

Appendix B

Environmental Issues

Technical Memorandum

Downtown/Riverfront Streetcar Studies

City of West Sacramento

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1.0 Purpose of the Technical Memorandum

The purpose of this technical memorandum is to indicate the major environmental issues that could result from the construction and operation of the West Sacramento Streetcar Project (Project). The environmental issues will be addressed in an Initial Study under the California Environmental Quality Act (CEQA). It is not anticipated that federal National Environmental Policy Act (NEPA) guidelines will apply since the Project does not require federal funding for project development and construction. However, issues that may trigger federal agency participation, permitting, or compliance will be examined in the Initial Study and the necessity of incorporating NEPA guidelines in the environmental analysis will be addressed, as appropriate.

The Initial Study is used to determine the level of environmental analysis required for the Project under CEQA. The information generated in Phase 1 of this study will be used in the preparation of the Initial Study. If technical documentation supporting the Initial Study indicates that potentially significant impacts are likely to be mitigated to a less than significant level, then a Mitigated Negative Declaration (the Initial Study incorporating committed mitigation measures as appropriate) may be sufficient for gaining environmental clearance for the Project. If the Initial Study identifies potentially significant impacts that may not be easily mitigated, are controversial, or are likely to be unavoidable, an Environmental Impact Report (EIR) that compares the environmental effects of No Project with the Project (and other alternatives that have been considered) is required. An EIR embodies a more comprehensive environmental analysis than the Initial Study and is accompanied by extensive public involvement. The appropriate level of environmental analysis will be determined during Phase 2 of this study. If an EIR is required, it will be undertaken in Phase 2.

2.0 Project Description

The proposed Streetcar Project would follow an alignment as described below.

Westbound – The line’s eastern terminus is a one-way loop extending from 13th Street north to J Street, east on J to 15th Street, and then west on L Street to 13th Street, returning to K Street. From this point, the westbound alignment crosses the eastbound LRT tracks at K Street & 12th Street, and merges onto the RT LRT alignment on the K Street Mall, sharing track with LRT trains. The alignment follows K Street westerly to 7th Street (crossing LRT tracks at 8th Street), and turns south on 7th Street, still sharing the alignment with the RT LRT service. At Capitol Mall, the streetcar alignment diverges from the LRT tracks, and turns right (west) onto Capitol Mall (assumed center median operation – possible grass trackway). The alignment follows Capitol Mall west to the I-5 overpass, where double track ends at 3rd Street and the line becomes single track for the crossing of I-5 and the Sacramento River. Single track continues east, crossing I-5 and the Tower Bridge (lift bridge). Entering West Sacramento, the alignment returns to double track as soon as possible after leaving the Tower Bridge. The alignment continues west in Tower Bridge Gateway to the intersection with the planned Garden Street. At this intersection, the alignment follows new Garden Street right-of-way, and reaching the corner of Garden Street and West Capitol Avenue. Here, the alignment turns left onto West Capitol

Avenue, and continues to Merkley, where the alignment turns left and terminates at a stub terminal adjacent to the future West Sacramento Transit Center.

Eastbound - The eastbound alignment is the same as the westbound, with the exception of the portion between Capitol & 7th Street in Sacramento and K Street. The eastbound alignment continues on Capitol to 8th Street, where the alignment turns left onto 8th Street, merging onto RT LRT trackage at this point. The alignment continues north on 8th Street to K Street, where the alignment turns right onto K Street. The streetcar alignment continues straight on K Street into the loop into Midtown as described above.

3.0 Potential Environmental Issues for the Project

Although preliminary in nature and not intended to substitute for the Initial Study documentation, this memorandum indicates whether preliminary data reveal any environmental fatal flaws that require modification to the project description. In addition, a brief discussion of potential environmental issues that may be problematic is included in this memo. An analysis of all environmental topics identified in the Initial Study Checklist, including existing setting, impacts and the level of significance after mitigation is applied, will be provided at a later date.

The Project, although less than three miles in length, traverses many different communities that present a variety of conditions that could affect the Project. To give the reader a better understanding of the location and setting in which potential environmental issues occur, the information in this section is divided by alignment segment, starting with the streetcar's western terminus at the planned West Sacramento Transit Center and ending at the eastern terminus adjacent to the Sacramento Convention Center. In addition, discussions of the Project's use of RT's storage and maintenance facility at Academy Way and sites for traction power substations are provided under separate subheadings.

3.1 West Sacramento Transit Center to Garden Street

Movement of the streetcar in general traffic may produce additional safety risk to motorists and pedestrians. Proper signalization that regulates the movement of streetcars in concert with motorized and non-motorized traffic would be expected to minimize safety impacts. The improvements planned to the Garden Street intersection and the design concepts contained in the approved West Capitol Street Streetscape Master Plan will significantly enhance the function of these streets as pedestrian-oriented urban streets, thus further minimizing conflict between motor vehicles and pedestrians. In addition, the capacity of West Capitol would be unaffected since the street width appears sufficient for incorporating two tracks without eliminating traffic lanes. No curb parking exists along this segment of West Capitol.

At this time, no fatal flaws or unavoidable impacts are anticipated in this segment.

3.2 Garden Street to South River Road

The streetcar alignment would be within the right of way of Tower Bridge Gateway, the former State Route 275, that is being redesigned as a boulevard. A signalized, at-grade intersection is currently under construction at Garden Street (the former Riske Lane) and Tower Bridge Gateway. Similar improvements are planned at 5th Street (currently limited to a westbound on-ramp to Tower Bridge Gateway) and at 3rd Street/South River Road (currently grade separated). Signalization would minimize potential streetcar-vehicular conflicts at this intersection. Reconstruction of the 3rd Street/South River Road intersection is a necessary prerequisite to providing streetcar service along this alignment.

No fatal flaws or unavoidable impacts are anticipated in this segment. However, a traffic analysis may be required to ensure that proper mitigation strategies are applied to expedite streetcar operation without impeding traffic circulation in the redevelopment area.

3.3 South River Road to Tower Bridge

The alignment in this segment would use the street right of way. Sufficient width would allow the streetcar to occupy a portion of the street right of way without diminishing roadway capacity. No parking exists along this road segment although future plans call for redevelopment of this area into a mixed use community.

Assuming land acquisition, infrastructure improvements and soil remediation are completed for the Triangle area prior to Project construction, no fatal flaws or unavoidable impacts are anticipated in this segment. This also assumes resolution of the design of the 3rd Street/Tower Bridge Gateway/South River Road intersection. However, a traffic analysis may be required to ensure that proper mitigation strategies are applied to expedite streetcar operation without impeding traffic circulation. Additionally, the Raley's Landing Draft EIR (City of West Sacramento, October 2005) identified unavoidable future traffic impacts at Tower Bridge Gateway/3rd Street, near the streetcar entry onto Tower Bridge. One of the goals of implementing streetcar service in this area is to encourage transit use instead of auto travel to access Raley Field and other destinations in the Raley's Landing project area. Use of transit may reduce traffic congestion at the Tower Bridge Gateway/3rd Street intersection. This assumption would need to be verified by studying the cumulative effect of the Project on traffic circulation in this area.

3.4 Tower Bridge

Tower Bridge is an historic structure built in 1934. The bridge was originally designed to support rail operation, which consisted of a single track and overhead on the bridge before all rail facilities were removed in 2004. New streetcar track and catenary would restore this historic function to the bridge. However, the restoration of rail service may add new elements to the bridge that could alter the bridge design or appearance. Similarly, the

cumulative weight of previous bridge improvements in combination with weight of Project elements may adversely affect the bridge's lift mechanism. Alteration of the bridge's design, appearance, or historic mechanical system could be a significant impact, and would require a determination of effect made in consultation with SHPO.

Preliminary structural analysis of constructing streetcar facilities on Tower Bridge indicates that single-track operation, using historic or modern streetcars and matching the historic rail configuration on the bridge, would not require structural enhancements that would alter the design integrity or modify historic elements of the bridge (Bridge Structural Evaluation, HDR, December 19, 2006). No effect on the bridge's lift mechanism would occur. The overhead wire would be bolted in place using the concrete pylons that originally served as span wire supports. A more rigorous analysis would be required to confirm these findings. Unlike the single-track configuration, a two-track alignment on the bridge would require new structural support elements under both tracks. The additional dead weight may adversely affect the lateral balancing of the lift span, requiring alteration or replacement of the lift's mechanical and electrical systems, which are historic elements. In addition, operation of light rail vehicles may add dynamic weight that cannot readily be supported by the existing structure. In this scenario, track placement may not be feasible without narrowing the shoulders and providing less-than-desirable vertical clearance. A more detailed structural analysis will be conducted in preparation of Project design plans that would be submitted to SHPO and Caltrans for consultation and determination of effect.

The addition of one or two tracks on the bridge could affect traffic circulation. Four lanes of traffic have been provided over the years, with and without rail operation. If four lanes were to be maintained, two alternatives are available. Streetcars would operate either on a single track in an exclusive center lane with traffic lanes reduced slightly below the standard 11' width; or streetcars would operate on two tracks in shared travel lanes. Reducing traffic capacity to two-lane operation may produce traffic delays during peak periods, particularly since planned development to the east of the bridge is expected to slow traffic circulation in the vicinity of Capitol Mall (301 Capitol Mall DEIR, May 2005) and substantial growth is planned for the Washington and Triangle areas on the west side. Caltrans most likely would require a traffic analysis that evaluates the effects of different lane and track configurations on traffic, bicycle, and pedestrian circulation on the bridge. The City of West Sacramento would work with Caltrans to minimize circulation impacts on the bridge as well as to receive the requisite permits to allow construction activities to occur on the bridge.

A more rigorous structural analysis of Tower Bridge and consultation with Caltrans and SHPO must occur to determine the potential effect of the Project on the historic bridge, and also to determine whether Section 106 and Section 4(f) evaluation are required. It is anticipated that any adverse effect would be mitigated by implementing terms identified in a memorandum of agreement with SHPO. The proposed traffic lane and streetcar track configuration on the bridge would reflect the outcome of the traffic analysis, including traffic mitigations (if required) that are approved by Caltrans. The analysis would include a cumulative assessment of future traffic conditions on and near

the Tower Bridge. At this time, it is anticipated that any cultural resource or traffic impacts in this segment could be mitigated.

3.5 East of Tower Bridge and the I-5 Overcrossing

The alignment would continue east on Capitol Mall, crossing an active railroad at grade and the I-5 freeway on an overcrossing. Unlike Tower Bridge, the I-5 overcrossing at Capitol Mall was not designed to accommodate rail. Preliminary structural analysis indicates that the additional dead weight of Project facilities on the overcrossing would not require bridge modification or strengthening bridge (Bridge Structural Evaluation, HDR, December 19, 2006). A more detailed structural analysis will follow to confirm this preliminary finding and require consultation with Caltrans. Most likely, construction impacts on the overcrossing would be temporary and could be mitigated.

Immediately to the west of the overcrossing is an active rail line owned by the State and used by the California State Railroad Museum. The original rail line was constructed by the Sacramento Valley Railroad in 1858. In 1907, the City of Sacramento granted the Sacramento Southern Railroad (owned by the Southern Pacific Railroad) to build a franchise to build south from N Street. Service began in 1909 on the segment to Freeport, followed by operation south to Walnut Grove in 1912 (California State Railroad Museum website, 2001).

No fatal flaws or unavoidable impacts are anticipated on the I-5 overcrossing at this time. However, the crossing of the Sacramento Southern rail line at Front Street will require consultation with SHPO since the Sacramento Southern's Walnut Grove Branch Line located on the Sacramento levee was determined to be eligible for the National Register of Historic Places (South Sacramento Corridor AA/DEIS, September 1994). In addition, as previously stated, an analysis of traffic flow at the eastern approach to Tower Bridge that includes the Project would be required.

3.6 Capitol Mall from the I-5 Overcrossing to 7th/8th Streets

The Project would visually alter Capitol Mall, which was created within the former M Street right of way to provide a formal entrance to the State Capitol from Tower Bridge. Historically, the Sacramento Northern Railroad operated across Tower Bridge on M Street, turning north on 8th Street. Overhead wire and rail, therefore, were part of the historic landscape in this segment. The visual modifications produced by the Project would restore the visual elements of the M Street corridor (now Capitol Mall) and be similar to the existing RT facilities that cross the Mall on 7th and 8th Streets. Light rail facilities are typically considered part of the urban landscape and not regarded as significant visual impacts.

Capitol View Protection stipulated under California Office of Historic Preservation Technical Assistance Series #10 guidelines (Section 8162.5) was promulgated on October 28, 1999. The guidelines delineate height and setback requirements for specified blocks surrounding the State Capitol Building to preserve the Capitol's visual presence in the rapidly developing

Sacramento central district. The Project's overhead and station facilities would not conflict with these guidelines.

The alignment of the streetcar along Capitol Mall may affect traffic circulation in the area, particularly if the alignment were to be placed in Capitol Mall traffic lanes. The 301 Capitol Mall DEIR (City of Sacramento, May 2005) indicates cumulative traffic impacts would occur in the vicinity of Capitol Mall as a result of planned development projects. In this context, the potentially significant and beneficial transportation impacts resulting from streetcar operation would need to be clarified, including the effect of track placement in the Capitol Mall median compared with mixed flow operation in existing traffic lanes. No parking exists along Capitol Mall in this segment.

The Project is not expected to produce unavoidable visual and aesthetic impacts to views of the State Capitol Building and the Building viewshed. Streetcar operation may help reduce cumulative traffic impacts in this segment. A more detailed traffic analysis would be needed to verify this assumption.

3.7 7th/8th Streets and K Street to the Sacramento Convention Center

The streetcar would share the existing RT light rail facilities along 7th/8th and K Streets. Operational issues, including scheduling, supervision, and operating capacity would need to be examined to determine whether streetcar operation would affect RT's existing light rail service. The streetcar alignment would continue to share the existing light rail facilities with RT until 12th Street. At this point, the streetcar would divert from the light rail line, continuing on K Street.

If the stub terminal were to be replaced by a loop that extends along J Street to 15th, returning via L Street, traffic and parking impacts would need to be examined, particularly along J Street where traffic congestion can occur at the entries to the Sacramento Convention Center and the Sheraton Hotel (Bob Grandy, Fehr and Peers Associates, December 2006). Historic resource and noise impact analyses may be required if historic properties or sensitive receptors, respectively, are adjacent to the loop alignment. Any significant transportation, noise, or historic resource impacts could most likely be mitigated.

At this time, no fatal flaws or unavoidable impacts are anticipated in this segment.

3.8 Streetcar Storage and Maintenance

The Project would share existing light rail storage and maintenance facilities with RT vehicles at the Academy Way light rail facility. Although alteration of the maintenance facility would not be required to maintain the streetcar fleet, an additional storage track constructed within the existing property may be necessary. RT maintenance and dispatching activities would need to be examined to determine whether concurrent operations would affect RT activities.

No fatal flaws or unavoidable impacts related to vehicle storage and maintenance are anticipated at this time.

3.9 Traction Power Facilities

Traction power support poles, catenary, and substations take up limited space within the public right of way. Substations that convert electrical current to the proper voltage for streetcar use approximately 375 square feet of space and are placed approximately every half-mile along the alignment.

If the traction power facilities were located within the public right of way and the small substation facilities were designed to be unobtrusive on the urban landscape, these facilities would not produce visual, land use or displacement impacts. As a result, no fatal flaws or unavoidable impacts related to Project traction power facilities are anticipated at this time.

3.10 Summary

The primary environmental issues identified in this technical memorandum focus on potential traffic and transportation impacts along the alignment, particularly on and in the vicinity of Tower Bridge, and potential cultural resource impacts resulting from Project construction and operation on Tower Bridge. The effect of the stub-end terminal on the K Street pedestrian mall and the loop alignment along congested streets would also need examining. **At this time, no environmental fatal flaws or unavoidable impacts have been identified that would make the Project infeasible or imprudent to implement.**