



Memorandum

TO: MAYOR AND CITY COUNCIL

FROM: Councilmember Sam
LiccardoSUBJECT: BART TUNNEL ALIGNMENT
UNDER COYOTE CREEK

DATE: November 29, 2007

APPROVED: 

11-30-07

RECOMMENDATION

I recommend selection of the "northern offset" for the BART tunnel alignment beneath Coyote Creek. I further recommend the continuation of project design work, with the condition that a subsequent environmental review process demonstrates this option to be preferred.

BACKGROUND

Tunnel Alignment

The alignment of the BART tunnel beneath Coyote Creek has caused considerable discussion within City Hall and throughout the community. The decision about the location of the tunnel is not made lightly, nor without repeated and considerable analysis of several options. I appreciate the patience of the community and the considerable effort of the staff of the Valley Transportation Authority (VTA), City, and Redevelopment Agency to answer the significant environmental, engineering, and economic questions relating to this issue.

The staff memorandum adequately addresses the reasons why the tunnel cannot run within the Santa Clara Street right-of-way beneath the Coyote Creek.

The northern alignment along Santa Clara Street appears preferable to the southern offset, though, for several reasons. First, the prospect of tunneling primarily beneath City property (Roosevelt Park and Community Center) and a largely inactive site zoned for public use (the former San Jose Medical Center (SJMC)) is far simpler than addressing the impacts of tunneling under twenty-plus private property owners on the south side of Santa Clara Street. VTA officials believe that complications related to private ownership in the southern alignment could cause substantial delays in property acquisition and construction. Delay on a project of this magnitude can cost taxpayers tens of millions of dollars.

Second, although homes along the "zero block" of the south side closely border the location of the proposed tunnel, the north side residential community is a block or more away. The experience of several municipalities with earth-pressure-balance boring techniques tells me that tunneling should not cause any significant impacts in terms of vibration, noise, or settlement. Yet the perception and fears of such impacts have real consequences on residents, and they should be minimized.

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Third, concerns about the likelihood of a tunnel constraining potential development at the former SJMC site appear to be, after further analysis, less substantial than previously believed.

Environmental Impacts

The vote on this issue has been deferred at my request, because I had concerns about the environmental consequences of allowing the bridge's foundation to remain in place. To explain: The pilings supporting the 90-year-old bridge likely have been dipped in creosote, a mildly toxic wood preservative, in accordance with the construction practice at that time (and since). I expressed concern about the continued presence of the creosote in the creekbed, and questioned whether it would be preferable to remove the 340 pilings that support the bridge prior to tunneling, both to address the environmental concern and to clear the way for a BART tunnel.

Accordingly, I asked staff to provide analysis about the potential long-term environmental impacts of allowing creosote-laden pilings -- and the release of harmful polycyclic aromatic hydrocarbons (PAHs) -- to continue to remain in the soil and creek. I had particular concerns about the water wells that currently operate immediately north of the bridge along the creek's riparian corridor.

The experts consulted by both the City and the VTA concurred that no significant environmental impacts would result with the continued existence of the pilings. I'm told that creosote leeches substantially in the first few months of the pilings' contact with the creekbed and water, and the migration of creosote diminishes at an exponential rate thereafter. In other words, whatever environmental damage that might occur as a result of the creosote's use has already occurred—within the first few months after the bridge's construction in 1917--according to our sources.

I've also learned that high molecular-weight PAHs do not migrate substantially in soils, so nearby habitats typically show no adverse impacts from creosote use. The lower molecular weight fractions of creosote biodegrade over time, I'm told, so no longer pose a risk to health. In short, we have good reason to believe there is no lurking toxic "plume" from the creosote used in 1917.

As for impacts on water quality, nearby wells pull drinking water from aquifers several hundred feet deep, well beneath the 50-foot pilings. I'm told that San Jose Water Company, which operates the nearby wells, also routinely tests for PAH concentrations in its drinking water. We should not expect creosote's chemical components to move vertically through the clay and silt from the 40 to 60-foot depths in this area, because groundwater moves slowly in those fine-grained soils, allowing for more time for biodegradation to occur.

I've heard creosote's hazards compared to asbestos; that is, more environmental harm results from the removal of the pilings and the resulting disturbance of nearby soil than allowing the bridge's foundation to remain undisturbed. Accordingly, the state Department of Toxic Substances Control does not recommend removing the pilings.

A special thanks to VTA staff, as well as Napp Fakuda of the City's Environmental Services Department for their analysis of this issue.

cc. Mayor and City Council