

JUNE 11, 2007

COUNTY OF SOLANO
GENERAL PLAN UPDATE

CAC WORKBOOK

AIR QUALITY AND NOISE

PRELIMINARY GOALS, POLICIES, AND PROGRAMS

The purpose of this Citizen Advisory Committee (CAC) meeting is to provide recommendations for refinement of health and safety goals and policies necessary to address major issues identified in the Air Quality and Noise background reports and April 23, 2007 CAC meeting. This workbook provides preliminary draft goals and policies for topics related to Noise and Air Quality, as well as potential implementation measures for the CAC review. The preliminary draft goals, policies and programs will also be reviewed by the Technical Advisory Committee.

Maps contained within the Air Quality and Noise background reports may be consulted as a reference for certain policies.

The workbook provides spaces for comments from members of the CAC to clarify, refine, or add to these goals and policies and for comments on potential implementation programs. All comments received will be used in preparing draft goals, policies, implementation programs and related materials for review by the Planning Commission and Board of Supervisors and will be considered during preparation of the draft General Plan. The CAC will review the revised policies, goals and implementation programs at a later meeting. Policies proposed are more generalized than the existing general plan policies. Specific actions in the updated general plan will be outlined through implementation measures rather than in the policies.

Members of the CAC should review this workbook prior to the June 11th meeting and come prepared to offer comments and suggestions at the meeting. Comments can be provided by making notes in the spaces provided following the preliminary draft goals and policies, or changes can be suggested by making notes directly on specific goals and policies. CAC members may also e-mail their proposed changes to Diane Bushman (dbushman@solaoncounty.com) by Monday at 9:00 a.m., staff will assemble the comments for distribution at the CAC meeting (See Separate Instructions in Agenda Packet)

INTRODUCTION

This chapter of the Solano County General Plan is an integral part of the County's Vision to protect its people from natural hazards, promote public health, preserve air and water quality, and to guide development in a manner that respects the needs of both people and the environment. The following policies to promote public health, reduce risk associated with natural and human caused hazards, prepare for disasters, improve water and air quality, reduce noise impacts, and promote airport compatible land uses will assist the County to fulfill its vision to promote public health, safety and security. *[Note: This is an excerpt of the Health and Safety Chapter. Some of the topics listed in this paragraph have already been addressed or will be addressed in future CAC meetings]*

GOAL STATEMENT

- Goal HS-1:** Maintain and improve air quality in Solano County and the region.
- Goal HS-2:** Protect people living, working, and visiting Solano County from the harmful impacts of excessive noise.
- Goal HS-3:** Protect important agricultural, commercial, and industrial uses in Solano County from encroachment by land uses sensitive to noise and air quality impacts.

AIR QUALITY

(See Figure 13-1 in the Air Quality Background Report)

PRELIMINARY POLICIES

- Policy HS-1:** Encourage coordination between the Bay Area and Yolo-Solano Air Quality Management Districts to promote consistency and cooperation pertaining to air quality planning efforts.
- Policy HS-2:** Establish buffers zones between sensitive land uses and sources of toxic air contaminants or odors.
- Policy HS-3:** Require the implementation of best management practices to reduce air pollutant emissions associated with the construction of development or roads and the operation of construction equipment.
- Policy HS-4:** Comply with California State Air Resources Board (ARB) and Bay Area or Yolo-Solano Air Quality Management District (AQMD) rules, regulations, and recommendations for Solano County facilities and operations. Such operations shall comply with mandated measures to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.
- Policy HS-5:** Develop a greenhouse gas emissions reduction plan for Solano County, and comply with all State and/or federal emission reduction targets to address global climate change.
- Policy HS-6:** Support and protect agricultural practices by preventing incompatible land uses from encroaching on agricultural land.

- Policy HS-7:** Encourage agricultural best management practices regarding herbicide and pesticide use, odor control, fugitive dust control, and agricultural equipment emissions in order to minimize air quality impacts.
- Policy HS-8:** Minimize health impacts from stationary sources of toxic air contaminants (e.g., refineries, manufacturing plants, etc.) by ensuring that levels of emissions would be within acceptable limits, and comply with all applicable AQMD rules and regulations
- Policy HS-9:** Encourage on-site renewable energy production and use, and energy conservation measures.
- Policy HS-10:** Encourage regional cooperation to provide an efficient and multi-modal circulation system.
- Policy HS-11:** Encourage land use patterns that will result in fewer and shorter motor vehicle trips and make transportation choices like transit, biking, or walking more viable alternatives.

Comments: _____

POTENTIAL IMPLEMENTATION PROGRAMS

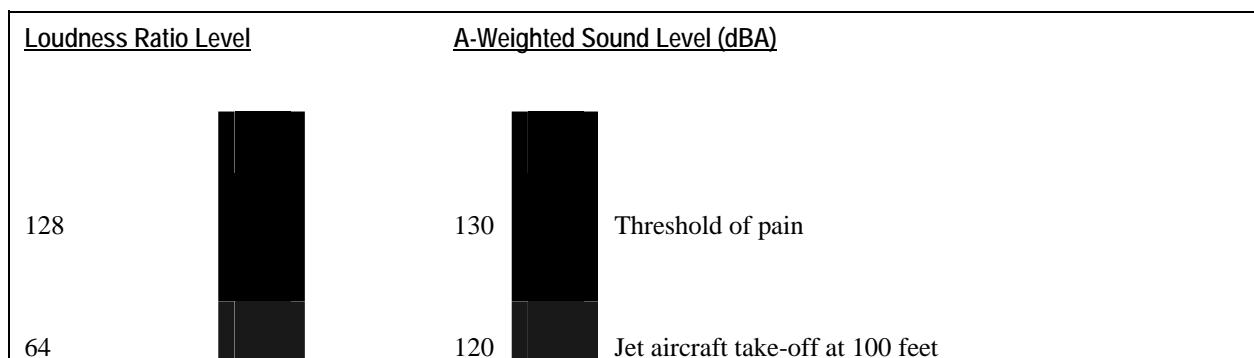
- a. Comply with Bay Area and Yolo-Solano Air Quality Management District rules, provisions, and plans.
- b. Require development proposals which may introduce new sources of toxic air pollutants to prepare a health risk assessment as required under the Air Toxics “Hot Spots” Act (AB 2588, 1987) and, based on the results of the assessment, establish appropriate land use buffer zones around those areas posing substantial health risks.
- c. Use the California Air Resources Board’s “Air Quality and Land Use Handbook: A Community Health Perspective”, or the applicable AQMDs’ guidelines and recommendations available at the time, when establishing buffers for air pollutants or odor.

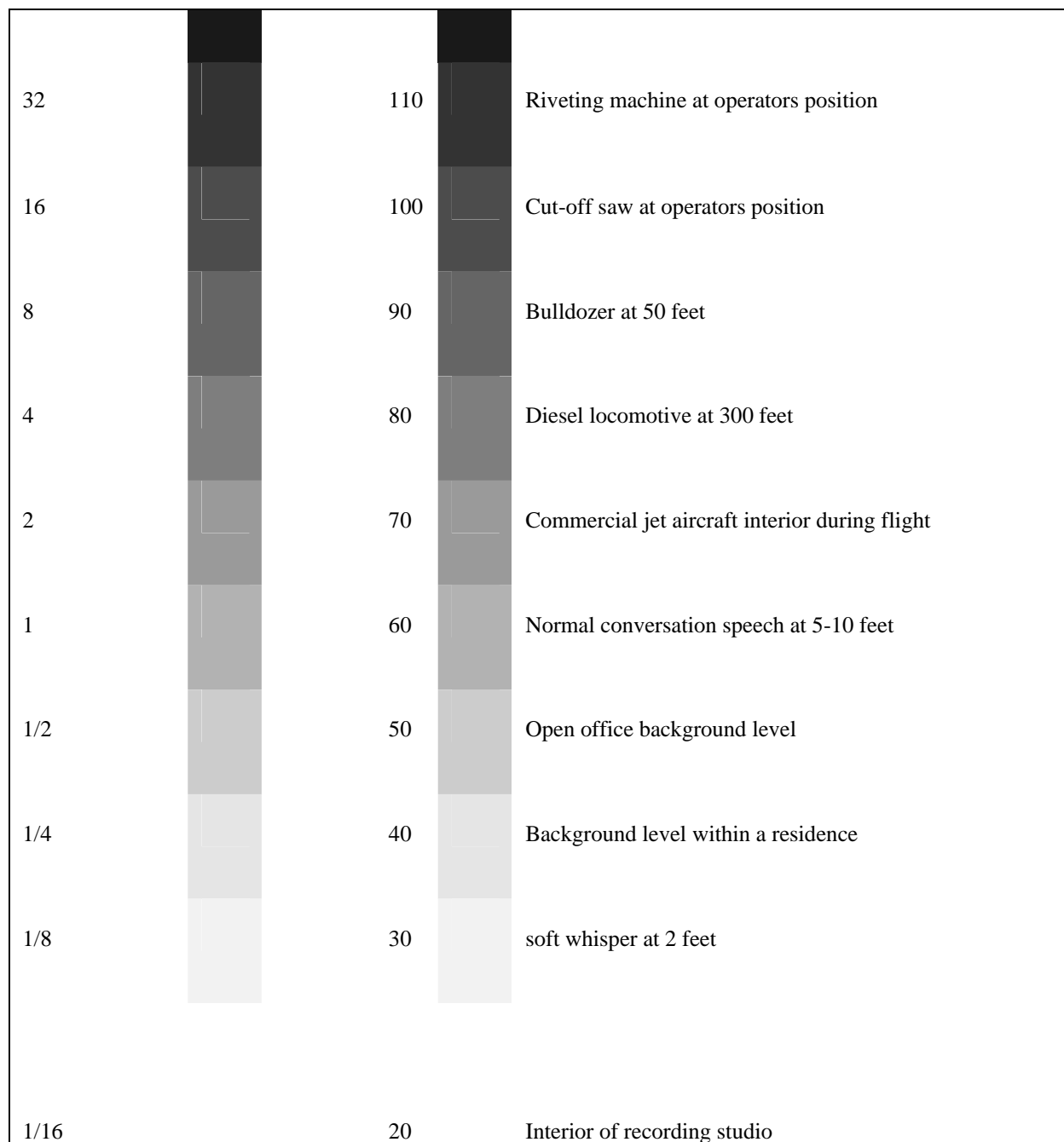
- d. Assess air quality impacts using the latest version of the CEQA Guidelines and guidelines prepared by the AQMDs.
- e. Include strategies to reduce vehicle miles traveled, energy consumption, and other sources of greenhouse gases within the County in the development of a greenhouse gas emission reduction plan.
- f. Require developers to implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.
- g. Comply with the Global Warming Solutions Act (AB32, 2006) and/or other subsequent policymaking pertaining to greenhouse gas emissions.
- h. Consider a congestion management ordinance to encourage or require employers to provide for telecommuting, bicycle facilities, and transit management opportunities for employees.
- i. Refer to policies and implementation measures in the land use, recreation resource, and circulation sections for trails, pedestrian paths, and transit for making these transportation modes more viable alternatives.
- j. Refer to policies and implementation measures in the land use section for encouraging most development into existing cities.

Additional Ideas:

NOISE

(See Figures 12-4, 12-5, 12-6, 12-7, and 12-8 in the Noise Background Report)





Typical A-Weighted Sound Levels of Common Noise Sources

Figure 1

Table 1 State Land Use Noise Compatibility Guidelines				
Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable ^a	Conditionally Acceptable ^b	Normally Unacceptable ^c	Clearly Unacceptable ^d
All Residential, Lodging, Schools, Libraries, Places of Worship, Nursing Homes	<60	60–65	65–75	75+

Auditoriums, Concert Halls, Amphitheaters	<70	70+		
Sports Arena, Outdoor Spectator Sports	<75	70+		
Playgrounds, Neighborhood Parks	<67.5		67.5-75	75+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<70		70-80	80+
Retail, Movie Theaters, Restaurants	<65	65-75	75-80	80+
Office Building, Business Commercial and Professional	<67.5	67.5-77.5	77.5+	
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	75+	
Noise-sensitive Manufacturing and Communications	<55	55-70	70-80	80+

a Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

b New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

c New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

d New construction or development should generally not be undertaken.

e These standards are not applicable for development within the airport compatibility review area. Development in the airport compatibility review areas are subject to standards in the applicable airport land use plan.

Source: State of California Governor's Office of Planning and Research 2003, EDAW, Solano County General Plan

TABLE 2. LAND USE COMPATIBILITY STANDARDS FOR INTERIOR NOISE IN dBA

Land Use	Maximum Allowable Interior CNEL
Residential	45
Transient lodging	45
School classrooms, libraries, churches	45
Hospitals, convalescent homes	45

Note: The acceptable interior noise level for other uses (offices, theaters, commercial, industrial) is dependent upon the specific nature of the indoor activity.

Noise Level Descriptor	Daytime (7 am – 10 pm)	Nighttime (10 pm – 7 am)
Hourly L_{eq}	60 dB	45 dB
L_{max}	75 dB	65 dB

Notes:
Each of the noise levels specified shall be lowered by five dB for simple tone noises, noises consisting primarily of speech, or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Table 4 Noise Level Performance Standards for Non-Transportation Noise Sources		
Cumulative Duration of a Noise Event ¹ (Minutes)	Maximum Exterior Noise Level Standards ²	
	Daytime ^{3,5}	Nighttime ^{4,5}
30-60	50	45
15-30	55	50
5-15	60	55
1-5	65	60
0-1	70	65
1	Cumulative duration refers to time within any one-hour period.	
2	Noise level standards measured in dB.	
3	Daytime = Hours between 7:00 a.m. and 10:00 p.m.	
4	Nighttime = Hours between 10:00p.m.and 7:00 a.m.	
5	Each of the noise level standards specified may be reduced by 5 dBA for tonal noise (i.e., a signal which has a particular and unusual pitch) or for noises consisting primarily of speech or for recurring impulsive noises (i.e., sounds of short duration, usually less than one second, with an abrupt onset and rapid decay such as the discharge of firearms).	

PRELIMINARY POLICIES

Policy HS-12: Consider land use compatibility between noise-sensitive¹ and noise-emitting land uses when reviewing new development proposals. Require noise abatement measures to ensure that noise levels will not exceed those indicated on Tables 1 and 2.

Policy HS-13: Require buffering between noise-sensitive land uses and noise sources unless a detailed noise analysis is conducted and noise abatement measures can be taken to reduce noise to acceptable levels as shown on Tables 1 and 2.

Policy HS-14: Development projects that produce, or are affected by, non-transportation related noise shall be mitigated to achieve acceptable levels specified in Table 3, as measured at outdoor activity areas of existing and planned noise-sensitive land uses. If existing noise levels exceed acceptable levels in Table 3 as measured at outdoor activity areas of noise sensitive land uses:

- Where existing exterior noise levels are between 60 and 65 dB at outdoor activity areas of noise-sensitive uses, an increase of 3 dB or greater is considered significant and requires mitigation to achieve acceptable levels.

¹For the purposes of this Noise Element, noise-sensitive land uses include schools, hospitals, rest homes, long-term care, mental care facilities, and residences. Outdoor activity areas are considered to be the portion of a noise-sensitive property where outdoor activities would normally be expected (i.e., patios of residences and outdoor instructional areas of schools). Outdoor activity areas for the purposes of this element do not include gathering spaces alongside transportation corridors or associated public rights-of-way.

- Where existing exterior noise levels are greater than 65 dB at outdoor activity areas of noise-sensitive uses, an increase of 1.5 dB or greater is considered significant and requires mitigation to achieve acceptable levels.
- Where it is not possible to reduce noise in outdoor activity areas to 60 dB or less using practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB may be allowed, provided that available exterior noise level reduction measures have been implemented

Policy HS-15: Require noise mitigation to reduce construction and other short-term noise and vibration impacts as a condition of approval for development projects by applying the performance standards outlined in Table 4. The total noise level resulting from new sources and ambient noise shall not exceed the standards in Table 4, as measured at outdoor activity areas of any affected noise sensitive land use except:

- If the ambient noise level exceeds the standard in Table N 4, the standard becomes the ambient level plus 5 dB.
- Reduce the applicable standards in Table 4 by five (5) dB if they exceed the ambient level by 10 or more dB.

Policy HS-16: Promote the use of berms, landscaping, setbacks, or architectural design for noise abatement, rather than conventional wall barriers, to enhance aesthetics and minimize pedestrian barriers. Development of noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation, stationary sources, or agricultural operations exceeding, or estimated to exceed, levels specified in Table 1 shall require transportation planning, traffic calming, site planning, buffering, sound insulation, or other methods to reduce noise exposure in outdoor activity areas and interior spaces to the levels specified in Table 1.

Policy HS-17: Ensure that new development in the vicinity of Travis Air Force Base will be compatible with existing and projected airport noise levels as set forth in the Travis Air Force Base Airport Land Use Plan. Maintain buffers between the base and incompatible land uses.

Policy HS-18: Ensure that new development in the vicinity of the Rio Vista Airport will be compatible with existing and projected airport noise levels as set forth in the Rio Vista Airport Land Use Plan.

Policy HS-19: Continue to direct truck traffic to routes where noise conflicts with land uses are least likely to occur.

Comments: _____

POTENTIAL IMPLEMENTATION PROGRAMS

- k. Consider the creation of a noise ordinance. It could address the below issues.
 - o Performance standards and exemptions.
 - o Restrictions on noise-emitting construction activities based on standards for construction equipment.
 - o Establish three levels of permitted noise emission by stationary sources based on land use.
 - o Regulate mobile or short duration types of noise emissions or noise generated by added equipment including truck loading and unloading, operation of construction equipment and amplified music.
 - o The County will ensure that personnel charged with enforcing such ordinances are properly trained and equipped for on-site measurement techniques and other necessary tasks.
- l. Make information readily available on noise abatement measures , the physical and psychological effects of noise on public health and welfare, and the meaning of noise levels and standards available to the public. Consider specific mailings to properties located in existing or projected 60 dBA CNEL contours.
- m. Under certain conditions the County may require acoustical studies to be prepared as part of the development review process to ensure adequate analysis of proposed development projects. Acoustical studies with appropriate noise abatement measures will be required for all discretionary projects where any of the following apply:

- o The project is located within the existing or future 60 dBA CNEL transportation noise contour as measured at outdoor activity areas of proposed noise-sensitive land uses
 - o The project will cause future traffic volumes to exceed 5,000 ADT on any roadway that fronts residential, institutional and open space land uses or will cause traffic volume to increase by 25 percent or more, on any of these roadways.
 - o The project will introduce noise or vibration sources associated with mechanical equipment operations, entertainment, maintenance and facility operations.
 - o The project is a proposed residential use in the vicinity of existing and proposed commercial and industrial areas.
- n. The County will coordinate with ABAG and Caltrans to ensure transportation planning and improvement programs are consistent with this element.
- o. Maintain truck routes. (These will also be addressed by the circulation section.)
- p. Industrial and other noise-generating land uses shall be located away from noise-sensitive land uses or shall enclose any substantial noise sources completely within buildings or structures.
- q. Refer to the Airport Land Use Plans areas requiring airport land use compatibility review.

Additional Ideas:
