Issues/Actions and Recommendations

Introduction

This Section presents the recommended noise abatement plan, which includes the issues to be addressed, the actions/recommendations to be taken to address those issues, the responsible parties involved for implementing those actions and recommendations, the Airport action to be taken, the time frame for implementation and the effectiveness of each. The issues and actions will become the recommended Noise Compatibility Program. This Section also recommends which Noise Exposure Map should be used for the basis of the Noise Compatibility Program. In addition, the Future Noise Exposure Map is presented, along with the impacts associated with it.

A recommended implementation schedule and sequence, in both narrative and graphic form, indicating the roles and responsibilities of the many parties involved in the Noise Compatibility Program for Centennial Airport will be presented in a subsequent chapter.

Noise Compatibility Program Map

The Future Noise Exposure Map (2005) reflects the implementation of the various Recommendations presented in this chapter. It represents a reduction in the number of residents exposed to the 65 or greater DNL noise contour compared to the future Base Case noise contour. As such, the Future Noise Exposure Map will be used to define the boundaries for all programs recommended in this Study.

Future Noise Exposure Map

The Future Noise Exposure Map is based on the Future Base Case Noise Contour and reflects the implementation of the recommendations that follow. The following table presents the number of acres of different land use types that would be found within the Future Noise Exposure Map contours, based upon the existing land use and the recommendations implemented.

The Future Noise Exposure Map is illustrated on Figure G1, *FUTURE NOISE EXPOSURE MAP, 2005*. The specific noise abatement recommendations are contained on the pages following the Future Noise Exposure Map. They are categorized as Amended Actions and New Actions for each specific noise abatement recommendation. The Amended Actions are those Actions which the Airport currently has in place but are recommended

for some changes and the New Actions are those which would be implemented for the first time. Some are administrative in nature while others are land use or operational in nature. Table G2 shows the population and housing units within the 2005 Base Case contour, using 2000 census data, for comparative purposes.

Table G1
FUTURE NOISE EXPOSURE MAP WITH EXISTING LAND USE (With Recommendations)
Centennial Airport FAR Part 150 Study

Land Use	DNL 55 Contour	DNL 60 Contour	DNL 65 Contour	DNL 70 Contour	DNL 75 Contour
Residential	NA Ac	NA Ac	71 Ac	0 Ac	0 Ac
People	9,391	1,494	154	0	0
House. Units	3,046	520	125	0	0
Schools	3	2	0	0	0
Bus/Off. Park	NA Ac	NA Ac	360 Ac	46 Ac	2 Ac
Open Space	NA Ac	NA Ac	355 Ac	90 Ac	2 Ac
Govt./Public	NA Ac	NA Ac	0 Ac	0 Ac	0 Ac
Airport	NA Ac	NA Ac	876 Ac	611 Ac	410 Ac
Mixed Non-Res.	NA Ac	NA Ac	38 Ac	0 Ac	0 Ac
Total	**10,485 Ac**	**4,659 Ac**	**1,701 Ac**	**747 Ac**	**414 Ac**

SOURCE: 2001 Aerial, 2000 Census and BDC Analysis

Table G2
FUTURE BASE CASE NOISE CONTOURS WITH EXISTING POPULATION/HOUSING (Without Recommendations)
Centennial Airport FAR Part 150 Study

Land Use	DNL 55 Contour	DNL 60 Contour	DNL 65 Contour	DNL 70 Contour	DNL 75 Contour
People	17,568	8,032	1,591	143	34
House. Units	6,044	2,581	544	117	29
Schools	5	2	0	0	0
Total Acres	**14,077 Ac**	**6,554 Ac**	**2,706 Ac**	**1,170 Ac**	**560 Ac**

SOURCE: 2001 Aerial, 2000 Census and BDC Analysis

The Recommendations are summarized as follows.

Recommendation 1	**Ban Stage 1 Aircraft**
Recommendation 2	**Ban Stage 2 Jet Aircraft Under 75,000 lbs. At Night**
Recommendation 3	**Implement 010 Degree Departure Heading for Jet Aircraft At Night**
Recommendation 4	**Test 24-Hours Flight Tracks Between 350 and 010 Degree Headings**
Recommendation 5	**Eliminate Preferential Runway Use Procedure**
Recommendation 6	**Implement 170 Degree Departure to 4 DME or 8,000 MSL (+/- 20 degrees)**
Recommendation 7	**Amend Community Plans and Zoning Ordinances**
Recommendation 8	**Update and Establish Environmental/Noise Abatement Liaison/Office**
Recommendation 9	**Install Noise Monitoring System and Develop Program**
Recommendation 10	**Development/Implementation of Fly Quiet Program**
Recommendation 11	**Operations Review and Part 150 Updates**
Recommendation 12	**Establish Follow-up Roundtable/Committee**

It is the intent of the Airport to implement future noise mitigation programs as quickly as possible. However, it must be remembered that this will depend very heavily on the availability of funds and resources, especially the availability of Federal funding.

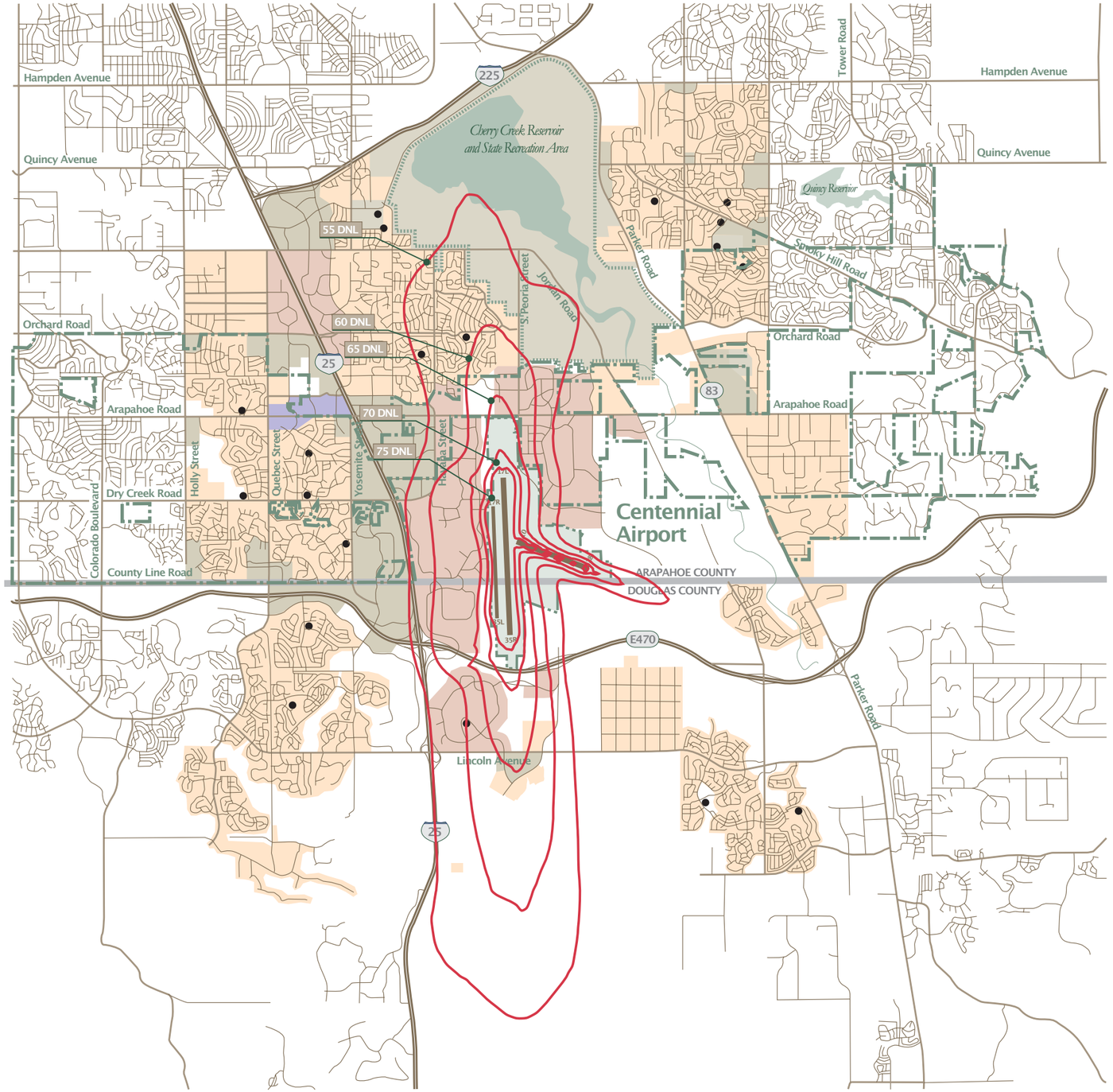

Figure G1 ***Future 2005 Noise Exposure Map***

- *Airport Boundary*
- *Airport*
- *Residential*
- *Mixed Non-Residential*
- *Commercial Retail*
- *Business/Office Park*
- *Public Use*
- *Schools*
- *With Stage 2 Ban*
- *Without Stage 2 Ban*

*The **65 DNL** Noise Contour Contains Approximately **1,701 Acres** and **154 People**.*

*The **70 DNL** Noise Contour Contains Approximately **747 Acres** and **0 People**.*

*The **75 DNL** Noise Contour Contains Approximately **414 Acres** and **0 People**.*

> ***Planning jurisdictions are as shown on map.***

> ***Noise measurement sites and flight tracks are depicted on the Noise Measurement Sites and Flight Tracks Map.***

> ***Residential land use is defined as incompatible within the 65 DNL Noise Contours or greater by the FAR Part 150.***

The Noise Exposure Map and accompanying documentation for the Noise Exposure Map for Centennial Airport, submitted in accordance with the FAR Part 150 with the best available information, are hereby certified as true and complete to the best of my knowledge and belief. In addition, it is hereby certified that the interested persons were afforded adequate opportunity to submitt their views, data, and comments concerning the correctness and adequacy of the draft maps and the description of forecasts of aircraft operations.

Signed _____

Dated _____

Approximate Scale 1"=8,000'

Centennial Airport

FAR Part 150 Noise Exposure & Land Use Compatibility Study Program

Source: *Base Map, Aerial Information, June - 2001.*

RECOMMENDATION 1--BAN STAGE 1 JETS

ISSUE	Reduce noise impacts from loud jets.
NEW ACTION	This Action will provide funding to study and evaluate the prohibition of Stage 1 jets at the Airport. This *can* be accomplished without completing a FAR Part 161 Study, and can be implemented immediately.
COMMENTS	This Action will reduce the number of operations by very noisy jets. There are very few of these aircraft in the overall business jet fleet, but many are still operating in the United States and this Action will restrict them from operating at the Airport. There is one Stage 1 jet based on the Airport. Airport management and the aircraft operator have agreed to a phase-out period for this one aircraft, although new Stage 1 operators would be prohibited from operating at the Airport.
COST	The cost to implement such a restriction is minimal.
RESPONSIBLE PARTIES	The Airport is responsible for preparing and implementing such a restriction, and publishing it in various aviation publications to provide notice to pilots.
AIRPORT ACTION	The Airport will prepare and implement such a restriction as soon as possible. Airport management will present the restriction to the Airport Authority for approval and then will implement it immediately.
TIME FRAME	This can be started and implemented immediately and is not dependent upon other Actions or parties.

RECOMMENDATION 2--BAN STAGE 2 JETS AT NIGHT

ISSUE

Reduce noise impacts from loud jets.

NEW ACTION

This Action will provide additional funding to study and evaluate the prohibition of Stage 2 jets at the Airport during the nighttime hours (10:00 pm to 7:00 am). This cannot be accomplished without completing a FAR Part 161 Study, and this Recommendation requests approval to prepare and funding for such a Study.

COMMENTS

This Action will reduce the number of residents within the 65 DNL noise contour and will remove significant noise intrusion during the most noise sensitive time. This Action will reduce the 65 DNL noise contour over the area that is directly north of the Airport and will reduce loud single events for residents all around the Airport. Figure G2 on the following page illustrates the Future Noise Exposure Map with and without the Stage 2 Ban in an attempt to visually indicate the incremental benefit this Recommendation has to the overall noise environment. Please refer to Table F2, as it indicates that there would be considerably less people inside the 65 or greater DNL if this Recommendation is implemented.

It is recognized that such a restriction cannot be implemented without completing a FAR Part 161 Study. The Airport is requesting approval for such a study so that AIP funding may be made available.

COST

The cost to prepare such a Study is estimated to be in the range of $500,000-2,000,000 including legal fees.

RESPONSIBLE PARTIES

The Airport is responsible for preparing such a Study through the use of consultants. The FAA is responsible for approving the Recommendation and providing funding, if such funding is available and the number of people removed from the contour is significant.

AIRPORT ACTION

The Airport will select consultants to prepare such a Study and submit an application to the FAA upon approval of the Recommendation by the FAA.

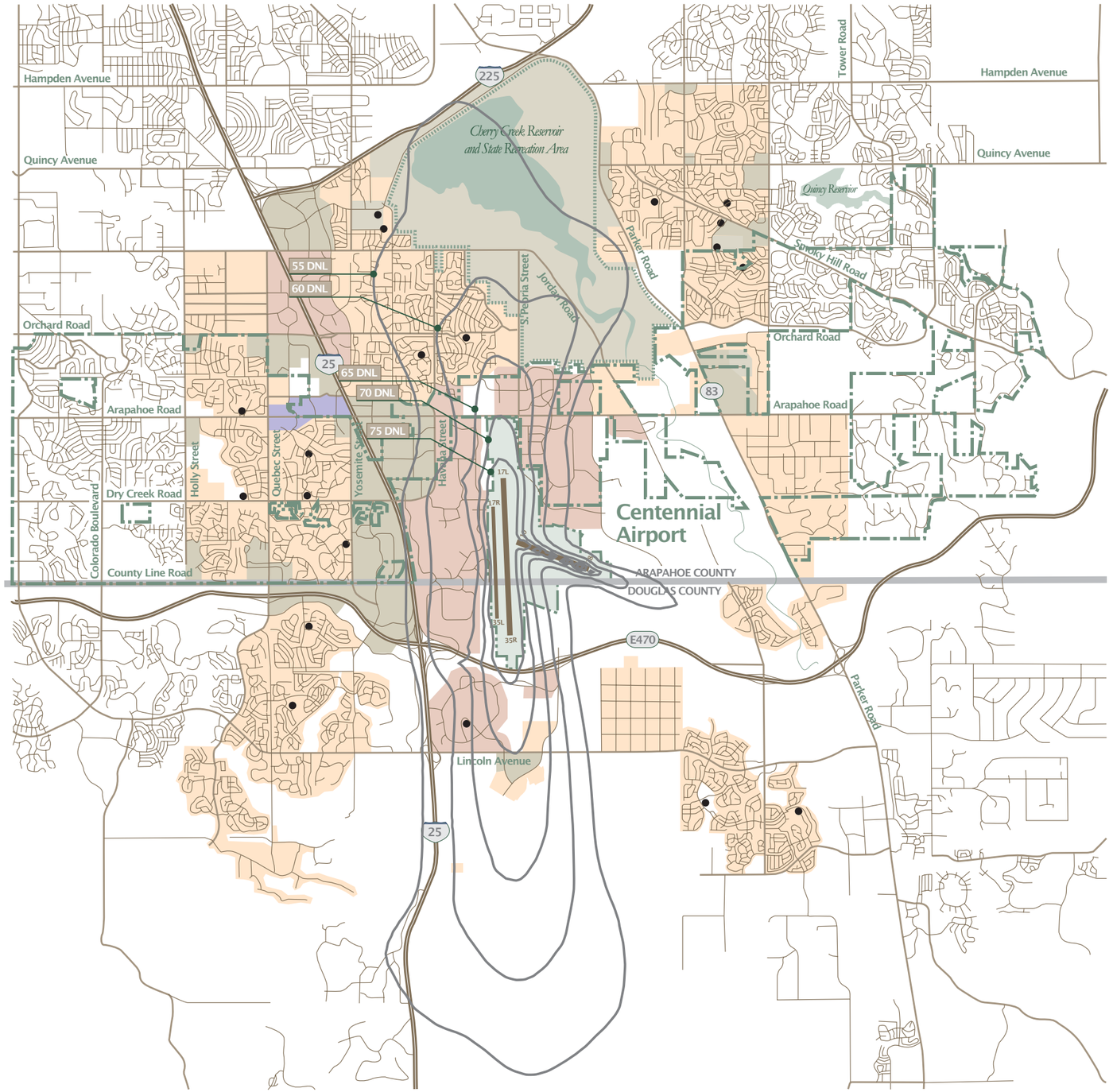

Figure G2 ***Future Noise Exposure Map with and without Stage 2 Ban with Generalized Existing Land Use***

- *Airport Boundary*
- *Airport*
- *Residential*
- *Mixed Non-Residential*
- *Commercial Retail*
- *Business/Office Park*
- *Public Use*
- *Schools*
- *With Stage 2 Ban*
- *Without Stage 2 Ban*

Approximate Scale 1"=8,000'

Centennial Airport

FAR Part 150 Noise Exposure & Land Use Compatibility Study Program

Source: *Base Map, Aerial Information, June - 2001.*

TIME FRAME

The consultant could be selected and an application submitted within 90 days of approval of the Recommendation by the FAA. The Study itself will take approximately two years to complete. Implementation of the restriction will take approximately six to nine months after approval of the Study.

RECOMMENDATION 3--IMPLEMENT A 010 DEGREE DEPARTURE HEADING FOR JET AIRCRAFT AT NIGHT

ISSUE

Reduce Nighttime Over Flights of Noisy Aircraft.

NEW ACTION

Implement a 010 degree departure procedure for departures off of Runways 35R and L between 10:00 pm and 6:00 am flying routes to north and west destinations to reduce nighttime over flights of the neighborhoods just north of the Airport. This will reduce the number of people within the 65 DNL noise contour north of the Airport.

COMMENTS

This Action was tested during the Spring and early Summer of 2001 and has been shown feasible by the TRACON and local Airport Traffic Control (see letter in Appendix). The departure procedure is to fly the departure heading until reaching 2 DME and then resume destination heading. This will put such aircraft over the Cherry Creek State Park (Park). The 65 DNL contour shrinks and does not impact the Park. In fact, the 65 DNL noise contour will not encroach on the Park with this Recommendation. The Colorado State Parks, Metro Region is concerned about the over flights that would result from this Recommendation and the effect they may have on the Park. Prior to implementing such a procedure on a permanent basis, the FAA would be required to prepare environmental documentation to examine the effects of implementing such a procedure. This would take anywhere from three to twelve months to complete.

Figure G3 on the following page illustrates the Future Noise Exposure Map with and without the 010 degree departure procedure in an attempt to visually indicate the incremental benefit this Recommendation has to the overall noise environment. Figure G4 indicates grid points evaluated to indicate the difference in noise levels with and without the departure procedure, and with and without the Stage 2 Ban. Table G2 indicates the results of the grid analysis and the affect on the Park of the two Recommendations.

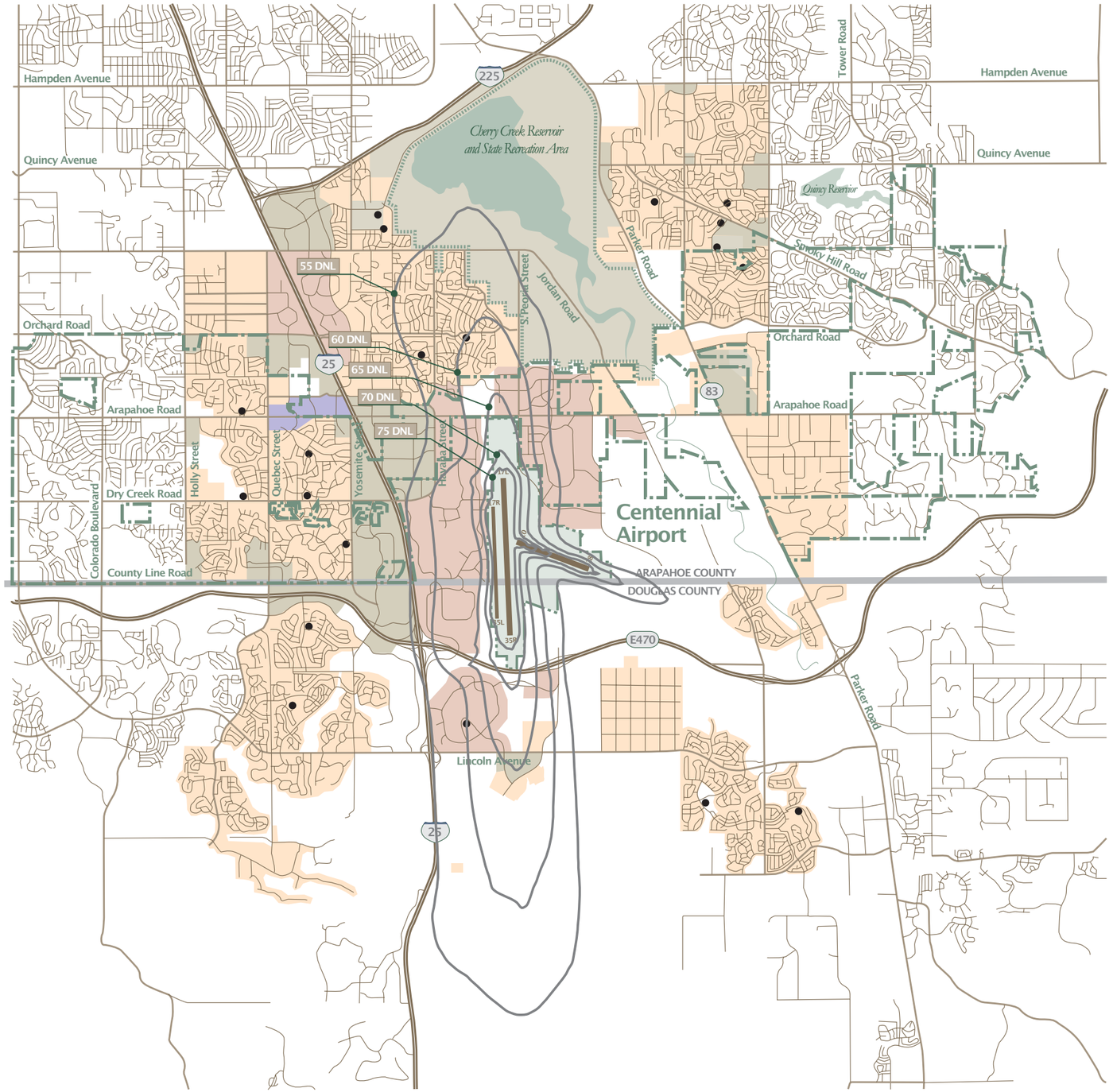

Figure G3 ***Future 2005 Noise Exposure Map Without 010 Departure with Generalized Existing Land Use***

- *Airport Boundary*
- *Airport*
- *Residential*
- *Mixed Non-Residential*
- *Commercial Retail*
- *Business/Office Park*
- *Public Use*
- *Schools*
- *With Stage 2 Ban*
- *Without Stage 2 Ban*

Approximate Scale 1"=8,000'

Centennial Airport

FAR Part 150 Noise Exposure & Land Use Compatibility Study Program

Source: *Base Map, Aerial Information, June - 2001.*

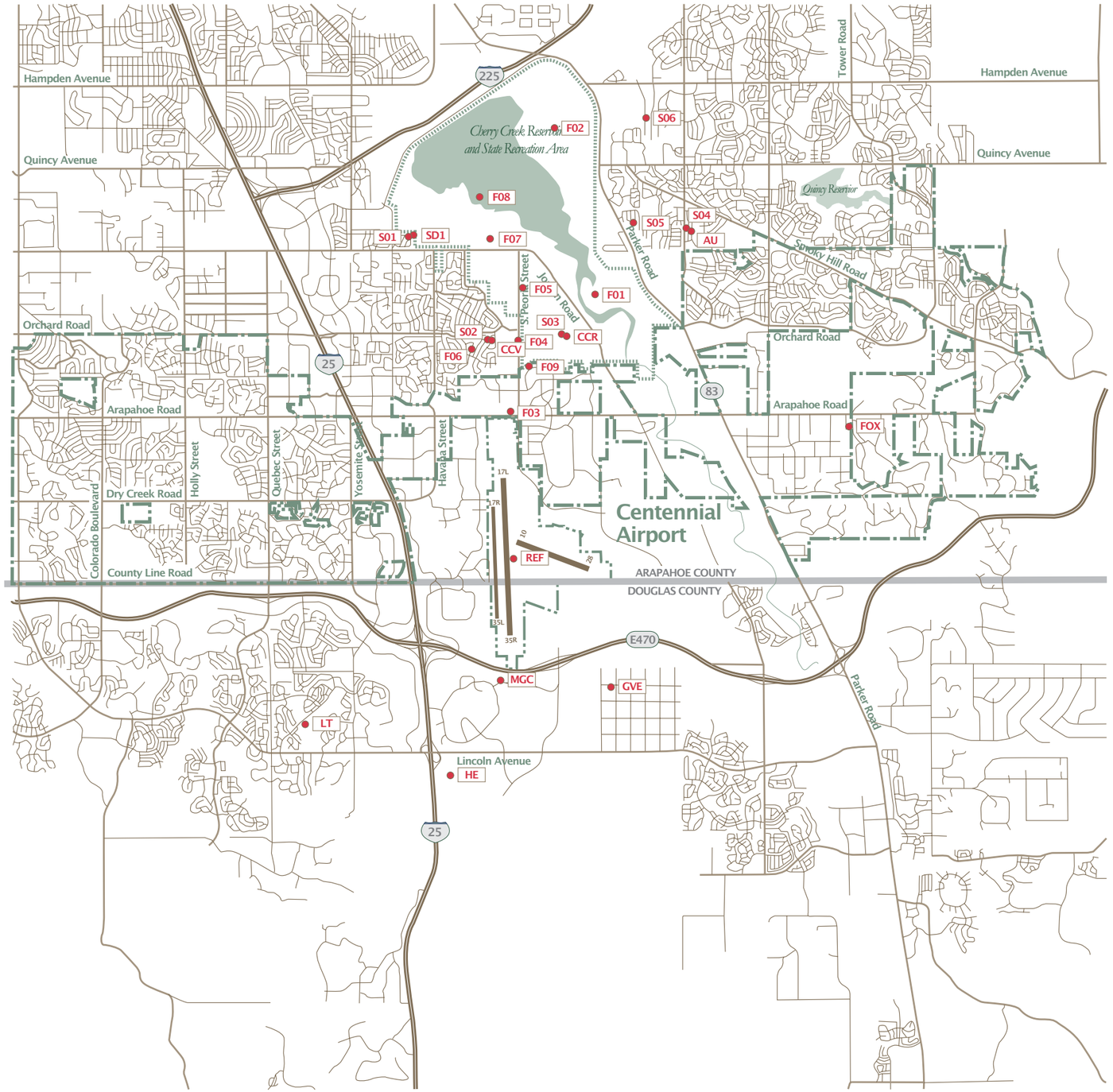

Figure G4 ***Grid Point Analysis Map***

Grid Point

Centennial Airport

FAR Part 150 Noise Exposure & Land Use Compatibility Study Program

Table G3

GRID POINT MEASUREMENT RESULTS

Centennial Airport FAR Part 150 Study

Location	Base 2006	NAP No Night St2 Restriction	NAP No 010	NAP All Alts	NAP No Night St2 Restriction	NAP No 010	NAP All Alts
AU	46.9	47.0	45.1	44.7	0.1	-1.8	-2.2
CCR	55.4	60.9	53.2	56.1	5.5	-2.2	0.7
CCV	63.9	63.7	61.4	60.9	-0.2	-2.5	-3.0
F01	53.3	58.5	51.0	53.6	5.2	-2.3	0.3
F02	46.4	50.7	45.5	47.3	4.3	-0.9	0.9
F03	67.7	69.0	64.9	65.1	1.3	-2.8	-2.6
F04	61.2	62.9	58.9	59.3	1.7	-2.3	-1.9
F05	57.3	59.0	55.1	55.6	1.7	-2.2	-1.7
F06	63.5	62.7	60.9	59.9	-0.8	-2.6	-3.6
F07	57.7	58.4	55.7	55.8	0.7	-2.0	-1.9
F08	56.2	57.5	54.6	55.0	1.3	-1.6	-1.2
F09	61.2	64.4	58.9	60.1	3.2	-2.3	-1.1
FOX	45.5	44.9	44.2	43.6	-0.6	-1.3	-1.9
GVE	49.9	49.2	47.3	47.3	-0.7	-2.6	-2.6
HE	57.6	58.9	56.6	56.6	1.3	-1.0	-1.0
LT	41.5	41.6	40.5	40.5	0.1	-1.0	-1.0
MGC	74.4	74.2	69.5	69.5	-0.2	-4.9	-4.9
REF	80.2	80.3	77.5	77.5	0.1	-2.7	-2.7
S01	56.4	55.7	54.2	53.6	-0.7	-2.2	-2.8
S02	63.9	63.6	61.5	60.9	-0.3	-2.4	-3.0
S03	55.7	61.2	53.5	56.4	5.5	-2.2	0.7
S04	46.8	47.2	45.0	44.8	0.4	-1.8	-2.0
S05	47.5	51.9	45.7	47.6	4.4	-1.8	0.1
S06	38.2	41.4	37.7	38.8	3.2	-0.5	0.6
SD1	56.5	55.8	54.3	53.7	-0.7	-2.2	-2.8
SD2	59.2	58.2	56.7	55.8	-1.0	-2.5	-3.4

COST

The cost for the Action will be minimal as it will not require additional personnel or significant amounts of fuel. The cost to prepare the environmental documentation could range from $10,000 to $50,000.

RESPONSIBLE PARTIES

The Airport is responsible for informing based and transient pilots about the departure procedure, the FAA is responsible for implementing such a procedure, when conditions allow, and the pilots are responsible for following the procedure when safe to do so. The Airport and the FAA will enter into a Letter of Agreement concerning the procedure. The operators are responsible for helping to implement the procedure during favorable conditions. The FAA will ask for assistance from the Sponsor to complete the required environmental documentation.

AIRPORT ACTION

The Airport will notify based and transient pilots of the procedure and work with the FAA during implementation.

TIME FRAME

This Action can be implemented as soon as the FAA has prepared sufficient environmental documentation regarding the procedure. This is anticipated to require up to a year to complete once this Recommendation is approved.

RECOMMENDATION 4--TEST 24 HOUR FLIGHT TRACK FAN BETWEEN 350 AND 010 DEGREE HEADINGS

ISSUE	Reduce noise impacts to residents from concentrated over flights north of the Airport.
NEW ACTION	This New Action would test the feasibility of "fanning" aircraft northern departures between 350 and 010 degree headings on a 24 hour basis, weather and traffic permitting.
COMMENTS	Residents north of the Airport experience straight out departures 24 hours a day. It is recognized that Recommendation 3 includes a 010 departure heading will be evaluated for implementation during the night time hours. However, this Recommendation is to test the feasibility of spreading the north flow flight tracks over a larger area during those hours when a 010 departure heading is not feasible. This would help reduce noise impacts to the residents north of the Airport. Air traffic considerations, weather conditions and pilot preference will affect the feasibility of this Recommendation and the times when such a fanning of departures could occur. However, the feasibility of implementing such a procedure should be tested in the same manner that the 010 night time departure procedure was tested.
COST	The cost to test these departure tracks would be negligible
RESPONSIBLE PARTIES	The Airport is responsible for coordinating with the FAA as to the feasibility of such a test and for publishing notice of the test to the pilots. The FAA is responsible for implementing the test to test its feasibility. The operators are responsible for helping to implement the procedure during favorable conditions.
AIRPORT ACTION	The Airport would coordinate with the TRACON and Tower concerning the exact procedure and times to implement the test. The FAA and Sponsor are responsible for publishing notice of the test so that the pilots and citizens are aware of the test.

TIME FRAME

This Action can be initiated immediately and is not dependent upon any other Action.

RECOMMENDATION 5--ELIMINATION OF PREFERENTIAL RUNWAY USE

ISSUE	Decrease aircraft over flights to residents south of the Airport during nighttime hours.
NEW ACTION	This New Action would eliminate the use of the nighttime preferential runway procedure. Operations would take place based on destination, traffic and weather as they do at other times of the day.
COMMENTS	This Action will help reduce the number of residents south of the Airport exposed to aircraft noise impacts during critical nighttime hours (Please refer to Table F2, which indicated the number of people reduced). The Airport currently has a nighttime preferential runway program in effect that requests arrivals from the south and departures to the south, which results in traffic over residential development south of the Airport. When the preferential runway program was implemented, there was little residential development that was affected by the program. However, over the years substantial residential development has occurred that is affected by the nighttime preferential runway program.
COST	The cost to implement this Action is minimal.
RESPONSIBLE PARTIES	The Airport is responsible for requesting that the FAA/ATC eliminate this nighttime preferential procedure and the FAA/ATC is responsible for directing traffic in a normal manner.
AIRPORT ACTION	The Airport will request that the FAA/ATC implement this procedure. The Airport will notify operators that it is no longer a part of the Airport Noise Abatement Procedures.
TIME FRAME	This Action can be implemented immediately and is not contingent upon other Actions.

RECOMMENDATION 6--IMPLEMENT 170 DEGREE DEPARTURE HEADING TO 4 DME OR 8,000 MSL, PLUS OR MINUS 20 DEGREES

ISSUE	Decrease aircraft over flights to residents south of the Airport.
AMENDED ACTION	This Amended Action would require southern departures to fly runway heading until reaching 4 DME or 8,000 MSL, with a deviation of plus or minus 20 degrees. This would help maintain departures over compatible land uses and reduce the deviation of such departures over non-compatible land use.
COMMENTS	This Action will help reduce the number of residents south of the Airport exposed to aircraft over flights. Aircraft currently tend to turn away from the extended runway centerline departure early and over fly residential development. There is a corridor of open space and compatible development south of the Airport that aircraft are requested to use to the extent possible. However, some practice approaches occur utilizing northern approaches to Runway 17 during times of favorable winds. Thus to avoid conflicts during these times, there is a plus or minus 20 degree deviation recognized with these southern departures.
COST	The cost to implement this Action is minimal.
RESPONSIBLE PARTIES	The Airport is responsible for requesting that the FAA/ATC utilize this procedure whenever possible, and the FAA/ATC is responsible for directing traffic to achieve this procedure whenever possible. The Airport is responsible for notifying operators of this Noise Abatement Procedure and the operators are responsible for following this procedure to the extent possible. The FAA will ask for assistance from the Sponsor to complete the required environmental documentation
AIRPORT ACTION	The Airport will request that the FAA/ATC implement this procedure. The Airport will notify operators that it is a part of the Airport Noise Abatement Procedures.
TIME FRAME	This Action can be implemented immediately and is not contingent upon other Actions.

RECOMMENDATION 7--AMEND COMMUNITY PLANS AND ZONING ORDINANCES

ISSUE	Compatibility of community plans and ordinances with Airport activities.
NEW/AMENDED ACTION	The Airport will work with the jurisdictions to amend zoning maps, comprehensive plans and development regulations, as necessary, to minimize new non-compatible land uses and to take into consideration FAR Part 77 height requirements. Such changes shall work towards discouraging the location of additional non-compatible land use and to require sound attenuation of new construction in existing development to be compatible with Airport operations.
COMMENTS	The jurisdictions surrounding the Airport have existing Comprehensive Plans, Zoning Maps and building code requirements. It is strongly recommended that compatible land use planning be consistent among jurisdictions, including use of the Part 150 contours and recommendations. In addition, any infill development occurring within at least the 60 DNL noise contour should meet sound attenuation guidelines. The implementation of the Future Noise Exposure Map and the Noise Compatibility Recommendations will reduce the number of people in the 65 or greater DNL contours; however, new or infill development, or changes in land use should be premised on avoiding additional non-compatible land uses.
COST	The cost for implementing these recommendations by both the Airport and the jurisdictions is within the normal planning activities of these entities.
RESPONSIBLE PARTIES	The Airport and jurisdictions are responsible for working together on compatible planning. The jurisdictions are responsible for updating the Plans, Maps and development regulations, as necessary.
AIRPORT ACTION	The Airport will consult with the jurisdictions concerning the updating of the Plans, Maps and development codes, and will coordinate with the jurisdictions on Airport development activities or changes.

TIME FRAME

These Actions can be initiated immediately and are not contingent upon other Recommendations.

RECOMMENDATION 8--UPDATE AND ESTABLISH ENVIRONMENTAL/NOISE ABATEMENT LIAISON OFFICE

ISSUE	Establish better communication concerning noise complaints and other environmental issues between the Airport and the citizens.
AMENDED ACTION	Update the existing noise complaint system, establish new procedures and establish a new office at the Airport to address all Airport related environmental issues.
COMMENTS	This Action will upgrade the existing noise complaint/community liaison office to better address not only noise issues but other environmental issues which are of concern to the public and users of the Airport. Such issues as aircraft noise, air quality, water quality and development issues can be addressed through this office. In addition, this office would be responsible for the implementation, administration and maintenance of the recommended Noise Monitoring System and would be responsible for addressing specific aircraft related noise questions through the use of the noise monitoring system and flight track system.
COST	The cost to implement this Action would be minimal at first but as conditions develop, an additional staff person may be necessary. This could be in the range of $45-60,000.
RESPONSIBLE PARTIES	The Airport is responsible for developing and setting up the office, the FAA is responsible for assisting the Airport when they can in providing information and data that may be within their purview.
AIRPORT ACTION	The Airport will initiate the development of the Office as soon as possible. Procedures and processes will be developed and duties assigned to existing personnel.
TIME FRAME	This Action can be implemented immediately and is not contingent upon other Actions.

RECOMMENDATION 9--INSTALL NOISE MONITORING SYSTEM AND DEVELOP PROGRAM

ISSUE

Verification of Noise Abatement Program and Flight Track Adherence.

NEW ACTION

It is recommended that the Airport install a permanent noise monitoring system to monitor noise levels and compliance with the noise abatement measures, and in the interim initiate seasonal on-site noise monitoring. The noise monitors should be placed as near as possible to the locations used for monitoring with this Study. Interim seasonal monitoring should take place at least twice a year, during the summer and winter seasons.

COMMENTS

This Action is intended to be used to help verify the runway use program recommended for the Airport, would determine the success of recommended noise abatement programs and would build a data base to be used for future updates to the FAR Part 150 Study. It could be used to identify aircraft that tend to operate in a manner inconsistent with other aircraft. This is an integral part to the Fly Quiet program and is necessary for the success of such a volunteer program.

A committee could help identify the potential noise monitoring sites and review the specifications for the system. This process takes approximately two years to complete. The noise monitoring sites must be owned or long-term leased by the Airport, be secure and have electrical power/telephone access.

COST

The cost to implement the seasonal monitoring is approximately $100,000 per year, and the cost to implement the permanent monitoring is approximately $600,000-1,500,000.

RESPONSIBLE PARTIES

The Airport is responsible for hiring the consultant, identifying the sites, budgeting for the equipment and installing the equipment through a contractor. The Airport is responsible for hiring the consultant to do seasonal monitoring until the permanent system is in place. The FAA is responsible for assisting the Airport with funding if such funding is available.

AIRPORT ACTION

The Airport will budget for seasonal monitoring, hire the consultant and initiate the process as soon as possible. They will apply for Federal funds for the permanent system when such funds become available.

TIME FRAME

The seasonal monitoring can begin whenever funds are available and the permanent system will take approximately two years to install, once funds are available.

RECOMMENDATION 10-DEVELOPMENT/IMPLEMENTATION OF FLY QUIET PROGRAM

ISSUE

Reduce single event noise levels, encourage greater compliance with noise abatement procedures, and continue to raise awareness of citizens noise concerns with the FAA and operators.

NEW ACTION

The Fly Quiet Program should be developed to:

- Monitor adherence to ideal noise abatement flight tracks
- Evaluate success of operators, aircraft types and other variables
- Establish goals and track level of improvement over time
- Offer incentives for improvement

The Fly Quiet Program should include the following elements:

- Aircraft noise should be related to its effects on people including such factors as annoyance, speech interference and sleep disturbance
- Comparative fleet quality between operators should also be included
- The program should utilize measured data from the Airport's noise monitoring system
- Incentives of sufficient importance that operators will take notice of the results, and
- Pilots and air traffic controllers should be included, if possible.

COMMENTS

A Fly Quiet Program has the potential of reducing single event noise levels and encouraging greater compliance with preferential flight corridors and procedures recommended in this Study. The program could potentially result in overall reductions in cumulative noise levels in some focused areas around the Airport as well. Identification of how individual aircraft operate at specific locations compared to the way the majority of aircraft operate, can help encourage the noisier operations to lower noise levels and/or adhere to established flight tracks. The specific elements and reporting techniques will be developed with the follow-on committee. The Fly Quiet Program cannot become fully

implemented until the new Noise Monitoring System has been tested and is operational.

COST

The cost for this Action will be part of existing staff functions.

RESPONSIBLE PARTIES

The Airport is responsible, through consultation with the follow-on committee, for developing the final elements of the Program, for obtaining the relevant data from the Noise Monitoring System and for preparing reports. The follow-on committee is responsible for helping develop the elements and working with the Airport in evaluating the results. FAA and operators are responsible for trying to follow the Fly Quiet recommendations after they are developed.

AIRPORT ACTION

The Airport will evaluate and identify, in conjunction with the follow-on committee, the elements of the Fly Quiet Program, evaluate the Noise Monitoring System, initiate the Program and continue to market the Plan and Program.

TIME FRAME

The elements of the Fly Quiet Program can be identified and developed as soon as the follow-on committee is established, and initiated soon afterward. The Program cannot be fully implemented and tested until installation of the Noise Monitoring System is completed.

RECOMMENDATION 11--OPERATIONS REVIEW AND PART 150 UPDATES

ISSUE

Update and Review of the FAR Part 150 Study.

CONTINUED ACTION

The FAR Part 150 Study is a five-year program recommended to be reevaluated at the end of the five-year period. In addition, if there is a significant change in either aircraft types or numbers of operations, or significant new facilities, then it is recommended that the Study be reevaluated prior to the end of the five-year time frame.

COMMENTS

It is recommended that Airport management undertake a yearly review of the aircraft types and numbers, along with the actual number of operations occurring at the Airport, and determine if they are consistent with the projections contained in the FAR Part 150 document. FAR Part 150 defines the level of change necessary to trigger a revision of the Noise Exposure Map to be when any change in the operation of the Airport would create any substantial new non-compatible use in any area depicted on the map beyond that which is forecast for the fifth calendar year after the date of approval. That is, if that change results in an increase in the yearly day-night average sound level of 1.5 DNL or greater in either an area which was formerly compatible but is hereby made non-compatible or in a land area which was previously determined to be non-compatible and whose non-compatibility is not significantly increased. The various recommendations will also be reviewed as to their ability to mitigate the projected noise intrusion and the overall effectiveness of the program.

At the end of the five-year study all of the forecasts and aircraft mix are to be reevaluated to determine the extent to which they have changed from those projected in this study, and are to be undated to reflect the following five years. If necessary, new mitigation measures are to be evaluated. Contingent upon Federal funds, the Noise Compatibility Program is to be reevaluated, and public review of documents will be incorporated.

COST

The cost of monitoring the information set forth in this section will be borne out of the normal Airport operating budget. Consultant assistance for various elements would be approximately $30,000.

RESPONSIBLE PARTIES

The Airport would be responsible for updating and monitoring the FAR Part 150 Study at the five-year increments or when there is a significant change in aircraft types or numbers of operations. The Federal Aviation Administration could help fund the update if there are funds available for such planning.

AIRPORT ACTION

Based on the monitoring activities described, the Airport will reevaluate the program when there is a significant change in operations, aircraft types or at the end of the five-year timeframe.

TIME FRAME

The Airport will continue its monitoring program and plan for a full update at the end of the fifth-year after submittal or earlier if necessary as per FAR Part 150.

RECOMMENDATION 12--ESTABLISH FOLLOW-UP ROUNDTABLE/ COMMITTEE

ISSUE

Formulation of Fly Quiet Program and Evaluation of other Noise Abatement Programs.

AMENDED ACTION

The Study Advisory Committee established for this Study has been instrumental in establishing these Recommendations. It is recommended that a similar committee continue to monitor programs implemented as a result of the Part 150 Study after its completion, establish the Fly Quiet Program guidelines and the Noise Monitoring Program.

COMMENTS

Considerable time and effort has been expended, by both the Airport and the Committee, in the development of this study, especially the "learning curve" effort and the building of relationships, that is too valuable a tool for communication to risk loosing at the end of this process. In addition, on-going aircraft operational procedures evaluation should be discussed through the Committee.

It is very difficult to foster a feeling of trust in many Airport planning efforts. Such a feeling can be developed through the members of this or a similar Committee. Both sides of most issues are represented and all interests are heard. This is very important for the continued successful implementation of the noise abatement program and operation of the Airport. A model for such continued committee activity is the San Francisco International Airport Roundtable.

COST

The cost for the Committee could be included in the normal operating expenses of the Airport, with Federal funding, if available.

RESPONSIBLE PARTIES

The Airport is responsible for determining the formulation of the committee and committee administration. Other parties may be responsible for appointing members of the committee. Committee members are responsible for attending and participating in committee functions.

AIRPORT ACTION

The Airport will hold committee meetings, on at least a quarterly basis, as a means of disseminating information and gathering input on noise abatement issues. The Committee will help the Airport in developing the Fly Quiet Program and the Noise Monitoring Program.

TIME FRAME

This Action can occur within the first few months of approval of the FAR Part 150 Study. It can also be implemented without regard to any other recommendation.