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El Camino Real Bus Rapid Transit Phasing Study

C/CAG Congestion Management & Environmental Quality Committee February 23, 2015

What is Bus Rapid Transit?

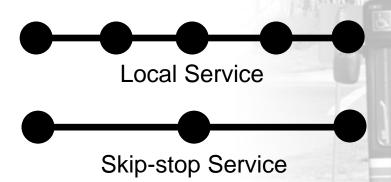


Rapid Bus

- Mixed-flow operations
- Skip-stop service
- Signal/street priority

Full BRT

- Dedicated lanes
- Enhanced stations
- Rail-like operations
- High capital outlay
- Challenges



Background

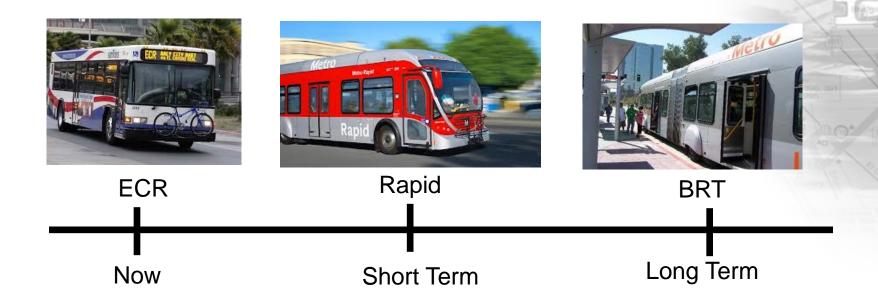


- Caltrans 2013 Planning Grant
 - Focus is long-term BRT phasing plan
 - Short-term Rapid Bus service opportunities
 - Build off SSP, Grand Boulevard Initiative
- An opportunity to
 - Improve experience for current customers
 - Attract new riders
 - Support planned growth (Grand Blvd. Initiative)
 - Improve options for Caltrain riders
- Feasibility study

Phasing Plan



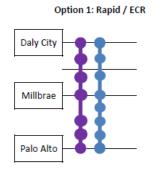
- Short-term plan for implementation of Rapid service and minor infrastructure
- Long-term plan for implementation of "Full BRT" transit priority and amenities

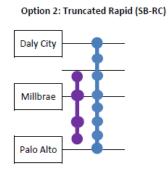


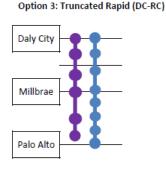
Service Concepts

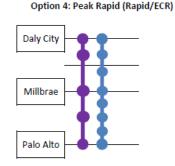


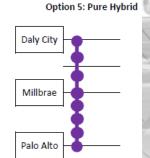
- How many stops?
- How frequent?
- What about ECR?
- Maximize ridership, minimize costs











Key Study Findings



- Ridership Forecasts
 - Fewer stops = reduced travel time
 - Can save 15-30 minutes per trip
 - Transit priority at signals
 - Can save up to 15 minutes per trip
 - Technologically viable
- Rapid Service can reduce travel times by 25%

Rapid Overlay of ECR



- ECR ridership in 2020
 - 16,600 daily boardings
 - \$14.5 million annual net operating cost
- Impact of Rapid Bus overlay
 - Ridership grows 19% to 34%
 - Operating costs increase 34% to 59%
 - Capital costs potentially minimal

Rapid Bus Capital Costs



- Optional features
 - Enhanced stops (\$11 million)
 - Canopy, benches, windscreen, lighting, signage
 - Real-time information
 - About \$150,000 per stop
 - Transit signal priority (\$2.4 million)
 - 120 signals
 - Reduces travel time by another 15 minutes

Full BRT Service



- 37 stop overlay, maintain ECR
- 15-minute frequency for both ECR and BRT
- Queue jumps
- Transit signal priority
- Vehicle and stop amenities

BRT Concept Cross-Sections



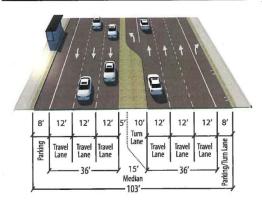
FEHR & PEERS

El Camino Real BRT - Cross Sections

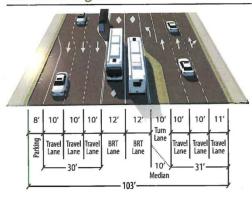
Segment 1: El Camino Real at Silva and Millbrae



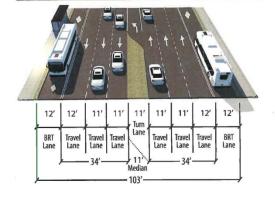
Existing Conditions



Center Running BRT



Side Running BRT



BRT Capital Costs



- 3 potential segments identified
 - SSF to Burlingame 6 miles
 - San Mateo 3 miles
 - San Carlos to Redwood City 1 mile
- \$100 million for 10 miles of bus lanes in each direction
- \$47 million for 74 enhanced stops
- Engineering challenges
- Need for consistency with GBI strategies
- Political challenges

Full BRT Concept



- Ridership forecasts
 - 2040 ECR only ridership 26,700
 - 2040 BRT and ECR ridership 33,800
 - BRT increases ridership 27%
- Operating costs increase \$6.9 million annually

Phasing Plan Details



- Existing Route ECR enhancements
 - Signal priority when funding available
 - Queue jumps when approved by Caltrans
- Introduce Rapid Bus
 - Reduced stop service when funding available
 - Enhanced bus stops when funding available
- Introduce Full BRT
 - Bus Lanes when density and congestion warrants, and funding available
 - Enhanced bus stops when funding available

Summary/Next Steps



- Public input
 - Public meetings
 - GBI Task Force and Working Committee
 - SamTrans CAC
 - Cities and others upon request
- Transit signal priority
 - Ongoing coordination with Caltrans, C/CAG
 - Pursue grants
- Monitor system performance and consider within context of Strategic Plan

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Full BRT Service



- Maintain 2 general lanes and turn lanes in each direction
- Criteria
 - More than two lanes
 - Wide lanes/medians
 - In-street parking
 - Congestion
 - 1-mile minimum
- Lanes allow bus travel at 35 mph