

**AGENDA:** August 18, 2005

**TO:** Regional Transportation Commission/Rail Trail Authority

**FROM:** Luis Pavel Mendez, Acting Deputy Director

**RE:** Santa Cruz Branch Rail Line Acquisition Project – Additional Structural Analyses and Financial Plan

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## **RECOMMENDATIONS**

Staff recommends that the Regional Transportation Commission:

1. Approve the revised financial plan for acquisition of the Santa Cruz Branch Rail Line (Attachment 1) to fund the additional structural analyses recommended in the draft Structural Assessment; and
  2. Approve contracting for the additional structural analyses through the Miller, Owen and Trost (MOT) contract as was done for the draft Structural Assessment, with the further direction that Kirk Trost of MOT report to the RTC the preferred consultant and before engaging the firm for this work.
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## **BACKGROUND**

The Regional Transportation Commission has been working on acquisition of the Santa Cruz Branch Rail Line for over four years. In December 2004, the RTC approved entering into a non-binding Letter of Intent with Union Pacific to purchase the Santa Cruz Branch Rail Line for \$19 million. A number of reports and steps must be completed before the RTC can make a final decision on acquisition of the Branch Line and to obtain the necessary approvals from the relevant funding and regulatory agencies.

A draft Structural Assessment report was prepared by Biggs Cardosa Associates and Systra Consulting and presented to the RTC at its August 4, 2005 meeting. The report recommended additional structural analysis for some structures. The RTC directed staff to obtain an estimate and develop a funding plan for the additional analyses recommended in the report. The RTC also directed staff and consultants to negotiate necessary amendments to the right of entry agreement with Union Pacific to produce the additional analyses.

## **DISCUSSION**

### Additional Analyses Recommended in the Draft Structural Assessment Report

As reported at your August 4, 2005 meeting, the draft Santa Cruz Branch Rail Line Structural Assessment recommends additional detailed structural analysis for some bridge structures and retaining walls due to their condition or importance. The structures for which additional analysis is recommended are:

- MP 1.06 - the bridge over the Pajaro River
- MP 4.45 - Steel soldier pile and lagging retaining wall
- MP 8.64 - Steel rail pile and lagging retaining wall
- MP 9.09 - Steel trestle at La Selva Beach
- MP 9.09 - Timber crib retaining wall north of the La Selva Beach trestle
- MP 10.45 - Timber trestle in Seascape near Sumner Avenue and Dolphin Drive
- MP 15.89 - the Capitola trestle
- MP 19.43 - Steel trestle over the San Lorenzo River
- MP 23.54 - 16 foot long timber bridge over Meder Creek in Wilder Ranch State Park.

In addition to the additional structural analysis, the draft Structural Assessment report recommends that seismic analysis be conducted on the steel trestle over the San Lorenzo River at MP 19.43 due to the public walkway on the north side of the structure.

Biggs Cardosa Associates, Inc. estimates that the recommended additional structural and seismic analyses of the structures listed above will cost between \$120,000 and \$165,000.

### Scope of Additional Analyses

The draft Structural Assessment presented to the RTC at its August 4<sup>th</sup> meeting is based on visual observations of each structure by the Biggs Cardosa engineering team to determine its general condition. The recommended additional analyses include a service load analysis. A service load analysis consists of mathematical computations of how the service load (a set of standard loading parameters suited to the type of locomotive and rail car capacity on this line) is distributed through a structure, given its existing state. Calculations are prepared for individual structure members to demonstrate whether the structure can withstand the loads that it is required to carry.

Historic construction plans for the structure, showing the sizes and material properties, make the analysis simpler. If those plans are not available, they can be recreated by taking field measurements and by analyzing the materials to verify assumed properties. It is also helpful to scrape a small amount of corroded material from a structure to determine the extent of the corrosion.

For the San Lorenzo River Trestle, once the service load analysis is completed, an additional analysis can be performed to understand the structure's behavior during an earthquake.

### Revised Financial Plan with Additional Structural Analyses

In April 2005, the RTC approved a financial plan for acquisition of the Santa Cruz Branch Rail Line, which considered all of the expected costs at that time (see the column headed “Approved April 2005” on Attachment 1). The financial plan was subsequently amended into the RTC budget. Staff analyzed the financial plan for acquisition of the Santa Cruz Branch Rail Line to determine how the additional structural analysis can be funded. It is estimated that the \$80,000 originally budgeted for structures assessment is sufficient for the work that has already been done by Systra and Biggs Cardosa, for the work yet to be done by Systra and Biggs Cardosa and for the additional analysis of the La Selva Beach Trestle. Biggs Cardosa Associates estimates that the cost for the additional detailed analyses will be between \$100,000 and \$140,000. \$140,000 can be added to the structures assessment line of the financial plan as follows (see Attachment 1):

1. \$75,000 from the contingency line reducing that line to zero;
2. \$10,000 from the lease investigation line reducing that line to \$15,000 – based on a recent proposal the cost for the lease investigation is not expected to exceed \$15,000;
3. \$15,000 from the historical site investigation reducing that line to zero – The RTC asked for historical information to determine which structures are designated historical and what cost implications that may have. As reported at your August 4<sup>th</sup> meeting, staff obtained a comprehensive list of designated historical sites in Santa Cruz County from the State Office of Historic Places. Only the Capitola trestle is designated historical. The draft Structures Assessment report states that 10% is added to repair and maintenance costs, when a structure is designated historical;
4. \$40,000 from the various improvements line reducing that amount to \$1.96 million.

**Staff recommends that the RTC approve the revised financial plan for the Santa Cruz Branch Rail Line (Attachment 1) making the changes listed above.**

### Proposals and Contract for Additional Analyses

The draft Structural Assessment presented at your August 4, 2005 meeting was produced by Systra Consulting and Biggs Cardosa Associates as subconsultants to Miller, Owen and Trost (MOT). Before engaging Systra and Biggs Cardosa to produce the structural assessment MOT obtained proposals, RTC staff and engineering consultant, Bob Scott, participated in evaluating the proposals, and MOT reported to the RTC which was the preferred proposal and why. **Staff recommends that the same method be used to solicit and evaluate proposals for the additional structural analyses and that Kirk Trost of MOT report to the RTC which is the preferred consultant and why before engaging a firm for this work.**

### Right of Entry Agreement

The current right of entry agreement with Union Pacific only allows visual inspections of structures; however, the additional analysis requires scraping some material from the structures. At its August 4<sup>th</sup> meeting, the RTC directed staff and consultants to negotiate the necessary amendments to the right of entry agreement to conduct the additional structural analyses. Staff and consultants continue to negotiate with Union Pacific for these amendments.

## **SUMMARY**

Staff recommends approving a revised financial plan for acquisition of the Santa Cruz Branch Rail Line to fund additional structural analysis recommended in the draft structural assessment report produced by Systra and Biggs Cardosa. Staff recommends contracting for the additional structural analysis through the Miller, Owen and Trost (MOT) contract as was done for the draft Structural Assessment and that Kirk Trost of MOT report to the RTC which is the preferred consultant and why before engaging a firm for the work

Attachment 1: Draft Revised Financial Plan for Acquisition of the Santa Cruz Branch Rail Line

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