6th Street Viaduct Seismic Improvement Project

LOS ANGELES COUNTY, CALIFORNIA
DISTRICT 7 – Bridge Nos. 53C-1880 and 53-0595
EA 251200
Federal Project Number 5006 (342)
SCH#2007081005

Final Environmental Impact Report/
Environmental Impact Statement
and Section 4(f) Evaluation

VOLUME II – APPENDICES

Prepared by

State of California Department of Transportation (NEPA Lead Agency)
and
City of Los Angeles (CEQA Lead Agency)

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

October 2011
# Contents

**Appendix A**  
CEQA Checklist

**Appendix B1**  
Resources Evaluated Relative to Section 4(f)

**Appendix B2**  
Section 4(f) Evaluation

**Appendix C**  
Title VI Policy Statement

**Appendix D**  
Summary of Relocation Benefits

**Appendix E**  
Glossary of Technical Terms

**Appendix F**  
Mitigation Monitoring and Reporting Program

**Appendix G**  
List of Acronyms and Abbreviations

**Appendix H**  
References

**Appendix I**  
List of Technical Studies

**Appendix J**  
Section 6002 Coordination Plan

**Appendix K**  
Letter from US Fish and Wildlife Service

**Appendix L**  
Notices of Availability of Draft EIR/EIS

**Appendix M**  
Written Comments and Responses on Draft EIR/EIS

**Appendix N**  
Alternative Development Process

**Appendix O**  
Memorandum of Agreement (pursuant to Section 106 of the National Historic Preservation Act of 1966)

**Appendix P**  
Air Quality Conformity Concurrence by FHWA
Appendix A
CEQA Checklist
CITY OF LOS ANGELES
CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY
(Article I – City CEQA Guidelines)

Council District: 14 Date: July 23, 2007
Lead City Agency: Department of Public Works, Bureau of Engineering
Project Title: 6TH STREET VIADUCT SEISMIC IMPROVEMENT PROJECT

I. PROJECT DESCRIPTION

A. Location

Project Location
The 6th Street Viaduct (Bridge No. 53C-1880) and Sixth Street Overcrossing (Bridge No. 53-0595) comprise a single structure, which spans a portion of the Hollywood Freeway (US 101), the Los Angeles River, city streets, and numerous railroad tracks. The structure is located in a highly urbanized area just east of downtown and connects the downtown portion of the North Central Community Planning Area with the Boyle Heights Community Planning Area in the City and County of Los Angeles. Figure 1 illustrates the project areas location with respect to the region while Figure 2 is a Vicinity Map.

B. Purpose

Seismic vulnerability studies, completed in 2004 concluded that the viaduct, with its current state of material deterioration and lack of structural detailing exhibits a high vulnerability to failure under a moderate seismic event (an earthquake with a probable return frequency of once every 40 years). The probability that the viaduct would experience significant failure, and possibly collapse as the result of seismic events exceeds 70 percent over 50 years. This vulnerability level is extremely high compared to the normally accepted collapse probability of 5 percent or less over 50 years. The high risk of collapse and continuing concrete deterioration indicates the need for timely corrective action to 1) seismically retrofit vulnerable viaduct and remove all concrete members experiencing ASR or 2) replace the existing viaduct.

The concrete elements of the 6th Street Viaduct are subject to an ongoing chemical reaction, known as Alkali Silica Reaction (ASR), which has led to significant deterioration of the structure and loss of its seismic integrity. This deterioration of the 6th Street Viaduct has been occurring for at least 75 years, despite many efforts to arrest or limit its effect. In the 1940s, two large pylons (decorative towers) at the center river bent were removed because of concerns for public safety due to the poor condition of the concrete. In the late 1980s, the deck of the viaduct was stripped of asphalt, and a waterproof coating applied to the underlying concrete in an attempt to prevent moisture infiltration. In addition, the viaduct has been repeatedly patched using epoxy injection; an activity that has left stains and
discoloration and caused by the application of a cementitious coating to hide the unsightly honeycomb effect of these repairs. Cracking is once again evident throughout the viaduct, with large cracks and spalling clearly evident on the outer columns.

C. Description
The proposed project would improve response of this critical Los Angeles River crossing to an acceptable standard resulting from a moderate seismic event by either retrofitting the existing structure or replacing the 6th Street Viaduct entirely. Several alternatives were considered during the project development phase of the project. Criteria used to select the alternatives for carrying forward for detailed analysis in the environmental document include construction and maintenance costs, life span of the facility, constructability, historic preservation, community disruption, and structural and operational safety. Based on the results of the preliminary screening analysis, a No Build Alternative and two Build Alternatives will be analyzed in the environmental document. These are briefly described below.

Alternative 1 – No Build: This alternative provides for neither retrofit nor replacement of the 6th Street Viaduct. The ASR deterioration of the structure would continue. The City would provide ongoing maintenance on the viaduct to keep it open to traffic as long as possible, given the ongoing ASR deterioration. The 6th Street Viaduct would maintain a roadway width of 46 feet, which accommodates two travel lanes in each direction with no outside shoulders or median. The unsafe railings would not be improved to acceptable standards.

Alternative 2 – Viaduct Retrofit: The viaduct’s columns would be retrofitted with steel casings, and infill walls would be constructed at additional columns and bents. All columns that are currently identified to have “Moderate-Severe” to “Severe” damage ratings would be encased to reduce the possibility of further deterioration. Additionally, the steel casings would be designed to withstand the high level of internal pressure due to ASR-induced lateral dilation of the encased column. Under this retrofit alternative, 76 columns would be encased, of which 26 would utilize 7/8-inch plates and 50 would use 5/8-inch steel plates. The exposed plates, channels, and bars would be concealed by a 6-inch layer of architectural mortar. All exterior columns with “Light” or “Moderate” damage ratings would also be encased to account for future concrete degradation due to ASR. Encasement of all exterior columns would also maintain visual balance and consistency for the retrofitted structure. The interior columns in Bents 1, 4, and 5 would be encased to enhance their shear strength.

Alternative 3 – Viaduct Replacement: The 6th Street Viaduct would be demolished and replaced with a new four-lane structure. Four alignment alternatives have been defined for the purpose of environmental evaluation (Figure 2). Each alignment alternative may be evaluated with multiple bridge types and profiles. Based on public input, the new viaduct may be designed with various use features, but no additional traffic capacity would be provided. The bridge types and profiles for the following alignment options have yet to be determined.

The analysis in this document assumes that, unless otherwise stated, the project would be designed, constructed and operated following all applicable laws, regulations, ordinances and formally adopted City standards (e.g., Los Angeles Municipal Code and Bureau of Engineering Standard Plans). Construction would follow the uniform practices established by the Southern California Chapter of the American Public Works Association (e.g., Standard Specifications for Public Works Construction and the Work Area Traffic Control Handbook) as specifically adapted by the City of Los Angeles (e.g., The City of Los Angeles Department of Public Works Additions and Amendments to the Standard...
Figure 1. Regional Map
II. EXISTING ENVIRONMENT

The proposed project is located within a fully developed, mixed-use urban setting. The active construction zone would extend along 6th Street from west of I-5 on the east side of the Los Angeles River to Mill Street on the west side of the River (see Figure 2). The project is located at the boundary of the City of Los Angeles’ Central City North and Boyle Heights General Plan Areas. 6th Street is one of the primary thoroughfares connecting downtown Los Angeles and Boyle Heights.

The 6th Street Viaduct crosses the Los Angeles River along an east-west alignment. Land uses along the north and south sides of the viaduct are predominantly industrial and commercial. The City maintenance office is located within the area underneath the viaduct on the west side of the river. Many homeless people are typically found sheltering under the viaduct on both sides of the river. A US Army Corps of Engineers tunnel is located under the viaduct on the west side to access the river.

In addition to the existing uses mentioned above, the Metropolitan Transit Authority (MTA) also owns a right-of-way corridor on the east and west banks of the river. On the west bank, the two tracks closest to the river are owned by MTA and used by the Southern California Regional Rail Authority (SCARRA) to operate Metrolink trains. The five tracks west of the MTA tracks are owned by Burlington Northern Santa Fe (BNSF), and the rest of the tracks are owned by MTA and used for the Metro Red Line. Amtrak and BNSF also operate trains on MTA’s two tracks on the west bank. On the east bank, the two tracks closest to the river are owned by MTA, and the Union Pacific Railroad (UP RR) owns the rest of the tracks. UPPR also operates trains on MTA’s tracks.

The Los Angeles River, which crosses under the viaduct in a north-south direction, is a trapezoidal concrete-lined channel. The Los Angeles River is a flood control channel that receives stormwater
runoff from its 834-square-mile watershed, treated effluent from two wastewater treatment plants, and some rising groundwater (in the Glendale Narrows area). The river discharges to an estuary in Queensway Bay in the Long Beach Harbor. High voltage transmission lines are located along each bank of the river and cross over the viaduct.

III. ENVIRONMENTAL IMPACT EVALUATION

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist, which follows.

- [ ] Aesthetics
- [ ] Agriculture Resources
- [ ] Air Quality
- [ ] Biological Resources
- [ ] Cultural Resources
- [ ] Geology/Soils
- [ ] Hazards & Hazardous Materials
- [ ] Hydrology/Water Quality
- [ ] Land Use/Planning
- [ ] Mineral Resources
- [ ] Noise
- [ ] Population/Housing
- [ ] Public Services
- [ ] Recreation
- [ ] Transportation/Traffic
- [ ] Utilities/Service Systems
- [ ] Mandatory Findings of Significance

ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation:

- [ ] I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.
- [ ] I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.
- [ ] I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- [ ] I find that the proposed project MAY have a "potentially significant impact" on the environment and that an ENVIRONMENTAL IMPACT REPORT is required.
- [ ] I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Ara Kasparian, Ph.D.
Manager, Environmental Group
City of Los Angeles Department of Public Works
Bureau of Engineering

[Signature]

Date 7/25/07

7/25/2007
ENVIRONMENTAL ANALYSIS AND DISCUSSION OF IMPACTS

I. AESTHETICS

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact With Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Have a substantial adverse effect on a scenic vista?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c. Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
<td>☐</td>
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</tbody>
</table>

Discussion:

The 6th Street Viaduct is a historic resource and is recognized as a visual landmark to the communities in the surrounding area as well as the general public within the City of Los Angeles. Implementation of any of the project alternatives would result in some degree of adverse impact to the visual character of the existing viaduct. The Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed project would evaluate the visual and aesthetic impacts to scenic resources and the affected viewshed, and it would identify feasible mitigation measures to reduce any identified significant impact to a less than significant level.

II. AGRICULTURAL RESOURCES

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
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<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c. Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland, to non-agricultural use?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
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</tbody>
</table>
Discussion:

The proposed project is situated in a fully urbanized area that is devoid of farmland or agricultural operations.

### III. AIR QUALITY

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant With Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emission which exceed quantitative thresholds for ozone precursors)?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d. Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Create objectionable odors affecting a substantial number of people?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Discussion:**

The proposed project is located in the South Coast Air Basin, which is in non-attainment for ozone and small particulate materials. Construction of the proposed project would marginally increase the emission of these air contaminants as a result of operating construction equipment; clearing of debris and asphalt; onsite excavation and grading; and transportation of demolition debris and excavated material to offsite disposal locations. The EIS/EIR will evaluate potential impacts to local and regional air quality, and identify measures to reduce potentially significant impacts to a less than significant level, as applicable.

### IV. BIOLOGICAL RESOURCES

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
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<th>Less Than Significant With Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project:</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

| b. | ☑ | ☑ | ☑ | ✗ |

| c. | ☑ | ☑ | ☑ | ✗ |

| d. | ☑ | ☑ | ☑ | ✗ |

Discussion:

The project site is located within an urbanized industrial area of the City of Los Angeles and does not contain any significant biological resources, including riparian habitats, wetland or protected trees. The project would not affect any biological resources. No further study is required.

V. CULTURAL RESOURCES

Would the project:

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Would the project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
</tr>
</tbody>
</table>

| b. | ☑ | ☑ | ☑ | ☑ |

| c. | ☑ | ☑ | ☑ | ☑ |

| d. | ☑ | ☑ | ☑ | ☑ |
Discussion:

The 6th Street Viaduct was built in 1932 and is 75 years old. According to the Caltrans Historic Bridge Inventory, the Viaduct is rated “2 – Eligible for listing by the National Register of Historic Places (NRHP).” Therefore, it is also included in the California Register of Historic Resources (California Register). In addition, several structures more than 50 years of age are located within the proposed project’s area of potential effects. These structures will be evaluated and documented in the EIS/EIR.

A full Section 106 (of the National Historic Preservation Act) review, in consultation with the City of Los Angeles Cultural Heritage Commission, Los Angeles Conservancy, State Historic Preservation Officer (SHPO), Caltrans, and FHWA would be conducted as part of the EIS/EIR for this project. The Section 106 review would identify both archaeological and architectural historic resources subject to impact by the proposed project. The work would be done in accordance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties and the Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, under the stipulations of a Memorandum of Agreement (MOA) to be entered into between FHWA, SHPO, Caltrans, and the City of Los Angeles as a result of Section 106 consultation.

VI. GEOLOGY AND SOILS

Would the project:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

b. Result in substantial soil erosion or the loss of topsoil?

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial risks to life or property?
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Discussion:

The proposed project would be located in Southern California, an area known to be seismically active and prone to earthquakes, which may result in hazardous conditions to people and property within the region. The existing 6th Street Viaduct’s vulnerability to extensive damage as a result of a moderate event is the principal concern for undertaking the proposed project. The proposed project would be designed to meet seismic requirements of the local, state, and federal agencies governing the project.

Short-term erosion impacts could occur during the construction phase of the project. During grading, excavation, and other site preparation activities, unearthed and exposed soil could potentially be eroded. Implementation of standard erosion control would minimize the impacts to a less than significant level.

The EIS/EIR would address potentially significant impacts associated with seismic and short-term erosion impacts. Mitigation measures to reduce the identified significant impacts to a less than significant level would be provided.

VII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b. Create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

h. Expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

**Discussion:**

The project site is characterized by industrial and commercial land uses. A potential to encounter hazardous wastes/materials exists within the proposed project’s footprint. An Initial Site Assessment (ISA) was conducted along the viaduct corridor within the project limits to identify any hazardous waste or material sites or any potentially contaminated areas listed by federal, state, and local agencies (Parsons, 2007). Based on the ASTM E 1527-00 standard search distances, 183 sites were identified in the database. Only one of these sites has been determined to present a Recognized Environmental Condition (REC) having the potential to cause soil and/or groundwater contamination.

The viaduct and appurtenances may include asbestos-containing materials (ACM), and portions of the viaduct structure may have previously been treated with lead-based paint (LBP) coatings that would be disturbed by demolition. Unpaved soils adjacent to roadway surfaces within the project corridor (e.g., US 101) may contain aerially deposited lead (ADL).

A site investigation would be conducted during the engineering design phase of the project to confirm the extent of impact and to identify the appropriate mitigation measures. The result of the site investigation would be presented in the EIS/EIR.

The proposed project is situated within a heavy traffic area near downtown Los Angeles. Construction activities related to the proposed project would require traffic lane closures, which would be likely to interfere with traffic flows. Emergency response and evacuation plans that use affected roadways would be impacted in the short term. Implementation of a Traffic Management Plan (TMP) would be required to minimize the impacts to a less than significant level.

The EIS/EIR would discuss potential impacts associated with hazardous waste and materials, including interference with emergency response plans because of project construction. Mitigation measures to minimize these construction phase impacts to a less than significant level would be identified.
VIII. HYDROLOGY AND WATER QUALITY

<table>
<thead>
<tr>
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<th>No Impact</th>
</tr>
</thead>
</table>

Would the project:

a. Violate any water quality standards or waste discharge requirements?

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff?

f. Otherwise substantially degrade water quality?

g. Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h. Place within a 100-year floodplain structures that would impede or redirect flood flows?

i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

j. Inundation by seiche, tsunami, or mudflow?

Discussion:

The 6th Street Viaduct crosses the Los Angeles River through a section that is concrete lined and fully channelized. The proposed project would involve some work in the channel to either retrofit, remove or reconstruct existing piers, depending on the alternative selected. A hydraulic analysis would be conducted to assess the impact to the river flow and floodway elevation within the channel.
The City of Los Angeles in cooperation with the California Department of Fish and Game (CDFG), the Regional Water Quality Control Board Los Angeles Region (RWQCB), United States Army Corps of Engineers Los Angeles District (USACE), and Caltrans District 7, has developed a classification system and menu of Construction Best Management Practices (BMPs) to address the potential for bridge construction projects to harm waterways. Adherence to the approved BMPs would ensure impacts to water resources are minimized to the level of less than significant.

**IX. LAND USE AND PLANNING**

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
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</thead>
<tbody>
<tr>
<td>Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Physically divide an established community?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Conflict with any applicable habitat conservation plan or natural communities conservation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

**Discussion:**

The project is located at the boundary of the City of Los Angeles Central City North and Boyle Heights General Plan Areas.

Within the Central City North Community Plan Area, the project site is located in the South Industrial Area, one of the major industrial districts within the City of Los Angeles. The South Industrial Area is located between Alameda Street and the Los Angeles River, and between 3rd Street and US 101. Preservation of industrial land use designations is a main objective of the Central City North Community Plan. The project area is also located in the Artists -in-Residence District, which is situated between the Santa Ana Freeway and Santa Monica Freeway and between Alameda Street and the Los Angeles River. Although the largest concentration of artists’ residences is located outside of the project area between 1st Street and Palmetto Street and Alameda Street and the Los Angeles River, they are not restricted to those boundaries and may be encountered in the project area.

The Boyle Heights Community, situated east of the river, was developed as one of the first residential suburbs in Los Angeles when rail and rail-related uses began to expand and dominate the Los Angeles River corridor. Immigrants and residents employed by the railroads and related industrial sectors settled in the Boyle Heights area. Moreover, some of the first public housing projects were constructed in Boyle Heights.

The Community Redevelopment Agency of Los Angeles (CRA) has two redevelopment projects in the project area including the Central Industrial Redevelopment Project and the Adelante Eastside Redevelopment Project. The Central Industrial Redevelopment Project is located in the western portion of the project site. The Adelante Eastside Redevelopment Project is located in the eastern...
portion of the project site. The redevelopment projects are to revitalize the area, eliminate blight, and preserve industrial and commercial uses.

The Los Angeles River Revitalization Master Plan (LARRMP) is the conceptual framework to guide the revival of the Los Angeles River corridor. The 32-mile-long and one-mile-wide river plan spans from the area of Topanga Canyon east to River Glen and South to around Washington Boulevard. The plan is currently in the Draft Programmatic EIR/Programmatic EIS stage of the environmental process.

The project area lies within the “Downtown Industrial opportunity area,” one of the five demonstration areas of the LARRMP. Two alternatives were considered for the development of the opportunity area: the DI-A and DI-B concepts. Both DI-A and DI-B designate 6th Street in the project area as a Primary Arterial Green Street. The alternatives also propose an expanded multi-use and bicycle trail on the western bank of the Los Angeles River, and a promenade along the eastern bank of the river, each having its own underpass beneath the 6th Street Viaduct. In addition, both alternatives provide pedestrian bridge access ramps from the west side of 6th Street north to the proposed expanded trail. Alternative DI-A designates the eastern portion of the project area on 6th Street as a Neighborhood Gateway, while Alternative DI-B establishes the eastern side of the project area as a Regional Gateway.

Since the proposed project may facilitate development of the area around the existing viaduct, the EIS/EIR would evaluate the compatibility of the proposed project development with various land use plans, policies and zoning within the project area.

X. MINERAL RESOURCES

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant With Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project:</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a. Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state?</td>
<td>☐</td>
<td>☐</td>
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<td>☒</td>
</tr>
<tr>
<td>b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?</td>
<td>☐</td>
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</tbody>
</table>

Discussion:

The proposed project is located in a highly urbanized area of the City of Los Angeles. No mineral resources that would be of value to the region or residents of the state have been identified in the vicinity of the project site. The State Department of Conservation has not designated the project site as a Significant Mineral Aggregate Resources Area; thus, no impacts resulting from the loss of mineral resources are anticipated.
XI. NOISE

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant With Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project result in:</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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<tr>
<td>b. Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>[ ]</td>
<td>[ ]</td>
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<td>[ ]</td>
</tr>
<tr>
<td>d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>[ ]</td>
<td>[ ]</td>
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</tbody>
</table>

Discussion:

Construction of the replacement alternative would require demolition of the existing viaduct and construction of the new structure, which could take up to 4 years. Ambient noise levels may temporarily increase when construction equipment is operating. Ground-borne vibration as a result of the new viaduct structure construction could also occur, potentially during the foundation construction phase. In addition, residents, businesses, and the general public along the designated traffic detour and material hauling routes could experience higher noise levels and ground-borne vibration during the construction period. The project would fully comply with the City’s noise ordinance or require a permit from the Police Commission. The EIS/EIR would analyze noise impacts as a result of project construction and identify appropriate mitigation measures to minimize the project impacts.

Following construction, the proposed project is not expected to elevate ambient noise levels because the project would not cause and increase in traffic volumes along the viaduct corridor.
XII. POPULATION AND HOUSING

Would the project:

a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)?

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Discussion:

The project would not have any growth-inducing effects and would not result in the extension of roads or other infrastructure. The project would require some right-of-way acquisition, the extent of which would depend on the alignment alternative to be selected. The areas to be potentially acquired are mostly industrial and businesses. No residential relocation is anticipated. The EIS/EIR would address the right-of-way acquisition impacts and any necessary relocations within the project limits. Environmental justice impacts would also be addressed in the EIS/EIR. Mitigation measures to minimize the impacts to a less than significant level would be identified.

XIII. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection?
- Police protection?
- Schools?
- Parks?
- Other public facilities?
INITIAL STUDY
PUBLIC WORKS – BUREAU OF ENGINEERING

Discussion:

The proposed project would not require additional police and fire protection or generate a need for new police or fire facilities in the area.

XIV. RECREATION

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</td>
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</table>

Discussion:

The project would not generate any additional population; therefore, it would not increase demand for neighborhood or regional parks or other recreational facilities. No impacts to parks or other recreational facilities are anticipated. The project could possibly be designed to enhance the area surrounding the viaduct for recreational purposes and to be in compatible with the Los Angeles River Revitalization Plan. This aspect of the project could be considered a benefit to the community and the region. This opportunity would be addressed in the EIS/EIR.

XV. TRANSPORTATION/TRAFFIC

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant Impact with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>Would the project:</td>
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</tr>
<tr>
<td>a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?</td>
<td>☐</td>
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<tr>
<td>b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?</td>
<td>☐</td>
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<tr>
<td>c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</td>
<td>☐</td>
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<tr>
<td>d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>e. Result in inadequate emergency access?</td>
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</table>
Discussion:

In the event the replacement alternative is selected, the viaduct would be closed for demolition and construction for a period of up to four years. Traffic normally going across 6th Street and the viaduct would have to be rerouted to designated detour routes during this period. The impact from traffic rerouting, including parking loss, during this long construction duration would have to be addressed and mitigation measures identified.

The proposed project would not increase the traffic lanes on the viaduct or the 6th Street approaches. Once the project is in operation, there would be no change in traffic capacity and level of service within the local or regional networks related to the viaduct construction.

XVI UTILITIES AND SERVICE SYSTEMS

Would the project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?  

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

e. Result in a determination by the wastewater treatment provider that serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g. Comply with federal, state, and local statutes and regulations related to solid waste?
Discussion:

The proposed project would not require additional utility or service systems.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>Issues &amp; Supporting Information Sources</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant With Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?</td>
<td>☐</td>
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<tr>
<td>b. Does the project have impacts that are individually limited, but cumulatively considerable? (&quot;Cumulatively considerable&quot; means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, effects of other current projects, and the effects of probable future projects.)</td>
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<tr>
<td>c. Does the project have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>☐</td>
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</table>

Discussion:

The project site is presently developed and devoid of significant fish, wild life, and/or plant populations. Construction activities would not degrade or have adverse impacts on the natural environment. If the replacement alternative is selected the historic viaduct would have to be demolished, or if it is retrofitted the viaduct would be substantially modified. The 6th Street Viaduct has been identified as eligible for listing on the NRHP and is also included in the California Register. In addition, several buildings within the vicinity of the viaduct that may be subject to right-of-way acquisition are more than 50 years old. These building are subject to evaluation to determine their historical significance. The EIS/EIR would provide further analysis of impacts on historic resources within the project limits and would identify possible mitigation.

Several known and foreseeable projects are planned within the vicinity of the project area. The EIS/EIR would identify all related projects in the immediate vicinity of the proposed project and analyze them for potential cumulative effects. Mitigation measures to reduce potentially significant adverse cumulative impacts would be identified and presented in the EIS/EIR.

XVIII. REFERENCES


Central City North Community Plan. December. 1998


L.A. CEQA Threshold Guide. 2006

Appendix B1
Resources Evaluated Relative to the Requirements of Section 4(f)
Appendix B1   Resources Evaluated Relative to the Requirements of Section 4(f)

This section of the document discusses parks, recreation areas, wildlife refuges and historic sites located within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not historic sites eligible for the National Register of Historic Places (NRHP), 4) the project does not permanently use the property and does not hinder the preservation of the property, or 5) the proximity impacts do not result in constructive use.

As discussed in detail in Appendix B2, a constructive use of a Section 4(f) resource occurs when a transportation project does not permanently incorporate land from the resource, but the proximity of the project results in impacts (e.g., noise, vibration, visual, and/or access) so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are “substantially impaired.”

4th Street Viaduct

Fourth Street Viaduct (Bridge No. 53C0044) is a concrete arch bridge over the Los Angeles River, located approximately 0.2-mile north of the 6th Street Viaduct (see Figure 1). Designed by Merrill Butler, the 4th Street Viaduct was built in 1930 and is eligible for the NRHP. The viaduct not only provides a major link between the Downtown Los Angeles and the Boyle Heights Community, but also a thoroughfare for the motorists coming into Downtown Los Angeles from other areas. The average daily traffic along the 4th Street Viaduct is approximately 31,000.

Construction of the 6th Street Viaduct Seismic Improvement Project would not require permanent incorporation (direct use) of the 4th Street Viaduct. However, a portion of the daily traffic now using the 6th Street Viaduct would detour to the 4th Street Viaduct during closure of 6th Street Viaduct for demolition and construction. Based on the project traffic analysis report (October 2008), approximately 26 percent of AM (350 vehicles) and PM (98 vehicles) peak-hour westbound traffic would divert over the 4th Street Viaduct, and 25 percent of AM (39 vehicles) and 30 percent of PM (157 vehicles) peak-hour eastbound traffic would divert over the 4th Street Viaduct (see EIR/EIS Figures 3.7-5 and 3.7-6, and Traffic Analysis Report Figures 7A and 9A). Peak-hour levels of service (LOS) along 4th Street would be substantially impacted at seven intersections, the closest to the viaduct being at the 4th Street/US 101 southbound on-/off-ramp and the northbound off-ramp intersections (see Tables 3.7-6 and 3.7-7, and Figure 3.7-7); this impact was determined to be unavoidable (see Section 3.7.3.1). The intersections east and west

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Figure 1 Location of Section 4(f) Properties in Relation to Project Limits
of the viaduct would only be impacted during the AM and PM peak hour, primarily affecting access to Downtown Los Angeles and US 101, and would not substantially diminish the 4th Street Viaduct’s utility. Traffic noise to be generated by the detour traffic would be temporary and would not be substantial (1 to 2 dBA) compared to the ambient noise level (see Section 3.16.3.1). No visual impacts from the proposed project alternatives to the project vicinity area, including 4th Street Viaduct, were identified. Furthermore, no obstruction to the access of the 4th Street Viaduct from the proposed project alternative would occur. Therefore, implementation of the proposed project would not cause constructive use of the 4th Street Viaduct because the proximity impacts would not substantially impair the protected features or attributes of the historic viaduct.

7th Street Bridge

Seventh Street Viaduct, also designed by Merrill Butler, is a reinforced concrete arch bridge of three 80-foot clear spans constructed in 1908-1910. It is located along 7th Street over the Los Angeles River, approximately 0.22 miles south of the 6th Street Viaduct (see Figure 1). Seventh Street is a principal cross-town street in Los Angeles, both to the east and the west of the business center. The average daily traffic along the 7th Street Viaduct is approximately 25,000.

Construction of the 6th Street Viaduct would not require physical alteration (direct use) of the 7th Street Viaduct. However, a portion of the daily traffic now using the 6th Street Viaduct would detour to the 7th Street Viaduct during closure of 6th Street Viaduct for demolition and construction. Based on the project traffic analysis report (October 2008), approximately 68 percent of AM and 70 percent of PM peak-hour westbound traffic would divert to the 7th Street Bridge, and 66 percent of AM and 64 percent of PM peak-hour eastbound traffic would divert (see Figures 3.7-5 and 3.7-6). The resulting peak-hour LOS along 7th Street would be substantially impacted at four intersections, the closest to the bridge being at the 7th Street and Santa Fe Avenue intersection (see Tables 3.7-6 and 3.7-7, and Figure 3.7-7). Mitigation measures were not considered feasible at these intersections; therefore, the impacts were determined to be unavoidable (see Section 3.7.3.1). The intersections east and west of the viaduct would only be impacted during the AM and PM peak hours, primarily affecting access to Downtown Los Angeles and US 101, and would not substantially diminish the 7th Street Viaduct’s utility. Traffic noise to be generated by the detour traffic would be temporary and would not be substantial (3 dBA) compared to the ambient noise level (see Section 3.16.3.1). No visual impacts from the proposed project alternatives to the project vicinity area, including 7th Street Bridge, were identified. Furthermore, no obstruction to the access of the 7th Street Bridge from the proposed project alternative would occur. Therefore, implementation of the proposed project would not cause a constructive use of the 7th Street Viaduct because the proximity impacts would not substantially impair the protected features or attributes of the historic viaduct.
Archaeological Site – Primary No. 19-003683

The records search conducted for the proposed project indicated that approximately 90 percent of the Area of Potential Effects (APE) was previously investigated for archaeological resources, and one historic-era site (19-003683) had been identified within the APE. An archaeological field survey of the proposed project APE was conducted on May 21, 2007. Most of the APE was found to be within existing roadways and/or adjacent to the banks of the Los Angeles River and has been subjected to extensive disturbance. The survey resulted in the re-recording of site 19-003683, though visibility was obscured by the presence of road gravels and cargo containers. Exposed portions of the APE, including portions containing the historic-era archaeological site (19-003683), were traversed on foot. Site 19-003683, consisting of historic period domestic refuse, was found to be located generally south of Jesse Road, east of Mission Road and west of the railroad tracks on the east side of the river.

According to the Archaeological Survey Report prepared for this project:

The site record describes the resource as ‘a diffuse scatter of domestic refuse collected from the north end of the lot. The collection dates from 1880 to 1930+.’ The catalog attached to the site form lists several proveniences that include trenches and demolition areas. No specific associations are noted. Preliminary historic research, by means of the historic Sanborn Fire Insurance maps of the Project APE, indicates the property on which the deposits are located was part of a circa 1906-1951 Los Angeles Furniture Mart. Possibly associated with the deposit is a night and weekend watchman’s house near the center of the Los Angeles Furniture Mart property. No other details of possible associations with the deposit were ascertained.2

Detailed site information concerning artifactual content and location must remain confidential to protect the integrity of this cultural resource.

Per Stipulation VIII.C.3 of the Section 106 Programmatic Agreement (PA) between the ACHP, Federal Highway Administration (FHWA), the State Historic Preservation Officer (SHPO), and Caltrans, “If archaeological properties within an undertaking’s APE are protected from any potential effects by establishment and effective enforcement of an Environmentally Sensitive Area (ESA), the signatories agree that Caltrans may consider such properties to be National Register of Historic Places (NRHP) eligible for the purposes of that undertaking without conducting subsurface testing or surface collection.” Because the archaeology site (Primary No.

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Appendix B1 Resources Evaluated Relative to the Requirements of Section 4(f)

19-003683) would be protected by an ESA as described in the HPSR prepared for this project, the resource was determined to be NRHP eligible, and is considered a Section 4(f) resource.

Since archaeological site 19-003683 would be protected from potential impacts through the establishment of an ESA, the project doesn’t permanently use the property or hinder its preservation, and proximity impacts do not result in constructive use.

Public Parks and Recreational Areas

Based on information derived from the Community Impact Assessment\(^3\) and the Natural Environment Study\(^4\) prepared for the proposed project, it was determined that there are no public parks, recreation areas, or wildlife and waterfowl refuges of national, state, or local significance within approximately 0.5-mile of the project alternatives.

The 2010 Bicycle Plan

The City of Los Angeles General Plan Transportation Element 2010 Bicycle Plan, approved by the City Council in March 2011, designates 1,633 miles of bikeway facilities and proposes two new bicycle networks (Citywide and Neighborhood). It designates 6\(^{th}\) Street and Whittier Boulevard within the project limits as a bicycle lane. According to the Section 4(f) Policy Paper\(^5\), if a publicly owned bikeway is primarily used for transportation and is an integral part of the local transportation system, the requirements of Section 4(f) do not apply since such a facility is not considered a recreational area. Because the bikeway along 6\(^{th}\) Street/Whittier Boulevard would be a part of the City of Los Angeles transportation system, it would not be subject to Section 4(f) consideration.

Other Section 4(f) Resources

There are no other resources within or adjacent to the 6\(^{th}\) Street Viaduct Seismic Improvement Project area that would trigger Section 4(f) protection.

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\(^4\) Natural Environment Study (Minimal Impacts) for Proposed 6\(^{th}\) Street Viaduct Seismic Improvement Project. June 2008, updated February 2011.
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Appendix B2
Section 4(f) Evaluation
Appendix B2  Section 4(f) Evaluation

1. Introduction

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

Applicable technical reports for this Section 4(f) evaluation are as follows:


The above technical studies are incorporated by reference and are available for review at the City of Los Angeles Bureau of Engineering (LABOE) office and Caltrans District 7 office.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If
Appendix B2  Section 4(f) Evaluation

historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

In general, a Section 4(f) “use” occurs with a Department of Transportation-approved project or program when any of the following conditions are met:

- **Direct Use.** A direct use of a Section 4(f) resource takes place when property is permanently incorporated into a transportation facility (23 Code of Federal Regulations [CFR] Section 774.17). This may occur as a result of partial or full acquisition of a fee simple interest, permanent easements, or temporary easements that exceed regulatory limits noted below.

- **Temporary Occupancy.** A temporary occupancy of a Section 4(f) resource is considered a “use” when it is adverse in terms of the preservationist purposes of the Section 4(f) statute; however, under Federal Highway Administration (FHWA) regulations (23 CFR Section 774.13(d)), a temporary occupancy of property does not constitute a use of a Section 4(f) resource when the following conditions are satisfied.
  - The occupancy must be of temporary duration (i.e., shorter than the period of construction of the project) and not involve a change in ownership of the property.
  - The scope of the work must be minor, with only minimal changes to the Section 4(f) property.
  - There are no permanent adverse physical impacts or interference with the protected activities, features, or attributes of the property.
  - The property being used must be fully restored to a condition that is at least as good as that which existed prior to the project.
  - There must be documented agreement of the appropriate official having jurisdiction over the resource regarding the above conditions.

- **Constructive Use.** A constructive use of a Section 4(f) resource occurs when a transportation project does not permanently incorporate land from the resource, but the proximity of the project results in impacts (i.e., noise, vibration, visual, access, and/or ecological impacts) so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired (i.e., “constructive use”).

2. **Description of Proposed Project**

2.1 **Proposed Project**
Caltrans and the City of Los Angeles (City) propose to undertake seismic and design improvements to the 6th Street Viaduct over the Los Angeles River (Bridge No. 53C-1880) and
the 6th Street Overcrossing, which includes the US 101 Hollywood Freeway (Bridge No. 53-0595). The 6th Street Viaduct and Overcrossing comprise a single structure located in a highly urbanized area just east of Downtown Los Angeles in the City and County of Los Angeles, California, as shown in Figure 1. This historic structure, constructed in 1932, spans a portion of the US 101 Hollywood Freeway, the Los Angeles River, city streets, and several railroad tracks. The project limits extend between Mateo Street on the west side of the river to just east of US 101 on the east side (Figure 2).

The proposed project would correct seismic deficiencies of this critical Los Angeles River crossing by either retrofitting the existing structure or replacing the viaduct entirely. The seismic vulnerability is due to outdated structural design and overall cracking and deterioration of the concrete elements of the viaduct over the last 75 years as a result of an internal chemical reaction called Alkali-Silica Reaction (ASR), as described below in Section 2.3, Purpose and Need, and in detail in Chapter 1 of the Environmental Impact Report/Environmental Impact Statement (EIR/EIS). The level of damage in various elements of the 6th Street Viaduct due to ASR is shown in Figure 3.

Under the Replacement Alternative, other design (functional) deficiencies of the existing viaduct would be corrected to meet current codes set forth by the American Association of State Highway and Transportation Officials (AASHTO) and the City of Los Angeles Department of Transportation (LADOT). These functional deficiencies include inadequate roadway width (no outside shoulders and substandard sidewalk width), substandard bridge and approach railing (not meeting crash standards), insufficient stopping sight distance along the main span, and lack of a safety median. Nearby roadway, intersection, and adjacent land improvements would also be undertaken. More-detailed information on the proposed project and alternatives, as well as a complete description of the existing viaduct, can be found in Chapter 2, Proposed Project Alternatives, of the EIR/EIS.

2.2 Project Alternatives

Several project alternatives were developed during the project development phases. Screening exercises were conducted to select the most viable alternatives for evaluation in the environmental document.
Figure 1 Project Location and Vicinity Maps
Figure 2  Project Limits
Figure 3  Level of Damage in Various Elements of the 6th Street Viaduct due to ASR
Alternative 1 – No Action
This alternative provides neither retrofit nor replacement of the seismically and functionally deficient 6th Street Viaduct. The ASR-induced deterioration of the structure would continue, and the seismic vulnerabilities would worsen as the concrete strength continued to deteriorate. The City would provide ongoing inspection and maintenance on the viaduct to keep it open to traffic as long as possible, given the ongoing ASR deterioration and seismic vulnerabilities. The 6th Street Viaduct would remain at its existing roadway width of 46 feet (ft), which accommodates two travel lanes in each direction with no outside shoulders or safety median. None of the design deficiencies would be corrected under this alternative.

Under the No Action Alternative, the viaduct may be determined to be unserviceable by the LABOE and Caltrans due to advanced ASR deterioration or a major seismic event in the future, the timing of which neither can be predicted. Under such an event, the City would take the viaduct out of service and seek emergency funding sources to replace it. If this were to occur, it is estimated that the time to secure funding, complete design, acquire right-of-way (ROW), and construct a new viaduct would range between 5 and 7 years from the time it was placed out of service. Since, under those circumstances, the project would be considered an emergency, it would be Exempt by Statute under CEQA (PRC 21080[b]; 14 CCR 15260 et seq.) and a Categorical Exclusion under NEPA (23 U.S.C. 125). No environmental document would be required. It is estimated, based on similar projects, that securing full funding would take up to 1 year, design and right-of-way acquisition would take 1 to 2 years (could be done concurrently with funding), and construction would take approximately 4 years.

Alternative 2 – Viaduct Retrofit
The following subsections provide detailed descriptions of the retrofit scheme (Infill Wall and Heavy Steel Casing Method) selected for environmental analysis.

Under this alternative, the viaduct’s columns would be retrofitted by encasing them with steel, and infill walls would be constructed between selected columns. In addition, new foundations, grade beams, retrofitting of bent caps, and closure of some expansion joints in the superstructure would be constructed in combination with the column retrofits. The structure would be retrofitted to the minimal standard of “no collapse” for a major earthquake (a magnitude 7.3 on the Richter Scale).

Column Retrofit
Under this retrofit alternative, 76 columns (out of a total of 114) would be encased, of which 26 would utilize 7/8-inch plates and 50 would utilize 5/8-inch steel plates. A 6-inch layer of architectural mortar would conceal the exposed plates, MC8x18.7channels, and bars (Figure 4).
All exterior columns with “Light” or “Moderate” damage ratings would also be encased to account for future concrete degradation due to ASR expansion. Encasing all exterior columns would also maintain visual balance and consistency for the retrofitted structure. The interior columns in Bents 1, 4, and 5 would be encased to enhance their shear strengths. Bent 12 would be excluded from retrofitting because of the lack of space available for construction of the column encasement due to proximity of railroad tracks.

![Steel Encasement of Columns](image)

**Figure 4 Steel Encasement of Columns**

**Infill Walls, New Foundations, Grade Beams, and Closure of Expansion Joints**

Infill shear walls would be constructed between the columns to reduce transverse seismic movements of the structure. Grade beams would be constructed below ground between the existing pile caps to reduce longitudinal seismic movement of the structure. Along the viaduct (non-river piers), new foundations would be constructed with the placement of new piles around the existing column foundations. To improve stability of the footings, uplift tie-downs (soil anchors) might be required at some columns where there are large uplift demands on the foundations that could result in rocking response and excessive displacements of the superstructure. Expansion joints in the superstructure would be reconstructed at Bents 27 and 33, connecting adjacent spans to reduce seismic longitudinal displacement demands for the East Approach Spans. Figure 5 presents a conceptual sketch of the proposed infill walls and column casings.
Retrofitting of bent caps would ensure that the expected seismic damage would take place in a controlled fashion. Retrofitting of bent caps for flexural strength enhancement is proposed at 16 bents (excluding Bents 27 and 33 where expansion joints would be closed). Bent cap retrofit would be achieved by means of concrete bolsters, which would be bonded to the bent caps by dowels that run through pre-drilled cores in the existing bent cap. Continuity of the concrete bolsters along the length of the bent cap would be achieved by post-tensioning of high-strength bars that would run through pre-drilled cores in the superstructure girders (see Figure 6). The post-tensioning bars would be anchored at their ends by exterior steel plates; these exposed plates and the bars would also be concealed by mortar.

**Figure 5 Conceptual Drawing Alternative 2 – Retrofit**

**Bent Caps Retrofit**
Retrofitting of bent caps would ensure that the expected seismic damage would take place in a controlled fashion. Retrofitting of bent caps for flexural strength enhancement is proposed at 16 bents (excluding Bents 27 and 33 where expansion joints would be closed). Bent cap retrofit would be achieved by means of concrete bolsters, which would be bonded to the bent caps by dowels that run through pre-drilled cores in the existing bent cap. Continuity of the concrete bolsters along the length of the bent cap would be achieved by post-tensioning of high-strength bars that would run through pre-drilled cores in the superstructure girders (see Figure 6). The post-tensioning bars would be anchored at their ends by exterior steel plates; these exposed plates and the bars would also be concealed by mortar.
Bent caps at locations of expansion joints would be retrofitted as shown schematically in Figures 7 and 8. The positive flexural moment capacity would be enhanced by adding drop caps at the soffit of the existing bent caps. The new drop caps would be bonded to the existing bent cap by dowels. Steel plates would be placed along the sides of the bent caps and bonded to the concrete by means of high-strength bars inside core holes. The steel plates would enhance flexural capacity and resistance to horizontal shear.

**River Piers Retrofit**
The river piers would be retrofitted by placing infill walls between columns at the West and East River Piers. In addition, new pile foundations would be constructed around the existing foundations at the West and East River Piers to confine the poor lap-splices of the longitudinal column reinforcement and to allow column bases to develop their full plastic moment capacities.
Figure 7 Bent Cap Retrofit at Expansion Joints (one simply supported span)

Figure 8 Bent Cap Retrofit at Expansion Joints (two simply supported spans)
**New Expansion Joint Seals**

Installation of new expansion joint seals is essential for long-term efficiency of the retrofit design because it helps protect the substructure from direct water flow onto concrete membranes. Additional moisture at the concrete surface can accelerate the ASR and subsequent concrete damage. Figures 7 and 8 show the proposed new expansion joint seals.

**Design Life**

The design life expectancy of Alternative 2 is approximately 30 years.

**Alternative 3 – Viaduct Replacement**

This alternative would construct a new viaduct along one of the three alignments under study. The main-span bridge type would be selected from one of the five alternatives under consideration. The design life expectancy of Alternative 3 is 75 years.

**Viaduct Alignments**

Three viaduct replacement alignments; (i.e., 3A, 3B, and 3C); out of ten that were evaluated (refer to Appendix N for information on all alternatives evaluated) were selected for design consideration, as shown in Figure 9. These three alignments were evaluated in the Draft EIR/EIS (June 2009). A description of each alignment is provided below.

**Alignment 3A:** The replacement structure would be built along a new horizontal alignment. The new structure within City’s ROW would have a cross section that meets secondary highway standards as required by the City of Los Angeles Department of Transportation (LADOT). The new roadway would have a maximum width of 70 ft (curb-to-curb) and would consist of two 11-ft-wide lanes in each direction, a median with a maximum width of 10 ft, and outside shoulders with a maximum width of 8 ft which would incorporate future bicycle lanes. The proposed cross section would also allow for sidewalks with a maximum width of 10 ft. Bridge rails located on the outside edges of the structure would have a width of 2 ft. The typical width to the outside of the bridge rails would therefore be 94-ft maximum for spans that are not supported on cables. The cross section within Caltrans’ ROW (over US 101) would be slightly different. In this section, the viaduct roadway would be 74 ft, curb to curb, consisting of two 12-ft-wide lanes in each direction, a 10-ft-wide median, and 8-ft-wide shoulders. The proposed cross section also allows for 8-ft-wide sidewalks on both sides of the structure.

The new viaduct structure would extend east from Mateo Street to just east of US 101. The new roadway design has a transition on the west side of the river from the existing street width at Mill Street to the ultimate width of the proposed 6th Street Viaduct Replacement Alternative at Mateo Street. Because of the wider viaduct replacement structure, the north side of the viaduct footprint
Figure 9 Alignment Alternatives Selected for Further Study
would extend farther to the north, while the south side of the footprint would remain essentially at the same location except for the segment of the alignment over the Los Angeles River, which would be shifted slightly to the south to improve the horizontal curve radius and provide improved safety with better stopping sight distances.

**Alignment 3B:** The new viaduct would be designed with the same cross section as Alignment 3A. This option proposes a horizontally curved alignment from Santa Fe Avenue to the west of US 101. The curve in the alignment is more gradual than Alignment 3A. This alignment, similar to Alignment 3A, maintains its present location on the south side of the existing bridge from Mateo Street to Santa Fe Avenue, and the alignment shifts to the north from Santa Fe Avenue to the east as it crosses over the river. This alignment would swing to the north approximately 85 ft farther than the existing alignment on the east side of the river, which would eliminate the existing tight radius curve at the east end.

**Alignment 3C:** The new viaduct would be designed with the same cross section as Alignment 3A. To accommodate the wider viaduct, the footprint of the viaduct would be extended on the north and south sides, except for the area between Mateo Street and Mesquit Street, which would be wider to the north only. The segment that extends from the river to the east would be constructed so that the columns and foundations lie within existing ROW and the viaduct roadway deck extends beyond the existing ROW over adjacent private properties.

**Bridge Concepts**
Fifteen (15) bridge concepts (types) were developed during the initial phase of the project in the summer of 2007. Based on the Community Advisory Committee (CAC) and technical staff input, these were screened down to five bridge concepts (i.e., Concepts 1, 2, 3, 4, and 5) for further consideration. In spring 2009, refinement of Bridge Concepts 1 and 4 were added as a result of public and agency input. Bridge Concepts 1A and 4A were developed for consideration during the public review period of the Draft EIR/EIS, and they were introduced at the CAC meeting in April 2009 and during the public hearings for the Draft EIR/EIS held in July 2009. Each of the seven bridge concepts, including design expressions 1A and 4A, could be constructed on any of the viaduct replacement alignments (i.e., 3A, 3B, or 3C). The City will refine the final design of the bridge replacement, as a means to ensure an architecturally distinctive and cost-effective structure.
Bridge Concept 1 – Main Span Replication. The new replica bridge could capture the essence of the old landmark bridge with its decorative offset corner elements, similar steel arches, “deco” detailing and offset of planes at the pier walls, and corners with decorative dentil detailing below the concrete barrier along the entire length of the viaduct. The structure could mimic the original design with complimentary dual arches – the suspender elements spring out from the middle of the river pier to the thru-arch buttressing at the river bank piers. The new main center pylon with its belvederes would maintain the pedestrian viewing area of the original 1932-designed belvederes. Also, the central pier, which historically extended above the bridge deck until being removed in the 1950s, could be reintroduced in the replacement structure of Concept 1 (Figure 10).

![Computer Model of Bridge Concept 1](image)

**Figure 10  Computer Model of Bridge Concept 1**

Bridge Concept 2 – Cast-in-Place (CIP) Box Girder with Steel Tied Arch Pedestrian Ways. The bridge design of Concept 2 could employ a combination of some of the structural elements proposed for Concept 1 (Figure 11). The main span of the bridge could be a concrete box girder with gateway monuments at each end. In addition, the pedestrian could be separated from the bridge deck at the main span, allowing pedestrians to enjoy a different experience while crossing the bridge.
Appendix B2  Section 4(f) Evaluation

Figure 11  Computer Model of Bridge Concept 2

Bridge Concept 3 – Steel Half-Through Arch with CIP Box Girder Approaches. The design of Concept 3 could pick up structural elements found on the original half-through arch of the landmark main span (Figure 12). Reaching over the Los Angeles River, the new half-through arches could intersect the bridge deck and nestle into the embankment piers. The lateral tie beams between the arches above the deck could be similar in cross section to that of the arch and vertical structural members of the original bridge.

Figure 12  Computer Model of Bridge Concept 3

Bridge Concept 4 – Extradosed Concrete Box Girder. Bridge Concept 4, a contemporary cable-supported structure, would present a 21st century structural principle that introduces a relatively new technology to the United States. This extradosed concept bridge could invoke a uniquely modern statement over the river. In Bridge Concept 4, the bridge’s main span could be composed of a series of dual pylons on the outside of the
roadway that rise above the bridge deck; depicted here are concepts with one set of dual towers (Figure 13) and three sets of dual towers (Figure 14).

![Figure 13 Computer Model of Bridge Concept 4](image)

The top of each tower could be illuminated to enhance the nighttime effect of this distinctive structure. The main viewing platforms could sit above the center of the river, and they could be detailed with shapes that are similar in scale to the existing viaduct’s belvederes, yet be in concert with the extradosed bridge pylons and piers.

![Figure 14 Computer Model of Bridge Concept 4A](image)

**Bridge Concept 5 – Extradosed Concrete Box Girder with Single Pylon.** Concept 5 is another potential design expression of the extradosed bridge principle. This expression features extradosed structures with towers and cables aligned along the center of the main span and viaduct approaches (Figure 15). This particular expression utilizes six bridge towers as symbolically representative of 6th Street. The top of each tower could be illuminated to enhance the nighttime effect.
2.3 Project Purpose and Need
A detailed description of the project purpose and need can be found in Chapter 1, Sections 1.4 and 1.5, of the EIR/EIS. In summary, the purpose of the proposed project is to achieve the following objectives:

- Preserve 6th Street as a viable east-west link between Boyle Heights and Downtown Los Angeles
- Reduce vulnerability of the 6th Street Viaduct in major earthquake events
- Resolve design deficiencies of the 6th Street Viaduct

The 6th Street Viaduct was constructed in 1932 using state-of-the-art concrete technology at that time and onsite mixing plants. Over the last 75 years, concrete elements of the viaduct have cracked and deteriorated as a result of ASR. The ongoing ASR has led to significant deterioration of the structure’s concrete strength and loss of seismic integrity. This deterioration of the 6th Street Viaduct has been occurring for at least 75 years, despite many efforts to arrest or limit its effect. In the late 1980s, the deck of the viaduct was stripped of asphalt, and a waterproof coating was applied to the underlying concrete in an attempt to minimize moisture infiltration; water is a necessary component for ASR. In addition, the viaduct has been repeatedly patched using epoxy injection, which is a process that has left stains and discoloration and necessitated the application of a cementitious coating to hide the unsightly honeycomb effect of these repairs and to further seal the surface from moisture. Cracking is evident throughout the viaduct, with large cracks and spalling evident on its outer columns.
The proposed project would correct seismic deficiencies of this critical Los Angeles River crossing by either retrofitting the existing structure or replacing the 6th Street Viaduct entirely.

While the deteriorated surface appearance of the viaduct is an issue, its underlying structural integrity is of much greater concern. In 1989, the Whittier Narrows earthquake caused damage to shear keys and caused a column crack at Bent 33. The structure has since been classified by Caltrans as Category I and placed on the mandatory seismic retrofit list.

In the mid 1990s, Caltrans conducted an evaluation of Bridge No. 53-0595, which is the portion of the viaduct owned by Caltrans that crosses US 101. This evaluation determined that seismic retrofit was warranted, and in 1995 Caltrans undertook a retrofit construction project for that portion of the 6th Street Viaduct. The Caltrans seismic retrofit project placed infill walls between existing columns at the bents adjacent to the mainline roadbed, from Bent 37 to the east abutment. While this improvement was consistent with the Category I seismic retrofit program by eliminating potential collapse vulnerabilities, it did not resolve the long-term ASR problem and only improved the state-owned 235-ft-long portion of the 3,500-ft-long viaduct. The City elected to not move forward with a retrofit design similar to the one employed by Caltrans because of concerns that such a strategy did not address the ongoing degradation of the viaduct concrete due to ASR. The ASR deterioration weakens the concrete strength, which results in greater seismic vulnerability over time. ASR damage cannot be reversed after the reaction has taken place within the concrete, and the reaction continues to occur on the viaduct. In late 2000, the City engaged a consultant to conduct a material testing program to determine the strength of the existing concrete and the overall condition of the structure. This extensive material testing and investigation program, which was completed in January 2002, confirmed the presence of severe cracking and low concrete strength throughout the viaduct, and it identified its root cause to be ASR.

The Final Seismic Retrofit Strategy Report, which was completed in 2004, concluded that the viaduct, in its current state of material deterioration and lack of structural strength, has a high vulnerability to failure in a major earthquake. The probability that the viaduct will experience significant structural failure, and possibly collapse, under major seismic events exceeds 70 percent in 50 years. This vulnerability level is extremely high compared to the normally accepted collapse probability of 10 percent or less over 50 years, as defined by AASHTO. The high risk of collapse and continuing concrete...
deterioration indicates the need for timely corrective action to either seismically retrofit the viaduct or replace the viaduct.

In addition to its vulnerability to collapse under predictable seismic forces, the 6th Street Viaduct also has design and operational safety deficiencies issues based on current standards.

The City-owned viaduct (Bridge No. 53C-1880) has a sufficiency rating of 52.4. Bridges are deemed structurally deficient by the federal government if the deficiency rating is below 80, and therefore eligible for federal funding to correct the deficiency. The purpose of the rating system is to help the federal government determine which bridges need funding for repair or replacement. The major factors contributing to the low sufficiency rating of the structure include:

- Cracking and condition of deck, superstructure, and substructure elements
- Inadequate roadway width
- Out-of-specification bridge and approach railing, and approach rail ends.
- Poor roadway alignment
- Out of specification geometric and seismic detail design

3. Description of Section 4(f) Property

Resources subject to Section 4(f) consideration include publicly owned lands consisting of public park/recreation areas; public wildlife and waterfowl refuges of national, state, or local significance; or historic sites of national, state, or local significance, whether publicly or privately owned.

The only Section 4(f) property that would be subject to “use” under the proposed project is the 6th Street Viaduct. Other Section 4(f) resources within 0.5-mile from the proposed project have been identified and documented in Appendix B1 because they are not subject to either direct or constructive use. The following paragraphs provide a description of the 6th Street Viaduct.

The inventory and evaluation effort for architectural resources for the project was conducted in 2007. The inventory included survey of buildings, structures, and objects near the viaduct and identified historical resources constructed in or before 1964. Thirty-three (33) properties within the APE were analyzed because they contained individual

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buildings, groups of buildings, structures, groups of structures, and objects that were not eligible for exemption as defined in Attachment 4 of the Section 106 PA.

The one NRHP-eligible historic site in the project APE is the 6th Street Viaduct. Of the Los Angeles River Bridges, 6th Street was the last of the historic Los Angeles River viaducts to be constructed and is transitionally important in that it established the streamline moderne/art deco design principles of the following Works Progress Administration (WPA) bridges. It is classified as steel arch in that its largest spans are twin 150-ft steel through arches. The remainder of the structure, the total span of which is 3,546 ft, comprises T-girder spans. An approximate 3,264-ft-long segment of the viaduct is owned by the City, and the 235-ft-long portion overcrossing US 101 is owned by Caltrans. The structure is located in a highly urbanized area just east of downtown Los Angeles and connects downtown on the west side of the Los Angeles River with the Boyle Heights community on the east side of the river (Figure 16).

Called the “best expression of the modern phase” of the 25-year bridge building program, it is also “the last and grandest of the group.” The 6th Street Viaduct was initiated in 1926 when the City Council voted to acquire property. Upon completion, the 6th Street Viaduct was the longest and largest of the bridges spanning the Los Angeles River. The viaduct officially opened on June 16, 1933, at a cost of $2,383,271 (Figure 17).

The viaduct’s most distinctive features, other than its length, sheer mass, and exceptional detailing are the twin, parabolic steel through-arches. These arches meet at the center of the Los Angeles River toward the base of the tapered central piers, and diverge east and west, in irregular mirrored shapes. The unusual shape of the arches is emphasized by tapered profiles – each is thicker at the central pier and appears thinnest at the tops of the arches. The arches “pierce” the viaduct deck and terminate gracefully inboard of the decorative balusters, at the crowns of the next piers.

The boundaries of the historic property include the entire bridge: its abutments, bents and piers, all approaches, the deck, all handrails, streetlight standards and luminaires, the tunnel, the steel and concrete arches, the spandrels, and the areas below the decks that contain bridge-related structures. All elements contribute to its historic significance except the replaced streetlight standard luminaires and infilled piers from previous seismic retrofits.  

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13 Ibid.
14 Ibid.
Figure 16  Aerial Views of 6th Street Viaduct

Figure 17  Excerpted Profile of Sixth Street Viaduct

The 6th Street Viaduct (Bridge No. 53C-1880) was surveyed as part of the Caltrans 1985-1986 Bridge Survey, and Caltrans identified it as a significant structure at that time. The SHPO determined it eligible for separate listing in the NRHP, and the viaduct was assigned a status code of “2S2,” which was defined as “Determined eligible for separate listing through a consensus determination by a federal agency and the State Historic Preservation Officer” at the time of the survey in late 1985. The 6th Street Viaduct was determined eligible on October 19, 1986. Its eligibility is under Criteria A and C, for its association with the Los Angeles River bridge program, and its extraordinary Streamline Moderne design, steel, and reinforced concrete design. Its period of significance is from 1933, when it was completed, until 1957 (50-year cut-off), and its significance is at the state level.

The 6th Street Viaduct was also determined eligible for listing in the NRHP as a contributor to a thematic group of 118 “Historic Highway Arch and Other Bridges in California” in 1987. Additionally, the viaduct was designated as a City of Los Angeles Historic-Cultural Monument (HCM) in January 2008.

Previously, the 6th Street Viaduct had been identified as one of 29 City of Los Angeles “monumental bridges” based on an update to the 1987 statewide historic bridge survey by Caltrans in 2004 (City of Los Angeles Monumental Bridges, 1900-1950, prepared by JRP Historic Consulting). However, the study concluded that the bridges in Los Angeles that are significant for their association with the Bureau of Engineering’s bridge program in the early to mid-twentieth century do not constitute a historic district, as defined by National Park Service guidelines for applying the NRHP criteria. Caltrans submitted these study findings to the SHPO.

4. Impacts on Section 4(f) Property
As discussed in Section 1, the use of Section 4(f) properties typically occurs when there is either permanent incorporation of the Section 4(f) site for a transportation project (i.e., actual use), temporary occupancy of the protected resource that is considered adverse in terms of the preservationist purposes of the Section 4(f) statute, or where the proximity of a project to the Section 4(f) site, without acquisition of land, causes impacts such as noise, visual, or access restriction that could impair the values and integrity of the land (i.e., constructive use).

This section discusses whether any permanent or temporary occupation of a property would occur, or whether the proximity of the project would cause any access disruption, noise, vibration, or aesthetic effects that would substantially impair the features or attributes that qualify the resource for protection under Section 4(f).

**Alternative 1 – No Action**

Use of Section 4(f) properties would not be required under this alternative as long as the viaduct remains in service. If the viaduct was determined to be unserviceable due to ASR and/or earthquake damage, the City would seek emergency funding sources to replace it. In this scenario, the City would replace the viaduct under any circumstance. It is likely that the City would use the viaduct replacement design developed thus far for this emergency replacement. Impacts to Section 4(f) properties as a result of the new viaduct construction would be similar to Alternative 3 – Replacement.

**Alternative 2 – Viaduct Retrofit**

There would be a direct use of the 6th Street Viaduct under this alternative. The Retrofit Alternative would alter and/or destroy the historic materials, features, and spatial relationships that characterize the 6th Street Viaduct. Encasing the columns with steel would increase the size of the columns and decrease the distance between the columns in each bent. In addition, construction of new foundations, grade beams, retrofitting of bent caps, and closure of some expansion joints would alter the spatial relationship of the historic features of the viaduct and would alter the historic character of the viaduct through the introduction of new structural and visual elements. Because Alternative 2 would result in the alteration of the viaduct in a manner not consistent with the Secretary’s Standards for the Treatment of Historic Properties, Alternative 2 would have a permanent, adverse impact on this historic property. The bridge is so structurally deficient that it cannot be rehabilitated to meet minimum acceptable seismic requirements without adversely affecting the historic integrity of the bridge.

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17 The Secretary of Interior’s Standards for the Treatment of Historic Properties Standards are widely used guidance that focus on approaches that retain and conserve historic materials and encourage that deteriorated material be replaced in kind and in character with the original. The Standards speak to retaining to the maximum extent practicable distinctive materials, features, spaces and spatial relationships, and construction techniques of the historic property. Alternative 2 would cover up prominent character-defining features that would be physically and visually incompatible with the original design; construction of shear walls as structural reinforcement would change the overall massing, original spacing, and proportionality of the original arch columns with one another. Distinctive design features, such as the original bridge columns, would be wrapped in steel canisters and plastered over and railing replaced. That these alterations proposed under Alternative 2 would be so out of character and diminish the historic integrity to such a degree that they would collectively constitute an adverse effect on the historic resource was acknowledged by the California SHPO.
Alternative 3 – Viaduct Replacement
There would be a direct use of the 6th Street Viaduct under this alternative. This proposed alternative would demolish the 6th Street Viaduct to build the proposed new structure. The existing viaduct would be replaced with one of five potential bridge concept designs of one of three alternative alignments under consideration. (Refer to EIR/EIS Chapter 2, Section 2.3.3, for further details.). As such, Alternative 3 would have a permanent, adverse impact on this historic property.

5. Avoidance Alternatives
An avoidance alternative is prudent and feasible if it avoids using the Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the Section 4(f) property to the preservation purpose of the Section 4(f) statute.

Section 23 CFR 774.17 provides a balancing test to determine whether an avoidance alternative is prudent. Listed below are 6 factors to consider when determining whether an avoidance alternative is prudent:

- Compromises the project so that it is unreasonable given the purpose and need;
- Results in unacceptable safety or operational problems;
- After reasonable mitigation, still causes:
  - Severe social, economic, or environmental impacts;
  - Severe disruption to established communities;
  - Severe environmental justice impacts; or
  - Severe impacts to other federally protected resources.
- Results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- Causes other unique problems or unusual factors; or
- Involves multiple factors listed above that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

The following avoidance alternatives were evaluated using the factors in 23 CFR 774.17, and six specific factors were considered to determine whether each alternative is prudent. Please refer to Table 1, Evaluation of Avoidance Alternative Selection Process, for the balancing test outlining the six factors used to determine whether each avoidance alternative is prudent.
Alternative 1 – No Action

The following discussion is based on the assumption that the viaduct would remain in service under the No Action Alternative.

The 6th Street Viaduct crosses the Los Angeles River in an east-west direction. This proposed alternative would provide ongoing maintenance and inspection, but the viaduct would not be seismically retrofitted or repaired. The concrete would continue to deteriorate due to ASR, resulting in the viaduct remaining unsafe for pedestrian and vehicular traffic.

Because Alternative 1 would not result in the physical destruction of the viaduct or materially alter the historic fabric of the viaduct in a manner not consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Buildings, the No Action Alternative would avoid the use of this Section 4(f) historic property; however, the viaduct would continue to be vulnerable to failure in the event of a major earthquake, and the ASR-damaged concrete would not be replaced or reinforced. Furthermore, existing design deficiencies would not be corrected.

In summary, the No Action Alternative is not prudent and feasible because it compromises the project so that it is unreasonable to proceed given the project’s purpose and need. In addition, there is no method to stop the ASR. The concrete in the viaduct would continue to deteriorate due to ASR, resulting in unacceptable seismic safety risk.

Replacement Alternatives

Two Replacement Alignment Alternatives, which would allow the existing 6th Street Viaduct to remain standing, are summarized here. Neither alternative is prudent nor feasible, as described in greater detail below. Please refer to Appendix N for more detailed information on these alternatives.

Replacement Alignment 8

Replacement Alignment 8 proposes to preserve the existing viaduct by constructing a new viaduct to the north of the existing viaduct. Under this alternative, the existing viaduct would be retrofitted for preservation purposes and used only for pedestrian and bicycle traffic.

Although this alternative would allow the existing 6th Street Viaduct to remain standing, potentially for pedestrian and bicycle access only, the existing viaduct would still have to be seismically retrofitted for public safety in the same manner (i.e., “no collapse”
standard), as described under the Retrofit Alternative and the ASR deterioration would continue (see Chapter 2). This alternative would still have an adverse effect on this historic property, as determined by Caltrans and the SHPO for Alternative 2.

In summary, Replacement Alignment 8 would not be prudent and feasible because:

- The viaduct is classified as a Category 1 Structure and seismic retrofit is mandatory, so even if this alignment was selected, the viaduct would have to be retrofitted for public safety. The Replacement Alignment 8 alternative compromises the project to a degree that is unreasonable to proceed given the stated purpose and need.

- The estimated cost to allow the existing 6th Street Viaduct to remain standing and to construct a replacement viaduct to the north of the existing 6th Street Viaduct would be approximately $515 million (Estimated Retrofit $197 million + Average Replacement $318 million = $515 million). The high cost estimate for this alternative would constitute construction costs of an extraordinary magnitude.

- There is no method to stop ASR. The concrete in the viaduct would continue to deteriorate due to ASR, resulting in unacceptable seismic safety problems. In the event of either advanced ASR or earthquake damage, the viaduct likely would have to be taken out of service.

- Although Alignment 8 would meet the project purpose and need, unique problems are associated with this alternative (see Section 2-5, Alternatives Considered but Eliminated from Further Discussion and Table 2 below). Constructing a new viaduct to the north and extending its limits to the east and west would result in substantially greater right-of-way (ROW) impacts than any of the other proposed alternatives. Construction of the viaduct under Replacement Alignment 8 would also create major impacts to the sewer siphon across the Los Angeles River and the sewers located on the east bank of the river. In addition, this alignment would potentially impact one LADWP transmission tower located on the east bank of the river. The alignment would require the construction of a new US 101 northbound on-ramp, and two new bridges would also be required over I-5 for the northbound and southbound sections of the freeway. There would be greater impacts to the railroads by adding a new bridge to the north of the existing viaduct, plus the additional space required for retrofitting the existing columns that are located within the railroad ROW.
Replacement Alignment 9

Replacement Alignment 9 proposes to preserve the existing viaduct by constructing a new viaduct to the south of the existing viaduct. Under this alternative, the existing viaduct would be retrofitted for preservation purposes and used only for pedestrian and bicycle traffic.

Although this alternative would allow the existing 6th Street Viaduct to remain standing, potentially for pedestrian and bicycle access only, the existing viaduct would still have to be seismically retrofitted for public safety in the same manner (i.e., “no collapse” standard), as described under the Retrofit Alternative and the ASR deterioration would continue (see Chapter 2). This alternative would still have an adverse effect on this historic property, as determined by Caltrans and the SHPO for Alternative 2.

In summary, Replacement Alignment 9 would not be prudent and feasible because:

- The viaduct is classified as a Category 1 Structure and seismic retrofit is mandatory, so even if this alignment was selected, the viaduct would have to be retrofitted for public safety. Replacement Alignment 9 alternative compromises the project to a degree that is unreasonable to proceed given the stated purpose and need.

- The estimated cost to allow the existing 6th Street Viaduct to remain standing and to construct a replacement viaduct to the south of the existing 6th Street Viaduct would be approximately $515 million. The high cost estimate for this alternative would constitute construction costs of an extraordinary magnitude.

- There is no method to stop ASR. The concrete in the viaduct would continue to deteriorate due to ASR, resulting in unacceptable seismic safety problems. In the event of either advanced ASR or earthquake damage, the viaduct likely would have to be taken out of service.

- One of the main drawbacks of this approach is that constructing a new viaduct to the south and extending its limits to the east and west would result in substantially greater ROW impacts, similar to Replacement Alignment 8 discussed above (see Section 2-5, Alternatives Considered but Eliminated from Further Discussion and Table 2 below). This alignment would impact three of the LADWP transmission towers (two on the west bank of the river and one on the east bank). In addition, LADWP’s electrical substation between Santa Fe Avenue and Mesquit Street would be impacted. A new northbound on-ramp connection to US 101 would be required. Two new bridges would also be required over I-5 for the northbound and southbound sections of the freeway. There would be greater impacts to the
railroads by adding a new bridge to the south of the existing viaduct, plus the additional space required for retrofitting the existing columns that are located within the railroad ROW.

5.3 Transportation System Management and Transportation Demand Management Alternatives

Transportation System Management (TSM) strategies consist of actions that improve the efficiency of existing facilities to increase the number of vehicle trips that a facility can carry without increasing the number of through lanes. TSM also encourages improved mobility on transportation facilities via transit, bicycle, and pedestrian improvements. The following TSM measures have been incorporated into the Replacement Alternative for this project: up to 10-ft-wide sidewalks; up to 19-ft-wide outside lanes, including shoulders for bicycles; a left-turn lane at Mateo Street; and traffic signal improvements at both ends of the project. However, TSM measures alone cannot satisfy the purpose and need of the proposed project.

Transportation Demand Management (TDM) focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled, as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding travelers’ transportation choices in terms of travel methods, time, route, costs, and the quality and convenience of the travel experience. Since the proposed 6th Street Viaduct project is a seismic safety and bridge functional deficiency improvement, TDM does not meet the purpose and need.

In summary the TSM alternative is not feasible and prudent because it does not satisfy the purpose and need of the project. The ASR deterioration would continue, resulting in unacceptable seismic safety risks. The viaduct would still be vulnerable to failure in the event of a major earthquake, and it would eventually have to be taken out of service due to advanced ASR or earthquake damage, requiring construction of a new viaduct.

Table 1 summarizes the results of avoidance alternative evaluation.
### Table 1

**Evaluation of Avoidance Alternatives**

<table>
<thead>
<tr>
<th>Balancing Factors</th>
<th>No Action Alternative</th>
<th>Replacement Alignment 8</th>
<th>Replacement Alignment 9</th>
<th>TSM Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compromises the project so that it is unreasonable given the purpose and need</td>
<td>Does not satisfy the Purpose and Need</td>
<td>Meets the Purpose and Need</td>
<td>Meets the Purpose and Need</td>
<td>Does not satisfy the Purpose and Need</td>
</tr>
<tr>
<td>Results in unacceptable safety or operational problems</td>
<td>Does not correct the seismic vulnerability to a “no collapse” standard or resolve design deficiencies</td>
<td>New viaduct meets design standards and existing viaduct seismic vulnerability corrected to a “no collapse” standard</td>
<td>New viaduct meets design standards and existing viaduct seismic vulnerability corrected to a “no collapse” standard</td>
<td>Does not correct the seismic vulnerability to a “no collapse” standard or resolve design deficiencies</td>
</tr>
<tr>
<td>After reasonable mitigation, still causes:</td>
<td>Approximate 47 businesses would have to be relocated.</td>
<td>Approximate 49 businesses would have to be relocated.</td>
<td>Approximate 49 businesses would have to be relocated.</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
</tr>
<tr>
<td>• Severe social, economic, or environmental impacts</td>
<td>If viaduct is taken out of service due to advanced ASR or earthquake damage, and requires replacement, would cause business relocations.</td>
<td>Right-of-way impacts to Boyle Heights Community and Los Angeles Central City North District</td>
<td>Right-of-way impacts to Boyle Heights Community and Los Angeles Central City North District</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
</tr>
<tr>
<td>• Severe disruption to established communities</td>
<td>If viaduct is taken out of service due to advanced ASR or earthquake damage, and requires replacement, would cause community disruption.</td>
<td>Would cause disproportionate higher adverse impacts on low income and minority populations on both sides of the river as more property would be acquired and larger impacted area.</td>
<td>Would cause disproportionate higher adverse impacts on low income and minority populations on both sides of the river as more property would be acquired and larger impacted area.</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
</tr>
<tr>
<td>• Severe environmental justice impacts</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
</tr>
<tr>
<td>• Severe impacts to other federally protected resources</td>
<td>Would result in frequent maintenance upkeep, in addition to the cost of replacement in the event of failure due to ASR or seismic damage.</td>
<td>Maintenance would be required for both old and new viaducts. Also creates major impacts to sewer siphon compost lines</td>
<td>Maintenance would be required for both old and new viaducts. Also creates major impacts to sewer siphon and LADWP transmission lines</td>
<td>Would result in frequent maintenance upkeep</td>
</tr>
<tr>
<td>Results in additional construction, maintenance, or extraordinary costs of an</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1  
Evaluation of Avoidance Alternatives

<table>
<thead>
<tr>
<th>Balancing Factors</th>
<th>No Action Alternative</th>
<th>Replacement Alignment 8</th>
<th>Replacement Alignment 9</th>
<th>TSM Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes other unique problems or unusual factors</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
<td>Essentially doubles the construction cost</td>
<td>Essentially doubles the construction costs, and disrupts electric transmission lines at a high cost and may interrupt electric power supply</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
</tr>
<tr>
<td>Involves multiple factors listed above that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude</td>
<td>Would cumulatively cause impacts of extraordinary magnitude in the areas of cost, public safety, and community disruption in the event of failure due to ASR or seismic damage.</td>
<td>This factor is not applicable as the factors discussed above are not individually minor.</td>
<td>This factor is not applicable as the factors discussed above are not individually minor.</td>
<td>This factor was considered but was found to be not applicable to this alternative.</td>
</tr>
<tr>
<td>Prudent and Feasible Determination</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Note: Balancing factors are based on 23 CFR Section 774.3(c)(1).

6. Measures to Minimize Harm

Agreement among the SHPO, the City, and Caltrans has been reached through the Section 106 process of the NHPA on measures to resolve the adverse effect, including all possible planning to minimize harm as defined in 23 CFR 774.17. Those measures would be incorporated into the project. A Memorandum of Agreement (MOA) for the preferred alternative (see Section 2.4), which includes stipulations and measures to resolve the adverse effect and received SHPO concurrence on May 10, 2010, is included in Attachment B of this Section 4(f) Evaluation and Appendix O of the Final EIR/EIS.

6.1 Retrofit Alternative

Approximately 95 percent of the original viaduct would be retained because only the railings would be replaced. The remaining original structure would be incorporated into the retrofit design; however, the original structure would be enclosed within a new “skin” and would not be visible. New construction would be designed in a manner consistent with the Secretary of Interior’s Standards for the Treatment of Historic Properties. Potential mitigation measures include the following:

- The City would incorporate all applicable Secretary of Interior’s Standards for the Treatment of Historic Properties (36 CFR Part 68) into the design of retrofitting components.
- The City would install two new freestanding informative permanent metal plaques or signage at both ends of the bridge at public locations that provide a brief history of the bridge, its engineering features and characteristics, and the reasons it was retrofitted. Additionally, the City would install two Cultural Heritage plaques, one at each end of the bridge, on the interior bridge rails in accordance with the City of Los Angeles’ Cultural Heritage Monument program.

- The 6th Street Viaduct was previously recorded as part of the Historical American Engineering Record (HAER) program in 1996. Prior to any viaduct construction activities, Caltrans and the City would contact the National Park Service (NPS) Western Region Office in Oakland, California to determine if additional recordation is required for the historic property beyond that provided in “Historic American Engineering Record, 6th Street Bridge, HAER No. CA-176,” dated May 7, 1996. If additional documentation is required, the City/Caltrans shall ensure that the additional documentation is completed and accepted by NPS before the viaduct is altered. The City shall prepare draft and final reports to be reviewed by Caltrans and NPS.

6.2 Replacement Alternative

The Replacement Alternative would not retain any of the original elements of the historic property. Mitigation measures defined in the executed MOA include the following:

- The City would install copies of the HABS/HAER documentation, consisting of an acid-free xerographic copy of the report, prepared on standard 8 ½ x 11 paper to, at a minimum, the Los Angeles Public Library, Los Angeles Conservancy, Los Angeles City Historical Society, Historical Society of Southern California, City of Los Angeles Office of Historical Resources, California Office of Historic Preservation, and Caltrans Transportation Library and History Center at Caltrans Headquarters in Sacramento. The City would also place the historical information from the
HABS/HAER report on a City website with a link to a public library website, such as the Los Angeles Public Library website, available to the public for a minimum period of three years. The information link will also be made available to the Caltrans Transportation Library and History Center at Caltrans Headquarters in Sacramento for inclusion on their website.

- The City would work with the Los Angeles Public Library to place the historical information from the HABS/HAER report on a City Web site with a link to a public library Web site, such as the Los Angeles Public Library Web site, available to the public for a minimum period of 3 years. The information link should also be made available to the Caltrans Transportation Library and History Center at Caltrans Headquarters in Sacramento for inclusion on their Web site.

- The City would produce a documentary (i.e., motion picture or video) that addresses the history of the Los Angeles River Monument bridges, and their importance and use within the broader contextual history of the City of Los Angeles. The motion picture or video would be of broadcast quality, between 30- and 90-minute duration, and would be made available to local broadcast stations, public access channels in the local cable systems, and requesting schools/libraries; one copy would be submitted to the Caltrans Transportation Library and History Center at Caltrans Headquarters in Sacramento.

- The City would produce and publish a booklet on the Historic Los Angeles River Bridges that addresses the history of the monumental concrete bridges of Los Angeles and this bridge’s place in that history. The booklet would be similar in general format to the “Historic Highway Bridges of California” published by Caltrans (1991) and would include high-quality black-and-white images of the Los Angeles River Bridges, historic photographs or drawings, as appropriate, and text describing each of the bridges’ location, year built, builder, bridge type, significant character-defining features, and its historic significance.

- The City would install two new freestanding informative permanent metal plaques or signage at both ends of the bridge at public locations that provide a brief history of the bridge, its engineering features and characteristics, and the reasons it was replaced.

- The City would offer artifacts removed from the viaduct during demolition to local museums or other suitable facilities to be determined by the City. The accepting institutions should arrange their own transportation to deliver the artifacts to designated locations.
7. Coordination

Public involvement, agency coordination, and Native American tribal coordination were carried out during the proposed project development process by means of formal scoping meetings, participating agency coordination meetings, community meetings, potentially affected property owner meetings, political representative meetings, notification letters, and the creation and maintenance of a project Web site.

The scoping process was initiated by widespread notification of government agencies and the public via publication of a Notice of Intent (NOI) and a Notice of Preparation (NOP) announcing initiation of the Environmental Impact Statement (EIS) and Environmental Impact Report (EIR), respectively. The NOI was published in the Federal Register (Volume 72, Number 169) on August 31, 2007, in accordance with the National Environmental Policy Act (NEPA). The NOP was posted on the City of Los Angeles Web site, the project’s public Web site, and with the Los Angeles County Clerk/Recorder throughout the public review period (July 23, 2007, to September 13, 2007), in accordance with the California Environmental Quality Act (CEQA).

Federal agencies having jurisdiction over the affected Section 4(f) resources, including the Department of Interior and the Department of Housing and Urban Development, ACHP, were on the NOI and NOP mailing list. State and local agencies having a stake over the affected Section 4(f) resources, such as State of California Historic Preservation Office, California Department of Fish and Game, Regional Water Quality Control Board, Native American tribal organizations, Los Angeles Conservancy, Los Angeles Cultural Heritage Commission, were coordinated throughout the environmental review process. The Draft EIR/EIS was also submitted to the U.S. Department of Interior (DOI) in June 2009. Several follow-up emails were sent to the DOI staff to confirm they were in receipt of the Draft EIR/EIS and Section 4(f) Evaluation. The DOI provided written comments on the Draft Section 4(f) Evaluation on September 3, 2009, and their letter is included in Appendix M (Letter no. 25).

Table 2 summarizes coordination efforts with federal agencies having jurisdiction over the affected Section 4(f) resources.

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18 [http://eng.lacity.org/techdocs/emg/Environmental_Review_Documents.htm](http://eng.lacity.org/techdocs/emg/Environmental_Review_Documents.htm)

Table 2
Coordination with Government Agencies
Having Jurisdiction over Section 4(f)

<table>
<thead>
<tr>
<th>Government Agency</th>
<th>Description of Coordination</th>
</tr>
</thead>
<tbody>
<tr>
<td>California State Historic Preservation Officer</td>
<td>The Historic Property Survey Report (HPSR)/Historic Resources Evaluation Report (HRER)/Archaeological Study Report (ASR) prepared for this project was transmitted to the SHPO on August 9, 2009. No response was received as of October 15, 2008. An e-mail was sent from Claudia Harbert, Caltrans District 7, on 11/19/08 to inform the SHPO that Caltrans is hereby informing all concerned that we are proceeding forward per stipulation VIII.C.5.a of the PA with preparation of the Finding Of Effect (FOE) documentation for this project. The FOE documentation was submitted to the SHPO for review on 1/27/09. A letter from SHPO to Caltrans concurring that proposed project will have an adverse effect on the Sixth Street Viaduct was received on March 19, 2009. A Memorandum of Agreement (MOA) containing stipulations to resolve the adverse effect as a result of the replacement alternative implementation was submitted to the SHPO on January 13, 2010. The SHPO signed the MOA on May 10, 2010.</td>
</tr>
<tr>
<td>California Department of Parks and Recreation Office of Historic Preservation</td>
<td></td>
</tr>
<tr>
<td>U.S. Department of Interior</td>
<td>Caltrans contacted the staff of the DOI to confirm receipt of the Draft EIR/EIS. DOI staff responded that the Draft EIR/EIS was being reviewed and written comments were provided on September 3, 2009.</td>
</tr>
</tbody>
</table>

Section 106 consultation with SHPO under the PA was initiated by Caltrans’ professionally qualified staff (PQS), as required by PRC 5024.5, on September 9, 2008. An HPSR, with supporting HRER and ASR, was submitted to the SHPO for review on September 9, 2008. No response was received from the SHPO within 30 days; therefore, Caltrans proceeding per stipulation VIII.C.5.a of the PA as indicated in the November 12, 2008, e-mail from Gary Iverson to the SHPO, The Finding of Effect (FOE) was submitted to SHPO on January 27, 2009. A letter dated March 19, 2009, from SHPO to Caltrans concurred with the finding that the proposed project will have an adverse effect on historic property (i.e., 6th Street Viaduct).

A Memorandum of Agreement (MOA) was executed by Caltrans and the SHPO on May 10, 2010 in compliance with the requirements of Section 106 of the National Historic Preservation Act. The purpose of the MOA is to resolve adverse effects on the historic 6th Street Viaduct as a result of project implementation. The MOA is provided in Attachment B of this Section 4(f) Evaluation and Appendix O of this EIS/EIR.

8. Least Harm Analysis and Concluding Statement

23 CFR 774.3 states that if there is no feasible and prudent avoidance alternative, then the Administration may approve only the alternative that:

1. Causes the least overall harm in light of the statute's preservation purpose. The least overall harm is determined by balancing the following factors:
Appendix B2  Section 4(f) Evaluation

(i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);

(ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

(iii) The relative significance of each Section 4(f) property;

(iv) The views of the official(s) with jurisdiction over each Section 4(f) property;

(v) The degree to which each alternative meets the purpose and need for the project;

(vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and

(vii) Substantial differences in costs among the alternatives.

2. The alternative selected must include all possible planning, as defined in §774.17, to minimize harm to Section 4(f) property.

Based on the previous discussion, there is no feasible and prudent alternative to the use of the 6th Street Viaduct. As required by 23 CFR 774.3, all proposed build alternatives were analyzed to determine the alternative that causes the least overall harm as described below.

Alternative 2 (Viaduct Retrofit) would alter the historic character of the viaduct through new structural and visual elements while Alternative 3 (Viaduct Replacement) would demolish and replace the entire structure. The SHPO concurred that implementation of either Alternative 2 or Alternative 3 would result in an adverse effect on the 6th Street Viaduct and has entered into the MOA with Caltrans and the City of Los Angeles that contains stipulations to resolve the adverse effect of Alternative 3, the preferred alternative. Under Alternative 2, the 6th Street Viaduct would remain, but the historic character would be adversely affected and the seismic retrofit would only have a 30-year design life. Under Alternative 3, the 6th Street Viaduct would be replaced. The City of Los Angeles Cultural Heritage Commission (CHC) favors partial preservation, but none of the partial preservation alternatives considered would resolve the ASR problem, and the viaduct would eventually have to be replaced.

Implementation of Alternative 2 would not permanently solve the ASR problem. Therefore, it would reduce vulnerability of the 6th Street Viaduct in a major earthquake event to a substantially lesser degree (a minimal standard of “no collapse”) than Alternative 3. The estimated cost for Alternative 2 is $199 million as compared with
$306 million for Alternative 3. However, the design life expectancy for Alternative 2 is approximately 30 years compared with 75 years for Alternative 3. The life-cycle cost of Alternative 2 would be substantially higher because it would include the cost of a new bridge after approximately 30 years due to continuing ASR deterioration. As such, Alternative 2 does not meet the purpose and need of the project as well as Alternative 3 because significant damage could occur in a major earthquake and the viaduct would likely have to be taken out of service.

Implementation of Alternative 2 would result in less impact to traffic and circulation and utilities and service systems because the construction period is shorter. In addition, Alternative 2 would result in less ROW impact compared with Alternative 3. However, implementation of Alternative 2 would not resolve the design deficiencies of the 6th Street Viaduct. The existing viaduct does not have shoulders for bicycles; implementation of Alternative 2 would not accommodate the future designated bike lane along 6th Street Viaduct. The existing viaduct does not have a stormwater runoff collection system; implementation of Alternative 2 would not provide water quality improvements compared to Alternative 3.

The results of the Least Harm Analysis described above are summarized in Table 3.

Based on the above considerations, there is no feasible and prudent alternative to the use of land from the 6th Street Viaduct, and the proposed action includes all possible planning to minimize harm to the 6th Street Viaduct resulting from such use and causes the least overall harm in light of the statute’s preservation purpose.
# Table 3
## Least Harm Analysis

<table>
<thead>
<tr>
<th>Factors</th>
<th>Viaduct Retrofit Alternative 2</th>
<th>Viaduct Replacement Alternative 3</th>
<th>Least Damaging Alternative to Section 4(f) Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to mitigate adverse impacts to the Section 4(f) resource</td>
<td>A new MOA with SHPO that includes stipulations to resolve the adverse effect would be implemented.</td>
<td>The existing MOA with SHPO that includes stipulations to resolve the adverse effect would be implemented.</td>
<td>Similar for both Alternatives</td>
</tr>
<tr>
<td>Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features</td>
<td>Adverse impacts to Historic 6th Street Viaduct cannot be avoided or mitigated to a level of no adverse effect. The 6th Street Viaduct structure would remain, but the historic character would be adversely affected and the seismic retrofit would only have a 30-year design life.</td>
<td>Adverse impacts to Historic 6th Street Viaduct cannot be avoided or mitigated to a level of no adverse effect. The 6th Street Viaduct would be demolished and replaced.</td>
<td>Alternative 2</td>
</tr>
<tr>
<td>Relative significance of the Section 4(f) property</td>
<td>6th Street Viaduct is individually NRHP and CRHR eligible; eligible as one of a thematic group of 118 historic highway arch and other bridges in CA; also City Cultural-Historical Monument #905.</td>
<td>6th Street Viaduct is individually NRHP and CRHR eligible; eligible as one of a thematic group of 118 historic highway arch and other bridges in CA; also City Cultural-Historical Monument #905.</td>
<td>Similar for both Alternatives</td>
</tr>
<tr>
<td>Views of the officials with jurisdiction over the Section 4(f) property</td>
<td>SHPO concurred that the proposed project would have an adverse effect on the Section 4(f) resource</td>
<td>SHPO concurred that the proposed project would have an adverse effect on the Section 4(f) resource.</td>
<td>Similar for both Alternatives</td>
</tr>
<tr>
<td>Degree to which each alternative meets the purpose and need</td>
<td>Alternative 2 does not meet the purpose and need as well as Alternative 3 because it does not resolve the ASR, nor does it correct the design deficiencies of the existing viaduct.</td>
<td>This alternative meets the stated purpose and need of the project.</td>
<td>Alternative 3</td>
</tr>
<tr>
<td>After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f)</td>
<td>Impacts to traffic circulation and utilities would be less. Cannot accommodate bike lanes, less pedestrian-friendly, only seismically retrofitted to “no collapse” criteria with 30-year design life.</td>
<td>Greater impact to ROW, traffic circulation, and utilities than Alternative 2. Would accommodate bike lanes and is more pedestrian-friendly. Higher rated visually. Includes on-site runoff treatment. State of the art seismic design with 75 year design life.</td>
<td>Alternative 3</td>
</tr>
<tr>
<td>Substantial differences in costs among alternatives</td>
<td>The estimated cost for this alternative is $199 million. Design life expectancy is approximately 30 years. The lifecycle cost would be substantially higher because it would include the cost of a new bridge after approximately 30 years due to continuing ASR deterioration.</td>
<td>The estimated cost for the preferred alternative is $306 million. Design life expectancy is approximately 75 years.</td>
<td>Alternative 3</td>
</tr>
</tbody>
</table>
Attachment A
Letters and Other Correspondence
September 9, 2008

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001

Subject: Determinations of Eligibility for the 6th Street Viaduct Seismic Improvement Project, Los Angeles County, California, 07-LA-Local Assistance

Dear Mr. Donaldson

The California Department of Transportation (Caltrans) is initiating consultation with the State Historic Preservation Officer (SHPO) regarding the proposed improvements to the 6th Street Viaduct in Los Angeles County. This consultation is being undertaken in accordance with the January 1, 2004 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation (PA). We are consulting with you under Stipulation VIII.C.5 of the PA, which requires that we seek your concurrence with our determinations of eligibility for historic properties.

Caltrans is initiating this consultation as a federal agency, following the provisions of the Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California’s Participation in the Surface Transportation Project Delivery Pilot Program, which became effective on July 1, 2007. The MOU was signed pursuant to Section 6005 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, which allows the Secretary of Transportation to assign, and the State of California to assume, responsibility for FHWA’s responsibilities under the National Environmental Policy Act as well as consultation and coordination responsibilities under other federal environmental laws. In that this project is covered by the above referenced MOU, FHWA has assigned, and Caltrans has assumed, FHWA responsibility for environmental review, consultation, and coordination on this project. Please direct all future correspondence on this project to Caltrans.
Caltrans, in conjunction with the City of Los Angeles Bureau of Engineering, is proposing to improve the seismic safety of the 6th Street Viaduct in Los Angeles County. The proposed project would either seismically retrofit the existing viaduct, or replace the existing viaduct with a new four-lane structure on one of three alignment alternatives. A full project description can be found on pages 1 to 4 of the enclosed Historic Property Survey Report (HPSR).

Consultation and identification efforts for the proposed undertaking (summarized on pages 1 – 2 in the HPSR) resulted in the identification of thirty-one properties requiring evaluation within the Area of Potential Effect (APE) as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Address/Location</th>
<th>Community</th>
<th>OHP Status Code</th>
<th>Map Ref. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNSF/AT &amp; SF RY Co.</td>
<td>5164-005-800</td>
<td>Los Angeles</td>
<td>6Z</td>
<td>26</td>
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<td>BNSF/AT &amp; SF RY Co.</td>
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<td>Los Angeles</td>
<td>6Z</td>
<td>28</td>
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<td>6Z</td>
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</table>
One property, the Sixth Street Viaduct (Bridge #s 53-0595S, 53C-1880), Map Ref. # 145, was previously determined eligible for the National Register of Historic Places in 1986, 1987, and 2004.

One historic-era archaeological site (Primary No. 19-003683), consisting of domestic refuse, has not been previously evaluated for National Register of Historic Places (NRHP) eligibility. All project effects to the site can be avoided by the establishment of an Environmentally Sensitive Area (ESA).

Pursuant to Stipulation VIII.C.3 of the PA, Caltrans is considering Primary No. 19-003683 to be eligible for the NRHP under Criterion D for the purposes of this undertaking without conducting subsurface testing or surface collection and will establish and enforce ESAs to ensure that there will not be an adverse effect to the property as a result of the proposed undertaking pursuant to Stipulation X.B.2.a(ii). Native American consultation confirmed that the sites only have values that may qualify them as NRHP eligible under Criterion D.

Pursuant to Stipulation VIII.C.5 of the PA, Caltrans is requesting your concurrence with the following eligibility determinations:

- None of the properties evaluated as a result of this project are eligible for the National Register of Historic Places.

We look forward to receiving your response within 30 days of receipt of this submittal in accordance with Stipulation VIII of the PA. Pursuant to Stipulation X.A of the PA, Caltrans will apply the Criteria of Adverse Effect set forth in 36 CFR 800.5 (a)(1) and submit that documentation to your office at a later time.

If you need any additional information, please do not hesitate to contact Caltrans District 7 Architectural Historian Claudia A. Harbert (phone: 213.897.0415; e-mail: claudia_harbert@dot.ca.gov). Thank you for your assistance with this undertaking.

Sincerely,

Claudia Harbert

GARY IVerson, Chief
Central Area Project/Cultural Resources Services
Caltrans District 7
Division of Environmental Planning

Attachment: 6th Street Viaduct Seismic Improvement Project HPSR with HRER and ASR

Cc: Wally Stokes, City of Los Angeles Bureau of Engineering; Greg King – CCSO HQ; Jill Hupp – CCSO HQ.
The following project was sent by Caltrans District 7 Division of Environmental Planning to SHPO:

Historic Property Survey Report for the City of Los Angeles 6th Street Bridge Project, City and County of Los Angeles, California

SHPO received this documentation on September 15, 2008 (Identification #FHWA080915).

The 30 day review period ended on October 15, 2008.

Since 30 days for comment has now passed, Caltrans is hereby informing all concerned that we are proceeding forward per stipulation VIII.C.5.a of the PA with the preparation of the Finding Of Effect documentation for this project.

Gary Iverson

"Man has no nobler function than to defend the truth"
- Ruth McKenney
January 27, 2009

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
P. O. Box 942896
Sacramento, CA 94296-0001

Dear Mr. Donaldson:

Subject: Finding of Adverse Effect for the Sixth Street Viaduct Seismic Improvement Project in the City of Los Angeles, Los Angeles County, California - FHWA080915

The California Department of Transportation (Caltrans) is continuing consultation with the State Historic Preservation Officer (SHPO) regarding our finding of adverse effect for the above referenced project. This consultation is undertaken in accordance with the January 2004 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation (PA). We are consulting with you under Stipulation X.C.1.a of the PA, which requires consultation with the SHPO regarding a finding of adverse effect.

Caltrans is transmitting this as a federal agency, following the provisions of the Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California’s Participation in the Surface Transportation Project Delivery Pilot Program, which became effective on July 1, 2007. The MOU was signed pursuant to Section 6005 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) which allows the Secretary of Transportation to assign, and the State of California to assume, responsibility for FHWA’s responsibilities under NEPA as well as consultation and coordination responsibilities under other Federal environmental laws. In that this project is covered by the above referenced MOU, FHWA has assigned, and Caltrans has assumed, FHWA responsibility for environmental review, consultation, and coordination on this project. Please direct all future correspondence on this project to Caltrans.

In conjunction with Caltrans, the City of Los Angeles proposes to make improvements to the Sixth Street Viaduct over the Los Angeles River (Bridge 53C-1880) and the Sixth Street Overcrossing (Bridge 53-0595), an element of the Hollywood Freeway (US 101), in order to correct seismic deficiencies by either retrofitting the existing Sixth Street Viaduct or replacing it with a new structure. A discussion of the proposed alternatives can be found on pages 7 through 14 of the enclosed Finding of Effect (FOE) report. A discussion of concepts proposed for the replacement structure can be found on pages 14 through 17.

“Caltrans improves mobility across California”
M. Wayne Donaldson, FAIA
January 27, 2009

2

Caltrans initiated consultation with the SHPO for this project with the submittal of a Historic Property Survey Report on September 15, 2008; no comments from the SHPO were received. The Area of Potential Effects for the proposed project contains two historic properties: The Sixth Street Viaduct and prehistoric archaeological site Primary No. 19-003683. Caltrans is assuming archaeological site Primary No. 19-003683 to be eligible for the National Register of Historic Places (NRHP) for the purposes of the proposed undertaking contingent on the establishment of an environmentally sensitive area that will protect the site from all project effects.

The Sixth Street Viaduct, completed in 1933, was determined eligible for the NRHP in 1985 under Criterion A and C as one of 12 significant viaducts that cross the Los Angeles River. In addition, the Sixth Street Viaduct was determined to be individually NRHP-eligible in 1986, and a City of Los Angeles Historic-Cultural Monument in January 2008.

In applying the Criteria of Adverse Effect pursuant to Stipulation X of the PA, Caltrans finds that the proposed undertaking would have an adverse effect on the Sixth Street Viaduct under all of the alternatives under consideration.

A copy of the FOE report supporting Caltrans’ finding is enclosed for your review and comment. We are consulting with you pursuant to stipulation X.C.1 of the PA and request your concurrence with Caltrans’ finding that the undertaking would have an adverse effect on historic properties. We look forward to receiving your response within 30 days of receipt of this submittal.

Thank you for your assistance with this undertaking. If you have any questions, please contact Jill Hupp at (916) 654-3567 or jill_hupp@dot.ca.gov.

Sincerely,

[Signature]
GREGORY P. KING
Chief
Cultural and Community Studies Office
Division of Environmental Analysis

Enclosure

c: GIverson – D7; CHarbert – D7; JHupp – CCSO

JH/jh

“Caltrans improves mobility across California”
March 16, 2009

Gregory P. King, Chief
Cultural and Community Studies Office
Division of Environmental Analysis
Department of Transportation
PO Box 942874
Sacramento, CA  94274-0001

Re: Finding of Effect for the Proposed Sixth Street Viaduct Seismic Improvement Project in the City of Los Angeles, CA

Dear Mr. King:

Thank you for consulting with me about the subject undertaking in accordance with the Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (PA).

The Federal Highway Administration (FHWA) is requesting my concurrence that the proposed project will have an adverse effect on the Sixth Street Viaduct, a property previously determined eligible for the National Register of Historic Places. Based on my review of the submitted documentation I concur.

Thank you for considering historic properties as part of your project planning. If you have any questions, please contact Natalie Lindquist of my staff at your earliest convenience at (916) 654-0631 or e-mail at nlindquist@parks.ca.gov.

Sincerely,

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
January 12, 2010

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
P. O. Box 942896
Sacramento, CA 94296-0001

Dear Mr. Donaldson:

Subject: Draft Memorandum of Agreement for the Sixth Street Bridge Replacement Project in Los Angeles County, California - OHP Ref.FHWA080915X

The California Department of Transportation (Caltrans) is continuing consultation with the State Historic Preservation Officer (SHPO) regarding the above referenced project. This consultation is undertaken in accordance with the January 2004 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation (PA). In accordance with Stipulation XI of the PA, Caltrans is pleased to submit the enclosed draft Memorandum of Agreement (MOA) for your review.

Caltrans is transmitting this as a federal agency, following the provisions of the Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California’s Participation in the Surface Transportation Project Delivery Pilot Program, which became effective on July 1, 2007. The MOU was signed pursuant to Section 6005 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) which allows the Secretary of Transportation to assign, and the State of California to assume, responsibility for FHWA’s responsibilities under NEPA as well as consultation and coordination responsibilities under other Federal environmental laws. In that this project is covered by the above referenced MOU, FHWA has assigned, and Caltrans has assumed, FHWA responsibility for environmental review, consultation, and coordination on this project. Please direct all future correspondence on this project to Caltrans.

In applying the Criteria of Adverse Effect pursuant to Stipulation X of the PA, Caltrans found that the proposed undertaking would have an adverse effect on Sixth Street Viaduct over the Los Angeles River (Bridge 53C-1880). Prehistoric archaeological site Primary No. 19-003683, which Caltrans is treating as a historic property for purposes of this undertaking, will be protected from all project effects by establishing it as an Environmentally Sensitive Area. Caltrans received your concurrence with our Adverse Effect finding on March 16, 2009.

"Caltrans improves mobility across California"
M. Wayne Donaldson, FAIA
January 12, 2010

2

Caltrans now proposes to resolve the adverse effect by entering into a Memorandum of Agreement (MOA), a draft of which is now enclosed for your review. Mitigation measures proposed in the draft MOA include producing a documentary that addresses the history of the Los Angeles River Monument bridges, and publishing a booklet on the Historic Los Angeles River Bridges that addresses the history of the monumental concrete bridges of Los Angeles and the Sixth Street Viaduct’s place in that history.

We look forward to receiving your comments on the draft MOA. Thank you for your continued assistance with this undertaking. If you have any questions or, please contact Jill Hupp at (916) 654-3567.

Sincerely,

ANMARIE MEDIN
Chief
Cultural Studies Office
Division of Environmental Analysis

Enclosure

bc:  G Iverson – D7; C Harbert – D7; Jill Hupp – CSO

JH/jc
Attachment B
Memorandum of Agreement
MEMORANDUM OF AGREEMENT
BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE 6TH STREET VIADUCT SEISMIC IMPROVEMENT
PROJECT
LOS ANGELES, LOS ANGELES COUNTY, CALIFORNIA

WHEREAS, the Federal Highways Administration (FHWA) has assigned and the California Department of Transportation (Caltrans) has assumed FHWA responsibility for environmental review, consultation, and coordination under the provisions of the Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California’s Participation in the Surface Transportation Project Delivery Pilot Program, which became effective on July 1, 2007, and applies to this project; and

WHEREAS, Caltrans has determined that the proposed replacement of the 6th Street Viaduct (Bridge No. 53C-1880 and 53-0595) crossing the Los Angeles River, will have an adverse effect on the 6th Street Viaduct, a property determined to be eligible for the National Register of Historic Places (NRHP); and

WHEREAS, Caltrans has consulted with the California State Historic Preservation Officer (SHPO) pursuant to Stipulations X.C., and X.I. of the January 2004, Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California (PA), and where the PA so directs, in accordance with 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (NHPA) (16 USC Section 470f), as amended, regarding the Undertaking’s effects on historic properties and has notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect finding pursuant to pursuant to 36 CFR § 800.6(a)(1); and

WHEREAS, Caltrans has thoroughly considered alternatives to the Undertaking, has determined that the statutory and regulatory constraints on the design of the Undertaking preclude the possibility of avoiding adverse effects to the historic property during the Undertaking’s implementation, and has further determined that it will resolve adverse effects of the Undertaking on the subject historic property through the execution and implementation of this Memorandum of Agreement (MOA); and

WHEREAS, Caltrans District 7 (District 7) and the City of Los Angeles (City), have participated in the consultation process and have been invited to concur in this MOA; and

WHEREAS, Caltrans shall ensure that the following stipulations are implemented; and
NOW, THEREFORE, Caltrans and the SHPO agree that, upon Caltrans’ decision to proceed with the Undertaking, Caltrans shall ensure that the Undertaking is implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on the historic property, and further agrees that these stipulations shall govern the Undertaking and all of its parts until this MOA expires or is terminated.

STIPULATIONS

Caltrans shall ensure the following stipulations are implemented:

I. AREA OF POTENTIAL EFFECTS

A. The Area of Potential Effects (APE) for the Undertaking was established to include all areas within the vicinity of the Sixth Street Viaduct that may contain historic properties that would be directly or indirectly affected by the Undertaking. The APE included the maximum existing and proposed right-of-way, project construction easements, staging areas, and temporary or permanent changes in access. The APE is depicted as Exhibit 3 of Attachment A of this MOA.

B. If modification of the Undertaking, subsequent to the execution of this MOA, necessitates the revision of the APE, Caltrans will consult with the City and the SHPO to facilitate mutual agreement on the subject revisions. If Caltrans, the City, and the SHPO cannot reach such agreement, then the parties to this MOA shall resolve the dispute in accordance with stipulation III.D below. If Caltrans and the SHPO reach mutual agreement on the proposed revisions, the City and Caltrans will submit a final map of the revisions, consistent with attachment 3 of the PA, no later than 30 days following such agreement.

II. TREATMENT OF HISTORIC PROPERTIES

A. Prior to the start of any work that could adversely affect any characteristics that qualify the 6th Street Viaduct (Bridge No. 53C-1880 and 53-0595) as a historic property, the City shall contact the National Park Service Western Region Office (NPS) in Oakland, California, to determine if additional recordation is required for the historic property beyond that provided in “Historic American Engineering Record, 6th Street Bridge, HAER No. CA-176,” dated May 7, 1996. The City shall provide NPS 30 days to respond to their additional recordation determination request. If additional documentation is required, Caltrans shall ensure that the additional documentation is completed and accepted by NPS before the Viaduct is altered and/or demolished. The City shall prepare draft and final reports to be reviewed by Caltrans and NPS.

B. Upon completion, copies of the documentation prescribed in subsection A of this stipulation, consisting of an acid-free xerographic copy of the report, prepared on standard 8 ½ X 11 paper, shall be retained by District 7, deposited in the Caltrans Transportation History Library in Sacramento, and offered by the City to, at a
minimum, the Los Angeles Public Library, Los Angeles Conservancy, Los Angeles City Historical Society, Historical Society of Southern California, City of Los Angeles Office of Historical Resources, and the California Office of Historic Preservation.

C. The City shall work with the Los Angeles Public Library to place the historical information from the HABS/HAER report on a City website with a link to a public library website, such as the Los Angeles Public Library website, available to the public for a minimum period of three years. The information link will also be made available to the Caltrans Transportation Library and History Center at Caltrans Headquarters in Sacramento for inclusion on their website.

D. The City shall produce a documentary (motion picture or video) that addresses the history of the Los Angeles River Monument bridges, and their importance and use within the broader contextual history of the City of Los Angeles. The motion picture or video shall be of broadcast quality, between 30- and 90-minute duration, and shall be made available to local broadcast stations, public access channels in the local cable systems, and requesting schools/libraries; one copy shall be submitted to the Caltrans Transportation Library and History Center at Caltrans Headquarters in Sacramento.

E. The City shall produce and publish a booklet on the Historic Los Angeles River Bridges that addresses the history of the monumental concrete bridges of Los Angeles and this bridge’s place in that history. The booklet shall be similar in general format to the “Historic Highway Bridges of California” published by the California Department of Transportation (1991) and shall include high quality black and white images of the Los Angeles River Bridges, historic photographs or drawings, as appropriate and text describing each of the bridges’ location, year built, builder, bridge type, significant character-defining features and its historic significance. City shall post an electronic version of the booklet on a City website and produce paper copies for distribution to local libraries, institutions and historical societies. One copy shall be submitted to the Caltrans Transportation Library and History Center in Sacramento. City shall maintain the camera-ready master booklet and produce additional copies if there is demand.

F. The City shall install two new freestanding informative permanent metal plaques or signage at both ends of the bridge at public locations that provide a brief history of the bridge, its engineering features and characteristics, and the reasons it was replaced.

G. The City shall offer artifacts removed from the Viaduct during demolition to local museums, or other suitable facilities to be determined by the City. The accepting institutions shall arrange their own transportation to deliver the artifacts to designated locations.
III. PROJECT DOCUMENTS CRITERIA AND REVIEW

A. The City shall submit to the SHPO for review and comment Design Development Drawings, and 30%, 60%, and 90% Construction Documents for work on the 6th Street Viaduct.

B. SHPO will review the project documents included in each consultation package submitted by the City to determine whether the Project Documents conform to the criteria cited in paragraph A of this stipulation. SHPO will provide comments on each submittal to the City within 30 calendar days of receipt. If the SHPO does not comment within the time provided, the City may assume that the SHPO concurs that the package conforms with the criteria cited.

C. The City will incorporate SHPO comments into the Project Documents to the fullest extent. If the City revises the Project Documents in response to the SHPO comments, then no further review is required for that submittal. The City will promptly notify SHPO in writing that it has revised the Project Documents in accordance with SHPO comments.

D. Should the City object to incorporating any SHPO comments into the Project Documents, the City will provide SHPO with written explanation of its objection. Promptly after receiving a written objection from the City, the City and SHPO shall consult to resolve the objection. If the objection is not resolve, provision of stipulation IV.C. shall be implemented.

IV. ADMINISTRATIVE PROVISIONS

A. Definitions.

The definitions provided at 36 CFR § 800.16 are applicable throughout this MOA.

B. Professional Qualifications and Standards

Caltrans will ensure that only individuals meeting the Secretary of the Interior’s Professional Qualification Standards (48 FR 44738-39) in the relevant field of study carry out or review appropriateness and quality of the actions and products required by Stipulations II. A-F in this MOA.

C. Discoveries and Unanticipated Effects

If Caltrans determines after construction of the Undertaking has commenced, that the Undertaking will affect a previously unidentified property that may be eligible for listing in the National Register, or affect a known historic property in an unanticipated manner, Caltrans will address the discovery or unanticipated effect in accordance with 36 CFR § 800.13(b)(3). Caltrans at its discretion may hereunder
assume any discovered property to be eligible for inclusion in the National Register in accordance with 36 CFR § 800.13 (c).

D. Resolving Objections

1. Should any party to this MOA object at any time in writing to the manner in which the terms of this MOA are implemented, to any action carried out or proposed with respect to implementation of the MOA, or to any document prepared in accordance with and subject to the terms of the MOA, Caltrans shall immediately notify the other parties of the objection, request their comments on the objection within 15 days following receipt of Caltrans’ notification, and proceed to consult with the objecting party for no more than 30 days to resolve the objection. Caltrans will honor the request of the other parties to participate in the consultation and will take any comments provided by those parties into account.

2. If the objection is resolved during the 30-day consultation period, Caltrans may proceed with the disputed action in accordance with the terms of such resolution.

3. If at the end of the 30 day consultation period, Caltrans determines that the objection cannot be resolved through such consultation, then Caltrans shall forward all documentation relevant to the objection to the ACHP, including Caltrans’ proposed response to the objection, with the expectation that the ACHP will, within thirty (30) days after receipt of such documentation:

   a. Advise Caltrans that the ACHP concurs in Caltrans’ proposed response to the objection, whereupon Caltrans will respond to the objection accordingly. The objection shall thereby be resolved; or

   b. Provide Caltrans with recommendations, which Caltrans will take into account in reaching a final decision regarding its response to the objection. The objection shall thereby be resolved; or

   c. Notify Caltrans that the objection will be referred for comment pursuant to 36 CFR § 800.7(c), and proceed to refer the objection and comment. Caltrans shall take the resulting comments into account in accordance with 36 CFR § 800.7(c)(4) and Section 110(1) of the NHPA. The objection shall thereby be resolved.

4. Should the ACHP not exercise one of the above options within 30 days after receipt of all pertinent documentation, Caltrans may assume the ACHP’s concurrence in its proposed response to the objection and proceed to implement that response. The objection shall thereby be resolved.

5. Caltrans shall take into account any of the ACHP’s recommendations or comments provided in accordance with this stipulation with reference only to the subject of the objection. Caltrans’ responsibility to carry out all other
actions under this MOA that are not the subject of the objection shall remain unchanged.

6. At any time during implementation of the measures stipulated in this MOA, should a member of the public raise an objection in writing pertaining to such implementation to any signatory party to this MOA, that signatory party shall immediately notify Caltrans. Caltrans shall immediately notify the other signatory parties in writing of the objection. Any signatory party may choose to comment in writing on the objection to Caltrans. Caltrans shall establish a reasonable time frame for this comment period. Caltrans shall consider the objection, and in reaching its decision, Caltrans will take all comments from the other signatory parties into account. Within 15 days following closure of the comment period, Caltrans will render a decision regarding the objection and respond to the objecting party. Caltrans will promptly notify the other signatory parties of its decision in writing, including a copy of the response to the objecting party. Caltrans’ decision regarding resolution of the objection will be final. Following issuance of its final decision, Caltrans may authorize the action subject to dispute hereunder to proceed in accordance with the terms of that decision.

7. Caltrans shall provide all parties to this MOA, and the ACHP, if the ACHP has commented, and any parties that have objected pursuant to section D.6 of this stipulation, with a copy of its final written decision regarding any objection addressed pursuant to this stipulation.

8. Caltrans may authorize any action subject to objection under this stipulation to proceed after the objection has been resolved in accordance with the terms of this stipulation.

E. Amendments

Any signatory party to this MOA may propose that this MOA be amended, whereupon all signatory parties shall consult to consider such an amendment. The amendment will be effective on the date that a copy is signed by all of the original signatories. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with Stipulation III.F, below.

F. Termination

1. If this MOA is not amended as provided for in Stipulation III.E, or if either signatory proposes termination of this MOA for other reasons, the signatory party proposing termination shall, in writing, notify the other MOA parties, explain the reasons for proposing termination, and consult with the other parties for at least 30 days to seek alternatives to termination. Such consultation shall not be required if Caltrans proposes termination because the Undertaking no longer meets the definition set forth in 36 CFR § 800.16(y).
SIGNATORY PARTIES

California Department of Transportation
By: Jay Norvell, Chief
Date: 5/6/10
Division of Environmental Analysis

California State Historic Preservation Officer
By: Milford Wayne Donaldson, FAIA
Date: 10 MAY 2010
State Historic Preservation Officer

CONCURRING PARTIES

California Department of Transportation
By: Michael Miles, District Director
Date: 5/25/2010
District 7, Los Angeles

City of Los Angeles
By: Cynthia Ruiz, President
Date: 5/19/10
Board of Public Works
Attachment A: APE MAPPING

The APE Map is being kept on file with the City of Los Angeles and Caltrans.
Appendix C
Title VI Policy Statement
July 20, 2010

TITLE VI
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.

CINDY MAKIM
Director

"Caltrans improves mobility across California"
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California Department of Transportation Relocation Assistance Program

Relocation Assistance Advisory Services
The California Department of Transportation (Caltrans) would provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of Caltrans’ acquisition of real property for public use. Caltrans would assist residential displacees in obtaining comparable decent, safe, and sanitary replacement housing by providing current and continuing information on sales prices and rental rates of available housing. Nonresidential displacees would receive information on comparable properties for lease or purchase.

Residential replacement dwellings would be in equal or better neighborhoods, at prices within the financial means of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, displacees would be offered comparable replacement dwellings that are open to all persons regardless of race, color, religion, sex, or national origin, and are consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance would also include supplying information concerning federal- and state-assisted housing programs, and any other known services being offered by public and private agencies in the area.

Additional Information
No relocation payment received would be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Persons who are eligible for relocation payments and who are legally occupying the property required for the project would not be asked to move without being given at least 90 days’ advance notice, in writing. Occupants of any type of dwelling eligible for relocation payments would not be required to move unless at least one comparable "decent, safe, and sanitary" replacement residence, open to all persons regardless of race, color, religion, sex, or national origin, is available or has been made available to them by the State.

Any person, business, farm, or nonprofit organization that has been refused a relocation payment by Caltrans, or believes that the payments are inadequate may appeal for a hearing before a hearing officer or the Caltrans’ Relocation Assistance Appeals Board. No legal assistance is required; however, the displacee may choose to obtain legal council at his/her expense. Information about the appeal procedure is available from Caltrans’ Relocation Advisors.

The information above is not intended to be a complete statement of all of Caltrans’ laws and regulations. At the time of the first written offer to purchase, owner/occupants are given a more-
detailed explanation of the State's relocation services. Tenant occupants of properties to be acquired are contacted immediately after the first written offer to purchase, and they are also given a more-detailed explanation of Caltrans’ relocation programs.

**Important Notice**
To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department of Transportation relocation advisor at:

State of California  
Department of Transportation, District #07  
100 South Main Street  
Los Angeles, CA 90012
Appendix E
Glossary of Technical Terms
Appendix E  Glossary of Technical Terms

Environmental Technical Terms

Action  “Action,” a federal term, is the construction or reconstruction, including associated activities, of a transportation facility. For the purposes of this Environmental Impact Report (EIR)/Environmental Impact Statement (EIS), the terms “project,” “proposal,” and “action” are used interchangeably unless otherwise specified. An action may be categorized as a “categorical exclusion” or a “major federal action.”

Area of Potential Effects (APE) A term used in Section 106 regulations (36 Code of Federal Regulations [CFR] 800) to describe the area in which historic and archaeological resources may be affected by a federal undertaking.

Beneficial Use A use of a natural water resource that enhances the social, economic, and environmental well-being of the user. Twenty-one (21) beneficial uses are defined for the waters of California, ranging from municipal and domestic supply to fisheries and wildlife habitat.

Best Management Practice (BMP) Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources.

Clean Air Act (CAA) The Clean Air Act of 1970 and the subsequent amendments, including the Clean Air Act Amendments (CAAAs) of 1990 (42 United States Code [U.S.C.] 7401-7671g), is the primary federal law that protects the nation's air resources. This act establishes a comprehensive set of standards, planning processes, and requirements to address air pollution problems and reduce emissions from major sources of pollutants.

Council on Environmental Quality (CEQ) The federal agency responsible for developing regulations and guidance for agencies implementing the National Environmental Policy Act (NEPA).

Cooperating Agency “Cooperating Agency,” under NEPA, means any agency other than the lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal for any action significantly affecting the human environment. Under the California Environmental Quality Act (CEQA), the term “responsible agency” is used.

Cumulative Effects An impact on the environment that results from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or non-federal) or person undertakes such actions. Cumulative impacts result from individually minor, but collectively significant, actions taking place over a period of time.

Decibel (dB) A unit of noise measured on a logarithmic scale that compresses the range of sound pressures audible to the human ear over a range from zero to 140, where zero decibels represents sound pressure corresponding to the threshold of human hearing and 140 decibels corresponds to a pressure at which pain occurs. Noise analysts measure sound pressure levels that people hear in decibels, much like other analysts measure linear distances in yards or meters. A-weighted decibels (dBA) refer to a weighting that accounts for the various frequency components in a way that corresponds to human hearing.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Environmental Assessment</td>
<td>A concise public document for which a federal agency is responsible that serves to briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact. It is the federal equivalent of the CEQA term “initial study.”</td>
</tr>
<tr>
<td>Environmental Document</td>
<td>A draft or final EIS or EIR, Finding of No Significant Impact, Environmental Assessment, or Negative Declaration. A Categorical Exclusion form is not considered an environmental document; it is rather the documentation that the project is exempt/excluded.</td>
</tr>
<tr>
<td>Environmental Justice</td>
<td>The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.</td>
</tr>
<tr>
<td>Environmental Protection Agency (EPA)</td>
<td>An agency of the executive branch of the federal government charged with establishing and enforcing environmental regulations.</td>
</tr>
<tr>
<td>Floodplain</td>
<td>The lowlands adjoining inland and coastal waters and relatively flat areas and flood-prone offshore islands, including, at a minimum, those areas that have a 1 percent or greater chance of flood in any given year (also known as a 100-year or a Zone A floodplain).</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>Substances or materials that the Secretary of Transportation has determined are capable of posing an unreasonable risk to human health, safety, and property when transported in commerce, as designated under 49 CFR Parts 172 and 173.</td>
</tr>
<tr>
<td>Hazardous Wastes</td>
<td>Waste materials that are, by their nature, inherently dangerous to handle or dispose of (e.g., old explosives, radioactive materials, some chemicals, some biological wastes). Usually, industrial operations produce these waste materials.</td>
</tr>
<tr>
<td>Historic Property</td>
<td>Any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP). The term “eligible for inclusion in the NRHP” pertains to both properties that the Secretary of the Interior has formally determined to be eligible and to all other properties that meet NRHP listing criteria.</td>
</tr>
<tr>
<td>Initial Study</td>
<td>Under CEQA, the Initial Study is prepared to determine whether there may be significant environmental effects resulting from a project. The Initial Study is attached to the Negative Declaration or Mitigated Negative Declaration. It can become the basis of an EIR if it concludes that the project may cause significant environmental effects that cannot be mitigated below the level of significance.</td>
</tr>
<tr>
<td>Lead Agency</td>
<td>The public agency that has primary responsibility for carrying out or approving a project that may have a significant effect on the environment and for preparing the environmental document.</td>
</tr>
<tr>
<td>Level of Service (LOS)</td>
<td>A term that denotes traffic operating conditions at a given intersection. There are six levels of service, A through F, which relate to traffic congestion from best to worst. In general, LOS A represents free-flow conditions with no congestion. Conversely, LOS F represents severe congestion with stop-and-go conditions.</td>
</tr>
<tr>
<td>Term</td>
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<tr>
<td>Low-Income Population</td>
<td>A population composed of persons whose median household income is below the Department of Health and Human Services poverty guidelines.</td>
</tr>
<tr>
<td>Maintenance Area</td>
<td>A federal term to describe any geographic region of the United States designated nonattainment pursuant to the CAAAs and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under Section 175A of the CAAAs.</td>
</tr>
<tr>
<td>Metropolitan Planning Organization (MPO)</td>
<td>A federal designation for the agency responsible for cooperative transportation decision making for an urbanized area with a population of more than 50,000.</td>
</tr>
<tr>
<td>Metropolitan Transportation Plan</td>
<td>The official intermodal transportation plan that is developed and adopted through the metropolitan transportation planning process for the metropolitan planning area.</td>
</tr>
<tr>
<td>Minority Population</td>
<td>A population composed of persons who are Black (non-Hispanic), Hispanic, Asian American, American Indian, or Alaskan Native.</td>
</tr>
<tr>
<td>National Environmental Policy Act (NEPA)</td>
<td>The National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321-4347; P.L. 91-190) is the basic national charter for the protection of the environment. It establishes policy, sets goals, and provides means for carrying out the policy. Its purpose is to provide for the establishment of a CEQ and to instruct federal agencies on what they must do to comply with the procedures and achieve the goals of NEPA.</td>
</tr>
<tr>
<td>National Historic Preservation Act (NHPA)</td>
<td>The National Historic Preservation Act of 1966, as amended (16 U.S.C. 470-470 et seq.; P.L. 89-665), is the basic legislation of the nation's historic preservation program that established the Advisory Council on Historic Preservation and the Section 106 review process. Section 106 of the NHPA requires every federal agency to &quot;take into account&quot; the effects of its undertakings on historic properties.</td>
</tr>
<tr>
<td>National Pollutant Discharge Elimination System (NPDES) Permit</td>
<td>A permit that is required for facilities and activities that discharge waste into surface waters from a confined pipe or channel.</td>
</tr>
<tr>
<td>National Register of Historic Places (NRHP)</td>
<td>Administered by the National Park Service, the nation's master inventory of known historic properties, including buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archeological, or cultural significance at the federal, state, and local levels.</td>
</tr>
<tr>
<td>Nonattainment Area</td>
<td>Any geographic region of the United States that EPA has designated as a nonattainment area for a transportation-related pollutant(s) for which a National Ambient Air Quality Standard (NAAQS) exists.</td>
</tr>
<tr>
<td>Notice of Availability</td>
<td>A formal public notice under NEPA announcing the availability of a completed Environmental Assessment, Draft EIS, or Final EIS. Such notice is to be published in local newspapers. For EISs, publication of such notice in the Federal Register is also required.</td>
</tr>
<tr>
<td>Notice of Completion</td>
<td>The CEQA notice submitted to the State Clearinghouse when an EIR is completed. For Caltrans EIRs, the requirement for a Notice of Completion is satisfied by the cover sheet transmitting the EIR to the Clearinghouse.</td>
</tr>
<tr>
<td>Notice of Determination</td>
<td>A formal written notice under CEQA filed by a lead state agency when approving any project subject to the preparation of a Negative Declaration or an EIR.</td>
</tr>
</tbody>
</table>
Appendix E  Glossary of Technical Terms

<table>
<thead>
<tr>
<th>Term</th>
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<tbody>
<tr>
<td>Notice of Intent (NOI)</td>
<td>A notice that an EIS will be prepared and considered. The NOI is published in the Federal Register by the lead federal agency. The CEQA equivalent of this notice is called the Notice of Preparation (NOP).</td>
</tr>
<tr>
<td>Notice of Preparation (NOP)</td>
<td>The CEQA notice that an EIR will be prepared for a project.</td>
</tr>
</tbody>
</table>
| Project                             | CEQA (§21065) defines a “project” as an activity that may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:  
   a) An activity directly undertaken by any public agency.  
   b) An activity undertaken by a person that is supported, in whole or in part, throughout contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.  
   c) An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies. |
| Recognized Environmental Conditions (RECs) | The presence or likely presence of any hazardous substance or petroleum product on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property (Ref. American Society of Testing and Materials [ASTM] Standard E 1527-00). |
| Record of Decision                  | A formal written statement, required under NEPA, wherein a federal lead agency must present the basis for its decision to approve a selected project alternative, summarize mitigation measures incorporated into the project, and document any required Section 4(f) approval. |
| Regional Transportation Plan (RTP)  | “...the official intermodal metropolitan transportation plan that is developed through the metropolitan planning process for the metropolitan planning area, developed pursuant to 23 CFR Part 450.” |
| Responsible Agency                  | A “public agency, other than the lead agency that has responsibility for carrying out or approving a project” (Public Resources Code [PRC] 21069). The CEQA Guidelines further explain the statutory definition by stating that a “responsible agency” includes “all public agencies other than the Lead Agency that have discretionary approval power over the project” (14 CCR 15381). State and local public agencies that have discretionary authority to issue permits, for example, fall into this category. |
| SAFETEA LU                          | The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (commonly known by its acronym, SAFETEA-LU) is the most recent federal transportation bill authorizing funding for the nation’s surface transportation programs. Signed into law in August 2005, SAFETEA-LU replaced the expired Transportation Equity Act for the 21st Century (TEA-21). The law establishes funding levels and policies for the federal government’s highway, highway safety, transit, motor carrier, and some rail programs administered by the U.S. Department of Transportation. SAFETEA-LU expires September 30, 2009. |
| Scoping                             | A process for determining the scope of issues to be addressed in an Environmental Assessment and EIS and for identifying significant issues to be analyzed in depth in an EIS. |
Significance –
CEQA

CEQA defines a "Significant effect on the environment" as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant" (§15382).

CEQA requires that the lead agency identify each “significant effect on the environment” resulting from the project and avoid or mitigate it.

The CEQA Guidelines include mandatory findings of significance for certain effects, thus requiring the preparation of an EIR.

Significance –
NEPA

NEPA stipulates that an EIS is required when the proposed federal action has the potential to “significantly affect the quality of the human environment.” To determine that potential, one must consider both the context in which the action takes place and the intensity of its effect. Section 1508.27 of the CEQ regulations define the term “significantly” as:

Significantly, as used in NEPA, requires considerations of both context and intensity:

(a) Context. This means that the significance of an action must be analyzed in several contexts, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.

(2) The degree to which the proposed action affects public health or safety.

(3) Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

(10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment. [43 FR 56003, Nov. 29, 1978; 44 FR 874, Jan. 3, 1979]
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>State Implementation Plan (SIP)</td>
<td>The portion (or portions) of an applicable air quality implementation plan approved or promulgated, or the most recent revision thereof, under sections 110, 301(d) and 175A of the CAA.</td>
</tr>
<tr>
<td>Statewide Transportation Improvement Plan</td>
<td>A staged, multiyear, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes and metropolitan plans, Transportation Improvement Plans, and processes.</td>
</tr>
<tr>
<td>Statewide Transportation Plan</td>
<td>The official statewide, intermodal transportation plan that is developed through the statewide transportation planning process.</td>
</tr>
<tr>
<td>Title VI of the Civil Rights Act of 1964</td>
<td>A policy of the United States that prevents discrimination on the grounds of race, color, or national origin in connection with programs and activities receiving federal financial assistance.</td>
</tr>
<tr>
<td>Transportation Control Measure</td>
<td>Any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in §108 of the CAA, or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the above, vehicle technology-based, fuel-based, and maintenance-based measures that control the emissions from vehicles under fixed traffic conditions are not Transportation Control Measures for the purposes of project-level conformity.</td>
</tr>
<tr>
<td>Transportation Improvement Plan</td>
<td>A staged, multiyear, intermodal program of transportation projects that is consistent with the metropolitan transportation plan. It is a federal term.</td>
</tr>
<tr>
<td>Trustee Agency</td>
<td>A state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. Trustee agencies include: (a) the California Department of Fish and Game (CDFG) with regard to the fish and wildlife of the state, to designated rare or endangered native plants, and to game refuges, ecological preserves, and other areas administered by the department; (b) the State Lands Commission with regard to state-owned “sovereign” lands such as the beds of navigable waters and state school lands; (c) the State Department of Parks and Recreation with regard to units of the State Park System; and (d) the University of California with regard to sites within the Natural Land and Water Reserves System” (14 CCR 15386).</td>
</tr>
<tr>
<td>Volume to Capacity Ratio (V/C)</td>
<td>The ratio of an intersection’s traffic volume (V) to its capacity (C), with capacity defined as the theoretical maximum number of vehicles that can pass through an intersection during a specified time period. When the V/C ratio is 1.0, traffic is considered to be “at capacity” and there is traffic congestion. A V/C ratio of 1.0 or more translates to an LOS F.</td>
</tr>
<tr>
<td>Wetland</td>
<td>Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. (United States Army Corps of Engineers [USACE] and EPA definition).</td>
</tr>
</tbody>
</table>
Appendix E  Glossary of Technical Terms

Engineering Terms

Abutment  Part of a bridge substructure. Refers to the first and last supports of a bridge.

Alkali-Silica Reaction  A reaction between reactive (amorphous) silica (in concrete aggregates) and an alkali (usually present in the cement), which results in the formation of a gel. This gel increases in volume with water and exerts expansive pressure on the concrete, causing failure of the concrete. (from Wikipedia)

Approaches  Part of bridge or bridges leading up to the main span.

Arch  A structural form utilizing a semicircular substructure.

Beam  A horizontal structure member supporting vertical loads by resisting bending.

Bent  Part of a bridge substructure. A single or multi-column frame commonly made of reinforced concrete or steel that supports a vertical load and is placed transverse to the length of a structure. Bents are commonly used to support beams and girders.

Bent cap  Refers to the horizontal element of a bent.

Cable-stayed  A variation of suspension bridge in which the tension members extend from one or more towers at varying angles to carry the deck. Allowing much more freedom in design form, this type does not use cables draped over towers, nor the anchorages at each end, as in a traditional suspension bridge.

Cast-in-place concrete girder  A concrete girder poured in the field in its final position.

Columns  Vertical supporting elements of a bridge.

Concrete box girder  A hollow concrete girder.

Deck  The portion of the superstructure in contact with vehicle tires.

Functionally obsolete  A structure including substandard components, such as older railing or sidewalk and having a roadway geometry that does not meet today's standards. A functionally obsolete bridge may be structurally sufficient, but unable to handle its current volume of traffic.

Girder  A girder is a larger beam.

Main span  Refers to the longest span of a bridge structure (usually significantly longer than other spans). Also refers to the portion of the structure spanning the longest distance.

Pier  A vertical support or substructure unit that supports the spans of a multi-span superstructure at an intermediate location between its abutments.

Piles  Long vertical steel or concrete elements drilled or driven deep into the ground to form part of a foundation. Piles are typically used in groups.

Pile Caps  A rectangular concrete element built on top of a group of piles. A column can be built above a pile cap.
Span
The distance between bents, piers, towers, or abutments.

Steel box girder
A hollow steel girder.

Steel casings
Steel pipe placed around another element for various applications.

Steel tied arch
Bridge built with a semicircular member over the deck, using the deck as a tie. This bridge usually involves cables connecting the deck to the arch.

Substructure
Any portion of a bridge structure below the superstructure, including abutments, columns, walls, and foundations that support the superstructure.

Superstructure
The portion of a bridge structure that carries the traffic load and transfers it to the substructure.

Tie-in
Location where approaches and main span meet.

Truss
A structural form that is used in the same way as a beam, but because it is made of a web-like assembly of smaller members, it can be made longer, deeper, and therefore, stronger than a beam or girder while being lighter than a beam of similar dimensions.