

Bus Rapid Transit Design Guidelines

November 14, 2005

(These guidelines are to be adopted and used by Regional Transit when reviewing development proposals)

The following Design Guidelines are being recommended to the Regional Transit Board of Directors. They will be used to obtain Bus Rapid Transit infrastructure.

Enhanced Bus and Bus Rapid Transit (BRT) Design Guidelines:

1. Stations should be ½ to 1 mile apart, unless increased speed and/or higher ridership justifies closer placement (e.g. near town centers, industrial parks and airports). Enhanced bus and BRT stops/stations shall be incorporated into development projects where appropriate. Pedestrian access to the stops/stations should be maximized, lighting, covered walkways and shelters should be provided. Station and shelter design shall be coordinated with RT staff.
2. Where appropriate, park and ride facilities should be provided in close proximity to significant stops/stations. Shared or joint use parking should be encouraged.
3. The impacts of cross traffic in relationship to transit should be minimized using grade separations, queue jumps, signal preemption, etc.
4. Each station should have good access for other modes of travel including autos, pedestrians, bicycles, electric vehicles, buses and shuttles.
5. The design standard for right-of-way for BRT travel lanes shall be a minimum of 12.5 feet for each travel lane, or 25 feet for two lanes. Right-of-way width for two-travel lanes and station area shall be 40 feet with a length of 200 feet. The 40-foot width would accommodate two 12.5-foot wide lanes and a 15-foot wide station.
6. Intelligent Technology Systems (ITS) shall be incorporated as it becomes feasible to do so.
7. RT, City and County staff shall work together to optimize traffic signal timing, Traffic Signal Priority, queue jumps and other measures to move transit vehicles through corridors at greater speeds.
8. Off-board fare collection shall be implemented where possible.

Bus Rapid Transit Goals

The following draft goals are recommended to be adopted by local jurisdictions within appropriate policy documents.

Current and long-range planning documents and efforts to support Bus Rapid Transit shall:

- Goal 1: Recognize the value of high capacity transit as a means of reducing air pollution, traffic congestion, and providing mobility for residents and visitors in the region,
- Goal 2: Work closely with Regional Transit to provide an integrated long-range transit vision for transit application in the region. This includes setting aside right-of-way and infrastructure for public transit,
- Goal 3: Recognize the full range of bus service available including, but not limited to local bus, express bus, enhanced bus and Bus Rapid Transit (BRT). Any of these modes may be used as an interim service until the long-range transit vision is attained, and
- Goal 4: Incorporate amenities to speed service including transit signal priorities, queue jumps, Intelligent Transportation Systems (ITS), etc.

**DEFINITIONS FOR
SACRAMENTO REGIONAL TRANSIT'S FAMILY OF FIXED-ROUTE BUS SERVICES**

SERVICE	CHARACTERISTICS
LOCAL BUS	Bus service that picks up and discharges passengers at frequent, designated places (stops) that are on public thoroughfares (mixed flow traffic). Passengers pay on-board or display passes/transfers to the operator. This service operates at low average route speeds (6-11 mph).
Express (Commuter) Bus	Bus service similar to local bus service at the beginning and end of the route, often-using expressways or freeways for part of the trip. Usually operates during peak travel periods and in peak directions. Passengers pay on-board or display passes/transfers to the operator. This service operates with a higher average route speed than local bus service.
Enhanced Bus (E-Bus)	Bus service with easily identified vehicles and stations. Operates with frequent headways (15-minute service). Station spacing typically ½ to 1 mile apart along major corridors, some Traffic Signal Priority. Amenities (e.g. headways, station spacing and design, right-of-way, use of passenger information technologies, fare-collection method) fall short of Bus Rapid Transit. This service typically operates faster than local bus service, but slower than Bus Rapid Transit.
Bus Rapid Transit (BRT)	Premium bus service with large easily identified vehicles in conjunction with stations that allow rapid boarding capability. Operates with frequent headways (15 minutes or less). Station spacing typically ½ to 1 mile apart along major corridors. BRT service employs simple routing schemes, with a significant amount of priority at roadway intersections along the corridor, and may incorporate exclusive or specially designed rights-of-way. Passenger information technologies are incorporated into vehicles and stations. Passengers carry a valid ticket/pass subject to random inspection. This service achieves high average route speeds (20 mph or greater off-peak, 15 mph or greater during peak periods).

ELEMENT	CRITERIA	Local Bus	Express Bus	Enhanced Bus	Bus Rapid Transit
Stations	More than 75% of stations spaced greater than _ mile apart.				X
	Between 25-75% of stations spaced greater than _ mile apart.		X	X	
	Less than 25% of stops spaced greater than _ mile apart.	X			
	Station platform height allows level entry into vehicles			X	X

Service & Operating Plan	Average headway 15 minutes or less			X	X
	Average headway 20 minutes or more	X			
	Average headway Peak Hour Service Only	X	X		
	Straight-line route with few bends or direction changes			X	X
	Generally straight-line route, some bends and loops		X		
	Major direction changes, bends, neighborhood loops	X			

Intelligent Transp. Systems (ITS)	Coordinated traffic signal timing for transit service			X	X
	More than 75% of route has Transit Signal Priority				X
	Between 25-75 % of route has Transit Signal Priority			X	
	Less than 25% of route has Transit Signal Priority	X	X		
	More than 75% of stations have real-time passenger information				X
	Some stations have real time passenger information		X	X	
	Buses have real-time passenger information	X	X	X	X

ELEMENT	CRITERIA	Local Bus	Express Bus	Enhanced Bus	Bus Rapid Transit
Special Branding Identification	Vehicles have special color and appearance Stations have special color and appearance, are specially signed, illuminated, with amenities			X	X
Running Ways	Over 50% of the route is grade-separated exclusive lanes (transitway) At-grade designated transit lanes/HOV lanes Mixed flow lanes with queue jumps at intersections Lane-assist and precision-docking guidance technology				X
Vehicles	Specialized BRT vehicles (40ft, 60ft, or 80ft)				X
	Stylized or specially upgraded buses (40ft or 60ft)		X	X	X
	Conventional 40ft buses, may include Neighborhood Ride Buses	X			
Fare Collection	Pay on-board or show pass/transfer to the operator	X	X	X	X
	Possess proof-of-payment, display on demand of inspector			X	X
<i>FOR THE ROUTE, SUM UP THE NUMBER OF (X) IN EACH COLUMN AND DIVIDE BY THE FACTOR SHOWN (PLACE ANSWER BELOW)</i>		÷ 9	÷ 10	÷ 15	÷ 17
<i>RESULTANT PROPORTION OF EACH BUS SERVICE TYPE REPRESENTED</i>					