Chapter 7

NOISE COMPATIBILITY PROGRAM

NOISE COMPATIBILITY PROGRAM

The updated 14 CFR Part 150 Noise Compatibility Program (NCP) for Scottsdale Airport includes measures to abate aircraft noise, control land development, mitigate the impact of noise on non-compatible land uses, and implement and update the program. Part 150 requires that the program apply to a period of no less than five years into the future, although it may apply to a longer period if the sponsor so desires. This Noise Compatibility Program has been developed based on a ten-year planning period.

The objective of the noise compatibility planning process has been to improve the compatibility between aircraft operations and noise-sensitive land uses in the area, while allowing the Airport to continue to serve its role in the community, state, and nation. The NCP includes three elements that are aimed at satisfying this objective.

- The **Noise Abatement Element** includes noise abatement measures selected from the 21 alternatives evaluated in Chapter Five, Noise Abatement Alternatives.

- The **Land Use Management Element** includes measures to mitigate or prevent noise impact on existing noise-impacted land uses and future land use development in the Airport environs. Ten potential land use management techniques were evaluated in Chapter Six, Land Use Alternatives.

- The **Program Management Element** includes procedures and documents for implementing the recommended noise abatement and land use measures, monitoring the progress of the program, and updating the Noise Compatibility Program.

Each measure of the NCP is summarized in **Table 7D** at the end of this chapter. Included in the table is a brief description of each recommended measure, the entity responsible for implementing each measure, the cost of each measure, the proposed timing of measure implementation, and potential sources of funding.

NOISE ABATEMENT AND LAND USE MEASURES ELIMINATED FROM CONSIDERATION

Several noise abatement and land use alternatives were evaluated in this study. These were discussed with the Technical Advisory Team (TAT), local citizens, and government officials. The following paragraphs summarize those alternatives, presented for further discussion within Chapters Five and Six, which were eliminated from further consideration after additional study.

All of the noise abatement techniques deserving further consideration in Chapter Five were included within this Noise Compatibility Program. Within Chapter Six, 10 land use alternatives were recommended for further analysis. After presenting these alternatives to the Technical Advisory Team and introducing them to the public at a Public Information Workshop, it was decided that 9 of the 10 alternatives warrant further consideration and have, thereby, been included within this Noise Compatibility Program. One additional alternative was brought forth for consideration; that alternative is discussed in the following section. Each of the alternatives is discussed in detail within the Land Use Management Element of this chapter.

Acquisition of a noise and flight track monitoring system was recommended in Chapter 5 to support and monitor implementation of the Noise Compatibility Program. Per the City of Scottsdale City Council's vote, this recommendation was eliminated from consideration.

ADDITIONAL ALTERNATIVES CONSIDERED

During the public and Technical Advisory Team review period for Chapters Five and Six, it was suggested that the study review the installation of warning signage which would be used to advise individuals of loud and/or low flying aircraft. The purpose of the signage would be to provide additional disclosure along roadways and in adjacent residential development areas of the presence of the Airport and the impact that aircraft operations may have on these areas.

Upon evaluating this suggestion, it was determined that the installation of warning signage is problematic for several reasons. First, the purpose of road signs is to provide the driver guidance on road safety (speed limit, yield, pedestrian crossing, etc.) and directional/mileage information. Warning

signs advising a driver of aircraft overflights does not provide the driver guidance on how to safely and efficiently drive to his/her intended destination. This type of warning sign may also cause a driver to look up for aircraft instead of concentrating on the road ahead.

Secondly, road signs are typically concise statements (i.e. "lane ending", "stop", "speed limit 45") used by the driver to safely reach his/her destination. An example of a warning sign may be, "Warning, low and loud aircraft flying overhead." Information on how low and loud the aircraft are would have to be defined for the warning sign to be meaningful. A low/loud aircraft warning sign that is detailed enough to provide meaningful information would have to be larger than a standard sign in order for a driver to read from a fairly large distance while moving. This also introduces the potential hazard of the driver concentrating on reading the complete sign and not on the road.

Finally, an individual in adjacent residential areas could perceive the meaning of the sign in a manner which was not intended. For example, if the sign said "Loud aircraft," an individual may expect to experience deafening noise events. A "Low aircraft" sign could lead one to believe that they are in a potentially dangerous location. This perception could lead an individual to not purchase a home in a neighborhood they would have been pleased with if they had not seen the warning sign. Studies have shown that only 6.1 percent of people are highly annoyed by noise at 60 DNL. (See the Technical Information Paper, *Effects of Noise Exposure*, in the back of this document.) Placing a "Loud aircraft" sign in a residential area may deter the 93.9 percent of individuals that are normally not annoyed by 60 DNL level noise from purchasing in the neighborhood. There may also be an effect on home values, especially the homes located near the warning signs.

The purpose of road signs is to provide the driver with information to safely arrive at his/her destination. Warning signs with enough information for an individual to determine whether or not the aircraft flying over a specific neighborhood are, in their opinion, "low" or "loud" would have to be larger than a standard sign and a potential safety hazard. The current State fair disclosure law, local real estate agent education program, City website, and airport directional signage program already provide a means of informing the public of the presence of the airport and the potential impact the operation of the Airport may have on their daily lives.

Additional research in the communities of Burbank, California; Chandler, Arizona; and Santa Monica, California that have low aircraft warning signs found that these signs were located along roads that passed near the end of an active runway. The intent of these signs was to reduce the startle factor of car drivers as aircraft are very low over the portion of the road near the runway end.

Therefore, it is not recommended that warning signage be pursued for the areas surrounding Scottsdale Airport as part of this noise compatibility study. The City of Scottsdale, however, con-

trols area land use regulations and road signage within its municipal boundaries and is not prevented from installing warning signage.

Recommended noise abatement measures are described within this section and summarized in **Table 7D** at the end of this chapter.

EXISTING NOISE ABATEMENT MEASURES TO BE RETAINED FROM THE 1997 NCP

1. Continue informal preferential use of Runway 3.

Description. The Airport should continue to designate Runway 3 as the calm wind runway. The airport operates in a northeast flow 55 percent of the time. As a result, a majority of the louder operations occur northeast of the airport. This measure was established because of the vacant land to the north and east of the airport.

Although encroachment has occurred, an analysis of the noise sensitive development surrounding the airport reveals that there continues to be large parcels of undeveloped land northeast and northwest of the airport.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 9 and has been included in numerous public awareness measures including airport-sponsored noise abatement pilot briefings and the *Scottsdale Airport Pilot Guide*. This measure was also included in the 1986 NCP as Noise Abatement Measure 10.

Implementation Actions. The Airport should continue to recommend this procedure in all noise abatement-related public awareness measures including the pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

2. Continue to encourage Stage 2 aircraft to use Runway 21 for landings and Runway 3 for takeoffs.

Description. The Airport should continue to discourage takeoffs on Runway 21 and arrivals on Runway 3 for Stage 2 aircraft. This measure routes louder aircraft away from densely populated areas located south and west of the Airport.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 1 and was published as a recommendation in the *Scottsdale Airport Pilot Guide*. This is a modification of a measure included in the 1986 NCP as Noise Abatement Measure 1.

Implementation Actions. The Airport should continue to recommend this procedure in all noise abatement-related

public awareness measures including the pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

3. Continue to discourage right downwind and right base pattern entry, long straight-in approaches, and right turn-outs prior to reaching the airport boundary for aircraft using Runway 3.

Description. The Airport should continue to discourage right downwind and right base pattern entry, long straight-in approaches, and right turn outs prior to reaching the airport boundary for aircraft using Runway 3. This advisory procedure was developed to prevent low overflights of the residential areas east and southwest of the Airport and continues to be applicable.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 7 and is published as a recommendation in the *Scottsdale Airport Pilot Guide*. This measure was also included in the 1986 NCP as Noise Abatement Measure 8.

Implementation Actions. The Airport should continue to recommend this procedure in all noise abatement-related public awareness measures including the pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

4. Continue to encourage right turns as soon as practical and discourage straight-out and left turns on departure from Runway 21.

Description. The Airport should continue to encourage right turns as soon as practical on departure from Runway 21. Additionally, straight-out and left turns on departure should continue to be discouraged. The intent of this recommendation is to avoid overflight of noise sensitive areas south and southeast of the airport.

Relationship to 1997 NCP. This measure is a combination of two measures from the 1997 NCP, Noise Abatement Measures 2 and 6, and is included as a recommendation in the *Scottsdale Airport Pilot Guide*. The previous two measures were also included in the 1986 NCP as Noise Abatement Measures 2 and 7.

Implementation Actions. The Airport should continue to include this recommended procedure in all noise abatement-related public awareness measures including the pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

5. On Runway 21: Continue to prohibit stop-and-go operations, intersection take-offs, formations, and simulated single engine take-offs and training go-arounds by multi-engine aircraft.

Description. These operations are prohibited because they can result in greater aircraft noise in residential areas near the airport. Stop-and-go takeoffs, intersection takeoffs, and simulated single engine takeoffs by multi-engine aircraft result in aircraft being at lower than normal altitudes. This equates to greater noise levels experienced on the ground. Formation takeoffs also cause more noise on a single event basis than conventional takeoffs.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 5 and has been adopted as a City Ordinance and as part of the *Airport Rules and Regulations* and is published in the *Scottsdale Airport Pilot Guide*. The 1997 measure was a modification of Noise Abatement Measure 7 included in the 1986 NCP.

Implementation Actions. The Airport should continue to enforce this procedure in all noise abatement-related public awareness measures including the *Airport Rules and Regulations*, pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website and publications. Costs are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

6. Continue to discourage descents below 2,500 feet mean sea level (MSL) for practice instrument approaches.

Description. The Airport should continue to discourage descents below 2,500 feet MSL during practice instrument approaches. This procedure would keep aircraft from descending below 1,000 feet above airfield elevation during practice instrument approaches. The purpose of this measure is to reduce noise impacts during this type of operation.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 10 and has been adopted as part of the *Airport Rules and Regulations*. This measure was also included in the 1986 NCP as Noise Abatement Measure 11.

Implementation Actions. The Airport should continue to include this recommended procedure in all noise abatement-related public awareness measures including the Airport website, pilot video, flight school briefings, pilot briefings and added to the pilot guide.

Costs and Funding. The Airport will incur administrative costs for the pilot

briefings and updating the Airport website. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. This element is currently implemented and should continue in the future.

7. Continue to encourage National Business Aviation Association (NBAA) standard or manufacturers' comparable noise abatement procedures.

Description. The Airport should continue to request the use of standard NBAA departure procedures or the manufacturers' comparable noise abatement procedure for jets departing Runway 3 or Runway 21. These operations should be flown at the pilot's discretion and consistent with safety procedures.

Relationship to 1997 NCP. This measure was part of the 1997 NCP as Noise Abatement Measure 3 and is included as a recommendation in the *Scottsdale Airport Pilot Guide*. The 1997 measure is a modification of Noise Abatement Measure 4 included in the 1986 NCP.

Implementation Actions. The Airport should continue to recommend this procedure in all noise abatement-related public awareness measures including the pilot guide, Airport website, Jeppesen charts, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

8. Continue to prohibit touch-and-go operations between 9:30 p.m. and 6:00 a.m.

Description. The City of Scottsdale presently has an ordinance that prohibits touch-and-go operations between 9:30 p.m. and 6:00 a.m. (Ordinance 1341). This policy was enacted to limit nighttime noise impacts associated with touch-and-go operations. Since that time, additional residential development has occurred near the Airport that would also be impacted if this ordinance was repealed.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 8 and has been adopted as a City Ordinance and as part of the *Airport Rules and Regulations* and is published in the *Scottsdale Airport Pilot Guide*. This measure was also included in the 1986 NCP as Noise Abatement Measure 8.

Implementation Actions. The City should keep this ordinance as a measure to reduce nighttime noise impacts. The Airport should continue to enforce this procedure in all noise abatement-related public awareness measures including the pilot guide, Airport website, pilot video, Jeppesen guide, automated weather observation system (AWOS), and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport web-

site. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

9. Continue to prohibit maintenance run-up operations between 10:00 p.m. and 7:00 a.m.

Description. The Airport should continue to prohibit maintenance run-up operations between 10:00 p.m. and 7:00 a.m.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 4 and has been adopted as a City Ordinance and as part of the *Airport Rules and Regulations* and is published in the *Scottsdale Airport Pilot Guide*. The 1997 measure is a modification of Noise Abatement Measure 5 included in the 1986 NCP.

Implementation Actions. The Airport should continue to include this recommended procedure in all noise abatement-related public awareness measures including the pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will not incur any costs for maintaining this measure.

Timing. This element has been implemented and should continue in the future.

10. Continue to encourage use of AOPA Noise Awareness Steps by light single-engine aircraft.

Description. The Aircraft Owners and Pilots Association (AOPA) encourages quiet and neighborly flying by distributing generalized noise abatement procedures for use by propeller aircraft. These "Noise Awareness Steps" have recommendations on how to fly the aircraft, as well as where and when to fly. Most of the steps provide guidance on pilot technique when maneuvering near noise-sensitive areas. The steps also encourage cooperation with the airport staff on noise abatement issues. These procedures are listed in **Appendix F** of this document.

It is not possible to predict how often these procedures would be used, so it is not possible to quantify the effects of these procedures. Nevertheless, any use of these procedures will help the overall noise conditions around the airport. Consequently, the airport staff should encourage their use.

Relationship to 1997 NCP. This measure was included in the 1997 NCP as Noise Abatement Measure 11 and was published as a recommendation in the *Scottsdale Airport Pilot Guide*. This measure was not included in the 1986 NCP.

Implementation Actions. The Airport should continue to recommend this procedure in all noise abatement-related public awareness measures including the pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website. Costs for the pilot video and pilot

guide are addressed in Program Management Measure 6.

Timing. This is an ongoing measure.

NEW NOISE ABATEMENT MEASURES NOT INCLUDED IN THE 1997 NCP

11. Encourage the use of published approach patterns for Runway 21.

Description. The Airport should encourage the use of published approaches to Runway 21. This recommendation is intended to reduce the impacts of noise and low altitude overflights in the residential areas east and north of the Airport.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. The Airport should include this recommended procedure in all noise abatement related public awareness measures including the pilot guide, Airport website, pilot video, and pilot briefings.

Costs and Funding. The Airport will incur administrative costs for the pilot briefings and updating the Airport website. Costs for the pilot video and pilot guide are addressed in Program Management Measure 6.

Timing. For planning purposes, this is projected for 2005.

12. When ASR-11 radar installation is complete, request Air Traffic Control to coordinate on any new approach, departure, or routing procedures.

Description. To ensure that all of the appropriate agencies have been consulted, the Airport and Air Traffic Control should work together on the development of any new approach, departure, or routing procedure resulting from the ASR-11 radar installation.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. Once ASR-11 radar is available, the Airport should work with Air Traffic Control when developing new arrival, departure, and routing procedures.

Costs and Funding. Administrative costs will be borne by the City of Scottsdale and the FAA.

Timing. This should be done as needed following the installation of ASR-11 radar. This is anticipated in 2006.

13. The City will encourage FAA to chart visual flight procedures to provide pilots with minimum safe flying altitudes and paths on approach.

Description. The City of Scottsdale will encourage FAA to pursue charting visual procedures to and from Scottsdale Airport after suitable radar coverage is established. The result will be

documented visual approach procedures, developed by FAA, for aircraft navigating through and around Class B airspace. Charted visual approaches identify visual landmarks, paths and minimum safe flying altitudes for aircraft approach an airport. The necessary weather minimums are also depicted on the chart. The benefit of charted visual approaches will be the reduction of low-flying aircraft overflight noise impacts caused by transient pilots unfamiliar with the concentrated noise-sensitive land uses that surround Scottsdale Airport. This measure would reduce the impact of noise generated by aircraft approaching Scottsdale Airport outside the 65 DNL noise contour. The charted minimum safe altitudes would be consistent with the provisions of 14 CFR Part 91.119.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. The Airport should work with the FAA to chart these visual procedures that define minimum approach altitudes.

Costs and Funding. Administrative costs will be borne by the City of Scottsdale and the FAA.

Timing. This is recommended for implementation after FAA review and approval of the NCP and ASR-11 installation. This is anticipated in 2006.

14. Relocate existing ground run-up area and construct a ground run-up enclosure if deemed necessary.

Description. The current ground run-up area should be relocated to reduce aircraft noise impacts related to run-up operations. A ground run-up enclosure should be built if deemed necessary to attenuate noise from maintenance run-ups. The structure should be built to accommodate the largest aircraft now conducting run-ups or those which may conceivably be expected in the future.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. This measure is the responsibility of the City of Scottsdale. After FAA review and approval of the NCP, Scottsdale should contract with an acoustical engineer to develop detailed design specifications, and then open a request for proposals and cost quotations. After selecting a contractor, any required environmental reviews must be conducted before starting construction.

Costs and Funding. This project is estimated to cost $900,000. It will be eligible for up to 95 percent funding through the noise set-aside of the Federal Airport Improvement Program. An additional 2.5 percent of the funding is available through the Arizona Department of Transportation fund matching program. The City of Scottsdale will be responsible for the remaining 2.5 percent of the cost. The local share must be provided through the Airport's capital budget.

Timing. For planning purposes, this is projected for the years 2005-2006. This allows time for design and any required environmental reviews.

15. Inform transient helicopter pilots of the noise abatement flight paths.

Description. The Airport developed a helicopter pilot guide consistent with the routes established in the FAA letter of agreement. This will be distributed to all transient helicopter pilots to familiarize them with the area and flight routes, and provide a reference guide on how to avoid overflying noise-sensitive land uses in the area.

Relationship to the 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. The Airport should continue to develop and update the helicopter pilot guide in coordination with the FAA and Air Traffic Control Tower for general distribution to transient helicopter pilots.

Costs and Funding. The Airport will incur administrative and printing expenses to develop and produce the helicopter pilot guide. This cost will be covered under the Airport operating budget. It is estimated that it will cost approximately $2,500 for each edition to be developed and print the helicopter pilot guide. There could be a total of two editions of the guide during the life of this plan.

Timing. This is an ongoing measure that should be continued into the future.

16. Change Phoenix Sectional Aeronautical Chart to depict additional populated places.

Description. The Airport encouraged the FAA to pursue changing the Phoenix Section Aeronautical Chart to depict the Cave Creek and Carefree areas as populated places. Changing the chart would limit noise exposure in these areas by establishing a minimum flyover altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. The Airport should coordinate with the FAA to incorporate these changes to the appropriate charts.

Costs and Funding. The FAA will incur administrative expenses to coordinate this measure.

Timing. Changes to sectional aeronautical charts take a substantial amount of time to prepare and process. The required changes for this measure are projected to occur in 2005.

NOISE CONTOURS

The recommended noise abatement measures do not involve any changes that would alter the 2004 baseline noise exposure contours, shown in **Exhibit 7A**. Noise contours projected for the years 2009 and long range 2025, however, would change with implementation of the proposed new noise abatement measures. The updated future noise contours are shown in **Exhibits 7B** and **7C**. For the most part, the

noise contours are very similar in shape to the baseline noise contours presented in Chapters Three and Four of the *Noise Exposure Maps* document. (See Exhibits 3H, 3J, and 3K in Chapter Three.) The only difference is the removal of the bulge in the contours northwest of Runway 21, due to maintenance run-up activity. A comparison of the noise impacts of the Noise Compatibility Plan contours with the baseline contours is presented later in this chapter.

LAND USE MANAGEMENT ELEMENT

The recommended land use mitigation measures for the vicinity of Scottsdale Airport are presented on the following pages and summarized within **Table 7D**.

EXISTING LAND USE MEASURES TO BE RETAINED FROM THE 1997 NCP

1. Within their respective General Plans, the cities of Scottsdale and Phoenix should maintain the compatibly planned areas within the 55 DNL contour.

Description. Within the *City of Scottsdale General Plan 2001* and the *City of Phoenix's General Plan* and *General Plan Land Use Map*, compatible land uses have been planned for the areas surrounding Scottsdale Airport, including those areas within the 55 DNL noise contour. The City of Scottsdale should preserve and encourage the City of Phoenix to preserve, current compatible industrial, commercial, and open space designations within the study area. In addition, the jurisdictions should strongly discourage rezoning for residential and other noise-sensitive land uses that are not consistent with the respective city's general plans. The compatible land use designations should be maintained to ensure compatible development in the future.

Relationship to 1997 NCP. This measure is a continuation of Land Use Measure 2 from the 1997 Noise Compatibility Plan. This measure was not included in the 1986 NCP.

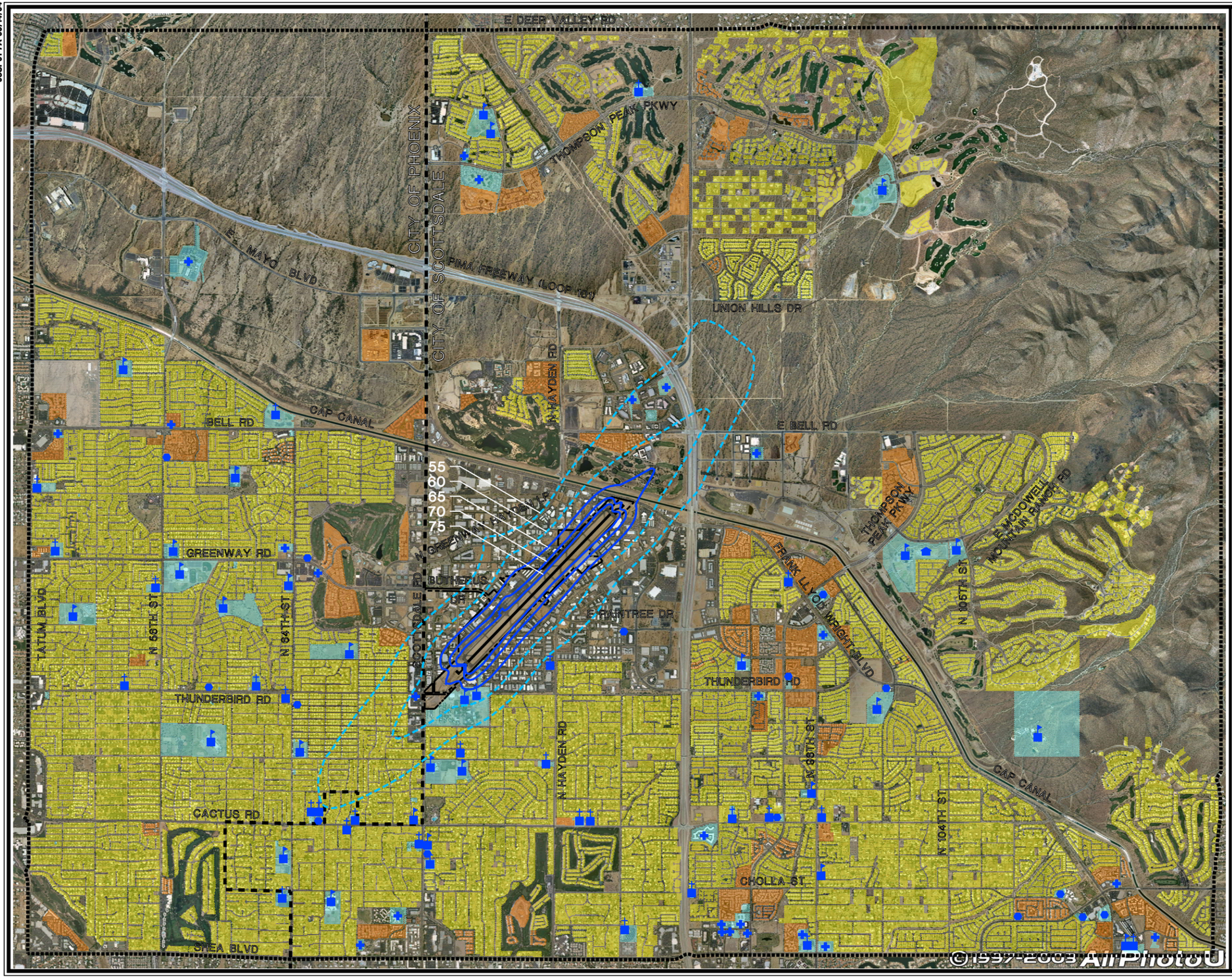
Implementation Actions. The City of Scottsdale should adopt the Noise Compatibility Program (NCP) as an element of its general plan to ensure the policy recommendations of the NCP are given the same weight as other land use policies. Scottsdale should also strongly encourage the City of Phoenix to adopt this policy as part of its general plan.

Costs and Funding. Adoption of this measure would involve administrative expenses for the cities of Scottsdale and Phoenix. These expenses would be paid out of the cities' operating budgets.

Timing. Amendments to the city's general plan should occur soon after city council approval. Additionally, Scottsdale should encourage the City of Phoenix to adopt this policy soon after the NCP has been approved by city council. This measure is ongoing.

2. The cities of Scottsdale and Phoenix should maintain the compatibly-zoned areas within the project study area.

03SP01-7A-09/14/04



LEGEND

- Detailed Land Use Study Area
- Municipal Boundary
- Airport Property
- Single-Family Residential
- Multi-Family Residential
- Noise Sensitive
- Daycare Facility
- Library
- Medical/Dental/Nursing
- Museum
- Place of Worship
- School
- 2004 Noise Exposure Contour, Marginal Effect
- 2004 Noise Exposure Contour, Significant Effect

Source: Coffman Associates Analysis. Maricopa County Assessors Database.

Photo: Todd Photographics Service.

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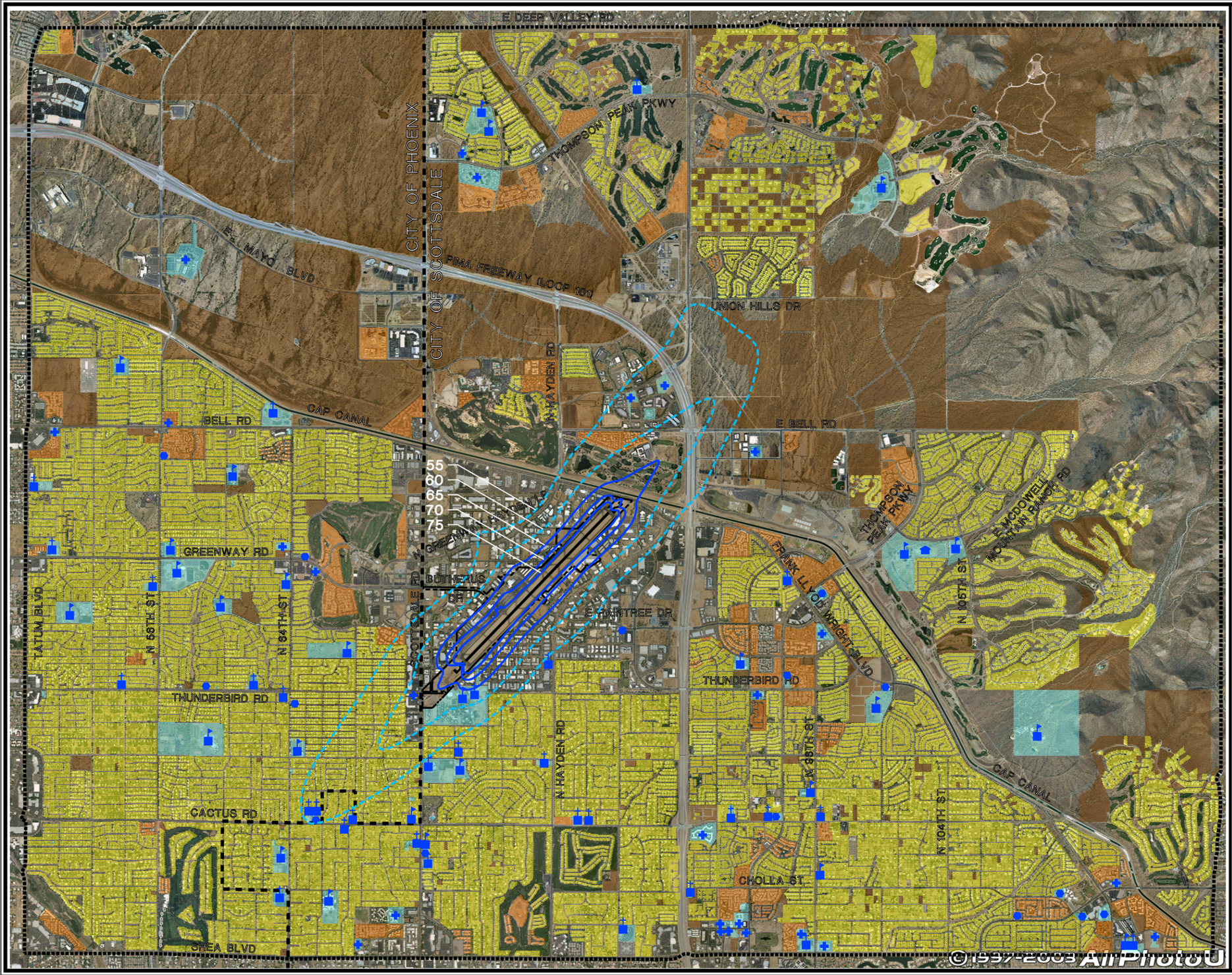
SCALE IN FEET

SCOTTSDALE AIRPORT

Exhibit 7A

2004 NOISE EXPOSURE CONTOURS WITH LAND USE

03SP01-7B-09/14/04



LEGEND

- Detailed Land Use Study Area
- Municipal Boundary
- Airport Property
- Single-Family Residential
- Multi-Family Residential
- Noise Sensitive
- Daycare Facility
- Library
- Medical/Dental/Nursing
- Museum
- Place of Worship
- School
- Undeveloped Areas Planned for Residential Development
- 2009 Noise Exposure Contour, Marginal Effect
- 2009 Noise Exposure Contour, Significant Effect

Source: Coffman Associates Analysis. Maricopa County Assessors Database.

Photo: Todd Photographics Service.

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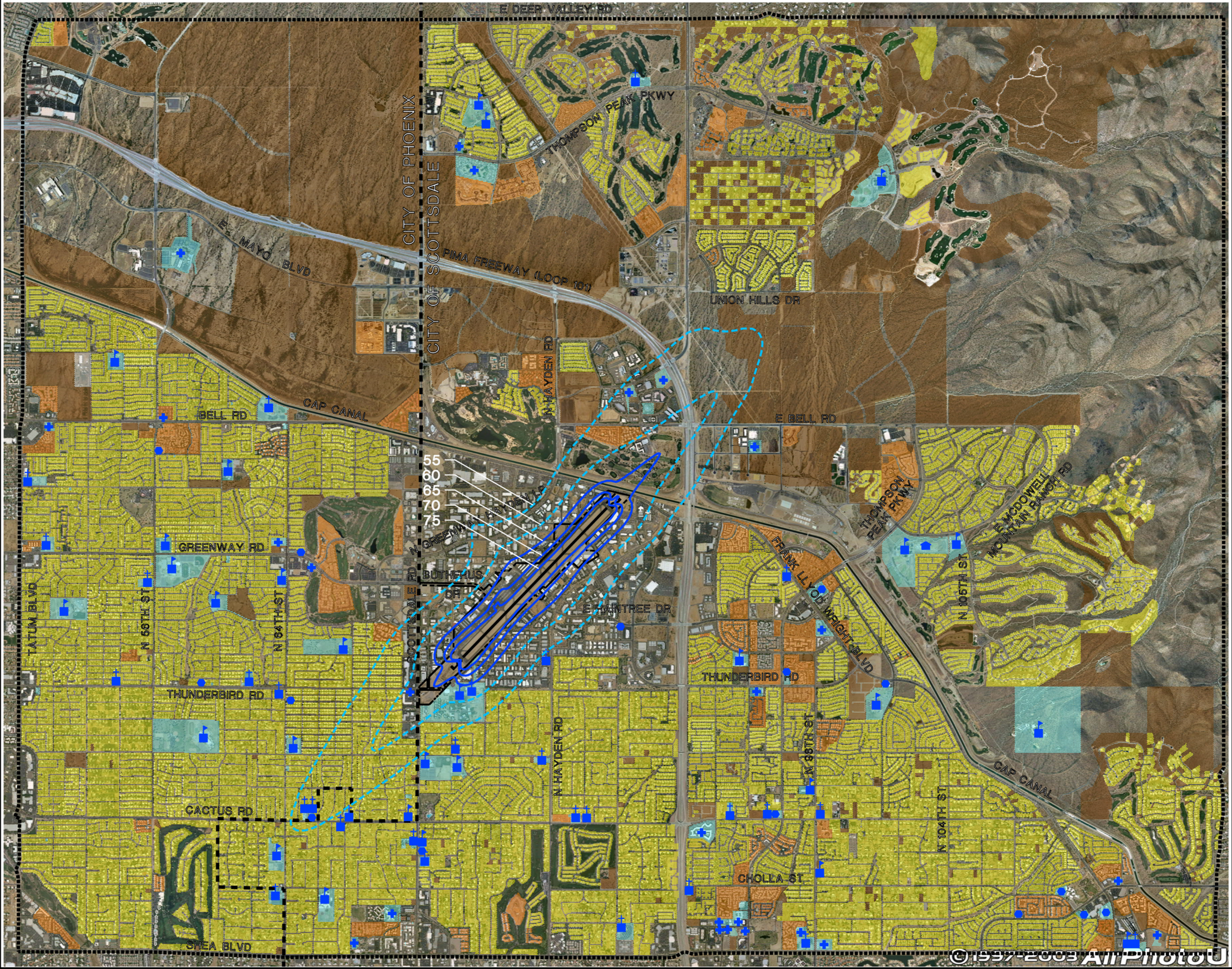
SCALE IN FEET

SCOTTSDALE AIRPORT

Exhibit 7B

2009 NOISE EXPOSURE CONTOURS WITH LAND USE

03SP01-7C-09/14/04



LEGEND

- Detailed Land Use Study Area
- Municipal Boundary
- Airport Property
- Single-Family Residential
- Multi-Family Residential
- Noise Sensitive
- Daycare Facility
- Library
- Medical/Dental/Nursing
- Museum
- Place of Worship
- School
- Undeveloped Areas Planned for Residential Development
- 2025 Noise Exposure Contour, Marginal Effect
- 2025 Noise Exposure Contour, Significant Effect

Source: Coffman Associates Analysis.
Maricopa County Assessors Database.

Photo: Todd Photographics Service.

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SCALE IN FEET

SCOTTSDALE AIRPORT

Exhibit 7C

2025 NOISE EXPOSURE CONTOURS WITH LAND USE

Description. This land use measure is closely related to Land Use Measure 1. The City of Scottsdale should retain, and encourage the City of Phoenix to retain current commercial and industrial zoning designations within the study area. In addition, both cities should strongly discourage rezoning for residential and other noise-sensitive land uses that are not consistent with their respective general plans. This will ensure compatible development within the Airport environs.

Relationship to 1997 NCP. This measure is a continuation of Land Use Element 3 from the previous Noise Compatibility Plan. This measure was not included in the 1986 NCP.

Implementation Actions. This is an ongoing measure which is implemented as land use planning decisions are made within the Airport environs.

Costs and Funding. No costs are associated with this measure as it requests that the current zoning in the project study area be maintained.

Timing. This is an ongoing measure.

3. The City of Scottsdale should consider rezoning the parcel located directly north of the airport, within the 65 DNL noise contour, to a compatible land use. The parcel is currently utilized as a golf course.

Description. As depicted on **Exhibit 7D,** there is one area within the 65 DNL noise contour in the City of Scottsdale which is zoned for residential land uses. This area is located directly north of the airport and is zoned in a manner which allows low-density residential development (R1-35). Portions of this parcel are located within the 65 DNL noise contour. While this area is currently developed as a golf course, consideration should be given to rezoning the property to ensure compatible development in the future.

Relationship to 1997 NCP. This measure is a continuation of measure Land Use Element 5 from the previous Noise Compatibility Plan. This measure was not included in the 1986 NCP.

Implementation Actions. Implementation of this measure will require an amendment to the City of Scottsdale's Zoning Map.

Costs and Funding. Adoption of this measure would involve administrative expenses for the City of Scottsdale. These expenses would have to be paid out of the city's operating budget.

Timing. For planning purposes, this is projected for 2005.

4. The cities of Scottsdale and Phoenix should enact Project Review Guidelines for those areas impacted by Airport operations.

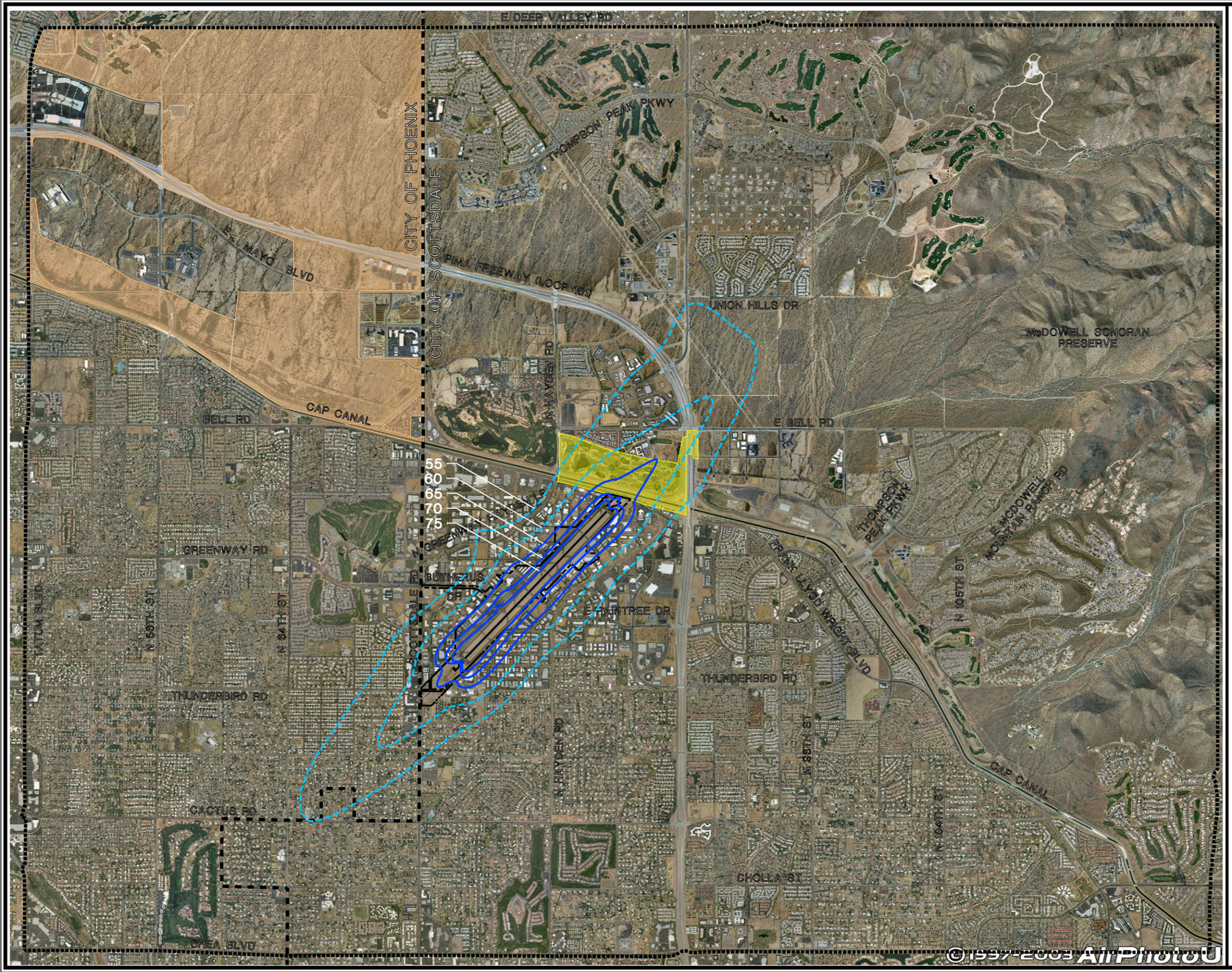
Description. Scottsdale Airport, in cooperation with the City of Scottsdale, has established informal Project Review Guidelines. With the use of these guidelines, the airport has been successful in implementing fair disclosure policies and obtaining avigation easements as a condition of development approval. However, in order to ensure the contin-

ued success of the development review guidelines, these policies should become formal policies which would be reflected within the various regulatory tools for the city. The first step in formalizing the process would be to refer to the review guidelines within the *City of Scottsdale General Plan 2001* and the *City of Phoenix General Plan.* This reference sets the stage for enacting development review guidelines, as well as a formal overlay zoning ordinance for the City of Scottsdale and an amendment to the city's building code. It should be stated within the general plans that the development review guidelines would be utilized prior to the approval of zoning changes or subdivision plats and, for existing structures, prior to the issuance of building permits when modifications to existing noise-sensitive development are being pursued.

Table 7A provides an overview of the allowed uses within the various zones which would be established through the Project Review Guidelines. **Exhibit 7E** depicts the boundaries of the zones. The zone boundaries and allowed uses were determined based on the existing informal policies currently used by the City of Scottsdale. The purpose of Zone AC-1 would be to provide fair disclosure to prospective lessees and/or property purchasers within the zone. This disclosure would be in the form of a brief statement which would be provided to the potential property residents, and included within the covenants and restrictions of the property. The existing "Notice of Prospective Purchasers of Proximity to the Scottsdale Airport," contained in **Appendix F,** would be suitable for disclosure purposes. The installation of signage, indicating the proximity of the Airport to the development, could also be included as a requirement of subdivision approval. This signage could be located within the developer or realtor's onsite offices. Finally, a requirement for the issuance of avigation easements prior to the development of noise-sensitive land uses would be established for properties within this zone.

The boundary of Zone AC-2 is a hybrid boundary consisting of the 55 DNL noise contour prepared as part of the previous Part 150 Study, and the 2009 and 2025 55 DNL noise contours prepared as part of this study. This hybrid contour would be limited to the Scottsdale city limits and provides for a "worst case" noise scenario. The areas contained within the 55 DNL noise contour in the City of Phoenix are, for the most part, built-out; therefore, the requirements of this overlay would not be necessary within the City of Phoenix. The boundaries of this noise contour have been squared-off to match streets or property lines. This allows for easier boundary interpretation and regulation implementation. Requirements within this zone include sound insulation for noise-sensitive development and the issuance of an avigation easement prior to development within this overlay. Amendments to the City of Scottsdale's building code would help to ensure the incorporation of sound insulation measures upon the issuance of a building permit within AC-2. This amendment is described later on in this chapter.

03SP01-7D-09/14/04



LEGEND

- Detailed Land Use Study Area
- Municipal Boundary
- Airport Property
- Low Density Residential Zoning
- Areas Planned for Compatible Land Use and Zoned for Residential Land Use.

Source: Coffman Associates Analysis.
Maricopa County Assessors Database.

Photo: Todd Photographics Service, 30 April 2004.

NORTH

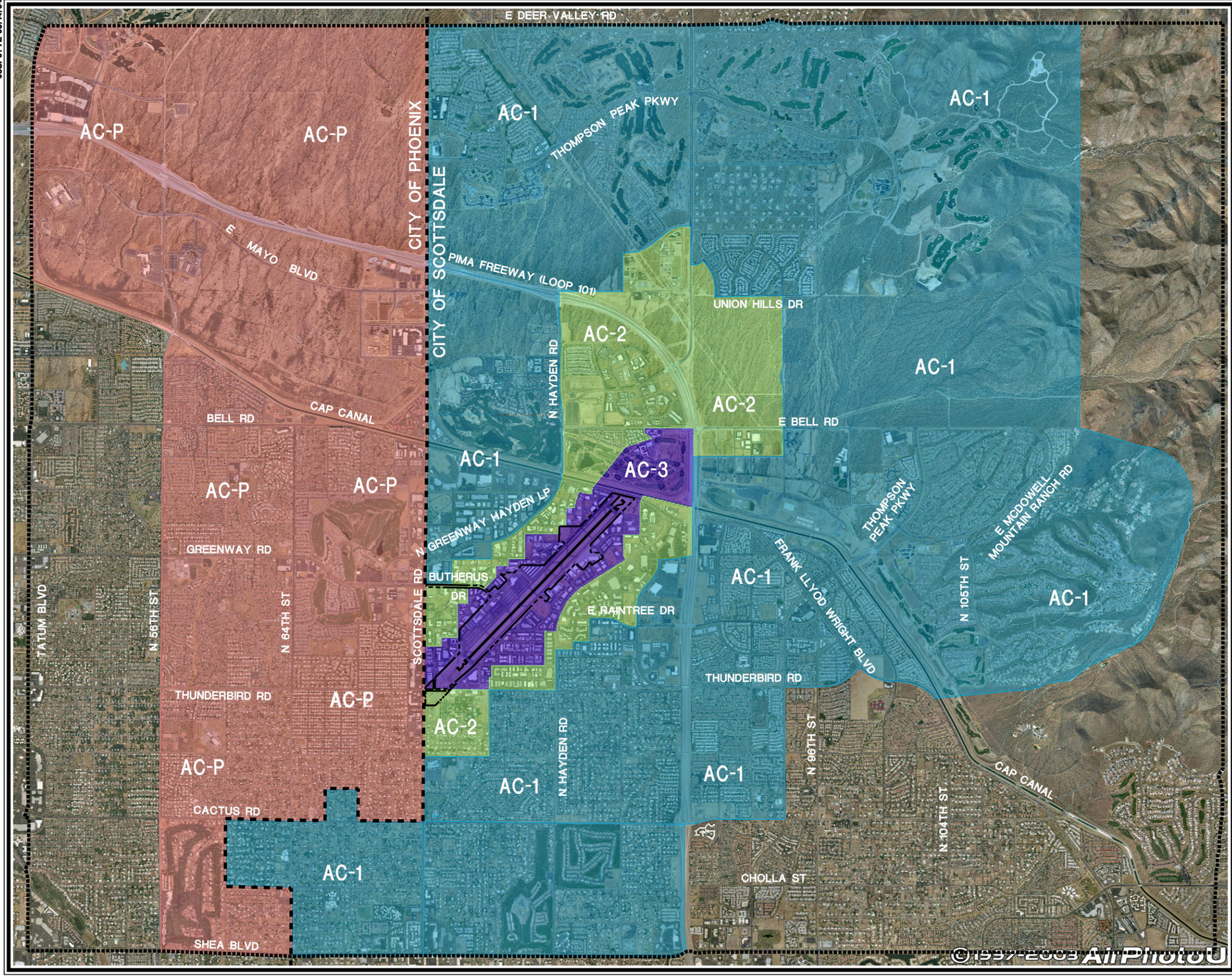
0 4000

SCALE IN FEET

SCOTTSDALE AIRPORT

Exhibit 7D
RECOMMENDED ZONING REVISIONS

03SP01-7E-09/14/04



LEGEND

- Detailed Land Use Study Area
- Municipal Boundary
- Airport Property
- AC-P
- AC-1
- AC-2
- AC-3

Source: Coffman Associates Analysis.
Photo: Todd Photographics Service, 30 April 2004.

NORTH

0 4000

SCALE IN FEET

SCOTTSDALE AIRPORT

Exhibit 7E
RECOMMENDED AIRPORT INFLUENCE AREA AND NOISE OVERLAY ZONES

TABLE 7A
Airport Overlay Zone Matrix
Scottsdale Airport

	Uses Allowed Within Each Zone			
	City of Scottsdale			City of Phoenix
	AC-1	AC-2	AC-3	AC-P
RESIDENTIAL				
Single-family, duplex, multi-family, manufactured housing	Y[1,3]	Y[1,3,4]	N	Y[1]
Recreational vehicle parks	Y[1,3]	Y[1,3]	N	Y[1]
Other residential	Y[1,3]	Y[1,3,4]	N	Y[1]
PUBLIC FACILITIES				
Education facilities	Y[1,3]	Y[1,3,4]	N	Y[1]
Religious facilities, libraries, museums, galleries, clubs and lodges	Y[1,2,3]	Y[1,3,4]	N	Y[1,2]
Outdoor sport events, entertainment and public assembly except amphitheaters	Y[1,2]	Y[1,3]	N	Y[1,2]
Indoor recreation, amusements, athletic clubs, gyms and spectator events	Y[1,2]	Y[1,3]	Y[1,3]	Y[1,2]
Neighborhood parks	Y[1,2]	Y[1,3]	Y[1,3]	Y[1,2]
Community and regional parks	Y[1,2]	Y[1,3]	Y[1,3]	Y[1,2]
Outdoor recreation: tennis, golf courses, riding trails, etc.	Y[1,2]	Y[1,3]	Y[1,3]	Y[1,2]
Cemeteries	Y[1]	Y[1,3]	Y[1,3]	Y[1]
COMMERCIAL				
Hotels/motels	Y[1,2]	Y[1,2,3,4]	Y[1,2,3,4]	Y[1,2]
Hospitals and other health care services	Y[1,2]	Y[1,2,3,4]	N	Y[1,2]
Services: finance, real estate, insurance, professional and government offices	Y[1,2]	Y[1,2,3]	Y[1,2,3]	Y[1,2]
Retail sales: building materials, farm equipment, automotive, marine, mobile homes, recreational vehicles and accessories	Y[1]	Y[1,3]	Y[1,3]	Y[1]
Restaurants, eating and drinking establishments	Y[1,2]	Y[1,2,3]	Y[1,2,3]	Y[1,2]
Retail sales: general merchandise, food, drugs, apparel, etc.	Y[1]	Y[1,3]	Y[1,3]	Y[1]
Personal services: barber and beauty shops, laundry and dry cleaning, etc.	Y[1]	Y[1,3]	Y[1,3]	Y[1]
Automobile service stations	Y[1,2]	Y[1,2,3]	Y[1,2,3]	Y[1,2]
Repair services	Y[1]	Y[1,3]	Y[1,3]	Y[1]
INDUSTRIAL				
Processing of food, wood and paper products; printing and publishing; warehouses, wholesale and storage activities	Y[1,2]	Y[1,2,3]	Y[1,2,3]	Y[1,2]

TABLE 7A (Continued)
Airport Overlay Zone Matrix
Scottsdale Airport

	Uses Allowed Within Each Zone			
	City of Scottsdale			City of Phoenix
	AC-1	AC-2	AC-3	AC-P
Refining, manufacturing and storage of chemicals, petroleum and related products, manufacturing and assembly of electronic components, etc.	Y[1,2]	Y[1,2,3]	Y[1,2,3]	Y[1,2]
Manufacturing of stone, clay, glass, leather, gravel and metal products; construction and salvage yards; natural resource extraction and processing, agricultural, mills and gins	Y[1,2]	Y[1,2,3]	Y[1,2,3]	Y[1,2]
AGRICULTURE				
Animal husbandry, livestock farming, breeding and feeding; plant nurseries (excluding retail sales)	Y[1]	Y[1]	Y[1]	Y[1]
Farming (except livestock)	Y[1]	Y[1,3]	Y[1,3]	Y[1]
MISCELLANEOUS				
Transportation terminals, utility and communication facilities	Y[1]	Y[1,2,3]	Y[1,2,3]	Y[1]
Vehicle parking	Y[1]	Y[1]	Y[1]	Y[1]
Signs	Y[1]	Y[1]	Y[1]	Y[1]

1 Fair disclosure statement required as a condition of development approval or building permit issuance.
2 Use is permitted as long as it complies with the requirements of the Airport Height and Hazard Overlay District.
3 Avigation easement required as a condition of development approval or building permit issuance.
4 Sound insulation required to reduce interior to exterior noise levels by at least 25dB.

The boundary of AC-3 is also a hybrid boundary consisting of the 65 DNL noise contour prepared as part of the previous Part 150 Study and the 2009 and 2025 65 DNL noise contours. The boundary is being squared-off to allow for easy interpretation and implementation. Noise-sensitive development is not to be allowed within this overlay, and an avigation easement is required prior to development approval.

Zone AC-P applies only within the City of Phoenix. The development requirements for this boundary would mirror the requirements contained within AC-1. The purpose of the overlay would be to ensure fair disclosure of Airport operations. This overlay boundary would be the only boundary incorporated into the *City of Phoenix General Plan.* Once the boundary is reflected within the plan, an overlay zoning district could be adopted within the Phoenix Zoning Ordinance. The City of Phoenix Planning Department would need to coordinate with Scottsdale Airport staff whenever a development proposal is submitted within AC-P. Airport staff would provide comments on the proposed development and provide a fair disclosure statement which would be provided to

the applicant upon development approval. **Appendix F** contains sample Airport noise overlay zones which have been enacted in various locations throughout the United States.

Relationship to 1997 NCP. This is a modification and continuation of Land Use Elements 6 and 10 from the previous Noise Compatibility Program. These measures were not included in the 1986 NCP.

Implementation Actions. This recommendation requires amendments to the cities of Scottsdale and Phoenix's general plans. The City of Scottsdale should encourage the City of Phoenix to enact this measure soon after the NCP is approved by the Scottsdale City Council.

Costs and Funding. This measure would involve administrative expenses for the cities of Scottsdale and Phoenix. Funding would come from the various jurisdictions' operating budgets.

Timing. For planning purposes, this is projected for 2005.

5. The cities of Scottsdale and Phoenix should adopt the overlay zones contained within the proposed Project Review Guidelines.

Description. Within the Project Review Guidelines discussion, a series of overlay zones were proposed for the portions of the study area contained within the City of Scottsdale. These overlay zones were based on the existing informal development review guidelines utilized by the City when reviewing development approvals. Consideration should be given to incorporating these overlay zones into the City of Scottsdale Zoning Ordinance. This would provide regulatory support for the proposed Project Review Guidelines and would help ensure compatible development within the Airport environs.

The City of Phoenix should consider adopting overlay AC-P. The requirements of this overlay zone would include notifying Airport staff of proposed development and attaching a fair disclosure notice or avigation easement if necessary to all development approvals regardless of land use or compatibility. **Appendix F** contains sample Airport noise overlay zones which have been enacted in various locations throughout the United States.

Relationship to 1997 NCP. This is a modification and continuation of Land Use Element 6 from the previous Noise Compatibility Program. This measure was not included in the 1986 NCP.

Implementation Actions. This measure would require amendments to zoning ordinances of the cities of Scottsdale and Phoenix.

Costs and Funding. Adoption of this measure would involve administrative expenses for each of the jurisdictions. The expenses would be paid out of the cities' operating budgets.

Timing. For planning purposes, this is projected for 2005.

6. If the Project Review Guidelines and Overlay Zoning Alternatives are not implemented, the City of Scottsdale should consider amending the subdivi-

sion regulations to require the issuance of avigation easements and fair disclosure notices for the areas contained within AC-1, AC-2, and AC-3 of the overlay zoning.

Description. The City of Scottsdale is utilizing other means of obtaining avigation easements for the Airport; therefore, changes to the subdivision regulations may not warranted. However, if implementation of the Project Review Guidelines and Overlay Zoning alternatives does not occur, consideration should be given to revising the subdivision regulations for the City of Scottsdale. The revised regulations would require avigation easements for development within the areas contained within the revised AC-1, AC-2, or AC-3 overlay zones.

Relationship to 1997 NCP. This is a modification and continuation of Land Use Element 8 from the previous Noise Compatibility Program. This measure was not included in the 1986 NCP.

Implementation Actions. This measure would require a revision to the City of Scottsdale's Subdivision Regulations.

Costs and Funding. Adoption of this measure would involve administrative expenses for the City of Scottsdale. These expenses would be paid out of the City's operating budget.

Timing. For planning purposes, this is projected for 2005.

7. The City of Scottsdale should consider amending its current building codes to incorporate prescriptive noise standards.

Description. Building code amendments incorporating prescriptive noise standards should be considered by the City of Scottsdale. Implementation of this alternative would not only protect future noise-sensitive development within the 60 DNL noise contour, but would also protect structures that undergo extensive remodeling or reconstruction, as these types of construction typically require a building permit and inspections. A sample building code is contained within **Appendix F**.

Prescriptive noise standards are perhaps the most commonly used approach to sound insulation standards. The existing building code would be amended to set forth specific construction standards intended to achieve a given level of noise reduction. It would be the duty of the local building inspectors to ensure that the correct materials are used and construction is done properly. After installation and a successful inspection, the building is presumed to be able to achieve the targeted level of noise reduction.

Relationship to 1997 NCP. This is a modification and continuation of Land Use Element 9 from the previous NCP. This measure was not included in the 1986 NCP.

Implementation Actions. Before adopting the recommended regulations, the City should test its current building standards to determine how much noise level reduction is being achieved by standard construction. It is possible that standard, energy-efficient construction is capable of achieving a noise level reduction of 25 decibels. If so, no special building code amendments would be needed.

If the test shows that special building code standards are needed, the City would have to enact the regulations through an amendment to the City's building code. If the suggested standards are adopted, the City should train its building inspectors to inspect for proper sound attenuation. A consultant skilled in the design and administration of sound insulation should be retained to provide this training.

Costs and Funding. The City would incur increased administrative costs for inspections of plans and construction of buildings requiring sound insulation. The City should consider setting its inspection fees to cover any additional expenses.

Timing. The City of Scottsdale should arrange for a test of current residential standards after City Council approval of the NCP. It should apply for funding for the test once the FAA approves the NCP. This is estimated for 2005.

NEW LAND USE MEASURES NOT INCLUDED IN THE 1997 NCP

8. Should the Project Review Guidelines alternative not be implemented, the City of Scottsdale should consider incorporating the 2009 noise contours into its general plan to allow for an additional level of fair disclosure.

Description. Many individuals reference a community's general plan when considering the purchase of property; therefore, incorporating an exhibit that depicts the areas impacted by aircraft operations into the general plan would allow for further fair disclosure. Within the *City of Scottsdale General Plan 2001*, compatible land uses have been planned for the areas immediately surrounding Scottsdale Airport. However, no reference is made to the noise impacts which result from aircraft operations. Therefore, consideration should be given to incorporating an exhibit which depicts the 2009 noise contours prepared as part of this study. These contours are larger than both the 2004 and 2025 contours. This alternative should be pursued if the suggested general plan amendments contained within the Project Review Guidelines alternative are not implemented.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. This measure can be established by amending the *City of Scottsdale General Plan 2001*.

Costs and Funding. Adoption of this measure would involve administrative expenses for the City of Scottsdale. These expenses would be paid out of the City of Scottsdale's operating budget.

Timing. Amendments to general plans take time to prepare and process. The required amendments for this measure are projected for 2005.

9. The City of Phoenix should consider rezoning the areas located north of the Central Arizona Project (CAP) canal which are currently zoned for residential land uses and planned for industrial or commercial land uses.

Description. Within the City of Phoenix, a number of parcels north of the CAP Canal are zoned in a manner that does not mirror the planned land uses from the City's general plan. These parcels are depicted on **Exhibit 7E**. Consideration should be given to rezoning these parcels in a manner which would be consistent with the City's general plan. This would ensure the properties are developed in a manner consistent with Airport operations.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. This measure would be implemented through an amendment to the City of Phoenix's Zoning Map. The City of Scottsdale should strongly encourage the City of Phoenix to undertake such an amendment.

Costs and Funding. This measure will involve administrative expenses that will be paid through the City of Phoenix's operating budgets.

Timing. For planning purposes, this is projected for 2005.

PROGRAM MANAGEMENT ELEMENT

The success of the Noise Compatibility Program requires a continuing effort to monitor compliance and identify new or unanticipated problems and changing conditions. Six program management measures are recommended at Scottsdale Airport. The City of Scottsdale Transportation Department, Aviation Division, as Airport operator, is responsible for implementing these measures. They are discussed below and summarized in **Table 7D**.

PROGRAM MANAGEMENT MEASURES TO BE RETAINED FROM THE 1997 NCP

1. Update *Noise Exposure Maps* and *Noise Compatibility Program.*

Description. The Airport management should review the *Noise Compatibility Program* and consider revisions and refinements as necessary. A complete plan update will be needed periodically to respond to changing conditions in the local area and in the aviation industry. This can be anticipated every seven to ten years.

An update may be needed sooner, however, if major changes occur. An update may not be needed until later if conditions at the Airport and in the surrounding area remain stable.

Proposed changes to the NCP should be reviewed by the FAA and all affected aircraft operators and local agencies. Proposed changes should be submitted to the FAA for approval after local consultation and a public hearing to comply with Part 150.

Even if the NCP does not need to be updated, it may become necessary to update the *Noise Exposure Maps* (NEMs). Part 150 requires the NEMs to be updated if any change in the operation of the Airport would create a substantial, new non-compatible use. The FAA in-

terprets this to mean an increase in noise levels of 1.5 DNL or more, above 65 DNL, over non-compatible areas that had formerly been compatible.

Relationship to 1997 NCP. This recommendation was included in the 1997 NCP as Program Management Measure 3. This was included in the 1986 NCP as Planning Measure 3.

Implementation Actions. No specific implementation actions, other than those discussed above, are required.

Costs and Funding. Costs of a complete update of the Noise Compatibility Program are estimated at $400,000. This would be eligible for up to 95 percent funding from the FAA. An additional 2.5 percent of the cost would be eligible for funding from the Arizona Department of Transportation. The City of Scottsdale would be responsible for the remaining 2.5 percent. This would come from the Airport operating budget.

Timing. This should be done as necessary. Updates are typically needed every seven to ten years, depending on how much change occurs at the Airport and in the local area. For planning purposes, one update can be expected over the next 10 years.

2. Monitor implementation of the updated Part 150 Noise Compatibility Program.

Description. The Airport management must monitor compliance with the Noise Abatement Element. This will involve checking periodically with Airport users and the local Tower Manager regarding compliance with the procedures.

Prior to the installation of the flight track monitoring system (Program Management measure 1), it may be necessary to arrange for noise monitoring, noise modeling, or flight track analysis to study issues that might arise in the future.

The City of Scottsdale should also maintain communications with local planning officials and planning officials from Phoenix to follow their progress in implementing the requested measures of the Land Use Management Element.

Relationship to 1997 NCP. This is a continuation from the 1997 NCP which has been implemented. This was included in the 1997 NCP as Program Management Measure 2 and in the 1986 NCP as Planning Measure 2.

Implementation Actions. No specific implementation actions are required other than those discussed in the description of this measure.

Timing. This should be done as necessary.

PROGRAM MANAGEMENT MEASURES NOT INCLUDED IN THE 1997 NCP

3. Continue noise complaint tracking program.

Description. Scottsdale Airport presently tracks noise complaints from both a 24-hour noise complaint hotline and also through the Airport's website. This

system allows the Airport to track changes in noise concerns over time and compare them with the number of operations occurring at the Airport. A monthly noise complaint report is posted on the City's webpage and presented to the City Council.

Presently, this information only provides the general location of the complainant. Each complaint is plotted within a one square mile grid. This program would be enhanced by the noise and flight track monitoring system as it would link the complaint file to a specific location.

By integrating this program with the noise and flight track monitoring system, the city would have a better understanding of residents' attitudes towards aviation noise.

Relationship to 1997 NCP. This is a modification of Program Management Measure 1 from the 1997 NCP, which has not yet been implemented. The previous measure called for the implementation of a Geographic Information System (GIS) to track the locations of complaints. This portion of the measure has been included in Program Management Measure 4.

Implementation Actions. The current program should be continued.

Costs and Funding. The Airport will not incur additional costs to continue this program. These costs will be funded through the Airport's operating budget.

Timing. This will be an ongoing program.

4. Continue and expand airport signage program.

Description. The Airport has taken an active role in helping to ensure that individuals are aware of the location of the Airport. One of the tools currently being utilized is the placement of directional signage in various locations around the Airport. This signage simply contains a graphic of an aircraft and an arrow indicating in which direction the Airport is located. Some of these signs also include information about the distance to the Airport.

Approximately 45 signs have been placed around the airport. These signs have been placed on major roadways leading to the airport. Starting at five miles away from the airport, one sign is placed every mile. Additional signs have been placed at major intersections and at freeway exits that provide access to the airport.

Ultimately, the City of Scottsdale Traffic Engineering Department must approve the placement of any road sign. This decision is based upon the number of signs presently in the area and the proximity to other similar signs. The Traffic Engineering Department wants to avoid situations where signage is excessive or redundant.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. The Airport should work with the City of Scottsdale Traffic Engineering Department to determine the appropriate location for Airport directional signage.

Costs and Funding. Administrative costs will be borne by the Airport for this measure.

Timing. This should be done as necessary.

5. Airport Pilot and Community Outreach Program.

Description. To address current aeronautical and noise abatement issues, the Scottsdale Airport has developed the "Fly Neighborly" program. This program has several components, some of which are directed at reducing noise through pilot education and others are intended to raise the awareness of current and potential residents about the existence of the Airport.

The "Fly Neighborly" program is a cooperative approach that includes the following efforts:

- Monthly noise reports available on the Airport's website.
- Pilot "Good Neighbor" Pledge to encourage pilot support and compliance with Scottsdale noise abatement efforts. As of September 2004, 231 of these pledges have been signed and returned to the Airport. The pledge is available at the Airport, as well as on the Airport's website.
- Monthly reminders are sent to Airport users to promote the voluntary curfew between 10:00 pm and 6:00 am.
- Production of a pilot educational video in CD ROM and web viewing format to educate pilots about our noise abatement program, along with airfield security, airfield driving procedures, hangar storage, and environmental compliance. This video is currently in the development stage and is expected to be completed in 2005.
- Monthly meetings with pilots to discuss safety and noise abatement procedures at the Airport.
- Homeowner Outreach program established to communicate with the public about the noise abatement efforts at the Airport. Airport staff is available to meet with Homeowners Groups to discuss various noise-related issues.
- Real estate agent outreach program to educate real estate agents and potential home buyers about Scottsdale Airport operations and its presence in the community.
- "Air Fair" open house events to allow public to visit the airport and learn about its operations.

Relationship to 1997 NCP. This measure was not included in the 1997 NCP.

Implementation Actions. The Airport should continue all efforts associated with the "Fly Neighborly" program and develop additional programs as necessary.

Costs and Funding. The cost for the publication of the pilot guide is $5,000 per year to update and print. It is expected that the guide will be updated and printed five times ($25,000) during the implementation of this plan. The production of the video is expected to cost $7,000. It is expected that the video will be updated one time ($7,000) during the implementation of this plan.

Timing. This is an ongoing measure.

RESIDUAL NOISE IMPACTS

The recommended noise abatement and land use management programs will reduce the cumulative aircraft noise exposure impact now and in the future. A review of the residential impacts from the Noise Compatibility Plan is presented below.

NOISE-SENSITIVE LAND USE

Table 7B shows the number of dwelling units exposed to noise for baseline conditions and after implementation of the Noise Compatibility Plan. For 2004 baseline conditions, 30 dwelling units are impacted by noise above 60 DNL.

In the year 2009, the total number of homes exposed to noise above 60 DNL without the Plan is estimated to be 117, with noise-sensitive growth risk areas included. Without the plan, in 2009 the total dwelling units exposed to aircraft noise would be 1,850. If the recommended plan is fully implemented, the number of dwellings impacted by noise in the year 2009 would decrease to 1,253.

TABLE 7B
Dwelling Units Exposed to Noise
With Noise Compatibility Plan Versus Baseline Conditions

	Baseline Noise (Without Plan)			With Noise Compatibility Plan	
	2004	2009[1]	2025[1]	2009[2]	2025[2]
55-60 DNL	1,093	1,733	1,728	1,139	1,253
60-65 DNL	30	117	60	114	58
65+ DNL	0	0	0	0	0
Total Above 55	1,123	1,850	1,788	1,253	1,311
Total Above 60	30	117	60	114	58

[1] Totals include noise-sensitive growth risk areas.
[2] Assumes noise-sensitive growth risk areas will be developed with land uses that are compatible with aircraft noise, if the plan is implemented and dwellings are required.
Source: Coffman Associates analysis.

Approximately 1,788 dwellings (including noise-sensitive growth risk areas) are impacted in the year 2025 without the Plan. If the recommended plan is implemented, the number would be reduced to 1,311.

Table 7C shows the population exposed to noise with implementation of the Noise Compatibility Plan in comparison with baseline conditions. For 2004 baseline conditions, 2,808 people are impacted by noise above 55 DNL. For the 2009 Noise Compatibility Plan, the population impacted by noise above 60 DNL is 285, compared with 292 (including noise-sensitive growth risk areas) in 2009 without the Plan. The total population exposed within the 55 DNL in 2009 is estimated to be 4,524 without the plan, and 3,196 (including growth risk areas).

SUMMARY

The Noise Compatibility Program for Scottsdale Airport is summarized in

Table 7D. The total cost of the program is estimated at $1,337,000. Most of the costs are associated with the construction of the ground run-up enclosure ($900,000). Other significant costs include an update of the Noise Compatibility Plan ($400,000).

Most of the cost (92.4 percent) would be eligible for FAA funding through the noise set-aside portion of the Federal Airport Improvement Program. Approximately 2.4 percent of the cost ($32,500) would be covered through Arizona Department of Transportation's fund matching program and the remaining 5.2 percent would come from Scottsdale Airport's capital and operating budgets.

TABLE 7C
Population Exposed to Noise
With Noise Compatibility Plan Versus Baseline Conditions

	Baseline Noise (Without Plan)			With Noise Compatibility Plan	
	2004	**2009[2]**	**2025[2]**	**2009[3]**	**2025[3]**
55-60 DNL	2,726	4,232	4,200	2,911	3,302
60-65 DNL	82	292	162	285	162
65+ DNL	0	0	0	0	0
Total Above 55	2,808	4,524	4,362	3,196	3,464
Total Above 60	82	292	162	285	162
LWP[1] Above 55	308	512	482	370	369

[1] LWP - level-weighted population is an estimate of the number of people actually annoyed by noise. The actual population within each 5-DNL range is multiplied by the appropriate response factor to compute LWP. The factors are: 60-65 DNL - .205; 65-70 DNL - .376; 70-75 DNL - .644; 75+ DNL - 1.00. See the Technical Information Paper, **Measuring the Impact of Noise on People**.

[2] Totals include noise-sensitive growth risk areas.

[3] Assumes noise-sensitive growth risk areas will be developed with land uses that are compatible with aircraft noise, if the plan is implemented.

Source: Coffman Associates analysis.

TABLE 7D
Summary of Noise Compatibility Program, 2004-2014
Scottsdale Airport

Measure	Cost to Airport Or Government	Direct Cost to Users	Timing	Lead Responsibility	Potential Funding Sources
NOISE ABATEMENT ELEMENT					
1. Continue informal preferential use of Runway 3.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
2. Continue to encourage Stage 2 aircraft to use Runway 21 for landings and Runway 3 for takeoffs.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
3. Continue to discourage right downwind and right base pattern entry, long straight-in approaches, and right turn-outs prior to reaching the airport boundary for aircraft using Runway 3.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
4. Continue to encourage right turns as soon as practical and discourage straight-out and left turns on departure from Runway 21.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
5. On Runway 21: Continue to prohibit stop-and-go operations, intersection take-offs, formations, and simulated single engine take-offs and training go-arounds by multi-engine aircraft.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
6. Continue to discourage descents below 2,500 feet MSL for practice instrument approaches.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
7. Continue to encourage NBAA standard or manufacturers' comparable noise abatement procedures.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
8. Continue to prohibit touch-and-go operations between 9:30 p.m. and 6:00 a.m.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
9. Continue to prohibit run-up operations between 10:00 p.m. and 7:30 a.m.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
10. Continue to encourage use of AOPA Noise Awareness Steps by light single-engine aircraft.	Administrative	None	Ongoing	Scottsdale Airport	Airport Operating Budget
11. Encourage the use of published approaches to Runway 21.	Administrative	None	2005	Scottsdale Airport	Airport Operating Budget
12. When ASR-11 radar installation is complete request Air Traffic Control to coordinate on any new approach, departure, or routing procedures.	Administrative	None	2006	Scottsdale Airport	Airport operating budget

TABLE 7D (Continued)
Summary of Noise Compatibility Program, 2004-2014
Scottsdale Airport

Measure	Cost to Airport Or Government	Direct Cost to Users	Timing	Lead Responsibility	Potential Funding Sources
NOISE ABATEMENT ELEMENT (Continued)					
13. The City will encourage FAA to chart visual flight procedures to provide pilots with minimum safe flying altitudes and paths on approach.	Administrative	None	2006	Scottsdale Airport	Airport operating budget and FAA
14. Relocate existing run-up area and construct a run-up enclosure if deemed necessary.	$900,000	None	2005-2006	City of Scottsdale	95 % FAA, 2.5% Arizona Department of Transportation, and 2.5% Scottsdale Airport Capital Budget
15. Inform transient helicopter pilots of the noise abatement flight paths.	$5,000 ($2,500 each for two editions)	None	2005	Scottsdale Airport	Airport Operating Budget
16. Change Phoenix Sectional Aeronautical Chart to depict additional populated places.	Administrative	None	2005	Scottsdale Airport	FAA
LAND USE MANAGEMENT ELEMENT					
1. Within their respective General Plans, the cities of Scottsdale and Phoenix should maintain the compatibly planned areas within the 55 DNL contour.	Administrative[1]	None	Ongoing	Cities of Scottsdale and Phoenix	City of Scottsdale Operating Budget and City of Phoenix Operating Budget
2. The cities of Scottsdale and Phoenix should maintain the compatibly-zoned areas within the project study area.	None	None	Ongoing	Cities of Scottsdale and Phoenix	City of Scottsdale Operating Budget and City of Phoenix Operating Budget
3. The City of Scottsdale should consider rezoning the parcel located directly north of the airport within the 65 DNL noise contour to a compatible land use. The parcel is currently utilized as a golf course.	Administrative[1]	None	2005[2]	City of Scottsdale	City of Scottsdale Operating Budget
4. The cities of Scottsdale and Phoenix should enact Project Review Guidelines for those impacted by airport operations.	Administrative[1]	None	2005[2]	Cities of Scottsdale and Phoenix	City of Scottsdale Operating Budget and City of Phoenix Operating Budget
5. The cities of Scottsdale and Phoenix should adopt the overlay zones contained within the proposed Project Review Guidelines.	Administrative[1]	None	2005[2]	Cities of Scottsdale and Phoenix	City of Scottsdale Operating Budget and City of Phoenix Operating Budget

TABLE 7D (Continued)
Summary of Noise Compatibility Program, 2004-2014
Scottsdale Airport

Measure	Cost to Airport Or Government	Direct Cost to Users	Timing	Lead Responsibility	Potential Funding Sources
LAND USE MANAGEMENT ELEMENT (Continued)					
6. If the Project Review Guidelines and Overlay Zoning Alternatives are not implemented, the City of Scottsdale should consider amending the subdivision regulations to require the issuance of avigation easements and fair disclosure notices for the areas contained within AC-1, AC-2, and AC-3 of the overlay zoning.	Administrative[1]	None	2005[2]	City of Scottsdale	City of Scottsdale Operating Budget
7. The City of Scottsdale should consider amending its current building codes to incorporate prescriptive noise standards.	Administrative[1]	None	2005[2]	City of Scottsdale	City of Scottsdale Operating Budget and inspection fees
8. Should the Project Review Guidelines not be implemented, the City of Scottsdale should consider incorporating the 2009 noise contours into its General Plan to allow for an additional level of fair disclosure.	Administrative[1]	None	2005[2]	City of Scottsdale	City of Scottsdale Operating Budget
9. The City of Phoenix should consider rezoning the areas located north of the CAP canal which are currently zoned for residential land uses and planned for industrial or commercial land uses.	Administrative[1]	None	2005[2]	City of Phoenix	City of Phoenix Operating Budget
PROGRAM MANAGEMENT ELEMENT					
1. Update Noise Exposure Maps and Noise Compatibility Program.	$400,000	None	2015	City of Scottsdale	95 % FAA, 2.5% Arizona Department of Transportation, and 2.5% Scottsdale Airport Capital Budget
2. Monitor implementation of the updated Part 150 Noise Compatibility Program.	Administrative	None	2005	City of Scottsdale	Airport Operating Budget
3. Continue noise complaint tracking program	Administrative	None	Ongoing	City of Scottsdale	Airport Operating Budget

TABLE 7D (Continued)
Summary of Noise Compatibility Program, 2004-2014
Scottsdale Airport

Measure	Cost to Airport Or Government	Direct Cost to Users	Timing	Lead Responsibility	Potential Funding Sources
PROGRAM MANAGEMENT ELEMENT (Continued)					
4. Continue and expand airport signage program.	Administrative	None	Ongoing	City of Scottsdale	Airport Operating Budget
5. Airport Pilot and Community Outreach Program	$7,000 for pilot video, $25,000 for pilot guide ($5,000 every two years)	None	Ongoing	City of Scottsdale	Airport Operating Budget

	Funding Source	Amount	Percent
Total Cost and Funding Source	FAA	$1,235,000	92.4%
	Arizona Department of Transportation	$32,500	2.4%
	City of Scottsdale Capital Budget	$32,500	2.4%
	City of Scottsdale Operating Budget	$37,000	2.8%
	Total Cost	$1,337,000	100.0%

[1] It is difficult to estimate the costs for amendments to a jurisdiction's general plans, Airport land use plans, zoning ordinances, subdivision regulations, and building codes. Depending on whether or not the amendment is undertaken separately, or in conjunction with the other suggested amendments, the costs will vary significantly. These expenses would include drafting an amendment, and staff time for presenting the findings to the various City or County officials. These expenses would have to be paid out of the various jurisdictions' operating budgets.

[2] Amendments to general plans, Airport land use plans, zoning ordinances, subdivision regulations, and building codes take time to prepare and process. It is anticipated that implementation of this amendment will be pursued 12 to 18 months after FAA approval of the Part 150 Noise Compatibility Program. This is expected to be within the 2005 to 2006 timeframe.