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## Chapter 21. Noise

### BACKGROUND

The major noise sources in the Planning Area are: roadway noise from traffic on Interstate 80, Highway 113 and arterial streets; railroad noise from the Union Pacific and California Northern Railroad; airport noise from the UC Davis Airport; and stationary sources such as industrial and agricultural operations next to sensitive uses. Existing noise contours and sensitive receptors in the City are shown in Figure 36. Appendix E gives background on environmental noise.

#### Roadway Noise

Existing residential areas which are subjected to the highest levels of unmitigated roadway noise are residences in close proximity of Interstate 80 and along many arterial roadways. For the Gateway/Olive Drive Specific Plan EIR, noise levels resulting primarily from Interstate 80 were measured at 73 DNL at a point 400 feet from the freeway.<sup>1</sup>

Existing traffic noise conditions in the planning area have been modeled using the FHWA Highway Traffic Noise Prediction Model (Report No. FHWA-RD-77-108). The model predicts sound levels for free-flowing traffic based upon noise emission factors for automobiles, medium trucks, and heavy trucks. The model takes into account the volume and speed of traffic, the roadway configuration, the distance to receivers, and the acoustical characteristics of a site.

In July, 1992, the Public Works Department prepared a "Noise Wall Investigations Report." This study concluded that along many of the arterial streets studied, noise levels were in the "conditionally acceptable" range of compatibility. The report recommended that the City implement a noise wall program to reduce noise levels and that the financial and aesthetic implications of noise walls should be evaluated on a case-by-case basis before a decision to install noise walls is made.

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<sup>1</sup> Gateway/Olive Drive Specific Plan Draft EIR, page 4-44.

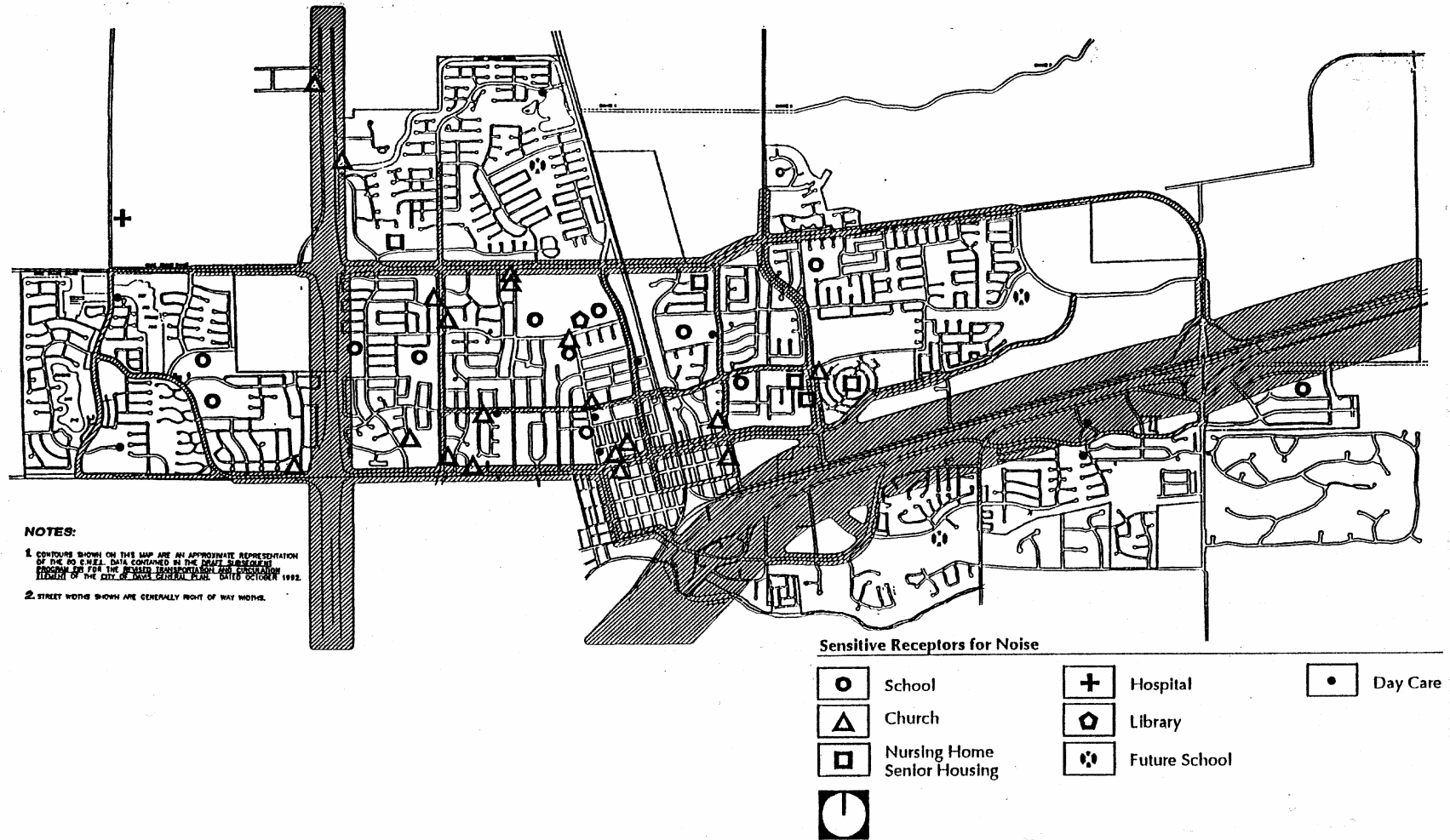


Figure 36: Existing Noise Contours and Sensitive Receptors

**Source:** Robert Bein, William Frost & Associates and City of Davis Public Works Department

### **Railroad Noise**

Railroad trains passing through Davis on the Union Pacific and California Northern railroad tracks create relatively high noise levels close to the tracks. These noises are intermittent, since trains pass by only occasionally.

For the Gateway/Olive Drive Specific Plan EIR, noise levels resulting primarily from train traffic along the Union Pacific route were measured at about 82 DNL at a distance 30 feet from the centerline of the tracks, which corresponds to about 70 DNL 200 feet from the tracks. Twenty-four individual train pass-bys were measured during a 24-hour period. Maximum noise levels from individual whistle blasts and engines ranged from 85 dB to over 112 dB.<sup>2</sup>

### **Aircraft Noise**

The UC Davis Airport is used almost exclusively for flight training and for infrequent, short duration operations. No impact to sensitive residential areas has been found.

The Sacramento Metropolitan Airport currently does not significantly impact Davis with aircraft noise. The City of Davis must monitor future airport plans to become aware of any proposed changes to the flight paths.

### **Stationary Noise Sources**

The Hunt-Wesson processing plant is a stationary source that affects adjacent property. Noise from the cannery has come under scrutiny as a result of several proposals over the years to develop adjacent property for residential uses. A recent noise study conducted by Brown-Buntin Associates indicates that CNEL values in the range of 57 to 59 dB occur along the northern and northeastern property line of the cannery. Information regarding noise levels from the Hunt-Wesson plant is currently disputed by various analysts. Further evaluation and assessment is being undertaken as part of the Covell Center environmental review process. The city has also made findings regarding the Hunt-Wesson plant under AB 1190, which are described in Chapter 15.

### **FUTURE NOISE LEVELS**

Traffic noise will continue to be the predominant source of noise in Davis. Traffic noise levels that will occur under build out of the General Plan have been predicted using projected traffic volumes and the noise modeling methodology described above. Figure 37 depicts projected traffic noise contours in the planning area.

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<sup>2</sup> *Ibid.*

## GOALS, POLICIES AND ACTIONS

### **GOAL NOISE 1. Maintain community noise levels that meet health guidelines and allow for a high quality of life.**

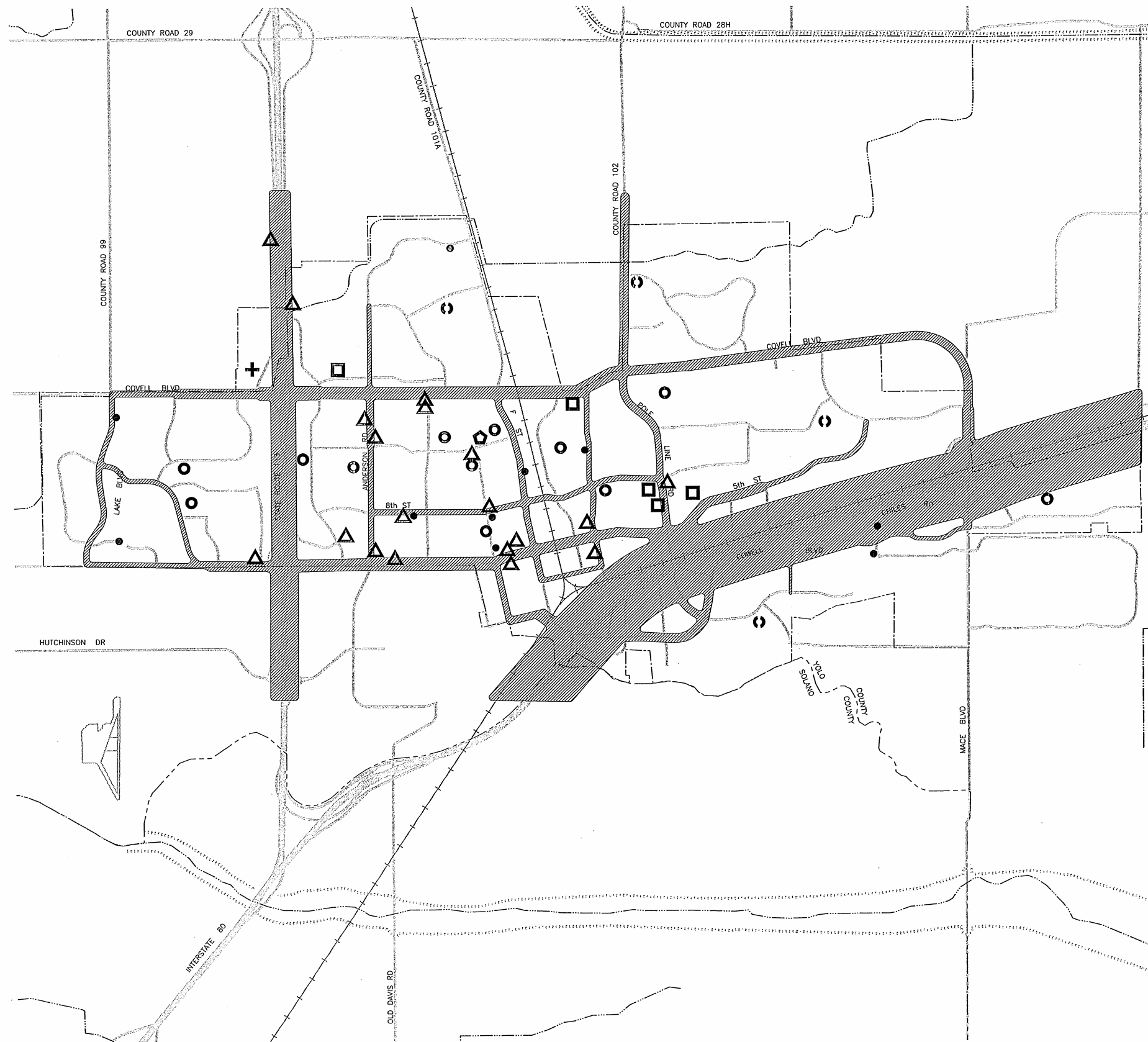
**Policy NOISE 1.1** Minimize vehicular and stationary noise sources, and noise emanating from temporary activities.

#### **Standards**








- a. The City shall strive to achieve the “normally acceptable” exterior noise levels shown in Table 19 and the target interior noise levels in Table 20 in future development areas and in currently developed areas.
- b. New development shall generally be allowed only in areas where exterior and interior noise levels consistent with Table 19 and Table 20 can be achieved.
- c. New development and changes in use shall generally be allowed only if they will not adversely impact attainment within the community of the exterior and interior noise standards shown in Table 19 and Table 20. Cumulative and project specific impacts by new development on existing residential land uses shall be mitigated consistent with the standards in Table 19 and Table 20.
- d. Required noise mitigation measures for new and existing housing shall be provided with the first stage and prior to completion of new developments or the completion of capacity-enhancing roadway changes wherever noise levels currently exceed or are projected within 5 years to exceed the normally acceptable exterior noise levels in Table 19.

#### **Actions**

- e. Explore options, such as distributing educational materials, to encourage Davis residents and businesses to use alternatives to gas powered garden tools to reduce noise and air pollution, reduce costs, and be courteous of neighbors.
- f. Continue to enforce the noise-control ordinance.
- g. Revise the City's Noise Ordinance (Chapter 16B, "Noise Regulations" of the City of Davis Municipal Code) to reflect construction criteria that can be met by typical construction activities.



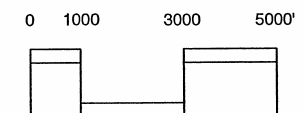
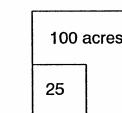
**Figure 37**  
**2010 Noise Contours**

-  School
-  Church
-  Nursing Home/Senior Housing
-  Hospital
-  Library
-  Future School
-  Day Care

NOTES

1. Contours shown on this map are an approximate representation of the 60 C.N.E.L. data contained in Appendix D of the Draft Program EIR for the City of Davis General Plan Update, January 2000.

Davis General Plan





**Table 19**  
**STANDARDS FOR EXTERIOR NOISE EXPOSURE**

USE	COMMUNITY NOISE EXPOSURE L <sub>dn</sub> or CNEL, dBA			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential	Under 60	60-70*	70-75	Above 75
Transient Lodging - Motels, Hotels	Under 60	60-75	75-80	Above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	Under 60	60-70	70-80	Above 80
Auditoriums, Concert Halls, Amphitheaters	Under 50	50-70	NA	Above 70
Sports Arenas, Outdoor Spectator Sports	NA	Under 75	NA	Above 75
Playgrounds, Neighborhood Parks	Under 70	NA	70-75	Above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Under 70	NA	70-80	Above 80
Office Buildings, Business Commercial and Professional	Under 65	65-75	Above 75	NA
Industrial, Manufacturing, Utilities, Agriculture	Under 65	70-80	Above 80	NA

**NORMALLY ACCEPTABLE:** Specified land use is satisfactory assuming all buildings involved are of conventional construction, without special noise insulation requirements.

**CONDITIONALLY ACCEPTABLE:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is conducted, and needed noise attenuation features are included in the construction or development.

**NORMALLY UNACCEPTABLE:** New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be conducted and needed noise attenuation features shall be included in the construction or development.

**CLEARLY UNACCEPTABLE:** New construction or development shall not be undertaken.

**NA:** Not applicable.

\* The City Council shall have discretion within the “conditionally acceptable” range for residential use to allow noise levels in outdoor spaces to go up to 65 dBA if cost effective or aesthetically acceptable measures are not available to reduce noise levels in outdoor use spaces to the “normally acceptable” levels. Outdoor spaces which are designed for visual use only (for example, streetside landscaping in an apartment project), rather than outdoor use space, may be considered acceptable up to 70 dBA.



**Table 20**  
**STANDARDS FOR INTERIOR NOISE LEVELS**

USE	NOISE LEVEL (dBA)
Residences, schools through grade 12, hospitals and churches	45
Offices	55

- h. Require an acoustic study for all proposed projects that would have noise exposure that may exceed City Noise Ordinance standards for construction activities or impacts after development that would be greater than normally acceptable as indicated by Figure 37 of the General Plan update."
- i. Consider lowering speed limits or installing traffic calming measures adjacent to all residences, schools, hospitals, and libraries that experience noise levels that exceed acceptable noise levels.
- j. Develop procedures to address citizen noise complaints and provide remedies that encourage the use of alternative noise mitigation measures over conventional sound walls.
- k. The City should conduct an acoustic study of the City and revise noise standards and ordinances to reflect the urbanized setting of the City.
- l. Periodically review noise levels along arterials and minor arterials and report to the City Council alternative solutions for achieving acceptable noise levels.
- m. The project proponent shall employ noise-reducing construction practices. The following measures shall be incorporated into contract specifications to reduce the impact of construction noise.
  - All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.

- As directed by the City, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around

stationary construction noise sources.

**Policy NOISE 1.2** Discourage the use of sound walls whenever alternative mitigation measures are feasible, while also facilitating the construction of sound walls where desired by the neighborhood and there is no other way to reduce noise to acceptable exterior levels shown in Table 19.

*See the separate General Plan policy interpretation document titled "Major Arterial Landscaping, Noise Attenuation Design and Greenstreets".*

### **Standards**

- a. Where sound walls are built, they should include dense landscaping along them to mitigate their visual impact, as illustrated in Figure 38.
- b. Where sound walls are built, they should provide adequate openings and visibility from surrounding areas to increase safety and access, as illustrated in Figure 38. Openings should be designed so as to maintain necessary noise attenuation.
- c. Review sound walls and other noise mitigations through the design review process.

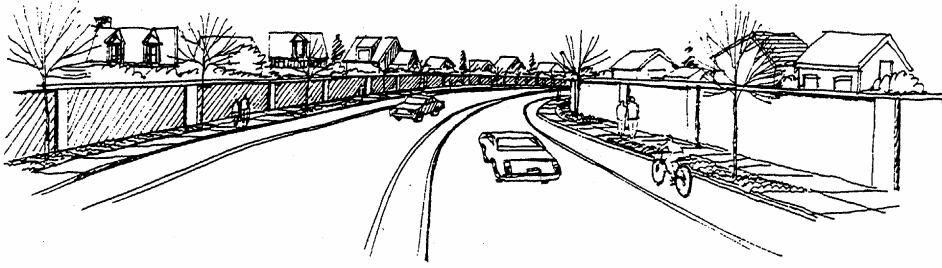
### **Actions**

- d. Develop procedures to finance and facilitate construction of sound walls and other noise mitigation measures where the City Council determines they are needed along corridors.

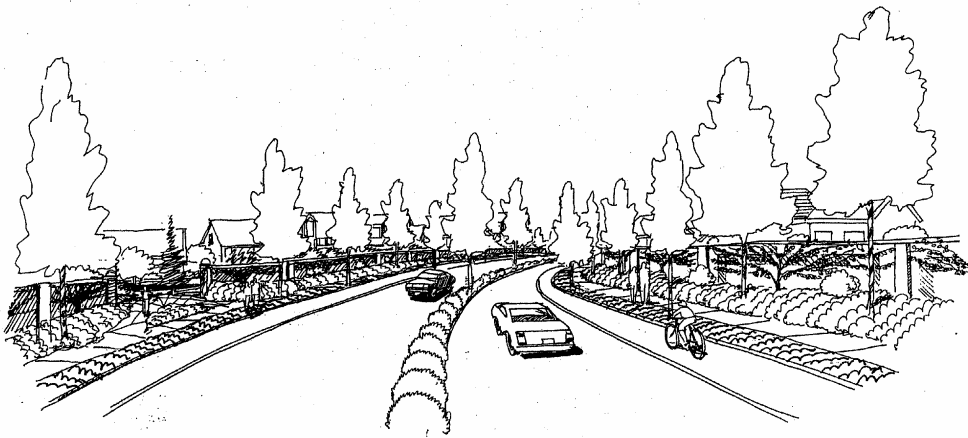
**Policy NOISE 1.3** Develop and implement procedures for the accurate measurement and prediction of noise levels in Davis.

### **Actions**

- a. Directly measure noise levels along all arterials and minor arterials, rather than simply estimating them with computer models.
- b. Adopt guidelines and criteria for ongoing monitoring of noise levels as traffic increases.



**Minimal Landscaping and Inadequate Openings for Access**



**Dense Landscaping and Adequate Openings for Access**

**Figure 38: Sound Wall Design Concepts**

**Policy NOISE 1.4** Take a proactive role in State law-making regarding noise regulation.

**Actions**

- a. Support implementation of state legislation that requires reduction of noise from motorcycles, automobiles, trucks and aircraft.
- b. Advocate in favor of changes in State traffic law so that noise can be used as a criterion for setting speed limits.

**GOAL NOISE 2. Provide for indoor noise environments that are conducive to living and working.**

**Policy NOISE 2.1** Take all technically feasible steps to ensure that interior noise levels can be maintained at the levels shown in Table 20.

**Standards**

- a. New residential development or construction shall include noise attenuation measures necessary to achieve acceptable interior noise levels shown in Table 20.
- b. Existing areas that will be subjected to noise levels greater than the acceptable noise levels shown in Table 20 as a result of increased traffic on existing city streets (including streets remaining in existing configurations and streets being widened) shall be mitigated to the acceptable levels in Table 20. If traffic increases are caused by specific projects, then the City shall be the lead agency in implementing cumulative noise mitigation projects. Project applicants shall pay their fair share for any mitigation.

