

## Definitions of Transit Services and Facilities For Urban Area Transit Strategy

### High-Speed Rail:



*France's TGV*



*Spain's AVE*



*California High-Speed Rail*

Designed for very high-speed long-distance intercity trips with long station spacing and dedicated grade-separated lines. Examples include the Shinkansen in Japan, the TGV in France, and the AVE in Spain. California High-Speed Rail (HSR) is currently being planned from Sacramento to San Diego.

- Vehicles are steel wheel on steel track electrically-powered bidirectional train sets.
- Top Speed: 220 miles per hour (mph), but 150 mph maximum expected from San Diego to Escondido and 200 mph maximum from Escondido to Riverside.
- Level boarding.
- Passenger Capacity: Not yet determined in CA. Examples from around the world range from approximately 300 to 1,300 per train but most single level trains have about 400-500.
- Operates on dedicated high speed track with no at-grade crossings.
- California HSR system will be over 600 miles.

### Commuter Rail:



*San Diego Coaster*



*Southern California MetroLink*

Designed for higher-speed, longer-distance regional trips with stations spacing every four to five miles on average. Examples include the San Diego COASTER, Dallas/Fort Worth Trinity Railway Express, and Southern California Metrolink.

- Commuter rail lines use diesel or electric locomotives (diesel are more common and are used in Southern California).
- Typical speed: 80 mph.
- Typically low floor.
- Supported by Park and Ride lots.
- Typical passenger capacity: 130 seats per car operating with 3-8 car trains (typically no standees).
- Operates on a dedicated right-of-way separate from other vehicles.
- Typical length of line: 25-100 miles.

## Light Rail Transit (LRT):



*San Diego Trolley*



*San Diego Sprinter*

Designed for medium-distance trips with station spacing about every mile on average. Examples include the San Diego Trolley, the San Diego SPRINTER, Portland MAX, Minneapolis Hiawatha Line, and Houston MetroRail.

- Electric or diesel-powered rail vehicles.
- Typical speed: corridor speed limit, generally not exceeding 55 mph.
- Designed for high-capacity corridors.
- Integrates well with street traffic, signals, and pedestrians.
- Operates on a dedicated guideway within separate right-of-way or on-street.
- Typical passenger capacity: 60-140 seated plus standees (per car), with 1-4 cars.
- Typical length of line: 6-25 miles.
- Typically low floor.

## Streetcar/Shuttle-Circulator:



*Portland Modern Streetcar*



*San Francisco Historic Streetcar*



*MTS Shuttle*

Designed for short-distance trips with station spacing every few blocks or every quarter-mile on average. Streetcar examples include Portland Modern Streetcar, Seattle Streetcar, and San Francisco Historic Streetcar. Shuttle-circulators include MTS Shuttle, University City SuperLoop.

- Typical speed: speeds up to the speed limit of the street they operate on, generally averaging 12 mph (with stops).
- Designed for dense urban areas, such as downtown areas.
- Integrates well with street traffic, signals, and pedestrians.
- Streetcars operate either in mixed-traffic with automobiles or on a dedicated right-of-way.
- Typical passenger capacity for streetcars: up to 100 seated and standees per car (vehicles generally provide few seats due to short distance nature of trips). Operate as single vehicles.
- Typical passenger capacity for shuttles-circulators: up to 20-25 seated, depending upon vehicle size.
- Typical length of line: 2-6 miles.

## Bus Rapid Transit (BRT):



*San Diego I-15 BRT*



*Los Angeles Orange Line*

Designed for longer-distance, higher-speed, regional trip-making on a dedicated bus guideway or freeway Managed Lanes/High-Occupancy Vehicle (HOV) facilities. All-day, all-stop trunk BRT services can be complemented with peak-period commuter express services designed to provide very limited stop connections to major employment centers. Examples include San Diego Interstate 15 BRT, Los Angeles Orange Line, Eugene, Oregon EmX, and the Brisbane South-East Busway.

- Diesel or CNG/alternative fuels standard.
- Typical speed: corridor speed limit, typically 40-60 mph on average.
- Supported by Park and Ride lots.
- Designed for high-capacity corridors.
- Low floor design.
- Operates on dedicated guideway and sometimes in mixed-traffic with automobiles.
- Typical passenger capacity: 50-60 seated plus standees on arterial routes, 50-80 seated on freeway routes (per bus).
- Typical length of line: 8-15 miles on arterial segments, 10-30 miles on freeway segments.
- Typical station spacing: 0.5-1 mile on arterial segments, 4-5 miles on freeway segments.

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## Rapid Bus:



*Los Angeles Metro Rapid*



*Future Mid-City Rapid Bus*

Provides higher-speed alternatives to local bus services in high volume arterial corridors and utilizes a range of lower-capital cost signal priority treatments, short segments of transit-only lanes, and limited station stops to achieve faster travel times. Rapid Bus services can be upgraded to BRT over time through implementation of dedicated transit lanes to bypass congested arterial segments. Examples include Los Angeles Metro Rapid and Boston Washington Street Silver Line.

- Diesel or CNG/alternative fuels standard.
- Typical speed: speeds up to the speed limit of the street they operate on, averaging about 25 mph (with stops).
- Low floor design.
- Designed for high-capacity corridors.
- Integrates well with street traffic, signals, and pedestrians.
- Typical passenger capacity: 40 seated plus standees (per bus).
- Typical length of line: 8-15 miles.
- Typical station spacing: 0.5-1 mile.

## High-Frequency Local Bus:



*San Diego Metropolitan Transit System (MTS) Bus*



*San Diego North County Transit District (NCTD) Bus*

Facilitates mid-to-short-distance trip-making within local communities, with closer station spacing. Local bus services serve as the backbone of the transit system and provide the primary access into local communities where fixed-route services are warranted.

- Typically standard and single articulated buses.
- Typical speed: speeds up to the speed limit of the street they operate on, averaging 12 mph (with stops).
- Low-floor design.
- Integrates well with street traffic, signals, and pedestrians.
- Operates in mixed-traffic with automobiles, but can benefit from transit-signal priority and queue jump lanes.
- Typical passenger capacity: 37-57 seated plus standees (per bus).
- Typical length of line: ranges from under 5 miles up to 25 miles.
- Typical station spacing: 1-4 blocks.