

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

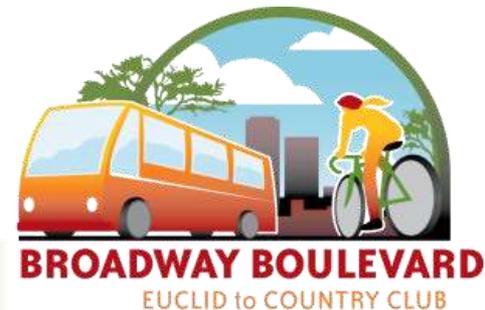


BROADWAY BOULEVARD

EUCLID to COUNTRY CLUB

Meeting Agenda

1. Call to Order/Agenda Review/Announcements
2. 1st Call to the Audience *15 min*
3. Approval of Meeting Summary: April 18, 2013 *5 min*
4. Confirm CTF Meeting Dates through Charrette #2 (September/October 2013) *5 min*
5. Public Input Report, and Reports on Project Presentations & Outreach *10 min*
6. Draft “Transportation” Performance Measures including Related Qualitative Assessment of Example Cross Section Concepts *55 min*
7. Initial Cross Section Concepts *70 min*
8. 2nd Call to the Audience *15 min*
9. Next Steps/CTF Roundtable *10 min*
10. Adjourn



CTF Charrette Approach

- **Charrette** – *an intensive and focused series of meetings and working sessions to advance major work items for Broadway Boulevard*
- This week's charrette is mainly a planning charrette not a heavily design-oriented charrette
- We do not plan to use small group or interactive working sessions
- We will focus on facilitated discussions and decision-making with the full CTF as a group

CTF Charrette Approach

- Tonight is focused on discussion and refinement of
 - Draft Transportation Performance Measures
 - Draft Example Cross Section Concepts
- Wednesday and Thursday the Planning Team will
 - Make revisions to the Performance Measures and Example Cross Section Concepts
 - Prepare some initial assessments based on the Performance Measures

CTF Charrette Approach

- Thursday night is focused on discussion and refinement of
 - Draft **Non**-Transportation Performance Measures
 - Updated Transportation Performance Measures
 - Initial assessments of updated Example Cross Section Concepts
- Thursday, May 30th CTF Meeting will finalize a set of work products for Stakeholder Agency review and comment:
 - Draft Transportation and Non-Transportation Performance Measures
 - Example Cross Section Concepts
 - Initial assessment of Cross Section Concepts

Call to the Audience

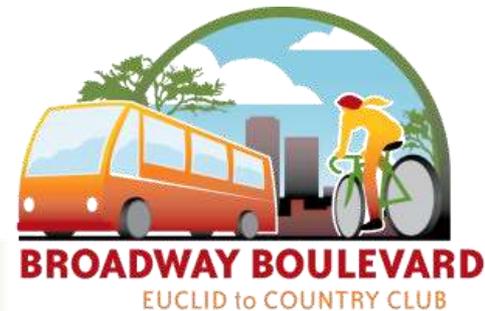
15 Minutes

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

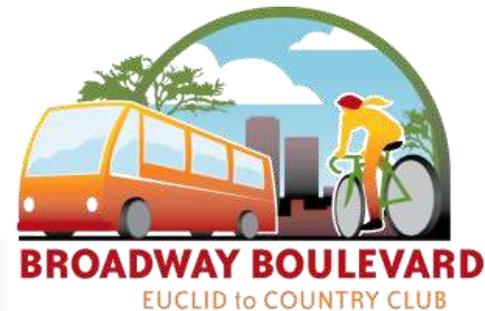
Approval of Meeting Summary: 4/18/2013 Meeting

Jenn Toothaker, Project Manager
City of Tucson Department of Transportation



Confirm CTF Meeting Dates through Charrette #2 (September/October 2013)

Jenn Toothaker, Project Manager
City of Tucson Department of Transportation



Confirm CTF Meeting Dates

BASE SCHEDULE – Meeting dates marked with an “*” are set; those without are tentative until finalized with CTF and project team.	
May 21, 2013* Tuesday p.m. Charrette	#13 (Action Mtg.) – Transportation analysis comment response, transportation performance measures, and initial example cross sections
May 23, 2013* Thursday p.m. Charrette	#14 (Action Mtg.) – Non-transportation performance measures, initial example cross sections, and update on transportation performance measures
May 30, 2013*	#15 (Action Mtg.) – Finalize initial cross sections and performance measures for Stakeholder Agency review
June and later	Stakeholder Agency Review #1: <ul style="list-style-type: none"> • Mayor & Council – June Study Session • RTA Tech/Mgmt Committee – TBD; possibly July/Aug. • RTA CART Committee – TBD; possibly July/Aug. • RTA Board – TBD, possibly August/September • Pima Co. Bond Advisory – No meeting until Sept.
June 20, 2013	#16 (Study Session Mtg.) – update on Stakeholder Agency Review to date, 3 informational presentations
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
Dates from this point on are tentative and are subject to change	
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

Review Public Input Report

Jenn Toothaker

The image shows a screenshot of a spreadsheet titled "BROADWAY BOULEVARD EUCLID TO COUNTRY CLUB PUBLIC INPUT REPORT". The spreadsheet has columns for "Date", "Author", "Organization", "Project", "Issue", "Comments", "Status", "Response", and "Date". The rows contain various public input entries, including comments from "City of Tucson", "Pima County", and "Broadway Boulevard Euclid to Country Club".

Public Input Report consists of a spreadsheet and attachments:

- **Spreadsheet** = Input received from 4/9/2013-5/8/2013
- **Attachments** = Documentation of only new input received

Reports: Past and Upcoming Project Presentations & Outreach

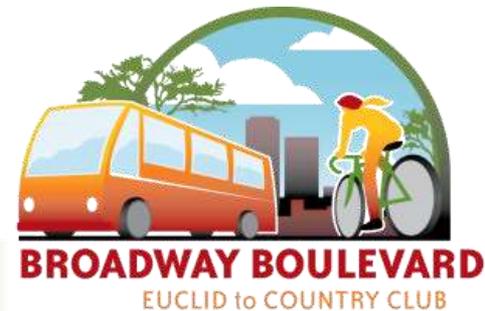
Jenn Toothaker, Project Manager
City of Tucson Department of Transportation



Reports: Past and Upcoming Project Presentations & Outreach

- May 16, 2013 RTA Technical Management Committee
- May 22, 2013 RTA CART Meeting

Jenn Toothaker, Project Manager
City of Tucson Department of Transportation



Draft “Transportation” Performance Measures Including Related Qualitative Assessment of Example Sections

Phil Erickson

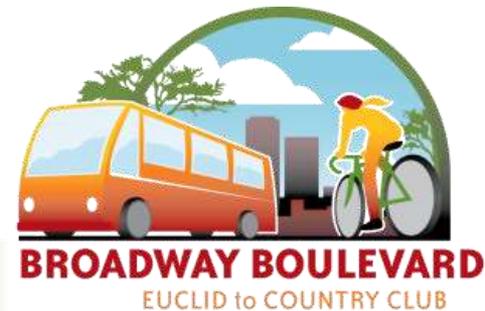
Community Design + Architecture

Mike Johnson

HDR Engineering

Jim Schoen

Kittelson & Associates



Transportation Performance Measures

- Agenda for this item:
 - Overview of Performance Measures
 - Review of Transportation Performance Measures
 - CTF discussion of refinements, alternatives, additional issues to measure, etc.

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

Overview Performance Measures

- Tonight focuses on potential Transportation Measures organized by topic areas
 - Pedestrian access and mobility
 - Bicycle access and mobility
 - Transit access and mobility
 - Vehicular access and mobility

Overview Performance Measures

- Thursday we will discuss potential Non-Transportation Measures organized by topic areas
 - Sense of Place
 - Environment/Public Health
 - Economic Vitality
 - Project Cost

Assessment of Example Cross Section Concepts

- At this level of design development most assessment will be qualitative
- Impacts related to alignment cannot be fully evaluated as alignment is not included in design concepts at this point. But future width allows for some qualitative comparisons.
- We plan on assessment report out being similar to the following—

Assessment of Example Cross Section Concepts

Cross Section Concept	Perf. Measure 1	Perf. Measure 2	Perf. Measure 3	Cost Comparison
	● ● ●	●	○	\$
	● ●	○	● ● ●	\$\$
	○	●	● ● ●	\$\$\$
	● ●	● ●	○	\$\$\$

Legend



Best Performance



Neutral



Worst Performance



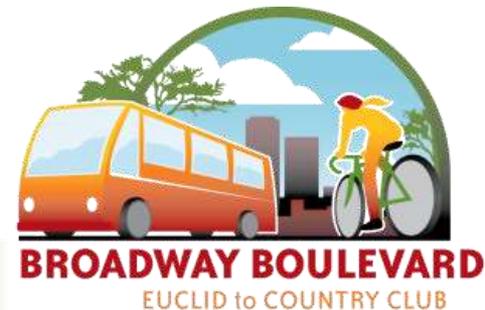
Highest Cost



Lowest Cost

CTF Discussion

- Initial discussion will occur for each of the 4 topic areas covering 2 to 3 performance measures
- Followed by overall discussion of potential additional measures, refinements, etc.



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

Pedestrian Access and Mobility

1a. Functionality of Streetside for Pedestrian Activity

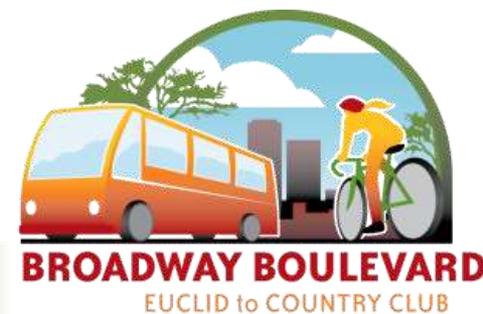
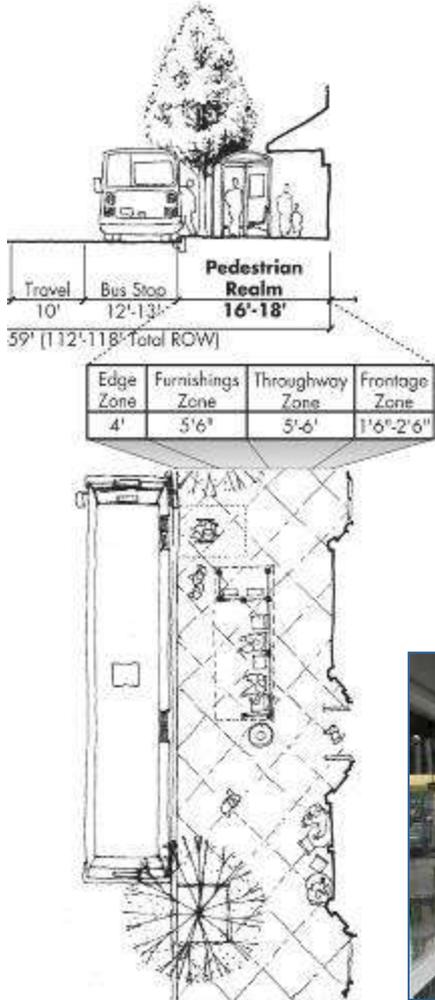
Description	<ul style="list-style-type: none">• Is there enough width to support desired activity, landscaping, street furnishings and other improvements
Measurement	<ul style="list-style-type: none">• Meet or exceed ITE Walkable Thoroughfare Manual guidance
Factors	<ul style="list-style-type: none">•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

Pedestrian Access and Mobility

1b. Separation from Vehicular Traffic

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

Functionality of Streetside for Pedestrian Activity



Pedestrian Access and Mobility

1c. Pedestrian-oriented Facilities or Improvements

Description	<ul style="list-style-type: none">• Extent of shade, lighting, seating, drinking fountains and other features to serve pedestrian needs and provide for visual interest
Measurement	<ul style="list-style-type: none">• % shade, lighting levels and consistency, number/frequency of design features• Qualitative evaluation
Factors	<ul style="list-style-type: none">• Provision for and increase in number of features
Ability to Effect	<ul style="list-style-type: none">• 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.
Ability to Evaluate	<ul style="list-style-type: none">• Moderate at this level of design• 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

Pedestrian Access and Mobility

1d. Walkable Network/Neighborhood Connections

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

Pedestrian Access and Mobility

1e. Pedestrian Crossings

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

Pedestrian Access and Mobility

1f. Vehicle/Pedestrian Conflicts at Driveways

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

Pedestrian Access and Mobility

1g. Universal Design

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

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

Bicycle Access and Mobility

- 2a. Separation of Bikes and Arterial Traffic
- 2b. Bike Conflicts with Crossing Vehicles (note this is revised since CTF hand out)
- 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

2a. Separation of Bikes and Arterial Traffic

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

Bicycle Access and Mobility

2b. Bike Conflicts with Crossing Vehicles (note this is revised since CTF hand out, and includes the 2c perf. measure)

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

Bicycle Access and Mobility

2d. Pavement Condition

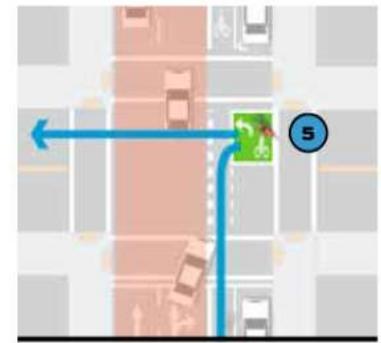
Description	<ul style="list-style-type: none">• Smooth pavement is a priority for bicyclist comfort
Measurement	<ul style="list-style-type: none">• Input from TDOT and Bicycle Advisory Committee• Best practice guidance, possibly including NACTO Bike Guide
Factors	<ul style="list-style-type: none">• Concrete with proper joint design versus asphalt
Ability to Effect	<ul style="list-style-type: none">• High
Ability to Evaluate	<ul style="list-style-type: none">• Low to none• 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

Bicycle Access and Mobility

2e. Bike Facility Improvements

Description	<ul style="list-style-type: none"> • Extent of bike racks, shade, drinking fountains, green pavement (bike boxes, etc.) and other features to serve bicyclists needs
Measurement	<ul style="list-style-type: none"> • % shade, number/frequency of design features • Qualitative evaluation
Factors	<ul style="list-style-type: none"> • Increase in number of features
Ability to Effect	<ul style="list-style-type: none"> • 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.
Ability to Evaluate	<ul style="list-style-type: none"> • Moderate at this level of design • 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

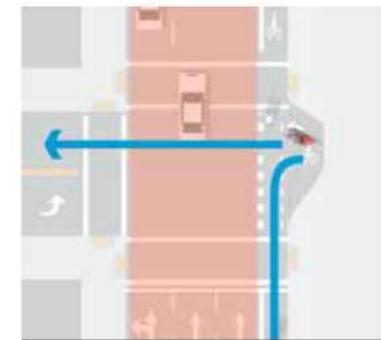
Bike Facility Improvements



Parking Lane Configuration



Crosswalk Setback Configuration
Wider corner radii, set back pedestrian crossing, and/or narrowed bikeway space, provides opportunity for queue box.



T-Intersection "Jughandle" Sidewalk Configuration

Bicycle Access and Mobility

2f. Bike Network Connections

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

Bicycle Access and Mobility

2g. Corridor Travel Time

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

Bicycle Access and Mobility

2h. Bike Crossings

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

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

3a. Distance to Transit

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

Transit Access and Mobility

3b. Transit Stop Facilities

Description	<ul style="list-style-type: none">• Design qualities of transit stops can support transit use
Measurement	<ul style="list-style-type: none">• % shade, lighting levels and consistency, number/frequency of other design features• Qualitative evaluation by designers and users
Factors	<ul style="list-style-type: none">• Provision for and increase in number of features
Ability to Effect	<ul style="list-style-type: none">• High
Ability to Evaluate	<ul style="list-style-type: none">• Low at this level of design, right of way could be increased at transit stops to provide space for facilities• 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

Transit Access and Mobility

3c. Corridor Travel Time

Description	<ul style="list-style-type: none">• Time for traveling the length of the corridor affects transit ridership
Measurement	<ul style="list-style-type: none">• VISSIM results accounting for signal timing, transit priority treatments, traffic delay, merges, and boarding time at transit stops
Factors	<ul style="list-style-type: none">• Dedicated lanes, transit priority treatments at intersections, level boarding, off-vehicle ticketing, and other measures
Ability to Effect	<ul style="list-style-type: none">• Moderate to High
Ability to Evaluate	<ul style="list-style-type: none">• Low to Moderate at current level of design (presence of transit only lanes)• Other factors require higher level of design and commitments from Sun Tran

Transit Access and Mobility

3d. Schedule Adherence

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

Transit Access and Mobility

3e. Frequency and Hours of Service

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

Transit Access and Mobility

3f. Accommodation of Future High Capacity Transit

Description	<ul style="list-style-type: none">• 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• Also affects long term viability of the design concept, see 5g Certainty
Measurement	<ul style="list-style-type: none">• Provision of dedicated transit lanes• Roadside or median width allows for future transit improvements
Factors	<ul style="list-style-type: none">• Provision of dedicated transit lanes• Roadside or median width allows for future transit improvements
Ability to Effect	<ul style="list-style-type: none">• High
Ability to Evaluate	<ul style="list-style-type: none">• Low to Moderate at this level of design<ul style="list-style-type: none">• Provision of dedicated lanes• Right of way could be increased at transit stops to provide space for facilities• Design does not currently include details of intersection design

Transit Access and Mobility

3g. Riders per Vehicle

Description	<ul style="list-style-type: none"> • 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)
Measurement	<ul style="list-style-type: none"> • Average daily rider per transit vehicle • Average riders per peak hour transit vehicle • Using transportation model and transit service assumptions
Factors	<ul style="list-style-type: none"> • Other transit performance measures that effect transit ridership and service efficiencies • Service planning by Sun Trans
Ability to Effect	<ul style="list-style-type: none"> • Low to Moderate
Ability to Evaluate	<ul style="list-style-type: none"> • Cannot be measured at current level of design

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

Vehicular Access and Mobility

4a. Movement of Through Traffic

Description	<ul style="list-style-type: none">• 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.
Measurement	<ul style="list-style-type: none">• Using VISSIM modeling can measure:<ul style="list-style-type: none">• Average corridor travel time• Average speed• Average 95 percentile queue length• Average delay Average corridor travel time• Volume to Capacity Ratio (V/C)• Travel time reliability
Factors	<ul style="list-style-type: none">• Number of traffic lanes• Signal design• Intersection design• Access management• Transit service design
Ability to Effect	<ul style="list-style-type: none">• High
Ability to Evaluate	<ul style="list-style-type: none">• Moderate at current level of design as only number of traffic lanes and presence of transit only lanes are defined

Vehicular Access and Mobility

4b. Intersection Delay – Overall Intersection Performance

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

Vehicular Access and Mobility

4b. Intersection Delay – Worst Movement

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

Vehicular Access and Mobility

4d. Accident Potential

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

Vehicular Access and Mobility

4e. Lane Continuity

Description	<ul style="list-style-type: none">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
Measurement	<ul style="list-style-type: none">Analyze performance of lane reductions using VISSIMCompare with performance of similar lane reductions in Tucson
Factors	<ul style="list-style-type: none">Number and design of lane drop locations
Ability to Effect	<ul style="list-style-type: none">High
Ability to Evaluate	<ul style="list-style-type: none">Low to None, currently design concepts do not propose additional through lanes at intersections

Vehicular Access and Mobility

4f. ~~Persons per Vehicle or~~ Person Trips for multiple measures

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

CTF Discussion

- Overall summary discussion of potential additional measures, refinements, etc.

Initial Cross Section Concepts

Phil Erickson

Community Design + Architecture

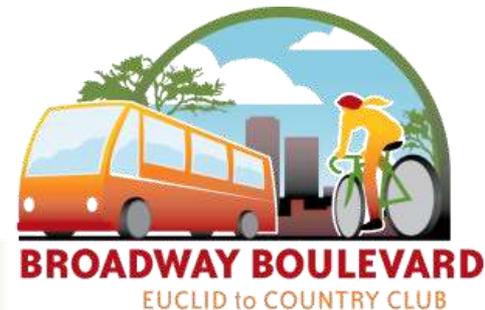
Mike Johnson

HDR Engineering



Initial Cross Section Concepts

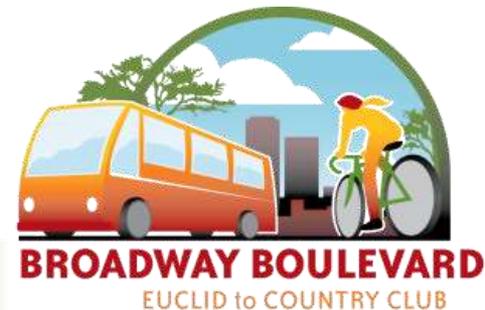
- Exploring range of potential design solutions based on community input to date
- Five “families” of concepts based on number and function of travel lanes
- Range of types and widths of roadway, roadside, and landscape element “cards”
- To be used in initial evaluations and next round of public and stakeholder agency review and comment



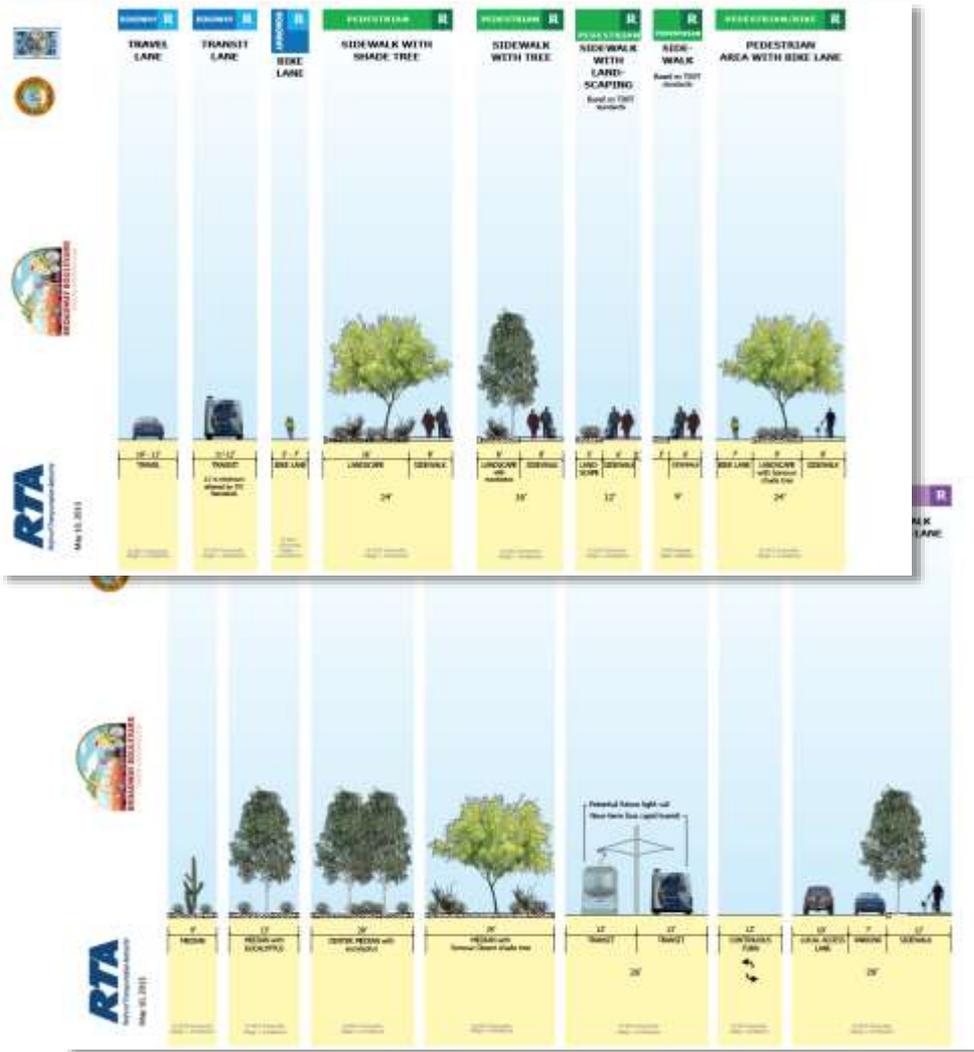
Initial Cross Section Concepts

- Agenda for this item:
 - Overview of section cards
 - CTF discussion of section cards

 - Overview of initial concepts
 - CTF discussion of other options, issues, etc.

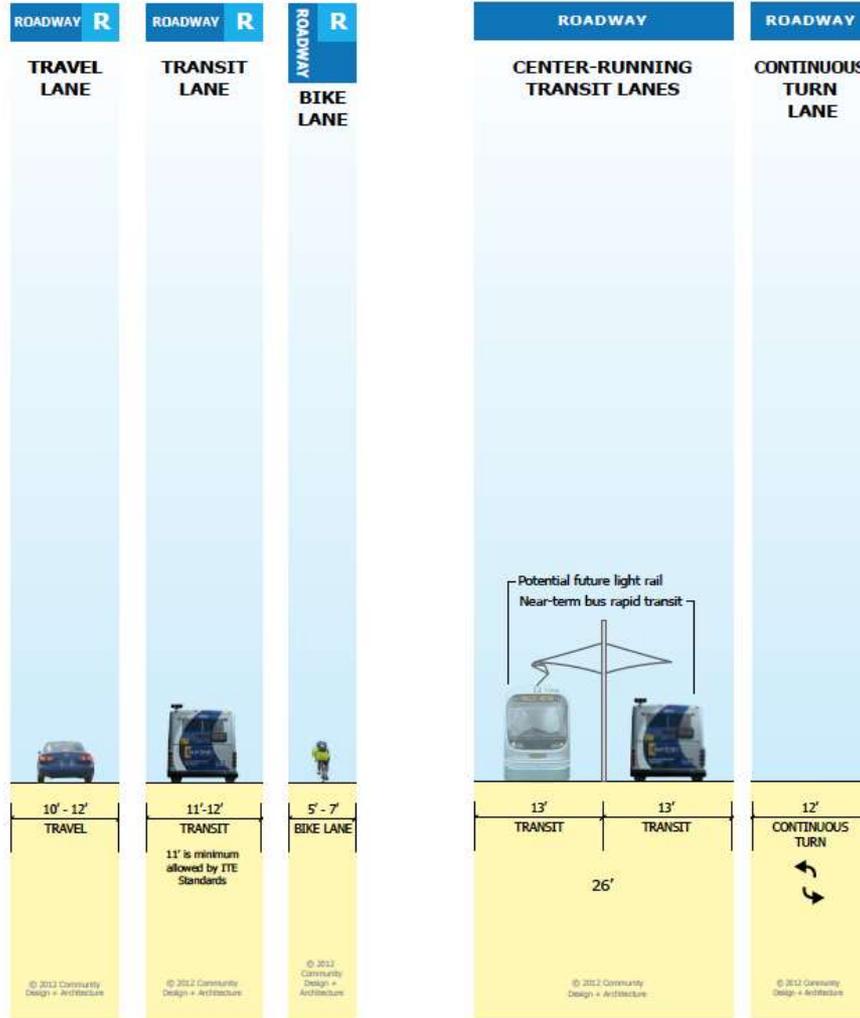


Cross Section Cards

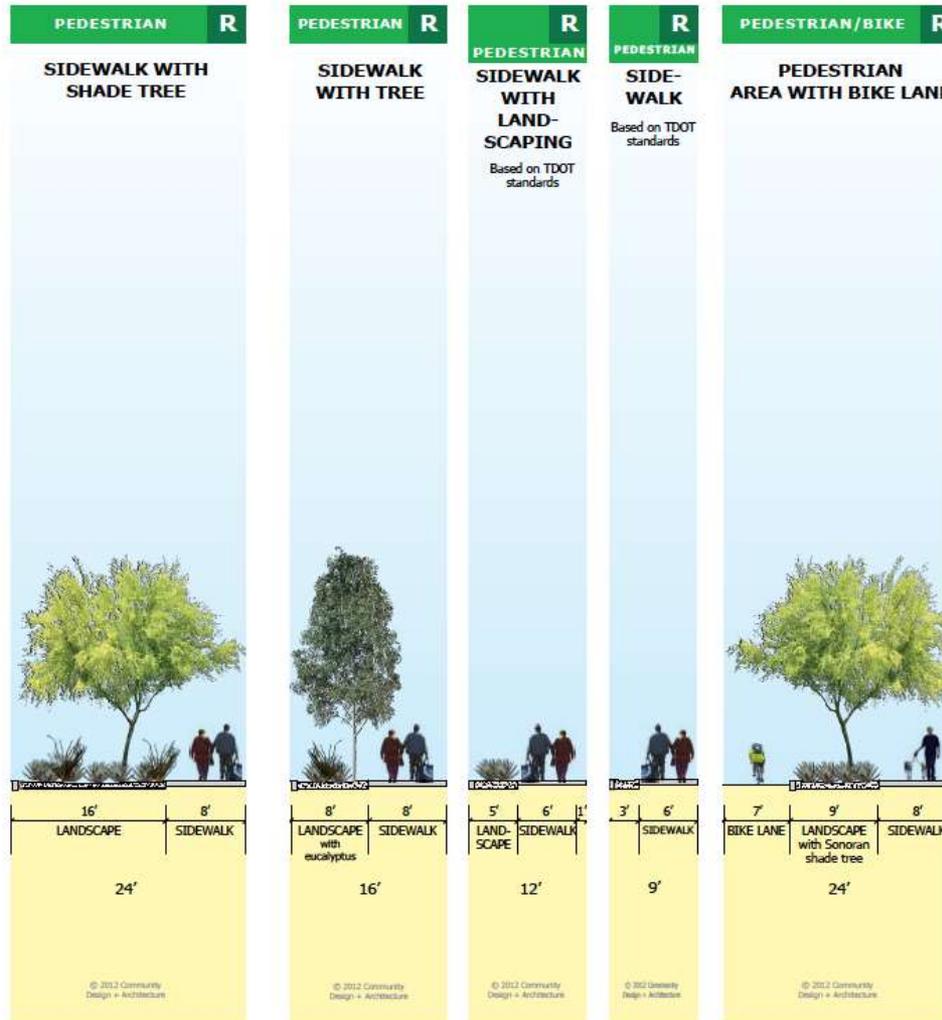


- Roadway lanes
- Sidewalk and associated landscaping
- Medians
- Local access lane, sidewalk, and landscaping

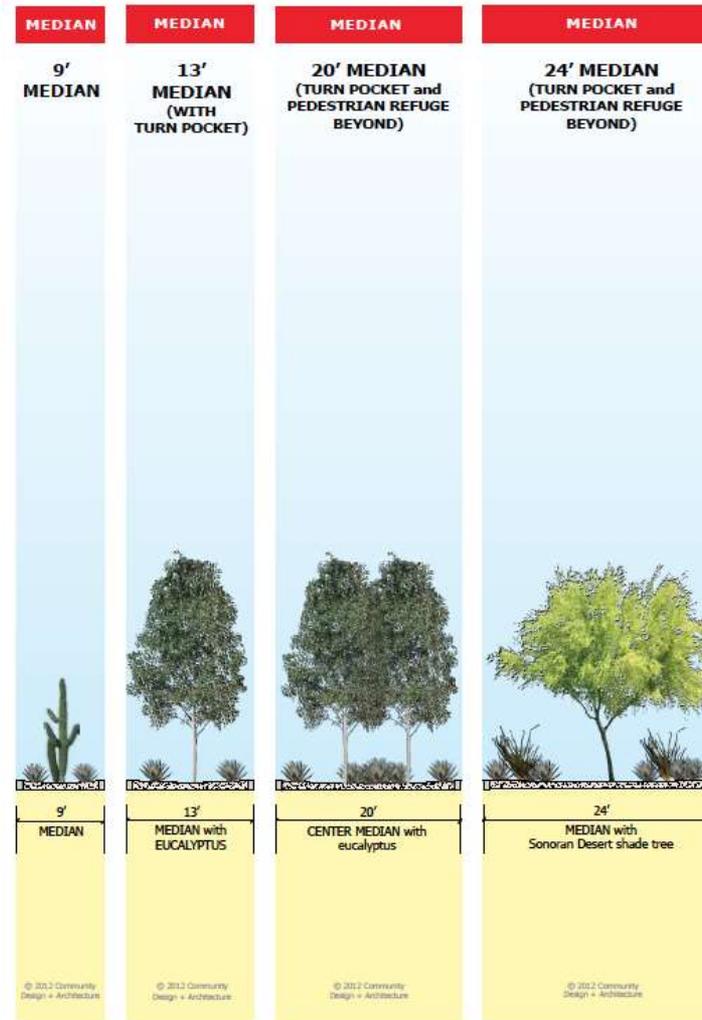
Roadway Lanes



Sidewalks & Associated Landscaping



Medians

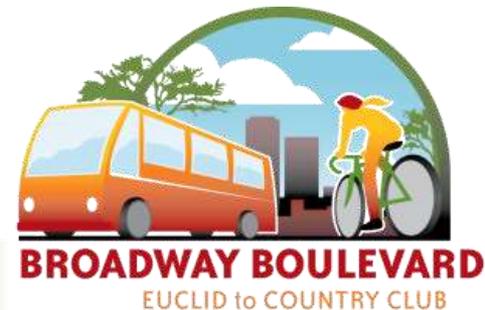


Local Access Lane



“Families” of Cross Sections

- Four lane
- Four lane plus transit lanes
- Six lane
- Six lane plus transit lanes
- Local access lanes

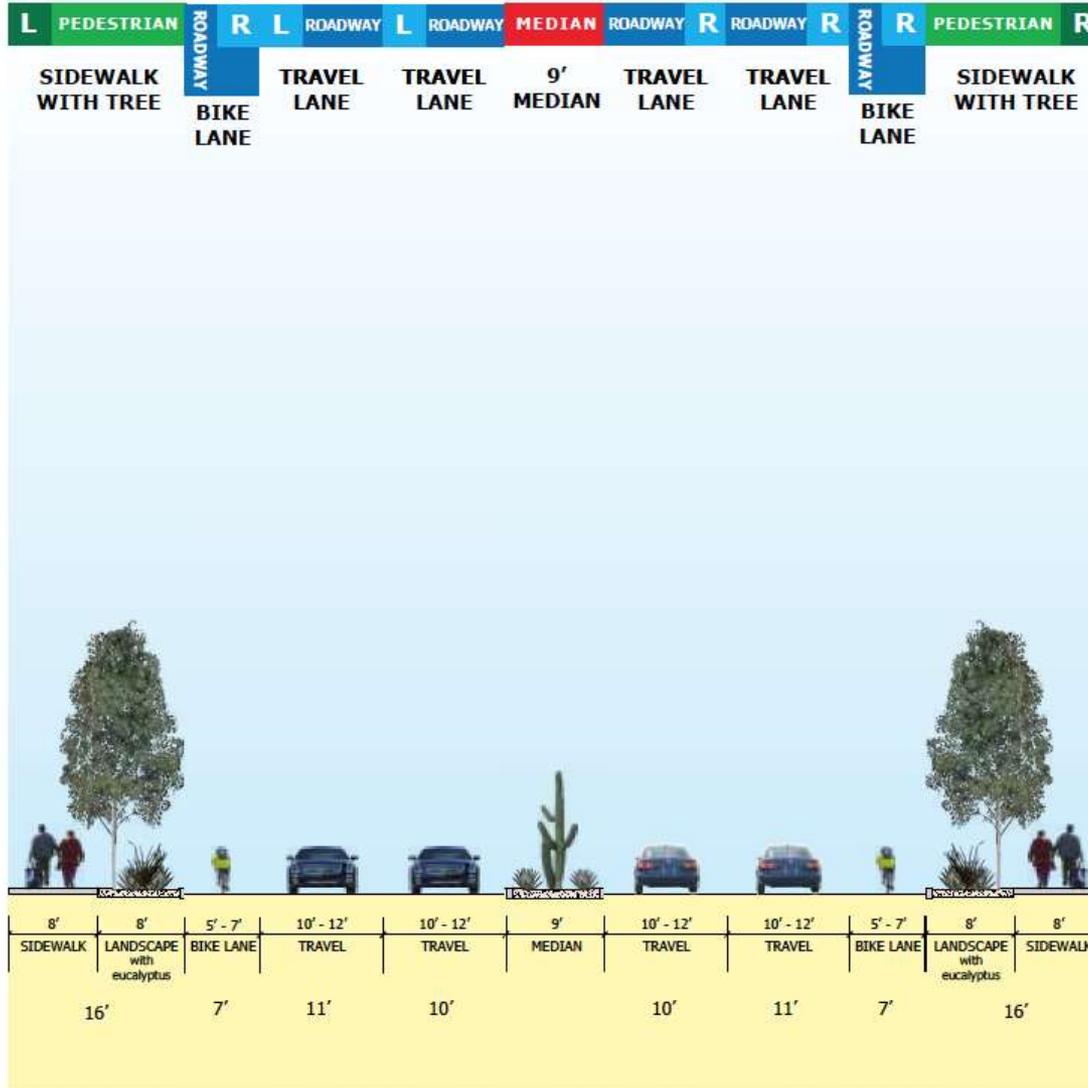


“Families” of Cross Sections

- Dimension range for Cross Section Families
 - Four lane 92 to 130 feet
 - Four lane plus transit lanes 116 to 154 feet
 - Six lane 114 to 152 feet
 - Six lane plus transit lanes 138 to 172 feet
 - Local access lanes 118 to 166 feet

Four Lane

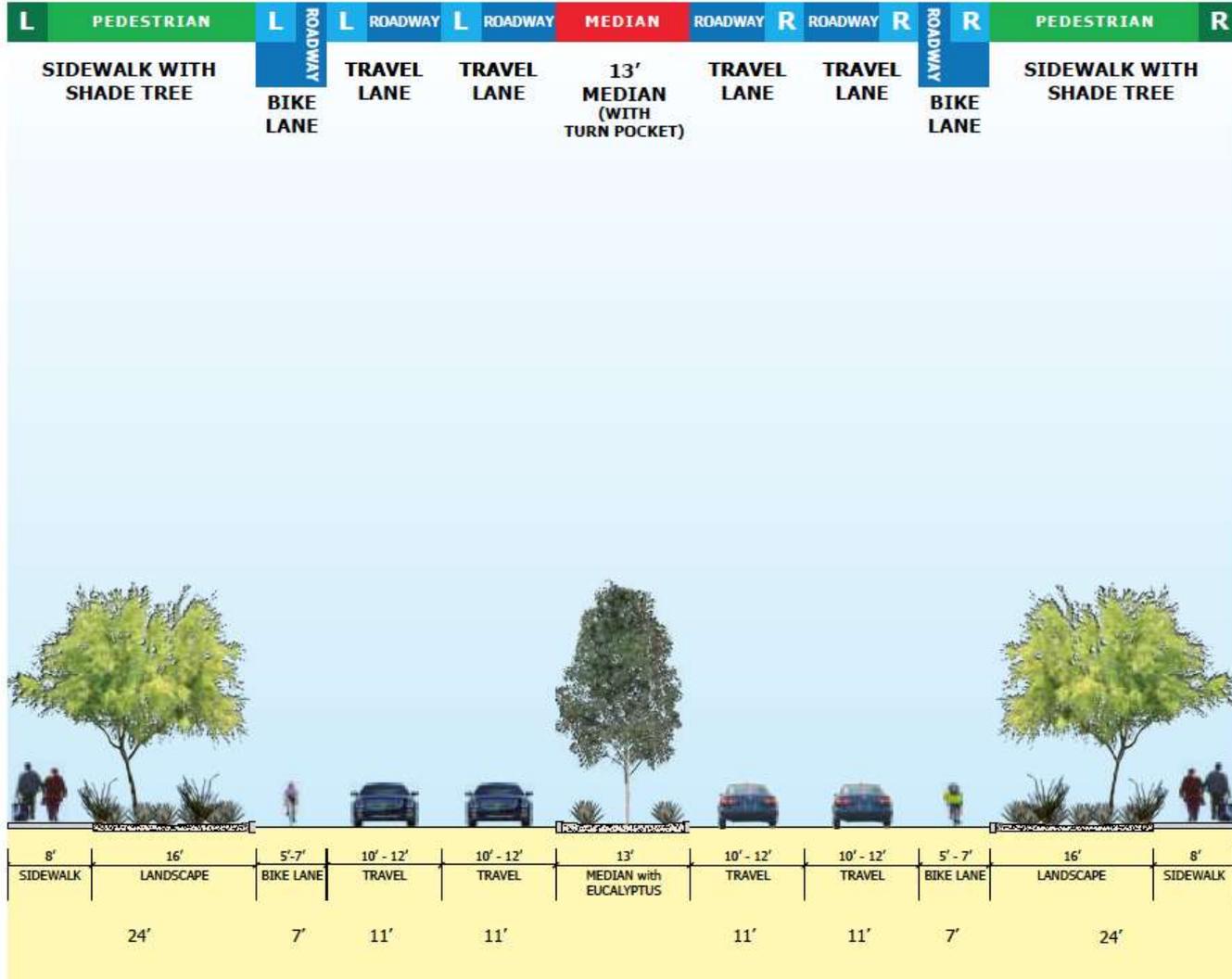
Potential R.O.W. Range – 92 to 130 feet



Option A: 97' Right-of-Way

Four Lane

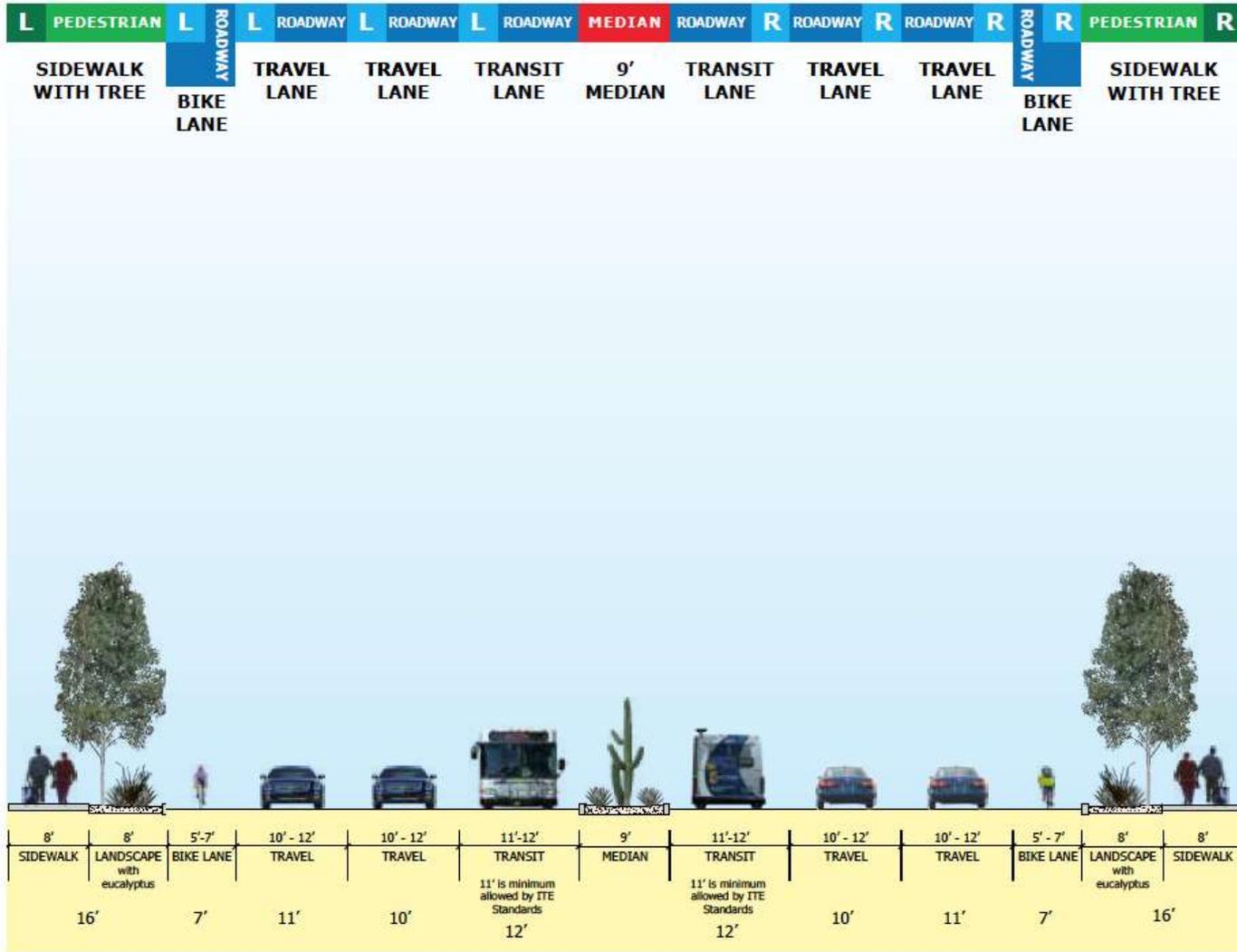
Potential R.O.W. Range – 92 to 130 feet



Option B: 119' Right-of-Way

Four Lane plus Transit Lanes

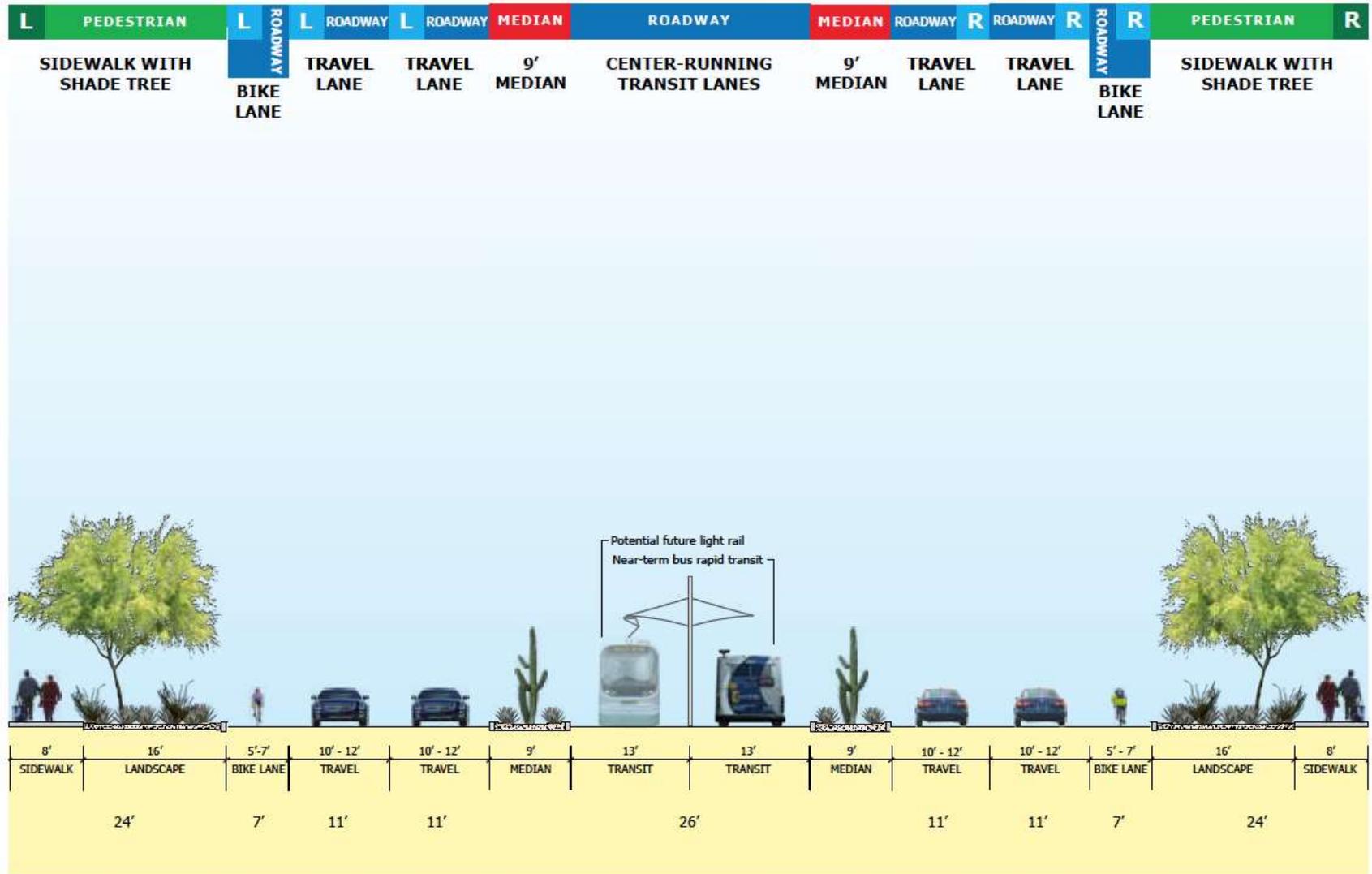
Potential R.O.W. Range – 116 to 154 feet



Option A: 121' Right-of-Way

Four Lane plus Transit Lanes

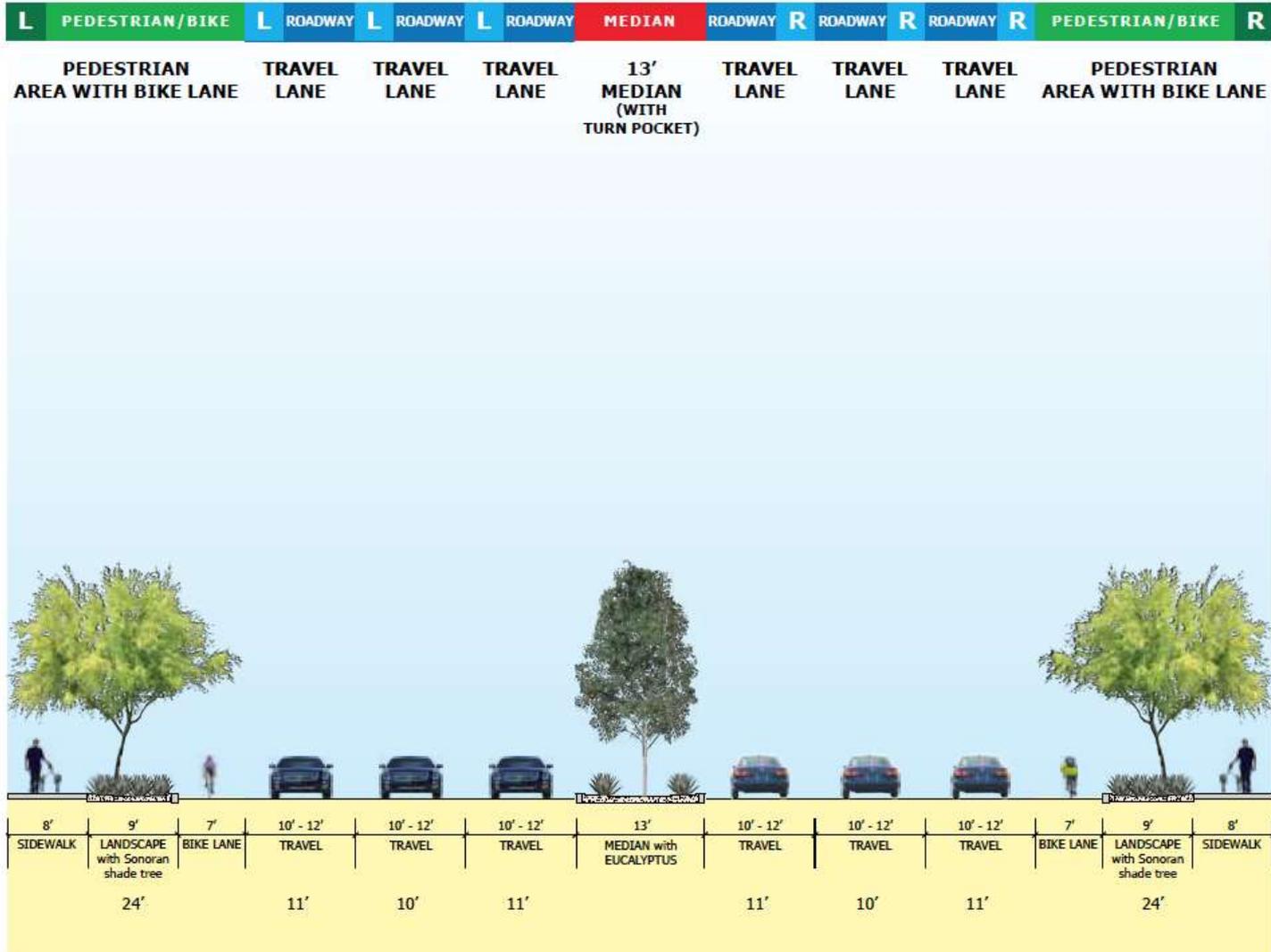
Potential R.O.W. Range – 116 to 154 feet



Option B: 150' Right-of-Way

Six Lane

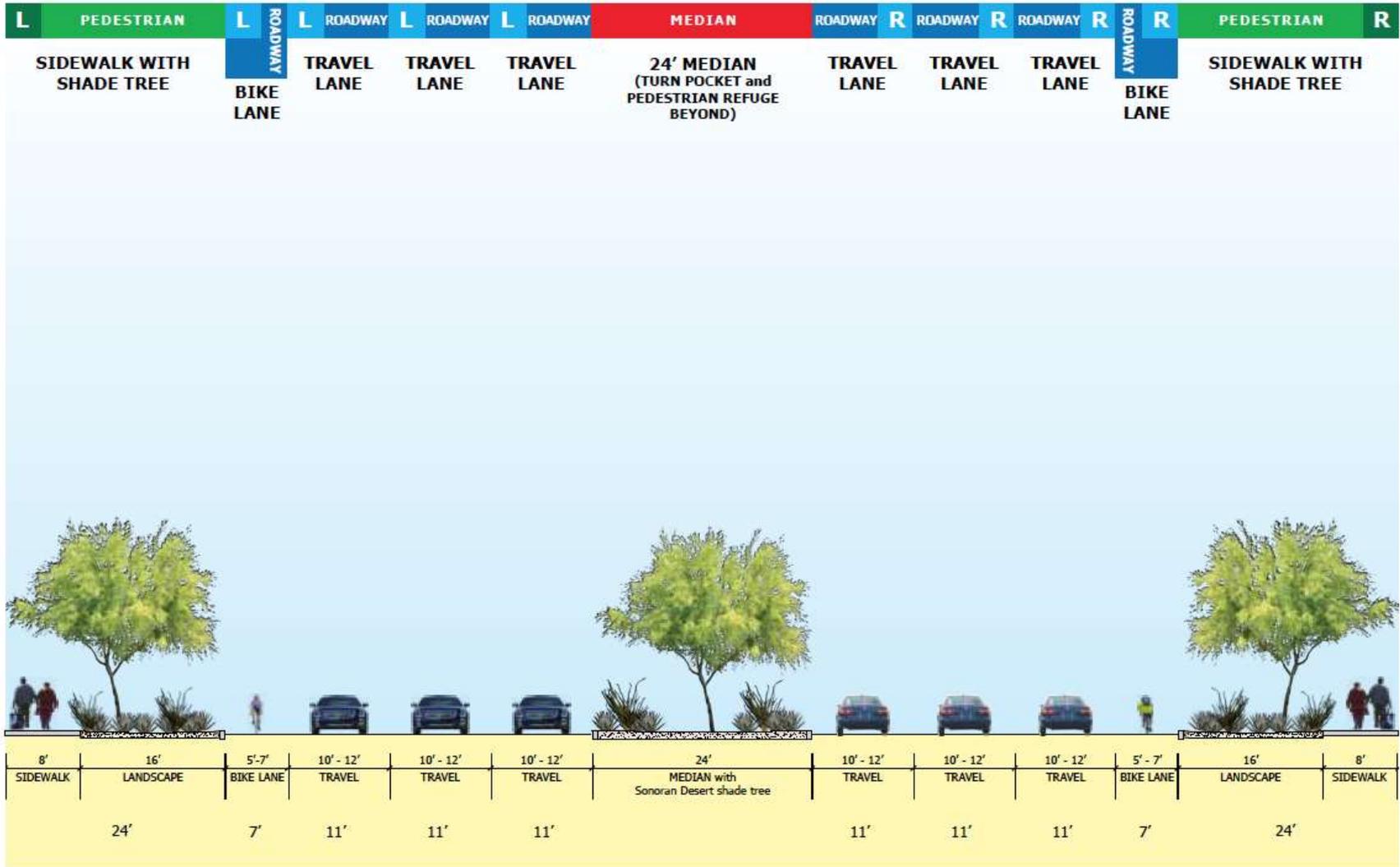
Potential R.O.W. Range – 114 to 152 feet



Option A: 125' Right-of-Way

Six Lane

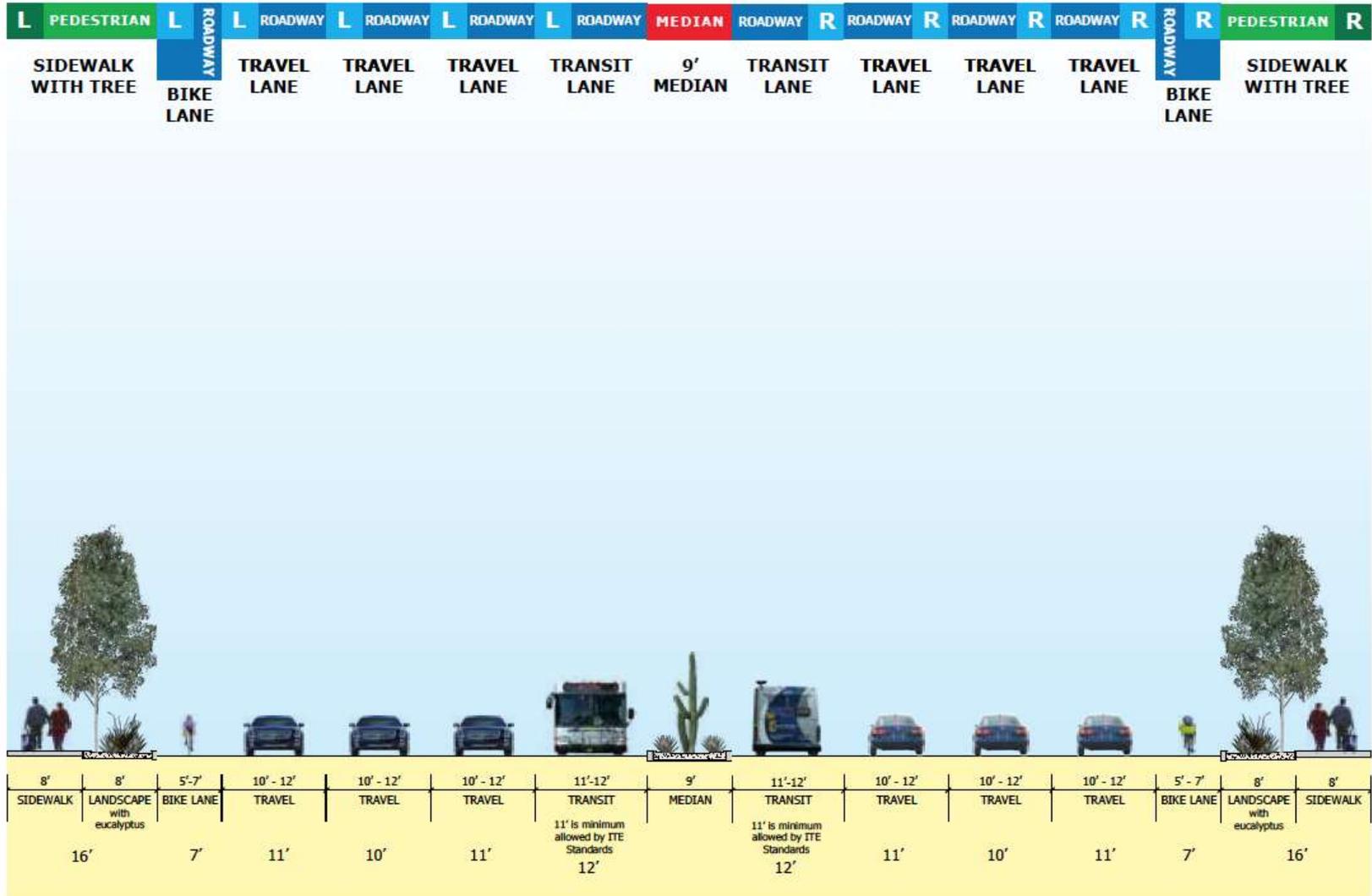
Potential R.O.W. Range – 114 to 152 feet



Option B: 152' Right-of-Way

Six Lane plus Transit Lanes

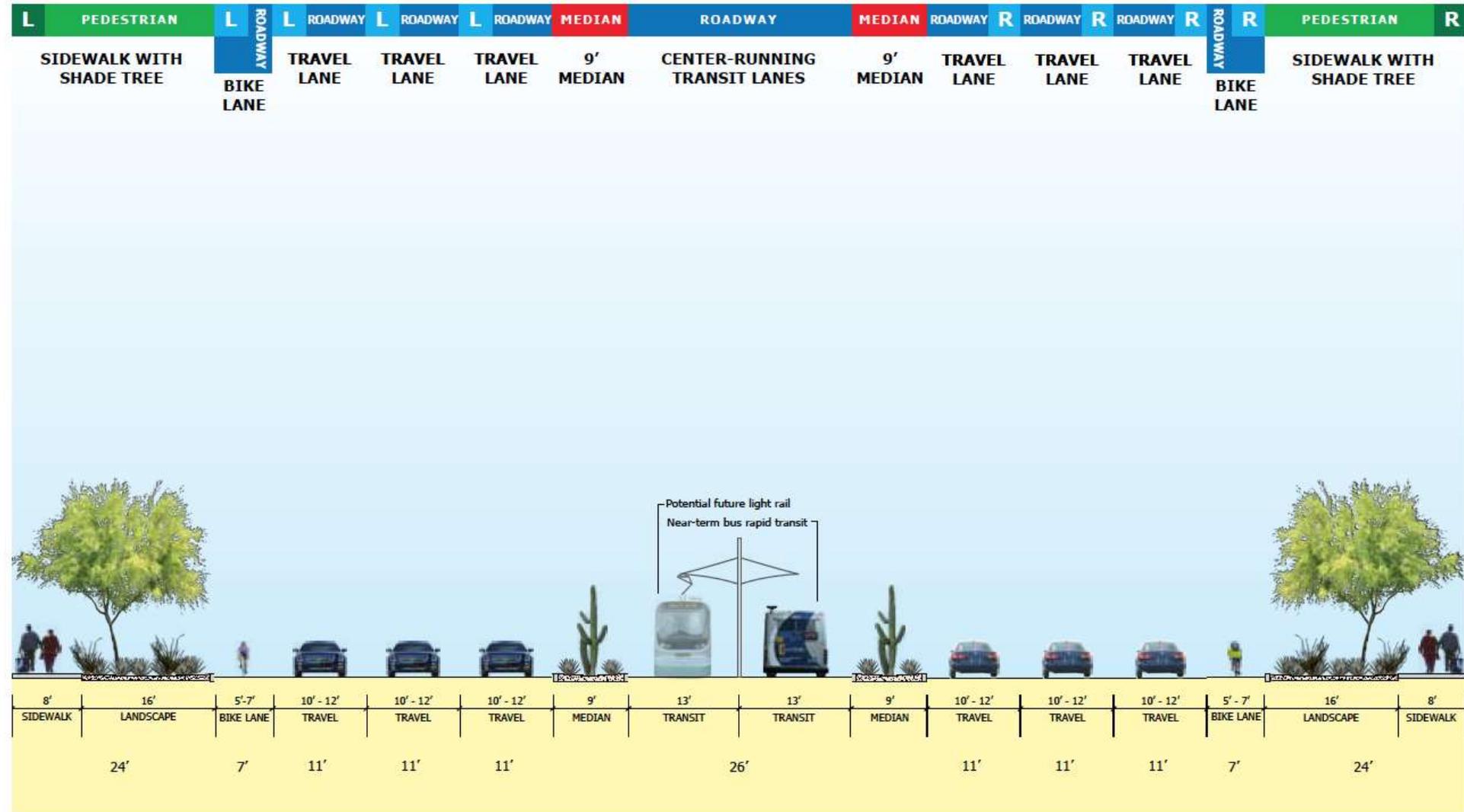
Potential R.O.W. Range – 138 to 172 feet



Option A: 143' Right-of-Way

Six Lane plus Transit Lanes

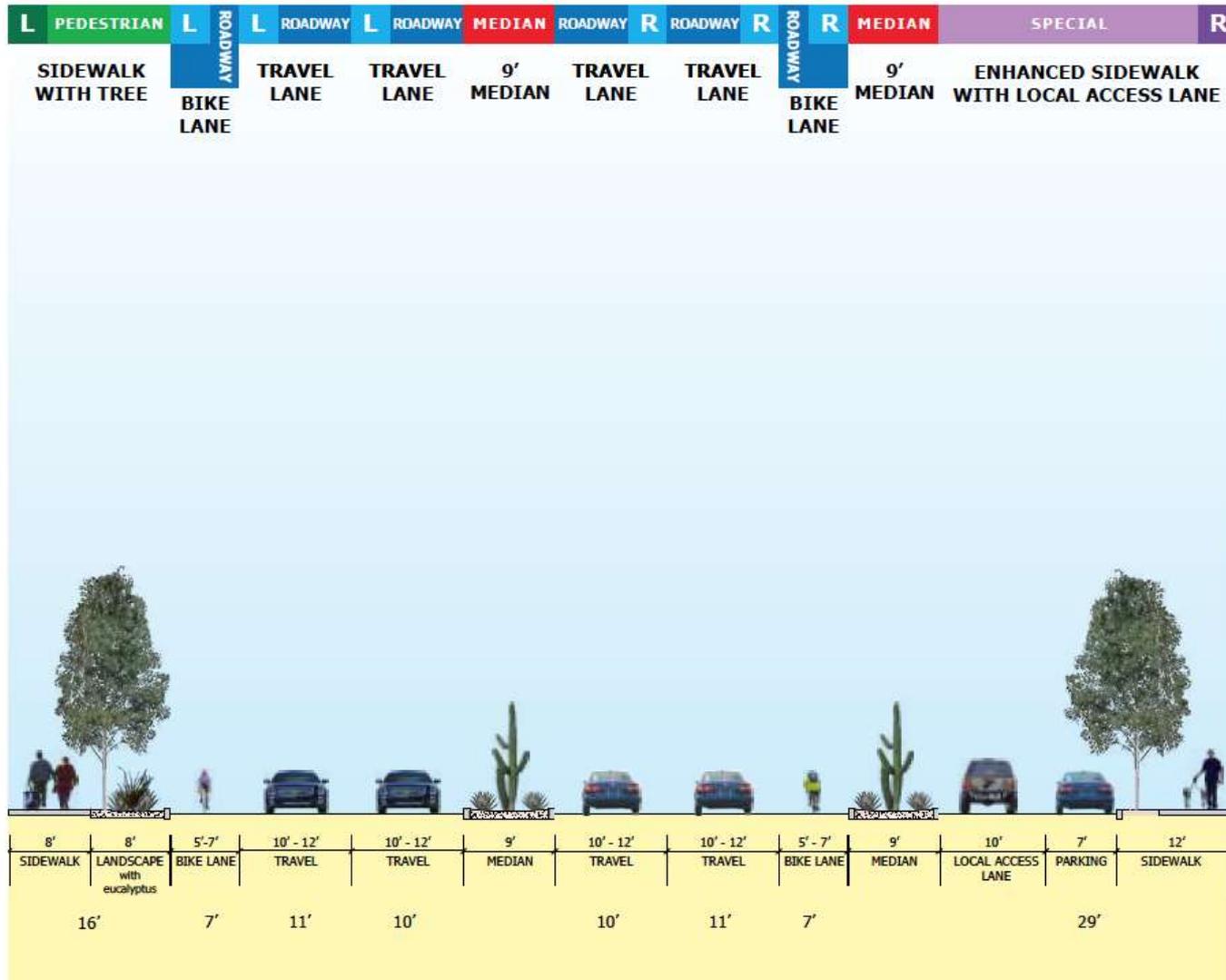
Potential R.O.W. Range – 138 to 172 feet



Option B: 172' Right-of-Way

Local Access Lane

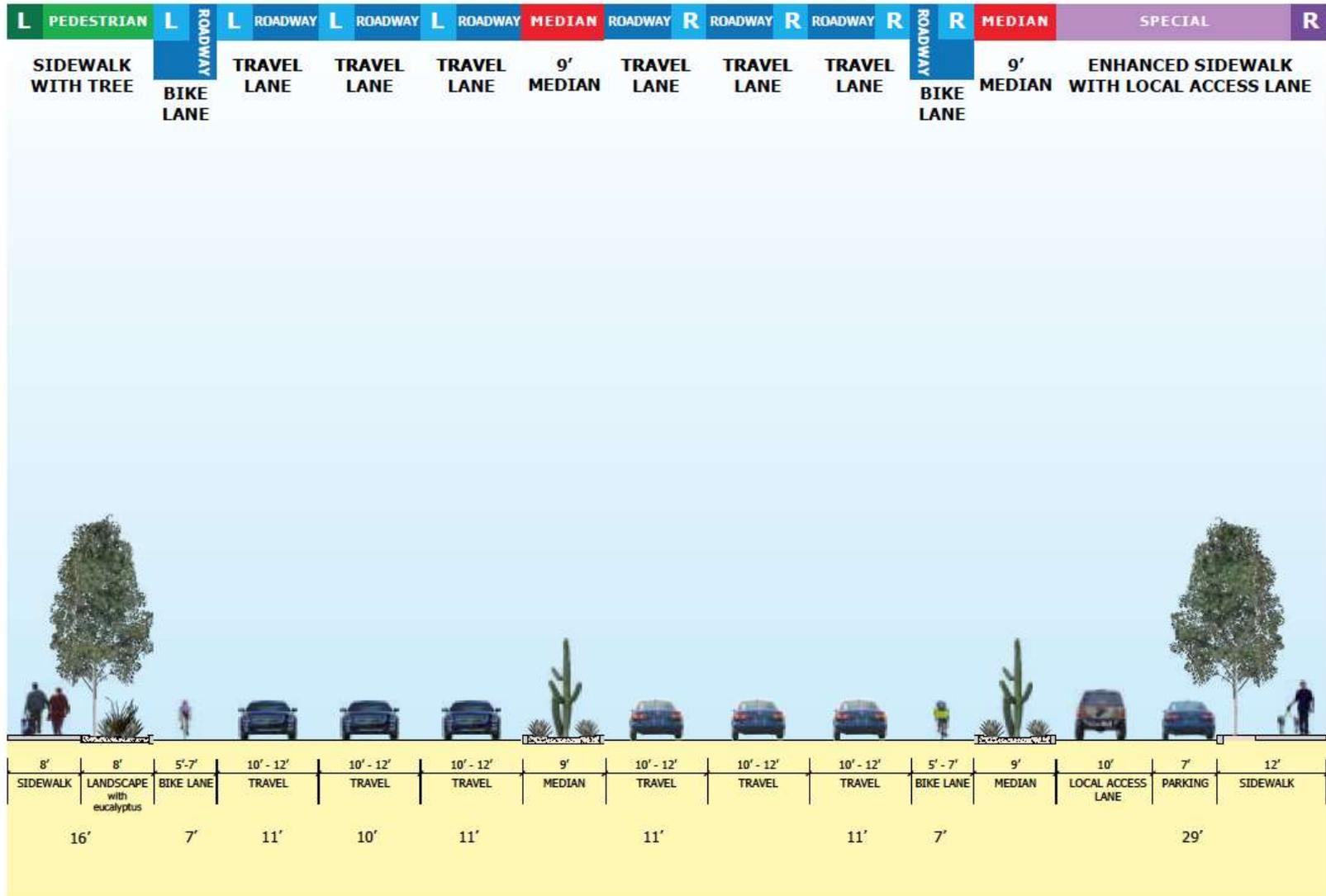
Potential R.O.W. Range – 118 to 166 feet



Option A: 4 Lane with Local Access Lane - 119' Right-of-Way

Local Access Lane

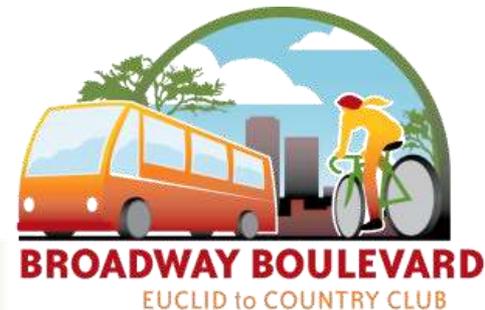
Potential R.O.W. Range – 118 to 166 feet



Option B: 6 Lane with Local Access Lane - 141' Right-of-Way

CTF Discussion

- Are there additional “Families” of design approaches to add?
- Are there additional cross section options we should illustrate?
- Are there cross section options we should eliminate?
- Other issues to discuss?

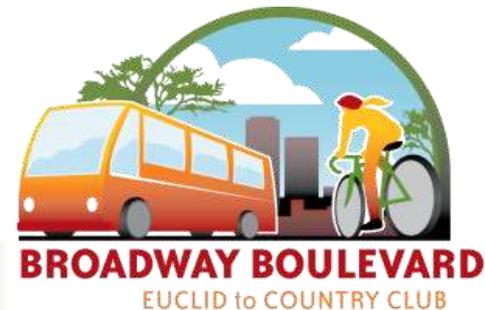


Call to the Audience

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 Burdick

- Next CTF Meeting: **Thursday, 5/23/2013**
5:30-8:30 p.m., Child & Family Resources
- Proposed Agenda:
 - Call to Order/Agenda Review
 - Call to the Audience
 - Draft “Non-Transportation Performance Measures
 - Discussion of Updated Initial Cross Section Examples
 - Discussion of Updated Transportation Performance Measures
 - Call to the Audience
 - Next Steps/CTF Roundtable
 - Adjourn

Thank You for Coming – Please Stay in Touch!

Broadway: Euclid to Country Club

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RTA Plan

www.rtamobility.com

