

10.0 NOISE

This chapter provides background information on the Greenway noise environment and potential noise-related impacts that may occur as a result of implementation of the Dry Creek Greenway proposed features. As the locations of Greenway Vision amenities are approximate at this time, no acoustic measurements were conducted as part of this program level EIR. However, if necessary, site-specific acoustic analysis would be conducted prior to construction and implementation of future Greenway projects.

10.1 Environmental Setting

10.1.1 Characteristics of Environmental Noise

Noise is commonly defined as unwanted sound in the environment. This definition reflects a subjective reaction to the characteristics of the physical phenomenon of noise. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.” Although elevated noise levels can result in physiological damage and hearing loss, excessive noise in the environment more commonly impairs general human well being by contributing to psychological stress and irritation. Such health effects can result when noise interferes with everyday human activities such as sleep, talking, recreation, relaxation, and tasks requiring concentration. When community noise interferes with human activities or contributes to stress, public acceptance of noise decreases.

Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Environmental sound levels are usually measured in A-weighted decibels, or dBA, which is a method of taking into account the sensitivity of the human ear to various frequencies in the sound spectrum. In general, a difference of three decibels is barely perceptible to the human ear, while a difference of 10 decibels is perceived as a doubling of loudness. Table 10-1 provides examples of typical sound levels for various sources.

Table 10-1 — Typical A-Weighted Sound Levels of Common Noise Sources

Noise Source	Sound Level (dBA)
Threshold of Pain	130
Jet Takeoff at 200 Feet	110
Busy Urban Street	90
Typical Freeway Traffic at 50 Feet	70
Conversation at 6 Feet	60
Typical Office Interior	50
Soft Radio Music	40
Residential Interior	30
Whisper at 6 Feet	20
Human Breathing	10

The overall noise level associated with a given noise environment is called the “ambient” noise level. Ambient noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, trains, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Other contributing noise sources, often referred to as “background” sources, can include the sound of birds, people talking, occasional vehicles passing by, or televisions and radios.

A common statistical tool used to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which is the sound level corresponding to a steady-state, A-weighted sound level containing the same total energy as a time-varying signal over a given period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors (L_{dn} and CNEL), and demonstrates a strong correlation with community response to noise. The Day-Night Average Level (L_{dn}) is based on the average noise level over a 24-hour period, with a +10 decibel weighting applied to noise occurring during the nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to mask short-term variations in the noise environment. The Community Noise Equivalent Level, or CNEL, is similar to the L_{dn} , in that it is based upon the weighted average hourly L_{eq} over a 24-hour day, except that an additional +4.77 decibel penalty is applied to evening (7:00 p.m. to 10:00 p.m.) hourly L_{eq} values. Measured L_{dn} and CNEL values are usually within 1 dB of one another. The CNEL was developed for California Airport Noise Regulations, and is normally applied to airport/aircraft noise assessments. The L_{dn} descriptor is a simplification of the CNEL descriptor, but the two generally agree within 1 dB for a given noise situation. Similar to the L_{eq} , the CNEL and L_{dn} descriptors are also averages that tend to mask short-term variations in the noise environment. Because they presume increased evening or nighttime sensitivity to noise, these descriptors are best used as evaluation criteria for land uses where nighttime noise exposures are critical to the acceptability of the noise environment.

10.1.2 Regional and Site Setting

Due to the varied geographical areas that the proposed Greenway features are expected to be located within, the existing noise environment within the Greenway proposed areas include noise generated by commercial, industrial, residential, and open space uses. The Dry Creek Greenway project area is subject to typical noises generated by vehicle traffic, operation of machinery, and day-to-day domestic and outdoor activities. Noise in the community is the cumulative effect of noise from transportation activities and stationary sources. Major noise sources in the project area are predominantly transportation-related, including noise generated by automobiles use, trucking, and railroad operations. Stationary sources that contribute to overall noise levels include industrial and commercial operations, machinery, air conditioning systems, compressors, and landscape maintenance equipment.

10.2 Regulatory Setting

10.2.1 Federal and State

State and federal agencies have established guidelines for determining acceptable noise levels for various land uses, although environmental noise is generally regulated at the local level. The federal Occupational Safety and Health Administration (OSHA) defines potentially harmful noise exposure (the level at which hearing loss may occur from long-term exposure) as exposure to greater than 90 dBA averaged over eight hours. Individual communities generally adopt state guidelines or minor variations of these guidelines. Most jurisdictions also establish plans for achieving their community noise goals through their general plan process.

10.2.2 Local (Placer County)

Local policies and regulations relevant to the proposed project include Placer County regulations and requirements outlined in the Placer County General Plan, the Dry Creek-West Placer Community Plan, the Granite Bay Community Plan, and the Horseshoe Bar/Penryn Community Plan. The Greenway vision and implementation recommendations were planned specifically to identify and emphasize common shared values as expressed in these existing goals and policies of regional jurisdictions. As such, the Vision components are designed to be consistent with the goals and policies of Placer County and the community plan areas. When future projects are proposed for implementation, they will be individually evaluated for consistency regarding noise impacts with the General Plan and community plans. Although the cities of Roseville and Rocklin and the Town of Loomis are not adopting the Greenway Vision, those communities outside of the proposed project area have adopted similar goals and policies.

The policies listed below were excerpted from a review of the Placer County General Plan, Dry Creek-West Placer Community Plan, Granite Bay Community Plan, and the Horseshoe Bar/Penryn Community Plan. Because many of the policies found in the community plans are identical or similar to those contained in the county-wide Placer County General Plan, only policies contained within the General Plan are listed.

The Placer County General Plan (Placer County 1994a) includes policies addressing noise issues and contains land use compatibility guidelines and noise level standards for various land use designations. In general, Placer County establishes land use compatibility criteria relative to non-transportation noise sources, of 50 dBA L_{dn} at outdoor property lines of most residential receiving uses, and 45 dBA L_{dn} for interior areas (Table 9-1 of the General Plan Noise Element). Allowable L_{dn} noise levels at other types of receptor zones (e.g. office, commercial, industrial) range from 60 to 75 dBA L_{dn} for non-transportation noise sources. Article 9.36 of the Placer County Code also sets forth noise level standards and policies to address public nuisances associated with excessive community noise.

Placer County defines “sensitive receptors” as land uses in which there is a reasonable degree of sensitivity to noise. Such uses include single-family and multi-family residential uses, frequently used outbuildings, schools, hospitals, churches, rest homes, cemeteries, public libraries and other sensitive uses as determined by the enforcement officer.

Placer County General Plan

Policies:

- 9.A.2. The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards of Table 9-1 as measured immediately within the property line of lands designated for noise-sensitive uses.
- 9.A.5. Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 9-1 in the General Plan at existing or planned noise-sensitive uses, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in project design.

10.3 Environmental Impacts

Noise impacts associated with implementation of the project would primarily result from construction activities during development of future Greenway components.

10.3.1 Criteria for Significance

The CEQA Guidelines establish that noise impacts from a project are normally considered significant if they conflict with adopted environmental plans and goals of the community, or substantially increase the ambient sound levels for adjoining areas (CEQA Guidelines, Appendix G). As such, project-related noise impacts are considered significant if they exceed the noise level standards contained in the Placer County General Plan and the Placer County Code. In addition, Placer County has identified the following actions as impacts normally considered significant:

- Increase substantially the ambient noise levels for adjoining areas;
- Result in increased traffic-related noise that would exceed community standards as adopted in the Placer County General Plan Noise Element; and/or
- Result in onsite noise that could produce noise complaints or exceed noise standards as adopted in the Placer County General Plan Noise Element at the property lines.

10.3.2 Impacts from Noise Sources

Impact 10-1:	Temporary construction-related noise.
Significance:	Potentially Significant
Mitigation Measures:	Mitigation Measure 10-1a, Restrict hours of construction activity; Mitigation Measure 10-1b, Ensure construction equipment meets Placer County Code per Section 9.36.030 (A)(7); Mitigation Measure 10-1c, Locate stationary noise sources away from noise-sensitive land uses; and Mitigation Measure 10-1d, Locate equipment staging areas (e.g. equipment storage, warm-up areas) as far away from noise sensitive land uses, as is feasible.
Significance after Mitigation:	Less than significant

Development of the Dry Creek Greenway components would result in short-term, construction-related noise impacts. Construction noise emanating from any construction activities for which Grading or Building Permits are required is prohibited on Sundays and federal holidays. However, noise generated by construction activities occurring between 6:00 a.m. and 8:00 p.m. during daylight savings time (and between 7:00 a.m. and 8:00 p.m. during non-daylight savings) Monday through Friday, and from 8:00 a.m. to 6:00 p.m. Saturday, is allowed per Placer County's standard noise condition of approval derived from the Board of Supervisors Minute Order 90-08.

Construction activities may result in short-term noise levels that exceed the thresholds established in the Placer County General Plan. However, as discussed above, construction-related noise is allowed, provided it does not occur outside of specified operating hours. Construction noise exceeding adopted standards and occurring outside of the hours specified would be considered a significant noise impact. Mitigation Measures 10-1a, 10-1b, 10-1c and 10-1d will reduce this impact to a less than significant level.

Impact 10-2:	Bikeway operation noise
Significance:	Less than Significant
Mitigation Measures:	None required

Some of the proposed trails identified in the Vision may have alignments that are adjacent to or near residential uses. Trail users in these areas would not be expected to generate noise levels that would violate applicable noise standards; however, because many residential areas have low ambient noise levels, any increase in noise associated with trail use could be noticeable. Typical noises generated by trail users include people talking while walking, jogging, horseback riding or bicycling, occasional shouts from children and adults, music from portable stereos and radios, and the mechanical sound of bicycles being ridden on trails. Such noises would generally be of a short duration, since trail users would be traveling and not remaining in one location for extended periods.

To address potential noise and nuisance impacts generated by trail users, Section 6.2.1 of the Vision calls for using a berm, or combination of berm and planting, to visually and spatially separate the trail from the adjacent use. Use of such design features would avoid or minimize potential noise impacts. Therefore, potential noise impacts are considered less than significant.

10.4 Mitigation Measures

Mitigation Measure 10-1a: Restrict hours of construction activity. Mitigation Measure 10-1a applies to Impact 10-1.

Construction noise emanating from any construction activity for which a Building Permit or Grading Permit is required is prohibited on Sundays and federal holidays, and shall only occur: Monday through Friday, 6:00 a.m. to 8:00 p.m. during daylight savings, 7:00 a.m. to 8:00 p.m. during non-daylight savings, and Saturdays, 8:00 a.m. to 6:00 p.m. This condition shall be noted on the Improvement Plans required for this project.

Mitigation Measure 10-1b: Ensure construction equipment meets Placer County Code. Mitigation Measure 10-1b applies to Impact 10-1.

All construction equipment shall be fitted with factory installed muffling devices and all construction equipment shall be maintained in good working order, per Placer County Code Section 9.36.030 (A)(7).

Mitigation Measure 10-1c: Locate stationary construction noise sources (e.g. generators, compressors) as far away from noise sensitive land uses as is feasible. Mitigation Measure 10-1c applies to Impact 10-1.

Mitigation Measure 10-1d: Locate equipment staging areas (e.g. equipment storage, warm-up areas) as far away from noise sensitive land uses as is feasible. Mitigation Measure 10-1d applies to Impact 10-1.