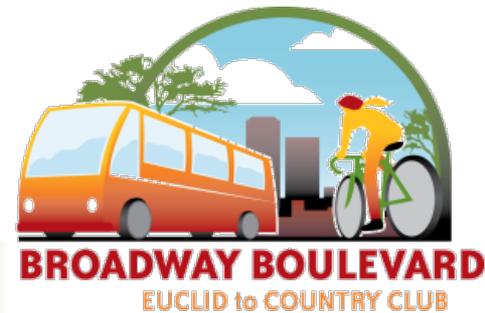


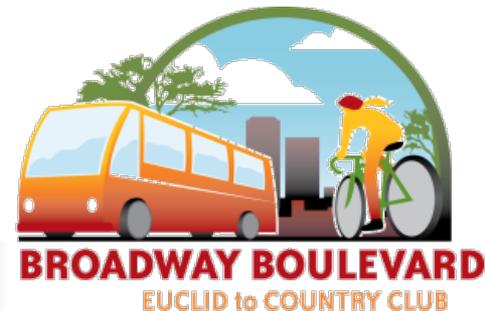
Introduction to Transit, PAG's High Capacity Transit Study, and Bus Rapid Transit (BRT)

Carlos de Leon, Deputy Director
Tucson Department of Transportation



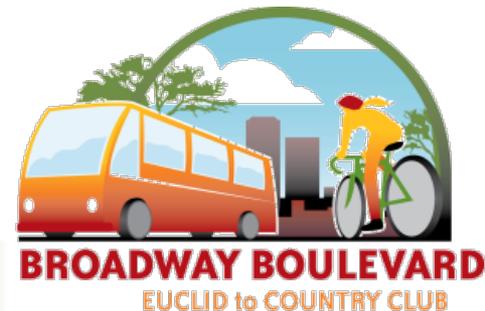
Presentation Overview

- Current Transit on Broadway Blvd.
- Potential Options – High Capacity Transit
 - Bus Rapid Transit
- PAG/RTA BRT Implementation Analysis
- Questions And Answers



Current Transit on Broadway

- Two Routes
 - Route 8
 - Route 108 Express



Current Transit on Broadway

- Route 8
 - Runs Broadway Blvd. & South 6th Ave. at 15 min. freq. (trunk); Branches at Broadway & Wilmot at 30 min. freq.
 - Highest ridership route in Sun Tran system
 - 3,182,789 million boardings in FY11-12
 - About 55% (1,733,666) boardings along Broadway Blvd.
 - Broadway segment 2nd highest in Sun Tran system behind Route 16 – 12th Ave/Oracle
 - About 9 % of total Sun Tran ridership

Current Transit on Broadway

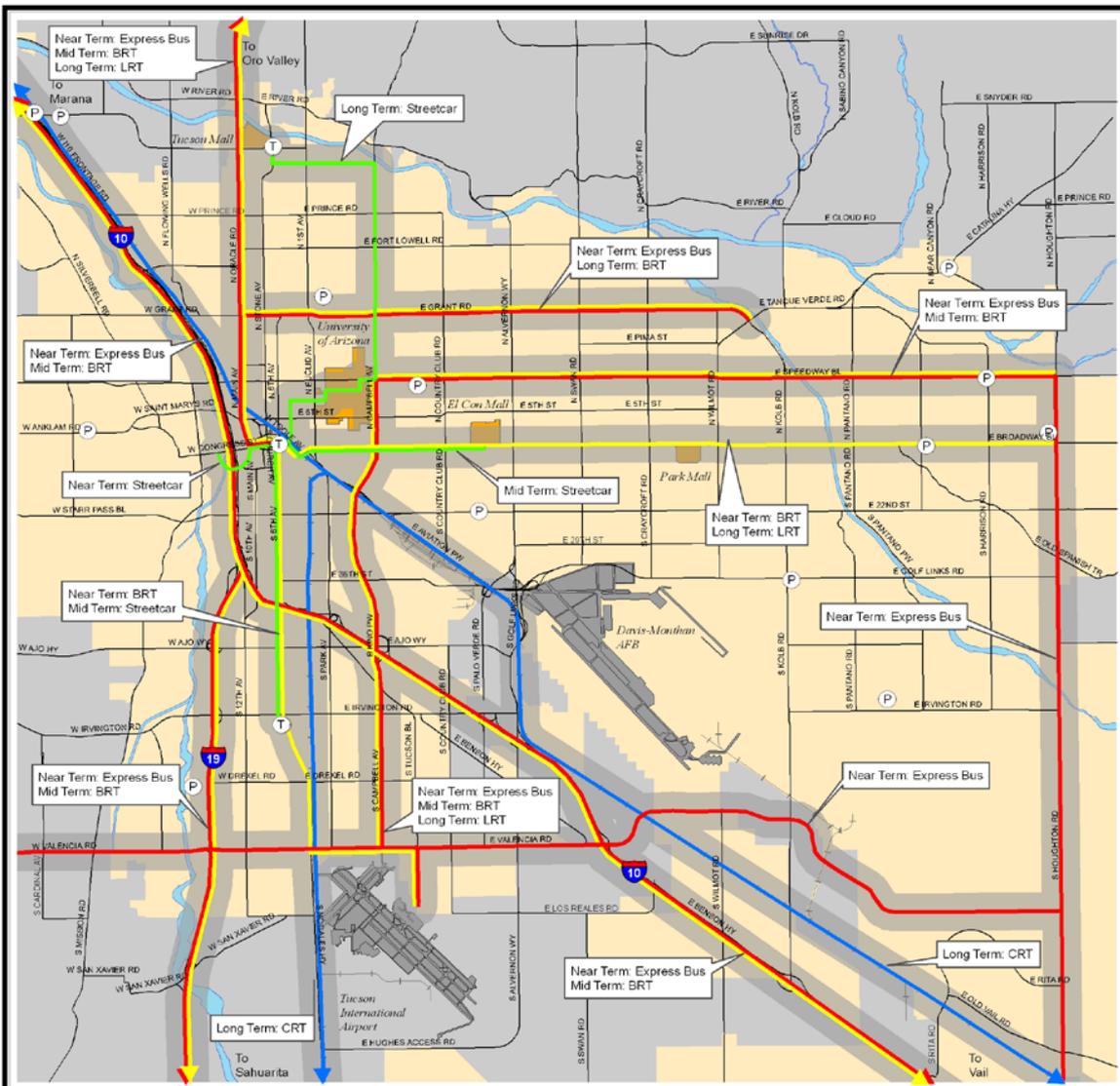
- Route 108 Express
 - 3 trips in A.M., 3 trips in P.M.
 - Limited stops
 - 22,596 boardings in FY11-12
 - Performs at average of Sun Express system
 - The only express route with parallel Sun Tran service along entire route

Potential Transit Options

- 2009 High Capacity Transit System Plan
 - High Capacity Transit (HCT)
 - High volume of passengers
 - Fast and convenient service
 - Types
 - Express Bus
 - Modern Streetcar
 - Bus Rapid Transit
 - Light Rail
 - Commuter Rail

Potential Transit Options

- 2009 High Capacity Transit System Plan
 - Sixteen Initial Corridors Identified
 - Eight Selected Corridors for Evaluation:
 - Ridership
 - Right of Way Availability
 - Potential Capital and Operating Costs
 - Two Priority Corridors Identified:
 - Broadway Blvd.
 - 6th Avenue/Nogales Highway



Legend

- | | | | |
|--|-----------------|---------------|---|
| Express Bus | Transit Station | Interstate | Implementation Period
Near Term: 0 -10 yrs
Mid Term: 10 - 20 yrs
Long Term: > 20 yrs |
| Bus Rapid Transit (BRT)/
Light Rail Transit (LRT) | Park & Ride | Arterial Road | |
| Streetcar | | Railroad | |
| Commuter Rail (CRT) | | | |



Broadway HCT Options

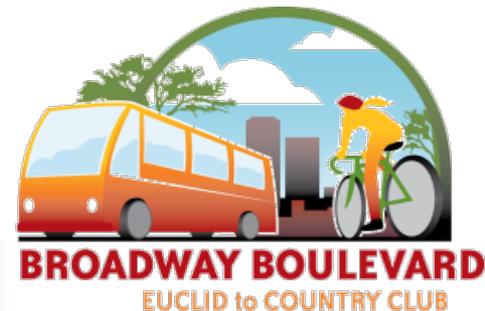
- Bus Rapid Transit in Near Term, 0-10 years
- Streetcar between Downtown and El Con Mall in Mid Term, 10 to 20 Years
- Light Rail in Long Term > 20 years



Bus Rapid Transit

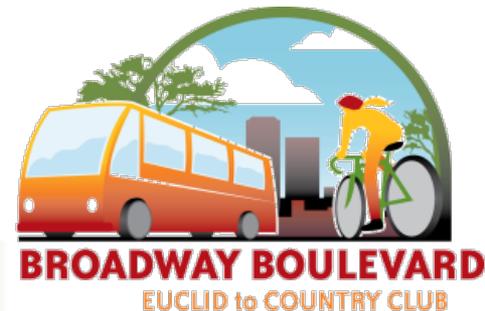
“Bus Rapid Transit can best be described as a combination of facility, systems, and vehicle investments that ***convert conventional bus services into a fixed-facility transit service***, greatly increasing their efficiency and effectiveness to the end user.”

Federal Transit Administration, Bus Rapid Transit Demonstration Program, December 2002.



BRT Benefits to Passengers

- Reduced transit travel time
- Increased trip reliability
- Improved transit connections and more direct service
- Decreased station stop dwell times and waiting times
- Enhanced system identity
- Increased travel comfort



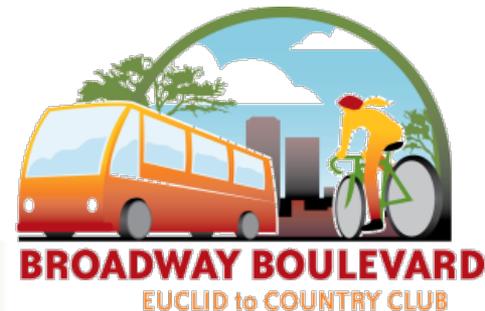
BRT Elements

- Running ways
- Stations
- Vehicles
- Fare Collection
- Intelligent Transportation Systems (ITS)
- Service Structure
- Branding



Running Way

- Defines BRT travel parameters
- Most critical component in determining system performance
- Important to public perception and identity
- Characteristics of running ways
 - Running way type
 - Running way markings
 - Running way guidance



Running Way – Mixed Flow



Running Way – On Street Bus Lane



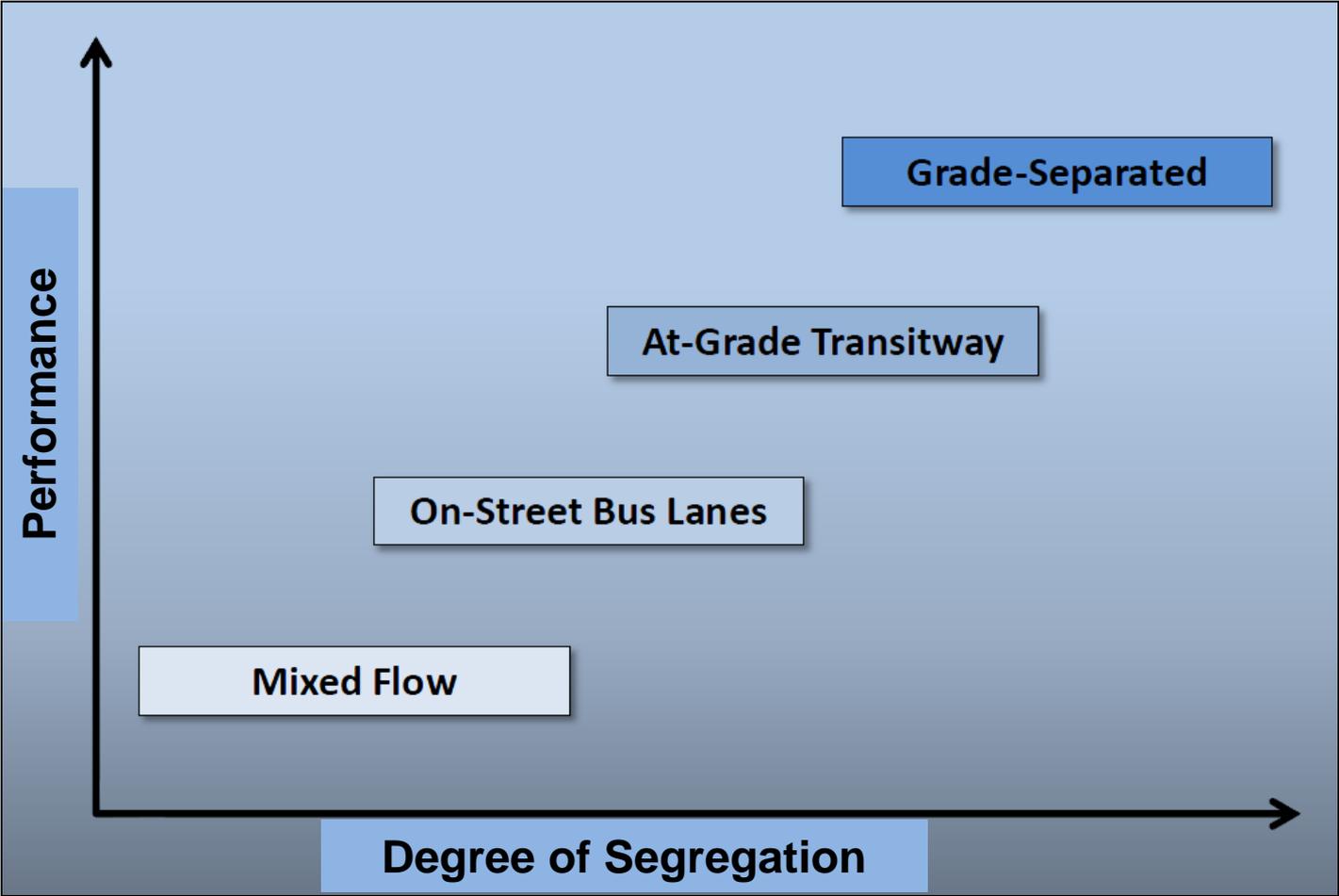
Running Way – At Grade Separated



Running Way – Grade Separated



Running Way Types



BRT Spectrum

BRT Attribute	Basic Implementation	Intermediate Implementation	Full-Featured Implementation
Right-of-Way	Mixed Traffic	Designated/HOV/Barrier-Separated Lanes	Exclusive/Grade Separation
Stations	Improved Passenger Amenities	Enhanced Passenger Information & Fare Collection	Enhanced Loading
Service	Improved Service Frequency	Skip Stop & Express Service Options High Frequency & Reliability	Convenient Transfers
Route Structure	Single Route with Transfers, Color Coding	Multiple Route Operations with Transfer Facilities Integration with Regional Transit	One Seat Rides Transfer Reduction
Intelligent Transportation System	Signal Priority	Automated Passenger Information	Vehicle Location and System Surveillance

PAG/RTA Broadway BRT Analysis

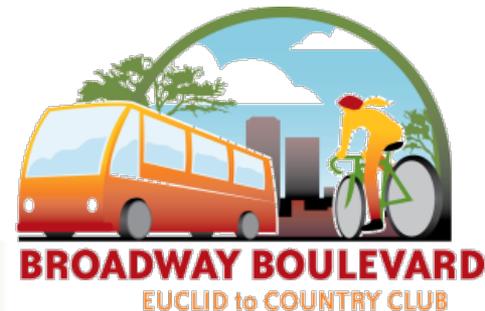
- Transit Working Group
- Sketch level Planning
 - Using FTA Guidelines
 - Broadway Corridor – Houghton to Downtown (Euclid)
- Modeling Three Implementation Alternatives
 - At-Grade, Separated Center Lane

PAG/RTA Broadway BRT Analysis

- Modeling Three Implementation Alternatives
 - Outside Lane On-Street/Mixed Traffic
 - On-Street Bus Lane (Existing + Euclid to Country Club)
 - Mixed Traffic (County Club to Columbus & Camino Seco to Houghton)
 - Hybrid
 - Center lane (Euclid to Country Club)
 - Mixed Traffic (Country Club to Columbus)
 - Outside On Street Bus Lane (Columbus to Camino Seco)
 - Mixed Traffic (Camino Seco to Houghton)

PAG/RTA Broadway BRT Analysis

- Model outcome – travel time and ridership estimates between alternatives
- Potential Transit Working Group Recommendation on Preferred Running Way and Information to help Broadway Blvd design alternatives and preserve opportunity for BRT and other HCT options



Thank you

Questions?

