



6.0 BACKGROUND

The purpose of the environmental overview is to present a baseline of information that will provide the city and airport stakeholders with enough information to determine if proposed future improvements will have an adverse impact on the surrounding airport environs. The information contained in the following sections is not intended to represent that which could be required in the future should a federal action require an environmental assessment.

On November 6, 2000, a special meeting of the Master Plan Advisory Committee was conducted to consider several requests made by committee members to expand the original environmental portion of the Master Plan. The expanded scope of work included additional and more in-depth analyses in the areas of noise, air quality and public involvement. At the conclusion of the meeting, the committee reached consensus opinion to request from the City Council, that the Master Plan preparation effort be expanded.

The supplemental work was approved by City Council on November 15, 2000 and included the following:

- Noise analyses to include:
 - ▶ 55 and 60 DNL contours
 - ▶ Peak period impact analysis
 - ▶ Updating of population information
 - ▶ Expansion of land use map
 - ▶ An assessment of noise complaint data
 - ▶ Recommendations for noise control program

- Air quality analyses to include:
 - ▶ Updating 1998 Emission estimates and calculating future projections
 - ▶ Emission reduction recommendations and revised emission estimates
 - ▶ SIP conformity

- Economic impact analyses to include:
 - ▶ A comparative analyses of direct and indirect impacts
 - ▶ A survey of property values located in the vicinity of Love Field.



Chapter 6 – Environmental Overview and Analyses

6.1 NOISE

The following sections provide an overview of the data and methodology used to develop the 2000 baseline noise contours and future year 2010 scenarios for Dallas Love Field. The information provided includes: the current aviation activity used as a basis for the 2000 conditions, 1998 activity for comparative purposes, future activity levels, a summary of the methodology and other input data used in generating the contours, and a summary of the results of the analysis.

6.1.1 Methodology

The Federal Aviation Administration’s (FAA) Integrated Noise Model (INM) Version 6.0 was used to calculate day-night noise level (DNL) contours for the existing year conditions. Version 6.0 is the latest and most up to date form of the INM that has been released by the FAA.

To calculate and generate the contours, the INM uses specific airport information including:

- Specific airport geometry,
- Aircraft operational levels both air carrier and general aviation,
- Aircraft fleet mix,
- Time of operations (day vs. night),
- Runway use percentages, and
- Flight tracks

The data for the existing conditions at Love Field were inventoried to evaluate aircraft operational levels and fleet mix. This data were obtained from the Airport, the Dallas Love Field 1998 Noise Program Review¹, the FAA Air Traffic Control Tower (ATC), air carriers currently operating at Love Field, as well as a survey of the Fixed Base Operators (FBOs) conducting business at the airport. Draft contours for 2000 were generated and presented to the Master Plan Advisory Committee (MPAC) on August 22, 2000.

Subsequent to that meeting, the base data for the INM input was further revised in order to portray a more accurate picture of the operating conditions that exist today versus those in place in 1998 when the Dallas Love Field 1998 Noise Program Review was developed. Data such as runway use percentages, time of day of operations, and actual recorded data at noise monitors were collected from the airport’s Noise Monitoring and Flight Tracking System and where possible incorporated into the input data for each noise run. The following provides an overview of the data obtained and how it was used.

Runway use percentages used in the modeling process were initially derived from Flight Data Reports generated from the airport’s noise monitoring system for the months of January through June 30, 2000. This was the most current data available at the time of the analysis in August. Since the first draft of the contours were developed in August, additional months of runway use data became available through October 21, 2000. As part of the supplemental work effort, the runway use percentages used as INM input were updated to reflect the most up to date information and are presented in Table 6-1.

¹ Dallas Love Field 1998 Noise Program Review, HMMH.

**RUNWAY USE PERCENTAGES**

Table 6-1

	Departures		Arrivals	
	<u>Day</u>	<u>Night</u>	<u>Day</u>	<u>Night</u>
Southwest Airlines				
13R	70%	72%	65%	65%
31L	21%	26%	22%	31%
13L	6%	1%	10%	3%
31R	<u>3%</u>	<u>1%</u>	<u>2%</u>	<u>1%</u>
Total	100%	100%	100%	100%
Legend				
Airlines				
13R	10%	73%	10%	72%
31L	2%	17%	1%	15%
13L	74%	7%	74%	9%
31R	<u>15%</u>	<u>4%</u>	<u>15%</u>	<u>5%</u>
Total	100%	100%	100%	100%
American Airlines				
13R	18%	14%	9%	63%
31L	3%	5%	1%	11%
13L	63%	71%	75%	19%
31R	<u>15%</u>	<u>10%</u>	<u>15%</u>	<u>7%</u>
Total	100%	100%	100%	100%
Other Air Carriers				
13R	17%	47%	15%	28%
31L	6%	10%	6%	9%
13L	53%	28%	59%	46%
31R	<u>25%</u>	<u>16%</u>	<u>21%</u>	<u>18%</u>
Total	100%	100%	100%	100%
Air Cargo				
13R	4%	64%	8%	24%
31L	1%	12%	2%	8%
13L	71%	14%	64%	50%
31R	<u>24%</u>	<u>10%</u>	<u>27%</u>	<u>19%</u>
Total	100%	100%	100%	100%

(cont.)



Table 6-1 (con't.)

RUNWAY USE PERCENTAGES

General Aviation and Air Taxi Jets

13R	17%	47%	15%	28%
31L	6%	10%	6%	9%
13L	53%	28%	59%	46%
31R	<u>25%</u>	<u>16%</u>	<u>21%</u>	<u>18%</u>
Total	100%	100%	100%	100%

General Aviation and Air Taxi Turboprops

13R	12%	3%	15%	15%
31L	5%	2%	6%	6%
13L	63%	72%	58%	56%
31R	<u>20%</u>	<u>23%</u>	<u>20%</u>	<u>23%</u>
Total	100%	100%	100%	100%

**General Aviation and Air Taxi
Piston**

13R	10%	5%	12%	8%
31L	4%	2%	4%	3%
13L	63%	68%	64%	63%
31R	<u>24%</u>	<u>25%</u>	<u>21%</u>	<u>26%</u>
Total	100%	100%	100%	100%

Source: Actual Data Obtained from DAL Airport Noise Monitoring and Flight Tracking System (Jan. 1,2000 - October 21,2000)



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In addition to the actual data presented in Table 6-1, conversations with the FAA’s ATC personnel were also conducted to verify the information.

An informal night time preferential runway use program is in place at Love Field, which requests that all turbojet aircraft operating to or from the airport between the hours of 9:00 p.m. and 6:00 a.m. use Runway 13R-31L. The data collected were also reviewed to determine the average percentage of preferential runway non-compliance. The information revealed that non-compliance averaged 29.3 percent over the six month period. However, it should be noted that as each month progressed with the exception of March, the percentage of noncompliance steadily decreased from a high of 37 percent to a low of 19.9 percent in June. One reason for the difference in monthly percentages is directly attributable to the Division of Aviation’s concerted effort to consistently review the data available to them and question those pilots who did not follow the preferential runway use program when operating conditions would have permitted them to do so.

The data did show that there has been an increase in the use of Runway 13L-31R since the 1998 noise analysis was completed. Part of the reason for this increased use can be attributed to the location of airline terminal facilities. Taxiing distance from the terminal to the runway takeoff and landing ends may be closer for one airline than for another. For instance, due to the location of Legend and Delta Airlines and the existing fixed-based operators (FBO's) on the northeast side of the Airport, Runway 13L-31R would be the preferred runway of choice based on both fuel and time saving factors on the part of the aircraft operators.

The flight tracks and associated corridors were also derived from actual flight tracking data obtained from Dallas Love Field’s Airport Noise Monitoring and Flight Tracking System. The most frequently used departure and arrival tracks for all runway ends were input into the INM model. Figures 6-1 through 6-3 illustrate the arrival and departure tracks occurring at Love Field on a daily basis.

The air carrier fleet mix, as well as annual, daily and time of day aircraft operations occur were developed using July 2000 airline and air cargo flight schedules projected for an entire year as well as actual data downloaded from the airport’s noise monitoring system. Future year operations were based on the constrained forecast developed as part of the Master Plan.

