

APPENDIX E
Option Summary Sheets

Option Package A BART Rail



An underground BART line with an alignment that generally follows the Iron Horse Trail between the Walnut Creek BART Station and the proposed West Dublin BART station. In both directions, the BART line could tie into and continue on the existing network. At the Walnut Creek BART Station, the line could continue north (towards Bay Point). At the proposed West Dublin BART station, the route could continue west towards Castro Valley.

The alignment would run under California Blvd from the Walnut Creek BART station to I-680. From there, the BART route would follow under the Iron Horse Trail to the proposed West Dublin BART station. This option includes approximately 17.9 miles of new track.



Transit Station Locations:

- ① Walnut Creek BART (modify/expand existing station)
- ② Downtown Walnut Creek
- ③ At Sycamore Valley Road in Danville
- ④ At the San Ramon Transit Center in San Ramon
- ⑤ West Dublin BART (integrate into proposed station)

Service Level:

- Peak service: 15 minute frequency
- Off-peak service: 30 minute frequency

Number of Trains:

- Approximately four (4) trains, each with six (6) cars, during peak period

Maintenance Facility:

- Use existing BART facility; expansion may be required

Local Bus Service:

- Modified local bus service (no additional cost)

Estimated Cost

Capital: \$4.0 to \$5.3 Billion
Operational (Annual): \$8.3 Million

Option Package A

BART Rail

Summary of Benefits

- Provides direct access to the regional transit network.
- Benefits many different types of trip: to/from corridor trips, through trips, commute and non-commute trips, and peak and off-peak trips.
- Could relieve parking congestion at existing BART stations.
- Additional BART route provides an alternative for commutes heading to the South Bay.

Impacts

- Potentially significant environmental impacts.
- Construction could impact many corridor residents and employees.

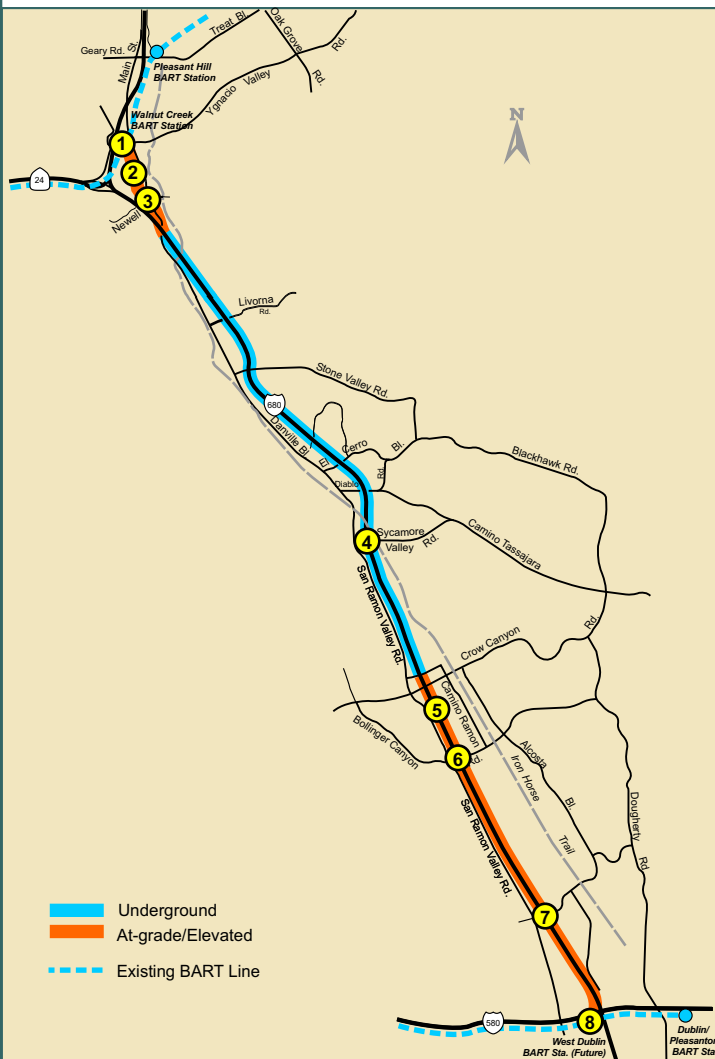
Issues

- Runs underneath the Iron Horse Trail.
- Would need considerable political support to obtain funding.
- Cost estimate significantly impacted by need to be underground and construction method (tunneling vs. cut-and-cover).

Option Package B Light Rail Transit - I-680 Right-of-Way

A light rail line in the I-680 right-of-way. This route would use a combination of underground, at-grade and elevated facilities as indicated throughout the corridor. The line would stub at both the Walnut Creek BART station and the proposed West Dublin BART station.

This alignment would be at-grade along California Blvd from the Walnut Creek BART station to I-680. From there, the route could be underground to Fostoria Way in San Ramon. From San Ramon to the proposed West Dublin BART station, the route would generally be elevated, although it could be at-grade depending on right-of-way availability. This option includes approximately 17.4 miles of track.



Light Rail Station/Stop Locations:

- ① Walnut Creek BART (new LRT station)
- ② California Blvd and Mt. Diablo Blvd. in Downtown Walnut Creek (Platform)
- ③ South Main Street, at Newell Avenue, in Walnut Creek (Platform)
- ④ Sycamore Valley Road Park-and-Ride in Danville (Station w/ New underground parking structure)
- ⑤ I-680 just north of Norris Canyon Road in San Ramon (Station w/ new parking structure)
- ⑥ I-680 just south of Bollinger Canyon Road in San Ramon (Station)
- ⑦ I-680 at Alcosta Blvd. near the County line (Station with parking)
- ⑧ West Dublin BART (integrate into proposed station)

Service Level:

- Peak service: 15 minute frequency
- Off-peak service: 30 minute frequency

Number of Trains:

- Approximately four (4) trains, each with six (6) cars, in peak period

Maintenance Facility:

- New facility required (location to be determined)

Local Bus Service:

- Modified local bus service (no additional

Estimated Cost

Capital: \$3.8 to \$4.5 Billion

Operational (Annual): \$12.2 Million

Option Package B Light Rail Transit - I-680 Right-of-Way

Summary of Benefits

- Provides linkage, with transfer to BART, to the regional transit network.
- Benefits many different types of trip: to/from corridor trips, local trips, commute and non-commute trips, and peak and off-peak trips.
- Provides a faster transit linkage from BART to employment sites in corridor.
- Could relieve parking congestion at existing BART stations.
- Provides frequent transit service for trips within the corridor.



Impacts

- Potentially significant environmental impacts.
- Construction could impact many corridor residents and employees.
- Through Walnut Creek, the at-grade light rail would conflict with existing traffic flow.
- Access to the Iron Horse Trail would be disrupted during construction.

Issues

- Would need considerable political support to obtain funding.
- May need to put rail underground through Walnut Creek.
- Any future conversion to BART would involve track redesign.
- Cost estimate significantly impacted by need to be underground and construction method (tunneling vs. cut-and-cover).

Option Package C Light Rail Transit - I-680 Right-of-Way/Dougherty Valley

A light rail line in the I-680 median through much of Alamo and Danville, moving to the east of I-680 in South Danville through San Ramon and Dublin. This route would use a combination of underground, at-grade and elevated facilities as indicated throughout the corridor. This light rail line would stub at both the Walnut Creek BART Station and the Dublin/Pleasanton BART station.

This alignment would be at-grade along California Blvd from the Walnut Creek BART station to I-680. From there, the light rail line would be underground in the I-680 right-of-way until Sycamore Valley Road. At Sycamore Valley Road, the route would continue underground along the Iron Horse Trail until Fostoria Blvd where it would curve toward Camino Ramon. Once in San Ramon, the route would be at-grade or aerial along Camino Ramon. The route would head further east on Bollinger Canyon Road and then south through Dougherty Valley to the Dublin/Pleasanton BART station. This option includes approximately 20.0 miles of track.



Estimated Cost

Capital: \$3.5 to \$4.2 Billion
Operational (Annual): \$12.2 Million

Light Rail Station/Stop Locations:

- 1 Walnut Creek BART (new LRT station)
- 2 California Blvd and Mt. Diablo Blvd. in Downtown Walnut Creek (Platform)
- 3 South Main Street, at Newell Avenue, in Walnut Creek (Platform)
- 4 Sycamore Valley Road at I-680 (Station)
- 5 Camino Ramon at Norris Canyon Road (Platform with Parking)
- 6 Camino Ramon at the Civic Center in San Ramon (Platform)
- 7 Bollinger Canyon Road at Dougherty Road (Platform with Parking)
- 8 Bollinger Canyon Road at Dougherty Village Center (Platform with parking)
- 9 Dougherty Road at Amador Valley Road (Platform)
- 10 Dougherty Road at Dublin Boulevard (Platform)
- 11 Dublin/Pleasanton BART (new LRT station)

Service Level:

- Peak service: 15 minute frequency
- Off-peak service: 30 minute frequency

Number of Trains:

- Approximately eight (8) trains, each with four (4) cars, in peak period

Surface Street Modifications:

- Walnut Creek (along California Blvd)
- San Ramon (Camino Ramon, Bollinger Canyon)
- Dublin (near BART station)

Maintenance Facility:

- New facility required (location to be determined)

Local Bus Service:

- Modified local bus service (no additional cost)

Option Package C Light Rail Transit - I-680 Right-of-Way/Dougherty Valley

Summary of Benefits

- Provides linkage, with transfer to BART, to the regional transit network.
- Benefits many different types of trip: to/from corridor trips, local trips, commute and non-commute trips, and peak and off-peak trips.
- Provides a faster transit linkage from BART to employment sites in corridor.
- Could relieve parking congestion at existing BART stations.
- Provides frequent transit service for trips within the corridor. Light-rail right-of-way is available or proposed throughout most of Dougherty Valley.



Impacts

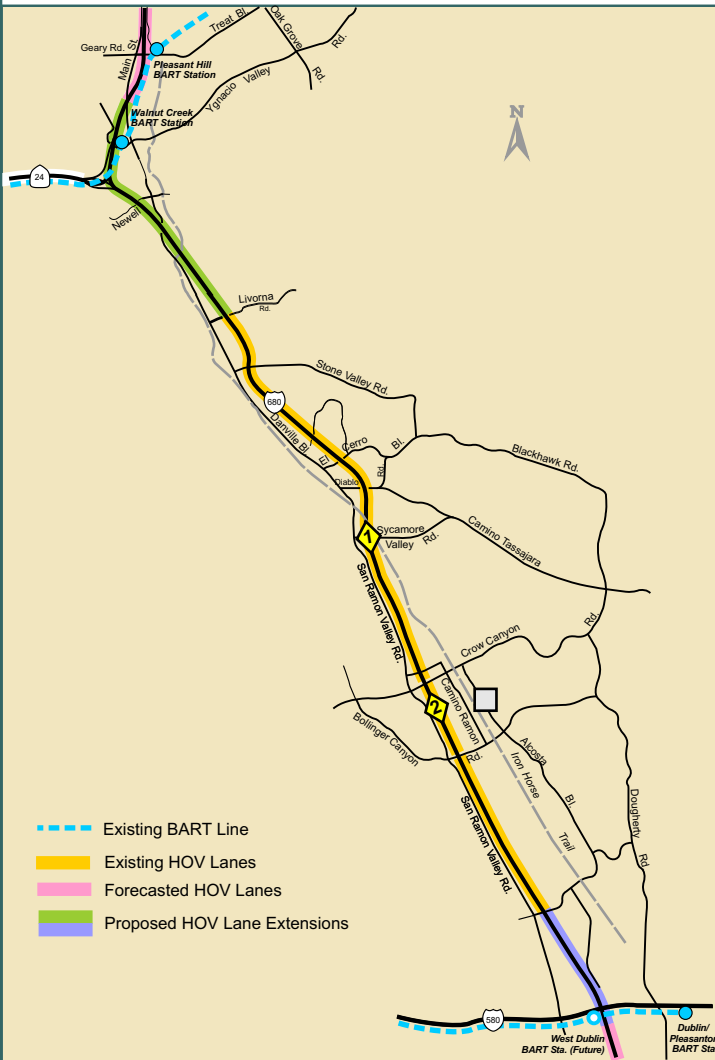
- Potentially significant environmental impacts.
- Construction could impact many corridor residents and employees.
- Through Walnut Creek and Dougherty Valley, the at-grade light rail would conflict with existing traffic flow.
- Access to the Iron Horse Trail from Sycamore Valley Road to Crow Canyon Road would be disrupted during construction.
- Construction along Bollinger Canyon Road and the streets intersecting I-680 in the vicinity of the underground segment would reduce street capacity.

Issues

- Portion of the route runs underneath the Iron Horse Trail.
- Would need considerable political support to obtain funding.
- May need to put rail underground through Walnut Creek.
- Any future conversion to BART would involve track redesign.
- Cost estimate significantly impacted by need to be underground and construction method (tunneling vs. cut-and-cover).

Option Package D HOV Facilities/Express Bus Package

This option package includes implementing a variety of measures to improve the travel time of HOV and Express Bus users. This would be achieved by extending HOV lanes, adding HOV direct ramps to key activity centers in Danville and San Ramon, and providing new express bus service. The HOV lane extensions are another step in the effort to provide continuous HOV lanes throughout the region. Many of the elements are directly taken from the *Contra Costa Express Bus Study* (DKS Associates, 2001).



Estimated Cost

Capital: \$240 to \$300 Million
Operational (Annual): \$1.6 Million
Lease (Annual): To be determined

HOV Lanes:

- Extend HOV lane in the northern portion of the corridor from Livorna Road through the SR 24 junction to North Main Street (includes approximately 3.0 miles of new HOV facilities).
- Extend HOV lane in the southern portion of the corridor from Alcosta Boulevard to south of I-580 (includes approximately 2.0 miles of new HOV facilities).

HOV Ramps:

- ◆ On-ramps & off-ramps at Sycamore Valley Road in Danville
- ◆ On-ramps & off-ramps at Norris Canyon Road in San Ramon

New Express Bus Service:

- Expansion of the Martinez to San Ramon Express Bus Service (Route should be operational in 2003)
- Additional route between East County and the study area
- Additional route between the Fremont/San Jose and the study area

Local Bus Service:

- Modified local bus service (no additional cost)

Park-and-Ride Lot:

- Expand the number of parking spaces at the San Ramon Transit Center to 500 spaces through lease arrangement

Maintenance Facility:

- Expansion of existing facility

Option Package D HOV Facilities/Express Bus Package

Summary of Benefits

- Improves access via express bus to the regional transit network.
- Provides linkages to adjoining HOV lanes.
- Flexibility to serve out-of-corridor locations.
- Benefits many different types of trip: to/from corridor trips, local trips, commute and non-commute trips.
- Could relieve parking congestion at existing BART stations.

Impacts

- Potentially significant environmental impacts adjacent to roadway and within park-and-ride lots.
- Construction could impact many corridor residents and employees.

Issues

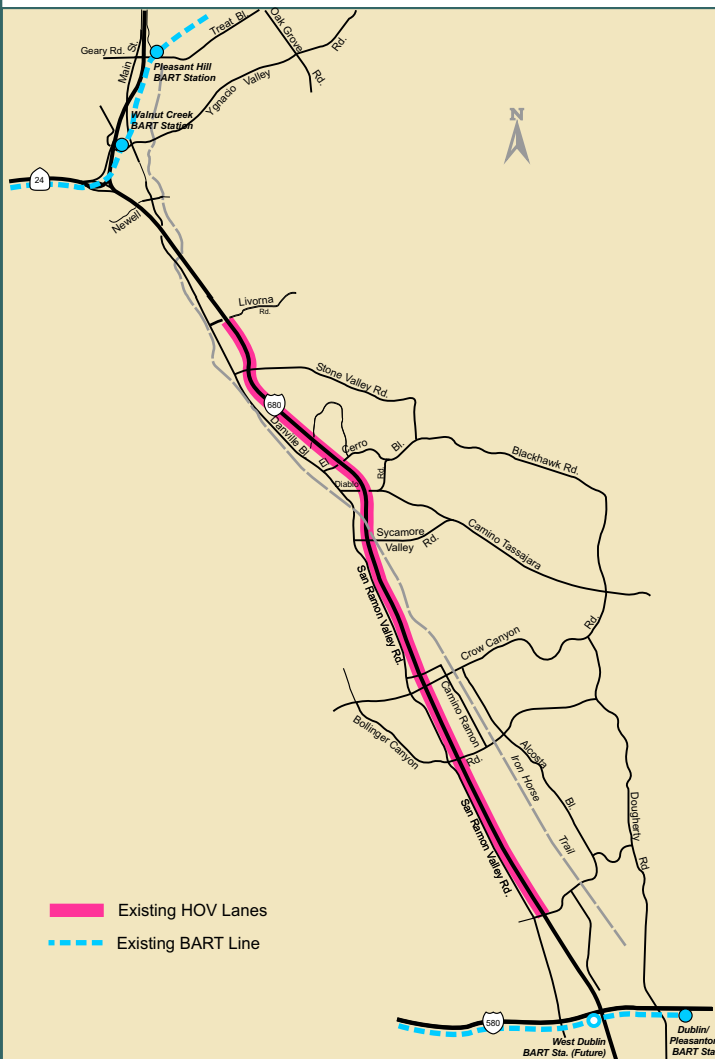
- Extension of the HOV lanes through the I-680/SR 24 interchange in the northbound direction would be problematic with the existing ramp geometries.
- Extension of HOV lanes through the I-680/SR 24 interchange in the southbound direction would require conversion of a mixed-flow lane to an HOV lane, which conflicts with Caltrans policy.
- In the northbound direction, a complementary project would be required to close the HOV lane gap between North Main Street and SR 242 in Central County.

Option Package E HOV to HOT Lane Conversion

This option package includes converting the existing HOV lane on I-680 between Livorna Road and Alcosta Blvd to a High-Occupancy Toll (HOT) lane. A HOT lane provides free access to high occupancy vehicles and allows single-occupant vehicles to use extra lane capacity for a fee (toll). This option package includes a non-separated lane with electronic monitoring/enforcement. These HOT lanes would operate only during the peak periods

The assumed worst acceptable level of operation for the HOT lane would be 1,600 vehicles per hour (the standard for HOV lanes). After more than 1,600 vehicles per hour, the speed of the HOT lane would begin to decrease. Thus, as the number of HOV users approaches 1,600 vehicles per hour (as forecasted), then the number of toll users allowed would be limited.

The HOT lane would run from Livorna Road in Walnut Creek to Alcosta in Boulevard in San Ramon/Dublin (includes approximately 11.1 miles of converted HOT lane facilities).



HOT Lane Treatments:

- Toll collection/monitoring facilities (use regularly spaced sensors and photo enforcement)
- Technology has not yet been specified

Enforcement Areas:

- Multiple enforcement areas required

Service Level:

- Hours available for toll users will be the same as HOV users (currently weekday AM and PM peak periods)

Estimated Cost

Capital: \$2 to \$4 Million

Operational (Annual): SOV toll may cover cost

Option Package E HOV to HOT Lane Conversion

Summary of Benefits

- Potential to take advantage of available capacity in the HOV lanes.
- Lowest cost alternative in terms of both capital and operational costs.
- Money raised from HOT lane users could potentially fund operational costs.
- Large travel time savings to HOT lane users.
- Could relieve parking congestion at existing BART stations.

Impacts

- Relatively few SOVs could use the HOT lanes in the future, as the number of HOV users could increase and use up available capacity.
- Only serves the corridor during the peak time periods.
- Does little to improve regional connectivity.
- Construction would reduce freeway capacity.

Issues

- Technology to differentiate between an HOV user and an invalid SOV user still needs to be developed.
- Concept of HOT lanes raises equity issues.
- Most HOT lane users would still encounter congestion at either end of the corridor.