

MEMORANDUM



TO: Policy Steering Committee **DATE:** November 20, 2009

FROM: Tina Spencer – Long Range Planning & Data Analysis Transportation Planning Manager, AC Transit

SUBJECT: INFORMATION - Agenda No. 8: Request for Information

SUMMARY

This memorandum describes the operation of bus lanes for the East Bay Bus Rapid Transit Project, including descriptions of the various facilities and how motor vehicle traffic is accommodated under various roadway conditions with BRT in place. The bulk of the information was adapted from the Federal Small Starts submittal (September 2008).

BACKGROUND

BRT Operating Conditions

BRT would operate under three types of conditions:

- Bus-only lanes;
- Shared bus lanes that limit but do not eliminate conflicts with mixed traffic; and
- Mixed-flow traffic lanes in which BRT buses are provided no special treatment.

Bus-only lanes would be used by BRT buses, local buses under certain circumstances and emergency vehicles. Shared bus lanes could be used by all vehicles under certain circumstances and mixed-traffic lanes would be used by all types of vehicles under all circumstances. Figure 1 depicts the type of BRT treatment proposed along each segment of the project alignment. Figure 1 does not reflect recent refinements to the project proposed by city staff.

Bus-Only Lanes

Bus-only lanes would be located in the median of the street or, in a limited number of cases, in the outside travel lanes (the lane closest to the curb). Cross traffic would not be allowed to cross Bus-only lanes except at signalized intersections. Space for automobile and truck turning movements would be carefully integrated into the project design. Bus-only lanes would conform to standard lane widths of 11 or 12 feet. Bike lanes would be located between the mixed-flow traffic lane and the curb parking lane.

There would be new traffic signals added at many locations to maintain local neighborhood access, pedestrian crossings and afford drivers the opportunity to make left turns and U-turns. Every left-turn would be controlled by a phase-protected signal and permit turns only on a left arrow. The BRT would have its own signal to eliminate conflicts between the bus and left-turning vehicles. Transit priority would be in place at every signalized intersection. Bus-only lanes would be provided on wide two-way streets such as Telegraph Avenue, International Boulevard/East 14th Street, and under certain alignment options, along other arterial street segments. An example of a Bus-only lane configuration is provided in Figures 2 and 3.

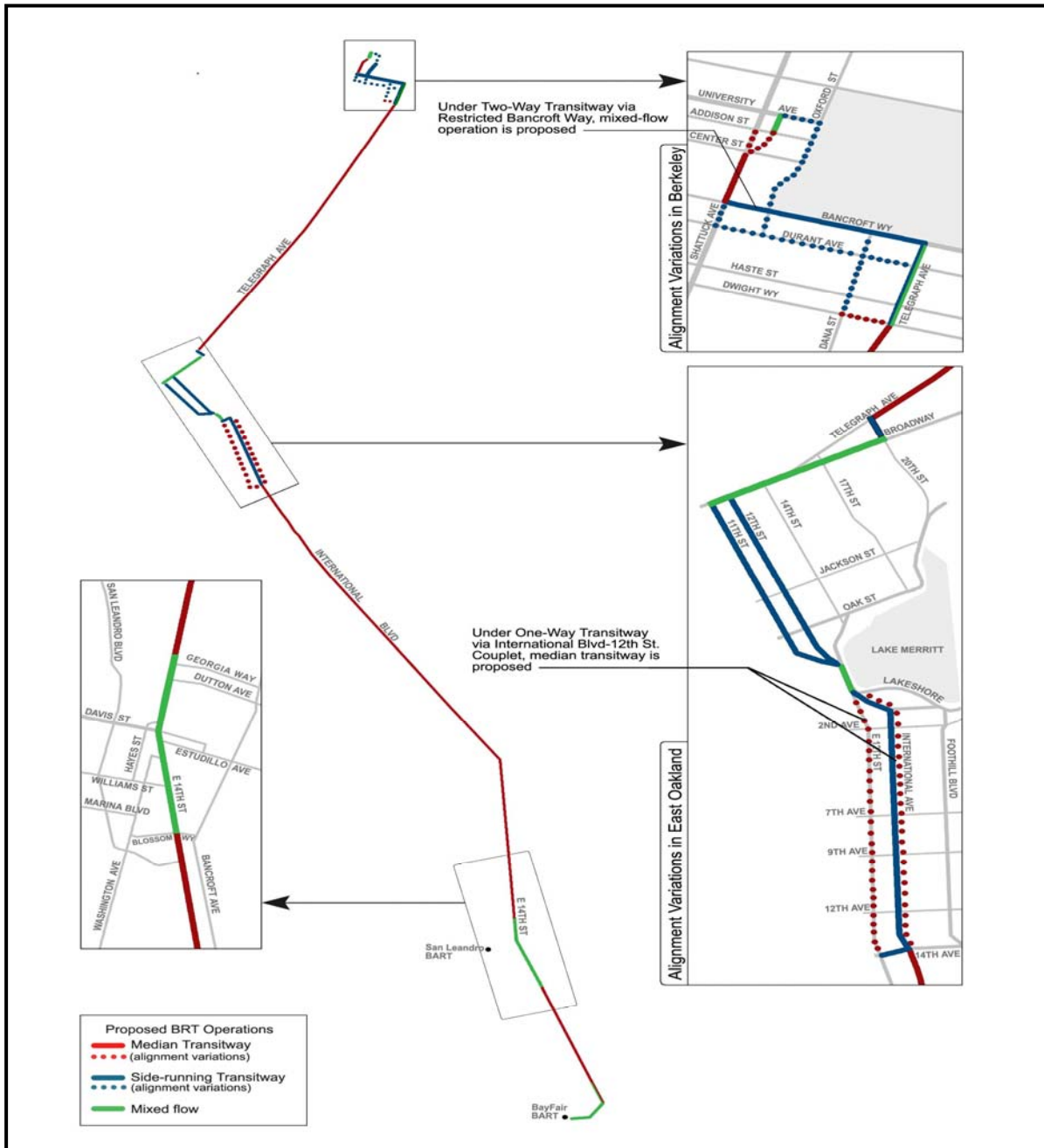


Figure 1: Alignment Type/BRT Operations for East Bay BRT Project

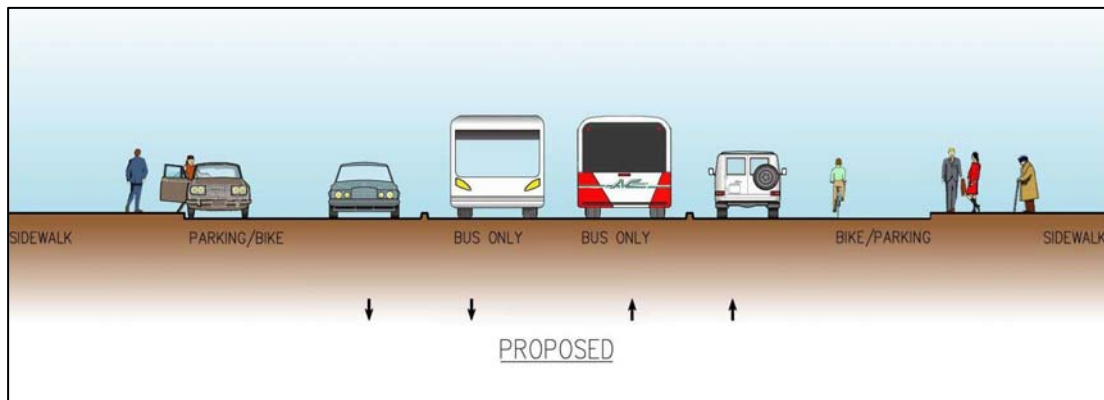


Figure 2: Bus-only Lanes

With the exception of the area immediately adjacent to the median BRT stations, there would be no substantial barrier between the bus-only lane and the mixed-flow lanes. The preferred method to differentiate bus-only lanes from mixed-flow lanes would be visual-tactile dividers like raised dots, rumble strips or additionally, a slight elevation change between the lanes. Where landscaped medians are proposed, they would be located between the bus-only lanes and not between the bus-only and mixed-flow lanes.

These features permit several maneuvers to ease traffic flow and improve safety.

- Allow motorists to merge into the bus lane to pass obstructions in the mixed-flow lane
- Allow buses to merge into the mixed-flow lane to pass obstructions in the bus-only lane
- Permit full use of bus-only lane by emergency vehicles



INTERNATIONAL BLVD. @ 82ND AVE.
OAKLAND

PROPOSED CURBSIDE STATION
CANOPY OPTION A



Figure 3: Bus-only lanes and Station

Shared Bus Lanes

Shared bus lanes are proposed where other vehicles need to access the lanes to make right-turns or for entering and exiting parking spaces. Shared lanes would be either next to the curb or next to the curbside parking. An example of a shared bus lane is shown in Figures 4 and 5. Use of the lanes by through traffic is restricted. Cross traffic would be allowed to cross shared bus lanes between signalized intersections. In most instances, right-turning vehicles and vehicles accessing adjacent on-street parking would be allowed in the shared BRT lanes. Shared bus lanes are proposed for 11th and 12th Streets in downtown Oakland and on Bancroft Way and Durant Avenue in Berkeley.

There is one location, Telegraph between Durant and Dwight, where the shared lane would be reserved for buses, commercial vehicles and vehicles making deliveries. Shared bus lanes would conform to standard lane widths of 11 or 12 feet. Traffic signals would be standard with no special signals for BRT. Transit priority would be in place at every signalized

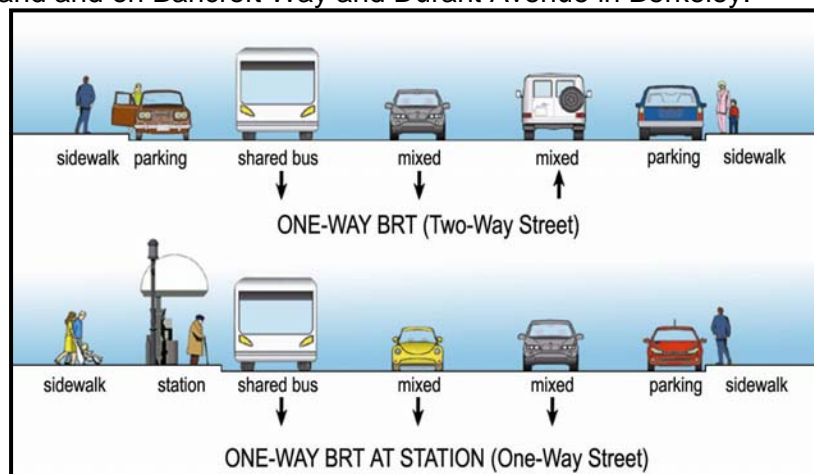


Figure 4: Roadway Cross Section with Shared Bus Lane, Side Running

intersection. The shared bus lane and the adjacent mixed-flow lanes would be differentiated by a painted stripe.



Figure 5: Shared BRT Lane & Station

Mixed-Flow Traffic Lanes

Mixed-flow lanes for BRT operations are proposed in areas where dedicated or shared lanes are not feasible. These locations include streets with very high bus traffic and narrow, capacity-constrained streets where local auto access must be maintained. Traffic signals would be similar to today except that queue jump signals would be provided where a bus-only lane transitions into mixed-flow operations. Transit priority would be in place at every signalized intersection.

BRT Stations

BRT Stations are proposed for all three operating conditions. Buses would stop in the bus-only lane to pick up and drop off passengers. Under each, the stations would provide passenger platforms 8- to 10-feet wide and typically 60-feet long, raised a minimum of 13 inches above the top of roadway pavement. Platforms will be at or slightly lower than the floor level of BRT buses, allowing fast and convenient passenger loading and unloading. Buses pull into the station for boarding and alighting through right-side doorways. The distance between the bus doorway and platform edge is to be minimized to avoid any safety concerns of a large gap.



Figure 6: BRT Station for Mixed-Flow Operations

Buses include a ramp at the middle door, which can be extended to provide a continuous surface between the bus floor and platform for individuals with limited mobility and/or wheelchairs. If electronic or mechanical guidance is used for “precision docking” at station platforms, deployment of the ramp may not be needed. All station elements will be ADA-compliant (i.e., conform to design standards established by the Americans with Disabilities Act of 1990 [“ADA”], as amended).¹

Generally, BRT stations will have only one bus picking up or dropping off passengers at a station at any time. At locations where local buses also stop to pick up and drop off passengers, stations platforms would be extended to 120 feet to accommodate two buses simultaneously. For areas with bus-only lanes, stations would be located in the median.

For shared BRT lanes and mixed-flow operations, stations would be located at the curb, and be extensions of the sidewalk. Similar to shared bus lanes, BRT stations would be extensions of the curb for mixed flow operations.

RECOMMENDATION

Not applicable – This is an information item.

¹ Americans with Disabilities Act, Public Law 336 of the 101st Congress, was enacted July 26, 1990. The ADA prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation.

EAST BAY BRT LPA ADOPTION PROCESS AND FEIS/R SCHEDULE - Revised November 13, 2009

Activity	2009												2010				
	May	June	July	August	September	October	November	December	January	February	March	April	May	J	J	A	S
City of Berkeley																	
1	Technical Analysis & Prep for Public Outreach																
2	Stakeholder Mtgs & Public Workshop																
3	Prepare LPA Document																
4	Transportation Commission Presentation																
5	Planning Commission Presentation/Selection																
6	City Council LPA Selection																
City of Oakland																	
1	Tech Anal & Prep for Public Outreach		C	C	C	C	C	C									
2	Preparation for Public Outreach/Draft LPA																
3	Draft LPA Report																
4	Public Meetings & Workshop																
5	Public Works Sub Committee Status Report																
6	Planning Commission Approval/Recommendation																
7	Public Works Sub Committee Presentation/Recommendation																
8	City Council LPA Selection																
City of San Leandro																	
1	Technical Analysis & Prep for Public Outreach																
2	Public Outreach																
3	Staff Recommendation Prepared																
4	Planning Commission Presentation																
5	Planning Commission Selection																
6	Facilities Committee Presentation																
7	City Council LPA Selection																
AC Transit																	
1	Provide Technical Information to Cities																
2	Prepare Outreach Materials for Cities																
3	TAC Meetings		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
4	PSC Meetings		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
5	Board Updates			M			M		M		M		M		M		M
6	LPA Development																
7	Prepare FEIS/R																
8	Circulate FEIS/R																
9	Staff LPA Recommendation Prepared																
10	Board Adopts LPA																
11	Board Certifies FEIS/R																
12	FTA Issues ROD																
13	Update Small Starts Templates for FTA's 2012 President's Budget Recommendation																
CalTrans (CalTrans schedule dependent on execution of Co-Op Agreement which is currently in review by AC Transit)																	
1	Co-Operative Agreement																
2	Draft Fact Sheets																
3	Draft PSR/PR																
4	Final Fact Sheets																
5	CalTrans Approval / Final PSR/PR																

P / WS = Public Meeting / Citywide Workshops
SM = Stakeholder Meetings

C = Technical Charrette
M = Meetings/Decisions
M = Milestone Meetings/Decisions

ASSUMPTIONS

1. AC Transit technical information is submitted in timely fashion
2. No public meetings are held during summer months (when school is out)

3. Adequate time is provided for internal city/ACT reviews
4. City commissions and councils will adhere to schedule as indicated