Lincoln Geographic Information System, May 2002. Coffman Associates Analysis.

[1] Measured DNL(24) is the average DNL for the measurement period at each monitor site. This information is for comparative purposes only and is not for input into the Integrated Noise Model.

NORTH

0 4000

SCALE IN FEET

Lincoln Airport

Exhibit 2L

MEASURED AND MODELED NOISE