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I-710 Corridor Project EIR/EIS

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Noise Technical Study Key Findings Briefing

presented to the
Technical Advisory Committee
November 16, 2011



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Technical Study Briefing Agenda

- Purpose and Need
- Project Alternatives
- Key Analysis Questions – Does the Project Result in:
 - Temporary construction noise impacts?
 - Permanent traffic noise impacts?
 - Need for noise abatement?
- Analysis Methodology & Tools
- Project Findings and Abatement Strategies

Project Purpose and Need

1. Improve air quality and public health
2. Improve traffic safety
3. Provide a modern design for the I-710
4. Address projected traffic volume increase
5. Address projected growth in population, employment and economic activity related to goods movement

Project Alternatives Review

No Build Improvements

- Planned and Committed Projects in 2008 RTIP
- Enhanced Goods Movement by Rail
- Clean Trucks Program
- Expanded Night Gate Ops at Ports
- I-710 Pavement Rehabilitation
- Traffic Signal coordination

TSM/TDM and ITS

- Ramp Metering
- Improved Arterial Signage
- Peak Period Parking Restrictions
- Increased Transit Service
- Upgraded Traffic Signals (ITS)

Arterial System Improvements

- Signal Timing Improvements
- Local Arterial Intersection Improvements at 42 Locations

I-710 Widening

- Widen the I-710 up to 10 Lanes
- Modernize Geometric Design of all of the Local I-710 Interchanges

Freight Corridor

- Separate Four-Lane Freight Corridor


Alternative 1

No Build Improvements



Alternative 5A

I-710 Widening
 Modernize I-710 Geometrics
 Arterial System Improvements
 TSM/TDM & ITS
 No Build Improvements



Alternative 6A

Freight Corridor
 I-710 Widening
 Modernize I-710 Geometrics
 Arterial System Improvements
 TSM/TDM & ITS
 No Build Improvements



Alternative 6B

Zero Emissions Automated Guidance
 Freight Corridor
 I-710 Widening
 Modernize I-710 Geometrics
 Arterial System Improvements
 TSM/TDM & ITS
 No Build Improvements



Alternative 6C

Tolling Feature
 Zero Emissions Automated Guidance
 Freight Corridor
 I-710 Widening
 Modernize I-710 Geometrics
 Arterial System Improvements
 TSM/TDM & ITS
 No Build Improvements



Analysis Methodology & Tools

Temporary Construction Noise Impacts

- Identify types of construction equipment and noise levels generated
- Identify construction activities (e.g., grading, pile driving, paving, etc.)
- Identify noise receptors
- Construction noise levels should not exceed 86 dBA (L_{max}) at a distance of 50 feet

Key Findings

Temporary Construction Noise Impacts

Build Alternatives (Alternatives 5A, 6A, 6B and 6C)

- Construction noise may occasionally dominate immediate area around construction
- Generation of noise levels ranging from 70 to 90 dBA at a distance of 50 feet
- No adverse noise impacts anticipated because construction conducted in accordance with Caltrans standard specifications and compliance with local noise ordinances

Analysis Methodology & Tools

Permanent Traffic Noise Impacts

- Focus on locations of frequent human use (residences, schools, libraries, churches etc.)
- Short and long-term measurements taken (125 and 24 locations respectively)
- Traffic noise levels from measurements modeled to predict future conditions
- Impacts occur when noise level is 12 dBA greater than existing or noise levels within 1 dBA of Noise Abatement Criteria (NAC)

Noise Abatement Criteria

Activity Categories and Noise Abatement Criteria

Activity Category	NAC	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, hotels, motels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: Federal Highway Administration, 23 Code of Federal Regulations, Part 772

NAC – Noise Abatement Criteria

Key Findings

Permanent Traffic Noise Impacts

- All impacted residential areas within the project limits have been considered for noise abatement
- Impacts at recreational areas, hospitals, places of worship, schools and restaurants
- Alternative 5A
 - 15 receivers approach NAC
 - 73 receivers exceed NAC
 - 12 receivers have a substantial noise increase
- Alternatives 6A/B/C
 - 11 receivers approach NAC
 - 107 receivers exceed NAC
 - 16 receivers have a substantial noise increase

Noise Abatement Methodology

- Abatement considered at each impacted receiver
- Abatement measures considered to be feasible when a minimum of 5 dBA decrease can be achieved
- Each noise barrier evaluated for feasibility based on achievable noise reduction
- Noise barriers analyzed with incremental increases in height until desired noise reduction is achieved

Noise Abatement Key Findings

- Noise barriers are the only practical solution for I-710
- Alternative 5A has 24 noise barriers proposed
- Alternatives 6A/B/C has
 - 38 noise barriers proposed on mainline
 - 7 noise barriers proposed on freight corridor
- Noise barriers will be evaluated for reasonableness at a later date
- Final decision on construction of noise barriers will occur upon completion of final design

Example of Noise Barriers



Example of Noise Barrier



Next Steps

- Review technical studies key findings with I-710 committees
- Incorporate technical studies into DEIR/DEIS
- Complete Draft EIR/EIS and circulate for public and agency review and comment
- Formal public review and comment opportunities during circulation period