

# Call to the Audience Guidelines

- 2 Call to the Audience opportunities
- Must fill out participant card
- Participants called in the order cards are received
- 3 minutes allowed per participant
- CTF Facilitator will call on speakers and manage time
- CTF members cannot discuss matters raised
- CTF cannot take action on matters raised
- CTF members can ask project team to review an item



# **BROADWAY BOULEVARD**

EUCLID to COUNTRY CLUB

# Meeting Agenda

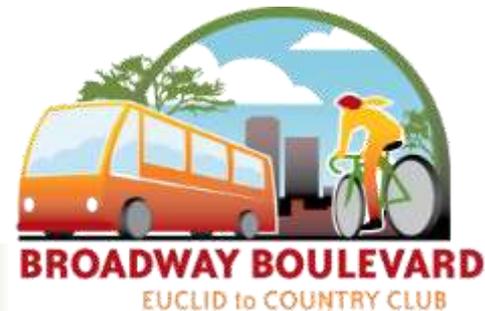
1. Call to Order/Agenda Review/Announcements
2. 1<sup>st</sup> Call to the Audience *15 min*
3. Public Input Report, and Reports on Project Presentations & Outreach *5 min*
4. Update and Discussion of Future Broadway Corridor High Capacity Transit Improvements *50 min*
5. Review Potential Cross Sections and Performance Assessments, and Potentially Endorse a Representative Set of them to Move Forward into Review by Stakeholder Agencies *85 min*
6. Considerations for September Public Meeting #3 *10 min*
7. 2<sup>nd</sup> Call to the Audience *10 min*
8. Next Steps/CTF Roundtable *15 min*
9. Adjourn

# Call to the Audience

15 Minutes

**Please limit comments to 3 minutes**

- Called forward in order received
- CTF members cannot discuss matters raised
- CTF cannot take action on matters raised
- CTF members can ask project team to review an item



# Review Public Input Report

*Jenn Toothaker*

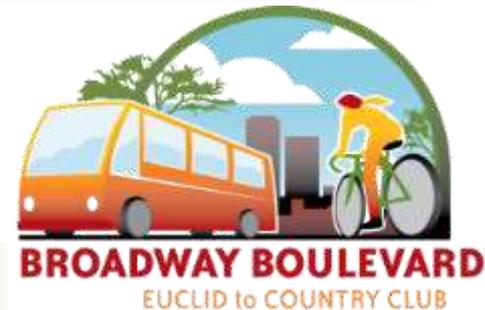
WORKSHEET: BROADWAY TO COUNTRY CLUB - Public Input Report  
6/20/2013 8:11:58AM

#	Date	Author	Response	Issue	Issue	Response Taken	Resolution	Notes
1	5/21/2013	Public	Public	Public	The existing Section 102(1) comment collector at the public meeting.	Requesting Authority Staff and underlying staff review.		
2	5/21/2013	Public	Public	Public	Request to provide additional information regarding the Broadway project to CTF.	Requesting Authority Staff.		
3	5/21/2013	Public	Public	Public	Request for information about whether private use (recreational or commercial) is allowed on the property.	Requesting Authority Staff.		
4	5/21/2013	Public	Public	Public	Request for information about whether private use (recreational or commercial) is allowed on the property.	Requesting Authority Staff.		
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10	5/21/2013	Public	Public	Public	Request for information about whether private use (recreational or commercial) is allowed on the property.	Requesting Authority Staff.		

Public Input Report consists of a spreadsheet and attachments:

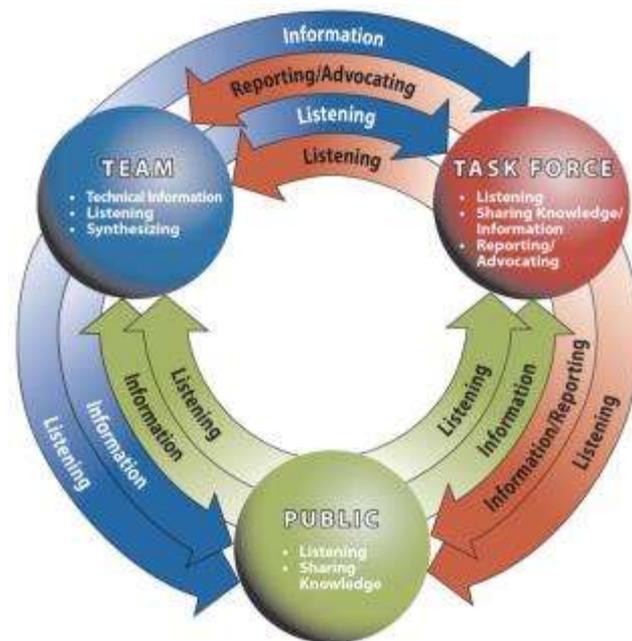
- **Spreadsheet** = Input received from 5/21/2013 - 6/9/2013
- **Attachments** = Documentation of only new input received

The screenshot shows the RTA website interface for the Broadway Project. It includes a navigation menu with links like 'Government', 'Neighborhoods', 'Business', 'City Info', 'Programs', and 'A-Z Resources'. The main content area is titled 'PUBLIC INPUT REPORT' and includes a 'Spreadsheet' link for the current report (5/21/2013 - 6/9/2013). Below this is a table with columns for 'INPUT RECEIVED/RESPONSE' and 'TECHNICAL RESPONSE, if needed'. The table has 10 rows, with the first row containing a date (5/21/2013) and a response (Requesting Authority Staff). The right sidebar contains contact information for the project, including the name 'Liz Adams', title 'Project Manager', and phone number '520.622.6844'.



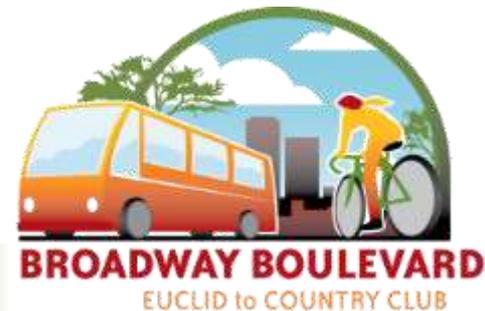
# Reports: Past and Upcoming Project Presentations & Outreach

- June 3, 2013 CTAC Meeting



# Update and Discussion of Future Broadway Corridor High Capacity Transit Improvements

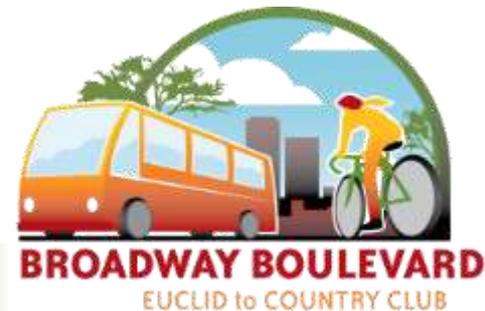
**Carlos de Leon, Deputy Director**  
City of Tucson Department of Transportation



# Purpose of Presentation

To provide more information to the Broadway Citizens Task Force (CTF) for them to consider in determining how to accommodate HCT on Broadway during development of corridor concepts, including:

- Update the CTF on rough initial Bus Rapid Transit (BRT) modeling results
- Provide BRT design concept and best practices information for consideration during this Broadway segment's planning & design process



# Presentation Outline

- Brief Review of Current Bus Transit Services
- Brief Review of PAG's High Capacity Transit Plan (HCTP) Recommendations
- Overview of Bus Rapid Transit (BRT) and BRT Elements
- Results from Initial BRT Conceptual Analysis
- Considerations for How to Preserve the Opportunity to Implement Future HCT on Broadway

# Brief Review of Current Bus Transit Service





# Current Transit on Broadway

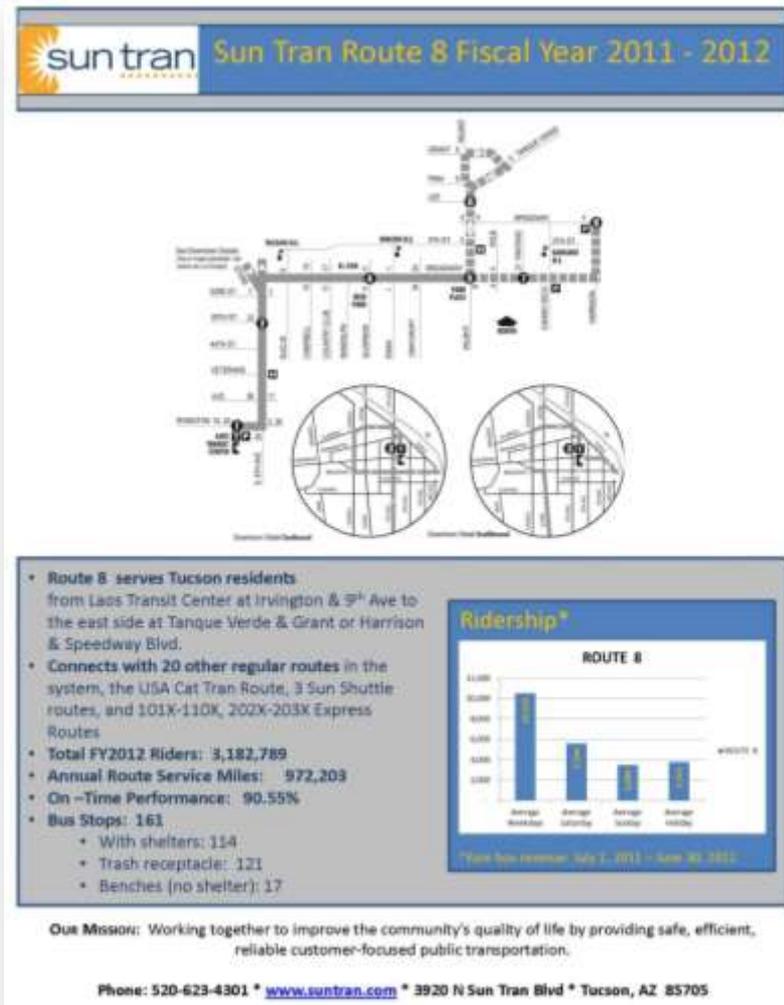
- **Route 8**

- Runs Broadway Blvd. & S. 6<sup>th</sup> Ave. every 15 mins.; Branches at Broadway & Wilmot, every 30 mins.

- 161 Bus Stops

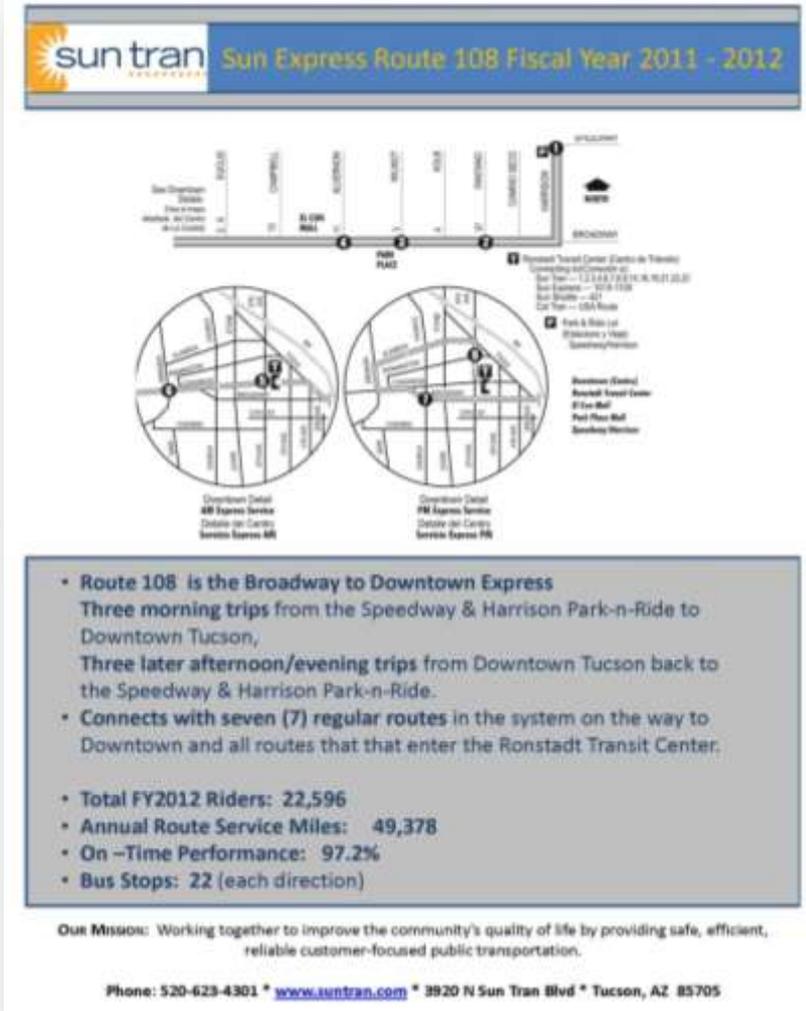
- Highest ridership route in Sun Tran system

- 3,182,789 million boardings, FY11-12
- About 55% (1,733,666) boardings along Broadway Blvd.
- About 9 % of total Sun Tran ridership

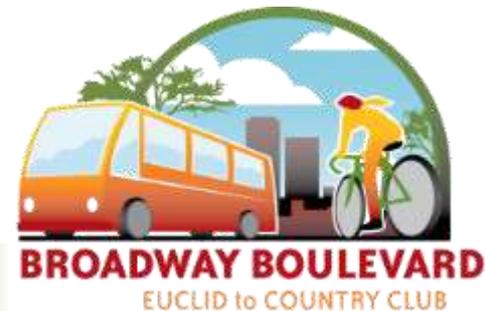


# Current Transit on Broadway

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



# Brief Review of PAG's 2009 High Capacity Transit Plan Recommendations



# 2009 High Capacity Transit Plan

## Recommendations

- 2009 Plan completed by Pima Association of Governments
- Provides a financially unconstrained menu of options, to be implemented based on funding availability
  - High Capacity Transit (HCT)
    - High volume of passengers
    - Fast and convenient service
  - Types
    - Express Bus
    - Modern Streetcar
    - Bus Rapid Transit
    - Light Rail
    - Commuter Rail

# 2009 High Capacity Transit Plan Recommendations

- 2009 High Capacity Transit System Plan performed initial evaluations and identified priority corridors
  - 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

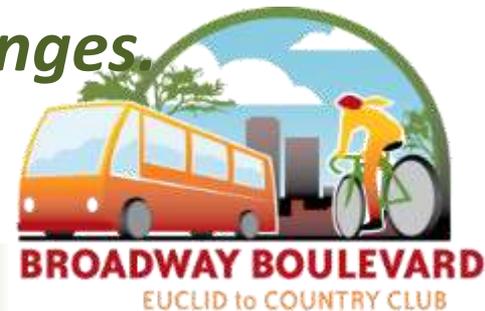
# 2009 High Capacity Transit Plan Recommendations

- Identified Broadway Corridor for BRT
  - Favorable future ridership projections
    - 3,887 daily riders (~ 120,497 monthly ridership)
    - In 2011-2012 counts, this would be the 4<sup>th</sup> highest ridership route in the system
  - Existing bus lanes
  - Planned expansion
  - Relative low cost
  - Conducive to Transit-Oriented Development (TOD)
  - Serves transit-dependant populations

# 2009 High Capacity Transit Plan Recommendations

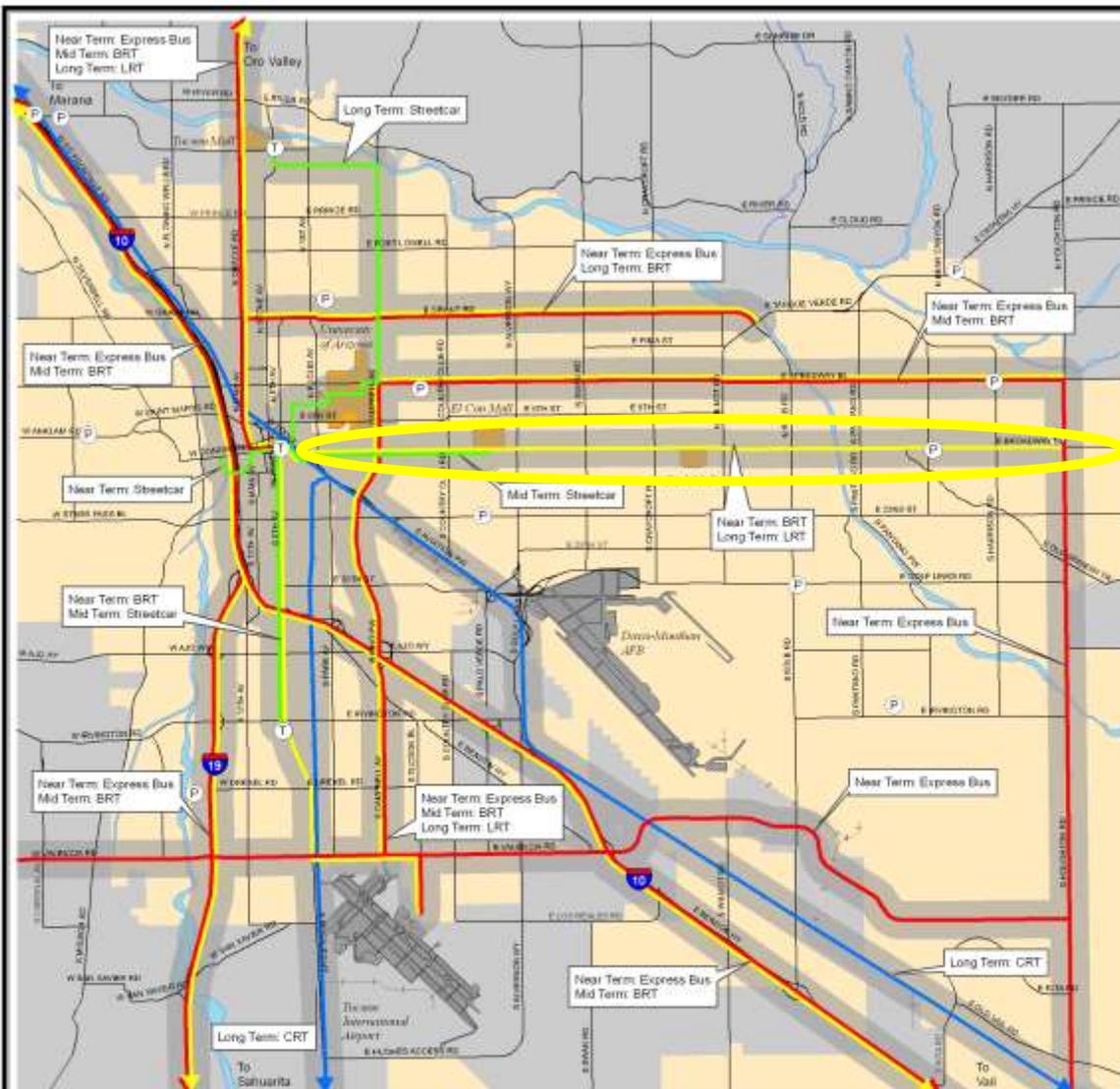
“There do not appear to be any constraints to implementing BRT service on Broadway Boulevard in the near term. In fact, the existing transit facilities within this corridor, including dedicated transit lanes and the upcoming transit priority signal timing upgrade, make implementation of BRT relatively straightforward.”

*This statement is generally true of Broadway to the east of Alvernon, but within this Broadway: Euclid to Country Club project area, there are challenges.*



# Major Activity Centers Along Broadway





**Legend**

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

0 400 800 1600 Feet

# 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



# Overview of Bus Rapid Transit (BRT) and BRT Elements



# BRT Spectrum & Related Capital Costs

**BRT – “Lite”**  
Swift BRT - Everett



**“Hybrid” BRT**  
Eugene EmX



**Full BRT**  
Orange Line - LA



\$2-5 million per mile\*

\$5–10 million per mile\*

\$10–30 million per mile\*

Image credit: Viggiano and Gonsalves,  
Parsons Brinckerhoff

\* Likely overestimates Broadway’s full cost, since much of the Right-of-Way on the corridor is already available.

# BRT Spectrum

“Lite”

“Hybrid”

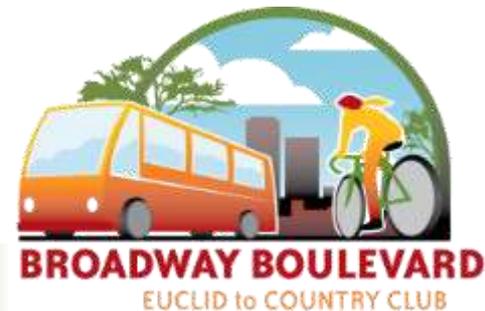
Full  
Full-Featured  
Implementation

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

# 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

## User Experience

- 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
- Enhanced safety and security

## Broad Benefits

- Capital Cost Effectiveness
- Operating Cost Efficiency
- Transit-supportive land development
- Environmental Quality

# BRT Systems

- Started in Curitiba, Brazil in 1974
  - Applied world wide in major urban areas
  - 20 systems in U.S., 1 systems rated as silver and 4 bronze by Institute of Transportation and Development Policy
- Bus Rapid Transit Around the World



## U.S. Silver Rated Systems

Cleveland, OH

## U.S. Bronze Rated Systems

Eugene, OR

Los Angeles, CA

Pittsburg, PA

Las Vegas, NV

# BRT Elements

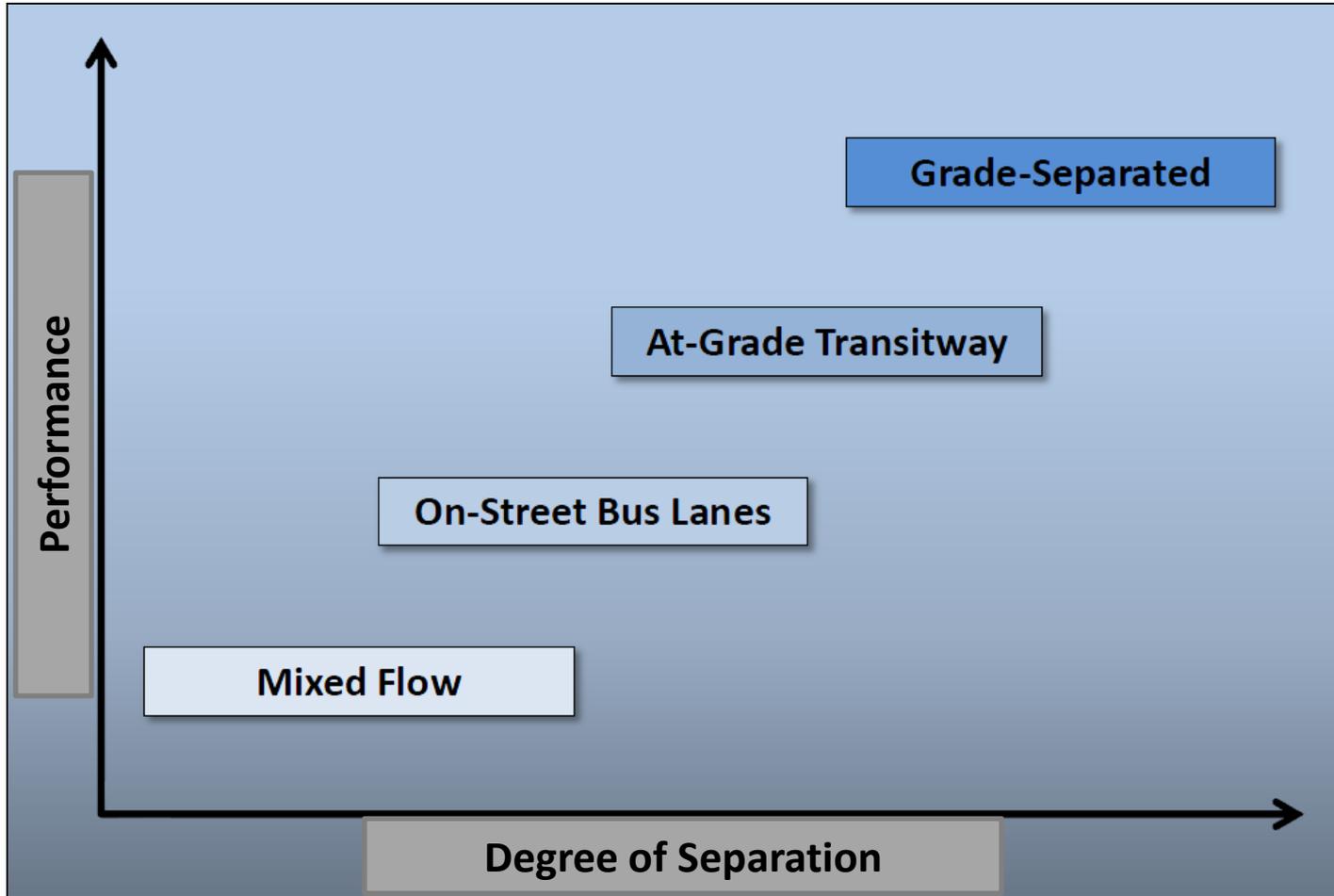
- Running ways
- Stations
- Vehicles
- Fare Collection
- Intelligent Transportation Systems (ITS)
- Service Structure & Relationship to Existing Bus Transit
- Branding



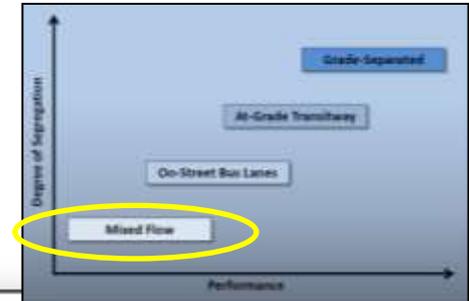
# Running Way

- 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

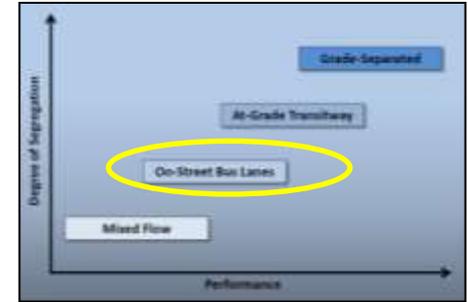
# Running Way Types



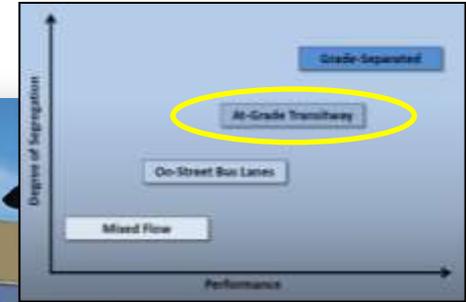
# Running Way – Mixed Flow



# Running Way – On Street Bus Lane



# Running Way – At Grade Separated



# Running Way – Grade Separated



# Stations

- Level boarding
- Real-time information
  - Arrival time
  - Route maps
  - Schedule
- Enhanced amenities
  - Increased comfort: shade, fare vending, other vending
  - Enhanced safety: lighting, emergency telephones, video cameras



# Vehicles



# Fare Collection

- On-Board, Driver-Validated System
- On-Board, Conductor-Validated System
- Off-Board Barrier System
- Off-Board, Barrier-Free, or Proof-of- Payment (POP) System
- Fare Medium
  - Cash
  - Magnetic Card
  - Smartcard



# Intelligent Transportation Systems (ITS)

- Transit Vehicle Prioritization
- Intelligent Vehicle Systems
- Operations Management Systems
- Passenger Information Systems
- Safety and Security Systems

# Service Structure & Relationship to Existing Bus Transit

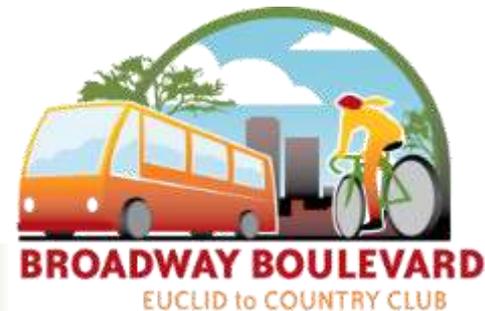
- Route Length
- Route Structure
- Service Span
- Service Frequency
- Station Spacing
- Methods of Schedule Control

# Branding

- Provides system identity
- Creates impression of high quality
- Helps boost ridership

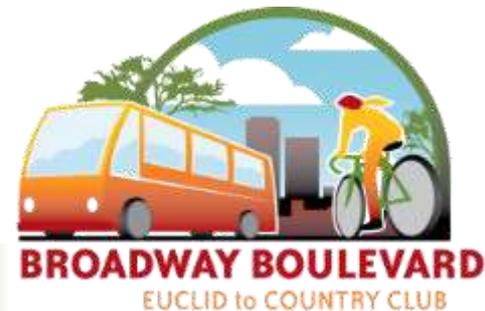


# Results from Initial BRT Conceptual Analysis



# PAG Initial BRT Alternatives Analysis

- “Sketch level” analysis provides very rough information; helps to guide focus of next level of analysis
- Coordinated by Pima Association of Governments (PAG) staff, in conjunction with the PAG Transit Working Group
- Performed as part of a partnership between PAG and University of Arizona
- To evaluate potential time savings of BRT and impact on existing traffic



# BRT Study Area



11-mile corridor

# BRT Initial Alternatives Analysis Modeling

- Model Inputs
  - Overall lane configuration:
    - Indirect left turns assumed at every intersection
    - Hybrid & Outside-running lane model:
      - Includes center-running lane in project area (Euclid-C. Club)
      - Reintegrate with outside-running traffic lanes from C. Club to Columbus
      - Diamond Lanes between Columbus and Camino Seco
      - Back to mixed traffic between Camino Seco and Houghton

# BRT Initial Alternatives Analysis Modeling

- Model Inputs
  - 12 stops in each direction (approx. every 1 - 1½ miles)
    - 2 stops in project area: Euclid and Campbell; next stop El Con Mall
  - Interaction with other traffic
    - Center-running only interact with traffic at intersections (possible conflicts if traffic backs up in indirect cue lane as buses would need to wait until vehicles clear)
    - No bus pullouts
  - Bus operation frequency

# PAG Initial BRT Alternatives Analysis

## Alternatives Reviewed

### 1: Center Running Dedicated Lanes

- Buses given signal priority and vehicle left-turns limited to major intersections

### 2: Outside Lane Mixed Traffic

- Vehicles operate in diamond lanes or mixed traffic
- Some use of BRT elements

### 3: Hybrid Center Lane and Outside Lane/Mixed Traffic

- Dedicated median running way along Broadway Euclid to Country Club expansion
- After Country Club, reintegrate with traffic and travel in diamond lanes to Columbus, travel in diamond lanes from Columbus to Camino Seco, then back to mixed to Houghton

# PAG Initial BRT Alternatives Analysis

## Alternative 1

### Center Running Dedicated Lanes

Buses given signal priority and vehicle left-turns limited to major intersections



Image credit: San Francisco County Transportation Authority

# PAG Initial BRT Alternatives Analysis

## Alternative 2

### Outside Lane Mixed Traffic

Vehicles operate in diamond lanes or mixed traffic; Some use of BRT elements



# PAG Initial BRT Alternatives Analysis

## Alternative 3

### Hybrid Center Lane and Outside Lane/Mixed Traffic

- Dedicated median running way along Broadway Euclid to Country Club expansion
- After Country Club, reintegrate with traffic and travel in diamond lanes to Columbus, travel in diamond lanes from Columbus to Camino Seco, then back to mixed to Houghton



# PAG Initial BRT Alternatives Analysis

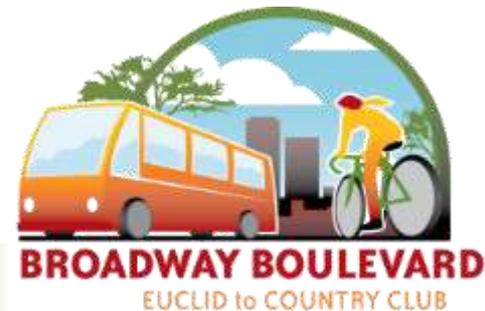
## BRT Alternatives Descriptions

<b>BRT Element</b>	<b>Alternative 1 Dedicated Center</b>	<b>Alternative 2 Outside Busway</b>	<b>Alternative 3 Mixed Center/Outside</b>
<b>Running Way</b>	Dedicated Center	On-street Bus/Shared Turning	Mix Alt 1/Alt 2
<b>Stations</b>	Level Boarding/Real Time Info	Unique Bus Shelter	Mix Alt 1/Alt 2
<b>Vehicles</b>	Specialized BRT	Specialized Articulated	Specialized BRT
<b>Fare Collection</b>	Off-Board, Smart Card	On-Board, Smart Card	Mix Alt 1/Alt2
<b>Intelligent Transportation System (ITS)</b>	Transit Priority/Cue Jump	None	Transit Priority/Cue Jump
<b>Branding</b>	Unique Branding	Unique Branding	Unique Branding

# PAG Initial BRT Alternatives Analysis

## Travel Time Comparison

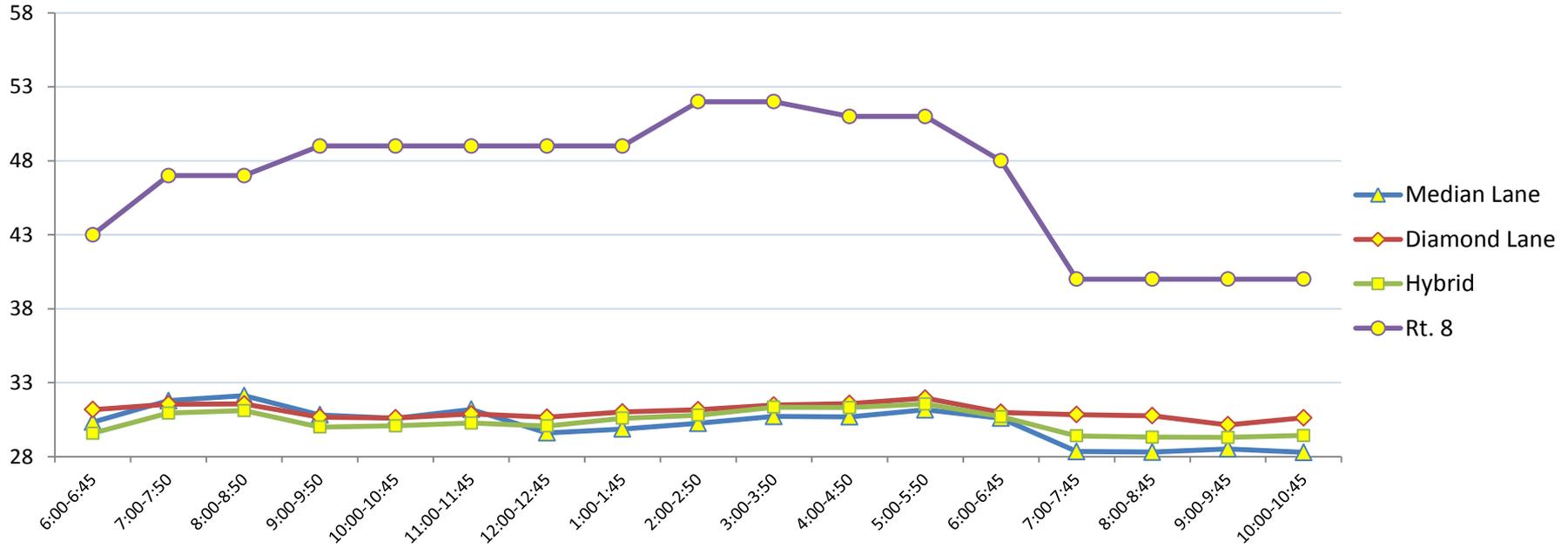
- Modeling assumed one-way trips between Ronstadt TC and Harrison
- Estimated total travel time based on departure time
- Travel times compared between alternatives and against current Route 8
- Route 8 trip times represent Ronstadt to/from Harrison only, no S. 6<sup>th</sup> or Wilmot legs



# BRT Alternative Lanes Vehicle Travel Times vs. Route 8

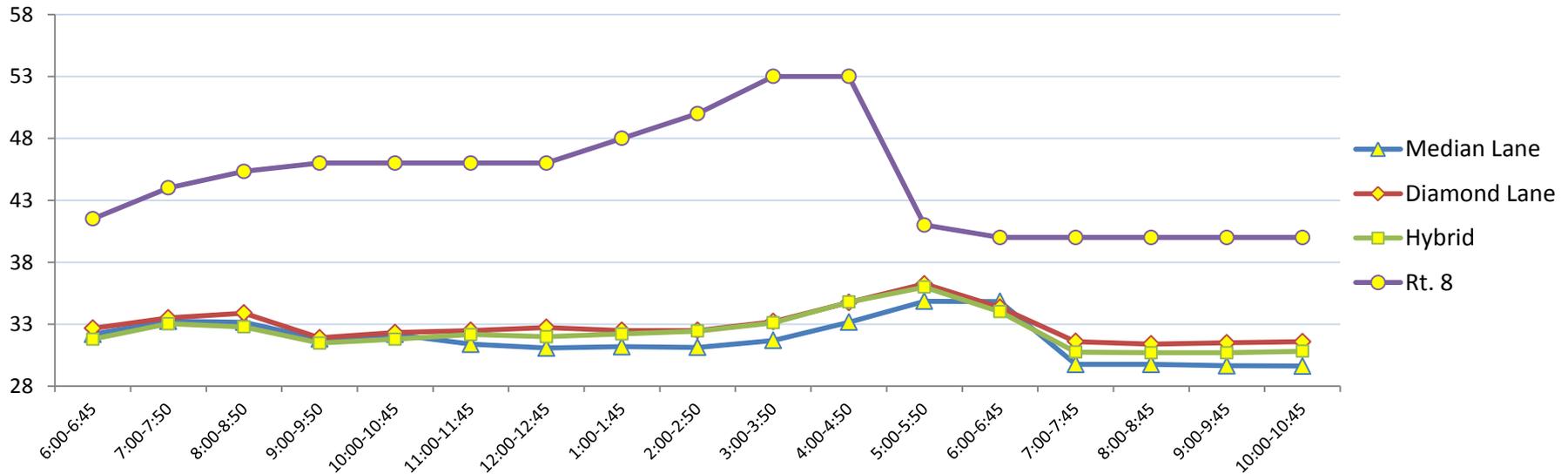
Minutes

## Eastbound Travel Times



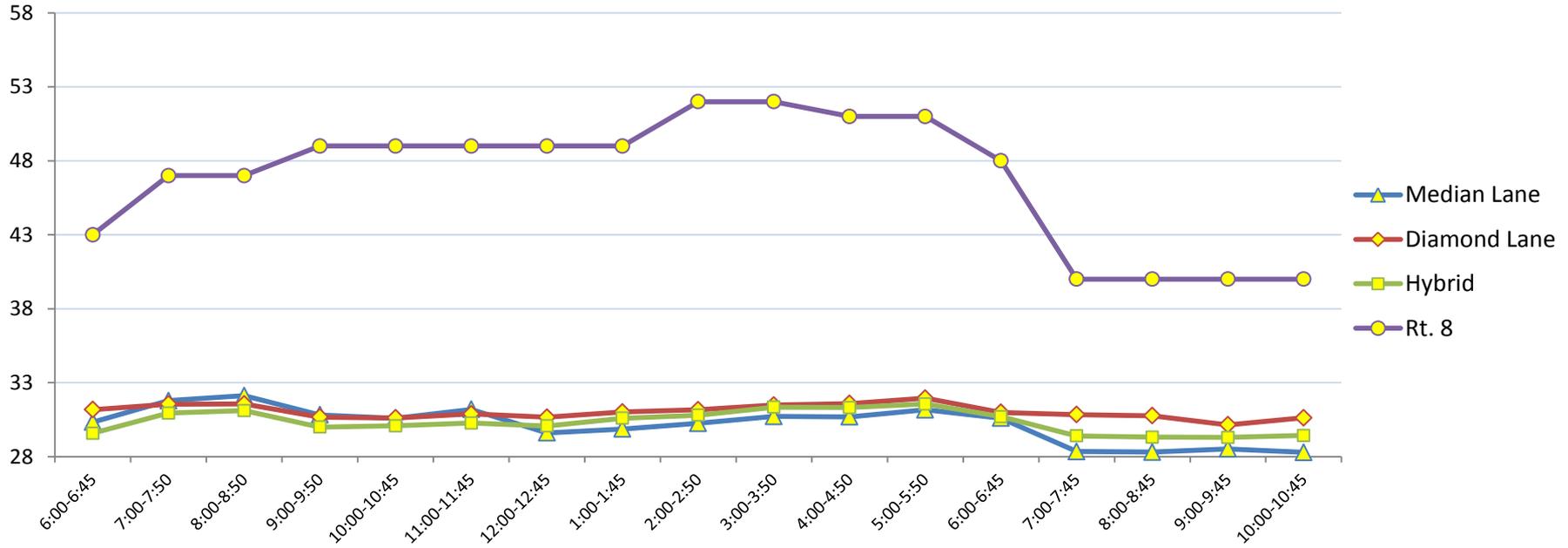
Minutes

## Westbound Travel Times

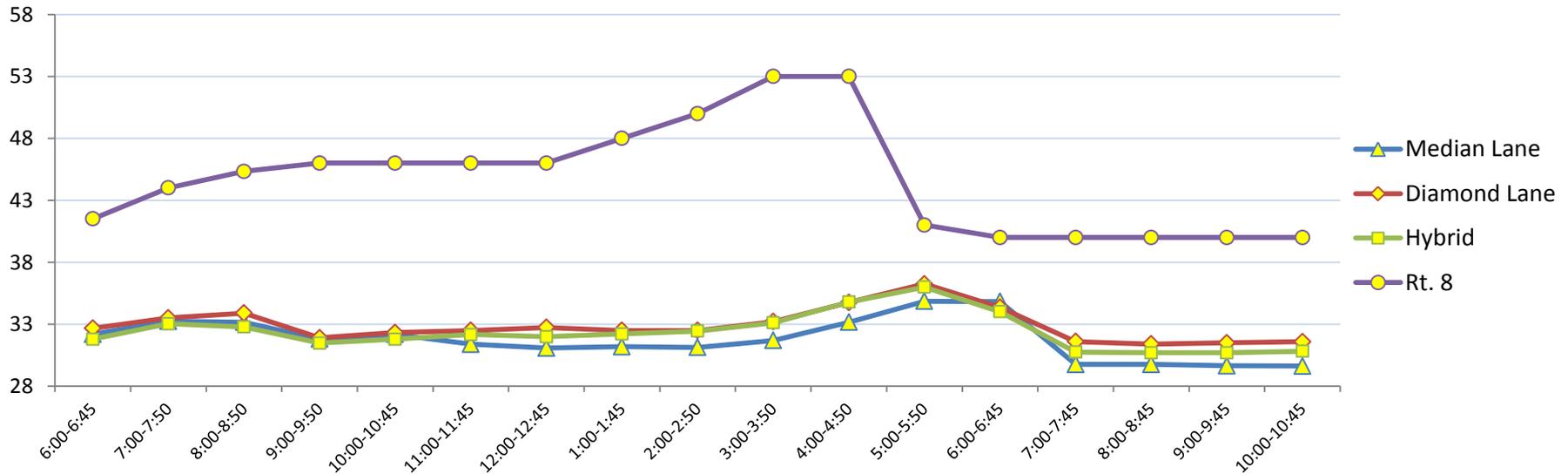


# BRT Alternative Lanes Vehicle Travel Times vs. Route 8

## Eastbound Travel Times



## Westbound Travel Times



# BRT vs. Rt. 8 Travel Time Comparison

Route 8 corridor trip	45 minutes
BRT corridor trip	31 minutes
BRT savings over Rt. 8	14 minutes
BRT savings per mile	1.2 minutes per mile

\*All calculations represent average trip times over total 11-mile corridor length

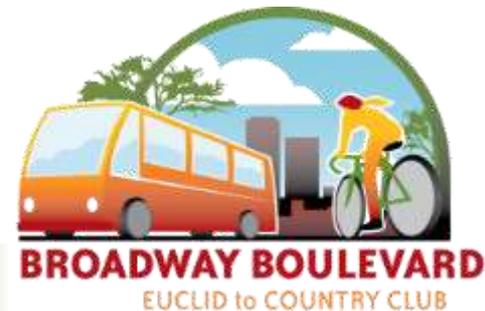


# Running Way

- 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

# Summary of Results

- Broadway BRT ridership would be 4<sup>th</sup> highest in the region
- Separated/dedicated lanes provide the most significant time savings
- Hybrid model is an improvement over outside-running only lanes

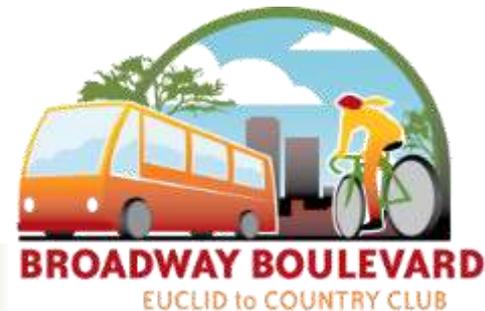


# Considerations for How to Preserve the Opportunity to Implement Future HCT on Broadway



# Realities of Implementing HCT on Broadway

- Additional planning and analysis required to select a preferred service system (costs money; takes time)
- Funding source(s) need to be identified and committed before HCT can be implemented
  - Federal funds require local match
  - Local funding requires finding funding streams
- Commitment to Operations and Maintenance Costs and responsibilities is needed



# Realities of Implementing HCT on Broadway

- Schedule/timing of implementation is uncertain until key decisions made and funding identified
- Current activities are conducive to continued, accelerated BRT planning efforts:
  - Downtown development (and related construction, population, and jobs which has created congestion)
  - Convenient circulation once passengers are downtown, particularly once Streetcar is built
  - Additional population and jobs in other centers along Broadway
  - New Park-N-Ride built at Broadway/Houghton

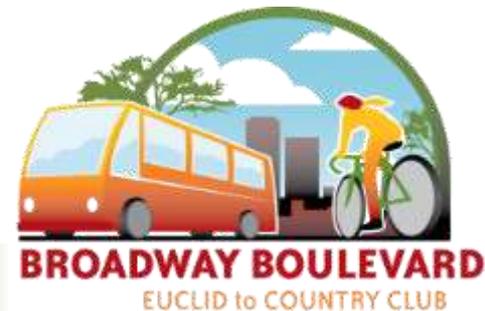
# Design Considerations for Broadway Planning & Design

- Broadway Roadway Project funding does not include money to implement BRT service, but can support facility construction that works today and could accommodate BRT in the future
  - Potential to use as cost match for Federal funding in the future
- RTA Plan includes funding for transit enhancements on Broadway, but not BRT
  - Supports incremental improvements of existing bus service, and potential future BRT

# Design Considerations for Broadway Planning & Design

## Bottom Line:

Allow enough Right-of-Way in improved roadway to accommodate future HCT (“preserve the opportunity”)



# Design Considerations for Broadway Planning & Design

- **Relationship to Existing Local Bus Service**
  - BRT would operate at higher frequencies (for example, every 10-15 mins.)
  - Local bus could be reduced in frequency (for example, from every 10-15 mins. to every 30 mins.)
  - With pullouts for local bus service and reduced frequency of local bus service, vehicular flow can continue to move quickly

# Design Considerations for Broadway Planning & Design

- **Dedicated lanes**

- Center-running performed the best in the initial modeling (with 30% time-savings)
- Center-running lanes assumed for project area for Hybrid model
- Removal of traffic lanes in the future could be very challenging
- Access to roadway's adjacent properties
  - Center-running limits left turns
  - Outside-running limits right turns into adjacent properties
- Interaction with traffic mainly occurs at intersections

# Design Considerations for Broadway Planning & Design

- **Intersection design**
  - Indirect left was assumed at all major intersections
  - Center-running lanes
    - No left turns permitted on any section
    - Transit stations built in center median, on far side of intersection

# Design Considerations for Broadway Planning & Design

- **Station design**
  - Bus pullouts are better for vehicular flow, NOT transit
  - Relationship to existing bus transit stops
  - Platforms
  - Bike lanes

# LA Metro Rapid: Incremental BRT

- Simple route layout: easy to find/use
- Frequent: 3-10 minutes during peak
- Fewer stops:  $\frac{3}{4}$  mile apart
- Level boarding (LB buses speed-up dwell times)
- Enhanced stations: maps, lighting, canopies, “Next Bus” displays
- Same fare
- Minimal investment:
  - Signal priority
  - Passenger information
  - Strong branding (buses, stations etc.)

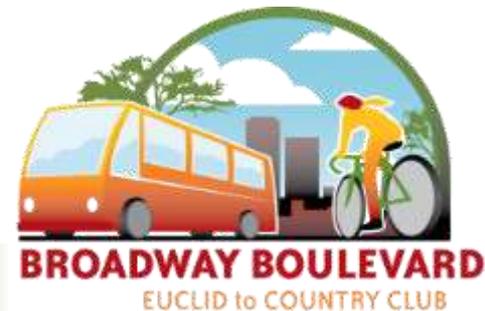


## Results after demonstration:

- **23-29%** reduction in travel times
- **38-42%** increase in riders/weekday
- **1/3** of total choice riders,
- Same cost      \*Cliff Henke, PB TR&S, Inc.

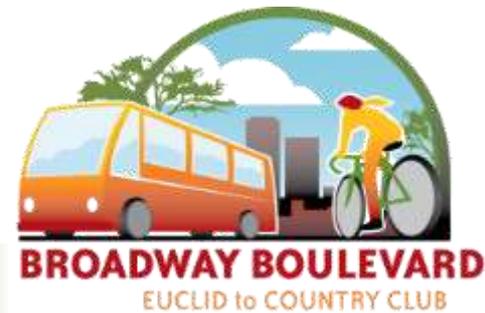
# Next Steps for PAG and COT for Transit Improvements/Enhancements

- Utilize results from Comprehensive Operational Analysis currently underway to identify opportunities for existing enhancements and/or BRT system funding
  - Incremental system enhancements for bus transit overall
  - Potential local funding of incremental BRT implementation
- Pursue initiating an application for the Federal Small Starts Program funding program
  - Alternatives analysis (would look at BRT, Streetcar extension, and Light Rail Transit)
  - Efforts to commence sometime after SunLinks (Streetcar) is operational



# Thank you

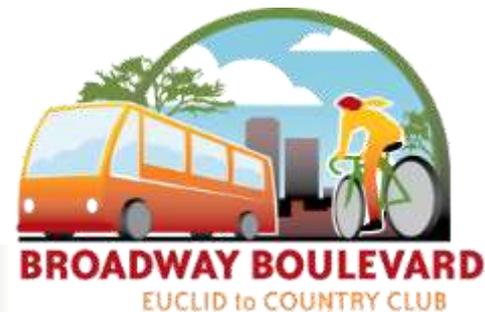
## Questions?



# Review Cross Sections and Performance Assessments

**Phil Erickson**

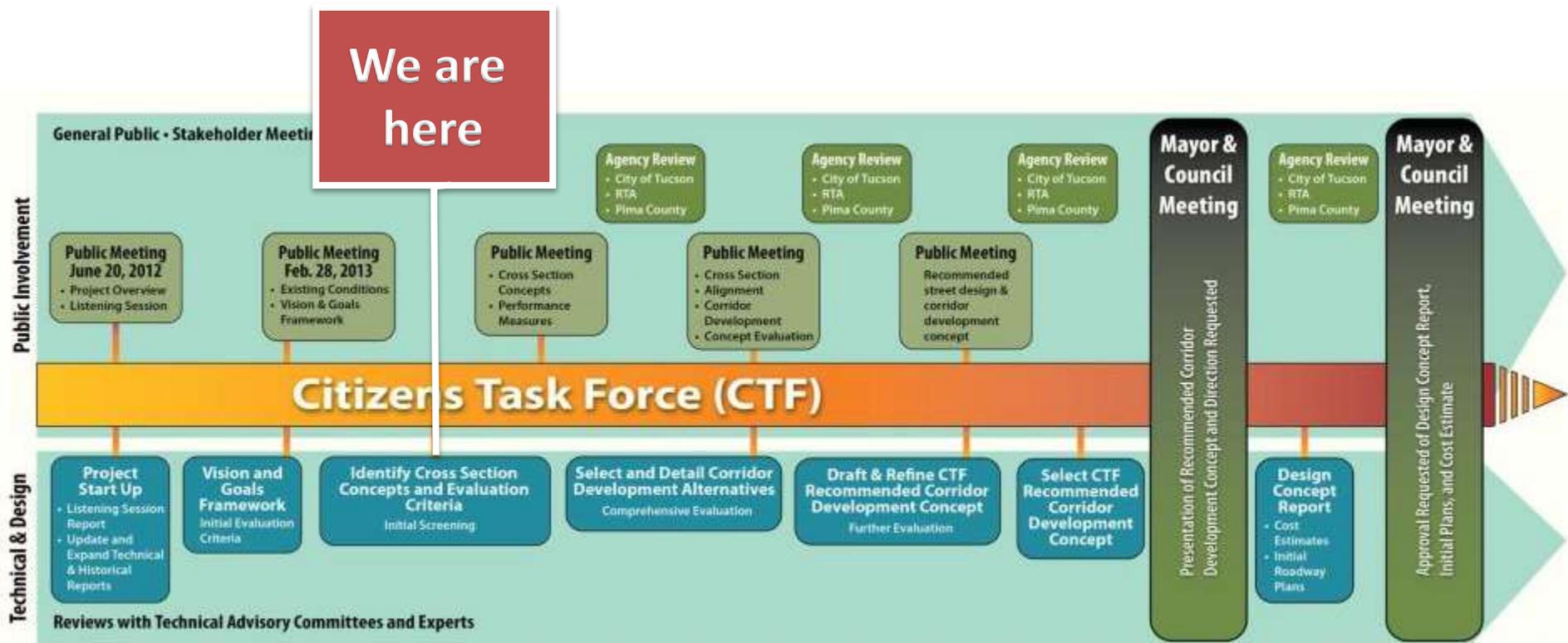
**Community Design + Architecture**



# Agenda for this item

- Introduction
  - Schedule
    - Not likely to have an endorsement of all cross sections and performance assessment tonight
    - Will talk about options for meetings between now and the Public Workshop during Next Steps agenda item
  - CTF Feedback and Questions
    - Process
    - Schedule
    - Questions regarding Performance Measure assessments
- How does current work fit into the overall process?
- Overview of new and updated materials
- Small group session
- Report out and discussion
- Discuss specific concepts, performance measures, and assessments

# Planning and Design of Broadway

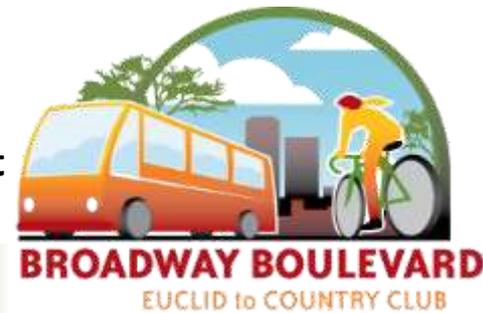


We are here

9+  
Design  
Concepts

3-4  
Design  
Concepts  
+  
Alignment  
Variations

1  
Design  
Concept  
and  
Alignment



# Building from Needs & Desires to Performance Measures

## STAKEHOLDER NEEDS & DESIRES

Neighborhoods - Merchants - Property Owners - Regional users - Agencies

Citizens Task Force

## VISION & GOALS

Neighborhoods & Districts

Multimodal Street Design

Sustainability

Buildings & Site Development

Right-of-Way Impacts

Planning & Design Process

Citizens Task Force

## PERFORMANCE MEASURES

Pedestrian Access & Mobility

Bicycle Access & Mobility

Transit Access & Mobility

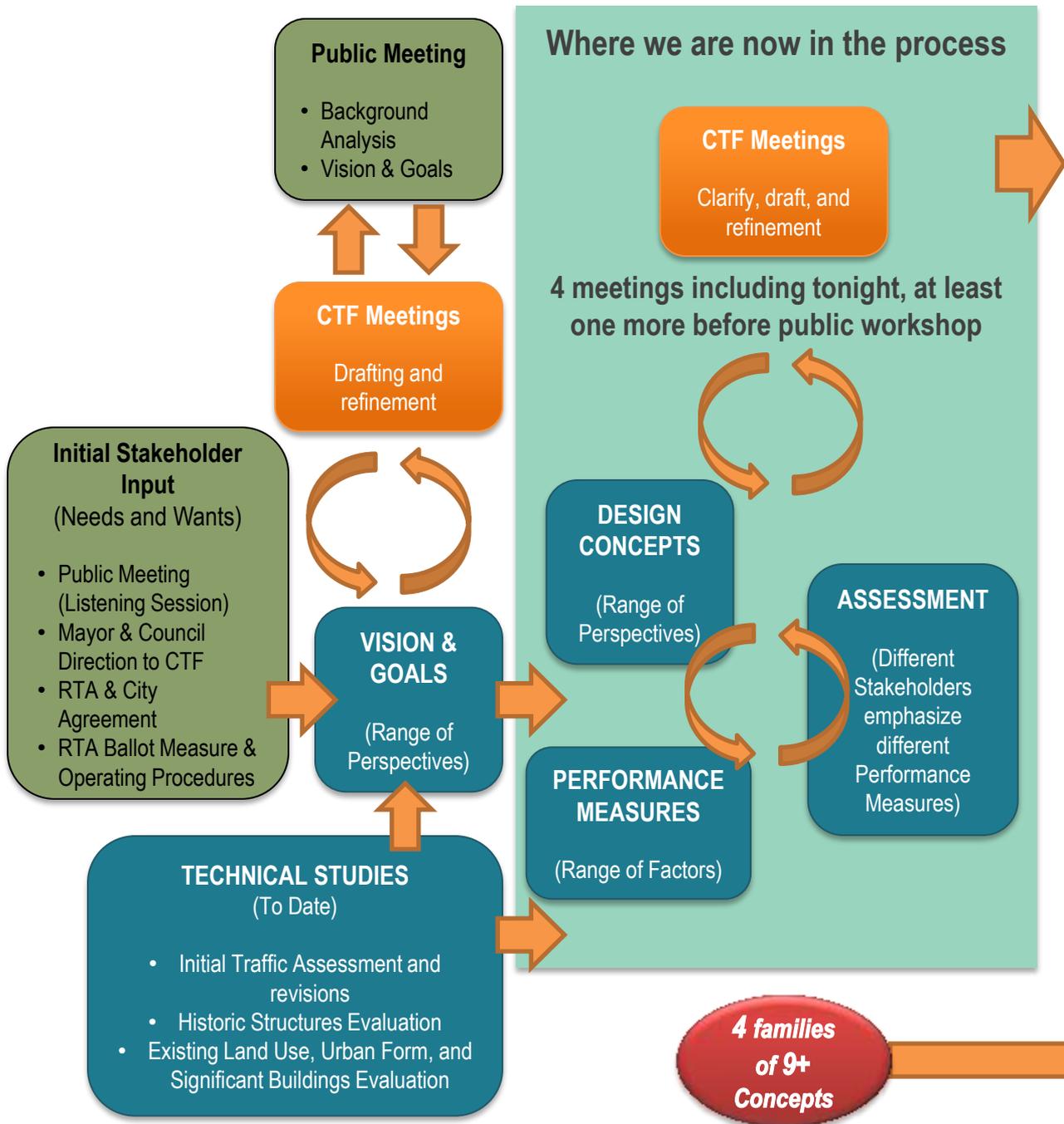
Vehicle Access & Mobility

Sense of Place

Environmental / Public Health

Economic Vitality

Project Cost



## Prior Project Work

- Vision and Goals based on varied desires and needs of stakeholders
- Technical Studies of existing conditions and base traffic analysis
- Refinement of project process

# Current Work

- Potential design concepts address desires and needs of stakeholders
- Performance Measures tied to Goals
- Initial assessments to allow CTF and stakeholders to
  - Make comparisons
  - Understand trade-offs
- Allow for informed decision on which concepts to advance into the next phase

## Where we are now in the process

### CTF Meetings

Clarify, draft, and refinement

4 meetings including tonight, at least one more before public workshop

### Public Meeting Agency Review

- Design Concepts
- Performance Measures
- Assessment

### 2-3 CTF Meetings

Drafting and refinement

### UNDERSTANDING OF TRADE-OFFS IN RELATION TO VISION & GOALS

- What is desired emphasis?
- What is the desired balance?

### DESIGN CONCEPTS

(Range of Perspectives)

### PERFORMANCE MEASURES

(Range of Factors)

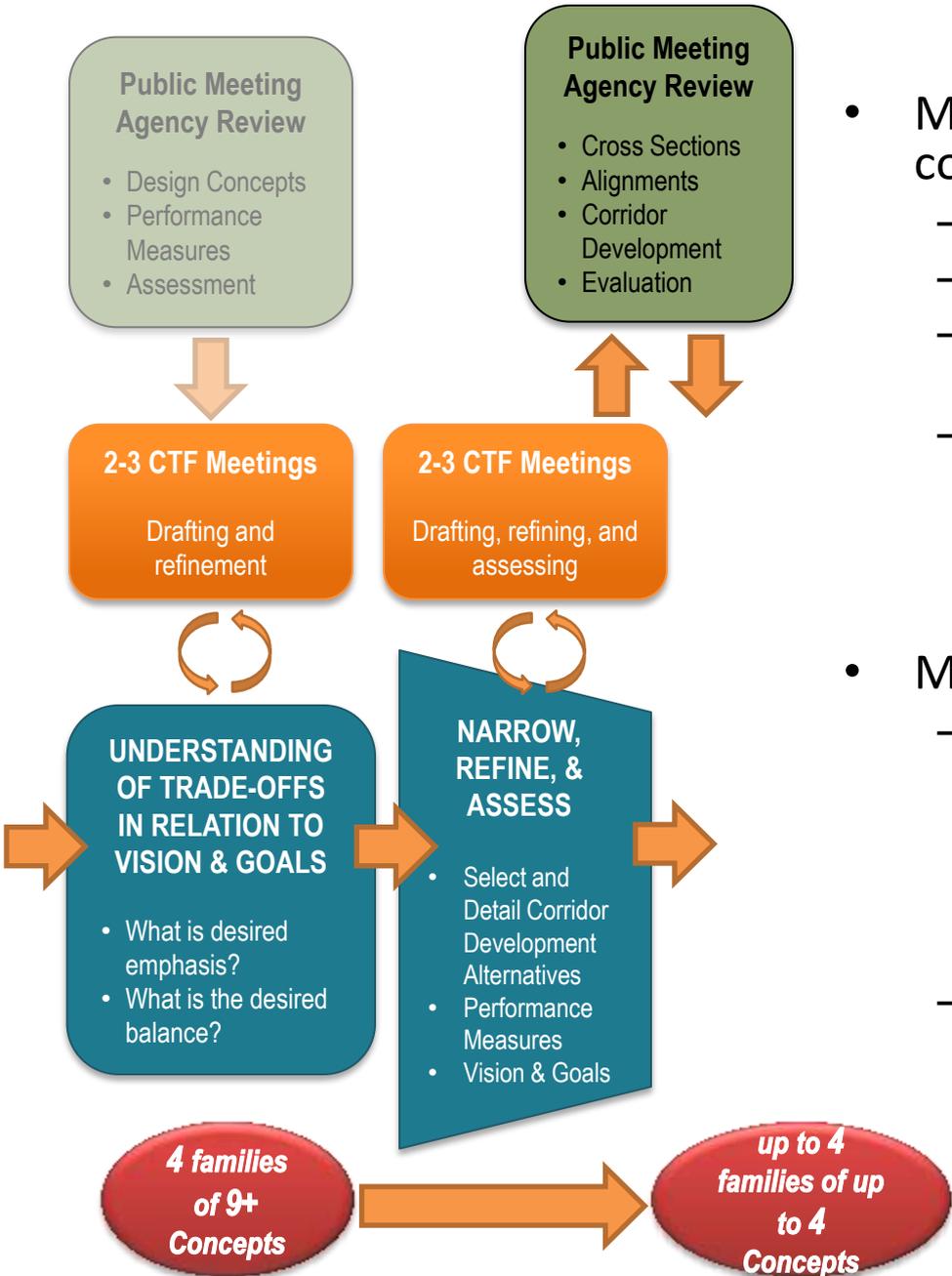
### ASSESSMENT

(Different Stakeholders emphasize different Performance Measures)

**4 families of 9+ Concepts**

# Next Segment of Work

- More detailed design of up to 4 concepts
  - Intersections
  - Alignment
  - Variation of design to reflect adjacent context (existing & potential future)
  - Affect on adjacent properties
    - Parking
    - Buildings
    - Potential revitalization or reuse
  
- More detailed technical assessment
  - Refinement of current assessments
    - VISSIM modeling for all transportation modes
    - Order of magnitude costs
    - More design details allows for more detailed assessment
  - Additional assessments
    - Potential for revitalization and reuse
    - Economic vitality
    - Others



# Where we are now in the process

## CTF Meetings

Clarify, draft, and refinement

4 meetings including tonight, at least one more before public workshop

### DESIGN CONCEPTS

(Range of Perspectives)

### PERFORMANCE MEASURES

(Range of Factors)

### ASSESSMENT

(Different Stakeholders emphasize different Performance Measures)

## Public Meeting Agency Review

- Design Concepts
- Performance Measures
- Assessment

## Public Meeting Agency Review

- Cross Sections
- Alignments
- Corridor Development
- Evaluation

## Public Meeting Agency Review

Draft CTF Recommended Concept

### 2-3 CTF Meetings

Drafting and refinement

### 2-3 CTF Meetings

Drafting, refining, and assessing

### 5 CTF Meetings

Drafting, refining, and assessing

### 3 CTF Meetings

Refine, assess, & achieve consensus

### UNDERSTANDING OF TRADE-OFFS IN RELATION TO VISION & GOALS

- What is desired emphasis?
- What is the desired balance?

### NARROW, REFINE, & ASSESS

- Select and Detail Corridor Development Alternatives
- Performance Measures
- Vision & Goals

### DRAFT, REFINE, & ASSESS

Initial Draft CTF Recommended Concept

### REFINE, ASSESS, & CONSENSUS

Identify CTF Recommended Concept

To Mayor & Council

4 families of 9+ Concepts

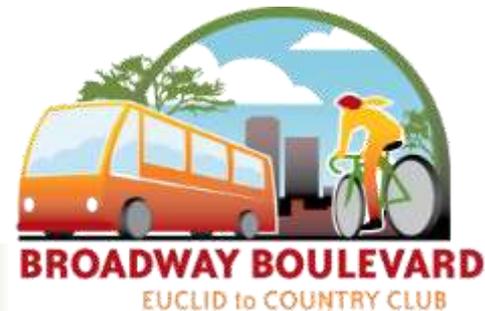
up to 4 families of up to 4 Concepts

1+ Concept(s)

1 Concept

# Overview of New & Update Materials

- Have all of these materials in Power Point and can discuss in more detail if needed:
  - Linking Goals and Performance Measures
  - Southern Arizona Transit Advocates Concept
  - Updated Performance Measure Assessment



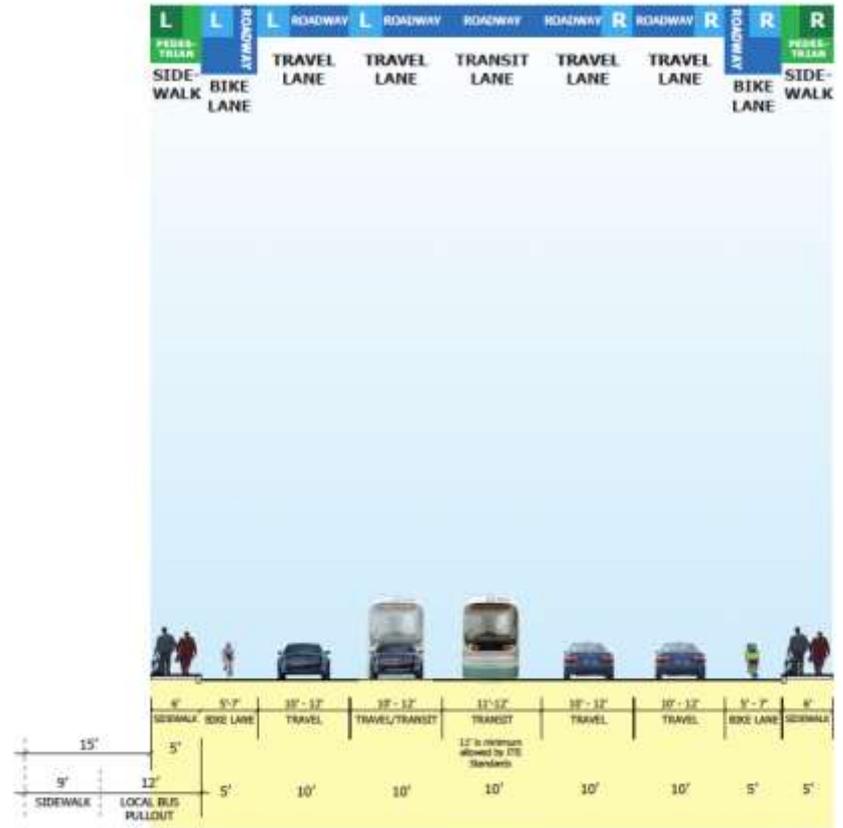
# Linking Goals and Performance Measures

Goal/Topics/	Potential/Goal/Statements/	Related/Performance/Measures/
<b>Neighborhoods and Districts / continued /</b>	/	/
<b>Link neighborhoods to district uses /</b>	<ul style="list-style-type: none"> <li>Provide (better integration of neighborhoods to districts on Broadway with a walkable circulation network and by encouraging policies for neighborhood supporting uses)</li> </ul>	<ul style="list-style-type: none"> <li>1c. Pedestrian Oriented Facilities (or Improvements)</li> <li>1d. Walkable Network / (Neighborhood Connections)</li> <li>1e. Pedestrian Crossings</li> <li>1h. Walkable Destinations</li> <li>1i. Ease of Transition to Walking</li> <li>2f. Bike Network Connections</li> <li>2h. Bike Crossings</li> <li>5f. Walkable Community</li> <li>6g. Affordability</li> </ul>
<b>Improve quality of Broadway and its context /</b>	<ul style="list-style-type: none"> <li>Encourage improvements to existing development</li> <li>Respect the aesthetic character of Broadway and the destinations along it while encouraging maintenance and reinvestment to improve aesthetic appearance of existing development. Also, encourage new development that complements today's aesthetic character.</li> </ul>	<ul style="list-style-type: none"> <li>1a. Functionality of Streetside for Pedestrian Activity</li> <li>1c. Pedestrian Oriented Facilities (or Improvements)</li> <li>2e. Bike Facility Improvements</li> <li>3b. Transit Stop Facilities</li> <li>4g. Access Management for Adjacent Properties</li> <li>5a. Historic Resources</li> <li>5a'. Significant Resources</li> <li>5b. Visual Quality</li> <li>5c. Broadway as a Destination</li> <li>5e. Conduciveness to Business</li> <li>5f. Walkable Community</li> <li>5g. Certainty</li> </ul>
/	<ul style="list-style-type: none"> <li>Encourage high quality new development</li> </ul>	<ul style="list-style-type: none"> <li>1a. Functionality of Streetside for Pedestrian Activity</li> <li>1c. Pedestrian Oriented Facilities (or Improvements)</li> <li>2e. Bike Facility Improvements</li> <li>3b. Transit Stop Facilities</li> <li>4g. Access Management for Adjacent Properties</li> <li>5b. Visual Quality</li> <li>5e. Conduciveness to Business</li> <li>5f. Walkable Community</li> <li>5g. Certainty</li> <li>7i. Business Impact</li> <li>7j. Job Impact</li> </ul>
/	<ul style="list-style-type: none"> <li>Provide and encourage public gathering places</li> <li>Encourage the creation of public gathering places and provide for public places as feasible through design of the boulevard.</li> </ul>	<ul style="list-style-type: none"> <li>1a. Functionality of Streetside for Pedestrian Activity</li> <li>1b. Separation from Vehicular Traffic</li> <li>1c. Pedestrian Oriented Facilities (or Improvements)</li> <li>1d. Walkable Network / (Neighborhood Connections)</li> <li>1g. Universal Design</li> <li>2e. Bike Facility Improvements</li> <li>3b. Transit Stop Facilities</li> <li>5b. Visual Quality</li> <li>5c. Broadway as a Destination</li> <li>5f. Walkable Community</li> </ul>

# Southern Arizona Transit Advocates Concept



**Option 4+T SATA: 80' Right-of-Way (East of Campbell)**



**Option 4+T SATA: 70' Right-of-Way (West of Campbell)**



**BROADWAY BOULEVARD**  
EUCLID to COUNTRY CLUB

# Updated Performance Assessment

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY										BICYCLE ACCESS AND MOBILITY						TRANSIT ACCESS AND MOBILITY							
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways	1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking	2a. Separation of Bikes and Aerial Traffic	2b. Bike Conflicts with Crossing Vehicles	2c. Pavement Condition	2d. Bike Facility Improvements	2e. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings	3a. Distance to Transit Stops	3b. Transit Stop Facilities	3c. Corridor Travel Time		3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
Existing Conditions	to	to	---		---	o						o	to			o	to		---	now	o		---	
Option 4A (67' r.o.w.)	---	---	---		++	-							+					+	---	Future (PAG)	Future (PAG Low)	---		-
Option 4B (100' r.o.w.)	++	++	o		++	+				+	o		+					+	---	Future (PAG)	Future (PAG Low)	---		-
Option 4C (112' r.o.w.)	+++	+++	++		++	++				+	o		o					++	---	Future (PAG)	Future (PAG Low)	-		-
Option 4+T A (118' r.o.w.)	+	+	o		+	+				o	+		o					++	---	Future (PAG)	Future (PAG Low)	+		+++
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				+	+		o					++	---	Future (PAG)	Future (PAG Low)	+		+++
Option 6A (114' r.o.w.)	o	o	o		+	+				o	o		o					o	-	Future (PAG)	Future (PAG Low)	o		-
Option 6B (152' r.o.w.)	++	++	++		+	++				+	o		o					+	-	Future (PAG)	Future (PAG Low)	o		-
Option 6+T A (146' r.o.w.)	-	-	-		---	o				+	o		o					++	o	Future (PAG)	Future (PAG Low)	+		++
Option 6+T B (174' r.o.w.)	++	++	++		-	++				+	+		o					++	+	Future (PAG)	Future (PAG Low)	++		+++
Option 4+T SATA (existing r.o.w.)	to	to	---		++	-				-	o		+					++	---	Future (PAG)	Future (PAG Low)	-		o

# Updated Performance Assessment

STREET CROSS SECTION CONCEPT	VEHICULAR ACCESS AND MOBILITY							SENSE OF PLACE					ENVIRONMENTAL / PUBLIC HEALTH				ECONOMIC VITALITY				PROJECT COST										
	4a. Movement of Through Traffic	4b. Intersection Delay -- Overall Intersection Performance	4c. Intersection Delay -- Worst Movement	4d. Accident Potential	4e. Lane Continuity	4f. Persons Trips	4g. Access Management for Adjacent Properties	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conduciveness to Business	5f. Walkable Community	5g. Certainty	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability	7a/7b. Change in Economic Potential	7c/7d. Change in Business Revenue	7e/7f. Change in Sales Tax Revenue	7g/7h. Change in Property Tax Revenue	7i. Business Impact	7j. Job Impact	8a. Construction Cost	8b. Acquisition Cost	8c. Income for Reuse of City-Owned Parcels
Existing Conditions	- now ----- Future (PAG) (PAG Low)							+++	+++	o to -----		- to -----		- now ----- future			o -----	-----	-										\$	\$	
Option 4A (67' r.o.w.)	----- Future (PAG) Future (PAG Low)							+++	+++	o to -----		- to -----		- -----			o -----	-----	o to -----										\$\$	\$	
Option 4B (100' r.o.w.)	----- Future (PAG) Future (PAG Low)							++	++	-		- -----	o	-			+	-----	o									\$\$	\$\$		
Option 4C (112' r.o.w.)	----- Future (PAG) Future (PAG Low)							+	+	o		-	+	-			++	++	+									\$\$	\$\$\$		
Option 4+T A (118' r.o.w.)	----- to ----- Future (PAG) Future (PAG Low)							o	o	o		o	+	o			+	-	+									\$\$\$	\$\$\$		
Option 4+T B (152' r.o.w.)	----- to ----- Future (PAG) Future (PAG Low)							---	---	+		+	o	o			++	++	+									\$\$\$\$	\$\$\$\$		
Option 6A (114' r.o.w.)	o Future (PAG) + Future (PAG Low)							o	o	+		+	o	o			+	o	o									\$\$\$	\$\$\$		
Option 6B (152' r.o.w.)	o Future (PAG) + Future (PAG Low)							---	---	++		+	o	+			++	++	o									\$\$\$	\$\$\$\$		
Option 6+T A (146' r.o.w.)	++ Future (PAG) ++ Future (PAG Low)							---	---	o		+	-	++			o	o	o									\$\$\$\$	\$\$\$\$		
Option 6+T B (174' row)	++ Future (PAG) ++ Future (PAG Low)							---	---	o		++	o	+++			+	+	o									\$\$\$\$\$	\$\$\$\$\$		
Option 4+T SATA (existing r.o.w.)	----- Future (PAG) Future (PAG Low)							+++	+++	o to -----		- to -----		o to -----			o -----	-----	o to -----									\$\$\$	\$		

# Updated Performance Assessment

## NOTES REGARDING CURRENT ASSESSMENT METHODOLOGY

For all new design options, assumption is a 30 mph design speed and posted speed.

**1a. Functionality of Streetside for Pedestrian Activity:** ITE Manual Guidance for Boulevard Street type (25-35 mph with 4-6 lanes, for various context types, see document for definitions)

- C-4 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 8 ft. throughway, 2.5 ft. frontage
- C-4 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 8 ft. throughway, 0 to 1.5 ft. frontage
- C-3 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 6 ft. throughway, 1.5 ft. frontage
- C-3 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 6 ft. throughway, 0 to 1.5 ft. frontage
- Result of guidance in relations to Broadway – 9.5 ft. landscape with 8 ft. sidewalk, assume that additional sidewalk width if needed would be part of private development

**1e. Pedestrian Crossings:** Assume that number of crossings is equal (except that existing conditions would have fewer than any future option); therefore current assessment is about the quality and distance of the crossing

**1f. Vehicle / Pedestrian Conflicts at Driveways:** Rated Option 4A, and SATA concept, as negative because the sidewalk would be sloped or go down to street grade at the drive access points because of the narrowness of the sidewalk, landscape width and sidewalk width determines ranking of other concepts – more width provides more ability for vehicles to slow and see pedestrians.

### 2a. Separation of Bikes and Arterial Traffic

- 5 ft. width negative (-)
- 6 ft. width neutral (ITE Manual recommendation)
- 7 ft. width positive (+)

### 2b. Bike Conflicts with Crossing Vehicles

- Assume all options are neutral for vehicles crossing bike lane to get to curb cuts or dedicated right turn lanes
- Options that require buses to cross over to bus pull outs are neutral.
- Options with dedicated transit lanes in the middle get a single + for that, still would have local buses pulling into bus pull outs.

**2h. Bike Crossing:** Assume some basic improvements at crossings and more crossings for all concept options, so this gives

- four lane options 1 plus
- six lane options 1 plus (regardless of median width as street crossings will likely be at least 18 ft. wide given turn lane and 7 ft. refuge island width.
- Eight lane options are neutral, except for 6+T B given its large width.

### 3b. Transit Stop Facilities

Existing facilities are generally poor, although there are a few bus pull outs

- Four lanes get + when have pull outs (except those with wider pedestrian areas get ++) because of lower construction cost may be more budget to improve transit stops; **SATA also gets a ++ because of transit platforms for streetcar.**
- Six lanes get neutral with pull outs as this is now the regional standard
- BRT in middle of roadway gets ++ because it is assumed that this investment in roadway infrastructure for BRT would mean commitment to high-level of improvements on the platforms

**3c. Corridor Travel Time:** Existing corridor travel time is lower than existing vehicular traffic travel time, so two negatives rather than the one negative for 4a. Movement of Through Traffic.

- **Four and six lanes with pull outs, signal prioritization, etc. are assumed to be slower than vehicular movement, because all buses must pull into bus pull outs and this slows the bus travel time.**
- **Dedicated transit lanes with accompanying signal prioritization, etc. are assumed to have roughly the same corridor travel time as vehicles, except for where the dedicated lane is outside lane (Option 6+TA), because it**

would have issues with right turning vehicles and the BRT may need to use the bus pullouts. Also, SATA is one minus sign less than the vehicular through movement performance measure because at least a portion of the service is in a dedicated lane.

**3d. Schedule Adherence:** Rough combining of 3b and 3c with a bit more weight to 3c.

### 3f. Accommodation of Future High Capacity Transit

- Existing and 4 lanes get – ,because they would end up having one lane in each direction for vehicular traffic if dedicated transit lanes were provided
- **Six lane options get – because even though these could be converted to 4+T with dedication of lanes, there would likely be resistance to reducing traffic lanes once they are in place and construction would need to occur to make the conversation.**
- 6+T A has right turning vehicle issues so ++
- **4+T and 6+T B gets +++**, because they provide for high-quality high capacity transit with implementation of the concept
- **SATA is rated neutral because only one direction is in a dedicated lane while the service levels are reduced by the other direction running in a shared lane.**

### 4a. Movement of Through Traffic During Peak Traffic Periods–JMS

- Existing section with current volumes - impacts of buses stopping in through lanes and high number of ped HAWK signals (that are not synchronized with other signals), through traffic flow is less than desirable; increased traffic demand for either growth scenario without adding intersection capacity will result in long travel times and excessive delay.
- 4 lane options w/o exclusive transit lanes – do not provide sufficient through capacity at the signalized intersections for either growth scenario. These options assume that additional turning lanes are provided at the key intersections (Euclid, Campbell, Country Club) and bus pullouts and coordinated pedestrian HAWK signals are provided.
- 4-lane options with exclusive transit lanes – through traffic operations will be improved assuming that a sufficient modal shift from car to transit (BRT) occurs to reduce vehicular demand.
- 6 lane options w/o exclusive transit lanes – fair to good through traffic operations depending upon growth scenario; assumed bus pull outs and coordinated pedestrian HAWK signals.
- 6 lane options with exclusive transit lanes – good to very good through traffic operations depending upon growth scenario and assuming that a sufficient modal shift from car to transit (BRT) occurs to reduce vehicular demand.
- **The SATA concept is rated lower than the 4 lane mixed flow options because the streetcar shared lanes are estimated to reduce performance for those lanes**

**5a. Historic Resources and 5a'. Significant Resources:** Based on review of relationship to future ROW to existing ROW and distance between building facades.

**5d. Gateway to Downtown:** Roughly combination of transit and vehicular access and mobility with community character

**5f. Walkable Community:** Roughly a combination of pedestrian access and mobility and 5a which is impact on properties

**5g. Certainty:** Roughly a combination of 1a, 1c, 2e, 3f, and 4a.

**6c. Heat Island:** Assume existing condition is the base “neutral” condition. Slight penalty for more R.O.W. paving with assumption that much of existing area outside of R.O.W. is hardscaped and that new paving could be high albedo

**6d. Water Harvesting:** Ratio of landscaped to pavement width.

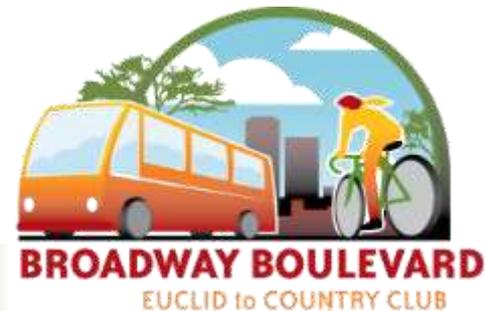
**6e. Walkability / Bikeability:** Roughly combination of Bicycle Access and Mobility with 5f Walkable Community.

**8a. Construction Cost:** extent of improvements and investment in transit facilities for dedicated transit lane options.

**8b. Acquisition Cost:** Width of future r.o.w. and relationship to segment by segment potential for possible acquisition.

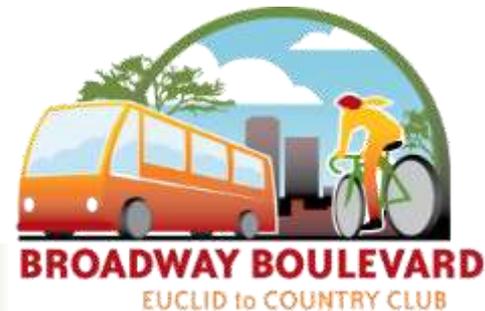
# Small Group Session

- Select a scribe
- For next 20 minutes discuss and write down:
  - What assessments or concepts do not make sense to you or your stakeholders?
  - Are there changes that could be made to the performance measure definitions or assessments that would make more sense?
  - What additional information or clarification would be helpful?



# Small Group Session

- Report out and discussion for 10 minutes
  - What assessments or concepts do not make sense to you or your stakeholders?
  - Are there changes that could be made to the performance measure definitions or assessments that would make more sense?
  - What additional information or clarification would be helpful?



# Discussion of specific concepts, performance measures, and assessments

- Based on input from small group discussions start with those concepts, performance measures, and assessments that need the most clarification or adjustment to make more sense

# Linking Goals and Performance Measures

Goal Topics	Potential Goal Statements	Related Performance Measures
<p><b>Neighborhoods and Districts</b></p> <p><b>Recognize &amp; support the distinct character of Broadway and its context of Neighborhoods and Districts</b></p> <p>–Broadway Boulevard is a series of places along a corridor</p>	<ul style="list-style-type: none"> <li>▪ Recognize and support distinct character of Broadway as a series of places, defined by their historic and significant structures, signage, landscape, and uses.</li> <li>▪ Recognize and reinforce existing areas with distinct character and support the creation of distinct new places so that Broadway is a linked series of places, defined by their historic and significant structures, signage, landscape, and uses.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4g. Access Management for Adjacent Properties</li> <li>▪ 5a. Historic Resources</li> <li>▪ 5a'. Significant Resources</li> <li>▪ 5b. Visual Quality</li> <li>▪ 5c. Broadway as a Destination</li> <li>▪ 5e. Conduciveness to Business</li> <li>▪ 5f. Walkable Community</li> <li>▪ 6f. Land Use Mix</li> <li>▪ 6g. Affordability</li> <li>▪ 7i. Business Impact</li> </ul>
<p>–Visually enhance district identities</p>	<ul style="list-style-type: none"> <li>▪ Develop identities for segments and centers of activity along Broadway.</li> <li>▪ Design the roadway, its streetscape, wayfinding signage, and the uses along it to give identity to the 'gateways' along Broadway - to neighborhoods, to Downtown, and to the University, and others.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 1a. Functionality of Streetside for Pedestrian Activity</li> <li>▪ 1c. Pedestrian-Oriented Facilities or Improvements</li> <li>▪ 2e. Bike Facility Improvements</li> <li>▪ 3b. Transit Stop Facilities</li> <li>▪ 5a. Historic Resources</li> <li>▪ 5a'. Significant Resources</li> <li>▪ 5b. Visual Quality</li> <li>▪ 5d. Gateway to Downtown</li> <li>▪ 6d. Water Harvesting</li> <li>▪ 8a. Construction Cost</li> </ul>
<p>–Encourage an appropriate mix of uses to support distinct districts</p>		<ul style="list-style-type: none"> <li>▪ 1a. Functionality of Streetside for Pedestrian Activity</li> <li>▪ 1c. Pedestrian-Oriented Facilities or Improvements</li> <li>▪ 1d. Walkable Network / Neighborhood Connections</li> <li>▪ 1h. Walkable Destinations</li> <li>▪ 2e. Bike Facility Improvements</li> <li>▪ 2f. Bike Network Connections</li> <li>▪ 3a. Distance to Transit Stops</li> <li>▪ 3b. Transit Stop Facilities</li> <li>▪ 3e. Frequency and Hours of Service</li> <li>▪ 3f. Accommodation of Future High Capacity Transit</li> <li>▪ 4g. Access Management for Adjacent Properties</li> <li>▪ 5b. Visual Quality</li> <li>▪ 5c. Broadway as a Destination</li> <li>▪ 5e. Conduciveness to Business</li> <li>▪ 5f. Walkable Community</li> <li>▪ 6f. Land Use Mix</li> <li>▪ 6g. Affordability</li> <li>▪ 7i. Business Impact</li> </ul>
<p>–Consider existing special features ("<i>Sacred Places</i>")</p>	<ul style="list-style-type: none"> <li>▪ Preserve and protect the existing special features and places along Broadway</li> <li>▪ Preserve and enhance key features of this segment of Broadway</li> </ul>	<ul style="list-style-type: none"> <li>▪ 5a. Historic Resources</li> <li>▪ 5a'. Significant Resources</li> <li>▪ 5b. Visual Quality</li> <li>▪ 7i. Business Impact</li> </ul>

# Linking Goals and Performance Measures

Goal/Topics/	Potential/Goal/Statements/	Related/Performance/Measures/
Neighborhoods/and/Districts/ <del>F</del> /continued/	/	/
Link neighborhoods to district uses/	<ul style="list-style-type: none"> <li>Provide better integration of neighborhoods to districts on Broadway with a walkable circulation network and by encouraging policies for neighborhood supporting uses</li> </ul>	<ul style="list-style-type: none"> <li>1c. Pedestrian Oriented Facilities or Improvements</li> <li>1d. Walkable Network/ Neighborhood Connections</li> <li>1e. Pedestrian Crossings</li> <li>1h. Walkable Destinations</li> <li>1i. Ease of Transition to Walking</li> <li>2f. Bike Network Connections</li> <li>2h. Bike Crossings</li> <li>5f. Walkable Community</li> <li>6g. Affordability</li> </ul>
Improve quality of Broadway and its context/ <ul style="list-style-type: none"> <li>Encourage improvements to existing development</li> </ul>	<ul style="list-style-type: none"> <li>Respect the aesthetic character of Broadway and the destinations along it while encouraging maintenance and reinvestment to improve aesthetic appearance of existing development. Also, encourage new development that complements today's aesthetic character.</li> </ul>	<ul style="list-style-type: none"> <li>1a. Functionality of Streetside for Pedestrian Activity</li> <li>1c. Pedestrian Oriented Facilities or Improvements</li> <li>2e. Bike Facility Improvements</li> <li>3b. Transit Stop Facilities</li> <li>4g. Access Management for Adjacent Properties</li> <li>5a. Historic Resources</li> <li>5a'. Significant Resources</li> <li>5b. Visual Quality</li> <li>5c. Broadway as a Destination</li> <li>5e. Conduciveness to Business</li> <li>5f. Walkable Community</li> <li>5g. Certainty</li> </ul>
/	<ul style="list-style-type: none"> <li>Encourage high quality new development</li> </ul>	<ul style="list-style-type: none"> <li>1a. Functionality of Streetside for Pedestrian Activity</li> <li>1c. Pedestrian Oriented Facilities or Improvements</li> <li>2e. Bike Facility Improvements</li> <li>3b. Transit Stop Facilities</li> <li>4g. Access Management for Adjacent Properties</li> <li>5b. Visual Quality</li> <li>5e. Conduciveness to Business</li> <li>5f. Walkable Community</li> <li>5g. Certainty</li> <li>7i. Business Impact</li> <li>7j. Job Impact</li> </ul>
/	<ul style="list-style-type: none"> <li>Provide and encourage public gathering places</li> </ul>	<ul style="list-style-type: none"> <li>1a. Functionality of Streetside for Pedestrian Activity</li> <li>1b. Separation from Vehicular Traffic</li> <li>1c. Pedestrian Oriented Facilities or Improvements</li> <li>1d. Walkable Network/ Neighborhood Connections</li> <li>1g. Universal Design</li> <li>2e. Bike Facility Improvements</li> <li>3b. Transit Stop Facilities</li> <li>5b. Visual Quality</li> <li>5c. Broadway as a Destination</li> <li>5f. Walkable Community</li> </ul>

# Linking Goals and Performance Measures

Goal Topics	Potential Goal Statements	Related Performance Measures
<b>Neighborhoods and Districts - continued</b>		
<p><b>Protect Adjacent Neighborhoods</b></p> <p>– From noise, light, and air quality impacts</p> <hr/> <p>– From cut through traffic and overflow parking</p> <hr/> <p>– Privacy from adjacent district development</p> <hr/> <p>– By transitioning intensity from corridor towards neighborhoods</p> <hr/> <p>– Particularly existing and potential National Register of Historic Places (NRHP) Historic District designations</p>	<p>▪ Minimize noise, light, and air quality, and cut through impacts traffic from traffic on Broadway Boulevard</p> <hr/> <p>▪ Minimize overflow parking, cut through traffic, noise, light, and other impacts from development along Broadway into adjacent neighborhoods</p> <hr/> <p>▪ Maintain and improve privacy between neighborhoods and development along Broadway</p> <hr/> <p>▪ Do not allow new intensity along Broadway      ▪ Design any new development along Broadway to transition to a lower intensity where it is adjacent to neighborhoods</p> <hr/> <p>▪ Protect all contributing structures for existing and potential NRHP Historic District designations      ▪ Protect best examples of contributing structures to existing and potential NRHP Historic District designations      ▪ To extent feasible given needed transportation and other improvements along Broadway, protect the best examples of contributing structures to existing and potential NRHP Historic District designations while maintaining the viability of Historic Districts</p>	<p>▪ 1. Pedestrian Access and Mobility performance measures</p> <p>▪ 2. Bicycle Access and Mobility performance measures</p> <p>▪ 3. Transit Access and Mobility performance measures</p> <p>▪ 4a. Movement of Through Traffic</p> <p>▪ 4b. Intersection Delay -- Overall Intersection Performance</p> <p>▪ 4c. Intersection Delay -- Worst Movement</p> <p>▪ 6a. Green House Gases</p> <p>▪ 6b. Other Tailpipe Emissions</p> <p>▪ 6c. Heat Island</p> <hr/> <p>▪ 4a. Movement of Through Traffic</p> <p>▪ 4b. Intersection Delay -- Overall Intersection Performance</p> <p>▪ 4c. Intersection Delay -- Worst Movement</p> <p>▪ 4g. Access Management for Adjacent Properties</p> <hr/> <p><i>This is a land use policy issue that is outside the scope of the project.</i></p> <hr/> <p><i>This is a land use policy issue that is outside the scope of the project.</i></p> <hr/> <p>▪ 5a. Historic Resources</p>
<p><b>Protect existing businesses and enhance the business environment</b></p> <p>– Small and local businesses</p> <hr/> <p>– Affordable rents / potential for business to own property</p>	<p>▪ Nurture Broadway's role as a place for new and existing small, local and incubator businesses through preserving existing development and its lower rents and by encouraging new policies to require new development to help create commercial space for small, local businesses.</p>	<p>▪ 1c. Pedestrian-Oriented Facilities or Improvements</p> <p>▪ 1d. Walkable Network / Neighborhood Connections</p> <p>▪ 1e. Pedestrian Crossings</p> <p>▪ 1i. Ease of Transition to Walking</p> <p>▪ 2e. Bike Facility Improvements</p> <p>▪ 2f. Bike Network Connections</p> <p>▪ 2h. Bike Crossings</p> <p>▪ 3b. Transit Stop Facilities</p> <p>▪ 4a. Movement of Through Traffic</p> <p>▪ 4g. Access Management for Adjacent Properties</p> <p>▪ 5b. Visual Quality</p> <p>▪ 5c. Broadway as a Destination</p> <p>▪ 5d. Gateway to Downtown</p> <p>▪ 5e. Conduciveness to Business</p> <p>▪ 5f. Walkable Community</p> <p>▪ 5g. Certainty</p> <p>▪ 7i. Business Impact</p>

# Linking Goals and Performance Measures

Goal/Topics/	Potential/Goal/Statements/	Related/Performance/Measures/
<p data-bbox="260 301 513 325">- Neighborhoods serving (uses)</p> <p data-bbox="28 464 247 582"><b>Protect existing businesses and enhance the business environment/ continued/</b></p>	<p data-bbox="537 301 1402 344">Encourage a mix of neighborhood and regional serving businesses to support vibrant mixed use districts along Broadway.</p>	<ul style="list-style-type: none"> <li>1c. Pedestrian Oriented Facilities or Improvements</li> <li>1d. Walkable Network/ Neighborhood Connections</li> <li>1e. Pedestrian Crossings</li> <li>1h. Walkable Destinations</li> <li>1i. Ease of Transition to Walking</li> <li>2e. Bike Facility Improvements</li> <li>2f. Bike Network Connections</li> <li>2h. Bike Crossings</li> <li>3b. Transit Stop Facilities</li> <li>4a. Movement of Through Traffic</li> <li>4g. Access Management for Adjacent Properties</li> <li>5b. Visual Quality</li> <li>5c. Broadway as a Destination</li> <li>5d. Gateway to Downtown</li> <li>5e. Conduciveness to Business</li> <li>5f. Walkable Community</li> <li>5g. Certainty</li> <li>6f. Land Use Mix</li> <li>7a/7b. Change in Economic Potential</li> <li>7c/7d. Change in Business Revenue</li> </ul>
<p data-bbox="260 775 465 846">- Viability of businesses before and after construction</p>	<p data-bbox="537 775 1402 818">Avoid impacts to the viability of existing businesses and property along Broadway to the extent feasible, and otherwise maximize the viability of property and business before, during and after construction.</p>	<ul style="list-style-type: none"> <li>1i. Ease of Transition to Walking</li> <li>4a. Movement of Through Traffic</li> <li>5g. Certainty</li> <li>7i. Business Impact</li> <li>8b. Acquisition Cost</li> </ul>
<p data-bbox="260 911 465 935">- Economic connections</p> <p data-bbox="28 1115 247 1210"><b>Protect residences and enhance the environment for residences/</b></p>	<p data-bbox="537 1115 1402 1158">Encourage protection of existing and creation of new housing to maintain diversity of housing types and rental and ownership choices that are affordable to a range of households.</p>	<ul style="list-style-type: none"> <li>1d. Walkable Network/ Neighborhood Connections</li> <li>1h. Walkable Destinations</li> <li>1e. Pedestrian Crossings</li> <li>2e. Bike Facility Improvements</li> <li>2f. Bike Network Connections</li> <li>3b. Transit Stop Facilities</li> <li>3f. Accommodation of Future High Capacity Transit</li> <li>5d. Gateway to Downtown</li> <li>5f. Walkable Community</li> <li>5g. Certainty</li> <li>6e. Walkability/Bikeability</li> <li>6f. Land Use Mix</li> <li>6g. Affordability</li> </ul>
<p data-bbox="260 1250 455 1293">- Affordable rents and ownership</p>		<ul style="list-style-type: none"> <li>1. Pedestrian Access and Mobility performance measures</li> <li>2. Bicycle Access and Mobility performance measures</li> <li>3. Transit Access and Mobility performance measures</li> <li>5g. Certainty</li> <li>6e. Walkability/Bikeability</li> <li>6f. Land Use Mix</li> <li>6g. Affordability</li> </ul>

# Linking Goals and Performance Measures

Goal Topics	Potential Goal Statements	Related Performance Measures
<b>Buildings and Site Development</b>		
<p><b>Recognize value of historic buildings and sites</b></p>	<ul style="list-style-type: none"> <li>▪ Protect all individually historic and contributing buildings, signage, and sites.</li> <li>▪ Protect best examples of individually historic and contributing buildings, signage, and sites.</li> <li>▪ To extent feasible given needed transportation and other improvements along Broadway, protect the best examples of individually historic and contributing buildings, signage, and sites.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 5a. Historic Resources</li> </ul>
<p><b>Recognize value of significant buildings and sites</b></p>	<ul style="list-style-type: none"> <li>▪ Protect all significant buildings and sites.</li> <li>▪ Protect best examples of significant buildings and sites.</li> <li>▪ To extent feasible given needed transportation and other improvements along Broadway, protect the best examples of significant buildings and sites.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 5a'. Significant Resources</li> </ul>
<p><b>Support development scale and mix of use appropriate to context</b></p> <hr/> <p>–Appropriate to existing context (heights, setbacks, etc.)</p> <hr/> <p>–To support multimodal investment (mix uses, pedestrian-oriented, intensity, etc.)</p>	<ul style="list-style-type: none"> <li>▪ Encourage preservation, remodeling, and new development that is scaled to existing context while allowing for a mix and intensity of use to support walking, bicycling, and transit use.</li> <li>▪ Encourage new development at a scale that is more intense than what exists today if it transitions at its edges to the scale of existing context, and if it supports the multi-modal, economic development, and affordability goals for Broadway.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 5a. Historic Resources</li> <li>▪ 5a'. Significant Resources</li> <li>▪ 1c. Pedestrian-Oriented Facilities or Improvements</li> <li>▪ 1d. Walkable Network / Neighborhood Connections</li> <li>▪ 1e. Pedestrian Crossings</li> <li>▪ 1h. Walkable Destinations</li> <li>▪ 1i. Ease of Transition to Walking</li> <li>▪ 2e. Bike Facility Improvements</li> <li>▪ 2f. Bike Network Connections</li> <li>▪ 2h. Bike Crossings</li> <li>▪ 3b. Transit Stop Facilities</li> <li>▪ 4a. Movement of Through Traffic</li> <li>▪ 5c. Broadway as a Destination</li> <li>▪ 5e. Conduciveness to Business</li> <li>▪ 5f. Walkable Community</li> <li>▪ 5g. Certainty</li> <li>▪ 6f. Land Use Mix</li> <li>▪ 7a/7b. Change in Economic Potential</li> <li>▪ 7c/7d. Change in Business Revenue</li> </ul>

# Linking Goals and Performance Measures

Goal/Topics/	Potential/Goal/Statements/	Related/Performance/Measures/
<b>Buildings/and/Site/Development/continued/</b>	// // //	/
<b>Consider/importance/of/parking/supply/and/demand/</b>  ((	<p>✍ Encourage efficient management of corridor's parking demand and supply to provide enough, but not too much parking.</p> <p>✍ Encourage development of district parking lots and other methods to help maintain viability of existing businesses and properties and to help manage parking supply.</p>	<p>✍ 1i. (Ease of Transition to Walking)</p> <p>✍ 1i. (Ease of Transition to Walking)</p>
<b>Multimodal/Street/Design/</b>	/	/
<b>Balancing/modes/to/create/a/Complete/Street'/</b>	<p>✍ Optimize the use of the right of way to improve mobility and safety for all modes of travel along and across Broadway.</p>	<p>✍ 1a. (Functionality of Streetside for Pedestrian Activity)</p> <p>✍ 1b. (Separation from Vehicular Traffic)</p> <p>✍ 1c. (Pedestrian Oriented Facilities or Improvements)</p> <p>✍ 1e. (Pedestrian Crossings)</p> <p>✍ 1f. (Vehicle/Pedestrian Conflicts at Driveways)</p> <p>✍ 2a. (Separation of Bikes and Arterial Traffic)</p> <p>✍ 2b. (Bike Conflicts with Crossing Vehicles)</p> <p>✍ 2d. (Pavement Condition)</p> <p>✍ 2e. (Bike Facility Improvements)</p> <p>✍ 2g. (Corridor Travel Time)</p> <p>✍ 3b. (Transit Stop Facilities)</p> <p>✍ 3c. (Corridor Travel Time)</p> <p>✍ 3f. (Accommodation of Future High Capacity Transit)</p> <p>✍ 3g. (Riders per Vehicle)</p> <p>✍ 4. (Vehicular Access and Mobility all performance measures)</p>
<b>Broadway's/role/in/the/transportation/network/</b>	( //	<i>See specific goals</i> )
<b>Vehicular/traffic/</b> - Through (mobility)	<p>✍ Improve vehicular mobility along Broadway through any means other than widening the roadway</p> <p>✍ Improve vehicular mobility along Broadway while minimizing widening of the roadway and otherwise minimizing impacts to adjacent property to the extent feasible</p> <p>✍ Increase capacity of Broadway to accommodate future growth in through and commute traffic</p>	<p>✍ 1f. (Vehicle/Pedestrian Conflicts at Driveways)</p> <p>✍ 2b. (Bike Conflicts with Crossing Vehicles)</p> <p>✍ 3f. (Accommodation of Future High Capacity Transit)</p> <p>✍ 4a. (Movement of Through Traffic)</p> <p>✍ 4b. (Intersection Delay Overall Intersection Performance)</p> <p>✍ 4c. (Intersection Delay Worst Movement)</p> <p>✍ 4e. (Lane Continuity)</p> <p>✍ 4f. (Persons Trips)</p> <p>✍ 4g. (Access Management for Adjacent Properties)</p>
- Corridor/neighborhood access	<p>✍ Provide high quality access for vehicles to adjacent development and neighborhoods.</p>	<p>✍ 1f. (Vehicle/Pedestrian Conflicts at Driveways)</p> <p>✍ 2b. (Bike Conflicts with Crossing Vehicles)</p> <p>✍ 4g. (Access Management for Adjacent Properties)</p>

# Linking Goals and Performance Measures

Goal/Topics/	Potential/Goal/Statements/	Related/Performance/Measures/
<p><b>Multimodal/Street/Design/F/continued/</b></p> <p><b>Transit/</b> - Through(mobility(</p> <hr/> <p>- Corridor/neighborhood( access(</p> <hr/> <p>- Improve(transit(stops(</p>	<p>/</p> <p>✍ Provide(effective(east^west(high(capacity(transit(through( the(Broadway(study(area(on(Broadway(Boulevard(and/or( parallel(routes.(</p> <p>✍ Provide(effective(east^west(high(capacity(transit( on(Broadway(Boulevard.(</p> <hr/> <p>✍ Improve(the(quality,(comfort,(and(convenience(of(transit(access(for(the(Broadway(study(area,(including( improved(safety(at(transit(stops.(</p>	<p>/</p> <p>✍ 3b.(Transit(Stop(Facilities((</p> <p>✍ 3c.(Corridor(Travel(Time(</p> <p>✍ 3d.(Schedule(Adherence(</p> <p>✍ 3e.(Frequency(and(Hours(of(Service(</p> <p>✍ 3f.(Accommodation(of(Future(High(Capacity(Transit(</p> <p>✍ 4a.(Movement(of(Through(Traffic(</p> <p>✍ 4b.(Intersection(Delay(^Overall(Intersection(Performance(</p> <p>✍ 4c.(Intersection(Delay(^Worst(Movement(</p> <hr/> <p>✍ 1a.(Functionality(of(Streetside(for(Pedestrian(Activity(</p> <p>✍ 1b.(Separation(from(Vehicular(Traffic(</p> <p>✍ 1c.(Pedestrian^Oriented(Facilities(or(Improvements(</p> <p>✍ 1d.(Walkable(Network/(Neighborhood(Connections(</p> <p>✍ 1e.(Pedestrian(Crossings(</p> <p>✍ 1f.(Vehicle/(Pedestrian(Conflicts(at(Driveways(</p> <p>✍ 2a.(Separation(of(Bikes(and(Arterial(Traffic(</p> <p>✍ 2b.(Bike(Conflicts(with(Crossing(Vehicles(</p> <p>✍ 2e.(Bike(Facility(Improvements(</p> <p>✍ 2f.(Bike(Network(Connections(</p> <p>✍ 3a.(Distance(to(Transit(Stops(</p> <p>✍ 3b.(Transit(Stop(Facilities(</p>
<p><b>Bicycling/</b> - Provide(east^west(mobility( for(bicyclists(of(various(skill( levels(</p> <hr/> <p>- Broadway(crossings/(Bicycle( network(connections(</p>	<p>✍ Provide(east^west(mobility(for(bicyclists(of(various(skill(levels(on(Broadway(Boulevard(and(parallel(streets(</p> <hr/> <p>✍ Improve(crossings(for(bicyclists,(including(those(that(connect(with(bicycle(network(</p>	<p>✍ 2.(Bicycle(Access(and(Mobility(performance(measures(</p> <hr/> <p>✍ 2b.(Bike(Conflicts(with(Crossing(Vehicles(</p> <p>✍ 2f.(Bike(Network(Connections(</p>
<p><b>Pedestrian/</b> - Provide(for(movement(along( and(across(Broadway,( include(buffering( pedestrians(from(the( roadway(</p> <hr/> <p>- Provide(connections( between(districts(and( neighborhoods(</p>	<p>✍ Create(an(inviting(pedestrian(environment(that(encourages(walking(along(Broadway(and(for(crossing(the( Boulevard.(</p> <p>✍ Provide(a(buffer(between(pedestrians(and(traffic(on(Broadway(that(is(effective(given(the(speed(and(amount(of( vehicular(traffic.(</p> <hr/> <p>✍ Enable(and(provide(quality(connections(between(districts(and(neighborhoods(</p>	<p>✍ 1a.(Functionality(of(Streetside(for(Pedestrian(Activity(</p> <p>✍ 1b.(Separation(from(Vehicular(Traffic(</p> <p>✍ 1c.(Pedestrian^Oriented(Facilities(or(Improvements(</p> <p>✍ 1e.(Pedestrian(Crossings(</p> <p>✍ 1f.(Vehicle/(Pedestrian(Conflicts(at(Driveways(</p> <p>✍ 1g.(Universal(Design(</p> <p>✍ 1h.(East(of(Transition(to(Walking(</p> <hr/> <p>✍ 1d.(Walkable(Network/(Neighborhood(Connections(</p> <p>✍ 1h.(Walkable(Destinations(</p>
<p><b>Universal/Design/(ADA/access/)</b></p>	<p>✍ Exceed(ADA(minimum(requirements(where(ever(feasible(to(maximize(the(level(of(universal(design,(including( enhanced(wayfinding(techniques.(</p>	<p>✍ 1g.(Universal(Design(</p>

# Linking Goals and Performance Measures

Goal Topics	Potential Goal Statements	Related Performance Measures	
<b>Multimodal Street Design - continued</b>			
<b>Speed Management / Traffic Calming</b>	<ul style="list-style-type: none"> <li>Design improvements to Broadway to encourage traffic to travel no faster than the speed limit</li> </ul>	<p><i>This is more related to design criteria and the detailed design of any of the street cross section concepts for speed management. Factors such as number of lanes and presence of landscaping do vary with the cross sections, but lateral shifting of lanes at intersections and to minimize negative property impacts will not be known until the later stage of the project when alignments are designed. Still "Accommodation of Speed Management" could be made a new Vehicular Access and Mobility performance measure</i></p>	
<b>Landscape / Streetscape Design</b>	<ul style="list-style-type: none"> <li>Improve the environment along Broadway</li> </ul>	<ul style="list-style-type: none"> <li>Increase the amount and quality of landscaping and lighting along Broadway through an approach that is efficient in terms of capital and maintenance costs.</li> </ul> <ul style="list-style-type: none"> <li>1c. Pedestrian-Oriented Facilities or Improvements</li> <li>6c. Water Harvesting</li> </ul>	
	<ul style="list-style-type: none"> <li>Select context appropriate plants and other design elements</li> </ul>	<ul style="list-style-type: none"> <li>Use plants that are native to the Sonoran Desert or plants that are adaptive to the Tucson environment, and that along with other streetscape elements help to create the desired character for the districts along Broadway.</li> </ul> <p><i>This is more related to design criteria and the detailed design of any of the street cross section concepts and is open to qualitative interpretation. Does not seem appropriate to have a performance measure for this goal, but could try to develop one.</i></p>	
<b>Public Art</b>	<ul style="list-style-type: none"> <li>Provide opportunities for public art that complement the aesthetic and placemaking goals for Broadway</li> </ul>	<p><i>This is a design detail that any design concept should be able to satisfy.</i></p>	
<b>Right-of-way Impacts</b>			
<b>Minimize physical impacts</b>	<ul style="list-style-type: none"> <li>Avoid physical impacts to all existing property and businesses along Broadway Boulevard.</li> <li>To the extent feasible, minimize physical impacts to existing property and businesses along Broadway Boulevard while achieving the transportation and other goals for improvement to the Boulevard.</li> </ul>	<ul style="list-style-type: none"> <li>8b. Acquisition Cost</li> </ul>	
<b>Width of Broadway Boulevard</b>	<ul style="list-style-type: none"> <li>Do not widen Broadway Boulevard.</li> <li>Minimize widening of Broadway Boulevard.</li> <li>Widen Broadway Boulevard to the extent needed to achieve other goals.</li> </ul>	<ul style="list-style-type: none"> <li>8b. Acquisition Cost</li> </ul>	
<b>Sustainability</b>			
<b>Environmental</b>	<ul style="list-style-type: none"> <li>General environmental impact</li> </ul>	<ul style="list-style-type: none"> <li>Utilize materials and design techniques in the improvements to Broadway that minimize environmental impacts, including energy efficient lighting and other means.</li> </ul> <ul style="list-style-type: none"> <li>6a. Greenhouse Gases</li> <li>6b. Other Tailpipe Emissions</li> <li>6c. Heat Island</li> <li>6d. Water Harvesting</li> </ul> <p><i>Beyond these for performance measures there is much that can be achieved through design details, materials specifications, definition of construction technique, and other details as the project moves forward towards construction.</i></p>	
	<ul style="list-style-type: none"> <li>Water use and stormwater management</li> </ul>	<ul style="list-style-type: none"> <li>Emphasize use of water harvesting and storm water management techniques in landscaped areas and the use of permeable surfaces and paving to extent feasible</li> </ul>	<ul style="list-style-type: none"> <li>6d. Water Harvesting</li> </ul>
	<ul style="list-style-type: none"> <li>Air quality</li> </ul>	<ul style="list-style-type: none"> <li>Design the improvements to Broadway to help reduce air quality impacts from green house gases, particulates, and other emissions.</li> </ul>	<ul style="list-style-type: none"> <li>6a. Greenhouse Gases</li> <li>6b. Other Tailpipe Emissions</li> </ul>
	<ul style="list-style-type: none"> <li>Shade</li> </ul>	<ul style="list-style-type: none"> <li>Reduce heat island effect through various design measures, such as shading and high albedo pavement, while also providing shade for pedestrian comfort.</li> </ul>	<ul style="list-style-type: none"> <li>1c. Pedestrian-Oriented Facilities or Improvements</li> <li>6c. Heat Island</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>budget and cost of operations and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Design improvements to deliver them within available budget, and to allow the roadway, its landscape, transit improvements, and other elements to fit the budget constraints for operations and maintenance.</li> </ul> <ul style="list-style-type: none"> <li>8a. Construction Cost</li> <li>8b. Acquisition Cost</li> </ul>	

# Linking Goals and Performance Measures

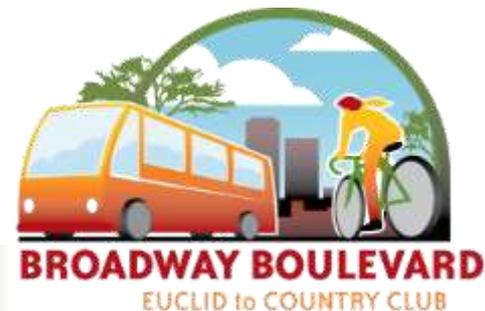
	Potential Goal Statements	Related Performance Measures
Design - continued		
Traffic Calming	<ul style="list-style-type: none"> <li>Design improvements to Broadway to encourage traffic to travel no faster than the speed limit</li> </ul>	<p><i>This is more related to design criteria and the detailed design of any of the street cross section concepts for speed management. Factors such as number of lanes and presence of landscaping do vary with the cross sections, but lateral shifting of lanes at intersections and to minimize negative property impacts will not be known until the later stage of the project when alignments are designed. Still "Accommodation of Speed Management" could be made a new Vehicular Access and Mobility performance measure</i></p>
-Improve the environment along Broadway	<ul style="list-style-type: none"> <li>Increase the amount and quality of landscaping and lighting along Broadway through an approach that is efficient in terms of capital and maintenance costs.</li> </ul>	<ul style="list-style-type: none"> <li>1c. Pedestrian-Oriented Facilities or Improvements</li> <li>6c. Water Harvesting</li> </ul>
-Select context appropriate plants and other design elements	<ul style="list-style-type: none"> <li>Use plants that are native to the Sonoran Desert or plants that are adaptive to the Tucson environment, and that along with other streetscape elements help to create the desired character for the districts along Broadway.</li> </ul>	<p><i>This is more related to design criteria and the detailed design of any of the street cross section concepts and is open to qualitative interpretation. Does not seem appropriate to have a performance measure for this goal, but could try to develop one.</i></p>
	<ul style="list-style-type: none"> <li>Provide opportunities for public art that complement the aesthetic and placemaking goals for Broadway</li> </ul>	<p><i>This is a design detail that any design concept should be able to satisfy.</i></p>
S		
s	<ul style="list-style-type: none"> <li>Avoid physical impacts to all existing property and businesses along Broadway Boulevard.</li> <li>To the extent feasible, minimize physical impacts to existing property and businesses along Broadway Boulevard while achieving the transportation and other goals for improvement to the Boulevard.</li> </ul>	<ul style="list-style-type: none"> <li>8b. Acquisition Cost</li> </ul>
Boulevard	<ul style="list-style-type: none"> <li>Do not widen Broadway Boulevard.</li> <li>Minimize widening of Broadway Boulevard.</li> <li>Widen Broadway Boulevard to the extent needed to achieve other goals.</li> </ul>	<ul style="list-style-type: none"> <li>8b. Acquisition Cost</li> </ul>
-General environmental impact	<ul style="list-style-type: none"> <li>Utilize materials and design techniques in the improvements to Broadway that minimize environmental impacts, including energy efficient lighting and other means.</li> </ul>	<ul style="list-style-type: none"> <li>6a. Greenhouse Gases</li> <li>6b. Other Tailpipe Emissions</li> <li>6c. Heat Island</li> <li>6d. Water Harvesting</li> </ul> <p><i>Beyond these for performance measures there is much that can be achieved through design details, materials specifications, definition of construction technique, and other details as the project moves forward towards construction.</i></p>
-Water use and stormwater management	<ul style="list-style-type: none"> <li>Emphasize use of water harvesting and storm water management techniques in landscaped areas and the use of permeable surfaces and paving to extent feasible</li> </ul>	<ul style="list-style-type: none"> <li>6d. Water Harvesting</li> </ul>
-Air quality	<ul style="list-style-type: none"> <li>Design the improvements to Broadway to help reduce air quality impacts from green house gases, particulates, and other emissions.</li> </ul>	<ul style="list-style-type: none"> <li>6a. Greenhouse Gases</li> <li>6b. Other Tailpipe Emissions</li> </ul>
-Shade	<ul style="list-style-type: none"> <li>Reduce heat island effect through various design measures, such as shading and high albedo pavement, while also providing shade for pedestrian comfort.</li> </ul>	<ul style="list-style-type: none"> <li>1c. Pedestrian-Oriented Facilities or Improvements</li> <li>6c. Heat Island</li> </ul>
-budget and cost of operations and maintenance	<ul style="list-style-type: none"> <li>Design improvements to deliver them within available budget, and to allow the roadway, its landscape, transit improvements, and other elements to fit the budget constraints for operations and maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>8a. Construction Cost</li> <li>8b. Acquisition Cost</li> </ul>

# Linking Goals and Performance Measures

Goal/Topics/	Potential/Goal/Statements/	Related/Performance/Measures/
<b>Planning/and/Design/Process/</b>	//	/
<b>Learn from best example/practices/in/Tucson/and/other/places/</b>	Learn from exemplary (multimodal and context sensitive) transportation projects in Tucson (and elsewhere) in the planning and implementation of the Broadway (Boulevard) process.	<i>This and the following are planning and design process goals that do not vary based on the street design concepts.</i>
<b>Public input/</b> - Take process to stakeholders and report back to CTF	Efficiently and effectively seek out public input to draw from stakeholders in the study area and throughout the city and region to provide input for the ongoing Citizens Task Force process.	
<b>Agency and organization coordination/</b>	Continue the public process into the construction and post-construction phases of the project.	
<b>More than transportation performance metrics/</b>	Coordinate with other agencies and organizations that are project stakeholders so they can understand the ongoing efforts and goals for the future of Broadway (Boulevard).	
<b>Be effective/</b>	Utilize more than just transportation performance measures in the decision-making process for the design and implementation.	
<b>Be efficient/</b>	Design and build Broadway as a long-term, quality improvement that will last and be effectively maintained for decades into the future; and create certainty for existing businesses and property owners and support investment.	
	Be as efficient in terms of time and budget as possible in the planning, design, and construction process.	

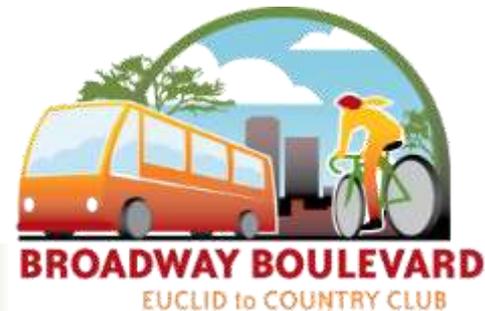
# Linking Goals and Performance Measures

Potential/Goal/Statements/	Related/Performance/Measures/
<p>Learn from exemplary (multimodal and context sensitive) transportation projects in Tucson (and elsewhere in the) planning and implementation of the Broadway Boulevard process.</p>	<p><i>This (and the) following (are) planning and design process goals that do not vary based on the street design concepts.</i></p>
<p>Efficiently and effectively seek out public input to draw from stakeholders in the study area and throughout the city and region to provide input for the on-going Citizens Task Force process.</p>	
<p>Continue the public process into the construction and post-construction phases of the project.</p>	
<p>Coordinate with other agencies and organizations that are project stakeholders so they can understand the on-going efforts and goals for the future of Broadway Boulevard.</p>	
<p>Utilize more than just transportation performance measures in the decision-making process for the design and implementation.</p>	
<p>Design and build Broadway as a long-term, quality improvement that will last and be effectively maintained for decades into the future; and create certainty for existing businesses and property owners and support investment.</p>	
<p>Be as efficient in terms of time and budget as possible in the planning, design, and construction process.</p>	



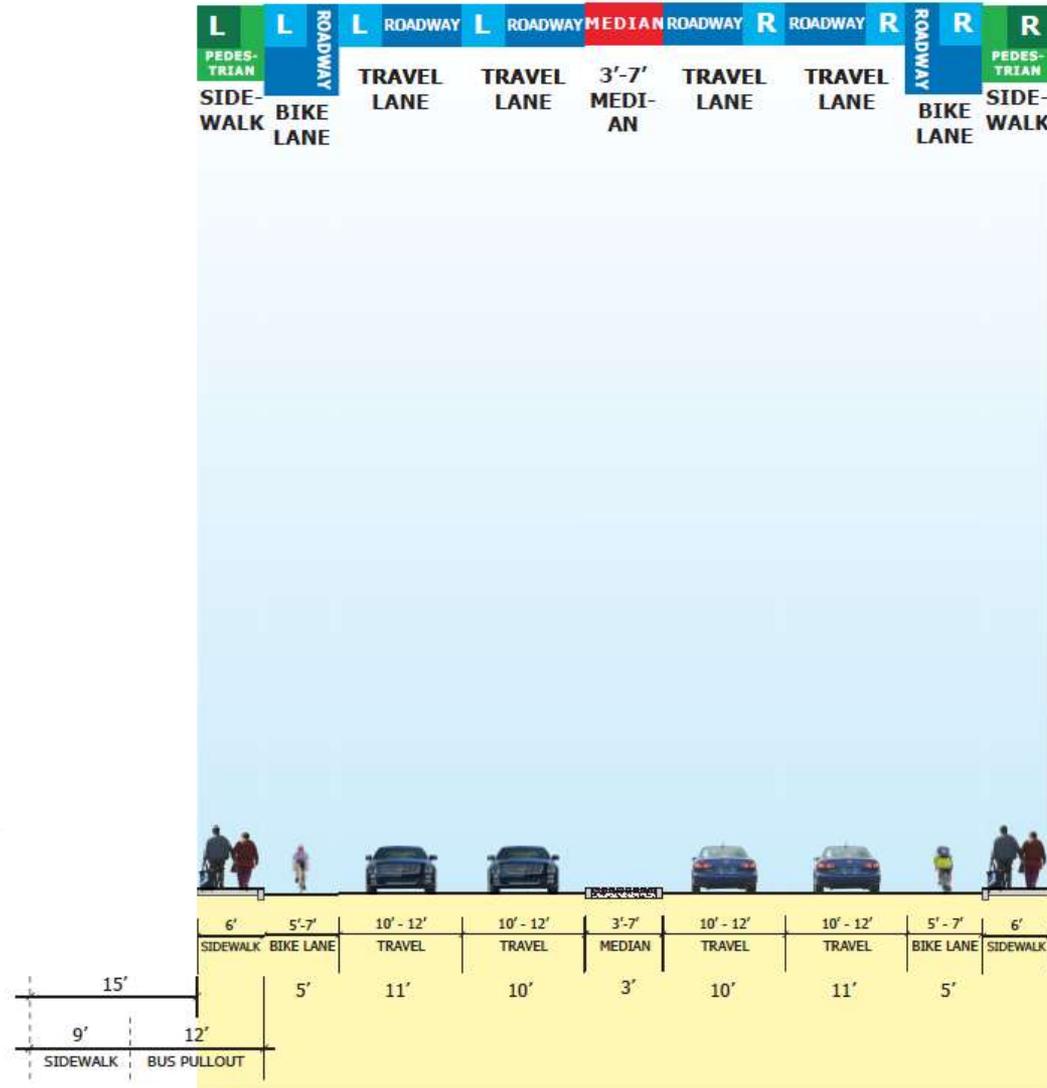
# Draft Cross Section Concept Options

- Four families of section concept types
  - 4 mixed-flow travel lanes (3 concepts)
  - 4 mixed-flow travel lanes + **transit** (2 concepts)
  - 6 mixed-flow travel lanes (2 concepts)
  - 6 mixed-flow travel lanes + **transit** (2 concepts)
- Range of concepts
  - Include different facilities for pedestrians, bicycles, transit, and vehicles
  - In response to input from the public, stakeholder agencies, and the CTF
    - Evolving Goals and definition of “functionality”
  - Evolving set of design parameters and criteria (i.e.; min. lane widths, target speed, landscape maintenance requirements, etc.)



# Four Lane

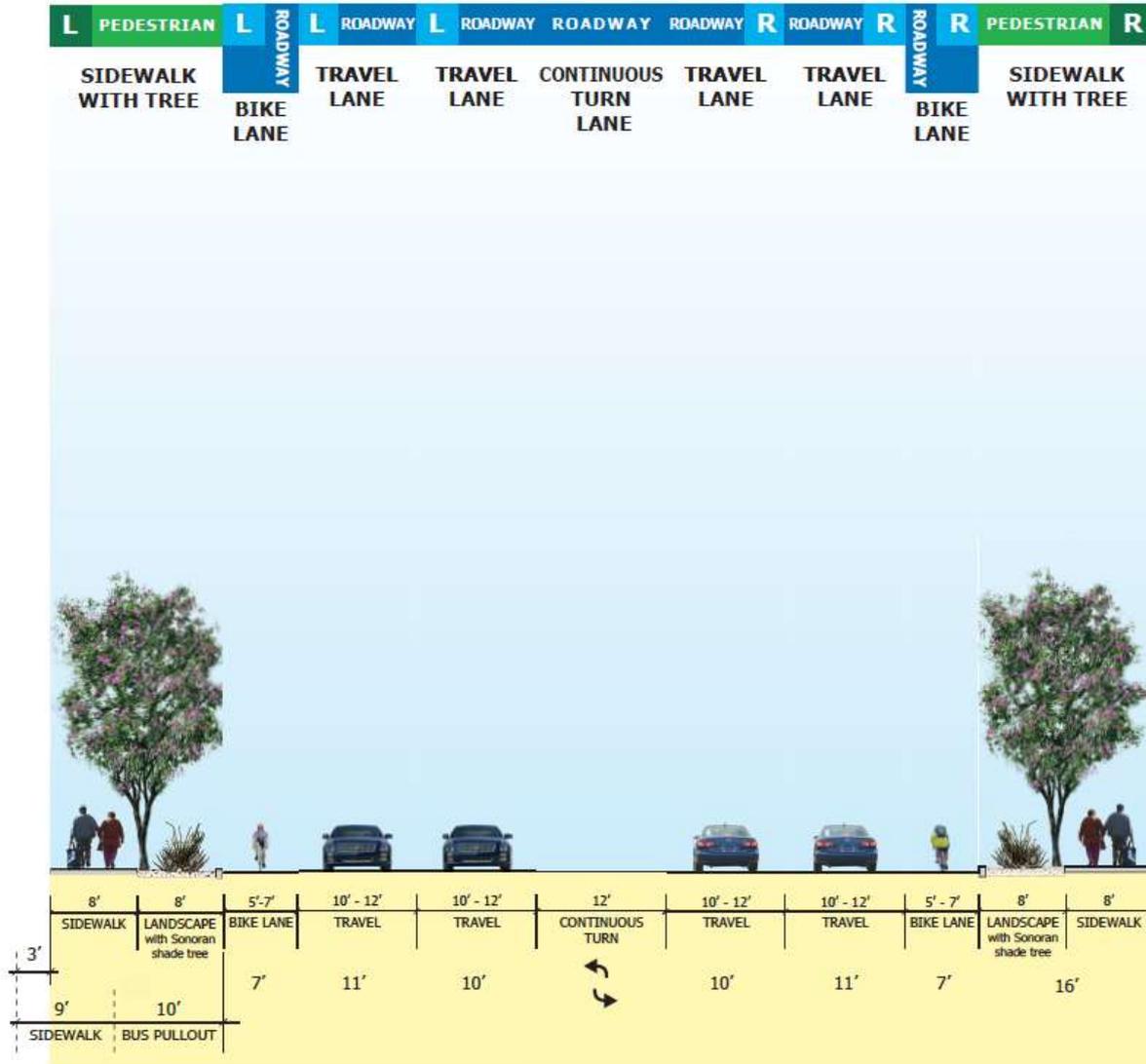
Potential R.O.W. Range – 67 to 134 feet



**Option 4A: 67' Right-of-Way**

# Four Lane

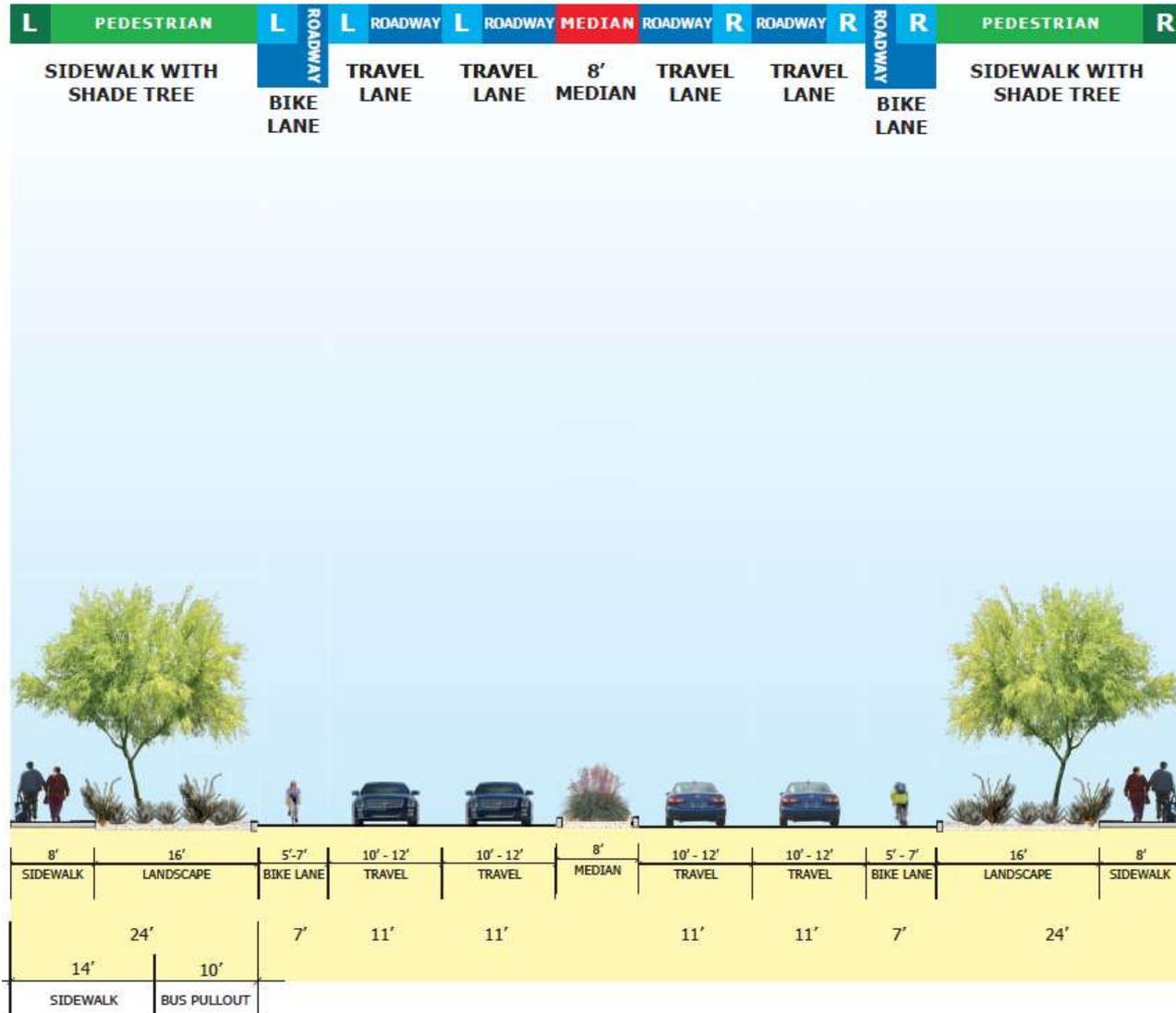
Potential R.O.W. Range – 67 to 134 feet



**Option 4B: 100' Right-of-Way**

# Four Lane

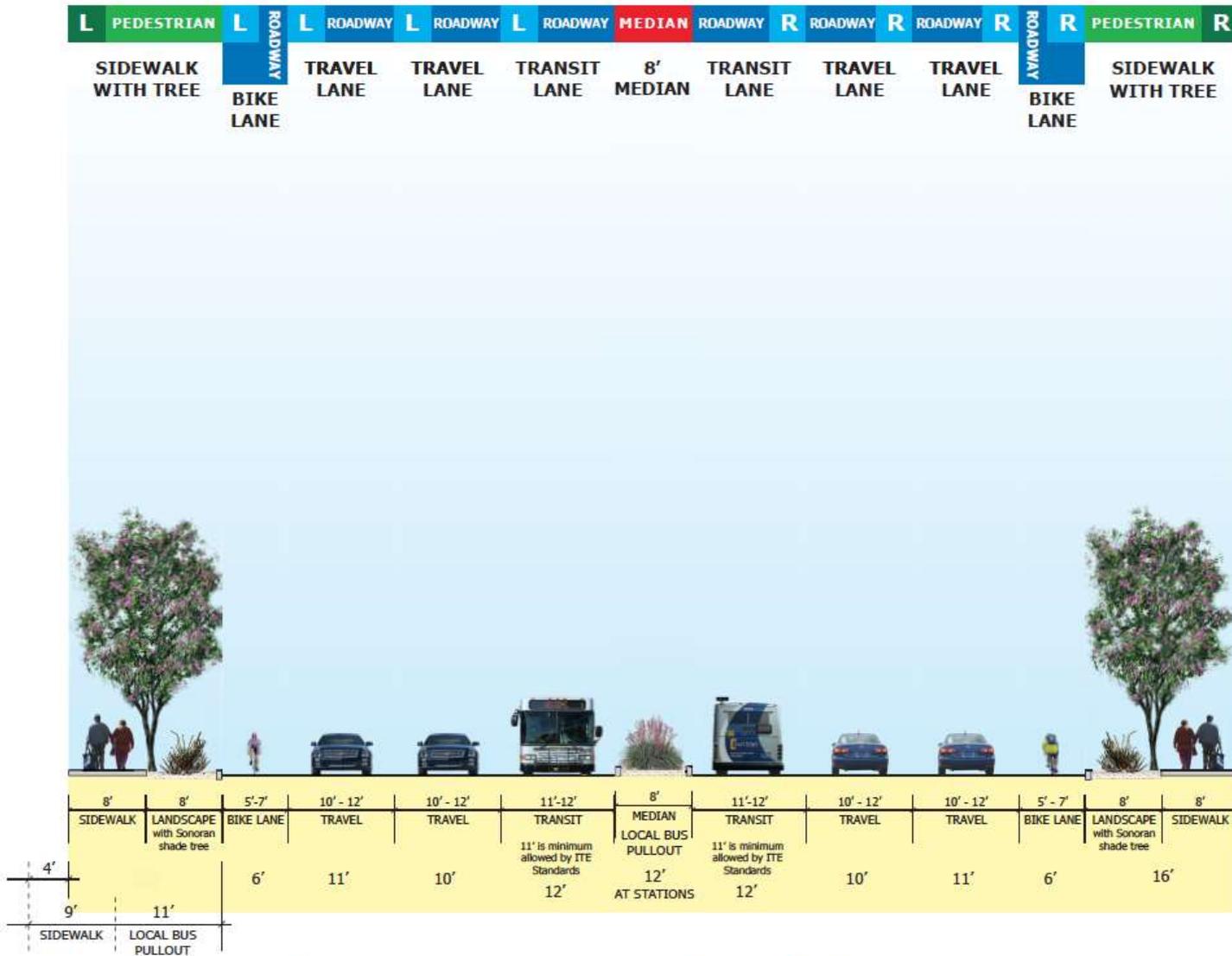
Potential R.O.W. Range – 67 to 134 feet



**Option 4C: 112' Right-of-Way**

# Four Lane + Transit

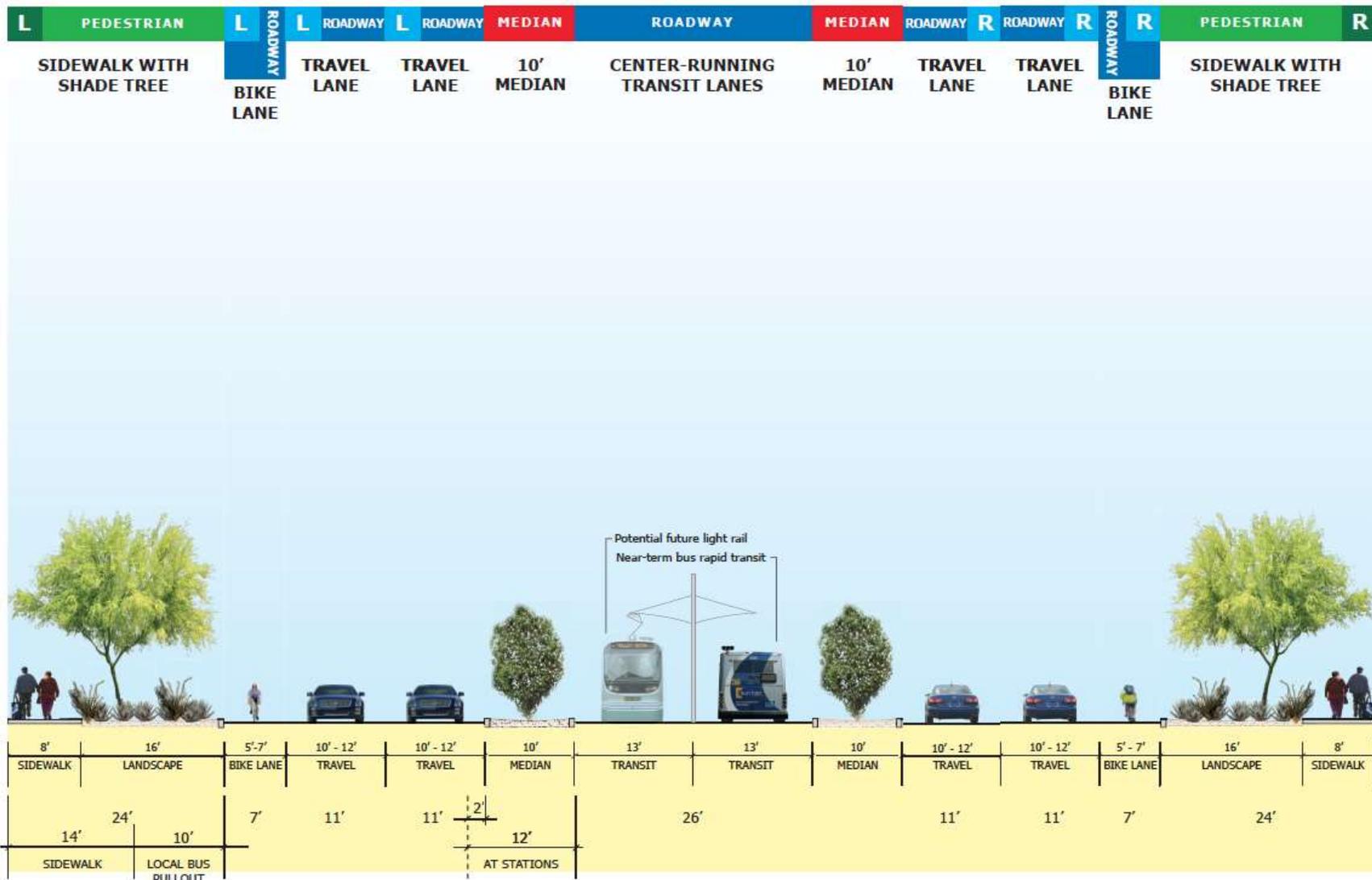
Potential R.O.W. Range – 89 to 156 feet



**Option 4+T A: 118' Right-of-Way**

# Four Lane + Transit

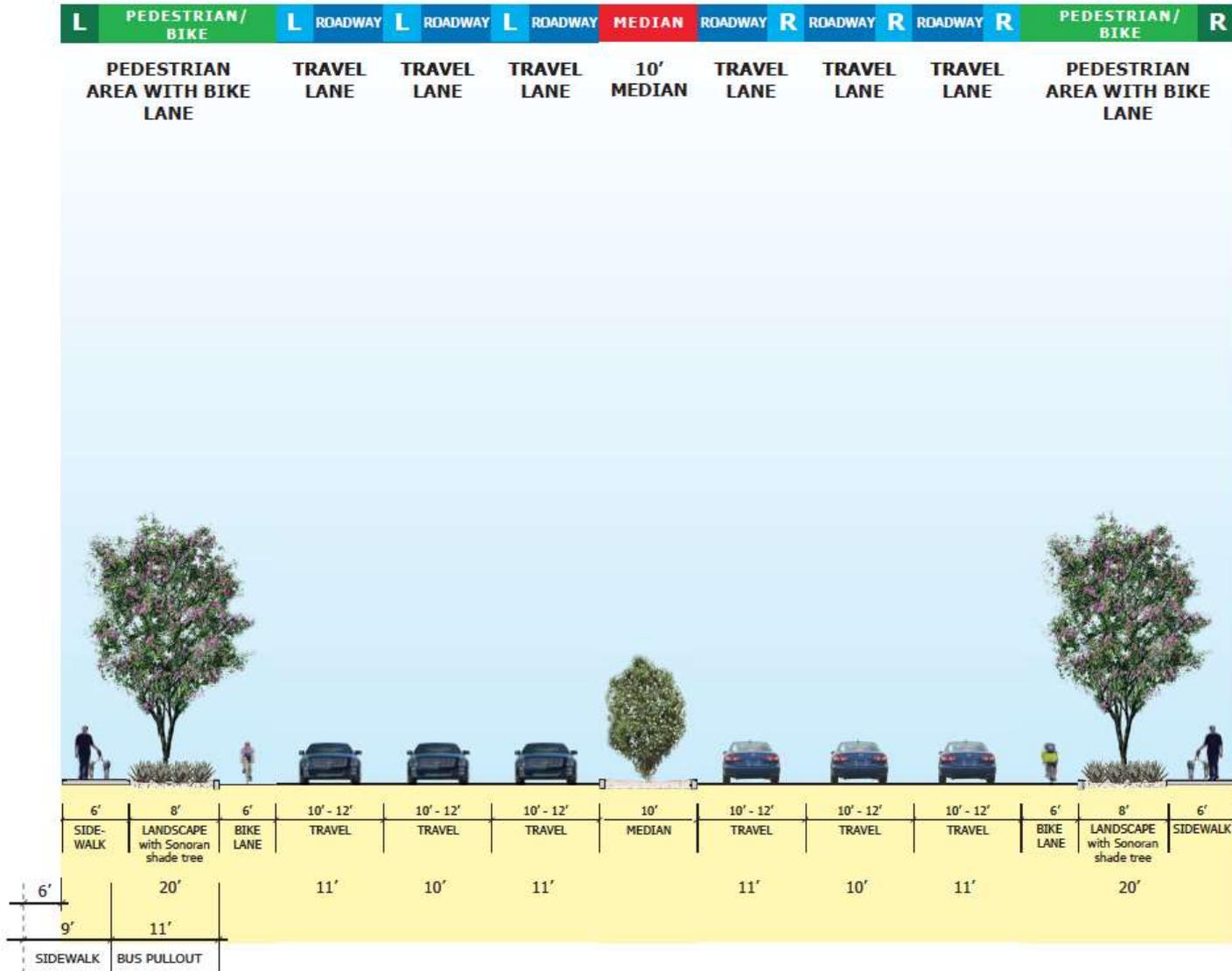
Potential R.O.W. Range – 89 to 156 feet



**Option 4+T B: 152' Right-of-Way**

# Six Lane

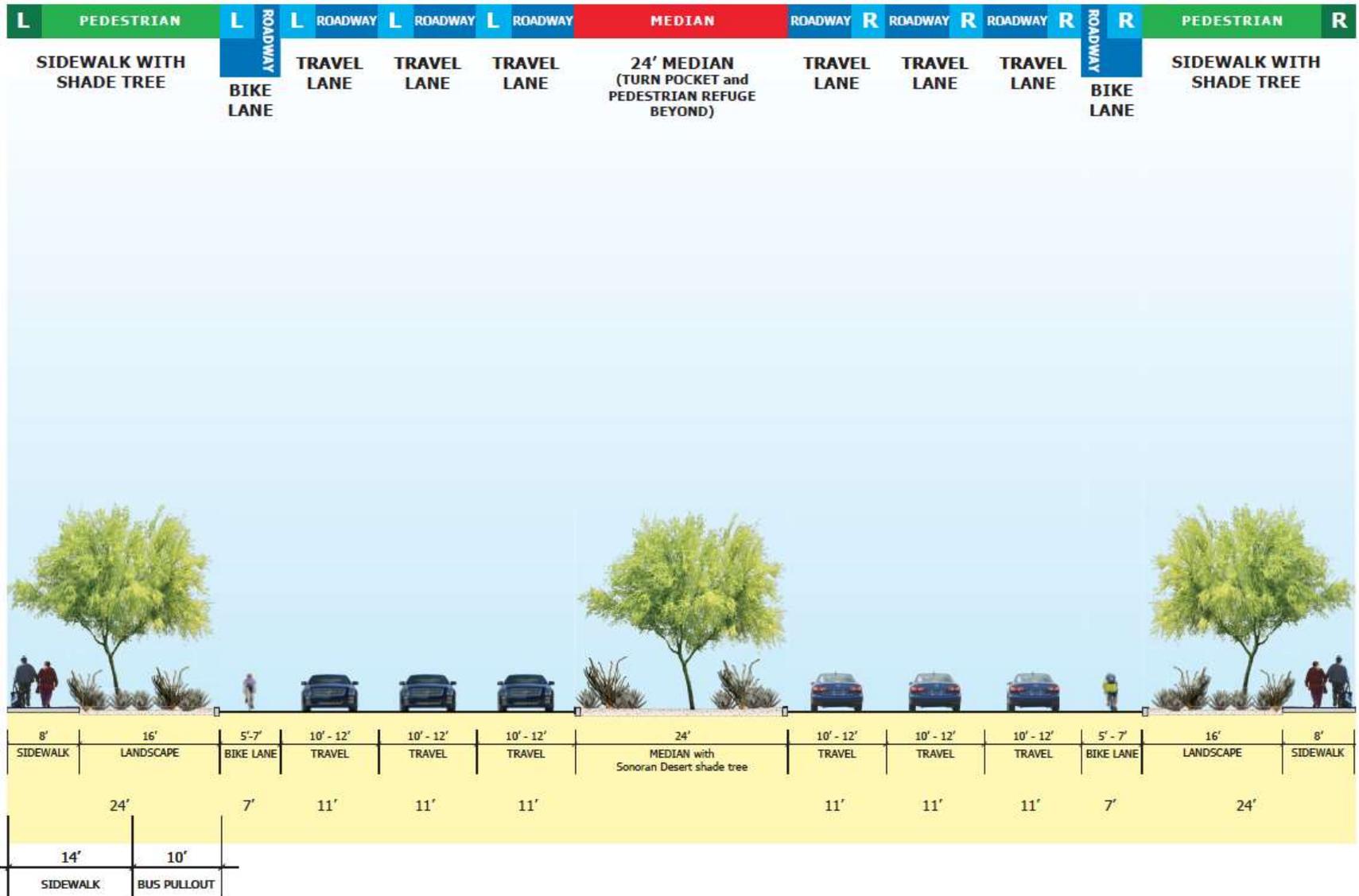
Potential R.O.W. Range – 89 to 152 feet



**Option 6A: 114' Right-of-Way**

# Six Lane

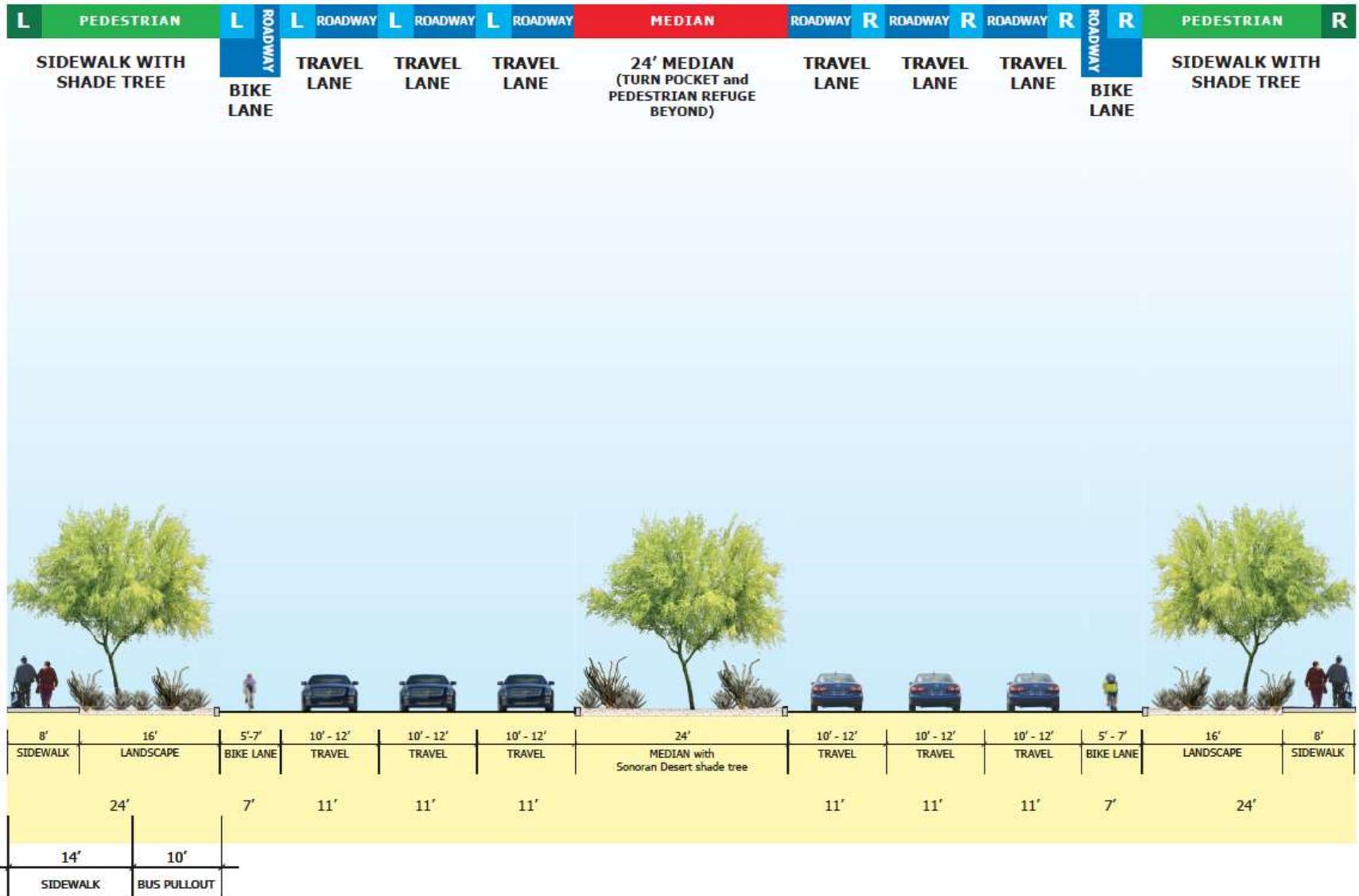
Potential R.O.W. Range – 89 to 152 feet



**Option 6B: 152' Right-of-Way**

# Six Lane

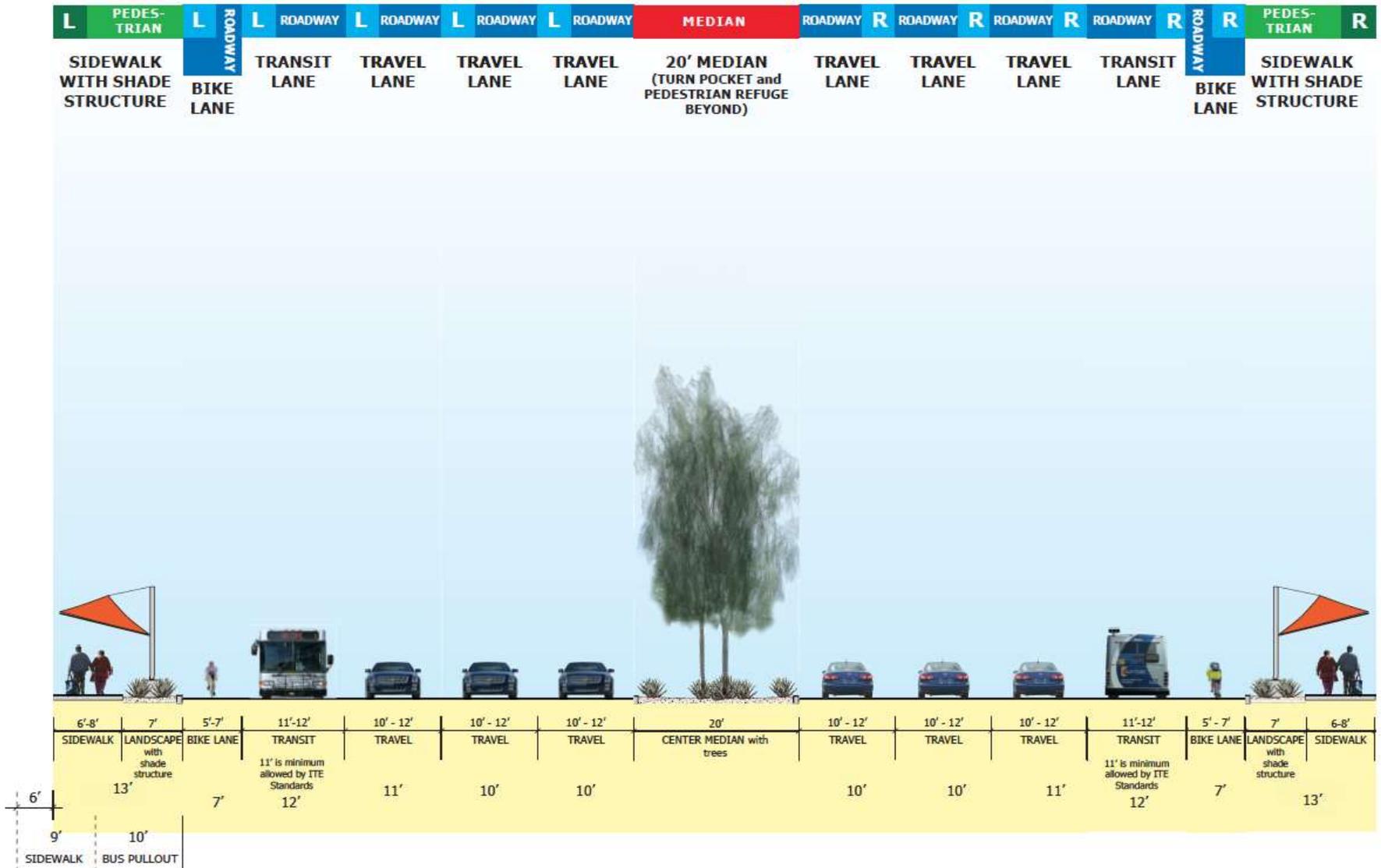
Potential R.O.W. Range – 89 to 152 feet



## Option 6B: 152' Right-of-Way

# Six Lane + Transit

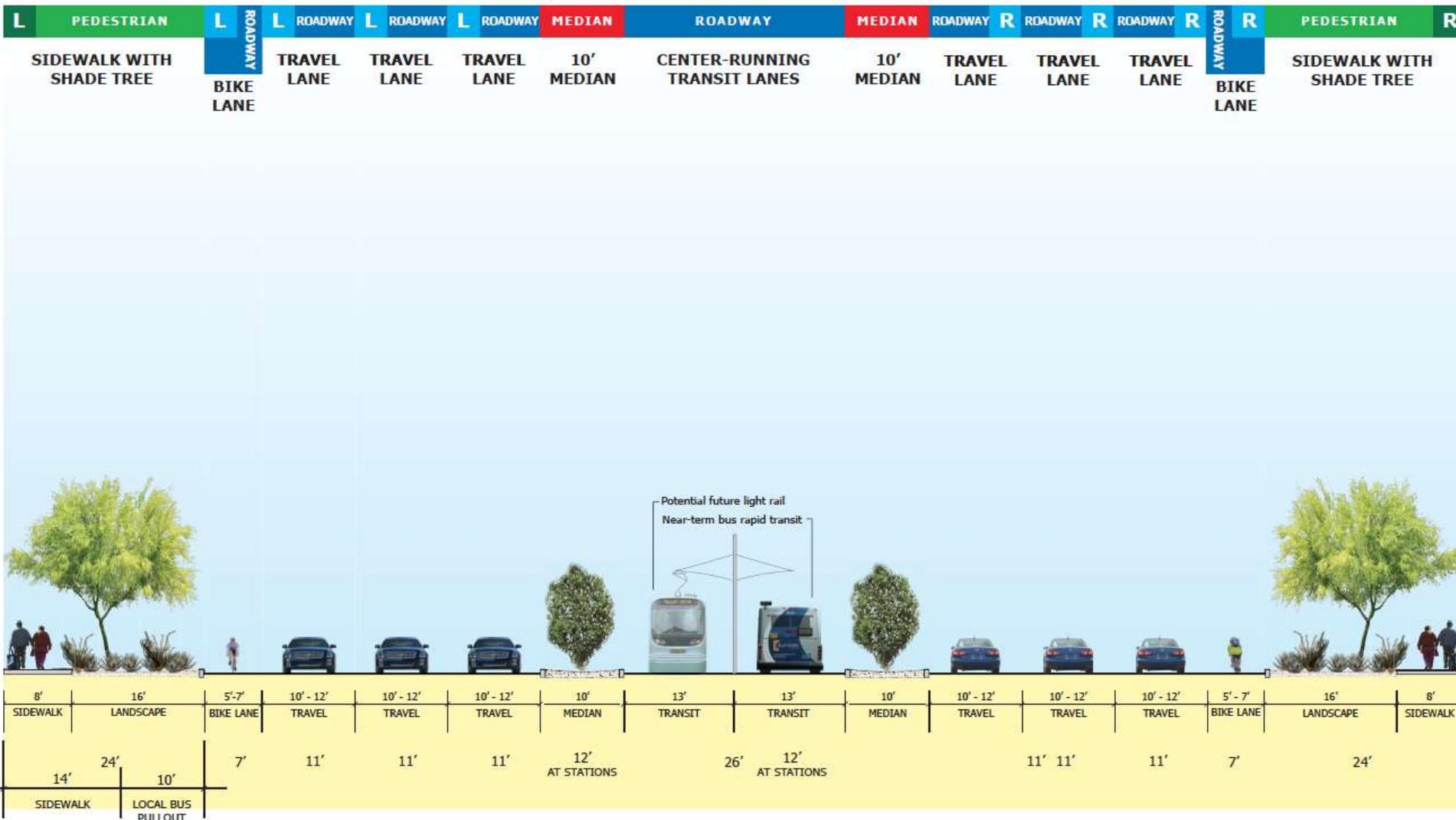
Potential R.O.W. Range – 109 to 172 feet



**Option 6+T A: 146' Right-of-Way**

# Six Lane + Transit

Potential R.O.W. Range – 109 to 172 feet

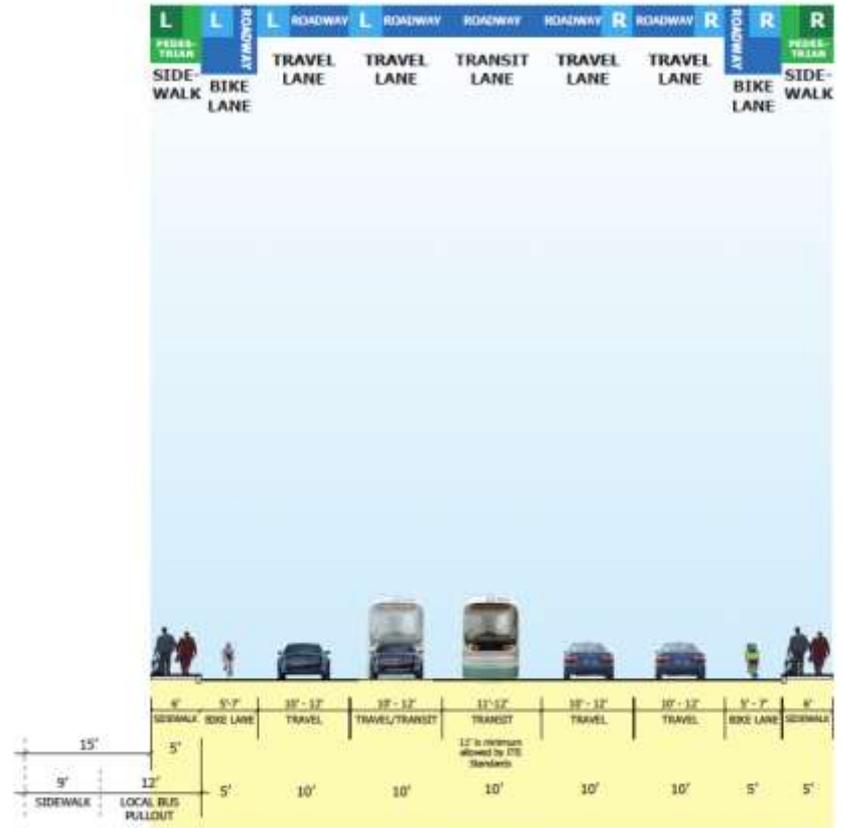


**Option 6+T B: 174' Right-of-Way**

# Southern Arizona Transit Advocates Concept



**Option 4+T SATA: 80' Right-of-Way (East of Campbell)**



**Option 4+T SATA: 70' Right-of-Way (West of Campbell)**

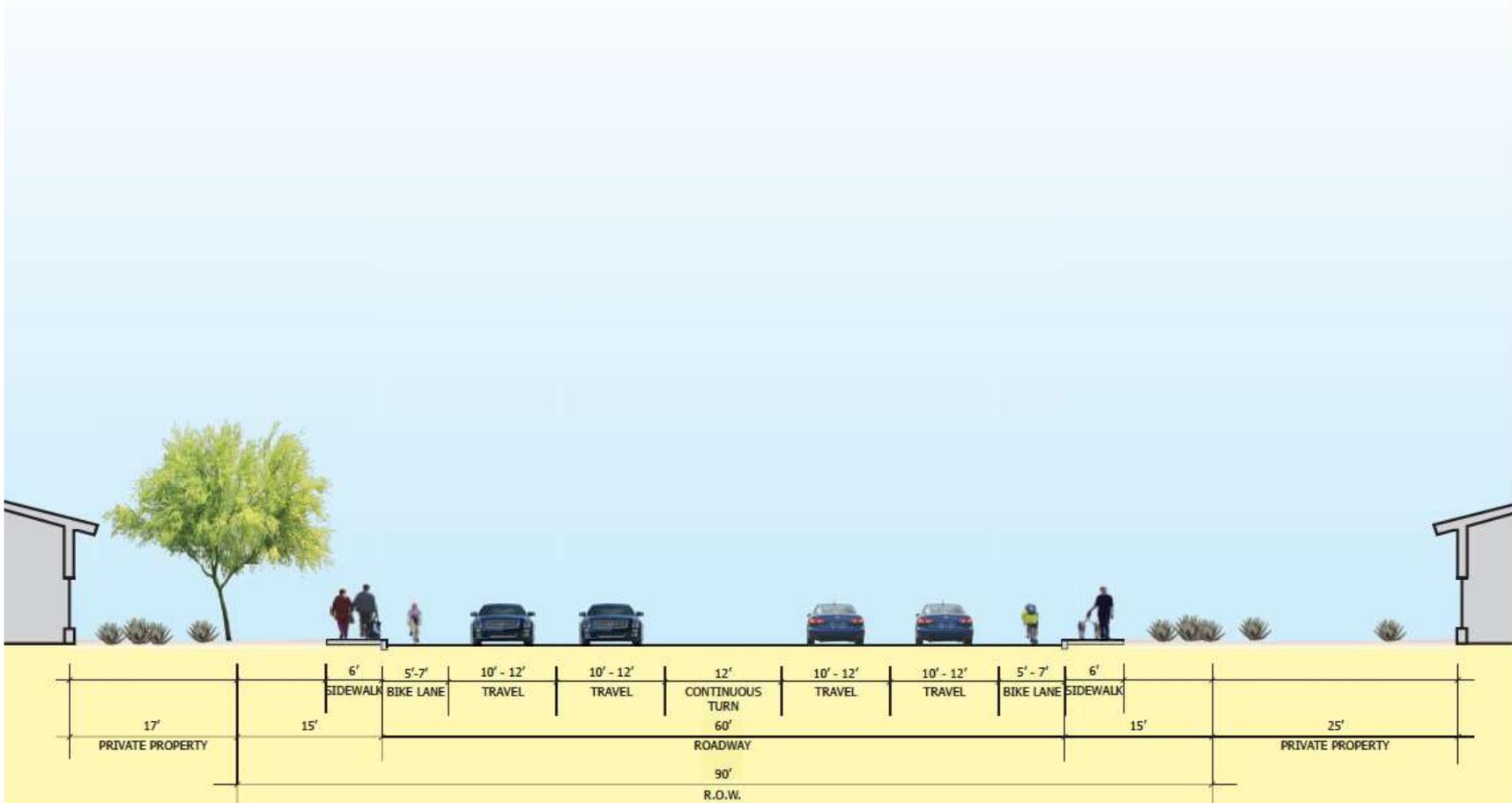
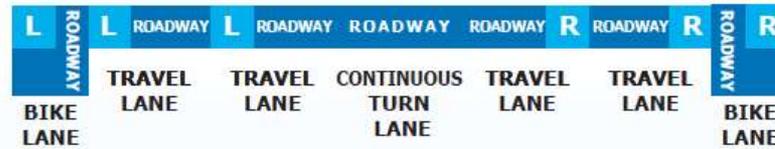


**BROADWAY BOULEVARD**  
EUCLID to COUNTRY CLUB

# Exploration of “Fitting” Cross Section Concepts in Existing Conditions

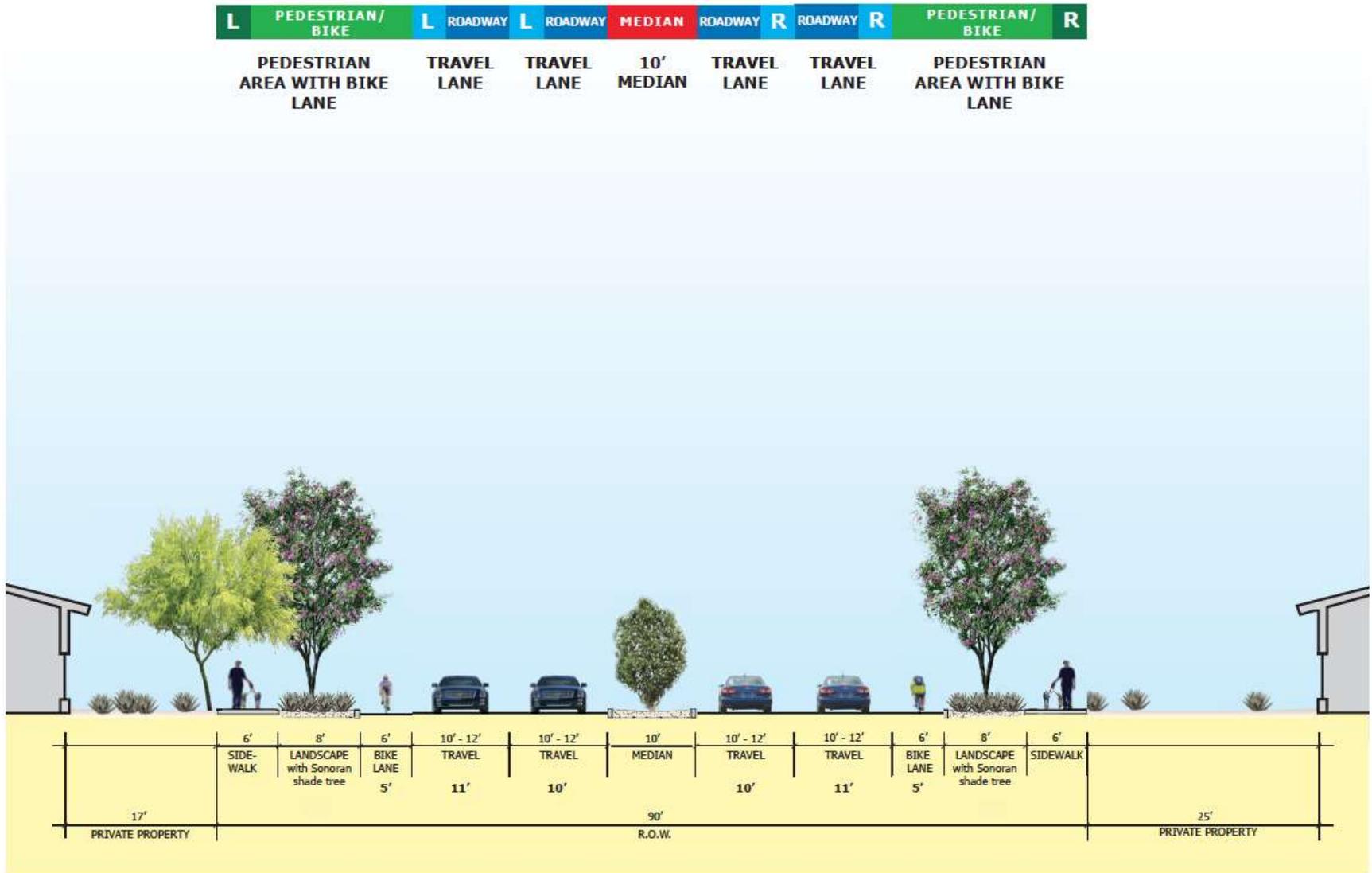
- Illustrate prototypical conditions along Broadway
- How Cross Section Concepts can be integrated to
  - Avoid potential impacts to parking and buildings
  - Reduce potential for property acquisition
  - Maximize positive impacts to character of the street and its context
  - Maximize support for walking, biking, and transit
- Begins to illustrate positive and negative impacts that will be more fully assessed during the alignment design process
- Range of design parameters related to context and particular street elements
  - Commercial building frontages
    - Visibility
    - Parking and access
    - Walkways and sidewalks
  - Residential building frontages
    - Privacy
    - Landscaped yard setback
  - Flexibility in width for various street design elements – “section cards”
  - Potential to enhance some elements of Cross Section Concepts if space allows (i.e.; additional landscape, sidewalk, or other space within the cross section)

# Existing Prototypical West of Campbell



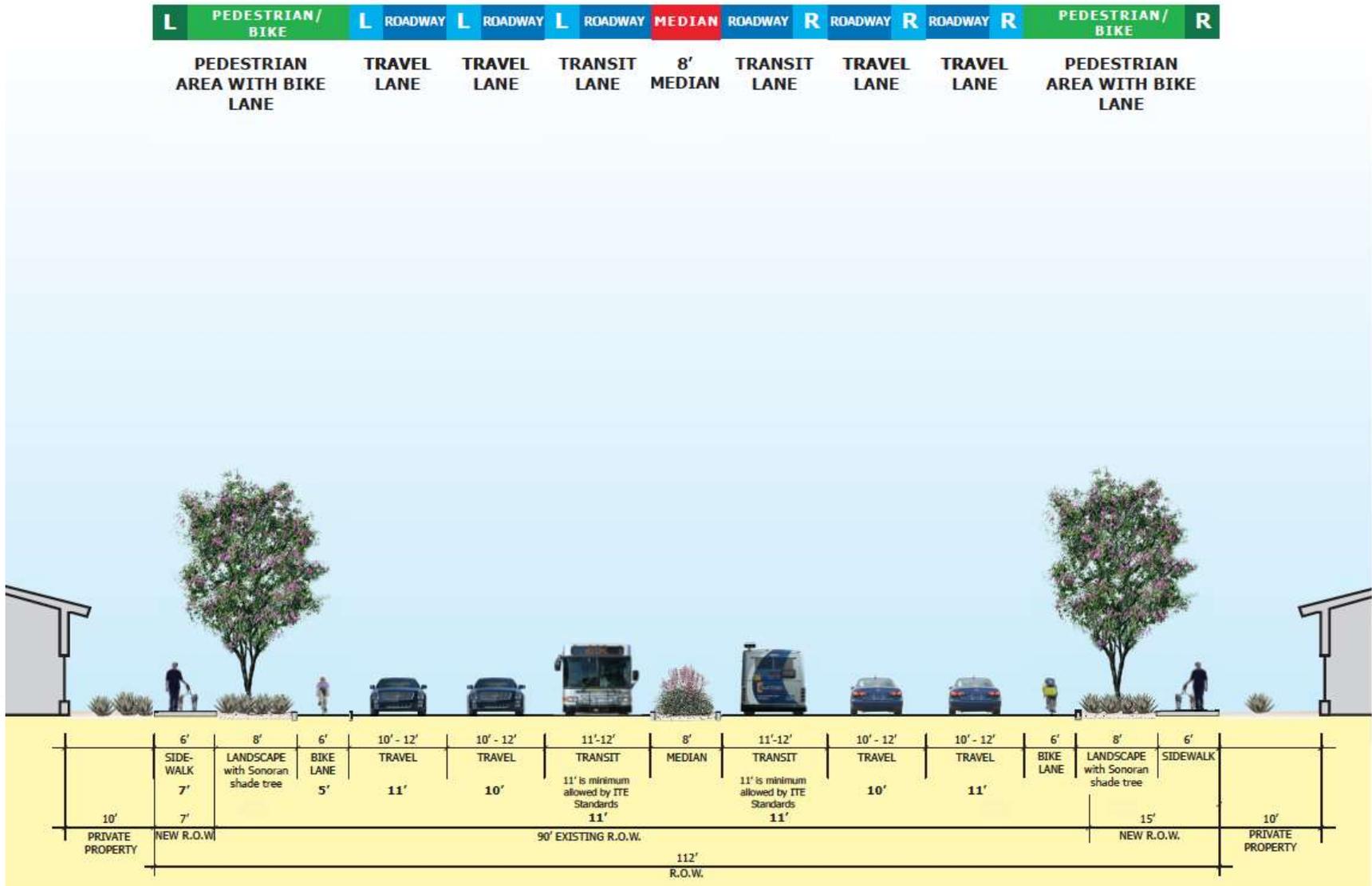
**Existing Condition: 90' Right-of-Way**

# Four Lane Prototypical West of Campbell



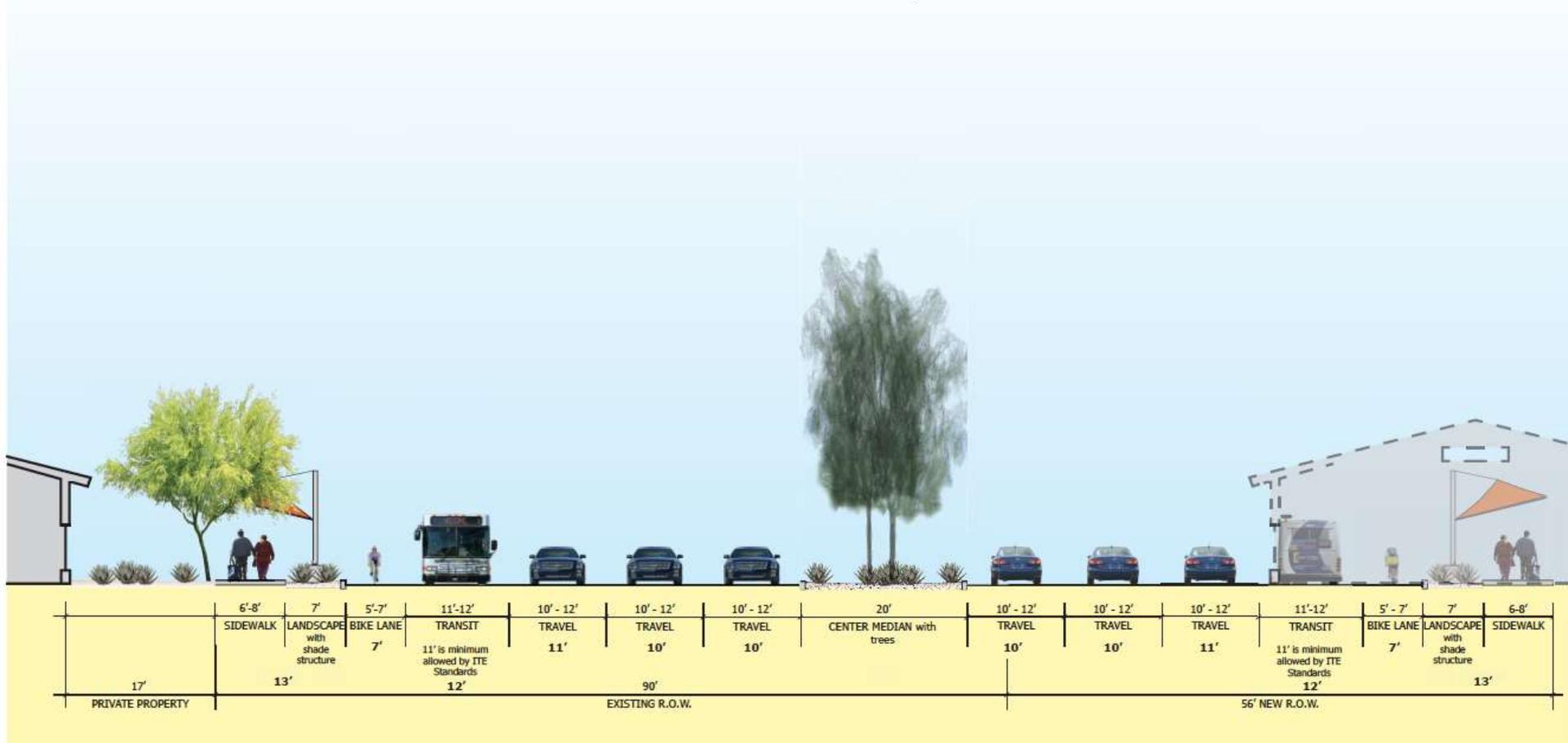
**Option 4A: Modified 90' Right-of-Way (matching existing R.O.W)**

# Four Lane + Transit Prototypical West of Campbell



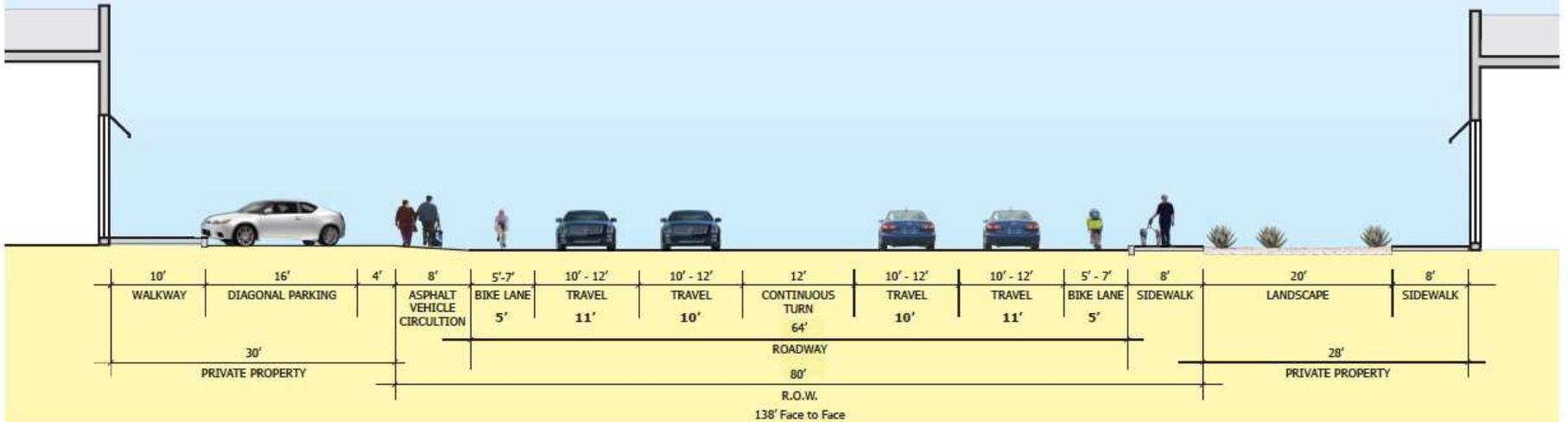
**Option 4+T A: Modified 112' Right-of-Way**

# Six Lane + Transit Prototypical West of Campbell



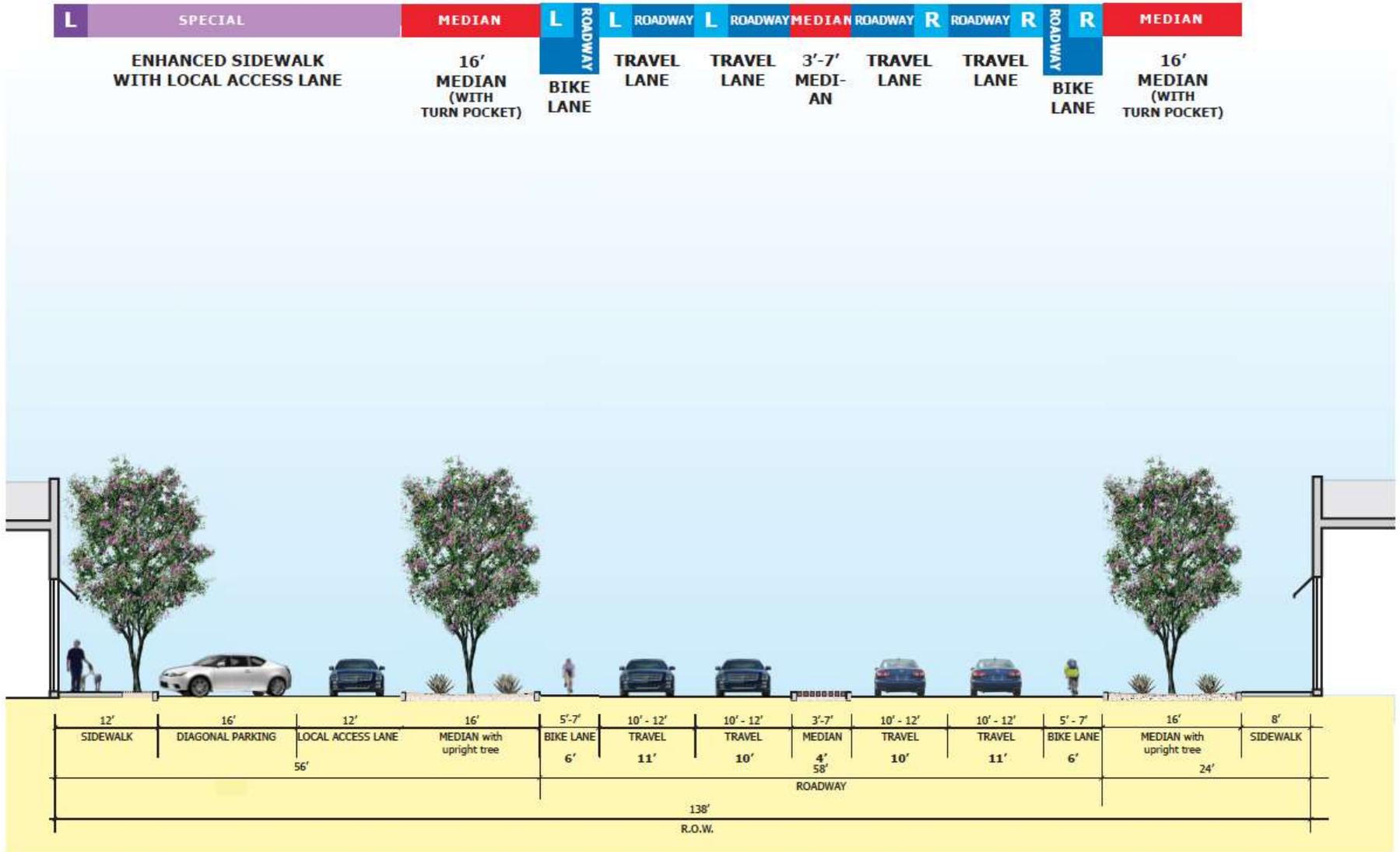
**Option 6+T A: 146' Right-of-Way**

# Existing Prototypical East of Campbell



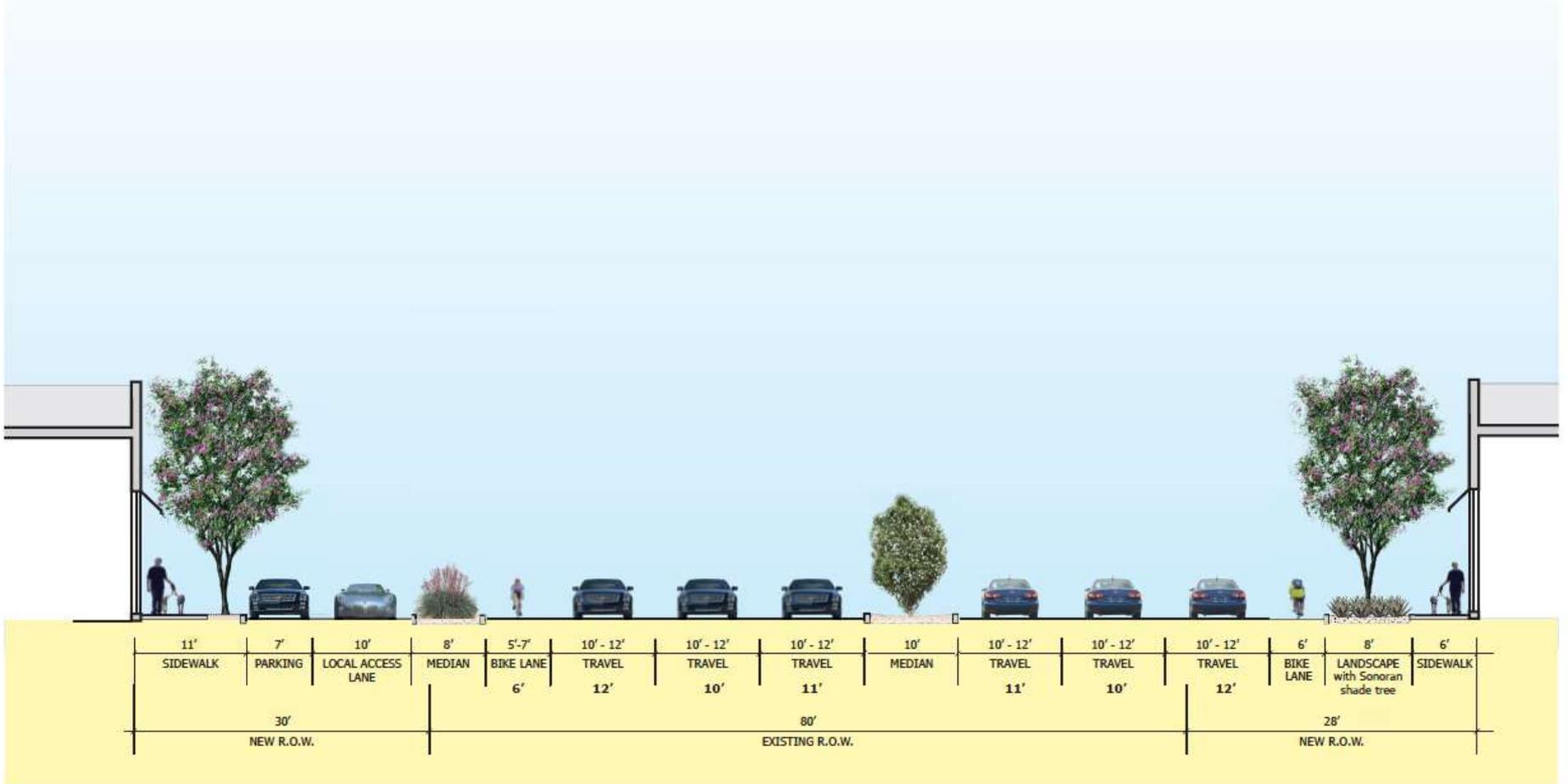
**Existing Condition: 80' Right-of-Way**

# Four Lane Prototypical East of Campbell



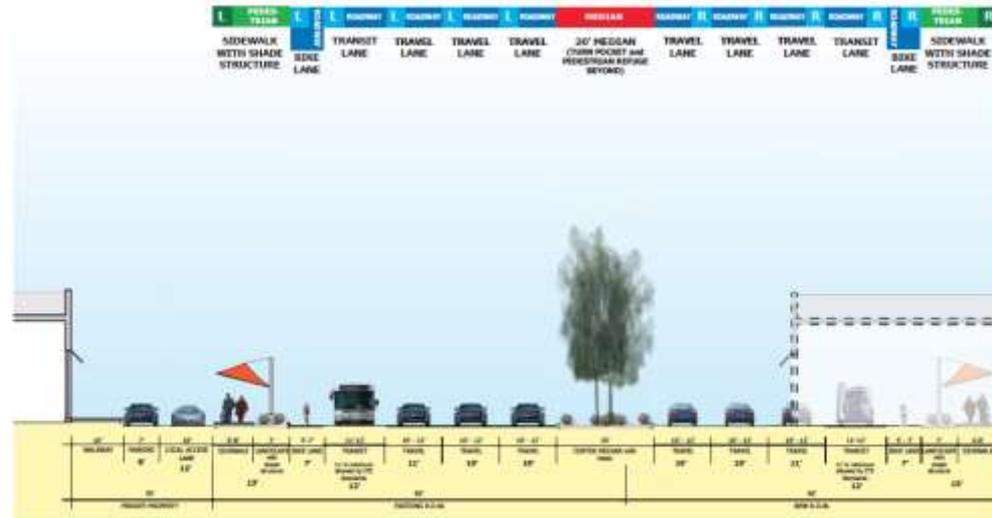
**Option 4A: Modified 138' Right-of-Way**  
**(58' roadway width maintaining existing parking and buildings)**

# Six Lane Prototypical East of Campbell

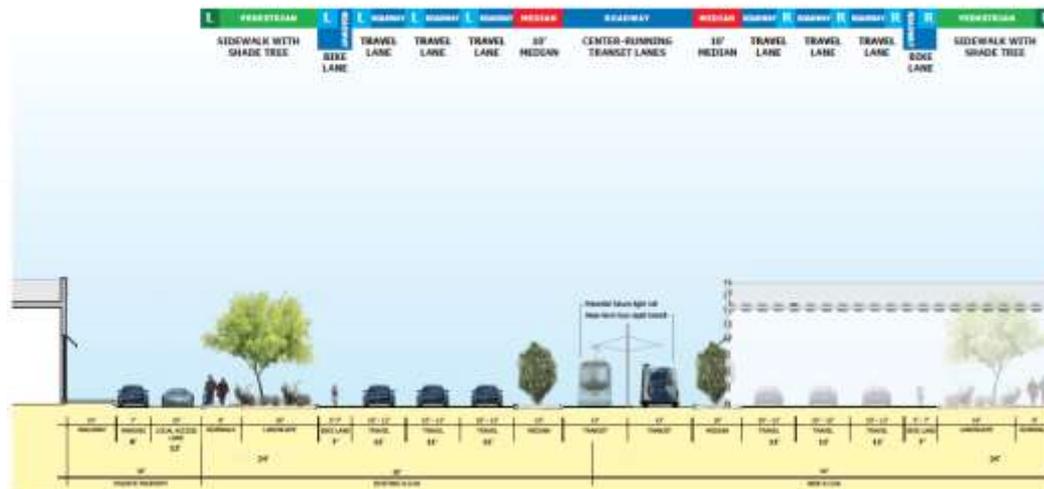


**Option 6A: Modified 138' Right-of-Way including parking and public sidewalks at building fronts**

# Six Lane + Transit Prototypical East of Campbell



Option 6+T A: 146' Right-of-Way



Option 6+T B: 174' Right-of-Way

# Overview Performance Measures

- Reflective of
  - Public input and discussions with CTF to date
  - Guidance from US EPA's *Guide to Sustainable Transportation Performance Measures*
  - Other best practices research including:
    - ITE, *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*
    - NACTO, *Urban Bikeway Design Guide*
    - US Access Board *Public Right-of-Way Accessibility Guidelines*
    - AASHTO *Green Book*
- Starting point for selecting and further developing “Transportation” and “Non-transportation” measures for Broadway

# Updated Performance Assessment

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY										BICYCLE ACCESS AND MOBILITY						TRANSIT ACCESS AND MOBILITY						
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways	1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking	2a. Separation of Bikes and Aerial Traffic	2b. Bike Conflicts with Crossing Vehicles	2c. Pavement Condition	2d. Bike Facility Improvements	2e. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings	3a. Distance to Transit Stops	3b. Transit Stop Facilities	3c. Corridor Travel Time		3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit
Existing Conditions	-- to --	- to --	--		--	o to --				-	- to --		o to --			o to --		-	-- now --	o to --		-	
Option 4A (67' r.o.w.)	--	--	--		++	-				-	o		+			++		+	-- Future (PAG)	-- Future (PAG Low)	--	-	
Option 4B (100' r.o.w.)	++	++	o		++	+				+	o		+			++		+	-- Future (PAG)	-- Future (PAG Low)	--	-	
Option 4C (112' r.o.w.)	+++	+++	++		++	++				+	o		o			++		++	-- Future (PAG)	-- Future (PAG Low)	-	-	
Option 4+T A (118' r.o.w.)	+	+	o		+	+				o	+		o			+		++	-- to - Future (PAG)	- to o Future (PAG Low)	+	+++	
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				+	+		o			+		++	-- to - Future (PAG)	- to o Future (PAG Low)	+	+++	
Option 6A (114' r.o.w.)	o	o	o		+	+				o	o		o			+		o	- Future (PAG)	o Future (PAG Low)	o	-	
Option 6B (152' r.o.w.)	++	++	++		+	++				+	o		o			+		+	- Future (PAG)	o Future (PAG Low)	o	-	
Option 6+T A (146' r.o.w.)	-	-	-		--	o				+	o		o			o		++	o Future (PAG)	+	Future (PAG Low)	+	++
Option 6+T B (174' r.o.w.)	++	++	++		-	++				+	+		o			-		++	+	++	Future (PAG Low)	+++	+++
Option 4+T SATA (existing r.o.w.)	-- to --	- to --	--		++	-				-	o		+			++		++	-- Future (PAG)	-- Future (PAG Low)	-	o	

# Updated Performance Assessment

STREET CROSS SECTION CONCEPT	VEHICULAR ACCESS AND MOBILITY							SENSE OF PLACE					ENVIRONMENTAL / PUBLIC HEALTH				ECONOMIC VITALITY				PROJECT COST										
	4a. Movement of Through Traffic	4b. Intersection Delay -- Overall Intersection Performance	4c. Intersection Delay -- Worst Movement	4d. Accident Potential	4e. Lane Continuity	4f. Persons Trips	4g. Access Management for Adjacent Properties	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conduciveness to Business	5f. Walkable Community	5g. Certainty	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability	7a/7b. Change in Economic Potential	7c/7d. Change in Business Revenue	7e/7f. Change in Sales Tax Revenue	7g/7h. Change in Property Tax Revenue	7i. Business Impact	7j. Job Impact	8a. Construction Cost	8b. Acquisition Cost	8c. Income for Reuse of City-Owned Parcels
Existing Conditions	- now ----- Future (PAG) (PAG Low)							+++	+++	o to -----		- to -----		- now ----- future			o -----	-----	-										\$	\$	
Option 4A (67' r.o.w.)	 ----- Future (PAG) (PAG Low)							+++	+++	o to -----		- to -----		-----			o -----	-----	o to -----										\$\$	\$	
Option 4B (100' r.o.w.)	 ----- Future (PAG) (PAG Low)							++	++	-		-----	o	-			+	-----	o										\$\$	\$\$	
Option 4C (112' r.o.w.)	 ----- Future (PAG) (PAG Low)							+	+	o		-	+	-			++	++	+										\$\$	\$\$\$	
Option 4+T A (118' r.o.w.)	 ----- to ----- Future (PAG) (PAG Low)							o	o	o		o	+	o			+	-	+										\$\$\$	\$\$\$	
Option 4+T B (152' r.o.w.)	 ----- to ----- Future (PAG) (PAG Low)							---	---	+		+	o	o			++	++	+										\$\$\$\$	\$\$\$\$	
Option 6A (114' r.o.w.)	 o Future (PAG) (PAG Low)							o	o	+		+	o	o			+	o	o										\$\$\$	\$\$\$	
Option 6B (152' r.o.w.)	 o Future (PAG) (PAG Low)							---	---	++		+	o	+			++	++	o										\$\$\$	\$\$\$\$	
Option 6+T A (146' r.o.w.)	 + Future (PAG) (PAG Low)							---	---	o		+	-	++			o	o	o										\$\$\$\$	\$\$\$\$	
Option 6+T B (174' row)	 + Future (PAG) (PAG Low)							---	---	o		++	o	+++			+	+	o										\$\$\$\$\$	\$\$\$\$\$	
Option 4+T SATA (existing r.o.w.)	 ----- Future (PAG) (PAG Low)							+++	+++	o to -----		- to -----		o to -----			o -----	-----	o to -----										\$\$\$	\$	

# Updated Performance Assessment

## NOTES REGARDING CURRENT ASSESSMENT METHODOLOGY

For all new design options, assumption is a 30 mph design speed and posted speed.

**1a. Functionality of Streetside for Pedestrian Activity:** ITE Manual Guidance for Boulevard Street type (25-35 mph with 4-6 lanes, for various context types, see document for definitions)

- C-4 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 8 ft. throughway, 2.5 ft. frontage
- C-4 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 8 ft. throughway, 0 to 1.5 ft. frontage
- C-3 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 6 ft. throughway, 1.5 ft. frontage
- C-3 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 6 ft. throughway, 0 to 1.5 ft. frontage
- Result of guidance in relations to Broadway – 9.5 ft. landscape with 8 ft. sidewalk, assume that additional sidewalk width if needed would be part of private development

**1e. Pedestrian Crossings:** Assume that number of crossings is equal (except that existing conditions would have fewer than any future option); therefore current assessment is about the quality and distance of the crossing

**1f. Vehicle / Pedestrian Conflicts at Driveways:** Rated Option 4A, and SATA concept, as negative because the sidewalk would be sloped or go down to street grade at the drive access points because of the narrowness of the sidewalk, landscape width and sidewalk width determines ranking of other concepts – more width provides more ability for vehicles to slow and see pedestrians.

### 2a. Separation of Bikes and Arterial Traffic

- 5 ft. width negative (-)
- 6 ft. width neutral (ITE Manual recommendation)
- 7 ft. width positive (+)

### 2b. Bike Conflicts with Crossing Vehicles

- Assume all options are neutral for vehicles crossing bike lane to get to curb cuts or dedicated right turn lanes
- Options that require buses to cross over to bus pull outs are neutral.
- Options with dedicated transit lanes in the middle get a single + for that, still would have local buses pulling into bus pull outs.

**2h. Bike Crossing:** Assume some basic improvements at crossings and more crossings for all concept options, so this gives

- four lane options 1 plus
- six lane options 1 plus (regardless of median width as street crossings will likely be at least 18 ft. wide given turn lane and 7 ft. refuge island width.
- Eight lane options are neutral, except for 6+T B given its large width.

### 3b. Transit Stop Facilities

Existing facilities are generally poor, although there are a few bus pull outs

- Four lanes get + when have pull outs (except those with wider pedestrian areas get ++) because of lower construction cost may be more budget to improve transit stops; **SATA also gets a ++ because of transit platforms for streetcar.**
- Six lanes get neutral with pull outs as this is now the regional standard
- BRT in middle of roadway gets ++ because it is assumed that this investment in roadway infrastructure for BRT would mean commitment to high-level of improvements on the platforms

**3c. Corridor Travel Time:** Existing corridor travel time is lower than existing vehicular traffic travel time, so two negatives rather than the one negative for 4a. Movement of Through Traffic.

- **Four and six lanes with pull outs, signal prioritization, etc. are assumed to be slower than vehicular movement, because all buses must pull into bus pull outs and this slows the bus travel time.**
- **Dedicated transit lanes with accompanying signal prioritization, etc. are assumed to have roughly the same corridor travel time as vehicles, except for where the dedicated lane is outside lane (Option 6+TA), because it**

would have issues with right turning vehicles and the BRT may need to use the bus pullouts. Also, SATA is one minus sign less than the vehicular through movement performance measure because at least a portion of the service is in a dedicated lane.

**3d. Schedule Adherence:** Rough combining of 3b and 3c with a bit more weight to 3c.

### 3f. Accommodation of Future High Capacity Transit

- Existing and 4 lanes get – ,because they would end up having one lane in each direction for vehicular traffic if dedicated transit lanes were provided
- **Six lane options get – because even though these could be converted to 4+T with dedication of lanes, there would likely be resistance to reducing traffic lanes once they are in place and construction would need to occur to make the conversation.**
- 6+T A has right turning vehicle issues so ++
- **4+T and 6+T B gets +++, because they provide for high-quality high capacity transit with implementation of the concept**
- **SATA is rated neutral because only one direction is in a dedicated lane while the service levels are reduced by the other direction running in a shared lane.**

### 4a. Movement of Through Traffic During Peak Traffic Periods–JMS

- Existing section with current volumes - impacts of buses stopping in through lanes and high number of ped HAWK signals (that are not synchronized with other signals), through traffic flow is less than desirable; increased traffic demand for either growth scenario without adding intersection capacity will result in long travel times and excessive delay.
- 4 lane options w/o exclusive transit lanes – do not provide sufficient through capacity at the signalized intersections for either growth scenario. These options assume that additional turning lanes are provided at the key intersections (Euclid, Campbell, Country Club) and bus pullouts and coordinated pedestrian HAWK signals are provided.
- 4-lane options with exclusive transit lanes – through traffic operations will be improved assuming that a sufficient modal shift from car to transit (BRT) occurs to reduce vehicular demand.
- 6 lane options w/o exclusive transit lanes – fair to good through traffic operations depending upon growth scenario; assumed bus pull outs and coordinated pedestrian HAWK signals.
- 6 lane options with exclusive transit lanes – good to very good through traffic operations depending upon growth scenario and assuming that a sufficient modal shift from car to transit (BRT) occurs to reduce vehicular demand.
- **The SATA concept is rated lower than the 4 lane mixed flow options because the streetcar shared lanes are estimated to reduce performance for those lanes**

**5a. Historic Resources and 5a'. Significant Resources:** Based on review of relationship to future ROW to existing ROW and distance between building facades.

**5d. Gateway to Downtown:** Roughly combination of transit and vehicular access and mobility with community character

**5f. Walkable Community:** Roughly a combination of pedestrian access and mobility and 5a which is impact on properties

**5g. Certainty:** Roughly a combination of 1a, 1c, 2e, 3f, and 4a.

**6c. Heat Island:** Assume existing condition is the base “neutral” condition. Slight penalty for more R.O.W. paving with assumption that much of existing area outside of R.O.W. is hardscaped and that new paving could be high albedo

**6d. Water Harvesting:** Ratio of landscaped to pavement width.

**6e. Walkability / Bikeability:** Roughly combination of Bicycle Access and Mobility with 5f Walkable Community.

**8a. Construction Cost:** extent of improvements and investment in transit facilities for dedicated transit lane options.

**8b. Acquisition Cost:** Width of future r.o.w. and relationship to segment by segment potential for possible acquisition.

# Pedestrian Access and Mobility

- 1a. Functionality of Streetside for Pedestrian Activity
- 1b. Separation from Vehicular Traffic
- 1c. Pedestrian-Oriented Facilities or Improvements
- 1d. Walkable Network/Neighborhood Connections
- 1e. Pedestrian Crossings
- 1f. Vehicle/Pedestrian Conflicts at Driveways
- 1g. Universal Design
- 1h. Walkable Destinations
- 1i. Ease of Transition to Walking

# Pedestrian Access and Mobility

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
Existing Conditions	-- to --	- to --	---		--	o to --				
Option 4A (67' r.o.w.)	---	---	---		++	-				
Option 4B (100' r.o.w.)	++	++	o		++	+				
Option 4C (112' r.o.w.)	+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)	+	+	o		+	+				
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				
Option 6A (114' r.o.w.)	o	o	o		+	+				
Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	-- to --	- to --	---		++	-				

# Pedestrian Access and Mobility

## 1a. Functionality of Streetside for Pedestrian Activity

Description	<ul style="list-style-type: none"><li>• Is there enough width to support desired activity, landscaping, street furnishings and other improvements</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Meet or exceed ITE Walkable Thoroughfare Manual guidance</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width of pedestrian/landscape area</li><li>• Infrastructure provided in area</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• High for this point in process</li></ul>

STREET CROSS-SECTION CONCEPT		PEDESTRIAN ACCESS AND MOBILITY									
		1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
Existing Conditions		-- to ---	- to ---	---		--	o to ---				
Option 4A (67' r.o.w.)		---	---	---		++	-				
Option 4B (100' r.o.w.)		++	++	o		++	+				
Option 4C (112' r.o.w.)		+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)		+	+	o		+	+				
Option 4+T B (152' r.o.w.)		+++	+								
Option 6A (114' r.o.w.)		o									
Option 6B (152' r.o.w.)		++									
Option 6+T A (146' r.o.w.)		-									
Option 6+T B (174' r.o.w.)		++									
Option 4+T SATA (existing r.o.w.)		---	to ---								

# Performance Assessment

- 1a. Functionality of Streetside for Pedestrian Activity
  - Possibly combine 1a, 1b, and 1c into one Performance Measure

ITE Manual Guidance for Boulevard Street type (25-35 mph with 4-6 lanes, for various context types, see document for definitions)

- C-4 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 8 ft. throughway, 2.5 ft. frontage
- C-4 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 8 ft. throughway, 0 to 1.5 ft. frontage
- C-3 with predominantly commercial ground floor – 1.5 ft. edge, 7 ft. furnishings (including landscape), 6 ft. throughway, 1.5 ft. frontage
- C-3 with predominantly residential ground floor – 1.5 ft. edge, 8 ft. furnishings (including landscape), 6 ft. throughway, 0 to 1.5 ft. frontage
- Result of guidance in relations to Broadway – 9.5 ft. landscape with 8 ft. sidewalk, assume that additional sidewalk width if needed would be part of private development

**Table 4.1 Context Zone Characteristics**

<b>Context Zone</b>	<b>Distinguishing Characteristics</b>	<b>General Character</b>	<b>Building Placement</b>	<b>Frontage Types</b>	<b>Typical Building Height</b>	<b>Type of Public Open Space</b>	<b>Transit (Where Provided)</b>
C-1 Natural	Natural landscape	Natural features	Not applicable	Not applicable	Not applicable	Natural open space	None
C-2 Rural	Agricultural with scattered development	Agricultural activity and natural features	Large setbacks	Not applicable	Not applicable	Agricultural and natural	Rural
C-3 Suburban	Primarily single family residential with walkable development pattern and pedestrian facilities, dominant landscape character. Includes scattered commercial uses that support the residential uses, and connected in walkable fashion.	Detached buildings with landscaped yards, normally adjacent to C-4 zone. Commercial uses may consist of neighborhood or community shopping centers, service or office uses with side or rear parking.	Varying front and side yard setbacks	Residential uses include lawns, porches, fences and naturalistic tree planting. Commercial uses front onto thoroughfare.	1 to 2 story with some 3 story	Parks, greenbelts	Local, express bus
C-4 General Urban	Mix of housing types including attached units, with a range of commercial and civic activity at the neighborhood and community scale	Predominantly detached buildings, balance between landscape and buildings, presence of pedestrians	Shallow to medium front and side yard setback	Porches, fences	2 to 3 story with some variation and few taller workplace buildings	Parks, greenbelts	Local, limited stop bus rapid transit, express bus; fixed guideway
C-5 Urban Center	Attached housing types such as townhouses and apartments mixed with retail, workplace and civic activities at the community or sub-regional scale.	Predominantly attached buildings, landscaping within the public right of way, substantial pedestrian activity	Small or no setbacks, buildings oriented to street with placement and character defining a street wall	Stoops, dooryards, storefronts and arcaded walkways	3 to 5 story with some variation	Parks, plazas and squares, boulevard median landscaping	Local bus; limited stop rapid transit or bus rapid transit; fixed-guideway transit

**Source:** ITE; Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, RP-036A; 2010.

# Pedestrian Access and Mobility

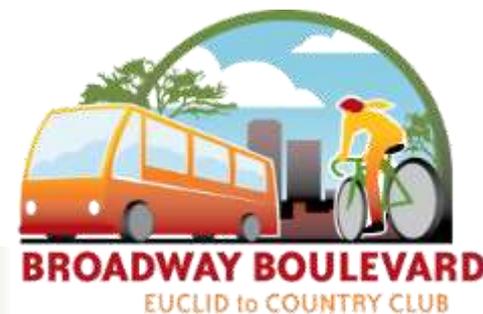
## 1b. Separation from Vehicular Traffic

Description	<ul style="list-style-type: none"><li>• Width and design character of area between outside edge of vehicle lane and sidewalk</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Width meets or exceed ITE Walkable Thoroughfare Manual guidance</li><li>• Frequency and quality of street trees or other large landscape</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width of landscape area</li><li>• Width of bicycle lane</li><li>• Frequency and quality of large landscape</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>

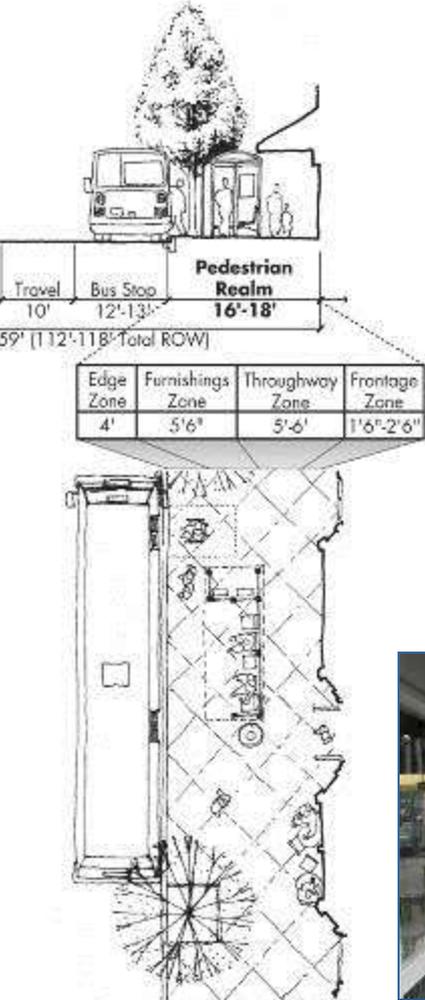
STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
Existing Conditions	-- to --	- to --	--		--	o to --				
Option 4A (67' r.o.w.)	--	--	--		++	-				
Option 4B (100' r.o.w.)	++	++	o		++	+				
Option 4C (112' r.o.w.)	+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)	+	+	o		+	+				
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				
Option 6A (114' r.o.w.)	o	o	o		+	+				
Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	-- to --	- to --	--		++	-				

# Performance Assessment

- 1b. Separation from Vehicular Traffic
  - Similar to 1a as buffer guidance is included in ITE Manual recommendations
  - Possibly combine 1a, 1b, and 1c into one Performance Measure



# Functionality of Streetside for Pedestrian Activity



# Pedestrian Access and Mobility

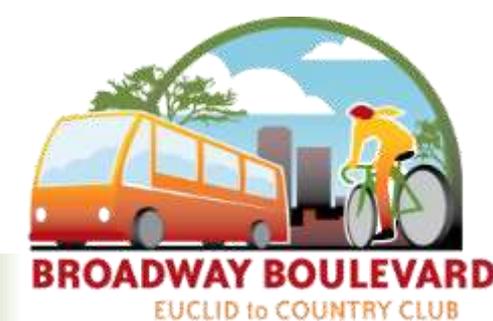
## 1c. Pedestrian-oriented Facilities or Improvements

Description	<ul style="list-style-type: none"> <li>• Extent of shade, lighting, seating, drinking fountains and other features to serve pedestrian needs and provide for visual interest</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• % shade, lighting levels and consistency, number/frequency of design features</li> <li>• Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• Provision for and increase in number of features</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• Minimal at the cross section and alignment level, beyond provision of enough pedestrian area to allow for detailed facilities. Evaluation of space is generally covered by measures 1a and 1b.</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Moderate at this level of design</li> <li>• Design does not currently include details for streetscape design, but lower cost cross section concepts may allow more budget to be spent on pedestrian facilities</li> </ul>

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
Existing Conditions	-- to --	- to --	---		--	o to --				
Option 4A (67' r.o.w.)	---	---	---		++	-				
Option 4B (100' r.o.w.)	++	++	o		++	+				
Option 4C (112' r.o.w.)	+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)	+	+	o		+	+				
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				
Option 6A (114' r.o.w.)	o	o	o		+	+				
Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	-- to --	- to --	---		++	-				

# Performance Assessment

- 1c. Pedestrian Oriented Facilities or Improvements
  - Similar to 1a and 1b
  - Influenced more by extent of shade and space for amenities
  - Possibly combine 1a, 1b, and 1c into one Performance Measure



# Pedestrian Access and Mobility

## 1d. Walkable Network/Neighborhood Connections

Description	<ul style="list-style-type: none"> <li>Ability for pedestrians to access neighborhoods and pedestrian network</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Number, length, and quality of connections</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Likely varies by quality of environment on Broadway and frequency of crossings</li> <li>Frequency and quality of connections to adjacent pedestrian network</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High to Moderate</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low</li> <li>Quality of environment along Broadway is measured through #1a and #1b</li> <li>Other factors require alignment and crossing design</li> </ul>

# Performance Assessment

- 1d. Walkable Network / Neighborhood Connection
  - Frequency of connections to neighborhoods likely consistent across concepts
  - 1e. Quality of pedestrian crossings will contribute to assessment
  - Potential for property reuse could change connections between Broadway and neighborhoods



STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways	1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking	
Existing Conditions	-- to ---	- to ---	---		--	o to ---				
Option 4A (67' r.o.w.)	---	---	---		++	-				
Option 4B (100' r.o.w.)	++	++	o		++	+				
Option 4C (112' r.o.w.)	+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)	+	+	o		+	+				
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				
Option 6A (114' r.o.w.)	o	o	o		+	+				
Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	-- to ---	- to ---	---		++	-				

# Pedestrian Access and Mobility

## 1e. Pedestrian Crossings

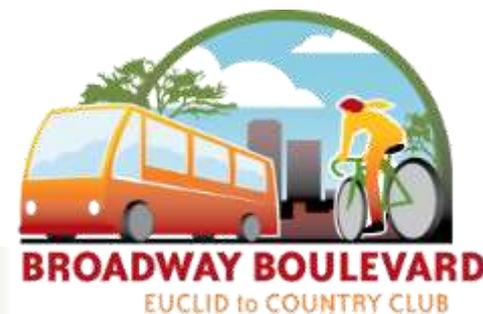
Description	<ul style="list-style-type: none"> <li>Ease of crossing Broadway</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Frequency, length, and quality of pedestrian crossings</li> <li>Time needed to cross street</li> <li>Signal timing for pedestrian phase (VISSIM analysis)</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Width and number of lanes (through and turn)</li> <li>Width and number of medians</li> <li>Level of pedestrian comfort in medians</li> <li>Frequency of crossings</li> <li>Signal timing design</li> <li>Wait time for crossing signal (including time in median if two or more light cycles are required to cross)</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate at this phase – several factors are directly related to cross section design, several are not</li> </ul>

# Performance Assessment

- 1e. Pedestrian Crossings

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways	1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking	
Existing Conditions	-- to ---	- to ---	---		--	o to ---				
Option 4A (67' r.o.w.)	---	---	---		++	-				
Option 4B (100' r.o.w.)	++	++	o		++	+				
Option 4C (112' r.o.w.)	+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)	+	+	o		+	+				
Option 4+T B (152' r.o.w.)	+++	+++	++		o					
Option 6A (114' r.o.w.)	o	o	o		+					
Option 6B (152' r.o.w.)	++	++	++		+					
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	---	- to ---	---		++	-				

Assume that number of crossings is equal (except that existing conditions would have fewer than any future option); therefore current assessment is about the quality and distance of the crossing



# Pedestrian Access and Mobility

## 1f. Vehicle/Pedestrian Conflicts at Driveways

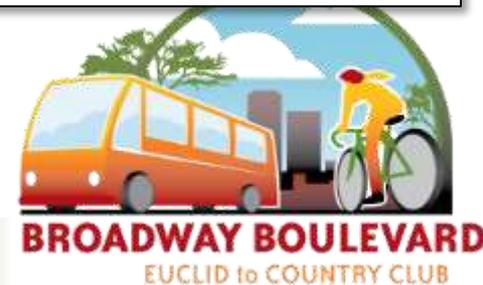
Description	<ul style="list-style-type: none"> <li>Conflicts between pedestrians and vehicles exist at driveways for site access; strongly related to #2b</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Provision of level pedestrian crossings</li> <li>Travel speed to vehicles</li> <li>Frequency of driveways</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Width of roadside to accommodate level pedestrian crossings</li> <li>Target speed and roadway design's support of speed management</li> <li>Frequency and width of driveways</li> <li>Visibility (landscaping, site lines, signage)</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate – some factors are directly related to cross section design, several are not</li> </ul>

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
Existing Conditions	-- to ---	- to ---	---		--	o to ---				
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Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	---	- to ---	---		++	-				

# Performance Assessment

- 1f. Vehicle / Pedestrian Conflicts at Driveways

Rated Option 4A, and SATA concept, as negative because the sidewalk would be sloped or go down to street grade at the drive access points because of the narrowness of the sidewalk, landscape width and sidewalk width determines ranking of other concepts – more width provides more ability for vehicles to slow and see pedestrians.



# Pedestrian Access and Mobility

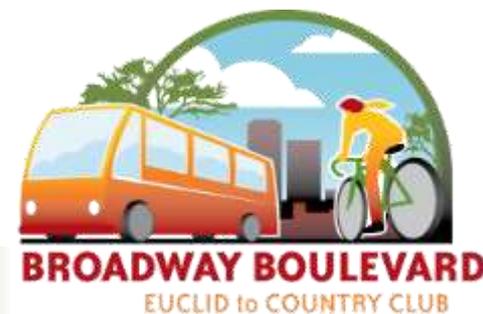
## 1g. Universal Design

Description	<ul style="list-style-type: none"> <li>• Going beyond base requirements of access (ADA) design for people of all ages and abilities</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Provision of access and mobility design elements that achieve Universal Design</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• All other pedestrian access and mobility factors measure performance related to aspects of universal design</li> <li>• Likely that other factors will be most affected by details of design</li> <li>• Potential to implement design details likely affected by width of roadside and cost of other project elements (lower cost for other elements may allow more budget for Universal Design)</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Low</li> <li>• Details are not provided by current level of design</li> </ul>

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
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Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	-- to ---	-	---		++	-				

# Performance Assessment

- 1g. Universal Design
  - Primarily relates to design details and intersection design
  - Related & assessed Performance Measures
    - Sidewalk width is covered by 1a & 1b
    - 1e Pedestrian Crossings
    - 1f Driveway conditions



# Universal Design



(top) WWW.PEDBIKEIMAGES.ORG / DAN BURDEN  
(middle) WWW.PEDBIKEIMAGES.ORG / JAN MOGER  
(bottom) COMPLETE STREETS

# Pedestrian Access and Mobility

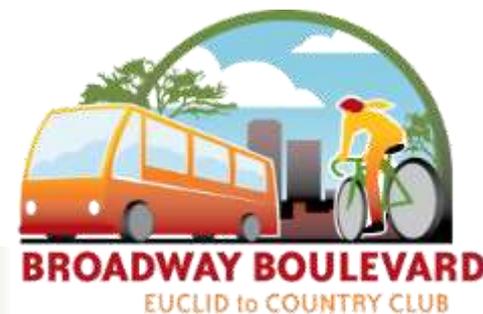
## 1h. Walkable Destinations

Description	<ul style="list-style-type: none"> <li>• Presence and access to jobs, homes, shopping, etc.</li> <li>• Presence of sufficient density of other uses and access from other uses to support market for employment, shopping, etc.</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Determine density of households and jobs within walkable distance of uses along Broadway</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• #1d Walkable Network/Neighborhood Connections</li> <li>• Potential for jobs, commercial uses, and homes along Broadway</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• High for #1d</li> <li>• Uncertain for land use related factors (#5c Broadway as a Destination, #6f Land Use Mix, and other non-transportation performance measures)</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Same as #1d</li> <li>• Low to Moderate for non-transportation performance measures (to be discussed further on Thursday)</li> </ul>

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
Existing Conditions	-- to --	-	---		--	o to --				
Option 4A (67' r.o.w.)	---	---	---		++	-				
Option 4B (100' r.o.w.)	++	++	o		++	+				
Option 4C (112' r.o.w.)	+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)	+	+	o		+	+				
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				
Option 6A (114' r.o.w.)	o	o	o		+	+				
Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	-- to --	-	---		++	-				

# Performance Assessment

- 1h. Walkable Destinations
  - Related to 1d and Economic Vitality Performance Measures **all of which cannot be assessed at current level of design**



# Pedestrian Access and Mobility

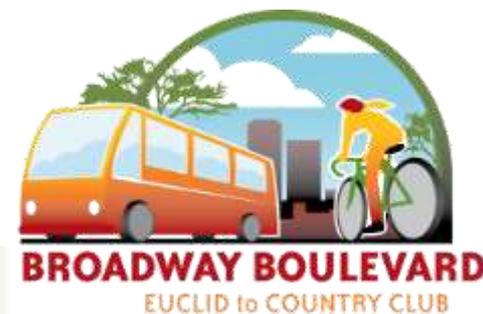
## 1i. Ease of Transition to Walking

Description	<ul style="list-style-type: none"><li>The ability of users to become pedestrians</li></ul>
Measurement	
Factors	<ul style="list-style-type: none"><li>Proximity and number of parking lots</li><li>Proximity and number of bicycle parking/lockers</li><li>Number of bus stops/transit stations</li><li>Number and type of comfort and safety features (lighting, seats, shade)</li><li>Number of attractions/commercial uses</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Not at this level of design</li></ul>

STREET CROSS-SECTION CONCEPT	PEDESTRIAN ACCESS AND MOBILITY									
	1a. Functionality of Streetside for Pedestrian Activity	1b. Separation from Vehicular Traffic	1c. Pedestrian-Oriented Facilities or Improvements	1d. Walkable Network / Neighborhood Connections	1e. Pedestrian Crossings	1f. Vehicle / Pedestrian Conflicts at Driveways		1g. Universal Design	1h. Walkable Destinations	1i. Ease of Transition to Walking
Existing Conditions	-- to ---	-	---		--	o to ---				
Option 4A (67' r.o.w.)	---	---	---		++	-				
Option 4B (100' r.o.w.)	++	++	o		++	+				
Option 4C (112' r.o.w.)	+++	+++	++		++	++				
Option 4+T A (118' r.o.w.)	+	+	o		+	+				
Option 4+T B (152' r.o.w.)	+++	+++	++		o	++				
Option 6A (114' r.o.w.)	o	o	o		+	+				
Option 6B (152' r.o.w.)	++	++	++		+	++				
Option 6+T A (146' r.o.w.)	-	-	-		--	o				
Option 6+T B (174' r.o.w.)	++	++	++		-	++				
Option 4+T SATA (existing r.o.w.)	-- to ---	-	---		++	-				

# Performance Assessment

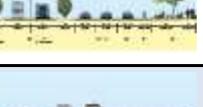
- 1i. Ease of Transition to Walking
  - Related to physical design factors outside of the street right of way which cannot be assessed at current level of design



# Bicycle Access and Mobility

- 2a. Separation of Bikes and Arterial Traffic
- 2b. Bike Conflicts with Crossing Vehicles
- 2c. ~~Vehicle/Bike Conflicts at Side Streets~~ (combined into 2b)
- 2d. Pavement Condition
- 2e. Bike Facility Improvements
- 2f. Bike Network Connections
- 2g. Corridor Travel Time
- 2h. Bike Crossings

# Bicycle Access and Mobility

STREET CROSS-SECTION CONCEPT		BICYCLE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial Traffic	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	- to ---		o to ---			o to ---
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o		o			++
Option 4+T A (118' r.o.w.)		o	+		o			+
Option 4+T B (152' r.o.w.)		+	+		o			+
Option 6A (114' r.o.w.)		o	o		o			+
Option 6B (152' r.o.w.)		+	o		o			+
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

# Bicycle Access and Mobility

## 2a. Separation of Bikes and Arterial Traffic

Description	<ul style="list-style-type: none"> <li>Greater separation is a factor related to bicyclist safety and comfort, and therefore likely bicycle use of Broadway</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Relationship of proposed separation compared to ITE Walkable Thoroughfares Manual recommendation of 6 feet</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Bike lane is a legal bike lane (as opposed to a “striped shoulder”)</li> <li>Combination of bike lane and buffer (painted line or other) width</li> <li>Buffer other than painted line</li> <li>Location of transit stops (street side or median)</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>High for cross section and location of transit stops</li> <li>Low for intersections (crossings of bike lane for right turns)</li> </ul>

# Performance Assessment

- 2a. Separation of Bikes and Arterial Traffic

STREET CROSS-SECTION CONCEPT		BIKE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial Traffic	4a. Bike Corridors with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	- to -		o to -			o to -
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o		o			++
Option 4+T A (118' r.o.w.)		o	+		o			+
Option 4+T B (152' r.o.w.)		+	+		o			
Option 6A (114' r.o.w.)		o	o		o			
Option 6B (152' r.o.w.)		+	o		o			
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

**Bike lane width**

- 5 ft. width negative (-)
- 6 ft. width neutral (ITE Manual recommendation)
- 7 ft. width positive (+)

# Bicycle Access and Mobility

## 2b. Bike Conflicts with Crossing Vehicles (note this includes the 2c perf. measure)

Description	<ul style="list-style-type: none"> <li>Vehicles cross bike lanes for a variety of reasons, the design and frequency of these crossings can effect bicyclist safety and comfort</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Frequency and type of traffic crossing bike lanes</li> <li>Length of uninterrupted bike lane</li> <li>Design details of crossing area</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Reducing number and length of crossing points</li> <li>Design details of crossing area</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate at current level of design (location of transit stops and use of local access lanes)</li> <li>Design does not include current details of site access or intersections</li> </ul>

# Performance Assessment

- 2b. Bike Conflicts with Crossing Vehicles

STREET CROSS-SECTION CONCEPT		BICYCLE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	-		o			o
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o					
Option 4+T A (118' r.o.w.)		o	+					
Option 4+T B (152' r.o.w.)		+	+					
Option 6A (114' r.o.w.)		o	o					
Option 6B (152' r.o.w.)		+	o					
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

- Assume all options are neutral for vehicles crossing bike lane to get to curb cuts or dedicated right turn lanes
- Options that require buses to cross over to bus pull outs are neutral.
- Options with dedicated transit lanes in the middle get a single + for that, still would have local buses pulling into bus pull outs.

# Bicycle Access and Mobility

## 2d. Pavement Condition

Description	<ul style="list-style-type: none"><li>• Smooth pavement is a priority for bicyclist comfort</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Input from TDOT and Bicycle Advisory Committee</li><li>• Best practice guidance, possibly including elements of NACTO Bike Guide</li></ul>
Factors	<ul style="list-style-type: none"><li>• Concrete with proper joint design versus asphalt</li><li>• Gutter design</li><li>• Landscaping palette</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to none</li><li>• Pavement type not dependent on cross section design, except for potential for lower cost cross section concepts to allow for more budget to be spent on bike lane pavement</li></ul>

# Performance Assessment

- 2d. Pavement Conditions
  - Detailed design issues effect assessment

STREET CROSS-SECTION CONCEPT		BICYCLE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial Traffic	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	- to - - -		o to - - -			o to - - -
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o		o			++
Option 4+T A (118' r.o.w.)		o	+		o			+
Option 4+T B (152' r.o.w.)		+	+		o			+
Option 6A (114' r.o.w.)		o	o		o			+
Option 6B (152' r.o.w.)		+	o		o			+
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

# Bicycle Access and Mobility

## 2e. Bike Facility Improvements

Description	<ul style="list-style-type: none"> <li>• Extent of bike racks, shade, drinking fountains, green pavement (bike boxes, etc.) and other features to serve bicyclists needs</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• % shade, number/frequency of design features</li> <li>• Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• Increase in number of features</li> <li>• Continuity of bike treatments through project area</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• Minimal at the cross section and alignment level, beyond provision of enough area in streetside to allow for facilities. Evaluation of space is generally covered by measures 1a and 1b.</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Moderate at this level of design</li> <li>• Design does not currently include this level of design, but lower cost cross section concepts may allow more budget to be spent on bike facilities</li> </ul>

# Performance Assessment

- 2e. Bike Facility Improvements
  - Mainly design details
  - Concepts with otherwise low construction cost get a + for ability to invest more budget in bike facilities

STREET CROSS-SECTION CONCEPT		BICYCLE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial Traffic	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	- to - - -		o to - - -			o to - - -
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o		o			++
Option 4+T A (118' r.o.w.)		o	+		o			+
Option 4+T B (152' r.o.w.)		+	+		o			+
Option 6A (114' r.o.w.)		o	o		o			+
Option 6B (152' r.o.w.)		+	o		o			+
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

# Bicycle Access and Mobility

## 2f. Bike Network Connections

Description	<ul style="list-style-type: none"><li>• Convenience and safety of access to surrounding bike network</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Number, length, and quality of connections to bike network</li></ul>
Factors	<ul style="list-style-type: none"><li>• Allowing bikes through any side street closures for vehicles</li><li>• Provision of bike crossings and proximity to bike network</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low at this level of design</li><li>• Quality of environment along Broadway and crossings are measured through #2a, #2b, and #2h</li><li>• Other factors require alignment and crossing design</li></ul>

# Performance Assessment

- 2f. Bike Network Connections
  - Frequency of connections to neighborhoods likely consistent across concepts
  - 2h. Quality of bike crossings will contribute to assessment

STREET CROSS-SECTION CONCEPT		BICYCLE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial Traffic	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	- to - - -		o to - - -			o to - - -
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o		o			++
Option 4+T A (118' r.o.w.)		o	+		o			+
Option 4+T B (152' r.o.w.)		+	+		o			+
Option 6A (114' r.o.w.)		o	o		o			+
Option 6B (152' r.o.w.)		+	o		o			+
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

# Bicycle Access and Mobility

## 2g. Corridor Travel Time

Description	<ul style="list-style-type: none"><li>The time it takes for average and advanced riders to travel the length of Broadway</li></ul>
Measurement	<ul style="list-style-type: none"><li>VISSIM analysis of travel time and signal delay</li></ul>
Factors	<ul style="list-style-type: none"><li>Signal timing</li><li>#2b Bike Conflicts with Crossing Vehicles</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Not viable at current level of design</li><li>Requires alignment and intersection design</li></ul>

# Performance Assessment

- 2g. Corridor Travel Time
  - Needs detailed design and VISSIM analysis to make assessment

STREET CROSS-SECTION CONCEPT		BICYCLE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial Traffic	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	- to - - -		o to - - -			o to - - -
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o		o			++
Option 4+T A (118' r.o.w.)		o	+		o			+
Option 4+T B (152' r.o.w.)		+	+		o			+
Option 6A (114' r.o.w.)		o	o		o			+
Option 6B (152' r.o.w.)		+	o		o			+
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

# Bicycle Access and Mobility

## 2h. Bike Crossings

Description	<ul style="list-style-type: none"><li>• Convenience and safety of bike crossings will support bike use</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Frequency and length of crossings</li><li>• Average signal delay at crossings (VISSIM analysis)</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width and number of lanes (through and turn)</li><li>• Width and number of medians</li><li>• Level of bicycle comfort in medians</li><li>• Frequency of crossings</li><li>• Signal timing design (VISSIM analysis)</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at this phase – several factors are directly related to cross section design, several are not</li></ul>

# Performance Assessment

- 2h. Bike Crossings

Assume some basic improvements at crossings and more crossings for all concept options, so this gives:

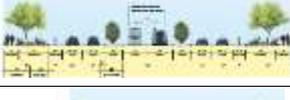
- four lane options 1 plus
- six lane options 1 plus (regardless of median width as street crossings will likely be at least 18 ft. wide given turn lane and 7 ft. refuge island width.
- Eight lane options are neutral, except for 6+T B given its large width.

STREET CROSS-SECTION CONCEPT		BICYCLE ACCESS AND MOBILITY						
		2a. Separation of Bikes and Arterial Traffic	2b. Bike Conflicts with Crossing Vehicles	2d. Pavement Condition	2e. Bike Facility Improvements	2f. Bike Network Connections	2g. Corridor Travel Time	2h. Bike Crossings
Existing Conditions		-	- to - - -		o to - - -			o to - - -
Option 4A (67' r.o.w.)		-	o		+			++
Option 4B (100' r.o.w.)		+	o		+			++
Option 4C (112' r.o.w.)		+	o		o			++
Option 4+T A (118' r.o.w.)		o	+		o			+
Option 4+T B (152' r.o.w.)		+	+		o			+
Option 6A (114' r.o.w.)		o	o		o			+
Option 6B (152' r.o.w.)		+	o		o			+
Option 6+T A (146' r.o.w.)		+	o		o			o
Option 6+T B (174' r.o.w.)		+	+		o			-
Option 4+T SATA (existing r.o.w.)		-	o		+			++

# Transit Access and Mobility

- 3a. Distance to Transit Stops
- 3b. Transit Stop Facilities
- 3c. Corridor Travel Time
- 3d. Schedule Adherence
- 3e. Frequency and Hours of Service
- 3f. Accommodation of Future High Capacity Transit
- 3g. Riders per Vehicle

# Transit Access and Mobility

STREET CROSS-SECTION CONCEPT		TRANSIT ACCESS AND MOBILITY							
		3a. Distance to Transit Stops	3b. Transit Stop Facilities	3c. Corridor Travel Time		3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
Existing Conditions			- to ---	--- now --- Future (PAG) (PAG Low)		o to ---		-	
Option 4A (67' r.o.w.)			+	--- Future (PAG)	--- Future (PAG Low)	---		-	
Option 4B (100' r.o.w.)			+	--- Future (PAG)	--- Future (PAG Low)	---		-	
Option 4C (112' r.o.w.)			++	--- Future (PAG)	--- Future (PAG Low)	-		-	
Option 4+T A (118' r.o.w.)			++	--- to - Future (PAG)	- to o Future (PAG Low)	+		+++	
Option 4+T B (152' r.o.w.)			++	--- to - Future (PAG)	- to o Future (PAG Low)	+		+++	
Option 6A (114' r.o.w.)			o	- Future (PAG)	o Future (PAG Low)	o		-	
Option 6B (152' r.o.w.)			+	- Future (PAG)	o Future (PAG Low)	o		-	
Option 6+T A (146' r.o.w.)			++	o Future (PAG)	++ Future (PAG Low)	+		++	
Option 6+T B (174' r.o.w.)			++	++ Future (PAG)	+++ Future (PAG Low)	++		+++	
Option 4+T SATA (existing r.o.w.)			++	--- Future (PAG)	--- Future (PAG Low)	-		o	

# Transit Access and Mobility

## 3a. Distance to Transit

Description	<ul style="list-style-type: none"> <li>• Number and location of transit stops and the number of households, jobs, and services within walking distance has an relationship to transit ridership</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Number of households, jobs, and square feet of commercial use within walking distance of transit stops</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• 1d. Walkable Network/Neighborhood Connections</li> <li>• 1h. Walkable Destinations</li> <li>• Several non-transportation performance measures</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• Low to Moderate</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Low to None</li> <li>• Other factors require alignment and crossing design</li> <li>• Land use policies related to non-transportation measures are not part of this project</li> </ul>

# Performance Assessment

- 3a. Distance to Transit Stops
  - Cannot assess at current level of design as transit stops are not located

STREET CROSS-SECTION CONCEPT		TRANSIT ACCESS AND MOBILITY							
		3a. Distance to Transit Stops	3b. Transit Stop Facilities	3c. Corridor Travel Time		3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
Existing Conditions			-	- - now		o		-	
			to	- - - - Future (PAG) (PAG Low)		to			
			- - - -			- -			
Option 4A (67' r.o.w.)			+	Future (PAG)	Future (PAG Low)	- -		-	
Option 4B (100' r.o.w.)			+	Future (PAG)	Future (PAG Low)	- -		-	
Option 4C (112' r.o.w.)			++	Future (PAG)	Future (PAG Low)	-		-	
Option 4+T A (118' r.o.w.)			++	- - to - Future (PAG)	- to o Future (PAG Low)	+		+++	
Option 4+T B (152' r.o.w.)			++	- - to - Future (PAG)	- to o Future (PAG Low)	+		+++	
Option 6A (114' r.o.w.)			o	- Future (PAG)	o Future (PAG Low)	o		-	
Option 6B (152' r.o.w.)			+	- Future (PAG)	o Future (PAG Low)	o		-	
Option 6+T A (146' r.o.w.)			++	o Future (PAG)	+	+		++	
Option 6+T B (174' r.o.w.)			++	+	++ Future (PAG Low)	++		+++	
Option 4+T SATA (existing r.o.w.)			++	- - - - Future (PAG)	- - - - Future (PAG Low)	-		o	

# Transit Access and Mobility

## 3b. Transit Stop Facilities

Description	<ul style="list-style-type: none"> <li>Design qualities of transit stops can support transit use</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>% shade, lighting levels and consistency, number/frequency of other design features</li> <li>Qualitative evaluation by designers and users</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Provision for and increase in number of features</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Low to Moderate at this level of design, right of way could be increased at transit stops to provide space for facilities</li> <li>Design does not currently include details for streetscape design, but lower cost cross section concepts may allow more budget to be spent on transit facilities</li> </ul>

# Performance Assessment

## • 3b. Transit Stop Facilities

STREET CROSS-SECTION CONCEPT		TRANSIT ACCESS AND MOBILITY							
		3a. Distance to Transit Stop	3b. Transit Stop Facilities	3c. Corridor Travel Time		3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
Existing Conditions			- to ---	---	---	o		---	
				now Future (PAG) (PAG Low)		to			
Option 4A (67' r.o.w.)			+	Future (PAG)	Future (PAG Low)	---		---	
Option 4B (100' r.o.w.)			+	Future (PAG)					
Option 4C (112' r.o.w.)			++	Future (PAG)					
Option 4+T A (118' r.o.w.)			++	to Future (PAG)					
Option 4+T B (152' r.o.w.)			++	to Future (PAG)					
Option 6A (114' r.o.w.)			o	Future (PAG)					
Option 6B (152' r.o.w.)			+	Future (PAG)					
Option 6+T A (146' r.o.w.)			++	o Future (PAG)					
Option 6+T B (174' r.o.w.)			++	+	Future (PAG)	++		+++	
Option 4+T SATA (existing r.o.w.)			++	Future (PAG)	Future (PAG Low)	---		o	

Existing facilities are generally poor, although there are a few bus pull outs

- Four lanes get + when have pull outs (except those with wider pedestrian areas get ++) because of lower construction cost may be more budget to improve transit stops; SATA also gets a ++ because of transit platforms for streetcar.
- Six lanes get neutral with pull outs as this is now the regional standard
- BRT in middle of roadway gets ++ because it is assumed that this investment in roadway infrastructure for BRT would mean commitment to high-level of improvements on the platforms

# Transit Access and Mobility

## 3c. Corridor Travel Time

Description	<ul style="list-style-type: none"><li>• Time for traveling the length of the corridor affects transit ridership</li></ul>
Measurement	<ul style="list-style-type: none"><li>• VISSIM results accounting for signal timing, transit priority treatments, traffic delay, merges, and boarding time at transit stops</li><li>• Initial assessment based on traffic assessment of current PAG projections and 30% reduced traffic growth option, with qualitative comparisons based on professional experience and judgment of relationship between transit and vehicular travel time</li></ul>
Factors	<ul style="list-style-type: none"><li>• Dedicated lanes, transit priority treatments at intersections, level boarding, off-vehicle ticketing, and other measures</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate to High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at current level of design (presence of transit only lanes)</li><li>• Other factors require higher level of design and commitments from Sun Tran</li></ul>

# Performance Assessment

- 3c. Corridor Travel Time

STREET CROSS-SECTION CONCEPT	3c. Corridor Travel Time		3d. Schedule Adherence		3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
	Now	Future	Now	Future			
Existing Conditions	○ now	---	○ now	---			
Option 4A (67' r.o.w.)	○ Future	---	○ Future (PAG)	---			
Option 4B (100' r.o.w.)	○ Future	---	○ Future (PAG)	---			
Option 4C (112' r.o.w.)	○ Future	---	○ Future (PAG)	---			
Option 4+T A (118' r.o.w.)	○ Future	---	○ Future (PAG)	---			
Option 4+T B (152' r.o.w.)	○ Future	---	○ Future (PAG)	---			
Option 6A (114' r.o.w.)	○ Future	---	○ Future (PAG)	---			
Option 6B (152' r.o.w.)	○ Future	---	○ Future (PAG)	---			
Option 6+T A (146' r.o.w.)	○ Future	+	○ Future (PAG)	+			
Option 6+T B (174' r.o.w.)	○ Future	+++	○ Future (PAG)	+++			
Option 4+T SATA (existing r.o.w.)	○ Future	---	○ Future (PAG)	---			

Existing corridor travel time is lower than existing vehicular traffic travel time, so two negatives rather than the one negative for 4a. Movement of Through Traffic

- Four and six lanes with pull outs, signal prioritization, etc. are assumed to be slower than vehicular movement, because all buses must pull into bus pull outs and this slows the bus travel time.
- Dedicated transit lanes with accompanying signal prioritization, etc. are assumed to have roughly the same corridor travel time as vehicles, except for where the dedicated lane is outside lane (Option 6+TA), because it would have issues with right turning vehicles and the BRT may need to use the bus pullouts. Also, SATA is one minus sign less than the vehicular through movement performance measure because at least a portion of the service is in a dedicated lane

# Transit Access and Mobility

## 3d. Schedule Adherence

Description	<ul style="list-style-type: none"><li>Ridership is encouraged by transit that is on time. Some elements of project design can support schedule adherence.</li></ul>
Measurement	<ul style="list-style-type: none"><li>Variation in travel time across a sampling of VISSIM modeling runs</li></ul>
Factors	<ul style="list-style-type: none"><li>Level boarding, off-vehicle ticketing, and other station improvement</li><li>Dedicated transit lanes and other transit priority features</li><li>Other factors related to scheduling and transit driver practices are under the purview of Sun Trans and cannot be evaluated by this project</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Low to Moderate at current level of design (presence of transit only lane; likely combine with 3c)</li><li>Other factors require higher level of design and commitments from Sun Tran</li></ul>

# Performance Assessment

- 3d. Schedule Adherence

Rough combining of 3b and 3c with a bit more weight to 3c.

STREET CROSS-SECTION CONCEPT	TRANSIT ACCESS AND MODALITY						
	3a. Distance to Transit Stops	3b. Transit Stop Facilities	3d. Schedule Adherence		3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
Existing Conditions		- to ---	○ to ---	○ to ---		-	
Option 4A (67' r.o.w.)		+	○ to ---	○ to ---		-	
Option 4B (100' r.o.w.)		+	○ to ---	○ to ---		-	
Option 4C (112' r.o.w.)		++	○ to ---	○ to ---		-	
Option 4+T A (118' r.o.w.)		++	+++ to ---	+++ to ---	+	+++	
Option 4+T B (152' r.o.w.)		++	+++ to ---	+++ to ---	+	+++	
Option 6A (114' r.o.w.)		○	○ to ---	○ to ---	○	-	
Option 6B (152' r.o.w.)		+	○ to ---	○ to ---	○	-	
Option 6+T A (146' r.o.w.)		++	++ to ---	++ to ---	+	++	
Option 6+T B (174' r.o.w.)		++	+++ to ---	+++ to ---	++	+++	
Option 4+T SATA (existing r.o.w.)		++	---	---	-	○	

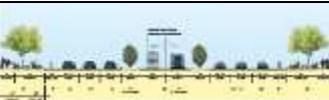
# Transit Access and Mobility

## 3e. Frequency and Hours of Service

Description	<ul style="list-style-type: none"><li>• How frequently transit vehicles arrive at a stop and the hours of service can affect transit ridership levels</li></ul>
Measurement	<ul style="list-style-type: none"><li>• This is a Sun Trans operations issue for the most part</li><li>• Potential service efficiencies related to other transit performance measures could provide Sun Trans the opportunity to increase service levels along Broadway</li></ul>
Factors	<ul style="list-style-type: none"><li>• Service efficiencies related to other transit performance measures</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Low</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• None</li></ul>

# Performance Assessment

- 3e. Frequency and Hours of Service
  - Mainly a Sun Trans operation issue
  - Potential relationship to other Performance Measures
    - Transit
    - Walkability
    - Economic Vitality

STREET CROSS-SECTION CONCEPT		TRANSIT ACCESS AND MOBILITY							
		3a. Distance to Transit Stops	3b. Transit Stop Facilities	3c. Corridor Travel Time		3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
Existing Conditions			- to ---	---	---	○ to ---		-	
Option 4A (67' r.o.w.)			+	Future (PAG)	Future (PAG Low)	---		-	
Option 4B (100' r.o.w.)			+	Future (PAG)	Future (PAG Low)	---		-	
Option 4C (112' r.o.w.)			++	Future (PAG)	Future (PAG Low)	-		-	
Option 4+T A (118' r.o.w.)			++	--- to - Future (PAG)	- to ○ Future (PAG Low)	+		+++	
Option 4+T B (152' r.o.w.)			++	--- to - Future (PAG)	- to ○ Future (PAG Low)	+		+++	
Option 6A (114' r.o.w.)			○	- Future (PAG)	○ Future (PAG Low)	○		-	
Option 6B (152' r.o.w.)			+	- Future (PAG)	○ Future (PAG Low)	○		-	
Option 6+T A (146' r.o.w.)			++	○ Future (PAG)	+	+		++	
Option 6+T B (174' r.o.w.)			++	+	++	++		+++	
Option 4+T SATA (existing r.o.w.)			++	---	---	-		○	

# Transit Access and Mobility

## 3f. Accommodation of Future High Capacity Transit

Description	<ul style="list-style-type: none"><li>• The ability of the roadway and roadside design to accommodate future high capacity transit can ultimately improve performance of design concepts in relation to other transit performance measures</li><li>• Also affects long term viability of the design concept, see 5g Certainty</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Provision of dedicated transit lanes</li><li>• Roadside or median width allows for future transit improvements</li></ul>
Factors	<ul style="list-style-type: none"><li>• Provision of dedicated transit lanes</li><li>• Roadside or median width allows for future transit improvements</li><li>• Potential for future resistance to conversion of mixed flow lane to transit lane</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at this level of design<ul style="list-style-type: none"><li>• Provision of dedicated lanes</li><li>• Right of way could be increased at transit stops to provide space for facilities</li></ul></li><li>• Design does not currently include details of intersection design</li></ul>

STREET CROSS-SECTION CONCEPT		TRANSIT ACCESS AND MOBILITY					
		3a. Distance to Transit Stops	3b. Transit Stop Facilities	3c. Corridor Travel Time		3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
				Future (PAG)	Future (PAG Low)		
Existing Conditions			- to ---	---	---	-	-
Option 4A (67' r.o.w.)			+	Future (PAG)	Future (PAG Low)	-	-
Option 4B (100' r.o.w.)			+	Future (PAG)	Future (PAG Low)	-	-
Option 4C (112' r.o.w.)			++	Future (PAG)	Future (PAG Low)	-	-
Option 4+T A (118' r.o.w.)			++	--- to -	- to ○	++	+++
Option 4+T B (152' r.o.w.)			++	--- to -	- to ○	++	+++
Option 6A (114' r.o.w.)			○	-	○	++	-
Option 6B (152' r.o.w.)			+	-	○	++	-
Option 6+T A (146' r.o.w.)			++	○	+	++	++
Option 6+T B (174' r.o.w.)			++	+	++	+++	+++
Option 4+T SATA (existing r.o.w.)			++	---	---	-	○

# Performance Assessment

- 3f. Accommodation of Future High Capacity Transit
  - Existing and 4 lanes get -, because they would end up having one lane in each direction for vehicular traffic if dedicated transit lanes were provided
  - Six lane options get - because even though these could be converted to 4+T with dedication of lanes, there would likely be resistance to reducing traffic lanes once they are in place and construction would need to occur to make the conversion.
  - 6+T A has right turning vehicle issues so ++
  - 4+T and 6+T B gets +++, because they provide for high-quality high capacity transit with implementation of the concept
  - SATA is rated neutral because only one direction is in a dedicated lane while the service levels are reduced by the other direction running in a shared lane.

# Transit Access and Mobility

## 3g. Riders per Vehicle

Description	<ul style="list-style-type: none"> <li>• Efficiencies in number of riders per vehicle, while avoiding overcrowded, improve cost performance of service and potentially cost to riders (also can reduce pollution per person trip)</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Average daily rider per transit vehicle</li> <li>• Average riders per peak hour transit vehicle</li> <li>• Using transportation model and transit service assumptions</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• Other transit performance measures that effect transit ridership and service efficiencies</li> <li>• Service planning by Sun Trans</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• Low to Moderate</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Cannot be measured at current level of design</li> </ul>

# Performance Assessment

- 3g. Riders per Vehicle
  - Service planning for the type of transit investments in concepts has not been developed
  - Need further definition of design and BRT service

STREET CROSS-SECTION CONCEPT		TRANSIT ACCESS AND MOBILITY							
		3a. Distance to Transit Stops	3b. Transit Stop Facilities	3c. Corridor Travel Time		3d. Schedule Adherence	3e. Frequency and Hours of Service	3f. Accommodation of Future High Capacity Transit	3g. Riders per Vehicle
Existing Conditions			- to ---	--- now ---		o to ---			
Option 4A (67' r.o.w.)			+	Future (PAG)	Future (PAG Low)	---			-
Option 4B (100' r.o.w.)			+	Future (PAG)	Future (PAG Low)	---			-
Option 4C (112' r.o.w.)			++	Future (PAG)	Future (PAG Low)	-			-
Option 4+T A (118' r.o.w.)			++	--- to - Future (PAG)	- to o Future (PAG Low)	+			+++
Option 4+T B (152' r.o.w.)			++	--- to - Future (PAG)	- to o Future (PAG Low)	+			+++
Option 6A (114' r.o.w.)			o	- Future (PAG)	o Future (PAG Low)	o			-
Option 6B (152' r.o.w.)			+	- Future (PAG)	o Future (PAG Low)	o			-
Option 6+T A (146' r.o.w.)			++	o Future (PAG)	o Future (PAG Low)	+			++
Option 6+T B (174' r.o.w.)			++	+	++ Future (PAG Low)	++			+++
Option 4+T SATA (existing r.o.w.)			++	---	---	-			o

# Vehicular Access and Mobility

- 4a. Movement of Through Traffic
- 4b. Intersection Delay – Overall Intersection Performance
- 4c. Intersection Delay – Worst Movement
- 4d. Accident Potential
- 4e. Lane Continuity
- 4f. Persons per Vehicle or Person Trips
- 4g. Access Management Management for Adjacent Properties

# Vehicular Access and Mobility

STREET CROSS SECTION CONCEPT	VEHICULAR ACCESS AND MOBILITY		4a. Movement of Through Traffic	4b. Intersection Delay -- Overall Intersection Performance	4c. Intersection Delay -- Worst Movement	4d. Accident Potential	4e. Lane Continuity	4f. Persons Trips	4g. Access Management for Adjacent Properties
Existing Conditions			- now Future (PAG) (PAG Low)						
Option 4A (67' r.o.w.)			- - - - Future (PAG)      Future (PAG Low)						
Option 4B (100' r.o.w.)			- - - - Future (PAG)      Future (PAG Low)						
Option 4C (112' r.o.w.)			- - - - Future (PAG)      Future (PAG Low)						
Option 4+T A (118' r.o.w.)			- - to - -      - - to ○ Future (PAG)      Future (PAG Low)						
Option 4+T B (152' r.o.w.)			- - to - -      - - to ○ Future (PAG)      Future (PAG Low)						
Option 6A (114' r.o.w.)			○      + Future (PAG)      Future (PAG Low)						
Option 6B (152' r.o.w.)			○      + Future (PAG)      Future (PAG Low)						
Option 6+T A (146' r.o.w.)			+      ++ Future (PAG)      Future (PAG Low)						
Option 6+T B (174' row)			+      ++ Future (PAG)      Future (PAG Low)						
Option 4+T SATA (existing r.o.w.)			- - - - Future (PAG)      Future (PAG Low)						

# Vehicular Access and Mobility

## 4a. Movement of Through Traffic

Description	<ul style="list-style-type: none"> <li>A range of corridor and intersection evaluations can measure effectiveness of moving through traffic which can have an affect on a variety of other transportation, environment, and economic factors.</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Using VISSIM modeling can measure:               <ul style="list-style-type: none"> <li>Average corridor travel time</li> <li>Average speed</li> <li>Average 95 percentile queue length</li> <li>Average delay Average corridor travel time</li> <li>Volume to Capacity Ratio (V/C)</li> <li>Travel time reliability</li> </ul> </li> <li>Initial assessment based on assessment of current PAG projections and 30% reduced traffic growth option, with qualitative comparisons based on professional experience and judgment</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Number of traffic lanes</li> <li>Signal design</li> <li>Intersection design</li> <li>Access management</li> <li>Transit service design</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate at current level of design as only number of traffic lanes and presence of transit only lanes are defined</li> </ul>

# Performance Assessment

## • 4a Movement of Through Traffic

STREET CROSS SECTION CONCEPT	VEHICULAR ACCESS AND MOBILITY	
	4a. Movement of Through Traffic	4b. Intersection Delay -- Overall Intersection Performance 4c. Intersection Delay -- Worst Movement 4d. Accident Potential 4e. Lane Continuity 4f. Persons Trips 4g. Access Management for Adjacent Properties
Existing Conditions	 now  future	 now Future (PAG) (PAG Low)
Option 4A (67' r.o.w.)	 	Future (PAG)      Future (PAG Low)
Option 4B (100' r.o.w.)	 	Future (PAG)      Future (PAG Low)
Option 4C (112' r.o.w.)	 	Future (PAG)      Future (PAG Low)
Option 4+T A (118' r.o.w.)	 to   to 	Future (PAG)      Future (PAG Low)
Option 4+T B (152' r.o.w.)	 to   to 	Future (PAG)      Future (PAG Low)
Option 6A (114' r.o.w.)	 	Future (PAG)      Future (PAG Low)
Option 6B (152' r.o.w.)	 	Future (PAG)      Future (PAG Low)
Option 6+T A (146' r.o.w.)	 	Future (PAG)      Future (PAG Low)
Option 6+T B (174' row)	 	Future (PAG)      Future (PAG Low)
Option 4+T SATA (existing r.o.w.)	 	Future (PAG)      Future (PAG Low)

- Existing section with current volumes - impacts of buses stopping in through lanes and high number of HAWK signals (that are not synchronized with other signals), through traffic flow is less than desirable; increased traffic demand for either growth scenario without adding intersection capacity will result in long travel times and excessive delay.
- 4 lane options w/o exclusive transit lanes – do not provide sufficient through capacity at the signalized intersections for either growth scenario. These options assume that additional turning lanes are provided at the key intersections (Euclid, Campbell, Country Club) and bus pullouts and coordinated pedestrian HAWK signals are provided.
- 4-lane options with exclusive transit lanes – through traffic operations will be improved assuming that a sufficient modal shift from car to transit (BRT) occurs to reduce vehicular demand.
- 6 lane options w/o exclusive transit lanes – fair to good through traffic operations depending upon growth scenario; assumed bus pull outs and coordinated pedestrian HAWK signals.
- 6 lane options with exclusive transit lanes – good to very good through traffic operations depending upon growth scenario and assuming that a sufficient modal shift from car to transit (BRT) occurs to reduce vehicular demand.
- The SATA concept is rated lower than the 4 lane mixed flow options because the streetcar shared lanes are estimated to reduce performance for those lanes

# Vehicular Access and Mobility

## 4b. Intersection Delay – Overall Intersection Performance

Description	<ul style="list-style-type: none"> <li>• Intersection delay for both Broadway and cross street traffic has an effect on the overall street network in the project area (and potentially beyond)</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Traffic modeling               <ul style="list-style-type: none"> <li>• Average 95 percentile queue length</li> <li>• Average delay</li> <li>• Volume to Capacity Ratio (V/C)</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>• Number of through and turn lanes</li> <li>• Length of turn lanes</li> <li>• Signal design, including crossing time considerations for pedestrians and bicycles</li> <li>• Transit priority treatments</li> <li>• Other intersection design features</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Low to None</li> <li>• Intersection design is not a part of current design concepts</li> </ul>

# Vehicular Access and Mobility

## 4b. Intersection Delay – Worst Movement

Description	<ul style="list-style-type: none"> <li>• Intersection delay for worst movement at intersections has an effect on the overall street network in the project area (and potentially beyond)</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Traffic modeling               <ul style="list-style-type: none"> <li>• Average 95 percentile queue length</li> <li>• Average delay</li> <li>• Volume to Capacity Ratio (V/C)</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>• Number of through and turn lanes</li> <li>• Length of turn lanes</li> <li>• Signal design, including crossing time considerations for pedestrians and bicycles</li> <li>• Transit priority treatments</li> <li>• Other intersection design features</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Low to None</li> <li>• Intersection design is not a part of current design concepts</li> </ul>

# Vehicular Access and Mobility

## 4d. Accident Potential

Description	<ul style="list-style-type: none"><li>• Certain factors have been identified in the literature as contributing to higher accident rates and severity of accidents</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Based on review of the literature quantitatively and qualitatively evaluate certain design features and design criteria</li></ul>
Factors	<ul style="list-style-type: none"><li>• Number of access points to adjacent properties</li><li>• Number of side street access points</li><li>• 4e Lane continuity</li><li>• Amount of bike lane cross over length</li><li>• Others?</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to None at current level of design</li></ul>

# Vehicular Access and Mobility

## 4e. Lane Continuity

Description	<ul style="list-style-type: none"><li>• Merging the number of lanes in the roadway cross section following an intersection or for other reasons decreases roadway capacity and increases potential for crashes</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Analyze performance of lane reductions using VISSIM</li><li>• Compare with performance of similar lane reductions in Tucson</li></ul>
Factors	<ul style="list-style-type: none"><li>• Number and design of lane drop locations</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to None, currently design concepts do not propose additional through lanes at intersections</li></ul>

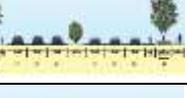
# Vehicular Access and Mobility

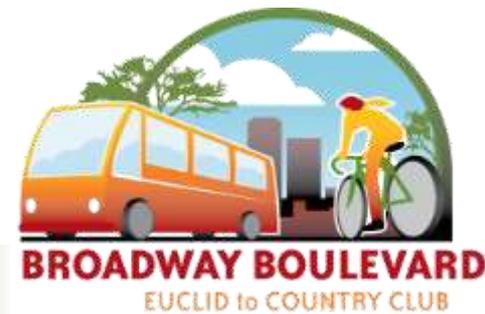
## 4f. Person Trips for multiple measures

Description	<ul style="list-style-type: none"> <li>Multi-modal measures allowing evaluations on a per person basis</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Convert vehicle, transit, and bicycle trips to person trips for the corridor</li> <li>Use traffic model and VISSIM to assess different modal performance for:               <ul style="list-style-type: none"> <li>Corridor travel time</li> <li>Average delay</li> <li>Travel time reliability</li> <li>Other measures as appropriate</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>Number of traffic lanes</li> <li>Signal design/timing</li> <li>Intersection design</li> <li>Access management</li> <li>Transit service design</li> <li>#2b Bike Conflicts with Crossing Vehicles</li> <li>Dedicated transit lanes, transit priority treatments at intersections, level boarding, off-vehicle ticketing, and other measures</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Not viable at current level of design</li> <li>Requires alignment and intersection design</li> </ul>

# Performance Assessment

- Meaningful assessment of these vehicular Performance Measures requires
  - More detailed design
  - VISSIM modeling

STREET CROSS SECTION CONCEPT	VEHICULAR ACCESS AND MOBILITY		4a. Movement of Through Traffic	4b. Intersection Delay -- Overall Intersection Performance	4c. Intersection Delay -- Worst Movement	4d. Accident Potential	4e. Lane Continuity	4f. Persons Trips	4g. Access Management for Adjacent Properties
Existing Conditions	- now ----- Future (PAG) (PAG Low)								
Option 4A (67' r.o.w.)	 ----- Future (PAG)      ----- Future (PAG)      Future (PAG Low)								
Option 4B (100' r.o.w.)	 ----- Future (PAG)      ----- Future (PAG)      Future (PAG Low)								
Option 4C (112' r.o.w.)	 ----- Future (PAG)      ----- Future (PAG)      Future (PAG Low)								
Option 4+T A (118' r.o.w.)	 ----- to -----      ----- to O Future (PAG)                      Future (PAG Low)								
Option 4+T B (152' r.o.w.)	 ----- to -----      ----- to O Future (PAG)                      Future (PAG Low)								
Option 6A (114' r.o.w.)	 O                      + Future (PAG)                      Future (PAG Low)								
Option 6B (152' r.o.w.)	 O                      + Future (PAG)                      Future (PAG Low)								
Option 6+T A (146' r.o.w.)	 +                      ++ Future (PAG)                      Future (PAG Low)								
Option 6+T B (174' row)	 +                      ++ Future (PAG)                      Future (PAG Low)								
Option 4+T SATA (existing r.o.w.)	 ----- Future (PAG)      ----- Future (PAG)      Future (PAG Low)								



# Vehicular Access and Mobility

## 4g. Access Management for Adjacent Properties

Description	<ul style="list-style-type: none"> <li>• Changes to curb-cut/driveway access from Broadway to parking and loading for adjacent business to improve traffic flow, reduce conflicts with pedestrians and bicycles, and generally reduce potential for accidents.</li> <li>• Can require shared access with adjacent properties</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Quantitative and qualitative evaluation by planning team of reduced conflicts and quality of site access</li> </ul>
Factors	<ul style="list-style-type: none"> <li>• Reduction in number and width of curb-cut/driveway access</li> <li>• Maintenance of site functionality</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Not viable at current level of design</li> <li>• Requires alignment design</li> </ul>

# Sense of Place

5a. Historic Resources

5a'. Significant Resources

5b. Visual Quality

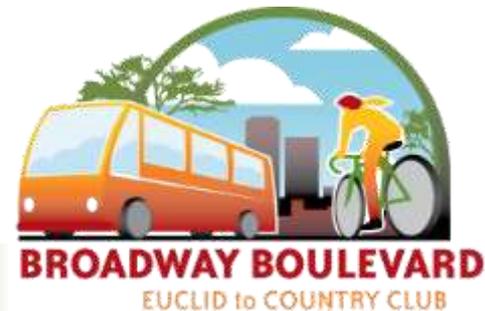
5c. Broadway as a Destination

5d. Gateway to Downtown

5e. Conduciveness to Business

5f. Walkable Community

5g. Certainty



# Sense of Place

STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- -	- now - future
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		-	---
Option 4B (100' r.o.w.)	++	++	-		--		o	-
Option 4C (112' r.o.w.)	+	+	o		-		+	-
Option 4+T A (118' r.o.w.)	o	o	o		o		+	o
Option 4+T B (152' r.o.w.)	--	--	+		+		o	o
Option 6A (114' r.o.w.)	o	o	+		+		o	o
Option 6B (152' r.o.w.)	--	--	++		+		o	+
Option 6+T A (146' r.o.w.)	--	--	o		+		-	++
Option 6+T B (174' row)	--	--	o		++		o	+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to -	-

# Sense of Place

## 5a. Historic Resources

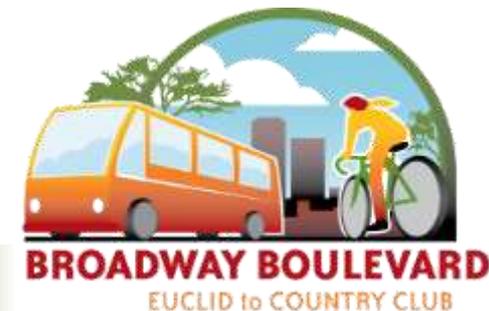
Description	<ul style="list-style-type: none"><li>• The number of historic structures lost due to direct impact</li><li>• The number of historic structures with limited usefulness as a result of loss of parking, setback, site access, and other conditions</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Count of historic structures lost by category</li></ul>
Factors	<ul style="list-style-type: none"><li>• Roadway width</li><li>• Streetside area width</li><li>• Alignment placement</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate to High at current level of design</li><li>• More definitive as intersections and alignment are designed</li></ul>

# Performance Assessment

- 5a. Historic Resources

STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- - -	now future
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		- -	---
Option 4B (100' r.o.w.)	++	++	-		---		o	-
Option 4C (112' r.o.w.)	+	+	o		-		+	-
Option 4+T A (118' r.o.w.)	o	o						
Option 4+T B (152' r.o.w.)	---	---						
Option 6A (114' r.o.w.)	o	o	+		+		o	o
Option 6B (152' r.o.w.)	---	---	++		+		o	+
Option 6+T A (146' r.o.w.)	---	---	o		+		-	++
Option 6+T B (174' row)	---	---	o		++		o	+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to -	-

Based on review of relationship to future ROW to existing ROW and distance between building facades.



# Sense of Place

## 5a'. Significant Resources

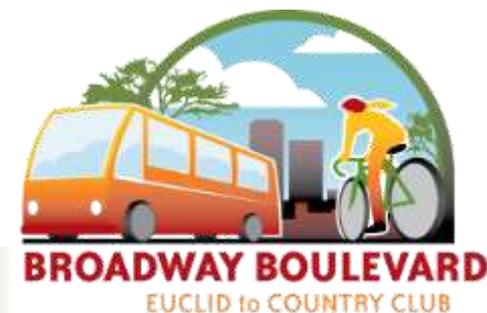
Description	<ul style="list-style-type: none"><li>• The number of significant structures lost due to direct impact</li><li>• The number of significant structures with limited usefulness as a result of loss of parking, setback, site access, and other conditions</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Count of significant structures lost by category</li></ul>
Factors	<ul style="list-style-type: none"><li>• Roadway width</li><li>• Streetside area width</li><li>• Alignment placement</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate to High at current level of design</li><li>• More definitive as intersections and alignment are designed</li></ul>

# Performance Assessment

- 5a'. Significant Resources

STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a'. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		-		-	- now -- future
Option 4A (67' r.o.w.)	+++	+++	o to ---		-		-	--
Option 4B (100' r.o.w.)	++	++	-		--	o		-
Option 4C (112' r.o.w.)	+	+	o		-	+		-
Option 4+T A (118' r.o.w.)	o	o	o					
Option 4+T B (152' r.o.w.)	--	--	+					
Option 6A (114' r.o.w.)	o	o	+		+	o		o
Option 6B (152' r.o.w.)	--	--	++		+	o		+
Option 6+T A (146' r.o.w.)	--	--	o		+	-		++
Option 6+T B (174' row)	--	--	o		++	o		+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		-	o to -		-

Based on review of relationship to future ROW to existing ROW and distance between building facades.



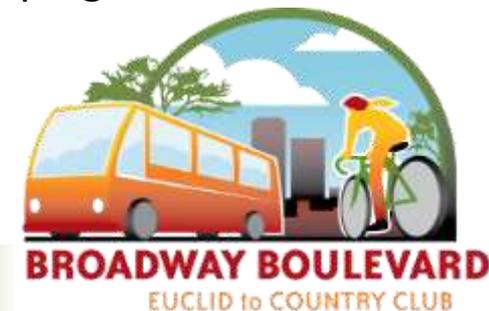
# Sense of Place

## 5b. Visual Quality

Description	<ul style="list-style-type: none"><li>• Ability of the roadway design to enhance visual quality using a mix of features</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative assessment (project team and input from CTF)</li></ul>
Factors	<ul style="list-style-type: none"><li>• Design of median and streetside landscaping</li><li>• Number and location of placemaking features (including public art, wayfinding, lighting, furniture, etc.)</li><li>• Width of roadside areas for streetscape elements and landscaping</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at current level of design</li><li>• Design does not currently include details for streetscape design, but lower cost cross section concepts may allow more budget to be spent on visual quality</li></ul>

# Performance Assessment

- 5b. Visual Quality
  - Needs further CTF input
  - Factors:
    - Design of median and streetside landscaping
    - Number and location of placemaking features (including public art, wayfinding, lighting, furniture, etc.)
    - Width of roadside areas for streetscape elements and landscaping



STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- now ---	- future
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		-	--
Option 4B (100' r.o.w.)	++	++	-		--		o	-
Option 4C (112' r.o.w.)	+	+	o		-		+	-
Option 4+T A (118' r.o.w.)	o	o	o		o		+	o
Option 4+T B (152' r.o.w.)	--	--	+		+		o	o
Option 6A (114' r.o.w.)	o	o	+		+		o	o
Option 6B (152' r.o.w.)	--	--	++		+		o	+
Option 6+T A (146' r.o.w.)	--	--	o		+		-	++
Option 6+T B (174' row)	--	--	o		++		o	+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to -	-

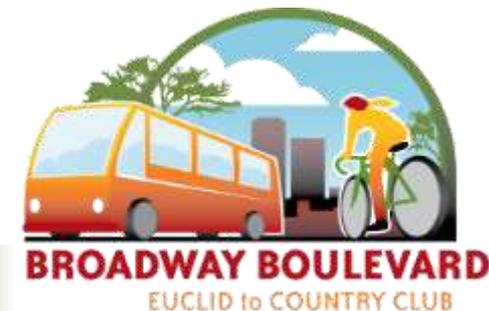
# Sense of Place

## 5c. Broadway as a Destination

Description	<ul style="list-style-type: none"><li>• Promote development and civic spaces that would be attractive to users from surrounding neighborhoods, the city, and the region</li><li>• Provide visual quality, access, and other features that make Broadway appealing to development and customers</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Factors related to 5b Visual Quality</li><li>• Coordinate façade improvement, parking management, and other programs and improvements</li><li>• Land use regulations supporting development sought</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low for current level of design and planning</li></ul>

# Performance Assessment

- 5c. Broadway as a Destination
  - Need further
    - Development of street design and its potential impact on future character of uses along the street
    - Understanding of economic vitality
  - Review definitions and factors with CTF

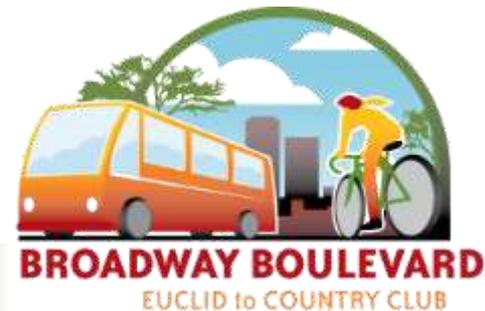


STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- to ---	- now --- future
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		- to ---	---
Option 4B (100' r.o.w.)	++	++	-		---		o	-
Option 4C (112' r.o.w.)	+	+	o		-		+	-
Option 4+T A (118' r.o.w.)	o	o	o		o		+	o
Option 4+T B (152' r.o.w.)	---	---	+		+		o	o
Option 6A (114' r.o.w.)	o	o	+		+		o	o
Option 6B (152' r.o.w.)	---	---	++		+		o	+
Option 6+T A (146' r.o.w.)	---	---	o		+		-	++
Option 6+T B (174' row)	---	---	o		++		o	+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to -	-

# Sense of Place

## 5d. Gateway to Downtown

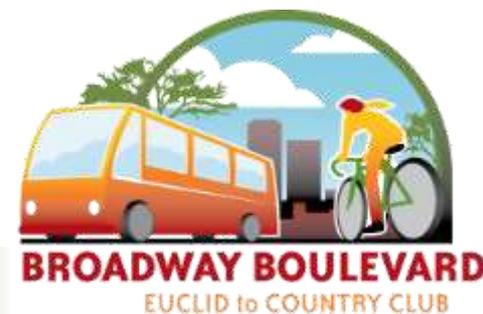
Description	<ul style="list-style-type: none"><li>• Visual quality, ease of mobility, and similar features that improve connection to downtown</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• To be determined through discussions with CTF</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at current level of design</li></ul>



# Performance Assessment

- 5d. Gateway to Downtown
  - Review description and discuss factors with CTF

Roughly combination of transit and vehicular access and mobility with community character



STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- now --- future	
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		- ---	
Option 4B (100' r.o.w.)	++	++	-		- -		o -	
Option 4C (112' r.o.w.)	+	+	o		-		+ -	
Option 4+T A (118' r.o.w.)	o	o	o		o		+ o	
Option 4+T B (152' r.o.w.)	- -	- -	+		+		o	
Option 6A (114' r.o.w.)	o	o	+		+		o	
Option 6B (152' r.o.w.)	- -	- -	++		+		o	
Option 6+T A (146' r.o.w.)	- -	- -	o		+		- ++	
Option 6+T B (174' row)	- - -	- - -	o		++		o +++	
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to -	

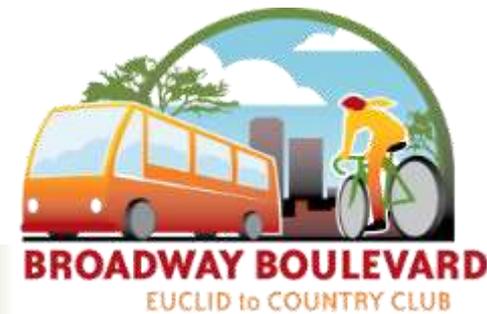
# Sense of Place

## 5e. Conduciveness to Business

Description	<ul style="list-style-type: none"><li>• The type and size of businesses that would be drawn to the corridor under various development approaches</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• To be determined through discussions with CTF and professional experience<ul style="list-style-type: none"><li>• Site access and parking location</li><li>• Building size and design accommodated</li><li>• Other TBD</li></ul></li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low at this level of design</li></ul>

# Performance Assessment

- 5e. Conduciveness to Business
  - Need further design of
    - Site access and parking
    - Site revitalization and reuse
    - Others...
  - Review definitions and factors with CTF



STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conduciveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- to ---	- to --- now future
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		- to ---	
Option 4B (100' r.o.w.)	++	++	-		---		o	-
Option 4C (112' r.o.w.)	+	+	o		-		+	-
Option 4+T A (118' r.o.w.)	o	o	o		o		+	o
Option 4+T B (152' r.o.w.)	---	---	+		+		o	o
Option 6A (114' r.o.w.)	o	o	+		+		o	o
Option 6B (152' r.o.w.)	---	---	++		+		o	+
Option 6+T A (146' r.o.w.)	---	---	o		+		-	++
Option 6+T B (174' row)	---	---	o		++		o	+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to ---	-

# Sense of Place

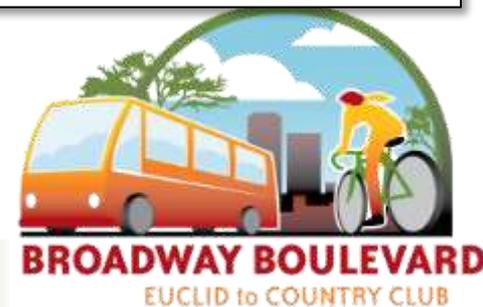
## 5f. Walkable Community

Description	<ul style="list-style-type: none"><li>• How well the improvements and land use plan place businesses within walking distance for a viable number of residences</li></ul>
Measurement	<ul style="list-style-type: none"><li>• See measures under “1. Pedestrian Access and Mobility”</li></ul>
Factors	<ul style="list-style-type: none"><li>• See measures and factors under “1. Pedestrian Access and Mobility”</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Varies</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Varies</li></ul>

# Performance Assessment

- 5f. Gateway to Downtown
  - Review description and discuss factors with CTF

Roughly a combination of pedestrian access and mobility and 5a which is impact on properties



STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Downtown	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- to ---	- to ---
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		- to ---	- to ---
Option 4B (100' r.o.w.)	++	++	-		---		o	-
Option 4C (112' r.o.w.)	+	+	o		-		+	-
Option 4+T A (118' r.o.w.)	o	o	o		o		+	o
Option 4+T B (152' r.o.w.)	---	---	+		+		o	o
Option 6A (114' r.o.w.)	o	o	+		+		o	o
Option 6B (152' r.o.w.)	---	---	++		+		o	+
Option 6+T A (146' r.o.w.)	---	---	o		+		-	++
Option 6+T B (174' row)	---	---	o		++		o	+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to ---	- to ---

# Sense of Place

## 5g. Certainty

Description	<ul style="list-style-type: none"> <li>Relates to comments received, “Do it right this time so it doesn’t have to be done again.”</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Capacity projections</li> <li>Ridership projections (bus transit; BRT)</li> <li>Flexibility to meet changing transportation needs</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>Moderate to High</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Moderate to High at current level of design</li> <li>See also performance measures –               <ul style="list-style-type: none"> <li>1a Functionality of Streetside for Pedestrian Activity</li> <li>1c Pedestrian-Oriented Facilities or Improvements</li> <li>1g Universal Design</li> <li>2e Bike Facility Improvements</li> <li>3f Accommodation of Future High Capacity Transit</li> <li>4a Movement of Through Traffic</li> <li>4f Persons Trips</li> </ul> </li> </ul>

# Performance Assessment

- 5g. Certainty
  - Consider moving this out of Sense of Place and making it a stand alone Performance Measure
  - Ability to accommodate foreseeable transportation demand into the future

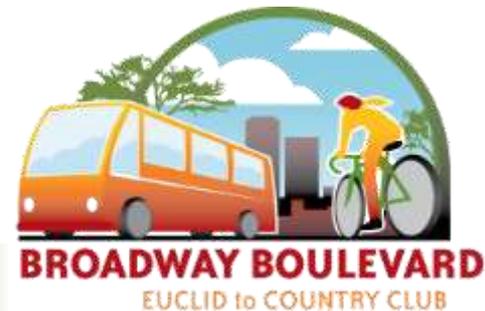
Roughly a combination of:

- 1a. Functionality of Streetside for Pedestrian Activity,
- 1c. Pedestrian-Oriented Facilities or Improvements,
- 2e. Bike Facility Improvements,
- 3f. Accommodation of Future High Capacity Transit, and
- 4a. Movement of Through Traffic

STREET CROSS SECTION CONCEPT	SENSE OF PLACE							
	5a. Historic Resources	5a. Significant Resources	5b. Visual Quality	5c. Broadway as a Destination	5d. Gateway to Downtown	5e. Conductiveness to Business	5f. Walkable Community	5g. Certainty
Existing Conditions	+++	+++	o to ---		- to ---		- -	- now -- future
Option 4A (67' r.o.w.)	+++	+++	o to ---		- to ---		- -	--
Option 4B (100' r.o.w.)	++	++	-		--		o	-
Option 4C (112' r.o.w.)	+	+	o		-		+	-
Option 4+T A (118' r.o.w.)	o	o	o		o		+	o
Option 4+T B (152' r.o.w.)	--	--	+		+		o	o
Option 6A (114' r.o.w.)	o	o	+		+		o	o
Option 6B (152' r.o.w.)	--	--	++		+		o	+
Option 6+T A (146' r.o.w.)	--	--	o		+		-	++
Option 6+T B (174' row)	---	---	o		++		o	+++
Option 4+T SATA (existing r.o.w.)	+++	+++	o to ---		- to ---		o to -	-

# Environment/Public Health

- 6a. Greenhouse Gases
- 6b. Other Tailpipe Emissions
- 6c. Heat Island
- 6d. Water Harvesting
- 6e. Walkability/Bikability
- 6f. Land Use Mix
- 6g. Affordability



# Environment and Public Health

STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH						
	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability
Existing Conditions			○	---	-		
Option 4A (67' r.o.w.)			○	---	○ to -		
Option 4B (100' r.o.w.)			+	---	○		
Option 4C (112' r.o.w.)			++	++	+		
Option 4+T A (118' r.o.w.)			+	-	+		
Option 4+T B (152' r.o.w.)			++	++	+		
Option 6A (114' r.o.w.)			+	○	○		
Option 6B (152' r.o.w.)			++	++	○		
Option 6+T A (146' r.o.w.)			○	○	○		
Option 6+T B (174' row)			+	+	○		
Option 4+T SATA (existing r.o.w.)			○	---	○ to -		

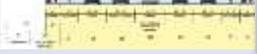
# Environment/Public Health

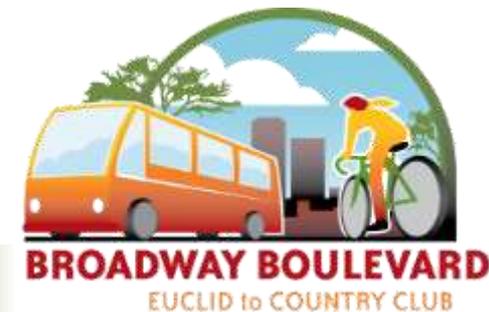
## 6a. Greenhouse Gases

Description	<ul style="list-style-type: none"><li>• Corridor design features that can reduce CO<sub>2</sub> emission</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative analysis</li></ul>
Factors	<ul style="list-style-type: none"><li>• Proportion alternative modes of transportation</li><li>• Level of congestion</li><li>• Quality of vehicle fleet, fuel, etc.</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design</li><li>• Some factors ultimately not effected by this project</li></ul>

# Performance Assessment

- 6a. Greenhouse Gases
  - Requires more detailed
    - Design
    - Technical analysis

STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH						
	6a. Greenhouse Gases	6b. Other Airborne Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability
Existing Conditions			○	---	-		
Option 4A (67' r.o.w.)			○	---	○ to -		
Option 4B (100' r.o.w.)			+	---	○		
Option 4C (112' r.o.w.)			++	++	+		
Option 4+T A (118' r.o.w.)			+	-	+		
Option 4+T B (152' r.o.w.)			++	++	+		
Option 6A (114' r.o.w.)			+	○	○		
Option 6B (152' r.o.w.)			++	++	○		
Option 6+T A (146' r.o.w.)			○	○	○		
Option 6+T B (174' row)			+	+	○		
Option 4+T SATA (existing r.o.w.)			○	---	○ to -		



# Environment/Public Health

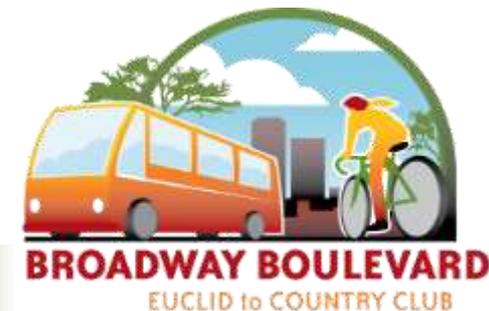
## 6b. Other Tailpipe Emissions

Description	<ul style="list-style-type: none"><li>• Identification and reduction of other important tailpipe emissions, such as particulates</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Proportion alternative modes of transportation</li><li>• Level of congestion</li><li>• Quality of vehicle fleet, fuel, etc.</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Moderate</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design</li><li>• Some factors ultimately not effected by this project</li></ul>

# Performance Assessment

- 6b. Other Tailpipe Emissions
  - Requires more detailed
    - Design
    - Technical analysis

STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH						
	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability
Existing Conditions		○	---	-			
Option 4A (67' r.o.w.)		○	---		○ to -		
Option 4B (100' r.o.w.)			+	---	○		
Option 4C (112' r.o.w.)			++	++	+		
Option 4+T A (118' r.o.w.)			+	-	+		
Option 4+T B (152' r.o.w.)			++	++	+		
Option 6A (114' r.o.w.)			+	○	○		
Option 6B (152' r.o.w.)			++	++	○		
Option 6+T A (146' r.o.w.)			○	○	○		
Option 6+T B (174' row)			+	+	○		
Option 4+T SATA (existing r.o.w.)			○	---	○ to -		



# Environment/Public Health

## 6c. Heat Island

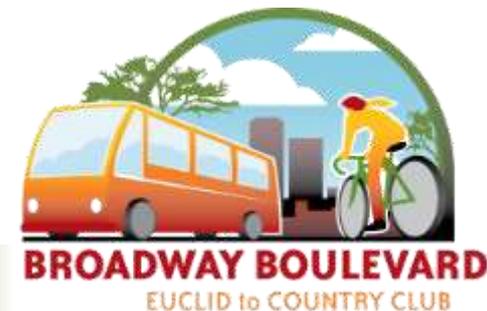
Description	<ul style="list-style-type: none"><li>Determine comparative heat island effect of various alternatives</li></ul>
Measurement	<ul style="list-style-type: none"><li>Qualitative and quantitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>Reduce roadway and sidewalk pavement contribution to heat gain through a combination of shade, solar reflectivity (high albedo) of materials, and area of pavement</li><li>Increase landscaped area</li><li>Increase amount of shade</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Moderate at current level of design (amount of landscaped area &amp; number of trees)</li><li>High with more detailed design and selection of building materials</li></ul>

# Performance Assessment

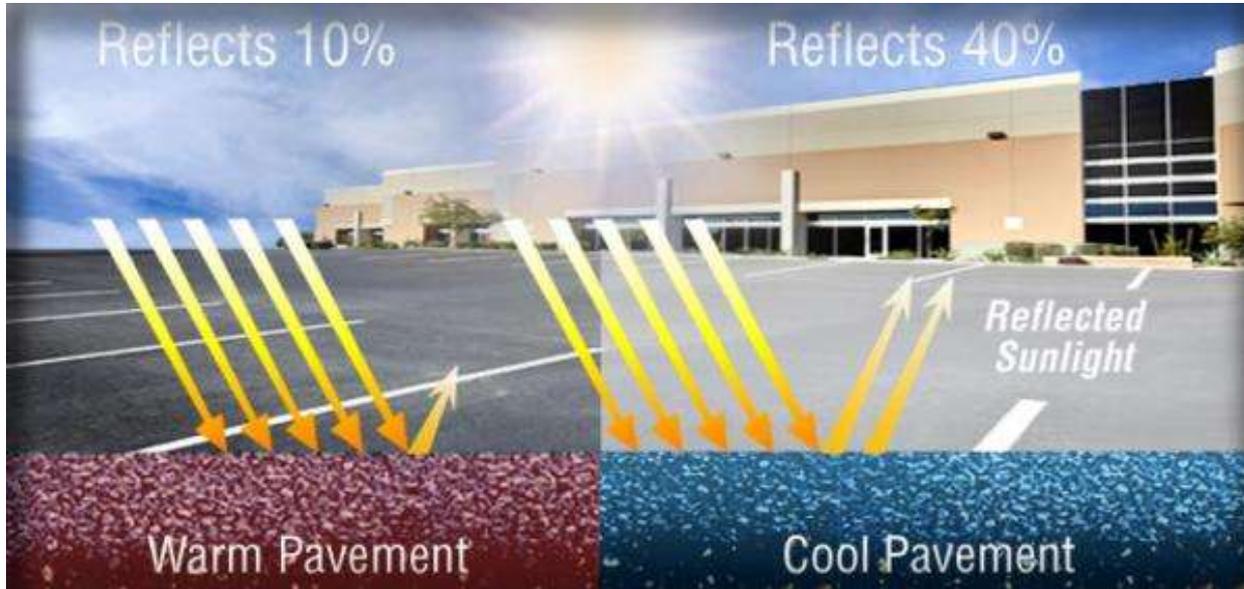
- 6c. Heat Island Effect

STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH					
	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix 6g. Affordability
Existing Conditions			○	---	-	
Option 4A (67' r.o.w.)			○	---	○ to -	
Option 4B (100' r.o.w.)			+	--		
Option 4C (112' r.o.w.)			++	++		
Option 4+T A (118' r.o.w.)			+	-		
Option 4+T B (152' r.o.w.)			++	++		
Option 6A (114' r.o.w.)			+	○		
Option 6B (152' r.o.w.)			++	++	○	
Option 6+T A (146' r.o.w.)			○	○	○	
Option 6+T B (174' row)			+	+	○	
Option 4+T SATA (existing r.o.w.)			○	---	○ to -	

Assume existing condition is the base “neutral” condition. Slight penalty for more R.O.W. paving with assumption that much of existing area outside of R.O.W. is hardscaped and that new paving could be high albedo and consideration of shade from landscape



# Heat Island Effect



# Environment/Public Health

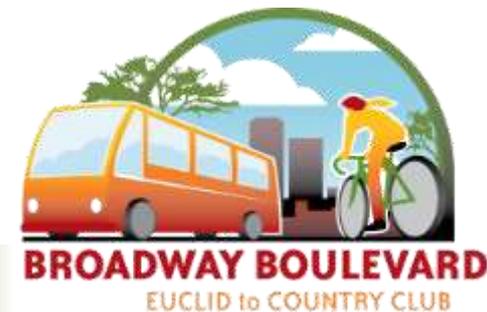
## 6d. Water Harvesting

Description	<ul style="list-style-type: none"><li>• Retain rainfall onsite to benefit project landscaping</li></ul>
Measurement	<ul style="list-style-type: none"><li>• TDOT Active Practice Guideline “Green Streets” (draft)</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width and depth of median and streetside areas</li><li>• Amount of reduction in runoff on paved areas</li><li>• Types of materials used (pervious pavement)</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at current level of design</li><li>• High as design is developed further</li></ul>

# Performance Assessment

- 6d. Water Harvesting

Ratio of landscaped to pavement width



STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH						
	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability
Existing Conditions			o	---	-		
Option 4A (67' r.o.w.)			o	---	o to -		
Option 4B (100' r.o.w.)			+	---	o		
Option 4C (112' r.o.w.)			++	++	+		
Option 4+T A (118' r.o.w.)			+	-	+		
Option 4+T B (152' r.o.w.)			++	++	+		
Option 6A (114' r.o.w.)			+	o	o		
Option 6B (152' r.o.w.)			++	++	o		
Option 6+T A (146' r.o.w.)			o	o	o		
Option 6+T B (174' row)			+	+	o		
Option 4+T SATA (existing r.o.w.)			o	---	o to -		

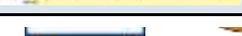
# Environment/Public Health

## 6e. Walkability/Bikeability

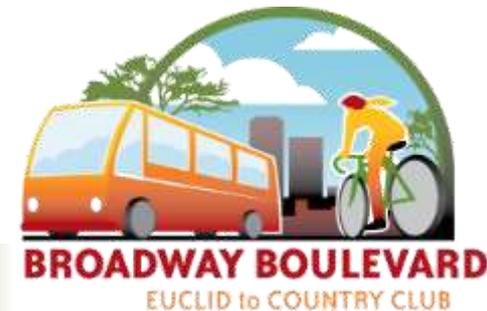
Description	<ul style="list-style-type: none"><li>• Design elements that will encourage biking and walking over driving</li></ul>
Measurement	<ul style="list-style-type: none"><li>• See 1. Pedestrian and 2. Bicycle Access and Mobility performance measures</li></ul>
Factors	<ul style="list-style-type: none"><li>• Number of bike and pedestrian facilities and features</li><li>• Continuity of treatments</li><li>• Comfort and security features</li><li>• 5f. Walkable Community</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High to Moderate depending on performance measure</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• High to not viable at current level of design depending on performance measure</li><li>• High to Low depending on performance measure</li></ul>

# Performance Assessment

- 6e. Walkability / Bikeability

STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH						
	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix	6g. Affordability
Existing Conditions			o	---	-		
Option 4A (67' r.o.w.)			o	---	to -		
Option 4B (100' r.o.w.)			+	--	o		
Option 4C (112' r.o.w.)			++	++	+		
Option 4+T A (118' r.o.w.)			+	-	+		
Option 4+T B (152' r.o.w.)			++	++	+		
Option 6A (114' r.o.w.)			+	o	o		
Option 6B (152' r.o.w.)			++	++	o		
Option 6+T A (146' r.o.w.)			o	o	o		
Option 6+T B (174' row)			+	+	o		
Option 4+T SATA (existing r.o.w.)			o	---	to -		

Roughly combination of Bicycle Access and Mobility with 5f Walkable Community (which considers all Pedestrian Access and Mobility Performance Measures)



# Environment/Public Health

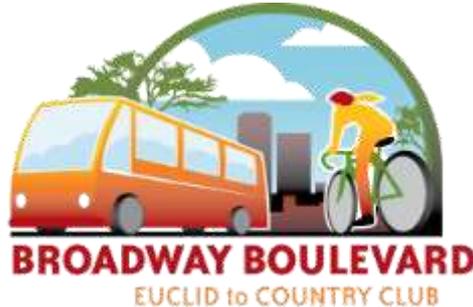
## 6f. Land Use Mix

Description	<ul style="list-style-type: none"><li>• Ability to accommodate mixed use development within walking and biking distance of the Broadway corridor, and to support transit ridership</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative analysis</li></ul>
Factors	<ul style="list-style-type: none"><li>• Support of mixed use by current/future zoning</li><li>• Determine if, and what type of policy and procedural changes are needed</li><li>• Count and size of parcels conducive to accommodate desired land use mix</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Low to indirect</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design</li><li>• Moderate as design is developed in more detail (i.e.; alignment) and policy issues are discussed</li></ul>

# Performance Assessment

- 6f. Land Use Mix
  - Requires more detailed
    - Alignment and intersection design for extent of impact to existing parcels

STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH					
	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix
Existing Conditions			○	---	-	
Option 4A (67' r.o.w.)			○	---	○ to -	
Option 4B (100' r.o.w.)			+	--	○	
Option 4C (112' r.o.w.)			++	++	+	
Option 4+T A (118' r.o.w.)			+	-	+	
Option 4+T B (152' r.o.w.)			++	++	+	
Option 6A (114' r.o.w.)			+	○	○	
Option 6B (152' r.o.w.)			++	++	○	
Option 6+T A (146' r.o.w.)			○	○	○	
Option 6+T B (174' row)			+	+	○	
Option 4+T SATA (existing r.o.w.)			○	---	○ to -	



# Environment/Public Health

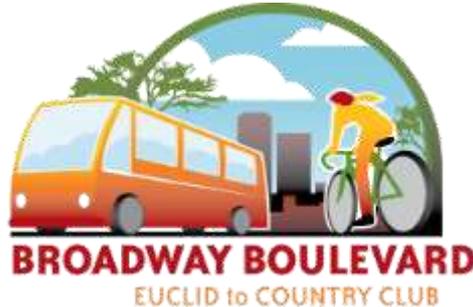
## 6g. Affordability

Description	<ul style="list-style-type: none"><li>• Combined housing and transportation costs for users of the Broadway corridor</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Relates to other measures:<ul style="list-style-type: none"><li>• 1, 2, &amp; 3 – Pedestrian, Bicycle, and Transit Access &amp; Mobility</li><li>• 5f Walkable Community</li><li>• 6b Other Tailpipe Emissions</li><li>• 7g Job Impacts</li></ul></li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• Low</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning</li></ul>

# Performance Assessment

- 6g. Affordability
  - Pedestrian, Bicycle, and Transit Access and Mobility provide some indication, but more detailed technical analysis would allow for better understanding
  - Other related Performance Measures cannot be assessed at current level of design and analysis

STREET CROSS SECTION CONCEPT	ENVIRONMENTAL / PUBLIC HEALTH					
	6a. Greenhouse Gases	6b. Other Tailpipe Emissions	6c. Heat Island	6d. Water Harvesting	6e. Walkability / Bikeability	6f. Land Use Mix
Existing Conditions			○	---	-	
Option 4A (67' r.o.w.)			○	---	○ to -	
Option 4B (100' r.o.w.)			+	---	○	
Option 4C (112' r.o.w.)			++	++	+	
Option 4+T A (118' r.o.w.)			+	-	+	
Option 4+T B (152' r.o.w.)			++	++	+	
Option 6A (114' r.o.w.)			+	○	○	
Option 6B (152' r.o.w.)			++	++	○	
Option 6+T A (146' r.o.w.)			○	○	○	
Option 6+T B (174' row)			+	+	○	
Option 4+T SATA (existing r.o.w.)			○	---	○ to -	



# Economic Vitality

7a.-7b. Change in Economic Potential

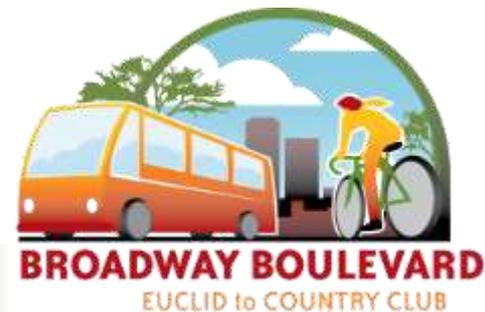
7c.-7d. Change in Business Revenue

7e.-7f. Change in Sales Tax Revenue

7g.-7h. Change in Property Tax Revenue

7i. Business Impacts

7j. Job Impacts



STREET CROSS SECTION CONCEPT	ECONOMIC VITALITY					
	7a/7b Change in Economic Potential	7c/7d. Change in Business Revenue	7e/7f Change in Sales Tax Revenue	7g/7h Change in Property Tax Revenue	7i. Business Impact	7j. Job Impact
Existing Conditions						
Option 4A (67' r.o.w.)						
Option 4B (100' r.o.w.)						
Option 4C (112' r.o.w.)						
Option 4+T A (118' r.o.w.)						
Option 4+T B (152' r.o.w.)						
Option 6A (114' r.o.w.)						
Option 6B (152' r.o.w.)						
Option 6+T A (146' r.o.w.)						
Option 6+T B (174' row)						
Option 4+T SATA (existing r.o.w.)						

# Economic Vitality

# Economic Vitality

- Ability to Evaluate
  - Not at current level of design and planning (cross section width is an indicator, but in some cases remnant parcels may have more economic potential than existing parcels)

# Economic Vitality

- Impacts to parking, access, and ultimately buildings all affect viability of existing businesses and development
- Future development potential needs to be assessed
- Real estate and business market potential also needs to be assessed

# Economic Vitality

Block-by-Block Widths of Existing Street, Right-of-Way, and Building Separation  
 Broadway Boulevard, Euclid to Country Club Road  
 REVISED JUNE 8, 2013

Block	Street to Street	Existing Street Width	Existing R/W Width	Building Separation	Option 4A (67' ROW)			Option 4B (100' ROW)			Option 4C (112' ROW)			Option 4-T A (118' ROW)			Option 4-T B (152' ROW)			Option 6A (114' ROW)			Option 6B (152' ROW)			Option 6-T A (146' ROW)			Option 6-T B (174' ROW)			Option 6-T S A (existing ROW)				
					Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.		
<b>Base Concept Dimensions</b>																																				
West to Campbell	1000 E. Park to Fremont	60	70	94	15	3	27	(8)	(30)	(6)	(4)	(42)	(18)	(26)	(48)	(24)	(44)	(82)	(58)	(26)	(44)	(20)	(44)	(82)	(58)	(60)	(76)	(52)	(66)	(104)	(80)	0	0	24		
	1100 E. Fremont to Santa Rita	60	70	100	15	3	33	(8)	(30)	0	(4)	(42)	(12)	(26)	(48)	(18)	(44)	(82)	(52)	(26)	(44)	(14)	(44)	(82)	(52)	(60)	(76)	(46)	(66)	(104)	(74)	0	0	30		
	1200 E. Santa Rita to Mountain	60	82	±	137	15	15	70	(8)	(18)	37	(4)	(30)	25	(26)	(36)	19	(44)	(70)	(15)	(26)	(32)	23	(44)	(70)	(15)	(60)	(64)	(9)	(66)	(92)	(37)	0	0	55	
	1300 E. Mountain to Highland	60	89	±	129	15	22	62	(8)	(11)	29	(4)	(23)	17	(26)	(29)	11	(44)	(63)	(23)	(26)	(25)	15	(44)	(63)	(23)	(60)	(57)	(17)	(66)	(85)	(45)	0	0	40	
	1400 E. Highland to Vine	60	88	104	114	15	21	47	(8)	(12)	14	(4)	(24)	2	(26)	(30)	(4)	(44)	(64)	(38)	(26)	(26)	0	(44)	(64)	(38)	(60)	(58)	(32)	(66)	(86)	(60)	0	0	26	
	1500 E. Vine to Cherry	60	64	100	±	125	15	33	58	(8)	0	25	(4)	(12)	13	(26)	(18)	7	(44)	(52)	(27)	(26)	(14)	11	(44)	(52)	(27)	(60)	(46)	(21)	(66)	(74)	(49)	0	0	25
	1600 E. Cherry to Warren	64	78.5		104	19	12	37	(4)	(22)	4	0	(34)	(8)	(22)	(40)	(14)	(40)	(74)	(48)	(22)	(36)	(10)	(40)	(74)	(48)	(56)	(68)	(42)	(62)	(96)	(70)	0	0	26	
1700 E. Warren to Martin	64	75	103.5	104	19	8	37	(4)	(25)	4	0	(37)	(8)	(22)	(43)	(14)	(40)	(77)	(48)	(22)	(39)	(10)	(40)	(77)	(48)	(56)	(71)	(42)	(62)	(99)	(70)	0	0	29		
* to Miles property line. 169' to bldg face																																				
East to Campbell	2000 E. Norris to Olsen	64	80	95	129	19	13	62	(4)	(20)	29	0	(32)	17	(22)	(38)	11	(40)	(72)	(23)	(22)	(34)	15	(40)	(72)	(23)	(56)	(66)	(17)	(62)	(94)	(45)	0	0	49	
	2100 E. Olsen to Plumer	64	94	144	162	19	27	95	(4)	(6)	62	0	(18)	50	(22)	(24)	44	(40)	(58)	10	(22)	(20)	48	(40)	(58)	10	(56)	(52)	16	(62)	(80)	(12)	0	0	68	
	2200 E. Plumer to Wilson (Algmt)	64	95		162	19	28	95	(4)	(5)	62	0	(17)	50	(22)	(23)	44	(40)	(57)	10	(22)	(19)	48	(40)	(57)	10	(56)	(51)	16	(62)	(79)	(12)	0	0	67	
	2300 E. Wilson (Algmt) to Norton (Algmt)	64	80		137	19	13	70	(4)	(20)	37	0	(32)	25	(22)	(38)	19	(40)	(72)	(15)	(22)	(34)	23	(40)	(72)	(15)	(56)	(66)	(9)	(62)	(94)	(37)	0	0	57	
	2400 E. Norton (Algmt) to Tucson Blvd	64	80		124	19	13	57	(4)	(20)	24	0	(32)	12	(22)	(38)	6	(40)	(72)	(28)	(22)	(34)	10	(40)	(72)	(28)	(56)	(66)	(22)	(62)	(94)	(50)	0	0	44	
	2500 E. Tucson Blvd to Forges (Algmt)	64	80	100	152	19	13	85	(4)	(20)	52	0	(32)	40	(22)	(38)	34	(40)	(72)	0	(22)	(34)	38	(40)	(72)	0	(56)	(66)	6	(62)	(94)	(22)	0	0	72	
	2600 E. Forges (Algmt) to Sawtelle (Algmt)	64	100		152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(46)	6	(62)	(74)	(22)	0	0	52	
	2700 E. Sawtelle (Algmt) to Treat	64	100		152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(46)	6	(62)	(74)	(22)	0	0	52	
	2800 E. Treat to Stewart	64	125	145	205	19	58	138	(4)	25	105	0	13	93	(22)	7	87	(40)	(27)	53	(22)	11	91	(40)	(27)	53	(56)	(21)	59	(62)	(49)	31	0	0	80	
2900 E. Stewart-East	64	110		171	19	43	104	(4)	10	71	0	(2)	59	(22)	(8)	53	(40)	(42)	19	(22)	(4)	57	(40)	(42)	19	(56)	(36)	25	(62)	(64)	(3)	0	0	61		

Broadway Boulevard, Euclid to Country Club Road

Block	Street to Street	Existing Street Width	Existing R/W Width	Building Separation	Option 4A (67' ROW)			Option 4B (100' ROW)			Option 4C (112' ROW)			Option 4-T A (118' ROW)			Option 4-T B (152' ROW)			Option 6A (114' ROW)			Option 6B (152' ROW)			Option 6-T A (146' ROW)			Option 6-T B (174' ROW)							
					Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.	Street Width	R/W Width	R/W vs. Bldg. Sep.					
<b>Base Concept Dimensions</b>																																				
West to Campbell	1000 E. Park to Fremont	60	70	94	15	3	27	(8)	(30)	(6)	(4)	(42)	(18)	(26)	(48)	(24)	(44)	(82)	(58)	(26)	(44)	(20)	(44)	(82)	(58)	(60)	(76)	(52)	(66)	(104)	(80)	0	0	24		
	1100 E. Fremont to Santa Rita	60	70	100	15	3	33	(8)	(30)	0	(4)	(42)	(12)	(26)	(48)	(18)	(44)	(82)	(52)	(26)	(44)	(14)	(44)	(82)	(52)	(60)	(76)	(46)	(66)	(104)	(74)	0	0	30		
	1200 E. Santa Rita to Mountain	60	82	±	137	15	15	70	(8)	(18)	37	(4)	(30)	25	(26)	(36)	19	(44)	(70)	(15)	(26)	(32)	23	(44)	(70)	(15)	(60)	(64)	(9)	(66)	(92)	(37)	0	0	55	
	1300 E. Mountain to Highland	60	89	±	129	15	22	62	(8)	(11)	29	(4)	(23)	17	(26)	(29)	11	(44)	(63)	(23)	(26)	(25)	15	(44)	(63)	(23)	(60)	(57)	(17)	(66)	(85)	(45)	0	0	40	
	1400 E. Highland to Vine	60	88	104	114	15	21	47	(8)	(12)	14	(4)	(24)	2	(26)	(30)	(4)	(44)	(64)	(38)	(26)	(26)	0	(44)	(64)	(38)	(60)	(58)	(32)	(66)	(86)	(60)	0	0	26	
	1500 E. Vine to Cherry	60	64	100	±	125	15	33	58	(8)	0	25	(4)	(12)	13	(26)	(18)	7	(44)	(52)	(27)	(26)	(14)	11	(44)	(52)	(27)	(60)	(46)	(21)	(66)	(74)	(49)	0	0	25
	1600 E. Cherry to Warren	64	78.5		104	19	12	37	(4)	(22)	4	0	(34)	(8)	(22)	(40)	(14)	(40)	(74)	(48)	(22)	(36)	(10)	(40)	(74)	(48)	(56)	(68)	(42)	(62)	(96)	(70)	0	0	26	
1700 E. Warren to Martin	64	75	103.5	104	19	8	37	(4)	(25)	4	0	(37)	(8)	(22)	(43)	(14)	(40)	(77)	(48)	(22)	(39)	(10)	(40)	(77)	(48)	(56)	(71)	(42)	(62)	(99)	(70)	0	0	29		
* to Miles property line. 169' to bldg face																																				
East to Campbell	2000 E. Norris to Olsen	64	80	95	129	19	13	62	(4)	(20)	29	0	(32)	17	(22)	(38)	11	(40)	(72)	(23)	(22)	(34)	15	(40)	(72)	(23)	(56)	(66)	(17)	(62)	(94)	(45)	0	0	49	
	2100 E. Olsen to Plumer	64	94	144	162	19	27	95	(4)	(6)	62	0	(18)	50	(22)	(24)	44	(40)	(58)	10	(22)	(20)	48	(40)	(58)	10	(56)	(52)	16	(62)	(80)	(12)	0	0	68	
	2200 E. Plumer to Wilson (Algmt)	64	95		162	19	28	95	(4)	(5)	62	0	(17)	50	(22)	(23)	44	(40)	(57)	10	(22)	(19)	48	(40)	(57)	10	(56)	(51)	16	(62)	(79)	(12)	0	0	67	
	2300 E. Wilson (Algmt) to Norton (Algmt)	64	80		137	19	13	70	(4)	(20)	37	0	(32)	25	(22)	(38)	19	(40)	(72)	(15)	(22)	(34)	23	(40)	(72)	(15)	(56)	(66)	(9)	(62)	(94)	(37)	0	0	57	
	2400 E. Norton (Algmt) to Tucson Blvd	64	80		124	19	13	57	(4)	(20)	24	0	(32)	12	(22)	(38)	6	(40)	(72)	(28)	(22)	(34)	10	(40)	(72)	(28)	(56)	(66)	(22)	(62)	(94)	(50)	0	0	44	
	2500 E. Tucson Blvd to Forges (Algmt)	64	80	100	152	19	13	85	(4)	(20)	52	0	(32)	40	(22)	(38)	34	(40)	(72)	0	(22)	(34)	38	(40)	(72)	0	(56)	(66)	6	(62)	(94)	(22)	0	0	72	
	2600 E. Forges (Algmt) to Sawtelle (Algmt)	64	100		152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(46)	6	(62)	(74)	(22)	0	0	52	
	2700 E. Sawtelle (Algmt) to Treat	64	100		152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(46)	6	(62)	(74)	(22)	0	0	52	
	2800 E. Treat to Stewart	64	125	145	205	19	58	138	(4)	25	105	0	13	93	(22)	7	87	(40)	(27)	53	(22)	11	91	(40)	(27)	53	(56)	(21)	59	(62)	(49)	31	0	0	80	
2900 E. Stewart-East	64	110		171	19	43	104	(4)	10	71	0	(2)	59	(22)	(8)	53	(40)	(42)	19	(22)	(4)	57	(40)	(42)	19	(56)	(36)	25	(62)	(64)	(3)	0	0	61		

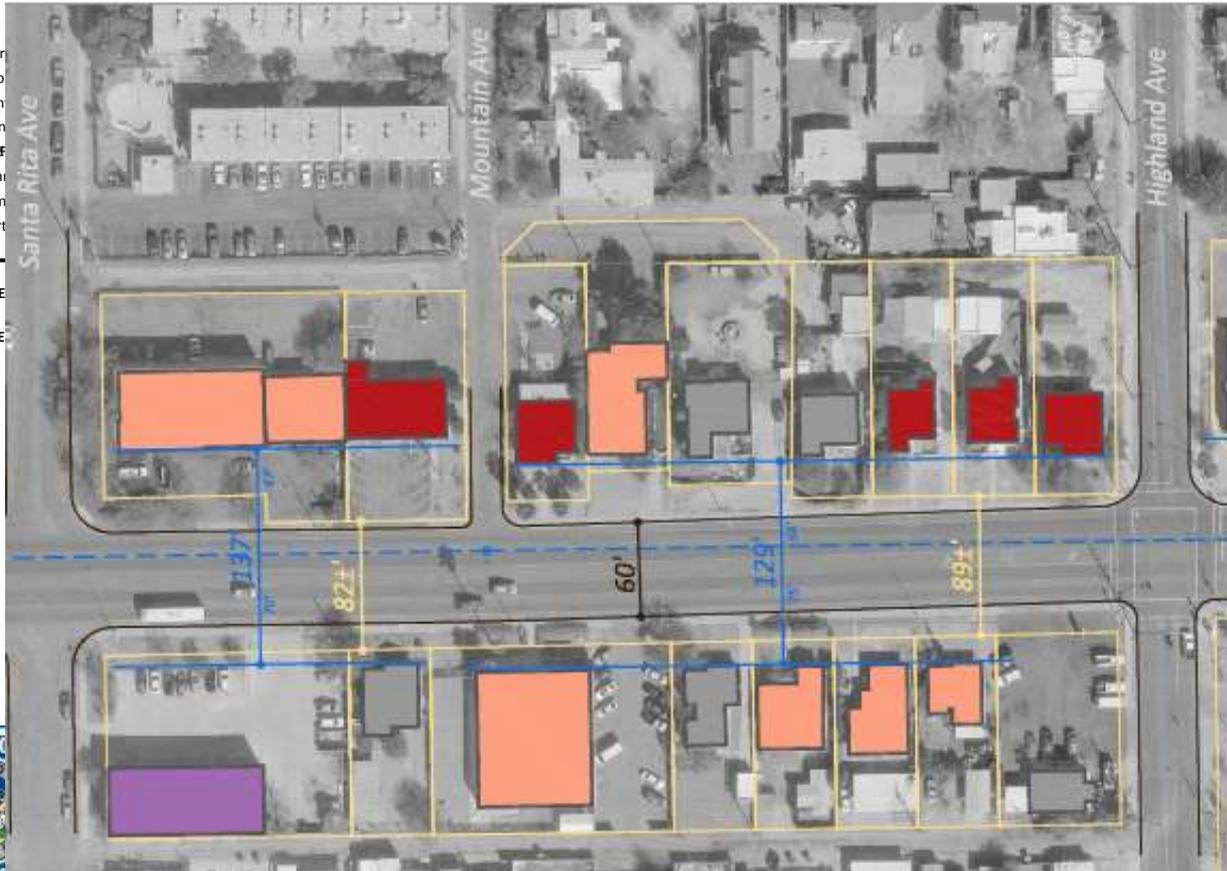
SEGMENTS AND OPTIONS POSSIBLY NOT LEADING TO PROPERTY ACQUISITION  
 SEGMENTS AND OPTIONS POSSIBLY NEEDING PROPERTY ACQUISITION  
 SEGMENTS AND OPTIONS MORE LIKELY TO NEED PROPERTY ACQUISITION



**EVARD**  
Y CLUB

# Economic Vitality

Block	Street to Street	Existing Street Width	Existing R/W Width	Building Separation	Option A (67' ROW)			Option B (100' ROW)			Option C (112' ROW)			Option D (118' ROW)			Option E (152' ROW)				
					Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.		
<b>Base Concept Dimensions</b>					45	67	67	68	100	100	64	112	112	86	118	118	104	152	152		
West of Campbell	1000 E. Park to Fremont	60	70	94	15	3	27	(8)	(30)	(6)	(4)	(42)	(18)	(26)	(48)	(24)	(44)	(82)	(58)		
	1100 E. Fremont to Santa Rita	60	70	100	15	3	33	(8)	(30)	0	(4)	(42)	(12)	(26)	(48)	(18)	(44)	(82)	(52)		
	1200 E. Santa Rita to Mountain	60	82	±	137	15	15	70	(8)	(18)	37	(4)	(30)	25	(26)	(36)	19	(44)	(70)	(15)	
	1300 E. Mountain to Highland	60	89	±	129	15	22	62	(8)	(11)	29	(4)	(23)	17	(26)	(29)	11	(44)	(63)	(23)	
	1400 E. Highland to East of Campbell	60	80	101	114	15	21	57	(8)	(12)	11	(4)	(24)	11	(26)	(32)	11	(44)	(64)	(22)	
West of Mountain	1500 E. Vine to Cherry	60	64	100	±	125	15	33	58	(8)	0	25	(4)	(12)	13	(26)	(18)	7	(44)	(52)	(27)
	1600 E. Cherry to Warren	64	78.5	±	104	19	12	37	(4)	(22)	4	0	(34)	(8)	(22)	(40)	(14)	(40)	(74)	(48)	
	1700 E. Warren to Martin	64	75	103.5	±	104	19	8	37	(4)	(25)	4	0	(37)	(8)	(22)	(43)	(14)	(40)	(77)	(48)
	* to Miles to Property Line, ± 69' to Bldg. Face																				
East of Campbell	2000 E. Norris to Olsen														(72)		(23)				
	2100 E. Olsen to Plumer														(58)		10				
	2200 E. Plumer to Wilson														(57)		10				
	2300 E. Wilson to Algnm														(72)		(15)				
	2400 E. Norton to Algnm														(72)		(28)				
	2500 E. Tucson Blvd to														(72)		0				
	2600 E. Forgeus to Algnm														(52)		0				
	2700 E. Sawtelle to Algnm														(52)		0				
	2800 E. Treat to Stewart														(27)		53				
	2900 E. Stewart to East														(42)		19				



# Economic Vitality

Block	Street to Street	Existing Street Width	Existing R/W Width	Building Separation	Option A (67' ROW)			Option B (100' ROW)			Option C (112' ROW)			Option D (118' ROW)			Option E (152' ROW)			
					Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.	Street Width	R/W	R/W vs. Bldg. Sep.	
<b>Base Concept Dimensions</b>					45	67	67	68	100	100	64	112	112	86	118	118	104	152	152	
2000 E.	Norris to Olsen	64	80	95	129	19	13	62	(4)	(20)	29	0	(32)	17	(22)	(38)	11	(40)	(72)	(23)
2100 E.	Olsen to Plumer	64	94	144	162	19	27	95	(4)	(6)	62	0	(18)	50	(22)	(24)	44	(40)	(58)	10
2200 E.	Plumer to Wilson (Algmt)	64	95	162	162	19	28	95	(4)	(5)	62	0	(17)	50	(22)	(23)	44	(40)	(57)	10
2300 E.	Wilson (Algmt) to Norton (Algmt)	64	80	137	137	19	13	70	(4)	(20)	37	0	(32)	25	(22)	(38)	19	(40)	(72)	(15)
2400 E.	Norton (Algmt) to Tucson Blvd	64	80	124	124	19	13	57	(4)	(20)	24	0	(32)	12	(22)	(38)	6	(40)	(72)	(28)
2500 E.	Tucson Blvd to Forgeus (Algmt)	64	80	100	100	19	25	85	(4)	(20)	52	0	(32)	17	(22)	(38)	11	(40)	(72)	0
2600 E.	Forgeus (Algmt) to Sawtelle (Algmt)	64	100	152	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0
2700 E.	Sawtelle (Algmt) to Treat	64	100	152	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0
2800 E.	Treat to Stewart	64	125	145	205	19	58	138	(4)	25	105	0	13	93	(22)	7	87	(40)	(27)	53
2900 E.	Stewart to S. S	64	125	145	205	19	58	138	(4)	25	105	0	13	93	(22)	7	87	(40)	(27)	53

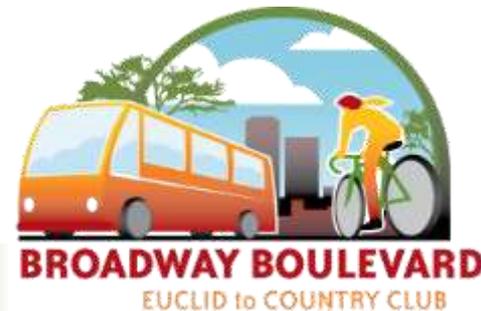


# Economic Vitality

Block-by-Block Widths of Existing Street, Right-of-Way, and Building Separation  
 Broadway Boulevard, Euclid to Country Club Road  
 REVISED JUNE 18, 2013

Block	Street to Street	Existing Street Width	Existing R/W Width	Building Separation	Option A (67' ROW)			Option B (100' ROW)			Option C (112' ROW)			Option D (118' ROW)			Option E (152' ROW)			Option F (114' ROW)			Option G (152' ROW)			Option H (146' ROW)			Option I (174' ROW)			Option J (existing ROW)			
					Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	Street Width	R/W Width	Bldg. Sep.	
<b>Base Concept Dimensions</b>																																			
West Campbell	1000E. Park to Fremont	60	70	94	15	3	27	(8)	(30)	(6)	(4)	(42)	(18)	(26)	(48)	(24)	(44)	(82)	(58)	(26)	(44)	(20)	(44)	(82)	(58)	(60)	(76)	(52)	(66)	(104)	(80)	0	0	24	
	1100E. Fremont to Santa Rita	60	70	100	15	3	33	(8)	(30)	0	(4)	(42)	(12)	(26)	(48)	(18)	(44)	(82)	(52)	(26)	(44)	(14)	(44)	(82)	(52)	(60)	(76)	(46)	(66)	(104)	(74)	0	0	30	
	1200E. Santa Rita to Mountain	60	82	±	15	15	70	(8)	(18)	37	(4)	(30)	25	(26)	(36)	19	(44)	(70)	(15)	(26)	(32)	23	(44)	(70)	(15)	(60)	(64)	(9)	(66)	(92)	(37)	0	0	55	
	1300E. Mountain to Highland	60	89	±	15	22	62	(8)	(11)	29	(4)	(23)	17	(26)	(29)	11	(44)	(63)	(23)	(26)	(25)	15	(44)	(63)	(23)	(60)	(57)	(17)	(66)	(85)	(45)	0	0	40	
	1400E. Highland to Vine	60	88	104	15	21	47	(8)	(12)	14	(4)	(24)	2	(26)	(30)	(4)	(44)	(64)	(38)	(26)	(26)	0	(44)	(64)	(38)	(60)	(58)	(32)	(66)	(86)	(60)	0	0	26	
	1500E. Vine to Cherry	60	64	100 ±	15	33	58	(8)	0	25	(4)	(12)	13	(26)	(18)	7	(44)	(52)	(27)	(26)	(14)	11	(44)	(52)	(27)	(60)	(46)	(21)	(66)	(74)	(49)	0	0	25	
	1600E. Cherry to Warren	64	78.5	104	19	12	37	(4)	(22)	4	0	(34)	(8)	(22)	(40)	(14)	(40)	(74)	(48)	(22)	(36)	(10)	(40)	(74)	(48)	(56)	(68)	(42)	(62)	(96)	(70)	0	0	26	
1700E. Warren to Martin	64	75	103.5	19	8	37	(4)	(25)	4	0	(37)	(8)	(22)	(43)	(14)	(40)	(77)	(48)	(22)	(39)	(10)	(40)	(77)	(48)	(56)	(71)	(42)	(62)	(99)	(70)	0	0	29		
*to Miles Property Line, 69' to Bldg Face																																			
East Campbell	2000E. Norris to Olsen	64	80	95	129	19	13	62	(4)	(20)	29	0	(32)	17	(22)	(38)	11	(40)	(72)	(23)	(22)	(34)	15	(40)	(72)	(23)	(56)	(66)	(17)	(62)	(94)	(45)	0	0	49
	2100E. Olsen to Plumer	64	94	144	162	19	27	95	(4)	(6)	62	0	(18)	50	(22)	(24)	44	(40)	(58)	10	(22)	(20)	48	(40)	(58)	10	(56)	(52)	16	(62)	(80)	(12)	0	0	68
	2200E. Plumer to Wilson (Algmt)	64	95	162	19	28	95	(4)	(5)	62	0	(17)	50	(22)	(23)	44	(40)	(57)	10	(22)	(19)	48	(40)	(57)	10	(56)	(51)	16	(62)	(79)	(12)	0	0	67	
	2300E. Wilson to Norton (Algmt)	64	80	137	19	13	70	(4)	(20)	37	0	(32)	25	(22)	(38)	19	(40)	(72)	(15)	(22)	(34)	23	(40)	(72)	(15)	(56)	(66)	(9)	(62)	(94)	(37)	0	0	57	
	2400E. Norton to Tucson Blvd	64	80	124	19	13	57	(4)	(20)	24	0	(32)	12	(22)	(38)	6	(40)	(72)	(28)	(22)	(34)	10	(40)	(72)	(28)	(56)	(66)	(22)	(62)	(94)	(50)	0	0	44	
	2500E. Tucson Blvd to Forgeus (Algmt)	64	80	100	152	19	13	85	(4)	(20)	52	0	(32)	40	(22)	(38)	34	(40)	(72)	0	(22)	(34)	38	(40)	(72)	0	(56)	(66)	6	(62)	(94)	(22)	0	0	72
	2600E. Forgeus to Sawtel (Algmt)	64	100	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(46)	6	(62)	(74)	(22)	0	0	52	
	2700E. Sawtel to Treat	64	100	152	19	33	85	(4)	0	52	0	(12)	40	(22)	(18)	34	(40)	(52)	0	(22)	(14)	38	(40)	(52)	0	(56)	(46)	6	(62)	(74)	(22)	0	0	52	
	2800E. Treat to Stewart	64	125	145	205	19	58	138	(4)	25	105	0	13	93	(22)	7	87	(40)	(27)	53	(22)	11	91	(40)	(27)	53	(56)	(21)	59	(62)	(49)	31	0	0	80
	2900E. Stewart to East	64	110	171	19	43	104	(4)	10	71	0	(2)	59	(22)	(8)	53	(40)	(42)	19	(22)	(4)	57	(40)	(42)	19	(56)	(36)	25	(62)	(64)	(3)	0	0	61	

SEGMENTS AND OPTIONS POSSIBLY NOT LEADING TO PROPERTY ACQUISITION  
 SEGMENTS AND OPTIONS POSSIBLY NEEDING PROPERTY ACQUISITION  
 SEGMENTS AND OPTIONS MORE LIKELY TO NEED PROPERTY ACQUISITION



# Economic Vitality

## 7a. – 7b. Change in Economic Potential

Description	<ul style="list-style-type: none"> <li>Suitability of parcels along Broadway to provide for current commercial or residential use, repurposed, or adaptive reuse, or to provide future mix of commercial and residential uses, and open space</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>Qualitative analysis by economic and other planning team members to estimate use potential of existing and remnant land</li> </ul>
Factors	<ul style="list-style-type: none"> <li>Possibly new land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li> <li>Roadway alignment and width</li> <li>Access management plan</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>Moderate</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Not at current level of design and planning (cross section width is an indicator, but in some cases remnant parcels may have more economic potential than existing parcels)</li> </ul>

# Economic Vitality

## 7c.–7d. Change in Business Revenue

Description	<ul style="list-style-type: none"> <li>• Determine current and potential amounts of revenue generated by businesses along the corridor (by segments/not parcel-specific)</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>• Analysis by economic and other planning team members               <ul style="list-style-type: none"> <li>• City data (confidentiality will be respected)</li> <li>• InfoUSA</li> <li>• Standard &amp; Poor's</li> </ul> </li> </ul>
Factors	<ul style="list-style-type: none"> <li>• Possibly new land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li> <li>• See 7a-7b Change in Economic Potential</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>• To be determined</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>• Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li> </ul>

# Economic Vitality

## 7e. – 7f. Change in Sales Tax Revenue

Description	<ul style="list-style-type: none"><li>• The amount of existing and anticipated sales tax generated from the businesses on the corridor</li></ul>
Measurement	<ul style="list-style-type: none"><li>• City collected data (confidentiality will be respected)</li><li>• Qualitative evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>• Revenues collected on businesses currently in corridor</li><li>• Anticipated revenues for businesses that would remain in corridor after construction</li><li>• Possibly new land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li><li>• Width of roadway</li><li>• Placement of alignment</li><li>• Access management plan</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li></ul>

# Economic Vitality

## 7g. – 7h. Change in Property Tax Revenue

Description	<ul style="list-style-type: none"> <li>Amount of current and anticipated future property tax generated from the properties along the corridor</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>County Assessor data</li> <li>Qualitative evaluation</li> </ul>
Factors	<ul style="list-style-type: none"> <li>New land use policy and strategic planning for the disposition of remnant parcels (not part of current project scope of work)</li> <li>Width of roadway</li> <li>Placement of alignment</li> <li>See 7a-7b Change in Economic Potential</li> </ul>
Ability to Effect	<ul style="list-style-type: none"> <li>To be determined</li> </ul>
Ability to Evaluate	<ul style="list-style-type: none"> <li>Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li> </ul>

# Economic Vitality

## 7i. Business Impacts

Description	<ul style="list-style-type: none"><li>The absolute number and size in terms of annual revenue</li></ul>
Measurement	<ul style="list-style-type: none"><li>Quantitative assessment based on InfoUSA data and alignment impact evaluation</li></ul>
Factors	<ul style="list-style-type: none"><li>Limit impacts to businesses/properties to one side of roadway at any particular location</li><li>See 7a-7b Change in Economic Potential</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li></ul>

# Economic Vitality

## 7j. Job Impacts

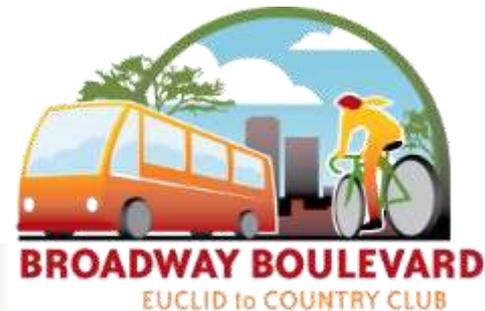
Description	<ul style="list-style-type: none"><li>• Potential change in number of jobs</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Estimate of current and potential future employment in project area (may be challenging to track given business relocations and/or job creation under various alternatives)</li></ul>
Factors	<ul style="list-style-type: none"><li>• To be determined</li><li>• See 7a-7b Change in Economic Potential</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Not at current level of design and planning (see 7a-7b Change in Economic Potential)</li></ul>

# Project Cost

8a. Construction Cost

8b. Acquisition Cost

8c. Income for Reuse of City-owned Property



STREET CROSS SECTION CONCEPT	PROJECT COST		
	8a. Construction Cost	8b. Acquisition Cost	8c. Income for Reuse of City-Owned Parcels
Existing Conditions	\$	\$	
Option 4A (67' r.o.w.) 	\$\$	\$	
Option 4B (100' r.o.w.) 	\$\$	\$\$	
Option 4C (112' r.o.w.) 	\$\$	\$\$\$	
Option 4+T A (118' r.o.w.) 	\$\$\$	\$\$\$	
Option 4+T B (152' r.o.w.) 	\$\$\$\$	\$\$\$\$	
Option 6A (114' r.o.w.) 	\$\$\$	\$\$\$	
Option 6B (152' r.o.w.) 	\$\$\$	\$\$\$\$	
Option 6+T A (146' r.o.w.) 	\$\$\$\$	\$\$\$\$	
Option 6+T B (174' row) 	\$\$\$\$\$	\$\$\$\$\$	
Option 4+T SATA (existing r.o.w.) 	\$\$\$	\$	

# Project Cost

# Project Cost

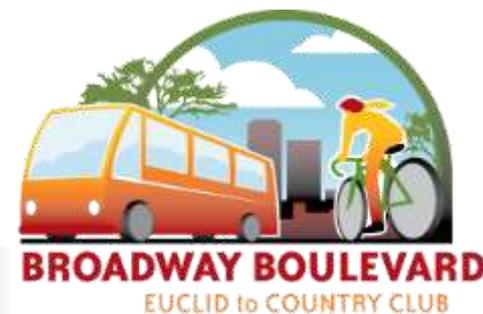
## 8a. Construction Cost

Description	<ul style="list-style-type: none"><li>• Cost of construction</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Approximate quantity takeoffs of major cost items (pavement, curb)</li><li>• Approximate typical unit costs (landscaping, bus stop/station improvements, lighting, signals)</li></ul>
Factors	<ul style="list-style-type: none"><li>• Width of roadway cross-section</li><li>• Scale and quantity of streetside improvements</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High (ROW acquisition is also a significant cost)</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Moderate at current level of design (estimates made based on cross sections)</li><li>• High as intersections and other design elements are established</li></ul>

# Performance Assessment

- 8a. Construction Cost

Extent of improvements and investment in transit facilities for dedicated transit lane options



STREET CROSS SECTION CONCEPT	PROJECT COST		
	8a. Construction Cost	8b. Acquisition Cost	8c. Income for Reuse of City-Owned Parcels
Existing Conditions	\$	\$	
Option 4A (67' r.o.w.)	\$\$	\$	
Option 4B (100' r.o.w.)	\$\$	\$\$	
Option 4C (112' r.o.w.)	\$\$	\$\$\$	
Option 4+T A (118' r.o.w.)	\$\$\$	\$\$\$	
Option 4+T B (152' r.o.w.)	\$\$\$\$	\$\$\$\$	
Option 6A (114' r.o.w.)	\$\$\$	\$\$\$	
Option 6B (152' r.o.w.)	\$\$\$	\$\$\$\$	
Option 6+T A (146' r.o.w.)	\$\$\$\$	\$\$\$\$	
Option 6+T B (174' row)	\$\$\$\$\$	\$\$\$\$\$	
Option 4+T SATA (existing r.o.w.)	\$\$\$	\$	

# Project Cost

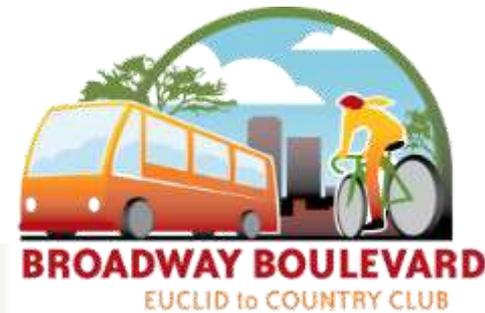
## 8b. Acquisition Cost

Description	<ul style="list-style-type: none"><li>• Cost to acquire needed ROW, including the cost of the property, relocation, and other qualified costs</li></ul>
Measurement	<ul style="list-style-type: none"><li>• Quantitative and qualitative evaluation</li><li>• Federal and State relocation requirements</li><li>• Potential return on excess/remnant ROW</li></ul>
Factors	<ul style="list-style-type: none"><li>• Number and size of property acquisitions</li><li>• Street width and alignment</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>• High</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>• Low to Moderate at current level of design and planning (estimates made based on cross sections)</li><li>• Moderate as intersections and other design elements are established, and impacts and ability to maintain use of properties can be estimated</li></ul>

# Performance Assessment

- 8b. Acquisition Cost

Width of future r.o.w. and relationship to segment by segment potential for possible acquisition



STREET CROSS SECTION CONCEPT	PROJECT COST		8c. Income for Reuse of City-Owned Parcels
	8a. Construction Cost	8b. Acquisition Cost	
Existing Conditions	\$	\$	
Option 4A (67' r.o.w.)	\$\$	\$	
Option 4B (100' r.o.w.)	\$\$	\$\$	
Option 4C (112' r.o.w.)	\$\$	\$\$\$	
Option 4+T A (118' r.o.w.)	\$\$\$	\$\$\$	
Option 4+T B (152' r.o.w.)	\$\$\$\$	\$\$\$\$	
Option 6A (114' r.o.w.)	\$\$\$	\$\$\$	
Option 6B (152' r.o.w.)	\$\$\$	\$\$\$\$	
Option 6+T A (146' r.o.w.)	\$\$\$\$	\$\$\$\$	
Option 6+T B (174' row)	\$\$\$\$\$	\$\$\$\$\$	
Option 4+T SATA (existing r.o.w.)	\$\$\$	\$	

# Project Cost

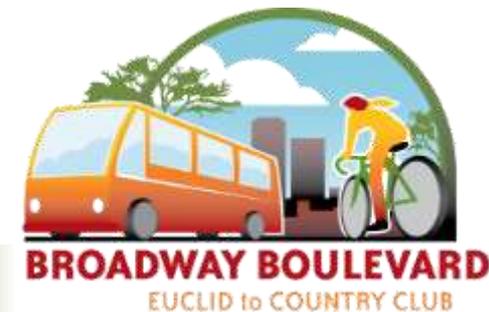
## 8c. Income for Reuse of City-Owned Parcels

Description	<ul style="list-style-type: none"><li>Income from sale or lease of remnant City-owned properties not needed for the project</li></ul>
Measurement	<ul style="list-style-type: none"><li>Qualitative and quantitative analysis by economic and other planning team members to estimate use potential of existing and remnant land</li></ul>
Factors	<ul style="list-style-type: none"><li>See 7a-7b Change in Economic Potential</li></ul>
Ability to Effect	<ul style="list-style-type: none"><li>To be determined</li></ul>
Ability to Evaluate	<ul style="list-style-type: none"><li>Not at current level of design and planning</li><li>Moderate at future point in design and planning</li><li>See 7a-7b Change in Economic Potential</li></ul>

# Performance Assessment

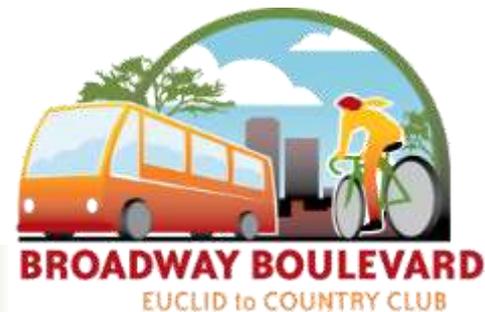
- 8c. Income for Reuse of City-Owned Parcels
  - Requires assessment of Economic Potential which cannot be done at current level of design

STREET CROSS SECTION CONCEPT	PROJECT COST		8c. Income for Reuse of City-Owned Parcels
	8a. Construction Cost	8b. Acquisition Cost	
Existing Conditions	\$	\$	
Option 4A (67' r.o.w.)	\$\$	\$	
Option 4B (100' r.o.w.)	\$\$	\$\$	
Option 4C (112' r.o.w.)	\$\$	\$\$\$	
Option 4+T A (118' r.o.w.)	\$\$\$	\$\$\$	
Option 4+T B (152' r.o.w.)	\$\$\$\$	\$\$\$\$	
Option 6A (114' r.o.w.)	\$\$\$	\$\$\$	
Option 6B (152' r.o.w.)	\$\$\$	\$\$\$\$	
Option 6+T A (146' r.o.w.)	\$\$\$\$	\$\$\$\$	
Option 6+T B (174' row)	\$\$\$\$\$	\$\$\$\$\$	
Option 4+T SATA (existing r.o.w.)	\$\$\$	\$	

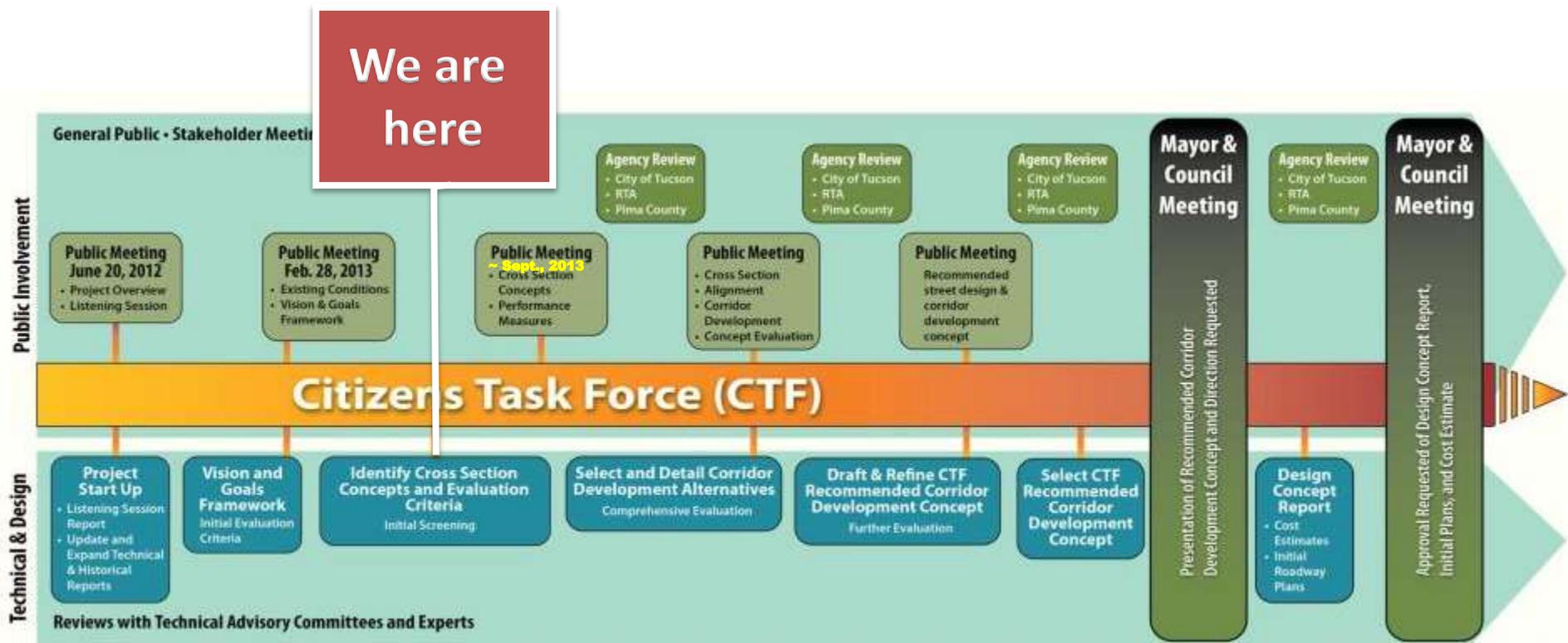


# Considerations for September Public Meeting #3

**Jenn Toothaker, Project Manager**  
City of Tucson Department of Transportation



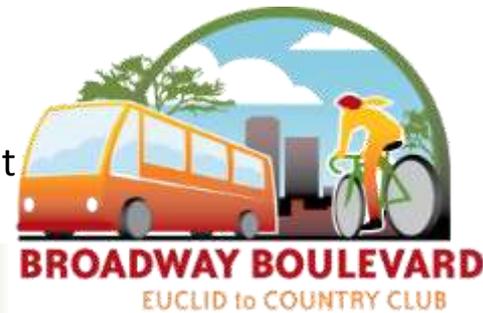
# Broadway's Planning & Design Phase



9±  
Design  
Concepts

3±  
Design  
Concepts  
+  
Alignment  
Variations

1  
Design  
Concept  
and  
Alignment



# Initial Discussion of Public Meeting #3

## September 5, 2013

### Public Meeting Agency Review

- Design Concepts
- Performance Measures
- Assessment

### 2-3 CTF Meetings

Drafting and refinement

### UNDERSTANDING OF TRADE-OFFS IN RELATION TO VISION & GOALS

- What is desired emphasis?
- What is the desired balance?

## Task-Related Goals:

- Present Initial Draft Cross Sections and Performance Measures
- Obtain public input on:
  - Cross-sections to move into next task/analysis
  - Performance measures/evaluation criteria

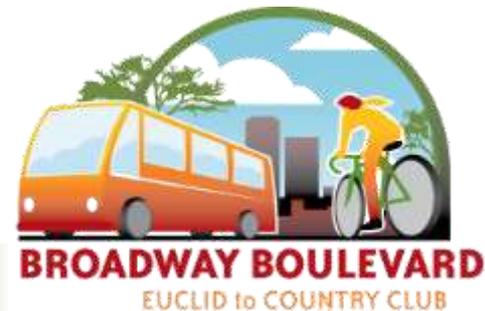


# Initial Discussion of Public Meeting #3

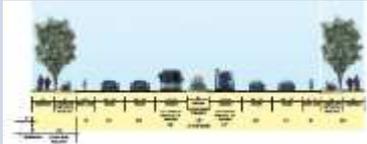
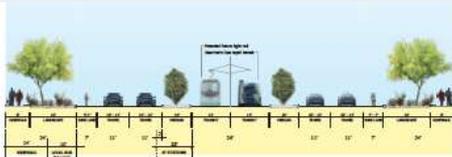
## September 5, 2013

### Distilling Concepts, Performance Measures, and Assessments

- Cross Section Concepts
  - Focus on 4 functional families with variations on organization and design of elements within the functional families
- Performance Measures
  - Compile some into combined measures



# Distilling Cross Section Concepts

4 Lanes	4 Lanes plus Transit Lanes	6 Lanes	6 Lanes plus Transit Lanes
<p>Option 4A (67' r.o.w.)</p> 	<p>Option 4+T A (118' r.o.w.)</p> 	<p>Option 6A (114' r.o.w.)</p> 	<p>Option 6+T A (142' r.o.w.)</p> 
<p>Option 4B (100' r.o.w.)</p> 	<p>Option 4+T B (152' r.o.w.)</p> 	<p>Option 6B (152' r.o.w.)</p> 	<p>Option 6+T B (174' r.o.w.)</p> 
<p>Option 4C (112' r.o.w.)</p> 	<p>Option 4+T SATA (existing r.o.w.)</p> 		

# Distilling Performance Measures

## CTF Assessment of Initial Concepts

## Present at Public Workshop

### Pedestrian Access and Mobility

- 1a. Functionality of Streetside for Pedestrian Activity
- 1b. Separation from Vehicular Traffic
- 1c. Pedestrian-Oriented Facilities or Improvements
- 1e. Pedestrian Crossings
- 1f. Vehicle/Pedestrian Conflicts at Driveways

### Pedestrian Access and Mobility

### Bicycle Access and Mobility

- 2a. Separation of Bikes and Arterial Traffic
- 2b. Bike Conflicts with Crossing Vehicles
- 2e. Bike Facility Improvements
- 2h. Bike Crossings

### Bicycle Access and Mobility

### Transit Access and Mobility

- 3b. Transit Stop Facilities
- 3c. Corridor Travel Time
- 3d. Schedule Adherence
- 3f. Accommodation of Future High Capacity Transit

### Transit Access and Mobility

### Vehicular Access and Mobility

- 4a. Movement of Through Traffic

### Vehicular Through Movement

# Distilling Performance Measures

## CTF Assessment of Initial Concepts

## Present at Public Workshop

### Sense of Place

- 5a. Historic Resources
- 5a'. Significant Resources
- 5b. Visual Quality
- 5d. Gateway to Downtown
- 5f. Walkable Community
- 5g. Certainty

- Historic and Significant Resources
- Visual Quality
- Long Term Certainty

### Environmental / Public Health

- 6c. Heat Island
- 6d. Water Harvesting
- 6e. Walkability/Bikability

- Heat Island and Water Harvesting
- Walkability/Bikability

### Economic Vitality

### Project Cost

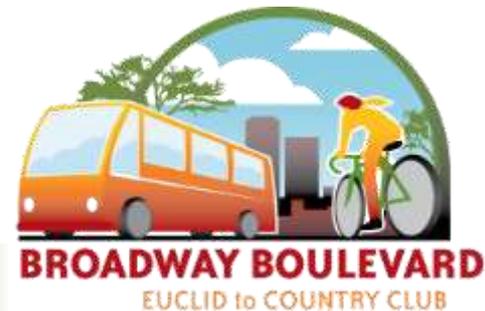
- 8a. Construction Cost
- 8b. Acquisition Cost

- Project Cost

# Initial Discussion of Public Meeting #3

## September 5, 2013

- Are there any specific ideas about you have about:
  - CTF roles in the event?
  - Format of the event or table activities?
  - Overall content and discussion?



# Call to the Audience

10 Minutes

**Please limit comments to 3 minutes**

- Called forward in order received
- CTF members cannot discuss matters raised
- CTF cannot take action on matters raised
- CTF members can ask project team to review an item

# Next Steps/Roundtable

*Jenn Toothaker*

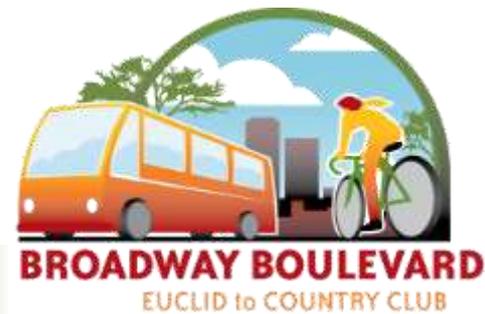
- Schedule Leading up to Public Meeting
  - July 25
    - Informational Presentations
      - Update on Downtown Links and Ronstadt Transit Center
    - Continued Discussion of cross sections, performance assessments
    - Potential endorsement of content for September Public Meeting
    - Discussion/Endorsement of September Public Meeting Format
  - Is there a need for an additional meeting?

# Next Steps/Roundtable

- Set an additional CTF Meeting
  - Options:
    - CTF Meeting in early August, Public Meeting in September
    - CTF Meeting in late August or early September, Public Meeting in late September or October

July 25, 2013	#17 (Action Mtg.) – Stakeholder Agency Review, and Finalize initial cross sections and performance assessment for public review
September 5, 2013	Public Meeting #3 – Potential cross sections and performance measures/assessment
September 30, 2013 Monday p.m. Charrette	#18 (Action Mtg.) – Review Input from Public Mtg. #3, Start identification of Street Cross Section, Alignment, and Corridor Development Options
October 3, 2013 Thursday p.m. Charrette	#19 (Action Mtg.) – 2ND MEETING to finalize Street Cross Section, Alignment, and Corridor Development Options
October and November 2013	<i>Design development and evaluation</i>
December 5, 2013	#20 (Action Mtg.) – Street Design Concepts and Public Participation, direction on refinements
December 2013 and early January 2014	<i>Design refinements and analysis; prepare for Stakeholder Review</i>
January and February 2014	Stakeholder Agency Review #2 – details TBD
February 27, 2014	#21 (Action Mtg.) – Finalize for public presentation
March 20, 2014	Public Meeting #4 – Cross section, alignment, and corridor development concepts; performance evaluation; and preferred design approach
April 3, 2014	#22 (Action Mtg.) – Public Input and Street Design and Corridor Development Concept
April 14, 2014* Monday Charrette	#23 (Action Mtg.) – CTF Draft Recommended Street Design and Corridor Development Concept  * Denotes that this date is Passover holiday (could move these paired meetings to 4/15 and 4/18)
April 17, 2014 Charrette	#24 (Action Mtg.) – 2ND MEETING to finalize CTF Draft Recommended Street Design and Corridor Development Concept
mid-April, May, and mid-June 2014	<i>Detail and evaluate draft recommended concept</i>
June 19, 2014	#25 (Action Mtg.) – CTF Draft Recommended Street Design and Corridor Development Concept Evaluation
June and July 2014	Stakeholder Agency Review #3 – details TBD
August 7, 2014	#26 (Action Mtg.) – Finalize for public workshop
September 4, 2014	Public Meeting #5 – Draft Recommended Street Design and Corridor Development Concept Evaluation
September 22, 2014, Monday Charrette	#27 (Action Mtg.) – CTF Recommended Broadway Design Concept (NOTE: in earlier scheduling this had been in October)
September 25, 2014 Charrette	#28 (Action Mtg.) – 2ND MEETING CTF Recommended Broadway Design Concept
October 9, 2014	#29 (Action Mtg.) – Finalize CTF Recommended Broadway Design Concept
Late-Oct or November, 2014	Mayor and Council Hearing – Action on CTF Recommended Broadway Design Concept

# CTF Next Steps / Roundtable



# Thank You for Coming – Please Stay in Touch!

## Broadway: Euclid to Country Club

Web: [www.tucsonaz.gov/broadway](http://www.tucsonaz.gov/broadway)

Email: [broadway@tucsonaz.gov](mailto:broadway@tucsonaz.gov)

Info Line: 520.622.0815

## RTA Plan

[www.rtamobility.com](http://www.rtamobility.com)

