



CARLSON BOULEVARD

CORRIDOR OVERVIEW

The portion of Carlson Boulevard within the study area stretches approximately 3.25 miles north to south from Maine Avenue to the El Cerrito Plaza BART Station area near San Pablo Avenue. Carlson intersects with several major corridors including Cutting Boulevard, Bayview Avenue, I-80, Central Avenue, and San Pablo Avenue.

Maine Avenue to El Cerrito Plaza BART Station

EXISTING CONDITIONS

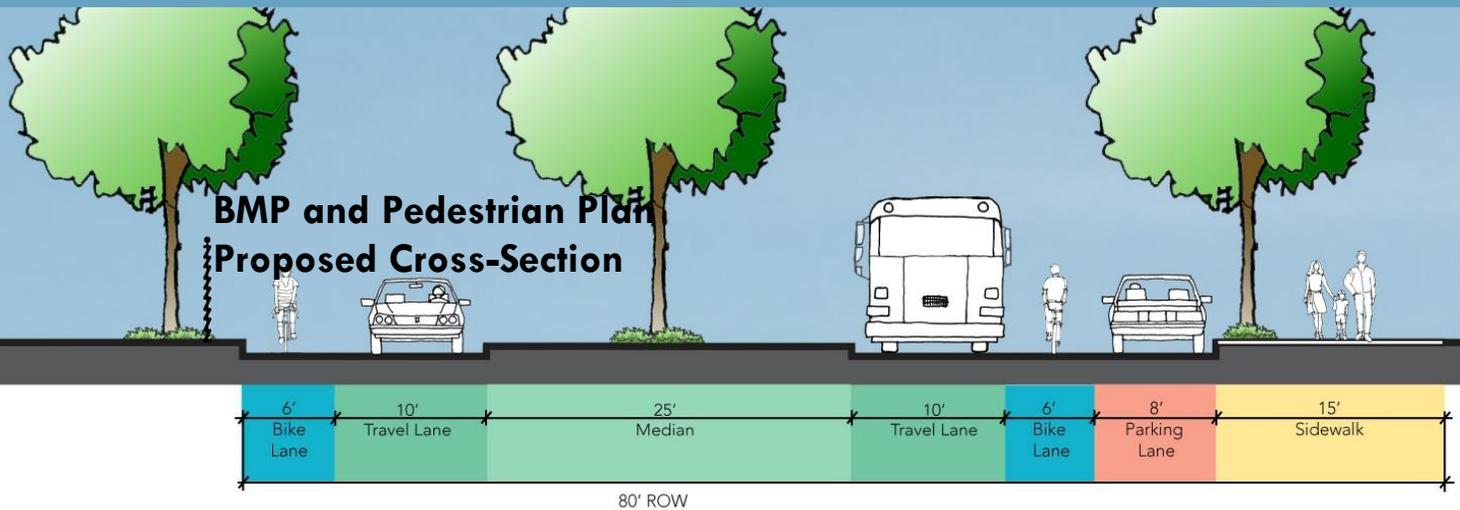
The following issues and opportunities are present on Carlson Boulevard:

- Carlson runs directly parallel to the Amtrak train tracks and I-580, and as a result, there are no activated land uses on the west side of the street north of Monterey Street.
- Carlson Boulevard passes under I-80, which poses significant challenges for bicycle and pedestrian access as a result of multi-lane on and off ramps. The skew of the interchange encourages high-speed right-turn movements at the on-ramps.
- Access to neighborhoods on the west side of the railroad is limited to three locations at Cutting Boulevard, Bayview Avenue, and Central Avenue.
- On the east side, the City’s regular block pattern continues, although a number of large developments reduce overall permeability.
- UPRR rail lines create one of the most dangerous intersections in the state at Carlson Boulevard/Cutting Boulevard, according to the California Public Utilities Commission despite proximity to schools and residences.



Typical Carlson Boulevard cross-section north of Bayview Avenue.

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PLANNED IMPROVEMENTS

The Richmond Pedestrian Plan and Bicycle Master Plan propose several improvements to Carlson Boulevard:

- Buffered Bicycle Lanes
 - South 23rd Street to Bayview Avenue
- Class II Bicycle Lanes
 - Bayview Avenue to Tehama Avenue
 - Existing bicycle lanes south of Tehama Avenue (completed in 2013)
- Consider grade separation or roundabout
 - Carlson Boulevard/Cutting Boulevard intersection
- Bicycle and Pedestrian Access Improvements to Richmond Greenway at Carlson Boulevard
 - Short-Term: Connect north of Broadway to 23rd Street to provide an on-street continuation of the Richmond Greenway as a temporary gap closure
 - Install two-way cycletrack adjacent to southbound 23rd Street
 - Stripe bike lane on part of 22nd Street bridging 23rd Street
 - Class I spur path on the east side of Carlson Boulevard between the Richmond Greenway and Broadway, which may require right-of-way acquisition
 - Install two-way cycletrack on Carlson Boulevard between Broadway and 23rd Street
 - Install bicycle signal at Carlson Boulevard/Broadway to accommodate transition between Richmond Greenway and two-way cycletracks on Carlson Boulevard and 22nd Street
 - Long-Term: Staggered mid-block crosswalk across Carlson Boulevard north of Ohio Avenue
 - Close Richmond Greenway gap across 23rd Street with a bicycle/pedestrian bridge and provide a crossing at the railroad tracks



PLANNING CONSIDERATIONS/ OPERATIONAL REQUIREMENTS

- In the near-term (through 2023), traffic volumes on Carlson Boulevard are not expected to require more than one general purpose travel lane in each direction throughout most of the corridor, with center left turn lanes in place of a median in advance of selected intersections.
- In the near-term, Carlson Boulevard will continue to be served by AC Transit local service (Route 71 linking Richmond BART with El Cerrito Plaza BART via Carlson Blvd and Central Avenue), with additional routes and shuttles using the corridor south of Bayview Avenue, as development of the Richmond Bay Campus and Shoreline area proceed.
- Carlson Boulevard is not part of the City of Richmond network of truck routes.
- In the long-term (2030 and beyond), traffic associated with full build-out of the Richmond Bay Campus and other parts of the South Shoreline Specific Plan area may increase pressure to expand the peak hour vehicle movement capacity of this and/or other key crossings of I-580. It is quite difficult to predict 20-year forecasts even in time periods over which conditions are expected to be relatively stable. At present, changes in vehicle miles of travel (VMT) per capita, which peaked in 2004 and continues to be in decline even after the recession; vehicle technology, and generational shifts in the preference for driving, make reliable prediction of 20-year forecasts exceedingly difficult. For planning purposes, two options have been considered for Carlson Boulevard and Cutting Boulevard (one of the two may need to revert to the current number of travel lanes (two through lanes in each direction) to accommodate traffic between South Richmond and the I-80 and I-580 corridors).
- Carlson Boulevard provides a long, continuous, north-south link in the bicycle network, linking Central Richmond to El Cerrito and the El Cerrito Plaza BART Station. It also connects with a proposed bike boulevard in Albany that connects to Berkeley's 9th Street bike boulevard and continues on other streets through Emeryville and Oakland to the West Oakland BART Station
- With enhanced east-west connections between South Richmond and Carlson Boulevard, Carlson Boulevard would provide an important bicycle route to transit
- Carlson Boulevard provides access to the Richmond Greenway, which connects to the Ohlone Greenway and El Cerrito Del Norte BART Station to the east.
- Sidewalk gap closure and improvements are being considered for the north and south sides of Cutting Boulevard just west of the intersection at Carlson Boulevard. Through this project, intersection improvements at the Cutting Boulevard/Carlson Boulevard may also be made. As a result, any near-term planning and investments should consider the long-term recommendation for a roundabout at this location.
- Through previous planning efforts, grade-separation of Cutting Boulevard over the railroad track, just west of the Cutting Boulevard/Carlson Boulevard intersection, has been considered but not included in planning documents due to concerns from adjacent businesses.

CONCEPTUAL RECOMMENDATIONS: NEAR TERM (2015-2024)

Building-off of previous recommendations for these two corridors, the SRTCPC proposes near-term bicycle and pedestrian improvements. The intent of the near-term preliminary recommendations is to provide cost-effective, readily-implementable access improvements using low-cost materials, such as paint, safe-hit posts, and planter boxes

The following segment improvements are proposed:

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- Broadway to Bayview Avenue
 - Four-lane to two-lane reduction (one in each direction)
 - Stripe typical buffered bicycle lanes (11' travel lane, 4' buffer, 7' bike lane)
- Bayview Avenue to Tehama Avenue
 - Bicycle lanes (70' cross section: 8' parking, 6' bicycle lanes, 11' outside travel lanes, and 10' inside travel lanes)

Figure 10-16 Carlson Boulevard, North of Bayview, Conceptual Recommendation, Near-Term (2015-2024)



Additionally, the following intersection treatments are recommended:

- Carlson Boulevard/Richmond Greenway
 - Install two-way cycletrack adjacent to southbound 23rd Street
 - Stripe bike lane on part of 22nd Street bridging 23rd Street
 - Class I spur path on the east side of Carlson Boulevard between the Richmond Greenway and Broadway, which may require right-of-way acquisition

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- Install two-way cycletrack on Carlson Boulevard between Broadway and 23rd Street
- Install bicycle signal at Carlson Boulevard/Broadway to accommodate transition between Richmond Greenway and two-way cycletracks on Carlson Boulevard and 22nd Street
- Carlson Boulevard/Bayview Avenue
 - Eliminate turn pockets where required, stripe curb extensions, stripe median nose, and accommodate bikeways and “protected intersection” feature (see the Bayview Avenue Corridor Profile on Page 10-49 for an illustration of conceptual recommendations for this intersection).
- Mark and Enhance Crosswalk approximately every 500’ (every two blocks) between Tehama Avenue and Central Avenue
 - Stripe median refuge with planters and safe-hit posts at SB off-ramp
 - Narrow on-ramp to have on receiving lane
 - Stripe curb extension with planters and safe-hit posts at southwest corner of SB on-ramp
 - To support frequent crosswalks, consider marking crosswalks at:
 - Carl Avenue
 - Placer Street
 - Plumas Avenue
 - Sutter Avenue
 - Sacramento Avenue
 - Panama Avenue
 - El Dorado Street
- Carlson Boulevard/I-80 WB Ramps
 - Stripe median refuge with planters and safe-hit posts at SB off-ramp
 - Narrow on-ramp to have on receiving lane
 - Stripe curb extension with planters and safe-hit posts at southwest corner of WB on-ramp
 - Complete a signal warrant analysis to consider implementation of a traffic signal to support northbound left-turns onto I-80 EB Ramp and left-turns off of the I-80 WB ramp
 - Coordinate with existing I-80 EB Ramps signal and a potential signal at Tehama Avenue/San Luis Avenue
- Carlson Boulevard/I-80 EB Ramps
 - Narrow on-ramp to have one receiving lane
 - Stripe curb extension with planters and safe-hit posts at northeast corner of EB on-ramp
 - Modify signal and intersection geometry to remove right-turn slip lane
- Carlson Boulevard/Tehama Avenue/San Luis Avenue
 - Complete a signal warrant analysis to consider implementation of a traffic signal to sup
 - Coordinate with existing I-80 EB Ramps signal and a potential signal at I-80 WB Ramps
 - Relocate bus stops to far-side of intersection if signal is implemented
- Carlson Boulevard/Columbia Avenue and Carlson Boulevard/Sacramento Ave
 - Complete a signal warrant analysis to consider implementation of traffic controls to support safe routes to school at Fairmount Elementary School and destinations on San Pablo Avenue.

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Conceptual recommendation is for installation of RRFB and in-street lighting for the pedestrian crossing at Sacramento and full signalization for the crossing at Columbia Avenue.

- Relocate bus stops to be at the far side of all signalized intersections, where supported by existing crosswalks and land uses

As detailed above, south of Tehama Avenue, it is recommended the enhanced crosswalks be marked and installed with pedestrian-activated beacons approximately every 500 feet (approximately every two blocks through the Richmond Annex). The intent is to improve pedestrian access through the neighborhood, particularly where Carlson still have a four-lane cross section. The crosswalk enhancements listed above assume the 500 foot spacing.

Transit

In the near-term Carlson Boulevard will continue to be served by AC Transit Local Line 71 (Richmond BART-El Cerrito Plaza BART), with service frequency increasing over time south of South 47th Street, as demand increases in association with development at the Berkeley Global Campus (BGC) and within the South Shoreline area. Future transit connections and service frequency along Carlson Boulevard depend in part on route options for serving the new BGC as it develops.

South of Bayview, combined transit service frequency on Carlson Boulevard will be one bus every 10-15 minutes, as a result of routing a new direct service from Richmond BART to El Cerrito Plaza BART via Marina Bay Parkway/South 23rd, Regatta Boulevard, Meade Street, Bayview Avenue, Carlson Boulevard, and Central Avenue. This level of service and estimated future traffic volumes on Carlson Boulevard do not necessitate lane dedication for transit or HOV in the near-term.

All existing bus stops in the corridor would need to be made fully accessible for people with limited mobility and where necessary, upgraded with shelters, benches and schedule information.

CONCEPTUAL RECOMMENDATIONS: LONG-RANGE (2030 +)

Long-range solutions are all also proposed, as anticipated development from the South Shoreline area and the Lawrence Berkeley National Lab Richmond Bay Campus take shape. The long-range recommendations include making major changes to the roadway, such as adjusting curb and gutter and providing raised cycletracks, some of which may be funded through development.

The following segment improvements are proposed:

- Broadway to Bayview Avenue
 - Four- to two-lane reduction (one lane in each direction)
 - Two-way cycletrack on the west side of the street (10' bikeway, 3' minimum buffer; install soft-hit posts, rumble strips separating buffer and travel lane)
 - Narrow travel lanes to 10' southbound to accommodate wider bikeway
 - Northbound, assign additional roadway space from lane reduction to a widening the landscaped median
 - Consider widening the sidewalk (instead of widening the median) in the future if land uses with higher pedestrian demand redevelop
- Bayview Avenue to Tehama Avenue

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- Maintain Class II bicycle lanes within existing right-of-way, as proposed under the near-term improvements (70' cross section: 8' parking, 6' bicycle lanes, 11' outside travel lanes, and 10' inside travel lanes)
- Consider a four- to three-lane reduction with additional roadway space used to provide parking-separated directional cycletracks (6' bicycle lanes, 3' buffers, 8' parking, 11' travel lanes, and 10' two-way left-turn lane). Provide 6' raised median refuge at unsignalized crosswalks.
- All locations
 - Pedestrian-scale lighting corridor-wide on Carlson
 - Bicycle and pedestrian wayfinding signs

Figure 10-17 Carlson Blvd. at Cutting Blvd., Preliminary Recommendation, Long-Term (2030+)



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Additionally, the following intersection treatments are recommended:

- Cutting Boulevard/Carlson Boulevard
 - Consider implementing a roundabout instead of a signal at this location pending future feasibility analysis building on the work completed for the Pedestrian Plan and City support
 - Define roadway edge with curb and gutter on northwest and southwest corners with curb extensions and squaring up crosswalks
 - Close sidewalk gap on north and south sides of Cutting Boulevard
 - Provide extra wide sidewalk on the south side of Cutting with space marked for travel by bicycles, linking the proposed Spring Street bikeway to a wide crosswalk connection to the Carlson Boulevard cycle track.
 - Widen southbound Carlson Boulevard approach to accommodate right-turn pocket
 - Install separate bike phase or protected turn phasing across cycletrack
 - Consider grade separation of the railroad tracks in the longer term, depending on City and community support
- Carlson Boulevard/Bayview Avenue and Carlson Boulevard/Broadway
 - Install separate bike phase or protected turn phasing across cycletrack
- All Intersections
 - Bicycle Signal Detection

Transit

In the long-term (2030 and beyond), the following transit enhancements are proposed for the Carlson Boulevard corridor:

- Service along the entire corridor, from El Cerrito Plaza BART to Richmond BART would be upgraded to meet frequent service standards (service every 15 minutes or better at least 18 hours per day on weekdays).
- Service frequency would be best (every 7-15 minutes) south of Bayview Avenue, with the addition of a new frequent service route connecting Richmond BART with El Cerrito Plaza BART, via Marina Bay Parkway/South 23rd, Regatta Boulevard, Meade Street, the SE edge of the Berkeley Global Campus, Bayview Avenue, Carlson Boulevard and Central Avenue.
- A new rail transit station along the UPRR corridor at or near the proposed South 47th Street overpass of I-580 would provide regional transit connections for residents of the Carlson Corridor, employees of the Richmond Bay Campus, and other Shoreline area residents, employees and visitors. The station would be contingent upon the development of an Eastshore transit line (similar in frequency, capacity and function to the eBART line currently under construction in East Contra Costa County, as envisioned in the San Francisco Bay Area Regional Rail Plan and the draft BART Metro Vision plan). The new service would be provided on or adjacent to the existing Union Pacific main line, connecting Hercules and Richmond to San Leandro, with stops in Berkeley, Emeryville, West Oakland (with a potential direct connection to BART) among others.
- All existing bus stops in the corridor would need to be made fully accessible for people with limited mobility and where necessary, upgraded with shelters, benches and schedule information.

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This level of service and estimated future traffic volumes on Carlson Boulevard do not necessitate lane dedication for transit or HOV in the near-term, although the City of Richmond and AC Transit should carefully monitor transit and vehicle traffic patterns over time and adjust lane restrictions and corridor travel priority accordingly.

KEY OUTCOMES

The following key outcomes are anticipated as a result of the near-term and long-term recommendations:

- Reduced pedestrian crossing distances at signalized and unsignalized intersections
- Provides low-stress bike connections between Richmond Greenway/Central Richmond and El Cerrito Plaza BART Station area
- Access to Shoreline and Richmond Bay Campus for residents of Eastshore, Parkview, Pandhandle Annex, and Richmond Annex residents