

FAR PART 150 NOISE COMPATIBILITY STUDY

MILWAUKEE COUNTY'S



G E N E R A L  
**MITCHELL**  
INTERNATIONAL AIRPORT



E. LAND USE ANALYSIS

## Land Use Analysis

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### Introduction

**This section of the FAR Part 150 Noise Compatibility Study for General Mitchell International Airport deals with the evaluation of land uses within both the existing (2004) and future noise contours (2009).**

**The development of realistic and effective alternatives is the focus of the FAR Part 150 noise compatibility planning process, with the overall objective being to explore a wide range of feasible alternatives of land use patterns, noise control actions and noise impact patterns. Solutions are explored that may accommodate both airport users and inhabitants, as well as environmental parameters. As a prelude to analyzing future noise exposure resulting from changes in noise contours, an examination of existing conditions in terms of areas and persons affected by the existing noise contours is presented here. The following section deals with the types of land uses affected by the existing noise contours and the approximate number of persons within the designated noise contours. A subsequent section deals with these same items, as they are affected by the future noise contours.**

### Existing Land Use Analysis/Existing Noise Contours, 2004

This section discusses the land use types found within the existing noise contours generated by aircraft utilizing General Mitchell International Airport. The existing situation is represented by three (3) contours, the DNL 65, 70, and 75 contours. An FAR Part 150 Study utilizes the DNL 65 contour as the threshold contour for land use analysis. It must be remembered that the total figures given below are cumulative. The figures for the larger contours contain the area within all smaller contours; i.e., the DNL 65 contour area includes the area representing the 70 and 75 contours.

The DNL 65 contour is the largest contour and contains approximately two thousand seven hundred thirty (2,730) acres. There are approximately one thousand three hundred fifty (1,350) residential units representing approximately three thousand one hundred fifty

(3,150) persons within the contour, contained on approximately two hundred thirty (230) acres of residential development. There are approximately two hundred seventy (270) acres of agricultural property, forty (40) acres of commercial development, ten (10) acres of utilities development, ninety (90) acres of government land use, eighty (80) acres of industrial development, three hundred ninety (390) acres of open space, fifty (50) acres of recreational property and one thousand five hundred seventy (1,570) acres of transportation land use. There are four schools and two churches within the DNL 65 noise contour. There is one historical structure in the contour.

The DNL 70 contour is the next largest noise contour and contains approximately one thousand ninety (1,090) acres. There is one (1) acre of residential development representing approximately thirty-six (36) persons and fifteen (15) housing units within the contour. There are approximately fifty (50) acres of agricultural property, six (6) acres of commercial development, one (1) acre of utilities development, twenty (20) acres of government land use, eight (8) acres of industrial development, fifty (50) acres of open space, no (0) acres of recreational property and nine hundred fifty (950) acres of transportation land use. There are no schools or churches within the DNL 70 noise contour.

The DNL 75 contour is the smallest noise contour and contains approximately five hundred fifty (550) acres. There are no housing units within this contour. There are two (2) acres of government land use, one (1) acre of open space, and the remainder being transportation use.

The existing table, entitled *EXISTING LAND USE WITHIN EXISTING NOISE CONTOURS, 2004* summarizes the above land use information. FAR Part 150 guidelines were used to determine compatibility, as presented in Table 1 of the regulation.

Table E1

**EXISTING LAND USE WITHIN EXISTING NOISE CONTOURS, 2004***General Mitchell International Airport FAR Part 150 Noise Compatibility Study*

| <b>Land Use</b>    | <b>DNL 65<br/>Contour</b> | <b>DNL 70<br/>Contour</b> | <b>DNL 75<br/>Contour</b> |
|--------------------|---------------------------|---------------------------|---------------------------|
| Residential        | 230 Ac                    | 1 Ac                      | 0 Ac                      |
| People             | 3,150                     | 36                        | 0                         |
| House Units *      | 1,350                     | 15                        | 0                         |
| Churches           | 2                         | 0                         | 0                         |
| Schools            | 4                         | 0                         | 0                         |
| Agriculture        | 270 Ac                    | 50 Ac                     | 0 Ac                      |
| Transportation     | 1,570 Ac                  | 950 Ac                    | 550 Ac                    |
| Commercial         | 40 Ac                     | 6 Ac                      | 0 Ac                      |
| Industrial         | 80 Ac                     | 8 Ac                      | 0 Ac                      |
| Parks/Recreation   | 50 Ac                     | 0 Ac                      | 0 Ac                      |
| Government         | 90 Ac                     | 20 Ac                     | 2 Ac                      |
| Open               | 390 Ac                    | 50 Ac                     | 1 Ac                      |
| Utilities          | 10 Ac                     | 1 Ac                      | 0 Ac                      |
| <b>Total Acres</b> | <b>2,730 Ac</b>           | <b>1,090 Ac</b>           | <b>550 Ac</b>             |

**SOURCE:** Aerial Photography.

2000 Census Data, Milwaukee County Land Use Data, BDC Analysis.

Calculations are based on preliminary information supplied by aerial photography.

The total figures for each contour are cumulative. The figures for the larger contours contain the area within all smaller contours. Numbers are rounded to nearest ten where possible.

\* Over 1,000 homes have been sound attenuated, which are considered compatible. Approximately 228 not attenuated. Final housing counts considered compatible will be identified when the final noise contour is determined.

**Existing Land Use Inconsistencies**

Land use incompatibility is an area of determination and regulation that is to be resolved solely at the discretion of the local community or by the state. To determine what constitutes land use incompatibility, the individual land use types within particular noise contours need to be defined. The Federal Aviation Administration, through the FAR Part 150 Study, has developed generalized guidelines for land use compatibility for land use planning purposes, as presented earlier. However, these are guidelines and do not automatically define incompatible land uses. Based on these guidelines, the residential land uses, churches and schools within the 65 or greater DNL noise contours are inconsistent with these guidelines. Over 1,000 homes have been sound attenuated, and aviation easements have been purchased from several hundred others, which are all considered compatible. The FAR Part 150 guidelines (Table 1) were used to determine compatibility.

## **Existing Land Use Analysis/Future (Base Case, 2009) Noise Contours**

This section discusses the land use types found within the base case future (2009) noise contours generated by aircraft utilizing General Mitchell International Airport, assuming that all land uses will remain the same. This is the “base case” which assumes that no operational or facility modifications will occur at the airport, and is reflective of the forecast operations and aircraft types explained previously. This is the situation with which future alternative scenarios will be measured to quantify land use effects as compared with what would occur if no mitigation measures were implemented. The future base case situation is represented by three (3) contours, the DNL 65, 70, and 75 contours.

The DNL 65 contour is the largest contour and contains approximately two thousand two hundred sixty (2,260) acres. There are approximately nine hundred twenty (920) residential units representing approximately two thousand two hundred twenty (2,220) persons within the contour, contained on approximately eighty (80) acres of residential development. There are approximately two hundred fifteen (215) acres of agricultural property, thirty (30) acres of commercial development, ten (10) acres of utilities development, sixty-five (65) acres of government land use, forty-five (45) acres of industrial development, three hundred ten (310) acres of open space, twenty-five (25) acres of recreational property and one thousand four hundred eighty (1,480) acres of transportation land use. There is one school but no churches within the DNL 65 noise contour.

The DNL 70 contour is the next largest noise contour and contains approximately nine hundred (970) acres. There are no (0) acres of residential development within the contour. There are approximately twenty (20) acres of agricultural property, three (3) acres of commercial development, two (2) acres of utilities development, fourteen (14) acres of government land use, no (0) acres of industrial development, seventeen (17) acres of open space, no (0) acres of recreational property and nine hundred fourteen (914) acres of transportation land use. There are no schools or churches within the DNL 70 noise contour.

The DNL 75 contour is the smallest noise contour and contains approximately five hundred fifty (550) acres, all of which is considered transportation use (airport property).

The existing table, entitled *EXISTING LAND USE WITHIN FUTURE NOISE CONTOURS, 2009* summarizes the above land use information. FAR Part 150 guidelines were used to determine compatibility, as presented in Table 1 of the regulation.

Table E2

**EXISTING LAND USE WITHIN FUTURE NOISE CONTOURS, 2009***General Mitchell International Airport FAR Part 150 Noise Compatibility Study*

| <b>Land Use</b>    | <b>DNL 65<br/>Contour</b> | <b>DNL 70<br/>Contour</b> | <b>DNL 75<br/>Contour</b> |
|--------------------|---------------------------|---------------------------|---------------------------|
| Residential        | 80 Ac                     | 0 Ac                      | 0 Ac                      |
| People             | 2,220                     | 0                         | 0                         |
| House Units*       | 920                       | 0                         | 0                         |
| Churches           | 0                         | 0                         | 0                         |
| Schools            | 1                         | 0                         | 0                         |
| Agriculture        | 215 Ac                    | 20 Ac                     | 0 Ac                      |
| Transportation     | 1,480 Ac                  | 914 Ac                    | 550 Ac                    |
| Commercial         | 30 Ac                     | 3 Ac                      | 0 Ac                      |
| Industrial         | 45 Ac                     | 0 Ac                      | 0 Ac                      |
| Parks/Recreation   | 25 Ac                     | 0 Ac                      | 0 Ac                      |
| Government         | 65 Ac                     | 14 Ac                     | 0 Ac                      |
| Open               | 310 Ac                    | 17 Ac                     | 0 Ac                      |
| Utilities          | 10 Ac                     | 2 Ac                      | 0 Ac                      |
| <b>Total Acres</b> | <b>2,260 Ac</b>           | <b>970 Ac</b>             | <b>550 Ac</b>             |

**SOURCE:** Aerial Photography.

2000 Census Data, Milwaukee County Land Use Data, BDC Analysis.

Calculations are based on preliminary information supplied by aerial photography.

The total figures for each contour are cumulative. The figures for the larger contours contain the area within all smaller contours. Population and housing units rounded to nearest ten.

\* Over 1,000 homes have been sound attenuated, which are considered compatible. Approximately 77 not attenuated. Final housing counts considered compatible will be identified when the final noise contour is determined.

**Future Base Case (2009) Land Use Inconsistencies**

Based on the Federal guidelines, the residential land uses within the 65 or greater DNL noise contours are inconsistent with these guidelines. Again, several of these homes have been sound attenuated or have had aviation easement purchased, and are considered compatible. The noise contour to be used to identify eligibility boundaries will be determined after an evaluation of operational and facility alternatives. The actual number of homes already sound attenuated will be identified at that time.