

Hillsborough MPO Bus Rapid Transit March 8, 2017



Kimley»»Horn

Expect More. Experience Better.

What is BRT?



Rapid. High-quality. Brand-distinguished. Bus Service.
Rail Level of Service (Frequency, Capacity, Quality, Reliability)

U.S. Federal Transit Administration – BRT

Corridor-Based

Separated right-of-way



**Federal Transit
Administration**

Fixed Guideway

ROW dedicated for transit

- Substantial investment in specific corridor or right-of-way
- Defined stations
- Traffic signal priority for buses
- Short headway times
- Bi-directional services for substantial part of weekday and/or weekend

System Performance

Improvements made possible with BRT applications include:

Travel Time Savings

- Off-vehicle fare collection
- Level boarding
- Signal priority
- Dedicated right-of-way
- Queue jumper lanes
- Limited stop services

Safety and Security

- ITS technology for CCTV, call boxes, and real-time schedule information
- Enhanced station facilities and fare collection (passenger control) systems
- Automated guidance and docking systems
- Higher patronage and less waiting time in stations

Capacity

- Increased service frequency
- Larger vehicles
- Longer service hours

Reliability

- Protected right-of-way
- ITS (real-time) data communications to/from all vehicles
- Safer and faster boarding provisions – ADA compliant
- Advanced technology driver assistance in station areas
- Means to circumvent traffic congestion



System Characteristics

Running Way

BRT systems have an exclusive running way or can share HOV or Managed Lanes. They can also operate on marked lanes or in mixed traffic flow. All types of running way can be combined into a single route. Additional running way attributes may include BRT "queue jumper" lanes to circumvent heavy traffic congestion.

**NEXT ARRIVAL
2 & 15 MIN**

ITS

Buses always get the green light! ITS technology guides the integration of BRT operations into the street network. Traffic signal priority controls and appropriate signal pre-emption allow BRT transit ways to be at-grade and integrated into mixed traffic flows.

BRT transit station ITS features include "Next Bus..." messages with real-time, web-based vehicle tracking and CCTV/security enhancements.

Service and Operating Plan

BRT systems provide low headways compared to traditional bus service, typically well below 10 minutes. Routes are designed with limited station stops, resulting in increased average speed. Longer routes are also common, often serving the entire corridor from downtown to the suburbs.

Demand Responsive Operations

Special types of BRT applications with driver assistance ITS systems that provide "demand responsive" information allow BRT to provide a bus at the specific time and place desired — a great advantage during off-peak hours or in low-density service areas.



Montgomery County, MD



Median Running BRT





MOBILITY OPTIONS
2040 Miami-Dade
Transportation Plan
EYES ON THE FUTURE



Miami South Busway



Dedicated Curbside Bus Lanes



Orlando I-Drive



Transit Signal Priority



Bus Queue Jump



FDOT Queue Jump Pilot



BRT Branding and Station Amenities



Cleveland Health Line BRT



Richmond Pulse BRT



Infrastructure and Technology







Transit Priority



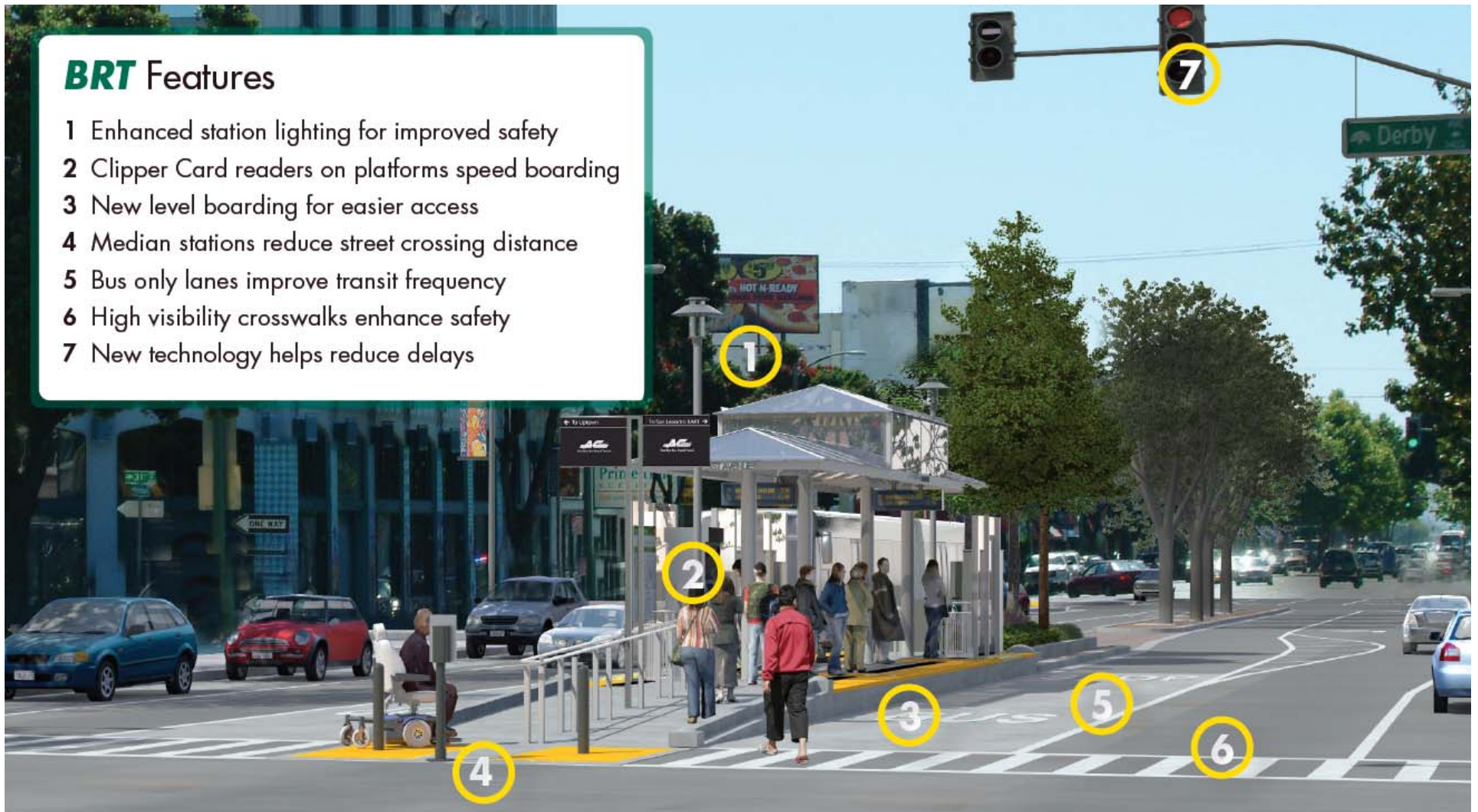
New York MTA Webster Ave BRT



AC Transit San Leandro BRT

BRT Features

- 1 Enhanced station lighting for improved safety
- 2 Clipper Card readers on platforms speed boarding
- 3 New level boarding for easier access
- 4 Median stations reduce street crossing distance
- 5 Bus only lanes improve transit frequency
- 6 High visibility crosswalks enhance safety
- 7 New technology helps reduce delays





Clarence Eng, AICP
813.635.5586
clarence.eng@kimley-horn.com

@ClarenceEng