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I-710 Corridor Project EIR/EIS

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I-710 Corridor Advisory Committee Air Quality/Health Risk Assessment Update

June 18, 2009



Overview

1. Purpose of an Air Quality/Health Risk Assessment (AQ/HRA) in the EIR/EIS Process
2. AQ/HRA Protocol Development for the I-710 Project
3. Current Status

Purpose of the AQ/HRA in the EIR/EIS

- Compare Build Alternatives to existing conditions
- Compare Build Alternatives to the 2035 No Build Alternative (i.e., does the project make air quality better or worse compared to doing nothing at all?)
- Determine whether project is in conformity with the adopted State Implementation Plan for air quality

AQ/HRA Protocol- Summary of Elements Included

Required Elements per Caltrans SER

- ✓ Carbon Monoxide (CO) quantitative assessment and local “hotspot” dispersion modeling of CO concentrations for conformity analysis
- ✓ PM2.5/PM10 (particulate matter/dust) qualitative assessment for conformity analysis
- ✓ Diesel Exhaust qualitative assessment (identify sensitive receptors)
- ✓ Mobile Source Air Toxics (MSAT) qualitative assessment
- ✓ Construction impacts (identify standard emission/dust control measures)
- ✓ Greenhouse Gases qualitative assessment
- ✓ Construction emissions quantification (total project)

AQ/HRA Protocol- Summary of Elements Included



Required Elements per Caltrans SER

Additional Elements Recommended by I-710 Project Team and AQ/HRA Working Group

- ✓ Full dispersion modeling of ambient concentrations of criteria pollutants
- ✓ Full dispersion modeling for estimating concentrations of the six Priority MSATs
- ✓ Full dispersion modeling health risk assessment for the six Priority MSATs
- ✓ Quantification of operational (e.g., on-road mobile source, electric generation) greenhouse gas emissions
- ✓ Qualitative PM mortality impact assessment

AQ/HRA Protocol- Summary of Elements Included



Required Elements per Caltrans SER



**Additional Elements Recommended by
I-710 Project Team and AQ/HRA Working Group**

**Additional Elements Recommended by
I-710 Agency Air Technical Group and/or
Environmental Subject Work Group**



Ultrafine Particulates qualitative assessment

- Quantitative assessment of PM_{2.5} mortality and morbidity monetary benefits/impacts
- Adopt SCAQMD CEQA significance thresholds
- Full AQ/HRA modeling for combined operations/construction impacts at interim project phases
- Specialized “near-source” modeling of PM_{2.5}/PM₁₀
- Quantitative PM mortality impacts assessment
- Analysis of “life-cycle” greenhouse gas emissions

AQ/HRA Protocol- Summary of Elements Considered

Typical EIR/EIS	<ul style="list-style-type: none"> ✓ Carbon Monoxide (CO) quantitative assessment and local “hotspot” dispersion modeling of CO concentrations for conformity analysis ✓ PM2.5/PM10 (particulate matter/dust) qualitative assessment for conformity analysis ✓ Diesel Exhaust qualitative assessment (identify sensitive receptors) ✓ Mobile Source Air Toxics (MSAT) qualitative assessment ✓ Construction impacts (identify standard emission/dust control measures) ✓ Greenhouse Gases qualitative assessment ✓ Construction emissions quantification (total project)
I-710 EIR/EIS	<ul style="list-style-type: none"> ✓ Full dispersion modeling of ambient concentrations of criteria pollutants ✓ Full dispersion modeling for estimating concentrations of the six Priority MSATs ✓ Full dispersion modeling health risk assessment for the six Priority MSATs ✓ Quantification of operational (e.g., on-road mobile source, electric generation) greenhouse gas emissions ✓ Qualitative PM mortality impact assessment ✓ Ultrafine Particulates qualitative assessment
Not Incl.	<ul style="list-style-type: none"> ❑ Quantitative assessment of PM2.5 mortality and morbidity monetary benefits/impacts ❑ Adopt SCAQMD CEQA significance thresholds ❑ Full AQ/HRA modeling for combined operations/construction impacts at interim project phases ❑ Specialized “near-source” modeling of PM2.5/PM10 ❑ Quantitative PM mortality impacts assessment ❑ Analysis of “life-cycle” greenhouse gas emissions

AQ/HRA Protocol- Summary of Elements Not Included (and basis for exclusion)

Quantitative assessment of PM2.5 mortality and morbidity monetary benefits/impacts

project-level methodologies and information are not available; lack of regulatory consensus and guidance

Adopt SCAQMD CEQA significance thresholds

Caltrans will review project effects using various thresholds (including SCAQMD's) to determine significance

Full AQ/HRA modeling for combined operations/construction impacts at interim project phases

no funding commitments to date that allow for definition of scopes/timeframes of project construction phases

Specialized “near source” modeling of PM2.5/PM10

lack of regulatory consensus and guidance

PM mortality quantitative assessment

lack of regulatory consensus and guidance for project-level analysis

Analysis of “life-cycle” greenhouse gas emissions

lack of regulatory consensus and guidance; technical and information barriers



Current Status

- Technical work initiated for elements included in AQ/HRA Protocol
- Further discussions with CAC on elements not included in protocol
- Review preliminary findings with agencies and ESWG in late 2009