

REPORT

To the Honorable Mayor and City Council
From the City Manager

October 1, 2018

SUBJECT

Memorandum of Understanding to Complete a Caltrain Grade Separation Study for the Whipple Avenue Crossing

RECOMMENDATION

By motion, authorize City Manager to execute a Memorandum of Understanding with the San Mateo County Transportation Authority and the Caltrain Joint Powers Board to complete a grade separation study in Redwood City

BACKGROUND

Redwood City has eight crossings of the Caltrain corridor noted on the Vicinity Map in Attachment 1. Two have been grade separated already (Jefferson Avenue goes under the tracks and Woodside Road goes over the tracks) and six crossings remain at-grade. The Citywide Transportation Plan, *RWCmoves*, identified the evaluation of these six locations as Signature Projects. As part of the community survey on the draft plan, the Whipple Avenue Grade Separation was the second favorite project (behind the US 101/Woodside Road Interchange Improvements) with votes by 60% of the roughly 100 survey respondents.

Redwood City - Past Work

In 2009, the San Mateo Transportation Authority (TA) completed the *Grade Separation Program Footprint Study* for Redwood City. This study evaluated existing grade crossings to identify all technically feasible grade separation alternatives. Each at-grade crossing was evaluated independently, but the study also examined viable alternatives if all of the crossings between Whipple and Maple were grade separated together (“combined alternatives”).

The *Footprint Study* assumed the following constraints:

- Elevated alternatives meet Howard Avenue to the north
- Underground alternatives return to grade before Cordilleras Creek
- Redwood City’s train station remains at its current location

- Jefferson Avenue underpass remains in place
- Union Pacific Railroad (UPRR) spur remains operational and connects at Chestnut Street
- Woodside Road overpass remains to the south

Removing these constraints is technically feasible but would significantly increase project costs.

The Study evaluated three alternatives related to Whipple Avenue. A summary of the alternatives is provided below; all cost estimates were completed in 2009 and would be substantially more today given escalating regional construction costs.

- Grade separation just at Whipple Avenue
 - o Project costs ranged between \$150M and \$300M
 - o Technically feasible options include keeping the railroad at grade while the roadway goes over or under the tracks and hybrid alternatives where the railroad and the roadway shift grade (e.g. railroad up some and road down some, or railroad down some and road up some)
 - o Substantial property and roadway impacts due to how close the railroad tracks, El Camino Real and Stafford Street are to one another

- Fully elevating the railroad between Whipple and Maple (combined alternative)
 - o Project cost was roughly \$500M
 - o Marshall Street would be permanently closed
 - o Construction would impact properties at Sequoia Station, Crossing 900, and the Main Library among others
 - o Utility impacts include a new pump station, temporary and permanent creek culverts

- Fully depressing the railroad between Whipple and Maple (combined alternative)
 - o Preliminary assessment was that this option would be technically feasible
 - o Range of impacts went beyond the scope of the study but would be more extensive and expensive than a fully elevated alternative

Upon completion of the *Footprint Study*, none of the alternatives were advanced due to the costs and impacts associated with potential grade separation projects. Around 2010, in conjunction with planning around high-speed rail, the City again revisited the question of grade separations. This effort also acknowledged the multiple constraints within Redwood City – from the creeks to existing grade separations and coordination with existing and future rail service (e.g. rail service along the Dumbarton corridor and high-

speed rail service). Through a series of community meetings, the expressed preferences were to:

- Minimize community separation, land acquisition, construction and operational impacts and
- Provide the most connectivity possible

Redwood City - Recent Work

In response to City Council direction, in October 2017, City staff submitted a funding request to the San Mateo County Transportation Authority (SMTCA) requesting \$750,000 in Measure A Grade Separation Program funding to study separating the existing at-grade crossing between the Caltrain railroad tracks and Whipple Avenue.

Whipple Avenue has an average daily traffic volume of over 16,000 vehicles and it is regularly congested around the railroad tracks and El Camino Real during commute times. Delays during the evening commute are expected to increase with additional vehicle and train traffic. As of August 2017, seven collisions were reported by the Federal Railroad Administration at this crossing, including one pedestrian injury and two driver fatalities.

Staff also submitted an application to the California Public Utilities Commission (CPUC) to include the Whipple at-grade crossing on the State's Grade Separation Priority List. In March 2018, Whipple was recommended by the CPUC for inclusion on the list as the fourth highest-ranked project.

Grade Separation Initiatives in Other Communities along the Caltrain Corridor

As outlined in the presentation by Transportation Authority and Caltrain staff at their presentation in July 2017, a number of communities along the corridor have recently completed or are in the process of developing grade separation projects. The following provides a highlight of activity in communities currently developing projects; more detail is provided in Attachment 2.

San Mateo

The City of San Mateo is currently constructing the 25th Avenue Grade Separation Project. It will raise the railroad tracks, slightly lower the street at E. 25th Avenue, reconnect 28th and 31st avenues under the tracks, and build a new elevated Hillsdale Station at E. 28th Avenue. Construction is expected to take two and a half years and cost \$180M (ending in the summer of 2019).

Menlo Park

The City of Menlo Park recently completed a project study report for the Ravenswood Avenue Railroad Crossing Project. Menlo Park focused on Ravenswood, but examined all at-grade crossings with the study. In May, the City Council of Menlo Park selected the preferred alternative to be Ravenswood Avenue going fully under the railroad tracks (cost estimate is \$140M-\$190M).

Palo Alto

The City of Palo Alto has been studying grade separations extensively over the past eight years, with an interest in the feasibility of trench and tunnel options. They are currently trying to narrow down the number of potential grade separation alternatives.

Here are some key findings from some of their recent work:

- Planning-level cost estimate to grade separate all crossings underground ranges from \$2.4B to \$4B (drops to \$300M - \$1B for a subset of the crossings)
- It would be extremely challenging to trench or tunnel the railroad for the whole city
- Key Challenges
 - San Francisquito Creek – railroad tracks would have to be 60' below grade to get under the creek; don't think it would be possible to get a permit to tunnel under the creek
 - Alma would be used as alternative rail route during construction, creating significant traffic impacts
 - Requires reconstructing all existing stations underground and providing new access
 - Funding need for ongoing operations and maintenance costs
- A property-tax secured bond was identified as the best funding opportunity and was estimated to generate \$143M - \$713M

ANALYSIS

As the City initiates the Whipple Grade Separation Study, there are a number of interrelated issues that will need to be considered. These include:

- Other potential rail-related transportation projects (high-speed rail blended service, Dumbarton rail, Broadway streetcar, transit center changes)
- Potential development projects near the railroad tracks, and
- Their respective impacts on access and mobility across the rail corridor

Staff is working closely with Caltrain and the TA to ensure that the Whipple Study analyzes the challenges and opportunities in this time of significant change. This work will also build upon lessons learned in other communities along the corridor.

Attachment 3, the attached proposed memorandum of understanding (MOU) with the Joint Powers Board (Caltrain) and the TA, outlines roles and responsibilities for this project. Generally speaking, the responsibility of each agency to complete a project study report for the Whipple Avenue Grade Separation is as follows:

- Caltrain – serves as the lead agency
 - Provides technical oversight and project management
 - Coordinates with Redwood City on the execution of the scope of work and consults as needed
- Redwood City
 - Public face of the project for City Council and local stakeholders
 - Provides input on, and oversight of, project work products and deliverables
 - Participates in project coordination meetings
 - Approves the final deliverables
- TA
 - Provides Measure A funding of \$750k
 - Provides financial oversight of the project

Funding Outlook

While funding has already been secured for this study, it is important to keep in mind the eventual cost of a grade separation project in the context of all the City's transportation needs.

As mentioned above, the total cost for a grade separation project could easily range in cost between \$150M and \$500M. This compares to \$7M to \$18M estimated need to fund all of the Tier 1 Projects identified in *RWCmoves*. The estimated need to fund the entire Plan (including all Signature Projects such as the Whipple Avenue Grade Separation) is \$760M to \$1.2B. Given the high cost of Signature Projects, if we assumed that the City's share of those projects were only 15%, and outside funding were secured for the remainder of the project, the City's costs would go down, but would still be significant. The table below summarizes the potential cost of a grade separation project relative to citywide transportation funding needs.

Transportation Funding Needs Identified in *RWCmoves*

Project(s)	Estimated Funding Need
<i>Whipple Grade Separation (a Signature Project)</i>	<i>\$150M-\$500M</i>
Tier 1 Projects	\$7M - \$18M
Signature Projects	\$700M - \$1B
Tier 1 + 15% of Signature Projects	\$112M - \$168M
Total Cost of All Projects	\$760M - \$1.2B

While it's possible that outside funding would be available to offset lower-cost projects, such funding is very uncertain in the current funding climate. If Proposition 6 (which proposes eliminating funding from SB 1 - the Road Repair and Accountability Act or "gas tax") passes and Measure W (San Mateo County Transit District's transportation sales tax) fails – Redwood City would be left to finance an increasing share of all project costs.

Council Direction Sought

In addition to approving the proposed MOU, staff is seeking input from the City Council on:

- Public outreach strategies and process for the grade separation project
- Level of interest in trenching and tunneling options
- Preference for a higher-level review of all at-grade crossings, or more detailed work at the northern-most crossings

ALTERNATIVES

The City Council could direct staff to modify the terms of the MOU, or not proceed with the project.

FISCAL IMPACT

The budget to study the Whipple Avenue Grade Separation is \$850,000 of which \$750,000 is being provided by the New Measure A Grade Separation Program from the San Mateo County Transportation Authority. Redwood City has committed \$100,000 (11.77% of total costs) to the project, which was approved in the FY 2018-19 budget. The funding will come from the Traffic Mitigation Fees Fund.

ENVIRONMENTAL REVIEW

As a responsible agency under CEQA, the City of Redwood City has determined that entering into a memorandum of understanding does not constitute a project as defined by the California Environmental Quality Act guidelines, section 15378, because it has no potential for resulting in either a direct or reasonably foreseeable indirect physical change in the environment.



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ATTACHMENTS

1. Vicinity Map
2. Grade Separation Work in Peninsula Communities
3. Proposed Memorandum of Understanding