



MEMORANDUM

DATE: March 11, 2005

TO: Silicon Valley Rapid Transit Policy Advisory Board (PAB)

FROM: Jack J. Collins
Chief Construction Officer

SUBJECT: Silicon Valley Rapid Transit Project
Preliminary Engineering Progress Report – March 2005

FOR INFORMATION ONLY

Preliminary Engineering Activities

As of the end of January 2005, Preliminary Engineering work continued according to plan with 31 % overall completion achieved. Following the certification of the Environmental Impact Report (EIR) by the VTA Board in December 2004, a 30-day legal challenge period ended in January 2005 with one lawsuit filed by the Mills Corporation, owners of the Great Mall. VTA is continuing discussions with Mills Corporation towards a settlement agreement.

The **Tunnel Segment** continued with the geotechnical field investigation program with 54 of a planned 75 boreholes and 120 of a planned 150-cone penetration tests completed to-date. Comments were received on the bored tunnel portion of the Tunneling Methodology Report and on the draft report for shifting the West Portal east of I-880 to avoid impacts to overhead structures. Investigations continued on alignment alternatives at locations of potential conflicts with existing structures, including US 101 and SR 87 over crossings and the Coyote Creek Bridge

The **Line Segment** geotechnical field investigation program is approximately 90% complete and is expected to complete in March 2005. The hazardous materials field investigations are complete and draft study reports are currently being developed. The team's primary focus during the January period was the design coordination review and the completion of the in-progress PE submittals for Kato Road and Calaveras areas, for both the SVRT and Railroad Relocation packages.

The **Systems Segment** issued the following interim submittals during the period: High Voltage Substation Equipment, Traction Power System Equipment, Line Electrical Power System Equipment, 2nd Release of the Interface Control Manual (ICM) and Contact Rail Schematics. Work continued on the Computational Fluid Dynamics (CFD) simulations of station train fire scenarios and the DC Power Load Flow simulation. The preparation of the Train Simulation Report, to support the SVRT proposal to use number 10 track switches at the Civic Plaza crossover, and the motor starting simulation for Ventilation Fans has started.

The **Stations Segment** submitted the 10% Design Submittal for the Above Ground Stations, the revised Location of Bus Transit Center and Parking Garage at Montague-Capitol Station, and the Stations Noise and Vibration Mitigation Study. The 28-foot center platform and the relocation of the Traction Power Substation to above ground issues are in the process of final disposition through Design Development Memorandum process. A Request for Variance from the BART Specification Standards for the 28-foot center platform will be submitted to BART.

The **Yard & Shops Segment** continued with the development of the Space Requirement Assessment and the Operation Studies. In addition, several alternatives were developed for both the “double-ended” and “single-ended” yard configurations. The design team held two internal workshops, and presented three conceptual yard layouts showing two potential locations for Santa Clara Station, and discussed the operating plans for each alternative. Next steps will involve reviews of VTA preferred yard layouts with BART Operations Liaison staff.

The **Design Integration Segment** developed procedures for processing Requests for Clarification regarding BART Standards and procedures for the Design Development Board (DDB), Design Development Memoranda (DDM) and Requests for Variance were finalized

Value Engineering proposals from the entire project team continue to be investigated. The Montague-Capitol Aerial Alignment and Combined Bus Transit Center/Parking Structure alternatives are under investigation and discussion with the City of Milpitas. Other value engineering alternative options that are still under consideration include: Diridon Station alignment, changing from cut-and-cover to bored tunnel near the East Portal, Alternative Station designs, Grade-separated Dixon Landing Road, and the relocation of traction power substations from underground to at-grade sites. A value engineering review of replacing the planned #15 turnouts at the mainline crossovers with #10 turnouts concluded that this suggestion would result in minimal capital cost savings and in an increase in operational impacts.

Project Cost Trends were reported at the January 26, 2005 Policy Advisory Board meeting, value engineering proposals for re-alignment for the west portal, shortening of the crossover structure downtown and a revised layout at the Newhall Yard were approved for a savings of \$76 million (2003\$). The PAB also received a report presenting potential scope changes for an increase in the number of cross passages and for an increase in the tunnel diameter resulting in a potential cost increase of \$77 million (2003\$). The value engineering savings and the potential scope changes result in a Net Cost Trend increase of \$1 million (2003\$).

Areas of Concern and Action

- ◆ **Issue:** **Cross Passages Spacing** - VTA reported a potential cost impact of \$60 million (2003\$) if cross passage spacing is reduced from 650 feet to a nominal minimum distance of 300 feet.

Action: VTA has prepared a report on cross passage spacing for twin-bored tunnels in North America and applicable design standards. This information will be reviewed with BART staff to revisit its twin-bored tunnel design criteria pertaining to the spacing of cross passages.

Anticipated VTA Board Action Items

- ◆ None

Community Outreach

- ◆ A Public Meeting for the Dixon Landing Road alternative, co-sponsored by the City of Milpitas, will be held on March 16, 2005. Staff issued a press release, mailed flyers to over 2,700 residents and businesses, and distributed over 6,000 flyers to local neighborhood associations and schools to announce the meeting.
- ◆ Community Working Group (CWG) meetings and public open houses were held along the project corridor during January and February 2005. The purpose of these meetings is to provide a project update to the public, that includes information on the project description, benefits, and schedule, overall process to date, preliminary engineering and community outreach efforts. The CWG meetings were held in Milpitas, San Jose (downtown San Jose and Hostetter/Alum Rock area) and in Santa Clara. The open houses occurred in downtown San Jose and Hostetter/Alum Rock area, immediately following the CWG meetings at those locations.
- ◆ Staff issued a press release and mailed out over 30,000 flyers to invite the public to the open houses.
- ◆ Geotechnical investigations along the corridor continue as well as notifications to impacted businesses and residents. Three notices were distributed to 250 recipients.
- ◆ Staff continued the permit-to-enter request process for PE activities scheduled for the Tunnel, Yard & Shop, Stations, and Line segments.
- ◆ Community Outreach staff responded to 18 inquiries and updated the project website five times.
- ◆ A calendar of community outreach activities for 2005 is under development. The calendar will include value engineering-focused community meetings to take place at different locations.

Fire/Life/Safety

- ◆ A one-on-one meeting with each of the local Fire Chiefs, Fire Marshals, and other Fire Department Chief Officers has been held to develop solutions to various Fire Department Emergency scenarios.

- ◆ Discussions were held with local Fire Departments on Emergency Access issues during construction.
- ◆ Small Fire Department sub-committees have been established with each local Fire Department to solve problems.
- ◆ Continued developing plans to produce written agreements with local Fire Departments.
- ◆ Continued to develop and encourage local Fire Departments to attend Fire/Life/Safety Committee Meetings at Oakland Fire Department and participate in existing (30 year) committee. A Fremont Fire Department Officer will be the new president of the Fire/Liaison Committee.

Right of Way, Railroad & Inter Agency Coordination

- ◆ The needs for Property Title Report for 407 parcels have been identified, of which 379 have been ordered. A total of 92% have been received and reviewed to date.
- ◆ The VTA/Peninsula Corridor Joint Powers Board (PCJPB) Service Agreement for work in Caltrain right of Way was accepted and signed by PCJPB and returned to VTA for final approval and signing. The Right of Entry permit to access to PCJPB property for SVRT fieldwork was signed by PCJPB and forwarded to VTA for final approval and signing.

Budget Status

The current authorized budget for the SVRT Project is \$334.2 million and includes the Environmental, Conceptual and Preliminary Engineering Phases of project development. Approximately 57 % of the approved budget has been incurred as of January 2005.

(Status at January 28, 2005; \$ in millions)

Phase	Approved Budget	Incurred To-Date	% Incurred	Balance
Conceptual Engineering/EIR	\$45.2	\$36.8	81%	\$8.4
UPRR Right of Way	81.7	81.7 ¹	100%	0
Newhall Yard Property	37.3	37.3	100%	0
Preliminary Engineering:				
Design Consultants	128.2	33.0	26%	95.2
VTA/BART	31.0	1.6	5%	29.4
Contingency	10.8	0.0	0%	10.8
Total Prelim Engineering:	\$170.0	\$34.6	20%	\$135.4
TOTALS	\$334.2	\$190.4	57%	\$143.8

Notes: ¹ BART's share of the UPRR to Warm Springs included.