

# MERCED COUNTY UNIVERSITY COMMUNITY PLAN POLICY DISCUSSION PAPER

## Noise

*For CPAC Discussion: May 24, 2001 Meeting*

### INTRODUCTION

This policy discussion paper presents objectives and policy options for inclusion in the Merced County University Community Plan. The basis for this paper is provided by the adopted Noise Chapter of the Merced County General Plan.<sup>1</sup> The policy discussion of environmental noise management is related to two previous papers (Land Use<sup>2</sup> and Transportation<sup>3</sup>), which are evolving with continuing analysis and stakeholder input.

### PLANNING CONSIDERATIONS

The Noise Chapter of the Merced County General Plan fulfills the requirements of the California Government Code [Section 65302(f)], which mandates that the General Plan for each county include a noise element. The Noise Chapter includes mechanisms to ensure that future noise and land use conflicts are minimized through application of land use compatibility criteria and participation in the discretionary review process. The Land Use Compatibility Guidelines of the Noise Chapter (Figure IV-2) identify the noise levels that would be acceptable for planned land uses and specify the level of analysis necessary to identify noise reduction requirements. These guidelines would be applied on a project-by-project basis through discretionary review. The established and adopted goals, objectives, policies, and implementation strategies provide direction that would be relevant to the University Community Plan.

The Merced County Code contains no noise ordinance. Certain sections of the code require noise control for specific nuisance or industrial sources (such as domestic animals, refuse pickup, or surface mining activities). Because there is no code to control noise within the University Community after development, no comprehensive regulatory tool exists to resolve noise conflicts between developed land uses.

In the University Community, a diversity of land uses is anticipated and a high level of density is sought. These are themes identified in earlier policy papers that support the overall visions for the University Community (e.g., sustainable environment, livable neighborhoods, etc.). By encouraging mixed land uses, high density, and amenities for pedestrians, the University Community Plan themes can present challenges for achieving the noise control goals of protecting citizens from the effects of noise. Where appropriate, this paper identifies policy options to provide noise control strategies that are consistent with the land use goals for the University Community.

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<sup>1</sup> Merced County Year 2000 General Plan. Chapter IV. Noise. Adopted by Merced County, June 1989.

<sup>2</sup> Land Use Policy Discussion Paper. Prepared for CPAC Discussion: March 29, 2001 Meeting.

<sup>3</sup> Transportation Policy Discussion Paper. Prepared for CPAC Discussion: April 26, 2001 Meeting.

## GOALS AND POLICIES

Issue: All citizens for the County free from the harmful effects of excessive noise.  
(Merced County General Plan. Noise Chapter, Goal 1. June 1989.)

The established objectives of this goal are to protect noise-sensitive land uses (residential, hospital, and school) from excessive exterior noise, provide suitable interior noise levels for residential units, and reduce noise conflicts where they exist. The objectives and the subsequent policies would continue to be relevant as development of the University Community occurs. However, implementation of the objective to protect noise-sensitive uses could lead to incorporation of large setbacks and buffer spaces between land uses or construction of sound barriers, berms, or walls. Thus, this objective presents a challenge for the design of the University Community that intends to provide a dense mix of land uses and a high level of pedestrian accessibility.

1. The UCP seeks to provide an acceptable noise environment for University Community residents and other sensitive receptors while providing a dense mix of land uses and pedestrian accessibility. Large setbacks and buffer spaces between land uses could preclude mixed land uses and activity centers, and sound barriers could discourage or obstruct pedestrian movement and accessibility.

### Policy Option 1.1

The current General Plan policy is to not approve new residential land use designations where day-night noise levels ( $L_{dn}$ ) exceed 65 dBA (decibels, A-weighted) (General Plan Noise Chapter, Goal 1, Policy 1) and require residential developments to reduce exterior noise exposure from ground sources to less than 65 dBA  $L_{dn}$  (General Plan Noise Chapter, Goal 1, Policy 2). Without any special noise insulation features, residential land uses would provide an interior noise environment of 45 dBA  $L_{dn}$  if the exterior noise environment is less than 65 dBA  $L_{dn}$ .

#### *Advantages:*

- Forces residential development to protect occupants by specifically responding neighboring noise sources.
- Allows residential development to provide a level of protection commensurate with the known or anticipated nearby noise sources.

#### *Disadvantages:*

- Encourages residential uses to be designed with large setbacks or buffer spaces or construct sound barriers that would discourage mixed use development, discourage development of activity centers, and provide obstructions to pedestrian-oriented uses.

### Policy Option 1.2

Design and construct new noise-generating land uses in a manner that does not cause excessive noise on any location of nearby residential properties. The noise

standards of 65 dBA  $L_{dn}$  shall not be exceeded by noise generating land uses at any existing or planned residential land use. Noise reduction features shall be included in the design of any land use which has noise sources affecting residential land uses. Transportation noise sources shall be managed by pursuing previously discussed transportation policies recommending a grid pattern with “flexible corridors” that disperses local traffic and minimizes the need for major corridors carrying high volumes of traffic at high speeds (See Transportation Policy Option 1.1, for a traditional grid system) and by integrating traffic calming measures into neighborhood street design (See Transportation Policy Option 2.2, for safe street design). These efforts would focus noise management efforts on source control, rather than simply prescribe design of residential uses.

Oppose residential uses incorporating setbacks or sound barriers for noise reduction. Along some main roads, however, the ultimate end-state noise levels could grow to above the residential noise standard of 65 dBA  $L_{dn}$ . To accommodate high density and pedestrian accessibility, residential uses shall be conditionally permitted in noise environments above 65 dBA  $L_{dn}$  provided that the established interior standard of 45 dBA  $L_{dn}$  is achieved by adequate noise insulation and site design features associated with the residential use achieve noise levels below 65 dBA  $L_{dn}$  for large outdoor recreational spaces (including private patios or balconies greater than 6 feet in depth). The Land Use Compatibility Guidelines of the General Plan Noise Chapter (Figure IV-2) would be used to characterize the acceptability of a noise environment for proposed residential uses and specify the level of analysis and design features necessary to provide appropriate noise insulation.

Provide noise protection for residences in mixed use land uses. Require that mixed use buildings be constructed soundly to prevent adverse noise transmission between differing uses or tenants located in the same commercial structure and individual dwelling units in multi-family uses. Require that mixed use buildings designed for concurrent commercial and residential land uses minimize to the greatest degree practicable (through design and construction techniques) the transfer or transmission of noise and vibration from the commercial land use to the residential land use.

*Advantages:*

- Forces land uses that would be noise sources to reduce the noise affecting neighboring residential areas.
- Encourages pursuit of transportation policies that would disperse local traffic to streets and roads, minimizing the potential for excessive noise levels to occur along major corridors.
- Allows dense residential development to occur on parcels with smaller setbacks and no buffer spaces for noise.
- Promotes pedestrian access by discouraging barriers.

*Disadvantages:*

- Lack of consistency with established General Plan policies strictly prohibiting residential uses in environments exceeding 65 dBA  $L_{dn}$  (General Plan Noise Chapter, Goal 1, Policies 1 and 2).

### Recommendation

Pursue Policy Option 1.2. This option promotes consistency with UCP themes of providing increased density and a high level of pedestrian accessibility. Noise protection is provided by restricting noise from sources and encouraging a street network that promotes calm traffic. To ensure that residential areas are not significantly impacted by excessive exterior noise levels, existing policies would be modified to conditionally allow residential uses in environments exceeding 65 dBA  $L_{dn}$ , as long as certain noise reducing features would be provided as specified in the Land Use Compatibility Guidelines.

2. In areas with a dense mix of land uses, such as those anticipated by the UCP, the potential for noise conflicts to occur between land uses increases. Also of concern is excessive noise from construction activities that could occur throughout the University Community during occupation of residential land uses. The Noise Chapter of the General Plan provides policies for minimizing noise/land use conflicts. However, no noise ordinance exists to provide a regulatory tool for resolving noise/land use conflicts that may occur throughout development of the University Community.

### Policy Option 2.1

Identify an agency or department for coordination of noise control efforts. Adopt a Noise Ordinance for the University Community to mitigate noise conflicts between activities and land uses.

Manage noise from construction activities. Limit the hours of conducting construction activities that generate noise at noise-sensitive land uses. Typical limitations for construction noise would only allow noise between the hours of 7:00 AM to 10:00 PM, weekdays and Saturday, and prohibit construction noise on Sundays and holidays. Require all construction vehicles or equipment, fixed or stationary, be equipped with properly operating and maintained mufflers. Require that construction vehicle staging areas be located as far as practical from existing residential uses. Whenever feasible, schedule the noisiest construction operations to occur together to avoid continuing periods of the greatest annoyance.

Issue: Noise generating land uses and facilities important to the economic health of the County are not adversely affected by incompatible land uses. (Merced County General Plan. Noise Chapter, Goal 2. June 1989.)

The established objectives and policies of this goal are to ensure that operation and expansion of commercial and industrial land uses, airports, and agricultural uses are not constrained by encroachment of incompatible noise-sensitive land uses. The objectives

and the subsequent policies would continue to be relevant as development of the University Community occurs. Implementation of the established Land Use Compatibility Guidelines during discretionary review would provide noise protection for encroaching uses. Reducing the noise generated by new sources would minimize the likelihood of the sources being adversely affected by encroaching incompatible land uses.

3. The UCP intends to provide a town center, academic, entertainment, and recreational uses within close proximity of residential uses. The Land Use Compatibility Guidelines, and the previous recommendations of this discussion paper, would encourage noise sensitive uses to be designed with noise protection features. Additional policy options are identified to minimize noise through the appropriate design of anticipated noise-generating land uses.

#### Policy Option 3.1

Existing noise sources in the area of the University Community include recreational activities at Lake Yosemite. Discourage exposing new noise-sensitive land uses to noise from this facility.

Require educational, recreational, commercial, and industrial land uses (including educational campuses, parks, stadiums, and public event facilities to be designed in such a manner that: vehicle access points are located away from noise sensitive uses; loading and shipping facilities and noise generating equipment are concealed or located away from noise sensitive uses; parking areas and structures are located away from noise sensitive uses; structural building materials are incorporated to mitigate sound transmission; use of outside speakers and amplifiers is minimized; and interior spaces are configured to minimize sound amplification and transmission.

Require that the facilities for active recreational uses that are likely to draw cheering crowds, elicit loud play, or have amplified game announcements be located in parks or a campus interior away from noise-sensitive uses.