

Fullerton



Garden Grove



Anaheim



Santa Ana

Central Harbor Boulevard Transit Corridor Study

Public Open Houses – Spring 2017



Today's Presentation

- Study Overview
- Review the Draft Alternatives
- Evaluation Criteria
- Outreach Plan/Next Steps
 - How to submit a comment(s)

Study Focus

- Harbor Boulevard between Westminster Avenue and the Fullerton Transportation Center
- Anaheim Boulevard/Lemon Street
- Katella Avenue between Harbor and the Anaheim Regional Transportation Intermodal Center (ARTIC)

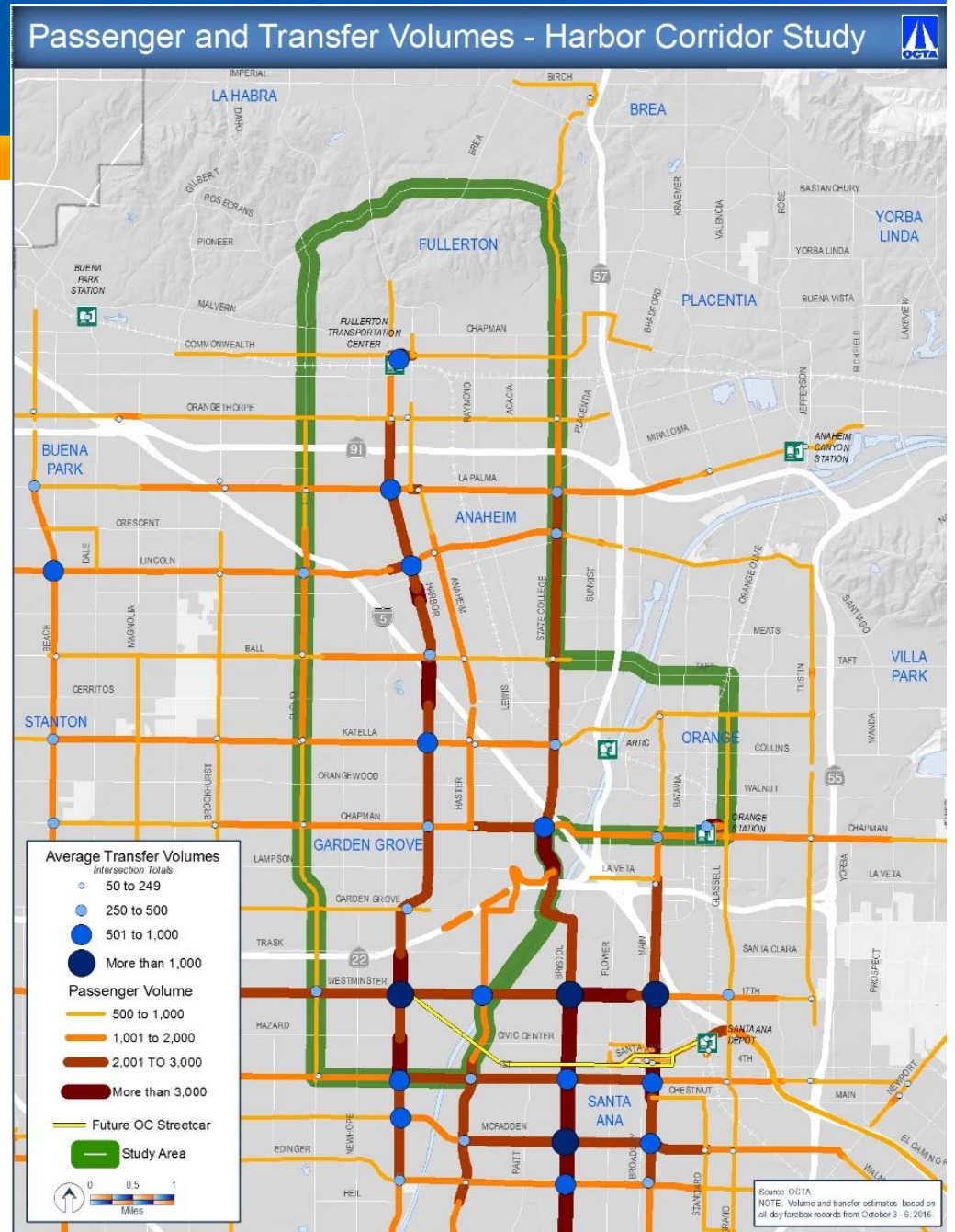


Study Schedule

- **Purpose and Need** Aug 2015-Dec 2016
 - *Corridor Definition, Mobility Needs, Goals & Objectives*
- **Outreach 1** Feb-Apr 2016
- **Alternatives Development** **Feb 2016-Apr 2017**
 - *12 Draft Conceptual Alternatives*
- **Outreach 2** **Feb-Apr 2017**
- **Alternatives Evaluation** Apr-May 2017
- **Draft Final Report** Jul 2017

Mobility Needs

- Highest transit usage
- Commute-focused trips
- 27 Million annual visitors
- More development planned
- Central north-south transit spine



Evaluation Criteria

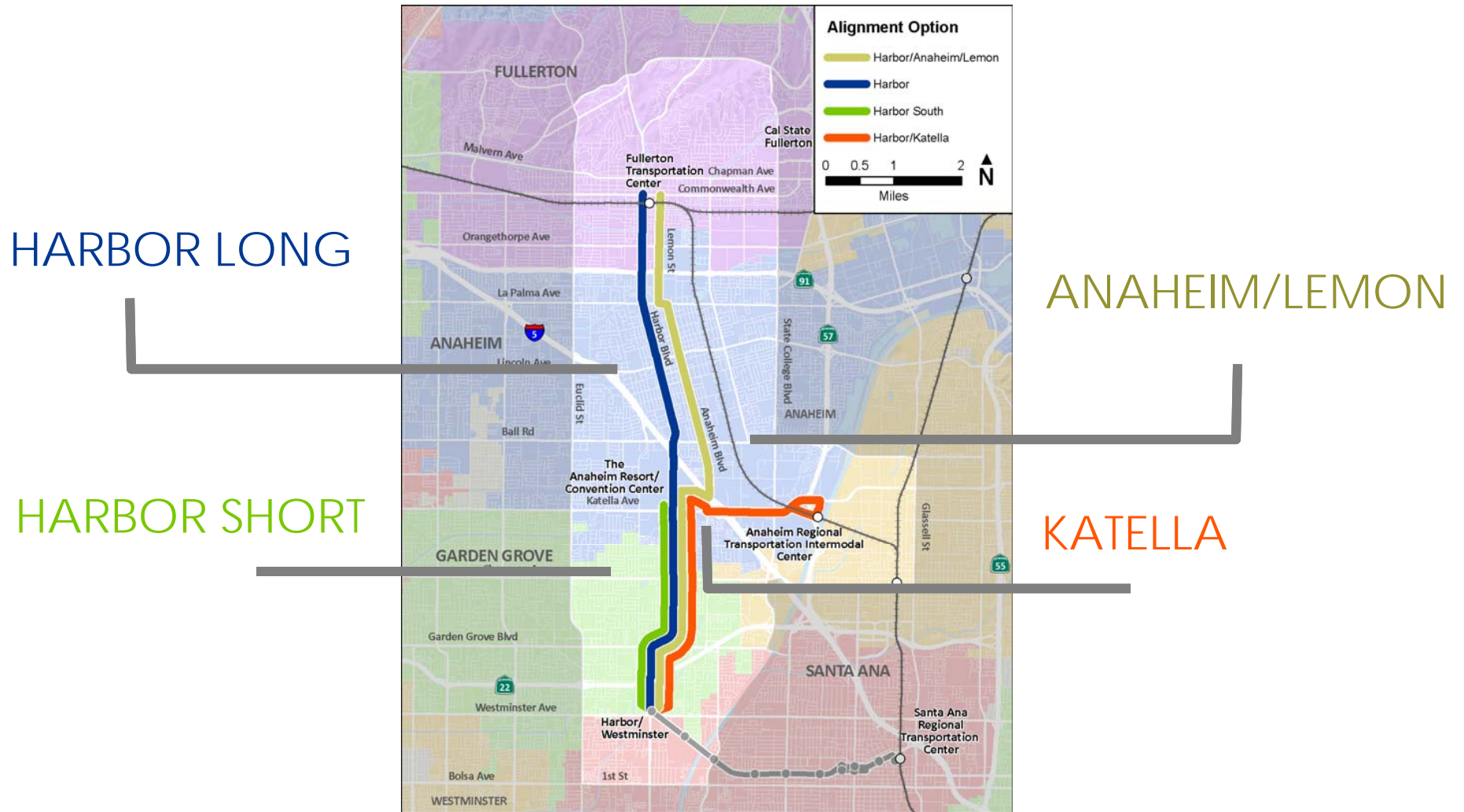
- Transit Performance
- Land Use
- Connectivity
- Corridor Constraints
- Mode Choices/User Experience
- Cost-Effectiveness
- Community Support

#	Criteria
1. Transit Performance	
a	Average Transit Operating Speed
b	Person Throughput
c	Travel Time Reliability / On-Time Performance
d*	Congestion Relief - New Linked Project Trips
2. Land Use	
a*	Transit-Compatible Land Uses - Station Area Population / Employment Density
b*	Economic Development - Transit Supportive Plans and Policies
c*	Environmental Benefits and Impacts - VMT-Related (Traffic, Air Quality, GHG)
d*	Other Environmental Benefits & Impacts (Noise, Historic, etc)
3. Connectivity	
a	Activity Center Connectivity
b	Zero and One Transfer Rides
c*	Compliance with Long Range Regional Mobility Goals
d*	First/Last Mile Connections - Bike/Ped Amenities & Linkages
4. Corridor Constraints	
a	Optimally Allocate Roadway Infrastructure
b	Overall Safety / Collision Hot Spots
c	Optimize Traffic Operations
d	Physical Corridor Constraints (Bridges, Rail Crossings, etc)
5. Mode Choices / User Experience	
a	New Riders (System-Wide)
b	Mode Share
c*	Mobility Improvement - Linked Trips on Project
d	Station User experience / Level of Amenities
6. Cost-Effectiveness	
a*	Cost Effectiveness - Capital + O&M Costs / Project Trips
b	Incremental Cost per New Transit Trip
c	Farebox Recovery
d	Financial Feasibility (Cost, Suitability for Funding, etc)

Note: Starred Criteria match FTA New Starts Evaluation Criteria

7. Community Input	
a	Description of Outreach Plan Activities including Dates and Times
b	Summary of Comments Received and Key Issues

Alignment Options



Mode/Feature Options

Enhanced Bus



- Shares lanes with other cars
- Receives priority at traffic signals and uses bypass lanes at intersections
- Includes state-of-the-art stops with ticket machines
- Carries around 70 people
- Project Cost: \$

Bus Rapid Transit



- Includes all Enhanced Bus features, but travels on a dedicated bus-only lane
- Carries around 120 people in a longer, 60-foot bus
- Project Cost: \$\$

Streetcar



- Shares lanes with cars but travels on its own track embedded in the road
- Powered by overhead wires
- Includes modern stops with ticket machines and allows riders to board from front or rear doors
- Carries up to 150 people (3x as much as regular buses)
- Project Cost: \$\$\$

“Rapid” Streetcar



- Includes all Streetcar features, but uses a dedicated streetcar-only lane
- Faster than a regular streetcar or bus
- Project Cost: \$\$\$\$

12 Draft Alternatives

HARBOR LONG

- H-2: Harbor Long Streetcar
- H-3: Harbor Rapid Streetcar
- H-4: Harbor Enhanced Bus
- H-5: Harbor Bus Rapid Transit

HARBOR SHORT

- H-1: Harbor Short Streetcar



ANAHEIM/LEMON

- L-1: Anaheim/Lemon Streetcar
- L-2: Anaheim/Lemon Rapid Streetcar
- L-3: Anaheim/Lemon Enhanced Bus
- L-4: Anaheim/Lemon BRT

KATELLA

- K-1: Katella Streetcar
- K-2: Katella+ Anaheim/Lemon Enhanced Bus
- K-3: Katella + Harbor Hybrid

No Build Alternative

Alignment:

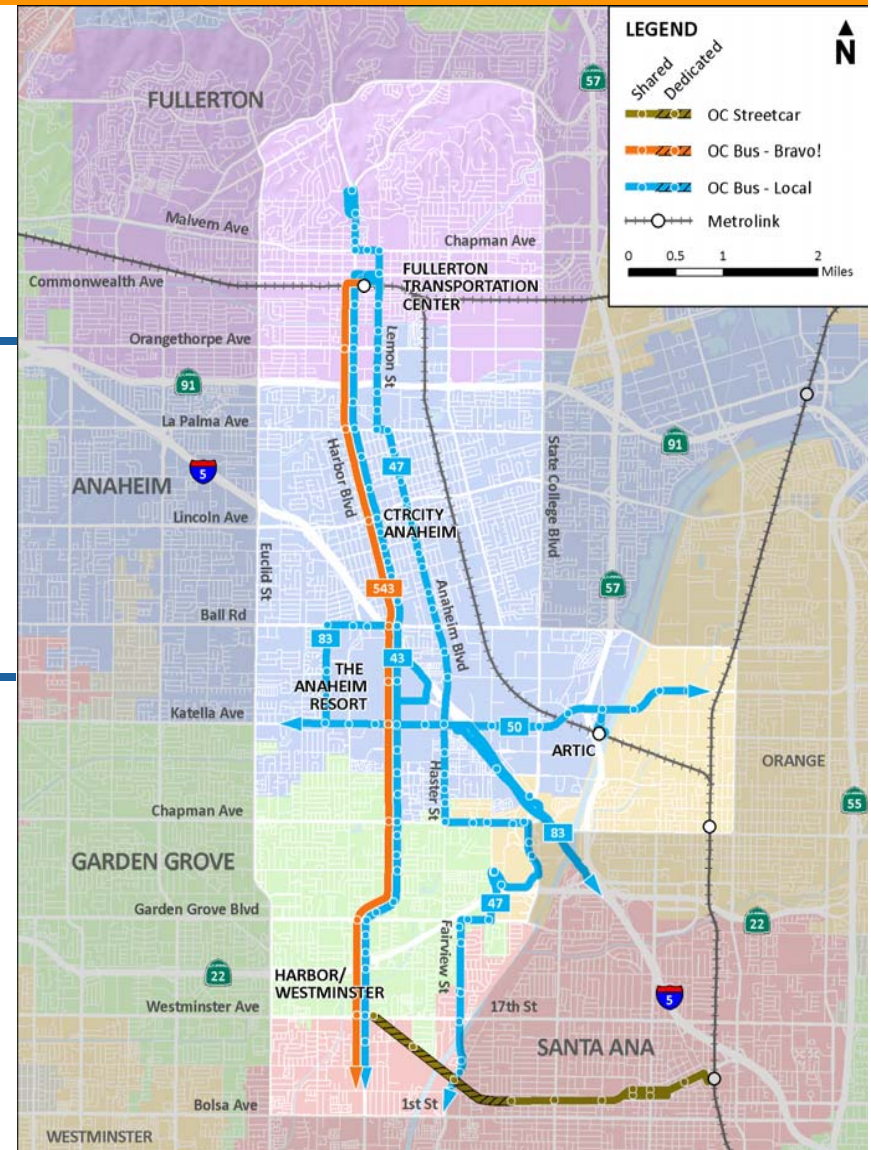
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Unchanged	Unchanged
Harbor Bravo! 543	Katella Local 50
Unchanged	Unchanged



H-1: Harbor Short Streetcar

Alignment:

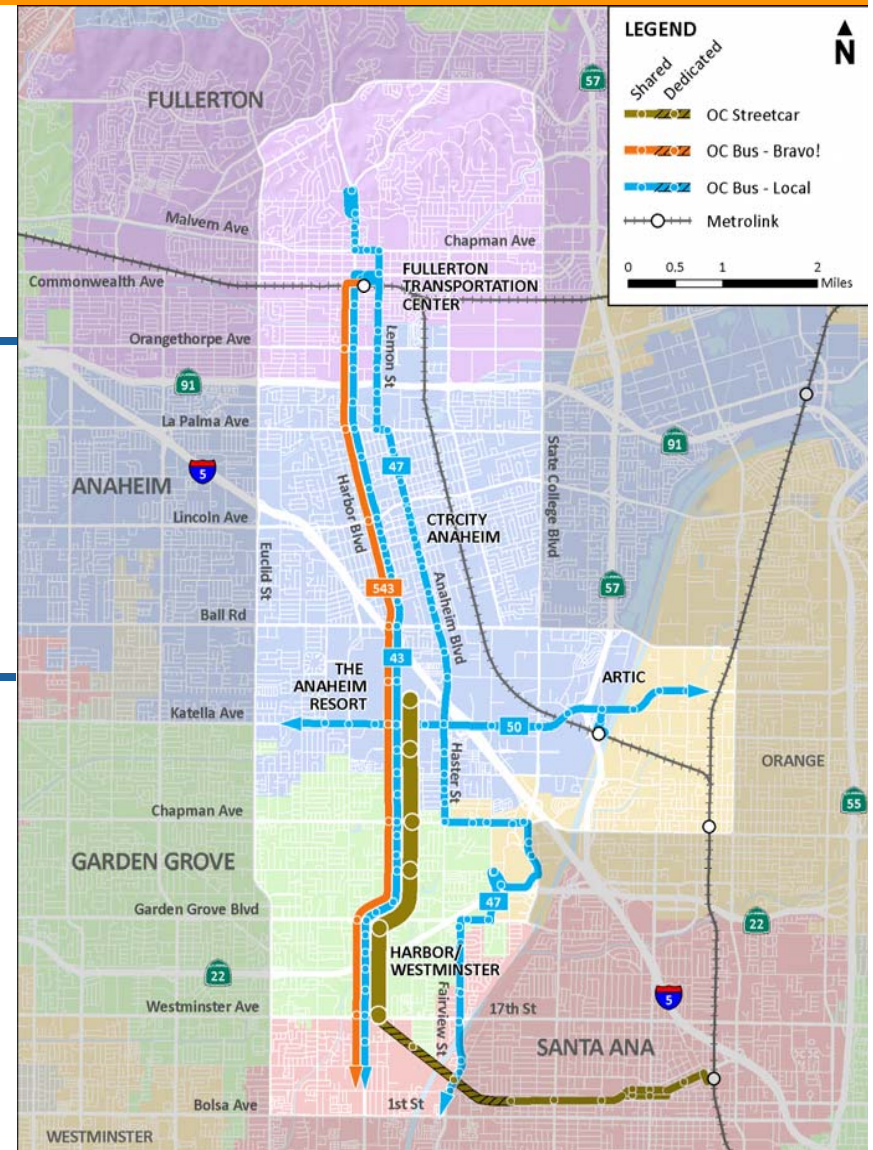
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Unchanged	Unchanged
Harbor Bravo! 543	Katella Local 50
Unchanged	Unchanged



H-2: Harbor Long Streetcar

Alignment:

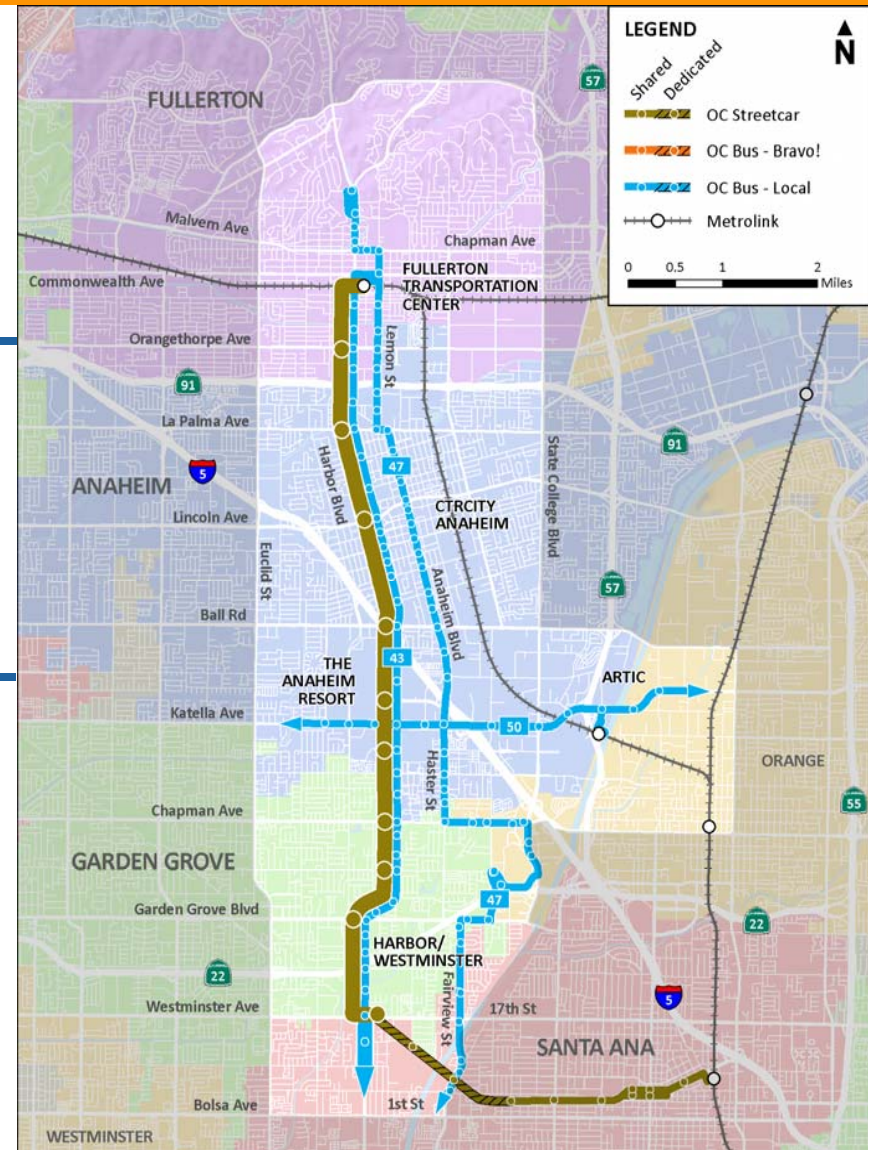
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Enhanced S of Westminster	Unchanged
Harbor Bravo! 543	Katella Local 50
Discontinued	Unchanged



H-3: Harbor Rapid Streetcar

Alignment:

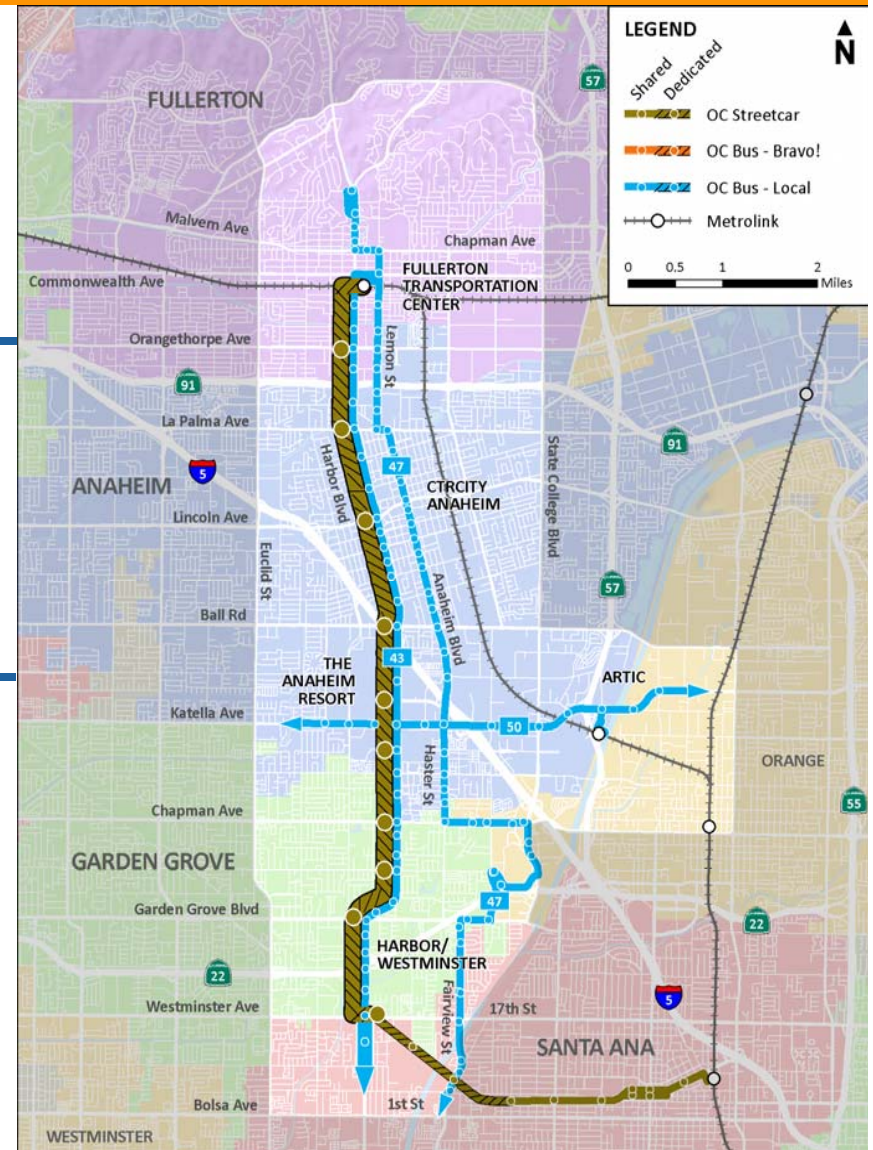
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Enhanced S of Westminster	Unchanged
Harbor Bravo! 543	Katella Local 50
Discontinued	Unchanged



H-4: Harbor Enhanced Bus

Alignment:

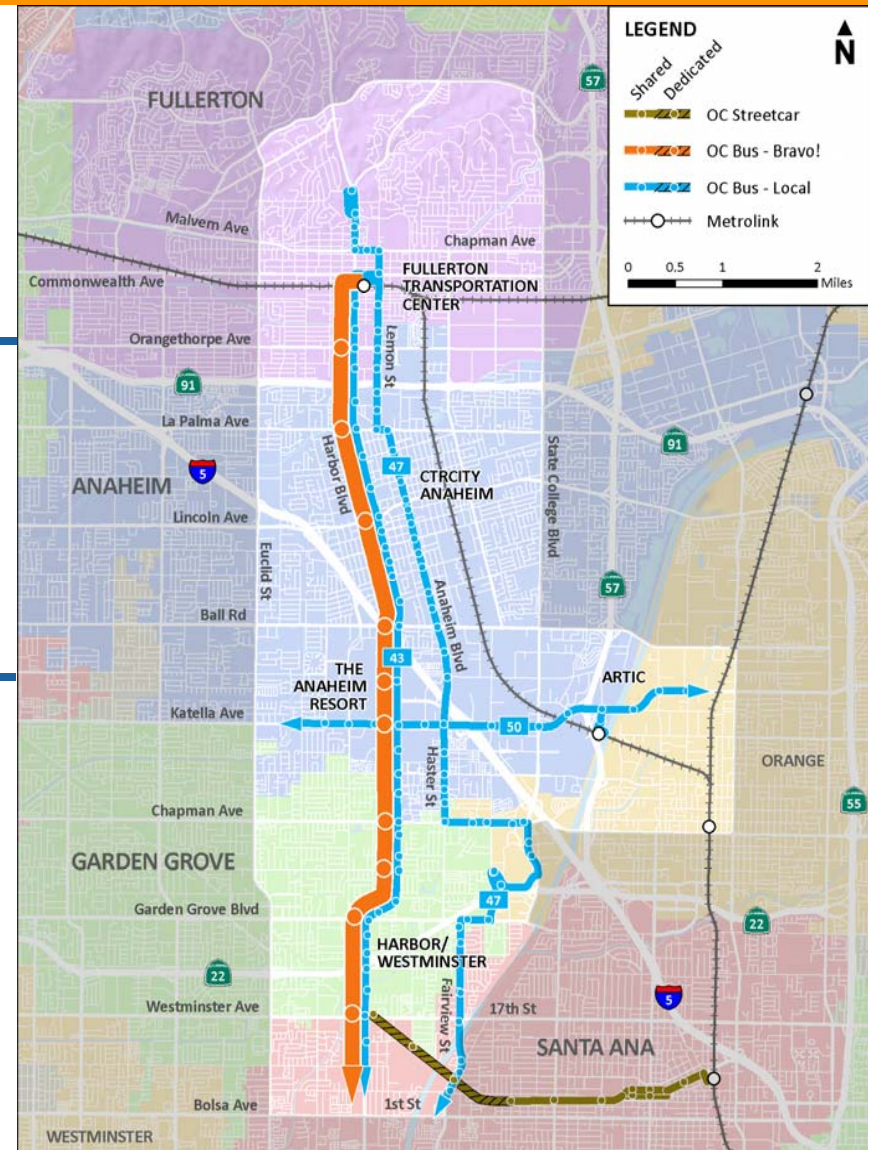
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Unchanged	Unchanged
Harbor Bravo! 543	Katella Local 50
Enhanced	Unchanged



H-5: Harbor Bus Rapid Transit

Alignment:

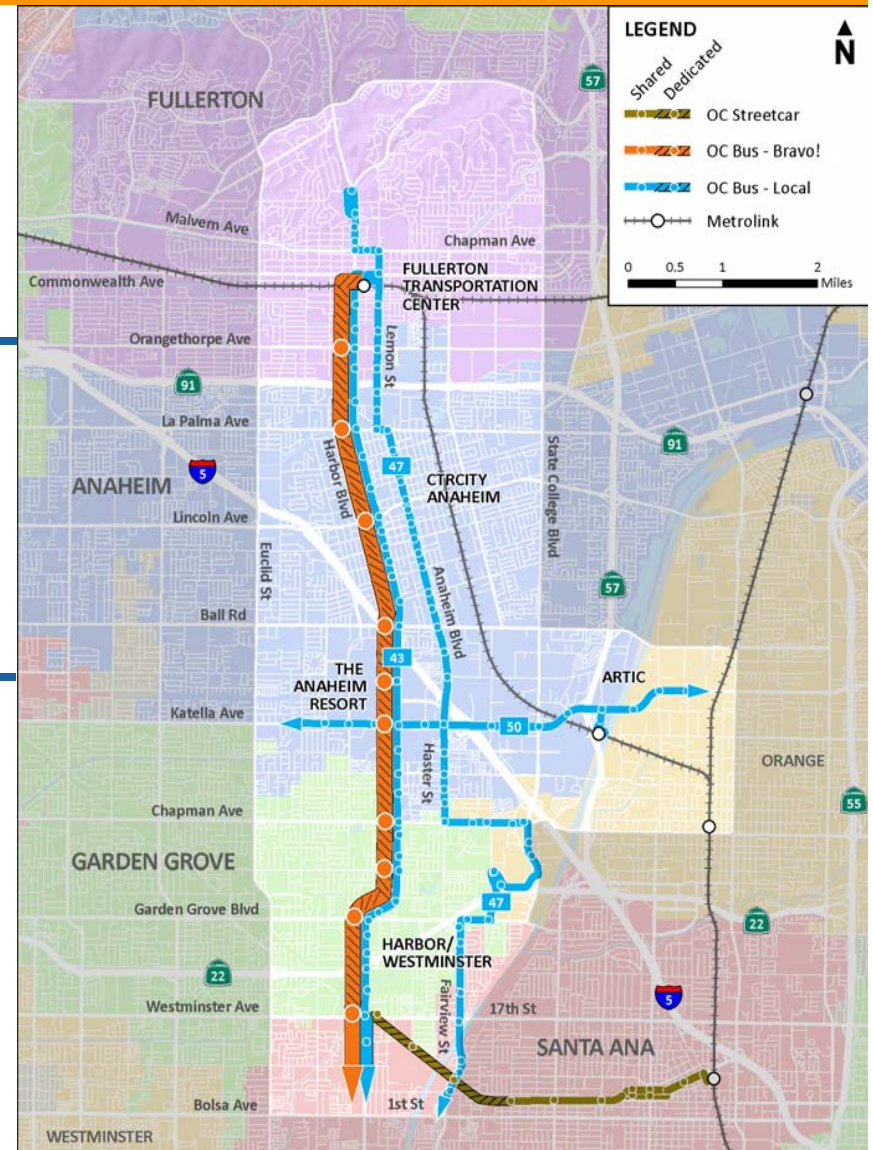
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Unchanged	Unchanged
Harbor Bravo! 543	Katella Local 50
Discontinued	Unchanged



L-1: Anaheim/Lemon Streetcar

Alignment:

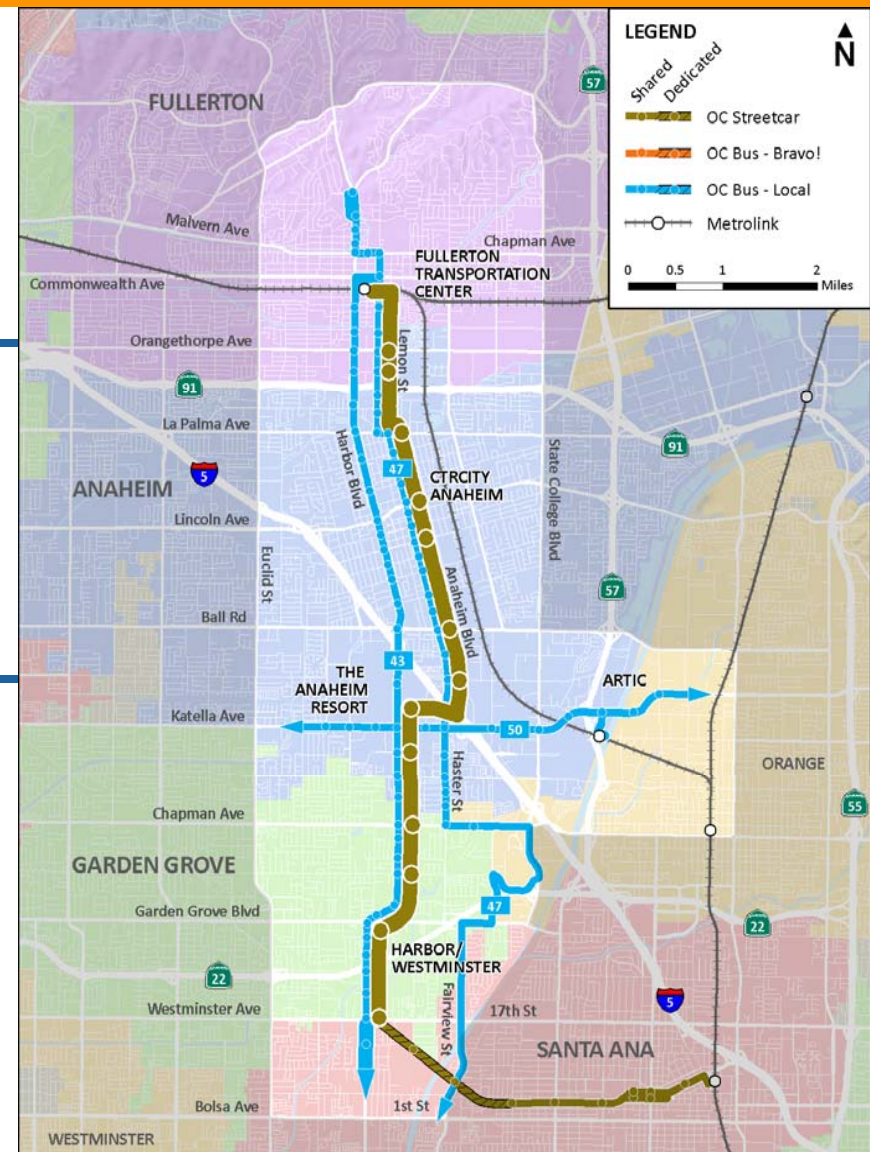
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Enhanced S of Westminster	Unchanged
Harbor Bravo! 543	Katella Local 50
Discontinued	Unchanged



L-2: Anaheim/Lemon Rapid Streetcar

Alignment:

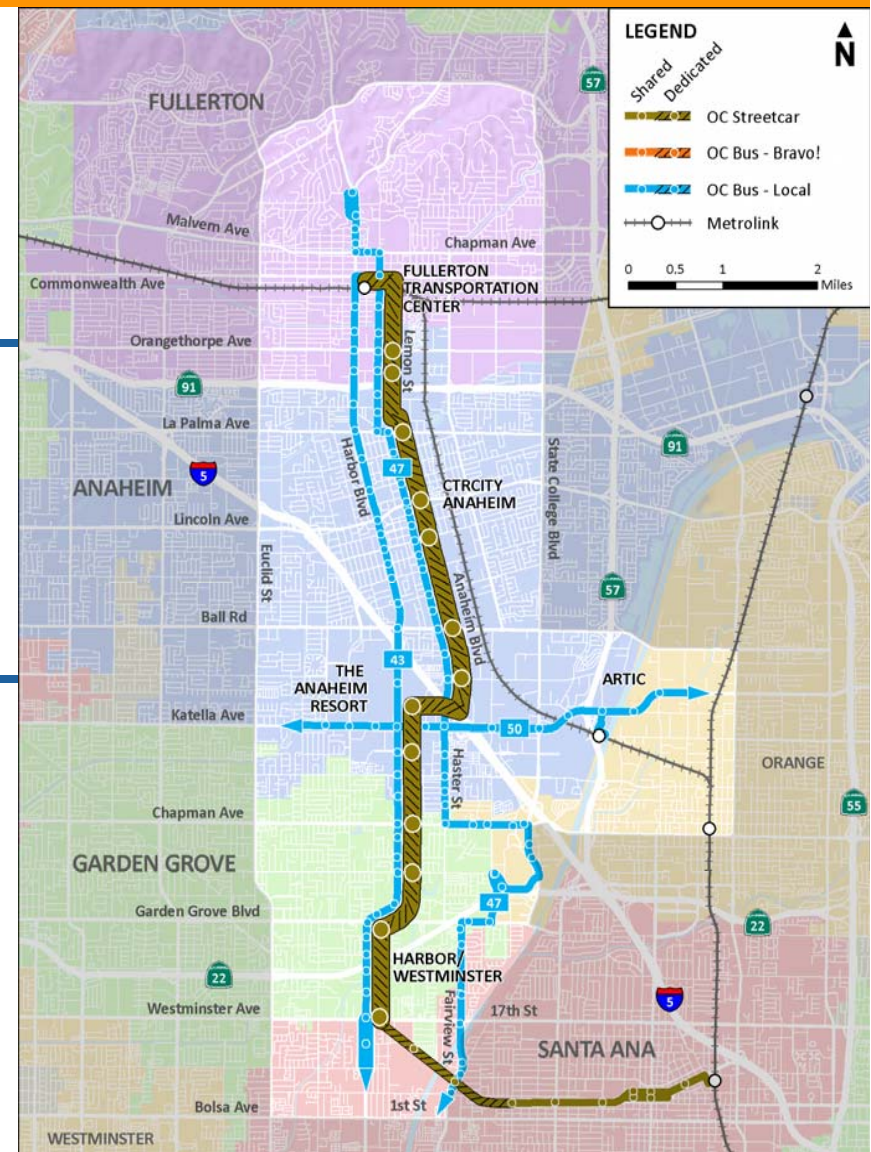
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Enhanced S of Westminster	Unchanged
Harbor Bravo! 543	Katella Local 50
Discontinued	Unchanged



L-3: Anaheim/Lemon Enhanced Bus

Alignment:

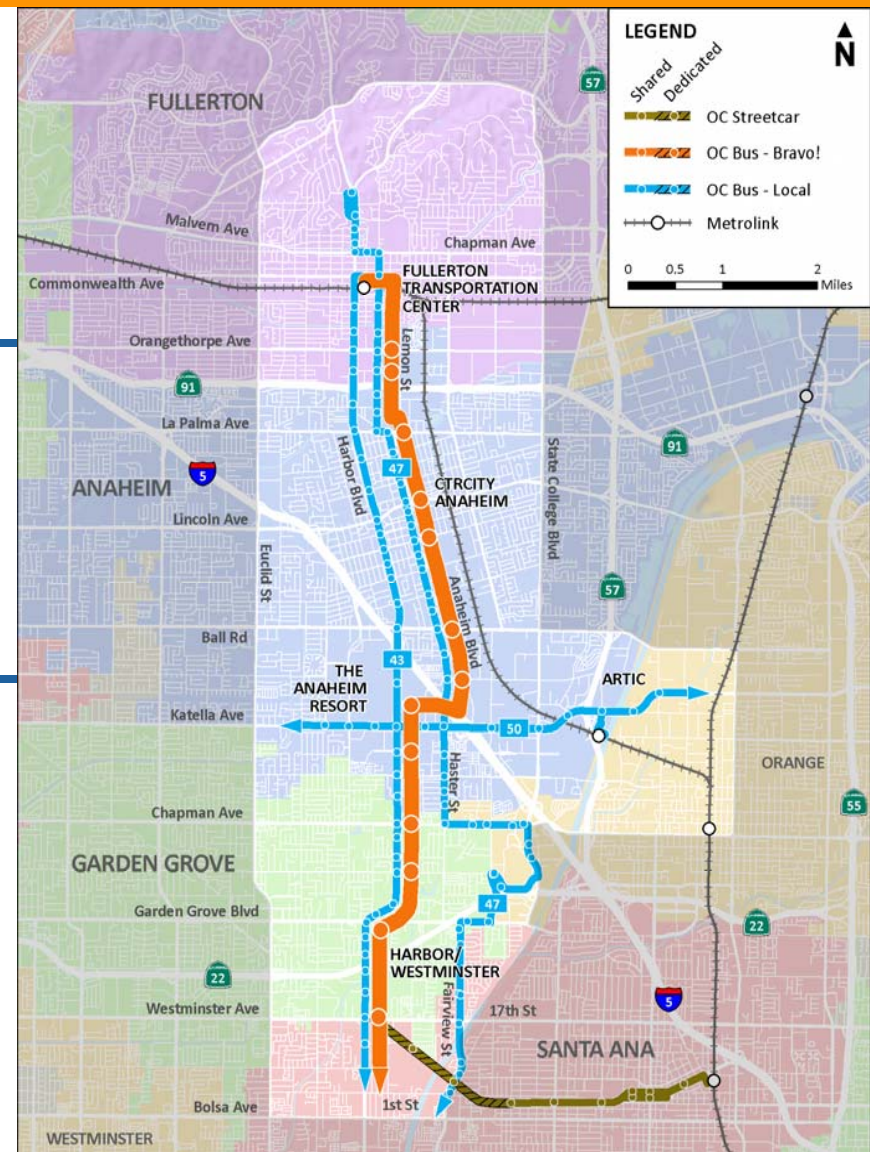
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Unchanged	Unchanged
Harbor Bravo! 543	Katella Local 50
Enhanced/Rerouted	Unchanged



L-4: Anaheim/Lemon Bus Rapid Transit

Alignment:

Harbor South

Anaheim/Lemon

Harbor North

Katella

Mode:

Enhanced Bus

Streetcar

Bus Rapid Transit

Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43

Anaheim/Lemon Local 47

Unchanged

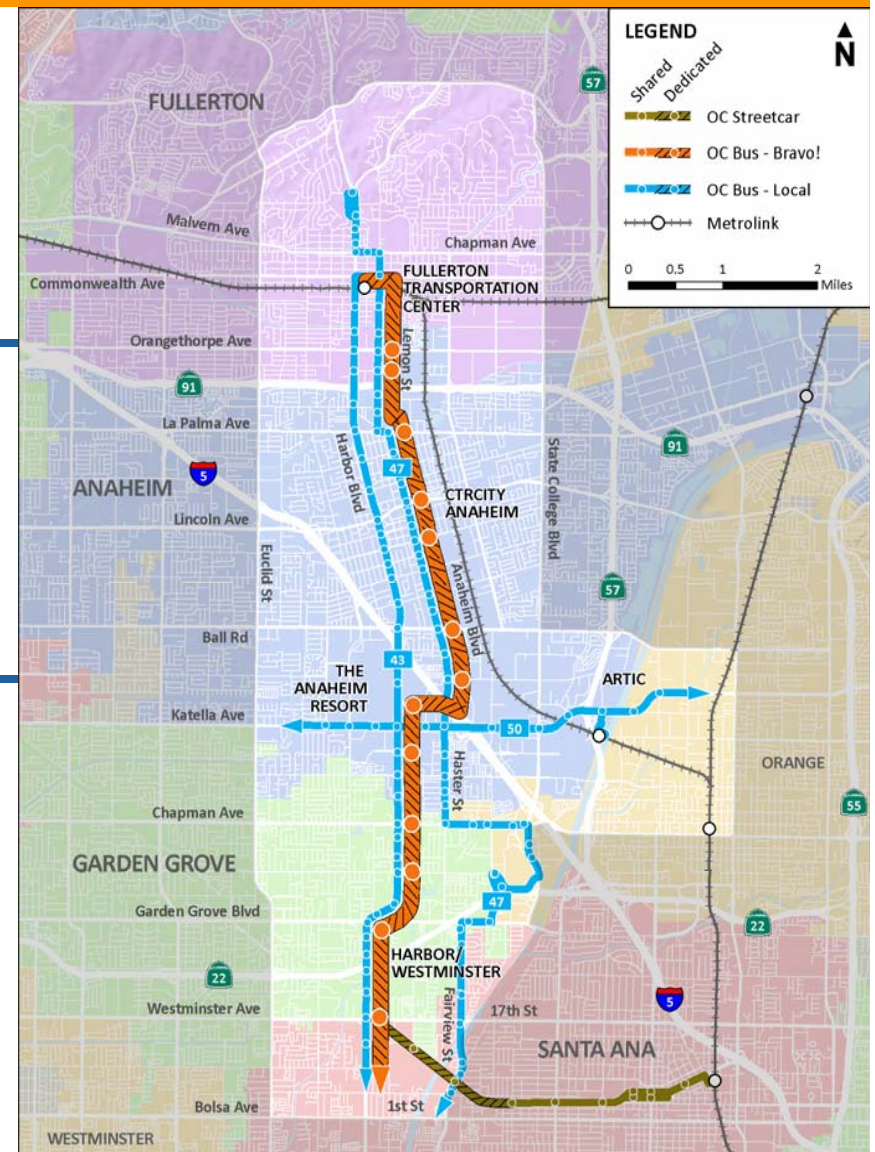
Unchanged

Harbor Bravo! 543

Katella Local 50

Discontinued

Unchanged



K-1: Katella Streetcar

Alignment:

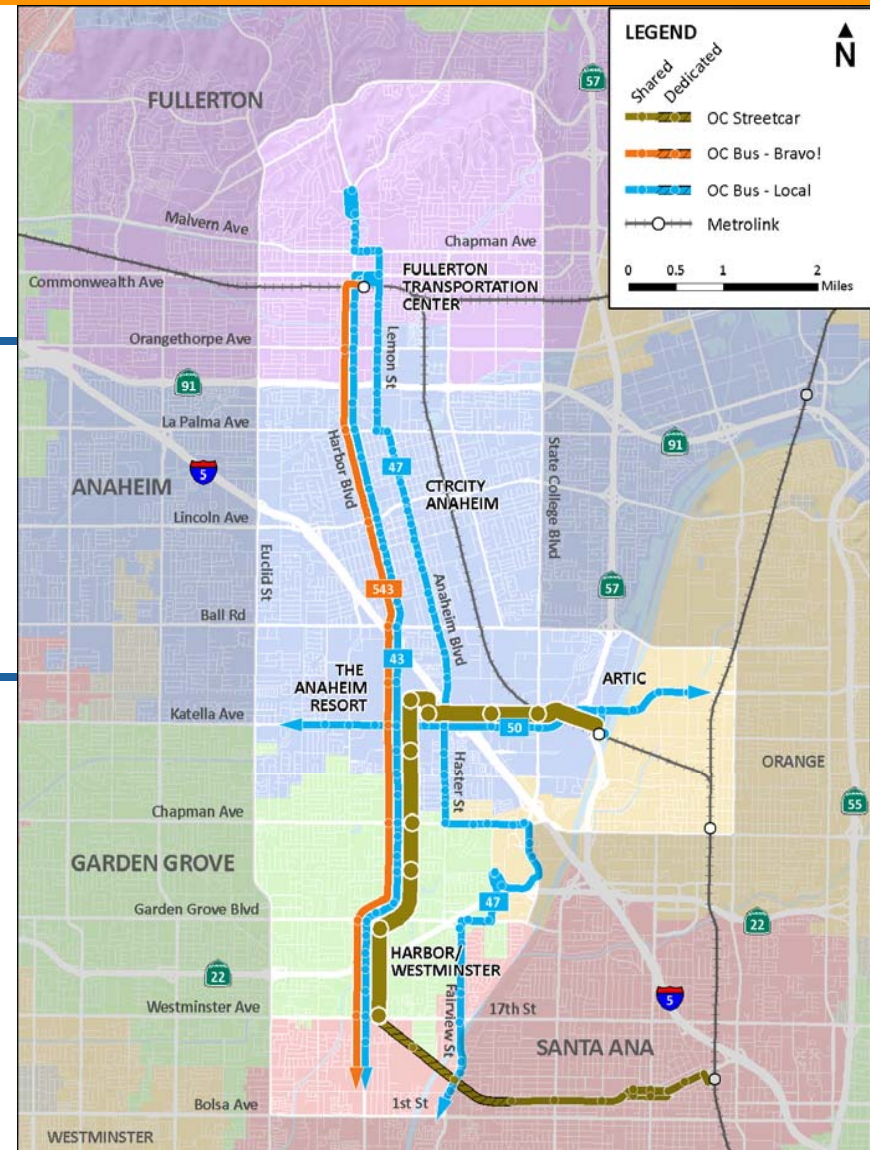
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Unchanged	Unchanged
Harbor Bravo! 543	Katella Local 50
Unchanged	Unchanged



K-2: Katella + Anaheim/Lemon Enhanced Bus

Alignment:

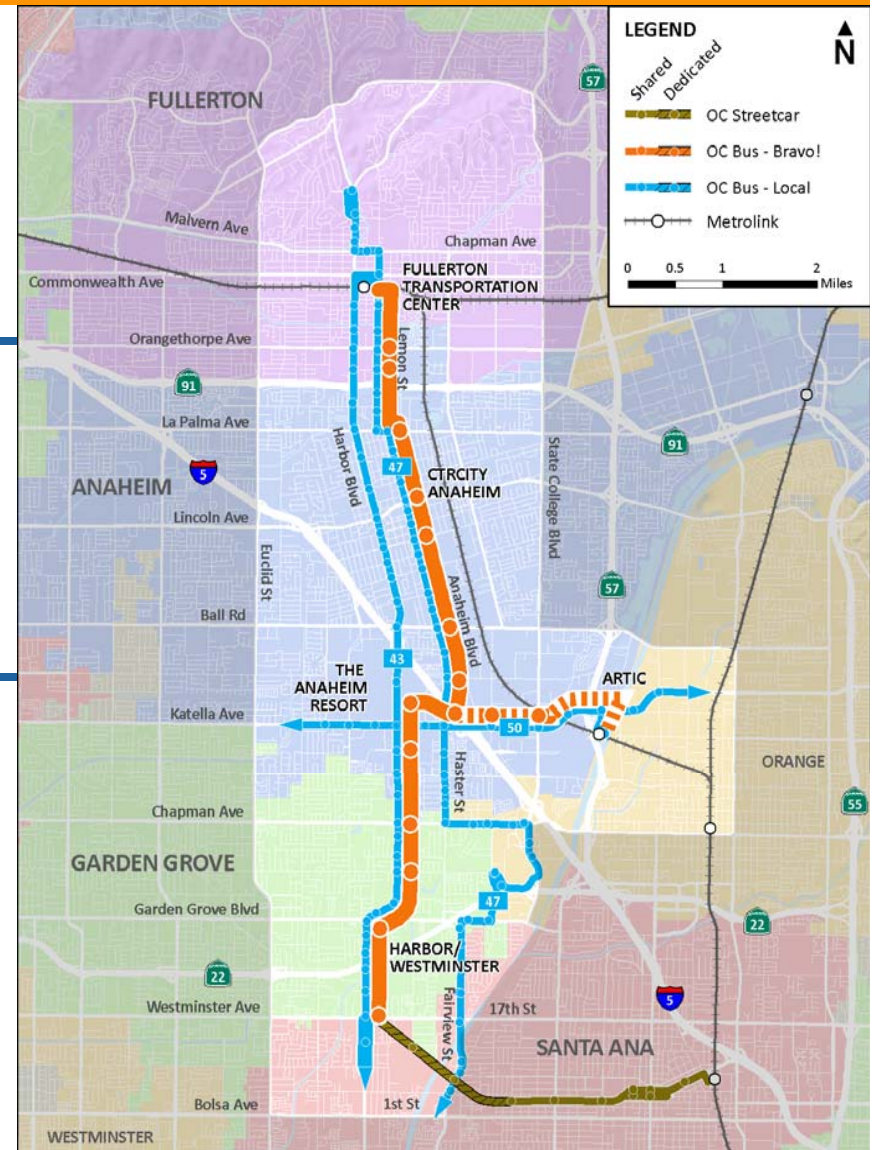
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Enhanced S of Westminster	Unchanged
Harbor Bravo! 543	Katella Local 50
Enhanced/Rerouted	Unchanged



K-3: Katella + Anaheim/Lemon Streetcar-Enhanced Bus Hybrid

Alignment:

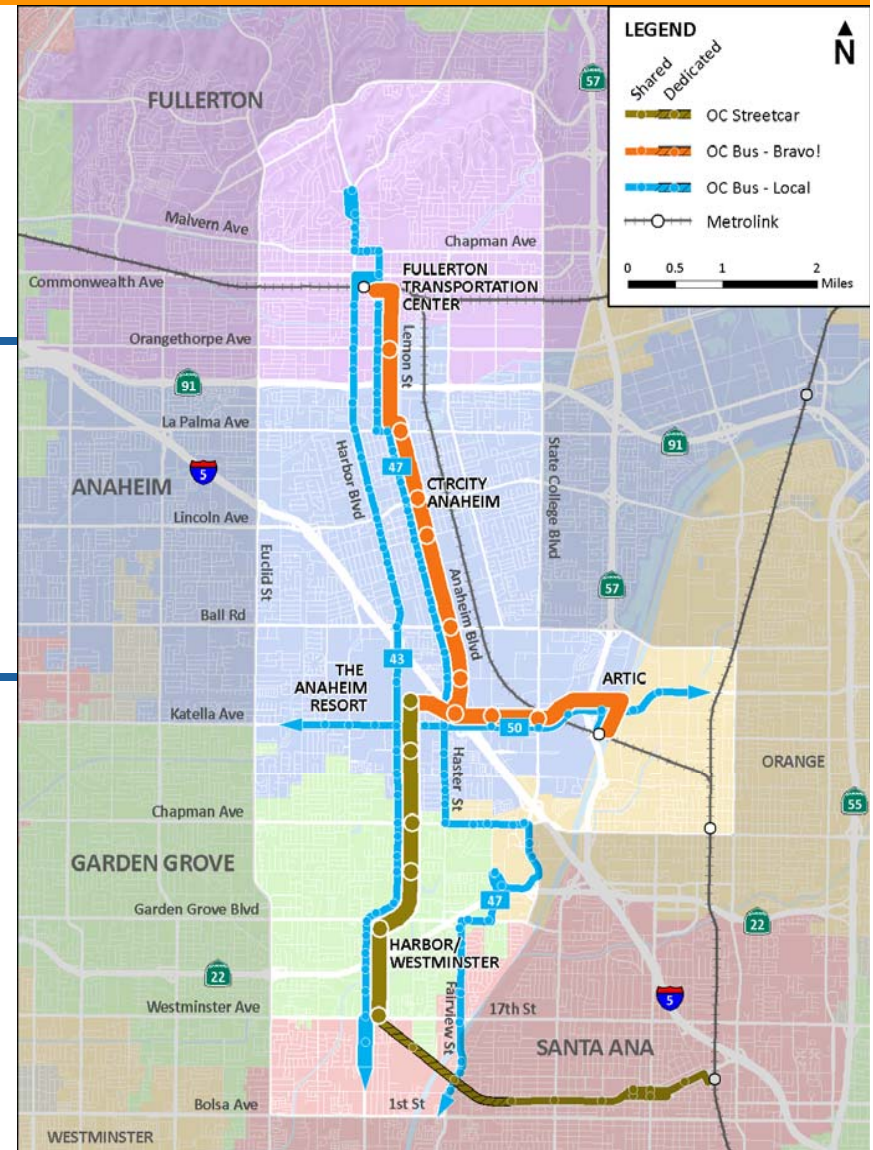
Harbor South	Anaheim/Lemon
Harbor North	Katella

Mode:

Enhanced Bus	Streetcar
Bus Rapid Transit	Rapid Streetcar

Changes to Existing OCTA Bus Service:

Harbor Local 43	Anaheim/Lemon Local 47
Unchanged	Unchanged
Harbor Bravo! 543	Katella Local 50
Enhanced/Rerouted	Unchanged



Next Steps

- Open Houses
 - April 5: Anaheim
- Refine draft alternatives based on comments received
- Evaluate alternatives
- Draft Final Report
 - Summary of results
 - Recommendations

Staying Involved

- Online Tools:
 - Project Website:
 - www.octa.net/harborgetinvolved
 - Online public engagement tool
 - Public can comment on individual areas or project as a whole
 - Virtual Open House