

Chapter Seven

NOISE COMPATIBILITY PROGRAM

14 CFR Part 150

Noise Compatibility Study Update

Santa Barbara Airport

The updated 14 CFR Part 150 Noise Compatibility Program for Santa Barbara 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 through the year 2014.

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 com-

munity, state, and nation. The NCP includes three elements that are aimed at satisfying this objective.

- The **Noise Abatement Element** includes five noise abatement measures selected from the 24 alternatives evaluated in Chapter Five, Noise Abatement Alternatives.
- The **Land Use Management Element** includes 11 measures to mitigate or prevent noise impact on existing noise-impacted land uses and future land use development in the Airport environs. Sixteen 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 7G** 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, cost of each measure, proposed timing of measure implementation, and potential sources of funding.

Before describing the selected noise abatement and land use measures, it is appropriate to discuss the measures which deserved further consideration in Chapters Five and Six, but were subsequently eliminated after additional study and review.

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 Planning Advisory Committee (PAC), 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.

ELIMINATED NOISE ABATEMENT ALTERNATIVES

Increase Glide Slope from 3 Degrees to 3.25 Degrees

Changing the instrument landing system on Runway 7 and visual approach slope indicator lights (VASI) on Runway 25 from a 3-degree glide slope to a 3.25-degree glide slope was considered a viable option based upon the noise analysis from Chapter Five, Noise Abatement Alternatives. This measure was found to reduce the population above 60 CNEL by 385 persons but not change the number of persons impacted above 65 CNEL. During the Planning Advisory Committee Meeting on August 13, 2004, the FAA representative said that raising the glide slope from 3-degrees to 3.25-degrees would eliminate the capability of accommodating Category D and E approaches at Santa Barbara in the future. In addition, raising the glide slope would increase the approach minimums for all approach categories. FAA also stated that this measure would not likely be approved because it does not show a quantifiable benefit toward reducing the number of people in the 65 CNEL noise contour.

Conclusion

Therefore, changing the instrument landing system on Runway 7 and visual approach slope indicator lights (VASI) on Runway 25 from a 3-degree glide slope to a 3.25-degree glide slope will not be considered further because Category D and E approaches would be eliminated, approach minimums would

be increased by all aircraft, and FAA would likely disapproved this measure due to the lack of quantifiable benefits in reducing the number of people in the 65 CNEL noise contour.

Stage 2 Aircraft Restrictions

Chapter Five reviewed the list of potential Airport restrictions and their viability for implementation at Santa Barbara Airport. The Chapter Five Airport restriction analysis found that implementation of restrictions is very costly, problematic, and require the completion, and subsequent FAA approval, of a 14 CFR Part 161 Study. Given the likelihood of FAA disapproval, and the limited impacts within the 65 CNEL contour, restrictions were not considered further. A comment received from the City of Goleta suggested that a mandatory curfew and/or a restriction on Stage 2 business jets be pursued because this type of restriction does not require FAA approval or other requirements of a Part 161 study.

While implementation of a Stage 2 aircraft operating restriction does not require FAA approval, the FAA does determine whether adequate analysis has been done under the Part 161 process and that all notification procedures have been followed. Naples, Florida is the latest Airport to complete a Part 161 Study for the purposes of restricting Stage 2 aircraft under 75,000 pounds. The FAA officially found that Naples had satisfied all applicable Part 161 requirements. However, despite this finding, the Naples' subsequent adoption of the restriction triggered an FAA ruling that the restriction violated a prior

“grant assurance” that Naples made when accepting funding in the past. As a result of this ruling, the FAA has suspended Naples' eligibility to obtain further federal grants or to collect “passenger facility charges” as outlined in the Airport Noise and Capacity Act of 1990. Naples has exhausted administrative procedures for contesting this ruling and currently is preparing to file an appeal in court. The FAA's primary basis for finding that Naples had violated the grant assurance provision was that the ban is not adequately justified by existing non-compatible land uses. Specifically, the FAA objected to the fact that Naples based the calculation of benefits on reduction in population between the 60 and 65 Day-Night Average Sound Level (DNL).

From a regional perspective, Bob Hope Airport (formerly known as Burbank-Glendale-Pasadena) recently submitted a partial draft Part 161 analysis to the FAA for consideration. In May 2004, the FAA's Part 161 Review Team issued a guidance letter stating that the proposal for a full curfew (restricting all aircraft from 10:00 p.m. to 7:00 a.m.) “would not be consistent with statutory requirements that a restriction be reasonable, nonarbitrary, and nondiscriminatory.” Major factors leading the FAA to this conclusion included that a full curfew might discriminate against quieter aircraft that may not contribute measurably to noise exposure, objected to the use of “supplemental single event noise metrics to change the noise study area for analysis purposes beyond the boundaries of the 65 CNEL,” and that the draft analysis did not specifically address the six statutory tests, as de-

fined in 14 CFR Part 161, for a Stage 3 restriction listed below.

- The restriction is reasonable, non-arbitrary, and non-discriminatory.
- The restriction does not create an undue burden on interstate or foreign commerce.
- The restriction maintains safe and efficient use of navigable airspace.
- The restriction does not conflict with any existing federal statute or regulation.
- The applicant has provided adequate opportunity for public comment on the proposed restriction.
- The restriction does not create an undue burden on the national aviation system.

The Bob Hope Airport precedent adds to the evidence that FAA is reviewing Part 161 submissions in a very stringent manner, with the objective of placing very high barriers to the adoption of restrictions.

Conclusion

Pursuing a mandatory curfew or Stage 2 aircraft restriction is not a viable alternative for Santa Barbara Airport given the limited impacts within the 65 CNEL contours (only 9 dwellings in 2008), the high cost (Van Nuys Airport is budgeting approximately \$3 million for the Part 161 study), and FAA's recent precedents of objecting to the calculation of restriction benefits on popula-

tion reduction below 65 CNEL or using supplemental single event noise metrics to change the noise study area to justify a restriction.

Beacon Approach to Runway 25

Several comments were received requesting the development of a beacon approach to Runway 25. The suggested visual beacon approach would be a series of beacons that aircraft could follow from the ocean to Runway 25. The assessment of this same corridor for a precision approach was done in Chapter Five, Noise Abatement Alternatives (pages 5-6 and 5-7). This analysis found that intersections or global position system waypoints would have to be too close together in order to keep aircraft over this narrow curved noise compatible corridor to the east of the Airport. It was determined that high performance aircraft (commercial jets, business jets and turboprops) would not be able to utilize these intersection/waypoints so close together in a curved configuration. In addition, residential areas bordering the noise compatible corridor would have increased noise based upon a preliminary grid point analysis (increases ranged from 0.1 to 0.5 CNEL with only 75 to 80 percent use of this route by aircraft on approach to Runway 25). This is because aircraft noise radiates outward over a wide area. Even an aircraft perfectly aligned along a narrow corridor will produce noise well off the sides of the noise-compatible corridor.

Similar to the precision approach assessed in Chapter Five, the series of beacons would have to be too close together to follow this corridor. The sug-

gested beacon approach over the narrow curved approach corridor to the east has the same limitations as the precision approach, but with less accuracy because it would be a visual procedure instead of an instrument procedure. In addition, during the nighttime hours, the beacon lights may be very difficult to see because of street lighting in the surrounding neighborhoods.

Conclusion

Therefore, a beacon approach will not be considered further due to the difficulty of high performance aircraft remaining over the beacons, the imprecision of this procedure, the potential difficulty of seeing the beacon lights at night, and potential to increase noise on non-compatible residential land uses adjacent to the corridor.

Runway 25 Departure Turn Procedure

An additional alternative that requests aircraft to fly runway heading when departing Runway 25 until beyond Storke Road was requested during the public information workshop and in written comments received after the workshop. The following section outlines the Runway 25 departure procedure alternative and the results of the analysis.

- **ALTERNATIVE 4 – DISCOURAGE EARLY LEFT TURNS FROM RUNWAY 25**

Goal

This alternative seeks to reduce departure overflights over a residential area southwest of the Airport in the Storke Ranch development.

Procedure

This procedure would apply to all single engine and larger aircraft. Aircraft that would normally depart Runway 25 and turn left (west and south bound traffic) would make a left turn after crossing Storke Road. This would be an informal procedure. It would not have to be observed in emergency conditions or when safety would be jeopardized.

For noise modeling purposes, the 2008 baseline input was modified to reflect the new turning flight path for traffic departing from Runway 25. All other traffic assignments and runway use percentages remained unchanged.

Noise Reduction Effects

The noise contours presented in **Exhibit 7A** illustrate the effects of this procedure. The shape of the alternative

noise contours is slightly elongated to the west when compared to the 2008 baseline contours. The 60 and 65 CNEL noise contours are very similar in shape, but slightly narrower and more elongated to the west than the 2008 baseline contours. The 60 CNEL noise contour to the south extends approximately 375 feet further west than the 2008 baseline noise contour. The 65 CNEL noise contour to the south extends approximately 160 feet further west than the 2008 baseline noise contour. The 70 and 75 CNEL noise contour remain unchanged. The procedure has no effect on the noise contours north, south, or east of the Airport.

Table 7A presents the population impacts for this alternative. This alternative results in a 148 person increase when compared to the existing 2008 baseline population impacts within the 60 to 65 CNEL contour. There are no changes to the existing population impacts above 65 CNEL. Noise-sensitive institutions also do not change with this alternative.

A breakdown of the increase or decrease in population from the 2008 baseline and Alternative 4 noise contours is presented in **Table 7B**. This reveals that 148 more people would be impacted by noise levels above 60 CNEL, assuming the existing land use conditions, with the use of this alternative. No change in the existing population impacts occurs above 65 CNEL with this alternative. The alternative contours would affect 92 fewer individuals if vacant land is developed as planned/zoned. These individuals are added to the 60-65 CNEL contour during the ultimate land use conditions.

A grid point analysis was performed to provide a direct comparison of the predicted average daily CNEL values for Alternative 4 and the 2008 baseline. In addition, this analysis provides predicted CNEL noise exposure levels for areas outside the 65 CNEL noise contour. As seen on **Exhibit 7A** and **Table 7C**, three grid points (3, 6 and 8), located in residential areas southwest and west of the Airport, changed with the implementation of the discouragement of early left turns from Runway 25. Grid points 3 and 8 increased due to the increase of aircraft overflights to these areas. Grid point 6 decreased due to aircraft remaining on runway headings further to the west away from this area. The grid point locations in and around the study area are depicted on **Exhibit 7A**.

Costs

The only operational costs of this procedure might be slightly increased flight times and fuel consumption by aircraft delaying the turns. During especially busy periods, departure delays could increase due to the departure separation requirements. These would likely be minimal.

Operational Issues

This procedure would reduce Airport Traffic Control Tower (ATCT) flexibility by restricting the fanning of the departures to the west and southwest. This would reduce peak Airport capacity by requiring additional separation for departures.

TABLE 7A			
Population Impacted By Noise			
Alternative 4 – Discourage Early Left Turns from Runway 25			
CNEL Range	2008 Baseline	Alternative 4	Net Change
<i>Existing Population</i>			
60-65	2,109	2,257	148
65-70	23	23	0
70-75	0	0	0
75+	0	0	0
Subtotal	2,132	2,280	148
<i>Potential Population¹</i>			
60-65	309	217	-92
65-70	3	3	0
70-75	0	0	0
75+	0	0	0
Subtotal	312	220	-92
Total	2,444	2,500	56
LWP	482	530	48
<i>Noise-Sensitive Institutions</i>			
Places of Worship	0	0	0
Schools	1	1	0
Other (Libraries, Museums, Community Centers, Hospitals, Nursing Homes)	0	0	0
Total Noise-Sensitive Institutions	1	1	0
Total Historic Resources	1	1	0
<p>¹ Based on additional potential new dwelling units in 2008 reflecting current land use plans and zoning.</p> <p>Due to the process of rounding, some numbers may not add exactly.</p> <p>LWP – level-weighted population – is an estimate of the number of people actually annoyed by aircraft noise. It is computed by multiplying the population in each CNEL range by the appropriate LWP response factor: 65-70 CNEL = 0.376; 70-75 CNEL = 0.644; 75+ CNEL = 1.000. See the Technical Information Paper, <i>Measuring the Impact of Noise on People</i>, at the back of the <i>Noise Exposure Maps</i> document.</p>			

TABLE 7B					
Population Increase or Decrease with Alternative 4					
2008 vs. Alt. 4	60-65	65-70	70-75	75+	Net Impact
Existing Land Use	148	0	0	0	148
Future Potential Land Use	-92	0	0	0	-92
Totals	56	0	0	0	56

TABLE 7C
Grid Point Comparison
Alternative 4

Grid Point	2008 Noise Levels (CNEL)		Difference
	2008 Baseline	Alternative 4	
1	53.8	53.8	0.0
2	58.7	58.7	0.0
3	55.8	56.3	+0.5
4	55.4	55.4	0.0
5	51.5	51.5	0.0
6	48.3	45.7	-2.6
7	58.4	58.4	0.0
8	61.1	61.5	+0.4

Source: Coffman Associates analysis.

Environmental Issues

Since this alternative exposes residential areas to new and/or increased levels of aircraft noise, a preliminary environmental review would be required prior to implementation. Based on the results of the preliminary environmental review, the FAA will determine the level of environmental analysis needed pursuant to the National Environmental Policy Act of 1969 and its implementing regulations.

Implementation

This procedure would primarily be implemented by the ATCT. A tower order would identify the turning procedure and define departure and turn instructions to be issued by controllers to aircraft departing Runway 25. Information regarding the procedure also could be published in a Notice to Airmen (NOTAM) and local pilot guides.

Conclusion

Discouraging early left departure turns from Runway 25 increases the population impacted by noise above 60 CNEL. It is the policy of the FAA not to approve alternatives that either shift noise from one group to another or impact additional individuals. These impacts would have to be mitigated in order to implement this alternative. ATCT flexibility would also be restricted because aircraft could not be dispersed. Based upon the analysis above, discouraging early left departure turns from Runway 25 is not a viable alternative and will not be considered further.

ELIMINATED LAND USE ALTERNATIVES

Within Chapter Six, 14 land use alternatives were recommended for further analysis. After additional study, three of the 14 alternatives, Compatible Use

Zoning, Environmental Zoning, and Sound Insulation, were eliminated from further consideration. The Compatible Use Zoning alternative was eliminated based on further coordination with the County of Santa Barbara Planning and Development Department. The parcels which were suggested to be rezoned are zoned in a manner which does not allow residential land uses as a principal use. Additionally, the general plan states that noise-sensitive development is not allowed within the 65 CNEL noise contour; therefore, noise-sensitive uses would not be allowed as a conditional use for the portions of these parcels which are located within the 65 CNEL noise contour. The County states that the existing regulatory tools will ensure that non-compatible development does not occur within the 65 CNEL noise contour.

The Environmental Zoning alternative recommended a change to Santa Barbara County's Environmentally Sensitive Habitat overlay zone to restrict development within the More Mesa area. Due to the potential county-wide ramifications of this change, Santa Barbara County did not indicate an interest in revising this overlay district.

After further investigation, the Sound Insulation alternative was eliminated. This alternative was proposed for two separate areas which are currently located within the 65 CNEL noise contour. The first area is located off the end of the Airport's primary runway. This area consists of a number of single and multi-family dwelling units. It was determined that the acquisition of these dwellings would be a more suitable al-

ternative than sound insulation. Many of the structures do not meet building code and the FAA will not provide financial assistance to sound insulate a structure that is not constructed up to local building codes. The acquisition of these dwellings is discussed further on in this chapter.

The second area located within the 65 CNEL noise contour is located within the Rancho Goleta Mobile Home Park. The FAA does not support the sound insulation of manufactured housing units; therefore, sound insulating the units contained within the 65 CNEL noise contour is not a viable alternative. Through the public involvement portion of the study, an additional alternative to mitigate the noise impacts on manufactured homes within the 65 CNEL noise contour was presented. It was suggested that the parcel of land located directly south of the existing community be acquired and the noise-impacted units be relocated to this parcel of land. After investigating this alternative, it was determined that its implementation would be in violation of the policies of the California Coastal Act. The parcel south of the Rancho Goleta Mobile Home Park contains a number of wetlands and is classified as a riparian ecological area by Santa Barbara County. As a result, development on this parcel is prohibited. Since most of the manufactured housing units fall out of the 65 CNEL noise contour with implementation of the noise abatement alternatives, it was determined that relocating the units would not only be cost-prohibitive but also environmentally-prohibitive.

The remaining 11 alternatives recommended for consideration are further discussed within the Land Use Management Element of this chapter.

NOISE ABATEMENT ELEMENT

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

1. Discourage early departure turns from Runway 7

Description. This procedure would apply to all single engine and larger aircraft. Weather and traffic permitting, aircraft that would normally depart Runway 7 and turn right (east and southbound traffic) would make a right turn when abeam the Rancho Goleta Mobile Home residential area. The 193 degree radar from the San Marcus VORTAC could also be used to determine the aircraft turning point. This would be an informal procedure. It would not have to be observed in emergency conditions or when safety would be jeopardized.

This measure was found to reduce the population above the 60 CNEL by 168 persons. (See page 5-30 in Chapter Five, Noise Abatement Alternatives.)

Relationship to 1986 NCP. This is a new measure that was not included in the 1986 NCP.

Implementation Actions. This procedure would primarily be implemented

by the ATCT. A tower order would identify the turning procedure and define departure and turn instructions to be issued by controllers to aircraft departing Runway 7. Information regarding the procedure should also be published in a Notice to Airmen (NOTAM) and local pilot guides.

It does not appear that this procedure would require an environmental assessment as the procedure would not direct aircraft over noise-sensitive areas at altitudes below 3,000 feet AGL. Neither does the procedure cause an increased noise within the 65 CNEL contour in residential areas. Decisions about the need for an environmental assessment, however, must be made by the FAA.

Costs and Funding. Administrative costs will be borne by the FAA Flight Standards Division in establishing this procedure. The FAA may incur additional administrative costs in undertaking any potential environmental review needed.

Timing. This is recommended for implementation after FAA review and approval of the NCP. This is anticipated in 2005.

2. Install PAPI Approach Lighting to Runways 15L/R and Set Glide Slope to 3.25 Degrees

Description. Install precision approach indicator lights (PAPI) on Runways 15 L/R and set to a 3.25-degree glide slope.

The grid point analysis found that this measure would reduce noise levels and low overflights over a large residential area and two schools north of the Airport. (See page 5-38 in Chapter Five, Noise Abatement Alternatives.)

The installation of PAPI approach lighting will not affect the operation of small aircraft.

Relationship to 1986 NCP. PAPIs were included in the 1986 NCP. PAPIs were not installed due to terrain restrictions.

Implementation Actions. Installing PAPI approach lighting on Runways 15 L/R would be in coordination with FAA Airway Facilities, Flight Standards, and Flight Procedure Divisions. Information regarding this change should also be published in a NOTAM and local pilot guides.

It does not appear that increasing the approach slope to Runway 15L/R would require an environmental assessment because aircraft would be higher over noise-sensitive areas at altitudes below 3,000 feet AGL. Neither does the procedure cause an increased noise within the 65 CNEI contour in residential areas. Decisions about the need for an environmental assessment, however, must be made by the FAA.

Costs and Funding. Cost for installing PAPI lighting is approximately \$25,000. It will be eligible for up to 95 percent funding through the noise set-aside of the Federal Airport Improvement Program. The local share must be provided through the Airport's operating budget. The FAA may incur addi-

tional administrative costs in undertaking any potential environmental review needed.

Timing. This is recommended for implementation after FAA review and approval of the NCP. This is anticipated in 2005.

3. Encourage the use of DGPS, RNAV, and FMS equipment to enhance noise abatement navigation.

Description. In the future, the use of Differential Global Positioning System (DGPS), Area Navigation (RNAV), and Flight Management System (FMS) technology will be used to better define approach and departure routes. As equipment, flight standards, and use of this equipment becomes common place, efforts to refine noise abatement departure and arrival routes east of the Airport along the curved noise compatible corridor will have a greater degree of success.

Relationship to 1986 NCP. This is a new measure that was not included in the 1986 NCP.

Implementation Actions. The City of Santa Barbara should monitor the progress, development, and integration of DGPS, RNAV, and FMS technology and encourage its use to refine noise abatement route procedures.

Costs and Funding. Administrative costs will be borne by the City of Santa Barbara and FAA Flight Standards Division in refining noise abatement procedures.

Timing. This is recommended for implementation after FAA review and approval of the NCP. This is anticipated in 2005.

4. Promote use of AOPA Noise Awareness Steps by light single and twin-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 to fly. Most of the steps provide guidance on pilot technique when maneuvering near noise-sensitive areas. Examples include avoiding noise-sensitive areas, fly a tight landing pattern to keep noise as close to Airport as possible, and using approach guidance systems when possible. The steps also encourage cooperation with the Airport staff on noise abatement issues. These procedures are listed in **Appendix E** of this document.

It is not possible to predict how often these procedures would be used, so it is not possible to quantify their effects on noise. 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 1986 NCP. This is a new measure that was not included in the 1986 NCP.

Implementation Actions. The Airport should reflect these noise awareness steps in future published pilot guides, signs, pilot mailings, and on the City's Internet Web Site.

Costs and Funding. The Airport will incur normal administrative costs for informational efforts.

Timing. This is recommended for implementation after FAA review and approval of the NCP. This is anticipated in 2005.

5. Support Legislative Efforts to Phase Out Stage 2 Aircraft Weighing Less Than 75,000 pounds from the National Aircraft Fleet.

Description. The City of Santa Barbara supports legislative efforts and organizations such as the Sound Initiative to phase out Stage 2 aircraft weighing less than 75,000 pounds from the national aircraft fleet.

Relationship to 1986 NCP. This is a new measure that was not included in the 1986 NCP.

Implementation Actions. The City of Santa Barbara should provide support via contacting local, state and federal representatives to lobby for legislation that requires the phase-out of Stage 2 aircraft weighing less than 75,000 pounds from the national aircraft fleet.

Costs and Funding. Administrative costs will be borne by the City of Santa Barbara.

Timing. This is recommended for implementation after FAA review and approval of the NCP. This is anticipated in 2005.

NOISE CONTOURS

The recommended noise abatement measures do not involve any changes that would alter the 2003 baseline noise exposure contours, shown in **Exhibit 7B**. Noise contours projected for the years 2008 and 2025, however, would change with implementation of the proposed new noise abatement measures. The updated future noise contours are shown in **Exhibits 7C and 7D**. For the most part, the noise contours are slightly narrower to the east than projected in the baseline noise analysis presented in Chapters Three and Four of the *Noise Exposure Maps* document. (See Exhibits 3P and 3Q after pages 3-18 in Chapter Three.) 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 Santa Barbara Airport are presented on the following pages and summarized within **Table 7G**.

- 1. The City of Santa Barbara should proceed with implementation of Noise Element Policies 1.0, 2.0, 3.0, 5.0, 6.0, and**

7.0 from the City's general plan. Noise Element Implementation Strategies 4.2, 4.3, and 4.4 should be removed from the City's general plan.

Description. The City of Santa Barbara should consider proceeding with the implementation strategies contained within Noise Element Policies 1.0, 2.0, 3.0, 5.0, 6.0, and 7.0. These policies relate to establishing land use noise compatibility standards for general planning and zoning purposes; identifying noise problem areas; reducing existing and future incompatible land uses in noise-impacted areas; public education regarding noise; and periodic review and revision of the Noise Element. The continuation of these policies will help to ensure compatible development within the immediate Santa Barbara Airport environs.

Implementation Strategies 4.2, 4.3, 4.4 should either be revised or removed from the Noise Element of the City's general plan. These strategies involve implementation of Airport restrictions. Implementing operating restrictions has potentially adverse effects on local air service and the local economy. As discussed within Chapter Five and previously in this chapter, implementation of Airport restrictions requires the completion, and subsequent FAA approval, of a Part 161 Study. Given the likelihood of FAA disapproval and the limited impacts within the 65 CNEL (only 9 dwellings in 2008) noise contour, implementing operating restriction is not feasible.

Relationship to 1986 NCP. This is a new measure.

Implementation Actions. This policy can be established by amending the Noise Element of the *City of Santa Barbara General Plan*.

Costs and Funding. It is difficult to estimate the costs for amendments to a jurisdiction's general plan. Depending on whether or not this amendment is undertaken separately, or in conjunction with the other suggested amendments, the costs will vary significantly. Adoption of this measure would involve administrative expenses for the City of Santa Barbara. These expenses would include drafting an amendment to the general plan, California Environmental Quality Act (CEQA) review, and staff time for presenting the findings to the various City officials. These expenses would have to be paid out of the City of Santa Barbara's operating budget.

Timing. Amendments to general plans 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 time frame.

2. Santa Barbara County should enact the noise overlay zoning recommendation contained within the County's general plan.

Description. Within the Noise Element of Santa Barbara County's General Plan, it is recommended that the County adopt a noise impact overlay district in its zoning ordinance to administer noise mitigation requirements for noise-sensitive land uses. The

County should consider pursuing an overlay district to help ensure future compatible development within the Airport environs. A proposed noise overlay zone is presented within Land Use Management Element 8, later in this chapter.

Relationship to 1986 NCP. This is a modification and continuation of a measure contained within the 1986 Noise Compatibility Program for Santa Barbara Airport.

Implementation Actions. This measure can be established by amending the Noise Element of the *Santa Barbara County General Plan*.

Costs and Funding. It is difficult to estimate the costs for amendments to a jurisdiction's general plan. Depending on whether or not this amendment is undertaken separately, or in conjunction with the other suggested amendments, the costs will vary significantly. Adoption of this measure would involve administrative expenses for Santa Barbara County. These expenses would include drafting an amendment to the general plan, CEQA review, and staff time for presenting the findings to the various City officials. These expenses would have to be paid out of Santa Barbara County's operating budget.

Timing. Amendments to general plans 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 time frame.

3. **During the development of the *City of Goleta General Plan*, the City should consider incorporating land use regulations or restrictions for those areas contained within the Airport's AIA.**

Description. During the ongoing preparation of the *City of Goleta General Plan*, the City of Santa Barbara should encourage the City of Goleta to incorporate information regarding the potential noise impacts created by the airport. As most of the City of Goleta is contained within the AIA for Santa Barbara Airport, it would be appropriate to include noise exposure contours, as well as noise specific overlay zones.

Relationship to 1986 NCP. This is a new measure.

Implementation Actions. These recommendations should be incorporated into the general plan which is currently being prepared for the City of Goleta.

Costs and Funding. This measure would involve administrative expenses. Funding would come from the operating budget of the City of Goleta. Since Goleta is in the process of developing its general plan, additional costs for CEQA documentation will not be necessary for this measure.

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

4. **The Santa Barbara County Association of Governments should consider revising the Airport Land Use Plan (ALUP) for Santa Barbara Airport to reflect the suggested changes to the various jurisdictions' general plans and zoning ordinances.**

Description. The Santa Barbara County Association of Governments, acting as the Airport Land Use Commission (ALUC) for Santa Barbara Airport, should consider revising the boundaries and associated land use requirements within the ALUP to mirror what is contained within the noise overlay zoning discussion. This recommendation would ensure consistency between the various jurisdictions.

Relationship to 1986 NCP. This is a new measure.

Implementation Actions. SBCAG would prepare either an amendment to the existing ALUP for Santa Barbara Airport, or may opt to prepare a new ALUP based on the new CalTrans ALUP handbook.

Costs and Funding. It is difficult to estimate the costs for the preparation of or amendments to an ALUP. Adoption of this measure would involve administrative expenses for SBCAG. These expenses would include preparing either a new plan or an amendment to the existing plan, potential CEQA review, and staff time for presenting the findings to

the various City officials. These expenses would have to be paid out of SBCAG's operating budget. Grants may be available from the California Department of Transportation to update the ALUP.

Timing. The preparation of amendments to, or a new, ALUP take time to prepare and process. It is anticipated that implementation of this measure 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 time frame.

5. The Cities of Santa Barbara and Goleta as well as Santa Barbara County, should consider adopting project review guidelines to specify noise compatibility criteria for development within the AIA.

Description. None of the jurisdictions within the study currently utilize project review guidelines. The City of Santa Barbara, Santa Barbara County, and the City of Goleta should consider incorporating project review guidelines for the development of projects within the AIA. These guidelines would most appropriately be contained within the various jurisdictions' general plans. The process would add little cost or administrative burden to the review process. A simple checklist could be prepared listing the important factors to consider in reviewing development proposals within the AIA. The following criteria are suggested.

- Determine the sensitivity of the subject land use to aircraft noise levels based on noise overlay zones discussed within the Regulatory Techniques and presented in **Table 7D** of this chapter.
- Advise the Airport management of development proposals involving noise-sensitive land uses within the AIA.
- Locate noise-sensitive public facilities outside Noise Overlay Zones One and Two, whenever possible.
- Discourage the approval of rezonings, exceptions, variances, and conditional uses which introduce noise-sensitive development into areas contained within Noise Overlay Zones One and Two.
- Where noise-sensitive development within Noise Overlay Zone Two must be permitted, encourage developers to incorporate the following measures into their site designs.
 - (1) Where noise-sensitive uses will be inside a larger, mixed-use building, locate noise-sensitive activities on the side of the building opposite the prevailing direction of aircraft flight.
 - (2) Where noise-sensitive uses are part of a larger, mixed-use development, use the height and orientation of compatible uses, and the height and orientation of landscape features such as natural hills, ravines, and man-made berms to shield noise-sensitive

uses from ground noise generated at the Airport.

Relationship to 1986 NCP. This is a new measure.

Implementation Actions. This measure would require amendments to the City of Santa Barbara and Santa Barbara County's respective general plans. Since the City of Goleta is currently preparing a general plan, this measure could be incorporated into the draft plan prior to adoption.

Costs and Funding. It is difficult to estimate the costs for amendments to a jurisdiction's general plan. Depending on whether or not this amendment is undertaken separately, or in conjunction with the other suggested amendments, the costs will vary significantly. Adoption of this measure would involve administrative expenses for the City of Santa Barbara and Santa Barbara County. These expenses would include drafting an amendment to the general plan, CEQA review, and staff time for presenting the findings to the various City officials. These expenses would have to be paid out of Santa Barbara County's operating budget. Since the City of Goleta is currently preparing a general plan, this measure could be incorporated into the draft plan prior to adoption. Administrative costs for the City of Goleta would likely be minimal.

Timing. Amendments to general plans 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 time frame.

6. Areas within the 2008 65 CNEL noise contour that are zoned for compatible land uses should be maintained.

Description. When possible, the areas that are zoned for compatible uses within the 2008 65 CNEL noise contour should be maintained. These areas are under the jurisdiction of the Cities of Santa Barbara and Goleta and Santa Barbara County.

Relationship to 1986 NCP. This is a new measure.

Implementation Actions. This measure would be implemented by the Cities of Santa Barbara and Goleta and Santa Barbara County.

Costs and Funding. This measure will involve administrative expenses that will be paid through the respective jurisdictions' operating budgets.

Timing. This is an ongoing measure.

7. The Cities of Santa Barbara and Goleta and Santa Barbara County should consider enacting overlay zoning to provide noise compatibility use standards within the Airport influence area.

Description. The development of overlay zoning is one of the recommendations contained within the *Santa Bar-*

bara County General Plan. However, overlay zoning has not been established by the County or by the Cities of Santa Barbara or Goleta.

To regulate land uses within the Santa Barbara Airport AIA, four districts of Airport compatibility overlay zoning could be developed, with varying levels of protection based on the district designation. These overlay districts relate solely to noise produced by the Airport. Safety issues relating to Airport use have not been fully incorporated into the overlay zone discussion. Further information regarding the safety zones surrounding the Airport can be found in the CLUP for the Airport, which is prepared by SBCAG. **Exhibit 7E** depicts the potential noise overlay zones.

- **Overlay Zone One.** This zone would contain the areas within the squared-off 65 CNEL noise contour. Future development within this overlay zone would be limited to non-noise-sensitive development such as open space, commercial, or industrial uses. Consideration could be given to requiring aviation easements for any development within this zone.
- **Overlay Zone Two** This zone would encompass the areas contained within the squared-off 60 CNEL noise contour. Within this zone, sound insulation could be required for the development of noise-sensitive uses. Additionally, aviation easements could be required for any development within the zone.

- **Overlay Zone Three** This zone would contain the areas which receive large numbers of aircraft overflights. Development would not necessarily be restricted in this area; however, aviation easements could be required prior to development approval (i.e., building permit, change of zone, etc.) for noise-sensitive land uses.
- **Overlay Zone Four.** The boundary of Overlay Zone Four would be the existing AIA boundary. Requirements of this zone would primarily be centered around the existing fair disclosure requirement. Additionally, consideration could be given to requiring any development proposals within this zone be submitted to the Airport for comment.

Table 7D outlines the recommended land use requirements for each of the overlay zones. **Appendix E** contains sample Airport noise overlay zones which have been enacted in various locations throughout the United States.

Relationship to 1986 NCP. This is a modification and continuation of the zoning measure contained within the 1986 Noise Compatibility Program for Santa Barbara Airport.

Implementation Actions. This measure would require amendments to the Cities of Santa Barbara and Goleta and Santa Barbara County's respective zoning ordinances.

**TABLE 7D
Potential Noise Compatibility Overlay Zoning Matrix
Santa Barbara Airport**

	Uses allowed within each zone			
	Zone 1 (approximately the 65 CNEL contour and greater)	Zone 2 (approximately the 60 to 65 CNEL noise contour)	Zone 3 (overflight areas)	Zone 4 (Airport influence area boundary)
RESIDENTIAL				
Single family, duplex, multi-family, manufactured housing	No	Yes [1,2]	Yes [2]	Yes
Recreational vehicle parks	No	Yes [1,2]	Yes [2]	Yes
Other residential	No	Yes [1,2]	Yes [2]	Yes
PUBLIC FACILITIES				
Educational facilities	No	Yes [1,2]	Yes [2]	Yes
Religious facilities, libraries, museums, galleries, clubs and lodges	No	Yes [1,2]	Yes [2]	Yes
Outdoor sport events, entertainment and public assembly (except amphitheaters)	Yes [2,4]	Yes [2]	Yes	Yes
Indoor recreation, amusement parks, athletic clubs, gyms, spectator sports	Yes [2,4]	Yes [2]	Yes	Yes
Neighborhood, community, and regional parks	Yes [2,4]	Yes [2]	Yes	Yes
Outdoor recreation (i.e., tennis, golf courses, riding trails, etc.)	Yes [2,4]	Yes [2]	Yes	Yes
Cemeteries	Yes [2]	Yes [2]	Yes	Yes
INDUSTRIAL				
Any type of industrial facility such as the processing of food, wood, and paper products; printing and publishing; warehouses, wholesale, and storage activities; refining, manufacturing and storage of chemicals, petroleum and related products; manufacturing of stone, clay, glass, leather, gravel, and metal products; construction and salvage yards; natural resource extraction and processing, etc.	Yes [2,4]	Yes [2]	Yes	Yes
COMMERCIAL				
Hotels/Motels	Yes [2]	Yes [2]	Yes	Yes
Hospitals and other health care services	No	Yes [2]	Yes [3]	Yes
Notes:				
<ol style="list-style-type: none"> 1. Land use is compatible provided special sound attenuation features are installed. 2. Avigation easement required for new development. 3. It is suggested that residential development incorporate noise attenuation standards into building and/or landscape design. 4. For safety purposes, these land uses are not recommended within proximity to the Airport. Refer to the <i>Comprehensive Land Use Plan</i> for the Airport. 				

TABLE 7D (Continued)
Potential Noise Compatibility Overlay Zoning Matrix
Santa Barbara Airport

	Uses allowed within each zone			
	Zone 1 (approximately the 65 CNEL contour and greater)	Zone 2 (approximately the 60 to 65 CNEL noise contour)	Zone 3 (overflight areas)	Zone 4 (Airport influence area boundary)
COMMERCIAL (Continued)				
Services: financial, real estate, insurance, professional, and government offices	Yes [2]	Yes [2]	Yes	Yes
Retail sales: building materials, farm equipment, automotive, marine, mobile homes, recreational vehicles, and accessories	Yes [2]	Yes [2]	Yes	Yes
Restaurants, eating and drinking establishments	Yes [2,4]	Yes [2]	Yes	Yes
Retail sales: general merchandise, food, drugs, apparel, etc.	Yes [2]	Yes [2]	Yes	Yes
Personal services: barber and beauty shops, laundry and dry cleaning, etc.	Yes [2]	Yes [2]	Yes	Yes
Automobile service stations	Yes [2,4]	Yes [2]	Yes	Yes
Repair service	Yes [2,4]	Yes [2]	Yes	Yes
AGRICULTURE				
Animal husbandry; livestock farming, breeding and feeding; plant nurseries (excluding retail sales)	Yes [2]	Yes [2]	Yes	Yes
Farming (except livestock)	Yes [2]	Yes [2]	Yes	Yes
MISCELLANEOUS				
Transportation terminals, utility and communication facilities	Yes [2]	Yes [2]	Yes	Yes
Vehicle parking	Yes	Yes	Yes [1,2]	Yes
Notes:				
<ol style="list-style-type: none"> 1. Land use is compatible provided special sound attenuation features are installed. 2. Avigation easement required for new development. 3. It is suggested that residential development incorporate noise attenuation standards into building and/or landscape design. 4. For safety purposes, these land uses are not recommended within proximity to the Airport. Refer to the <i>Comprehensive Land Use Plan</i> for the Airport. 				

Costs and Funding. It is difficult to estimate the costs for amendments to a jurisdiction’s zoning ordinance. Depending on whether or not this amendment is undertaken separately, or in conjunction with the other suggested amendments, the costs will vary significantly. Adoption of this measure would

involve administrative expenses for the Cities of Santa Barbara and Goleta as well as Santa Barbara County. These expenses would include drafting an amendment to the respective zoning ordinances, CEQA review, and staff time for presenting the findings to the vari-

ous City or County officials. These expenses would have to be paid out of the various jurisdictions' operating budgets.

Timing. Amendments to zoning ordinances 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 time frame.

8. Consideration should be given by the various jurisdictions to consider requiring a noise and aviation easement as a condition of subdivision approval for those areas contained within Zones One, Two, and Three of the proposed overlay zoning ordinance.

Description. State of California Assembly Bill 2776 requires disclosure that an Airport is in the vicinity of residential property when a new subdivision is created within the AIA for the Airport. The City of Santa Barbara could consider taking this disclosure one step further by requesting the appropriate jurisdiction to require the issuance of aviation easements as outlined within the Noise Overlay Zoning discussion.

Relationship to 1986 NCP. This is a new measure.

Implementation Actions. This measure would require amendments to the Cities of Santa Barbara and Goleta and Santa Barbara County's respective subdivision regulations.

Costs and Funding. It is difficult to estimate the costs for amendments to a jurisdiction's subdivision regulations. Depending on whether or not this amendment is undertaken separately, or in conjunction with the other suggested amendments, the costs will vary significantly. Adoption of this measure would involve administrative expenses for the Cities of Santa Barbara and Goleta as well as Santa Barbara County. These expenses would include drafting an amendment to the respective subdivision regulations, CEQA review, 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.

Timing. For planning purposes, this is projected for 2006.

9. Consideration should be given by the various jurisdictions to consider amending their current building codes to incorporate prescriptive noise standards.

Description. For those areas contained within the 2008 60 CNEL noise contour, the Cities of Santa Barbara and Goleta and Santa Barbara County should amend their respective building codes to incorporate prescriptive noise standards.

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. These sound insula-

tion standards include: double pane windows, no skylights, solid core doors, and exhaust vent baffles. 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 1986 NCP. This is a modification and continuation of a measure contained within the 1986 Noise Compatibility Program for Santa Barbara Airport.

Implementation Actions. This measure would require amendments to the Cities of Santa Barbara and Goleta and Santa Barbara County's respective building codes.

Costs and Funding. It is difficult to estimate the costs for amendments to a jurisdiction's building codes. Depending on whether or not this amendment is undertaken separately, or in conjunction with the other suggested amendments, the costs will vary significantly. Adoption of this measure would involve administrative expenses for the Cities of Santa Barbara and Goleta as well as Santa Barbara County. These expenses would include drafting an amendment to the respective subdivision regulations, CEQA review, 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.

Timing. Amendments to 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 time frame.

10. Consideration should be given to establishing a voluntary acquisition program for the single and multi-family dwelling units located within the 65 to 75 CNEL noise contour directly east of the Airport between Airport property and Ward Memorial Boulevard.

Description. As depicted on **Exhibit 7F**, 70 dwelling units are located within the 2003 65 CNEL noise contour. Of these units, 11 are contained within the 70 to 75 CNEL contour and 59 are within the 65 to 70 CNEL contour. The goal of this infrastructure would be to remove residential from significant noise areas and assist in searching for suitable replacement housing.

It must be noted that the relocation of these residents may prove challenging due to the lack of replacement housing in the area. As replacement housing becomes available, the Airport could pursue acquisition of the properties as they become available. While this measure reduces the number of individuals above the 65 CNEL, it is a delicate social and political issue that must be undertaken with extreme care.

The dwelling units impacted by noise in excess of 65 CNEL are located in three separate areas east of the Airport. The first noise-impacted residential area is located adjacent to and east of Ward

Memorial Boulevard. The 47 noise-impacted homes in this area consist of manufactured housing units which make up approximately one-third of a manufactured housing development. The ownership structure of this development is unique in that each of the residents owns their respective home and the land on which the homes are located is owned by a corporation. Each of the residents of the development owns a specified percentage of this corporation. Therefore, the owner of the housing unit cannot claim ownership of the lot on which the unit resides.

The 47 manufactured housing units are eligible for acquisition through this study; however, the purchase of these units is complicated due to the ownership structure of the manufactured housing development. The housing units themselves could be purchased and re-located; however, this action has the potential to disrupt an established, cohesive neighborhood. Additionally, it would be challenging to find a comparable area to relocate the units.

The remaining two noise-impacted areas are located adjacent to Airport property and are separated by the landing system for the primary runway. The dwelling units located in this area consist of single and multi-family homes. Eleven of the dwelling units in these areas are located within the 70 to 75 CNEL noise contour and the remaining 12 units are within the 65 to 70 CNEL noise contour. The FAA strongly encourages the acquisition of highly noise-impacted areas that are located adjacent to Airport property. The land acquisition program does not apply to Rancho Goleta.

Relationship to 1986 NCP. This is a new measure.

Implementation Actions. An acquisition, clearance, and redevelopment program would be best administered by Santa Barbara Airport. The Airport has the legal authority to accept federal funding for purchasing noise-impacted residential property and would be the most appropriate entity to handle any subsequent redevelopment plans and projects in the area.

Costs and Funding. The Airport will be required to comply with the Federal Uniform Relocation Assistance Act and Real Property Acquisition Act because federal funds will be used (See 49 CFR Part 24). Under these regulations, the fair market value of the home is established through professional appraisals. The homeowner is also entitled to reimbursement of moving expenses and compensation for other relocation expenses such as closing costs, incidental expenses for a new home, and compensation for a higher interest rate, up to \$22,500. If the maximum relocation benefit, in addition to the sale price of the home, is not enough to assure the displaced person of acquiring comparable housing or, in any case, decent, safe, and sanitary housing, additional relocation payments may be available, subject to a case-by-case review.

The cost of the acquisition and redevelopment program is potentially quite large due to the average real estate prices in the Santa Barbara area. The cost of acquiring these properties is based on a number of assumptions. First, it is assumed that the single-family homes are owner-occupied and

the multi-family homes are occupied by renters. Secondly, it is assumed that it would cost approximately \$650,000 to acquire each of the single-family homes and \$850,000 to acquire each of the multi-family buildings. It is also assumed that two individuals reside in each of the multi-family dwelling units. The allowable relocation costs for the owner-occupied dwellings would not exceed \$22,500 and the relocation costs for the rental units would not exceed \$1,150 (based on an assumption that each unit contains five rooms of furniture owned by the occupant). The residents of the multi-family dwelling units would be eligible for additional payments in the amount necessary to enable the displaced resident(s) to rent or lease for a period not to exceed 42 months. This total payment cannot exceed \$5,200. Any individual eligible for this payment can apply this amount as a down payment on the purchase of replacement housing.

Based on the above assumptions, the purchase of the noise-impacted properties in the areas adjacent to Airport property would cost approximately \$17,204,700 based on the following information:

- Purchase of 14 single-family units at a cost of \$9,100,000.
- Relocation of 14 single-family households at a maximum cost of \$315,000.
- Purchase of nine structures containing two to four multi-family dwelling units at a cost of \$7,650,000.

- Rental assistance for 22 households at a maximum cost of \$114,400.
- Relocation assistance for those relocated tenants at a maximum cost of \$25,300.

A majority of the cost of this program would be eligible for up to 95 percent federal funding through the noise set-aside of the Airport Improvement Program (AIP). The source of the remaining funding would be through the Airport's capital budget.

Timing. Santa Barbara Airport can start this voluntary acquisition program after FAA approval of the Noise Compatibility Program. The overall pace of the program could depend on when properties become available for sale or the availability of replacement housing.

11. Consideration could be given to acquiring the residential development rights of portions of two large parcels located east of the Airport.

Description. Purchase of development rights is generally appropriate only in large undeveloped areas. This situation is present within the 2003 and 2008 65 CNEL noise contours for Santa Barbara Airport. Large parcels of land are located within the 65 CNEL noise contour east of the Airport, as depicted on **Exhibit 7F**. These parcels are currently used for agricultural purposes and are planned for rural-density residential. Acquisition of these parcels is not feasible as they are not located contiguous

with Airport property; therefore, the purchase of development rights could be considered to ensure compatible land uses in the future. The cost of acquiring the development rights is dependent on the type of land use for which the property is valued. If it is valued as agricultural land, the cost is estimated to be \$4 million. If it is valued as medium-density residential land (a conditional use according to the current zoning) the cost could be as high as \$12 million. For the purposes of this study, the cost is estimated to be \$7 million. Even if the property is valued at a residential rate, the current zoning allows for only low-density development. Ninety-five percent of this cost could be eligible for federal funding assistance.

Relationship to 1986 NCP. This is new measure.

Implementation Actions. This measure would require an appraisal and further coordination with the land owner. Santa Barbara Airport, as the entity which has legal authority to accept federal funding, would be the most suitable implementing body.

Costs and Funding. The cost for acquiring the residential development rights is estimated to be \$7 million. These costs would be eligible for up to ninety-five percent federal funding assistance through the FAA's AIP. The remaining five percent would be funded through the Airport's capital budget.

Timing. For planning purposes, this is projected for implementation in 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. Five program management measures are recommended at Santa Barbara Airport. The City of Santa Barbara's Airport Department, as Airport operator, is responsible for implementing these measures. They are discussed below and summarized in **Table 7G**.

1. Continue noise abatement information program.

Description. The City of Santa Barbara uses the noise monitoring and flight track system to investigate aircraft noise complaints and provide general information to the public and Airport users upon request. The City of Santa Barbara has also established a noise complaint phone hotline to log aircraft noise complaints and better respond to area residents.

Relationship to 1986 NCP. This program management element was included in the 1986 NCP.

Implementation Actions. As an existing program, no additional implementation actions are necessary.

Costs and Funding. Since this is an existing policy, no new costs would be incurred by the City of Santa Barbara.

Timing. This is an existing measure which is recommended to be continued through the future.

2. Update and Expand Noise and Flight Track Monitoring System.

Description. Two permanent and one mobile noise monitors and corresponding flight tracking system were purchased in 1990. When responding to a noise complaint using the current system, aircraft noise events and flight track data first have to be manually correlated. This information is then verified using a recording of the tower communications. This is a very time-consuming exercise that can delay responding to noise complaints for several days depending on the number of complaints received. In addition, with only two permanent noise monitors (one off each end of Runway 7-25) noise measurement information is limited to only two of the six runway ends at Santa Barbara Airport. The City of Santa Barbara should add two more monitors to the west, two to the east and at least one monitor to the north of the Airport. This will provide additional coverage that will allow Airport staff to better respond to aircraft noise complaints, monitor potential route changes, and provide information for requests in outlying areas. It will not be used to enforce specific flight procedures.

Relationship to 1986 NCP. This is a new measure not included in the 1986 NCP.

Implementation Actions: Acquiring the equipment and software upgrades

discussed above in the "Description" will be necessary.

Costs and Funding. The cost of the additional noise monitors, hardware and software adjustment is estimated at \$600,000. This would be eligible for Federal funding through the noise set-aside of the Airport Improvement Program. This would cover up to 95 percent of the costs. The balance would be covered through the City of Santa Barbara's capital budget.

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

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

Description. The City of Santa Barbara must monitor compliance with the Noise Abatement Element. This will involve checking periodically with the air traffic control manager regarding compliance with the procedures (Noise Abatement Measure 1). Where appropriate, the City of Santa Barbara also should check occasionally with Airport users. This is especially appropriate in checking on compliance with the AOPA noise awareness steps (Noise Abatement Measure 5).

The City of Santa Barbara should update informational and promotional materials explaining the noise abatement program to pilots. These materials should include an updated pilot guide depicting noise sensitive areas, and a description of the AOPA noise awareness steps. These materials should be

prepared in a format allowing for insertion into a standard Jeppesen manual. The Airport management also should print a series of eye-catching posters for display in pilot lounges and at the FBOs, explaining different aspects of the noise abatement program.

The City of Santa Barbara also should maintain communications with Goleta and Santa Barbara County planning officials to follow progress in implementing the relevant measures of the Land Use Management Element.

Relationship to 1986 NCP. This was included in the 1986 NCP.

Implementation Actions. The administrative actions discussed above in the "Description" will be necessary.

Costs and Funding. This measure will require considerable administrative time and staff support. Expenditures for posters and promotional materials will be necessary from time to time. For budgeting purposes, this cost is estimated at \$5,000 every three years. This would be covered through the Airport operating budget.

Timing. This is an ongoing activity that should begin as soon as the *Noise Compatibility Program* is approved by the City of Santa Barbara.

4. Update Noise Exposure Maps and Noise Compatibility Program.

Description. The Airport management should review the *Noise Compatibility Program* and consider revisions and re-

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

Relationship to 1986 NCP. This recommendation was included in the 1986 NCP.

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 per-

cent funding from the FAA. The City of Santa Barbara would be responsible for the remaining 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.

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 7E shows the number of dwelling units exposed to noise for baseline conditions and after implementation of the Noise Compatibility Plan. For 2003 baseline conditions, 904 dwelling units are impacted by noise above 60 CNEL. The number impacted by noise above 65 CNEL is 59. Eleven dwellings are impacted above the 70 CNEL and no dwellings are impacted above 75 CNEL. In the year 2008, the total number of homes exposed to noise above 60 CNEL without the Plan would be 814 with noise-sensitive growth risk areas included. If the recommended plan is fully implemented, the number of dwellings impacted by noise in the year 2008 would decrease to 686.

	Baseline Noise (Without Plan)			With Noise Compatibil- ity Plan	
	2003	2008¹	2025¹	2008²	2025²
60-65 CNEL	834	805	600	678	491
65-70 CNEL	59	9	1	8	1
70-75 CNEL	11	0	0	0	0
75+ CNEL	0	0	0	0	0
Total Above 60	904	814	601	686	492
Total Above 65	70	9	1	8	1

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 601 dwellings (including noise-sensitive growth risk areas) are impacted in the year 2025 without the Plan. If the recommended plan is im-

plemented, the number of dwellings impacted by aircraft noise would decrease to 492 homes in the year 2025.

Table 7F shows the population exposed to noise with implementation of the Noise Compatibility Plan in comparison with baseline conditions. For 2003 baseline conditions, 2,575 people are impacted by noise above 60 CNEL. For the 2008 Noise Compatibility Plan, the population impacted by noise above 60

CNEL is 1,956 compared with 2,010 (including noise-sensitive growth risk areas) by 2008 without the Plan. The population impacted by noise above 60 CNEL is 1,402 with the 2025 Noise Compatibility Plan compared with 1,716 (including noise-sensitive growth risk areas) by 2025 without the Plan.

	Baseline Noise (Without Plan)			With Noise Compatibility Plan	
	2003	2008 ²	2025 ²	2008 ³	2025 ³
60-65 CNEL	2,376	1,987	1,713	1,933	1,399
65-70 CNEL	168	23	3	23	3
70-75 CNEL	31	0	0	0	0
75+ CNEL	0	0	0	0	0
Total Above 60	2,575	2,010	1,716	1,956	1,402
Total Above 65	199	23	3	23	0
LWP ¹ Above 65	83	9	1	9	0

¹ LWP - level-weighted population is an estimate of the number of people actually annoyed by noise. The actual population within each 5-CNEL range is multiplied by the appropriate response factor to compute LWP. The factors are: 60-65 CNEL - .205; 65-70 CNEL - .376; 70-75 CNEL - .644; 75+ CNEL - 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.

SUMMARY

The Noise Compatibility Program for Santa Barbara Airport is summarized in **Table 7G**. The total cost of the program is estimated at \$25,344,700. Most of the costs are due to the property and development rights acquisition. This includes \$17,204,700 for the acquisition of dwellings and \$7,000,000 for development right acquisition. Other significant costs include the expansion of the

noise monitoring system (\$600,000), update of the Plan (\$400,000), and for the installation of PAPI approach lighting (\$25,000).

Most of the cost (\$24,015,715) would be eligible for FAA funding through the noise set-aside of the Federal Airport Improvement Program. Approximately 4.8 percent of the cost (\$1,260,235) would be covered through the Santa Barbara Airport's capital budget.

TABLE 7G
Summary of Noise Compatibility Program, 2003-2014
Santa Barbara Airport

Measure	Cost to Airport Or Government	Direct Cost to Users ¹	Timing	Lead Responsibility ²	Potential Funding Sources
NOISE ABATEMENT ELEMENT					
1. Discourage early departure turns from Runway 7.	Administrative	Minimal increase in flight time.	2005	City of Santa Barbara and Air Traffic Control Tower	FAA and Airport Operating Budget
2. Install PAPI Approach Lighting to Runways 15L/R and Set Glide Slope to 3.25 Degrees.	\$25,000	None	2005	City of Santa Barbara and FAA Airway Facilities, Flight Standards, and Flight Procedure Divisions	95% FAA 5% Airport Operating Budget
3. Encourage the use of DGPS, RNAV, and FMS equipment to enhance noise abatement navigation.	Administrative	None	2005	City of Santa Barbara	Airport Operating Budget
4. Promote use of AOPA Noise Awareness Steps by light single and twin-engine aircraft	Cost of promotional materials (\$5,000 every 3 years)	None	2005	City of Santa Barbara	Airport Operating Budget
5. Support Legislative Efforts to Phase Out Stage 2 Aircraft Weighing Less Than 75,000 pounds from the National Aircraft Fleet.	Administrative	None	2005	City of Santa Barbara	Airport Operating Budget
LAND USE MANAGEMENT ELEMENT					
1. The City of Santa Barbara should proceed with implementation of Noise Element Policies 1.0, 2.0, 3.0, 5.0, 6.0, and 7.0 from the City's general plan. Noise Element Implementation strategies 4.2, 4.3, and 4.4 should be removed from the City's general plan.	Administrative expense and CEQA review ¹	None	2005 ²	City of Santa Barbara	City of Santa Barbara Operating Budget
2. Santa Barbara County should enact the noise overlay zoning recommendation contained within the County's general plan.	Administrative expense and CEQA review ¹	None	2005 ²	City of Santa Barbara	County of Santa Barbara Operating Budget
3. During the development of the <i>City of Goleta General Plan</i> , the City should consider incorporating land use regulations or restrictions for those areas contained within the Airport's AIA.	Administrative	None	2005	City of Goleta	City of Goleta Operating Budget

TABLE 7G (Continued)
Summary of Noise Compatibility Program, 2003-2014
Santa Barbara Airport

Measure	Cost to Airport Or Government	Direct Cost to Users ¹	Timing	Lead Responsibility ²	Potential Funding Sources
LAND USE MANAGEMENT ELEMENT (Continued)					
4. The Santa Barbara County Association of Governments should consider revising the Airport Land Use Plan (ALUP) for Santa Barbara Airport to reflect the suggested changes to the various jurisdictions' general plans and zoning ordinances.	Administrative expense and CEQA review ¹	None	2005 ²	Santa Barbara County Association of Governments	Santa Barbara County Association of Governments Operating Budget
5. The Cities of Santa Barbara and Goleta, as well as Santa Barbara County, should consider adopting project review guidelines to specify noise compatibility criteria for development within the AIA.	Administrative expense and CEQA review per jurisdiction	None	2005 ²	Cities of Santa Barbara and Goleta and Santa Barbara County	Cities of Santa Barbara and Goleta and Santa Barbara County Operating Budgets
6. Areas within the 2008 65 CNEL noise contour that are zoned for compatible land uses should be maintained.	Administrative	None	2006 ²	Cities of Santa Barbara and Goleta and Santa Barbara County	N/A
7. The Cities of Santa Barbara and Goleta and Santa Barbara County should consider enacting overlay zoning to provide noise compatibility use standards within the Airport influence area.	Administrative expense and CEQA review per jurisdiction	None	2005 ²	Cities of Santa Barbara and Goleta and Santa Barbara County	Cities of Santa Barbara and Goleta and Santa Barbara County Operating Budgets
8. Consideration should be given by the various jurisdictions to consider requiring a noise and aviation easement as a condition of subdivision approval for those areas contained within Zones One, Two, and Three of the proposed overlay zoning ordinance.	Administrative expense and CEQA review per jurisdiction	None	2005 ²	Cities of Santa Barbara and Goleta and Santa Barbara County	Cities of Santa Barbara and Goleta and Santa Barbara County Operating Budgets
9. Consideration should be given by the various jurisdictions to consider amending their current building codes to incorporate prescriptive noise standards.	Administrative expense and CEQA review per jurisdiction	None	2005 ²	Cities of Santa Barbara and Goleta and Santa Barbara County	Cities of Santa Barbara and Goleta and Santa Barbara County Operating Budgets

TABLE 7G (Continued)
Summary of Noise Compatibility Program, 2003-2014
Santa Barbara Airport

Measure	Cost to Airport Or Government	Direct Cost to Users ¹	Timing	Lead Responsibility ²	Potential Funding Sources
LAND USE MANAGEMENT ELEMENT (Continued)					
10. Consideration should be given to establishing a voluntary acquisition program for the single and multi-family dwelling units located within the 65 to 75 CNEL noise contour directly east of the Airport between Airport property and Ward Memorial Boulevard.	\$17,204,700	None	2005	City of Santa Barbara	95% FAA 5% Airport Capital Budget
11. Consideration should be given to acquiring the residential development rights of portions of two large parcels located east of the Airport.	\$7,000,000	None	2005	City of Santa Barbara	95% FAA 5% Airport Operating Budget
PROGRAM MANAGEMENT ELEMENT					
1. Continue noise abatement information program.	Administrative	None	2005	City of Santa Barbara	Airport Operating Budget
2. Update and Expand Noise and Flight Track Monitoring System.	\$600,000	None	2005	City of Santa Barbara	95% FAA 5% Airport Capital Budget
3. Monitor implementation of the updated Part 150 Noise Compatibility Program.	Administrative	None	2005	City of Santa Barbara	Airport Operating Budget
4. Update Noise Exposure Maps and Noise Compatibility Program	\$400,000	None	2005	City of Santa Barbara	95% FAA 5% Airport Capital Budget
		Funding Source		Amount	Percent
Total Cost and Funding Source		FAA		\$23,968,215	94.6%
		Airport Operating Budget		\$16,250	less than 0.1%
		Airport Capital Budget		\$1,260,235	5.0%
		County of Santa Barbara Association of Government		\$100,000	0.4%
		Total Cost			\$25,344,700

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, CEQA review, 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 time frame.