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I-710 Corridor Project EIR/EIS

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I-710 Corridor Advisory Committee

Noise Study Overview

October 15, 2009

Overview

1. Tier 2 Committee Noise Recommendations
2. Noise Study Process
3. Noise Study Schedule/Timeline

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1. Tier 2 Committee Recommendations

Recommended Strategies:

- Provide appropriate and effective sound walls to reduce noise impacts to neighborhoods and schools adjacent to the freeway
- Implement noise mitigation programs
- Conduct a study to assess how truck traffic from extended gate hours for trucks and 24/7 port operations will impact communities, and assess what mitigations may be appropriate

2. Noise Study Process

- Regulatory Framework (Noise Abatement Criteria)
- Establish baseline noise conditions
- Analyze impacts
- Develop avoidance, minimization, and abatement measures

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Regulatory Framework – Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level (dBA-L_{eq}[h])	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in categories A or B above
D	—	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

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Typical Noise Levels

Common Outdoor Activities	Noise Level dBA	Common Indoor Activities
	--110--	Rock Band
Jet Flyover at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime		
Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban, Daytime	--50--	Large Business Office Dishwasher Next Room
Quiet Urban, Nighttime	--40--	Theater, Large Conference
Quiet Suburban, Nighttime	--30--	Room (Background) Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--1--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, October 1998

Noise Study Components – Establish Baseline Noise Conditions

- Measure existing noise levels.
  - Short-Term – 10 minute durations
  - Long-Term – 24-hour
- Other measurements (wind speed, direction, temperature, humidity, and traffic counts)

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Noise Study Components – Noise Modeling

- FHWA-approved TNM 2.5 model will be used
- What goes into the model?
  - Receptor locations
  - Topography
  - Roadway plan and profile
  - Traffic volumes
  - Traffic speeds
  - Fleet mix

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Noise Study Components – Impact Analysis

- Quantitative
  - Output from model used to determine forecasted noise levels for No Build and 3 Build Alternatives
  - Compared against existing conditions
  - Permanent and temporary (construction) impacts quantified
- Qualitative
  - Public Health Considerations
    - Hearing loss
    - Sleep disturbance

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Noise Study Components – Potential Abatement Measures

- Evaluate feasible noise abatement measures (i.e., those that achieve a noise reduction of at least 5 decibels)
- Increase existing sound wall height
- Close gaps between existing sound walls
- New sound walls
- Use of rubberized asphalt
- Internal noise abatement measures (e.g., double paned windows) can be considered if exterior abatement not feasible

3. Noise Study Schedule/Timeline

- Complete Noise Measurements – Late November 2009
- Modeling – December 2009
- Complete Draft Noise Study Report – January 2010
- Presentation of findings to ESWG – February 2010
- Integrate Noise Study findings and recommendations into the Draft EIR/EIS – Summer 2010

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