

# From Arterial to Multimodal:

## Community-Driven Solutions for Santa Ana's First Street Corridor

June 2026



# Presenters:



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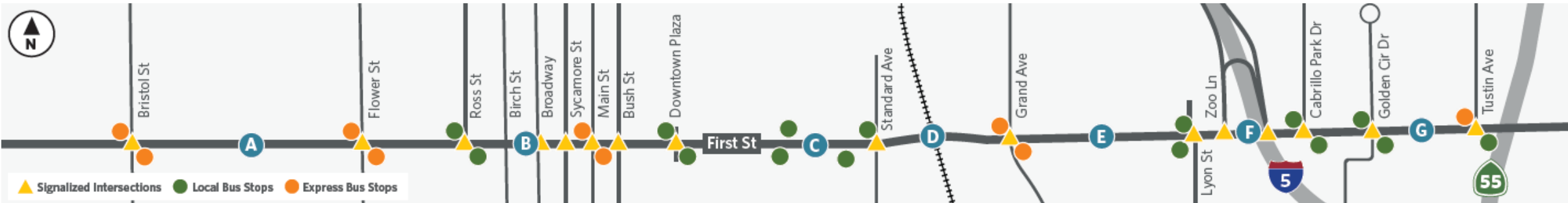


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Acting City Engineer  
City of Santa Ana, CA

# Goal of the Project:



Improve the Travel Environment along First Street and Connect People to Places through a Variety of Reliable, Safe and Affordable Travel Options.





# Existing Conditions

# Existing Conditions



No bicycle facilities



83' Crossing Distance



14' Raised Median



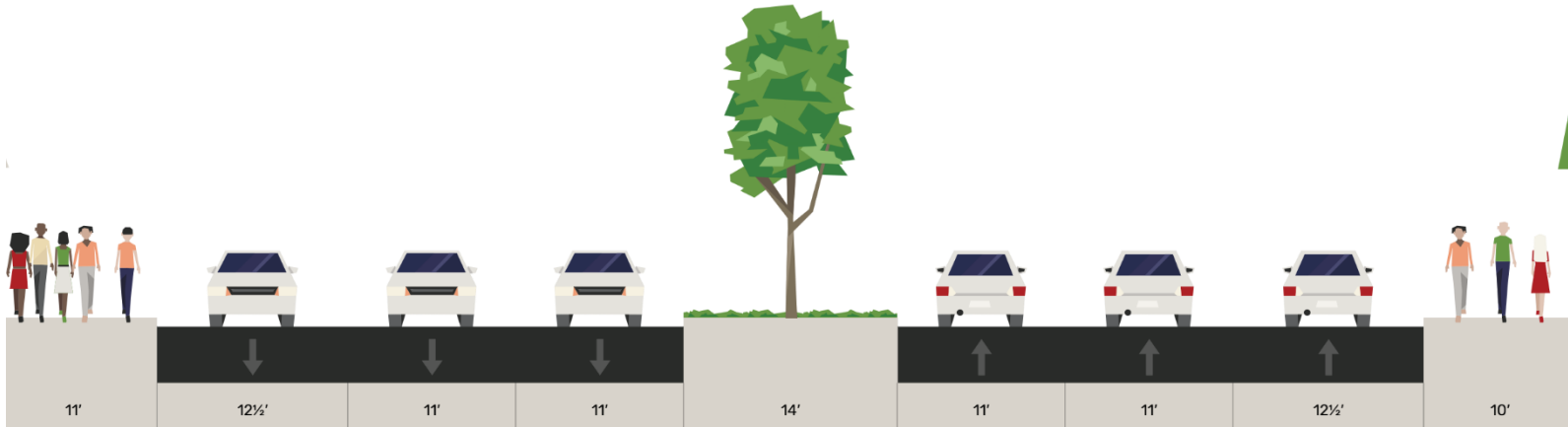
6 Travel Lanes



Buses Stop in Travel Lane



No Transit Signal Priority



# Mobility Overview



**20,000 (east of I-5) to  
36,000 (west of I-5)  
average vehicles per day**



**OCTA Route 64  
Up to 2,900  
Daily Boardings  
in Study Area**

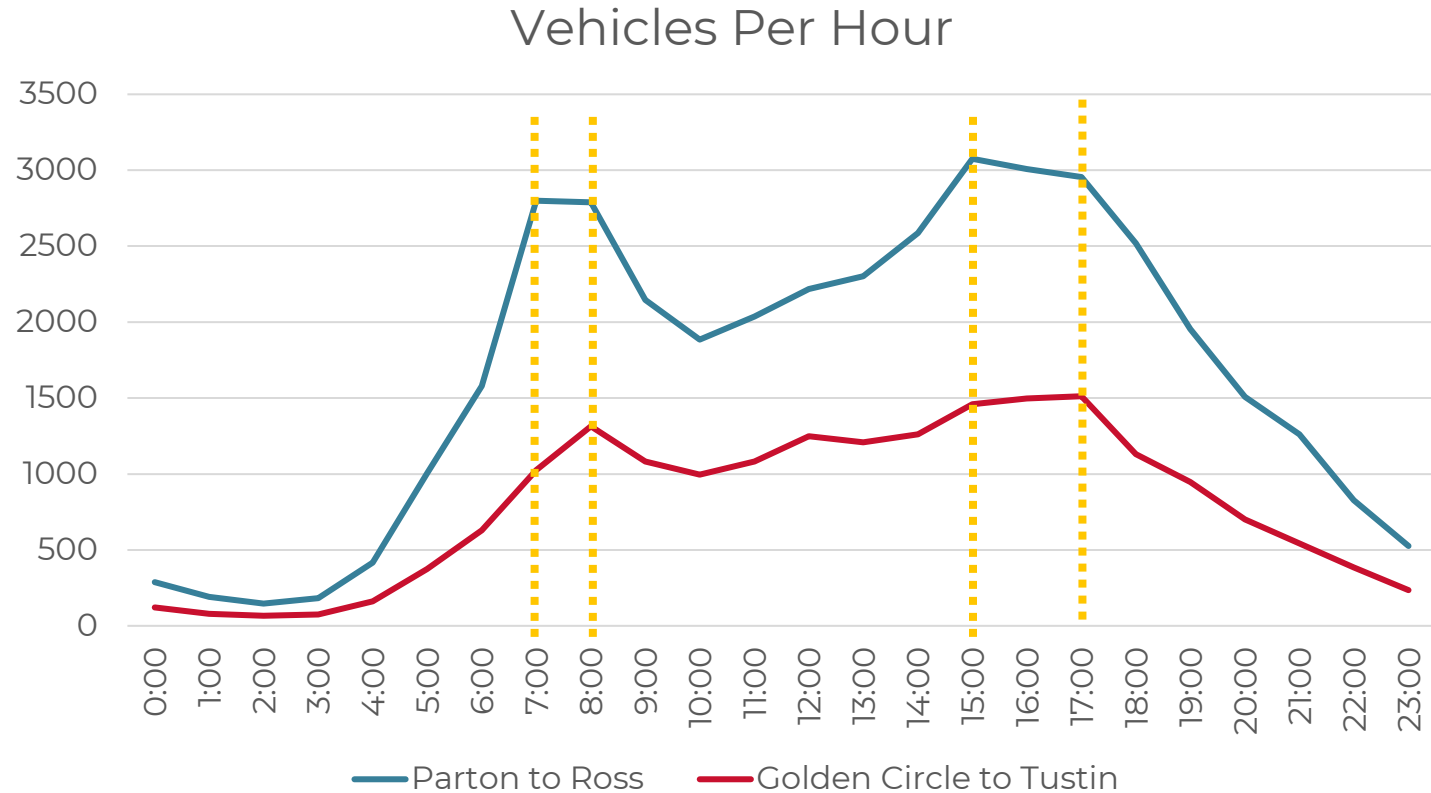


**Speed Limit  
35 to 40mph**

# Daily Traffic Volumes

| Segment                           | Volume | LOS |
|-----------------------------------|--------|-----|
| Baker to Shelton                  | 39,388 | B   |
| Parton to Ross                    | 40,201 | C   |
| West of Spurgeon                  | 37,263 | B   |
| East of Garfield                  | 34,043 | B   |
| Standard to Grand                 | 33,297 | A   |
| West of Wright                    | 34,074 | B   |
| West of Cabrillo<br>Park Drive    | 25,054 | A   |
| Golden Circle to<br>Tustin Avenue | 19,139 | A   |

Capacity (LOS E) = 56,300 vehicles per day  
 Threshold for Acceptable LOS (LOD D) = 50,600 vehicles per day



# Traffic Operations

| #  | INTERSECTION                 | AM PEAK HOUR |     | PM PEAK HOUR |     |
|----|------------------------------|--------------|-----|--------------|-----|
|    |                              | Base         |     | Base         |     |
|    |                              | Delay (s)    | LOS | Delay (s)    | LOS |
| 1  | 1st St. at Bristol St.       | 41.6         | D   | 42.5         | D   |
| 6  | 1st St. at Flower St.        | 32.4         | C   | 32.0         | C   |
| 8  | 1st St. at Ross St.          | 10.3         | B   | 6.8          | A   |
| 10 | 1st St. at Broadway          | 30.4         | C   | 33.9         | C   |
| 11 | 1st St. at Sycamore St.      | 9.4          | A   | 10.4         | B   |
| 12 | 1st St. at Main St.          | 30.6         | C   | 29.9         | C   |
| 13 | 1st St. at Bush St.          | 8.0          | A   | 11.6         | B   |
| 14 | 1st St. at DT Plaza          | 13.3         | B   | 23.0         | C   |
| 21 | 1st St. at Standard Ave.     | 32.3         | C   | 21.9         | C   |
| 22 | 1st St. at Grand Ave.        | 36.1         | D   | 47.9         | D   |
| 25 | 1st St. at Lyon St.          | 54.2         | D   | 52.0         | D   |
| 26 | 1st St. at Zoo Ln.           | 39.5         | D   | 49.2         | D   |
| 27 | 1st St. at I-5 SB            | 8.1          | A   | 5.4          | A   |
| 28 | 1st St. at Cabrillo Park Dr. | 15.0         | B   | 18.1         | B   |
| 29 | 1st St. at Golden Circle Dr. | 14.6         | B   | 10.7         | B   |
| 30 | 1st St. at Tustin Ave.       | 24.0         | C   | 27.2         | C   |

“Overall Good”

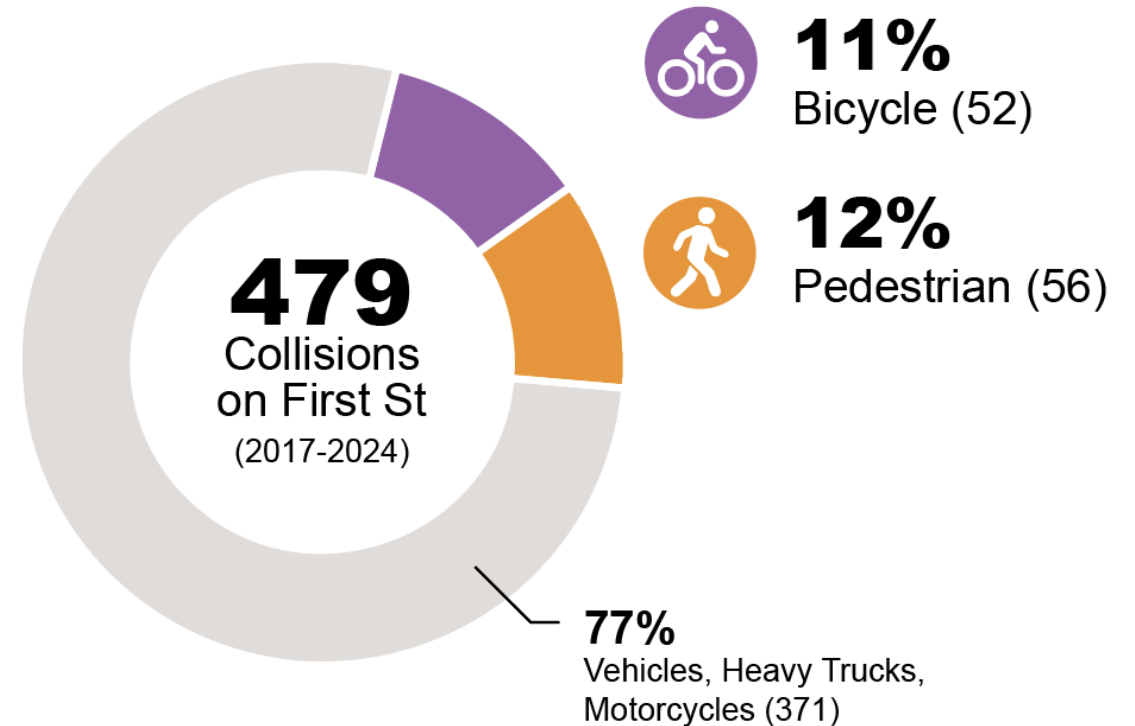
# Corridor Usage & Safety Snapshot



**Walking**  
**30% of Trips**  
**Along Corridor**



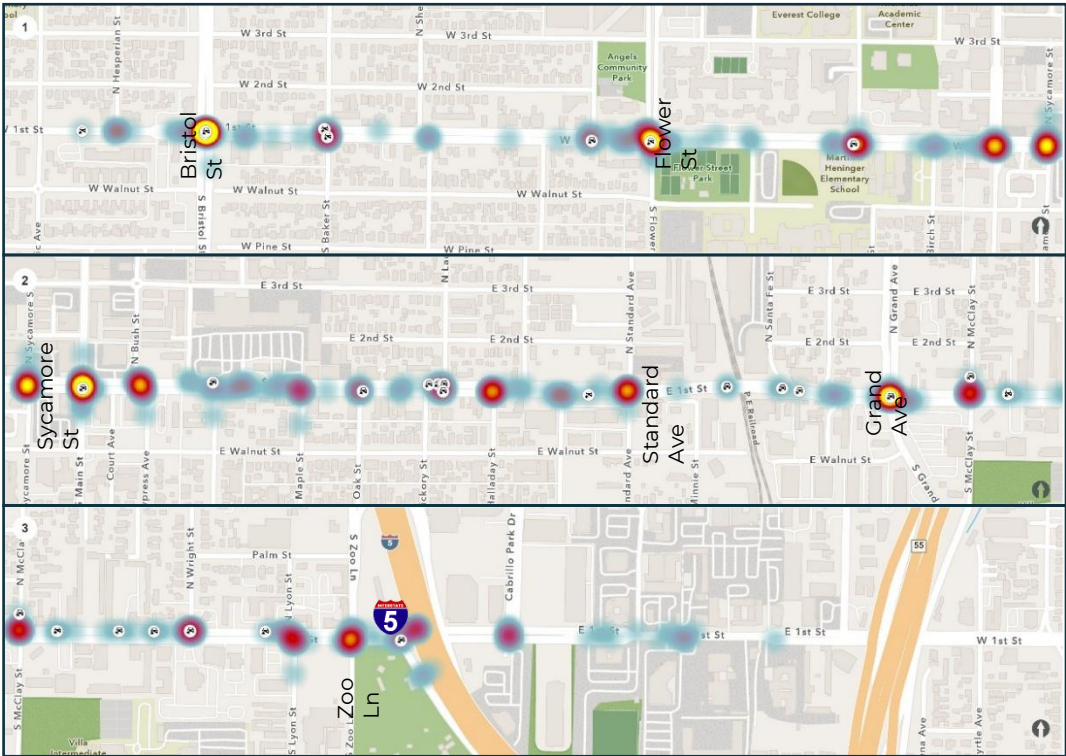
**250+ Bikes per**  
**Day Travel E/W**  
**85% on Sidewalk**



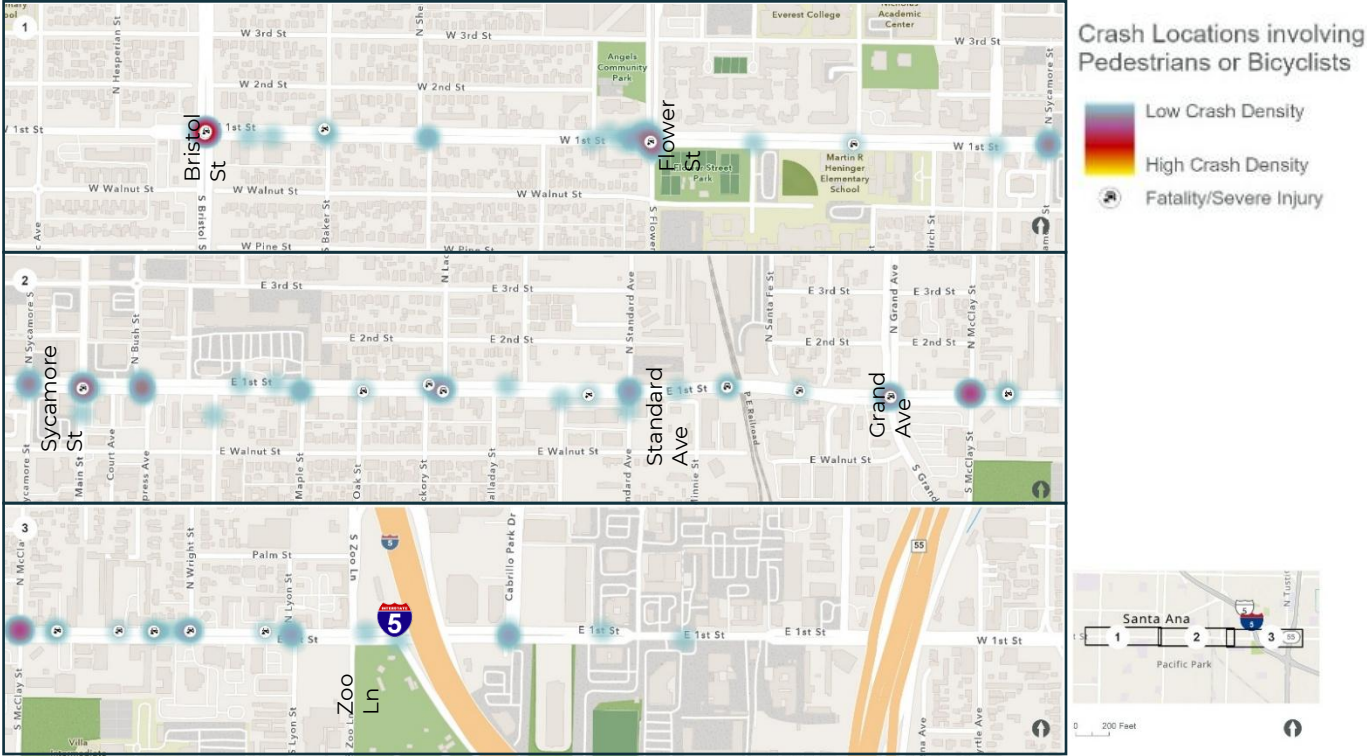
Source: Statewide Integrated Traffic Records System (SWITRS), 2017-2024

# Safety Assessment

## All Crashes



## Ped/Bike Crashes



Source: Statewide Integrated Traffic Records System (SWITRS), 2017-2024





# Community Input



# Community Outreach Overview

## Workshop 1

July - August 2025

Explored how people use **First Street** today and how to make the corridor safer and more comfortable.

### What we heard:

- Need for safer walking and biking access
- Several locations missing crosswalks
- Mixed feedback on adding bike lanes
- Interest in improved sidewalk amenities (bus stops, lighting, shade)
- Concerns about peak-hour traffic increases

## Workshop 2

September - November 2025

Reviewed eight preliminary design options based on Workshop 1 input, technical analysis, and survey feedback.

### What we heard:

- Preference for 6/5/4 travel lanes with bus lane options
- Protected bike paths
- Improve transit travel time
- More shade trees and landscape areas
- Mid-block-controlled crossings to reduce jaywalking and improve pedestrian access
- Need for sidewalk safety and street lighting improvements

## Workshop 3

December 2025

Reviewed three refined design concepts developed from Workshop 2 input, technical analysis, and the virtual poll.

**Community feedback gathered during this workshop was presented to City Council in early 2026.**

**Identify a locally preferred alternative and move forward with final engineering in 2026.**



# Public Engagement

## Moving Forward on First Street

The First Street Multimodal Boulevard Study will transform First Street between Bristol Street and Tustin Avenue in the city of Santa Ana

To view this page in Spanish or Vietnamese, click on the translation icon in the top right corner  
July 11, 2025



- Project website
- Zoom workshop
- Map survey
- Q&A survey
- Design options videos and poll
- Ongoing social media
- 3,000+ website views
- 197 survey responses



# Key Themes



## Safety:

Crossing street, sharing sidewalk, riding a bike, lighting, slow down traffic



## Separate Bikes & Peds:

More robust infrastructure, protected intersections and bikeways



## More Amenities:

Shade, seating, bus stops



## Accessibility:

Directional curb ramps, signal upgrades





# Design Options



# Design Strategies



- Repurpose travel lane(s) into active transportation facilities and streetscapes
- Reassign curb lanes for bus priority and/or protected bike facilities
- Implement transit signal priority (TSP) along First Street
- Use queue jumps and dedicated bus lanes in congested segments
- Optimize stop spacing and placement to improve bus speed and reliability
- Introduce traffic calming and access management in constrained areas
- Context-sensitive design for bottlenecks (e.g., rail undercrossing)

# Community Preference

Multi-Use  
Path Concept



Enhanced  
Pedestrian &  
Bicycle Zone  
Concept

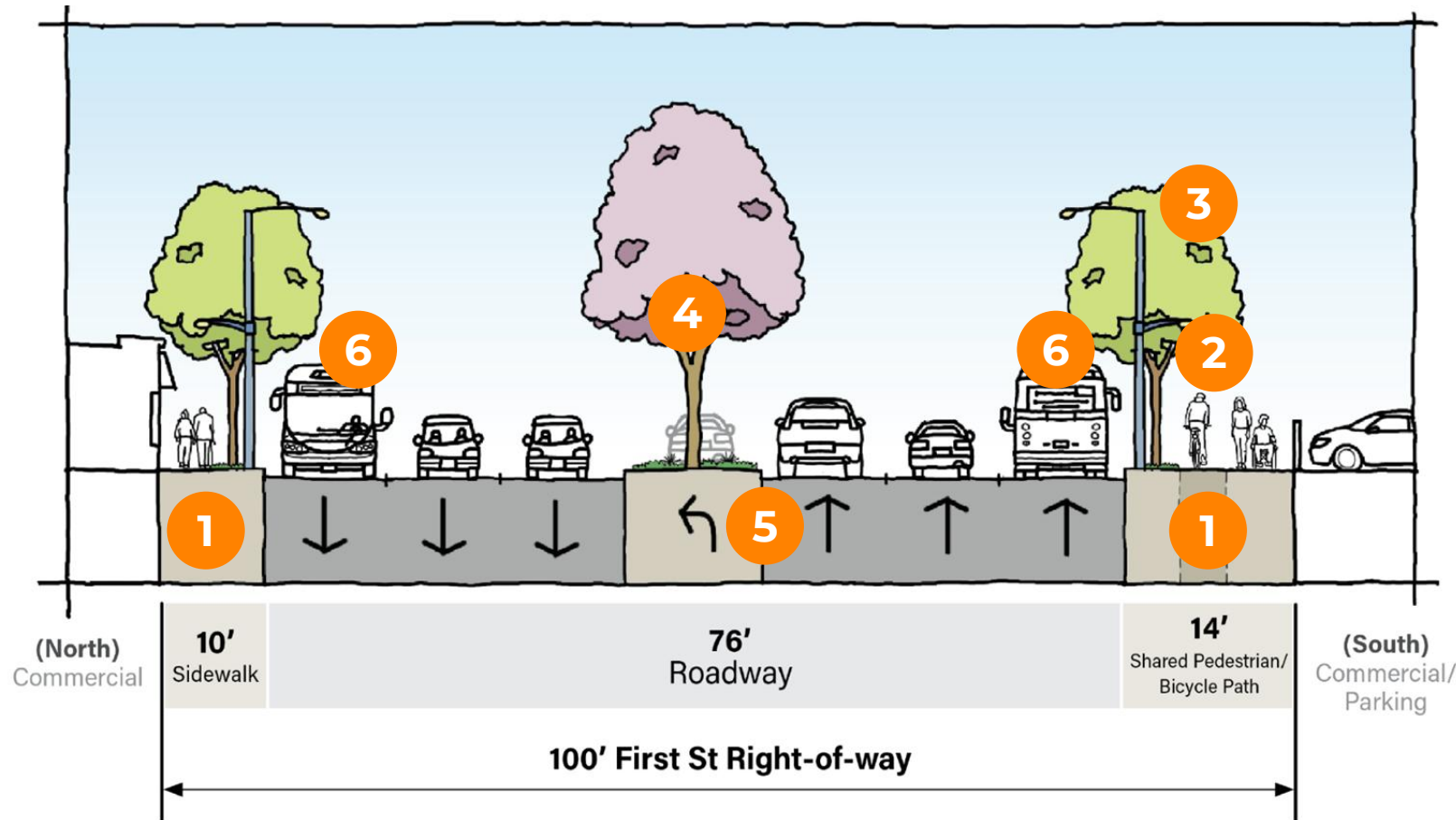


Bus Lanes &  
Bikeway  
Concept



# Multi-Use Path Concept

## Conceptual View Looking East



## 6 travel lanes with shared pedestrian and bicycle path on south side of First Street

- 1 Wider sidewalks
- 2 Shared ped/bike path
- 3 Added street trees
- 4 Raised center median
- 5 Six travel lanes
- 6 Curb-lane bus

# Multi-Use Path Concept

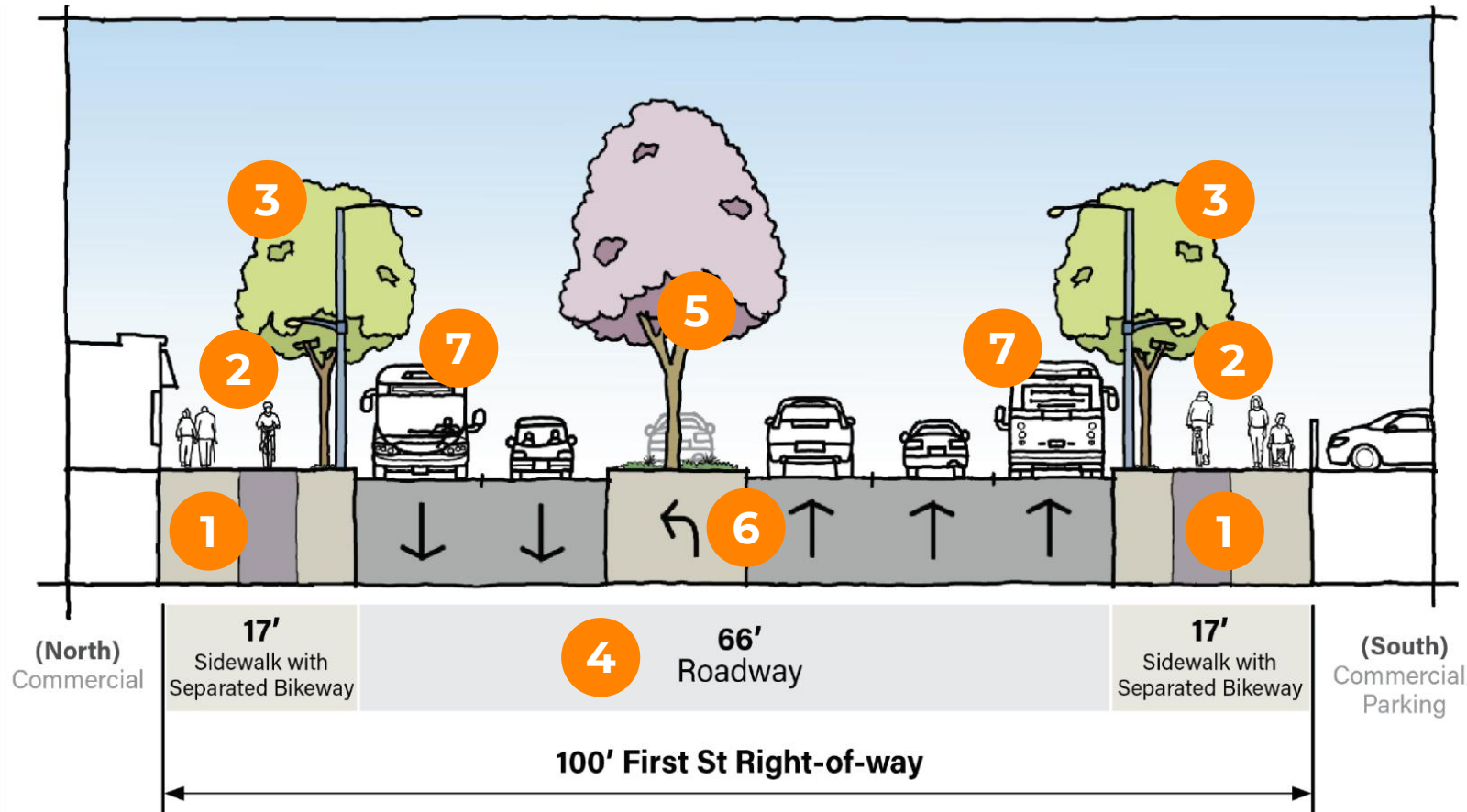


**Conceptual View** Looking East near Shelton St

- **Shared pedestrian/bicycle path** creates a dedicated, predictable zone that increases separation from roadway traffic, enhancing safety by supporting more comfortable walking and rolling on the sidewalk.
- **Additional safety improvements** include enhanced pedestrian crossings with tighter curb radii, improved crosswalk visibility, and new signalized crossings for safer, more consistent crossing opportunities, with transit signal priority to improve bus operations and on-time performance.

# Enhanced Pedestrian & Bicycle Zone Concept

Conceptual View Looking East



**5 travel lanes with a sidewalk and a separated bikeway on each side of First Street**

- 1** Extra-wide sidewalks
- 2** Separated bikeway
- 3** Added street trees
- 4** 66' Roadway
- 5** Raised center median
- 6** Five travel lanes
- 7** Curb-lane bus

# Enhanced Pedestrian & Bicycle Zone Concept

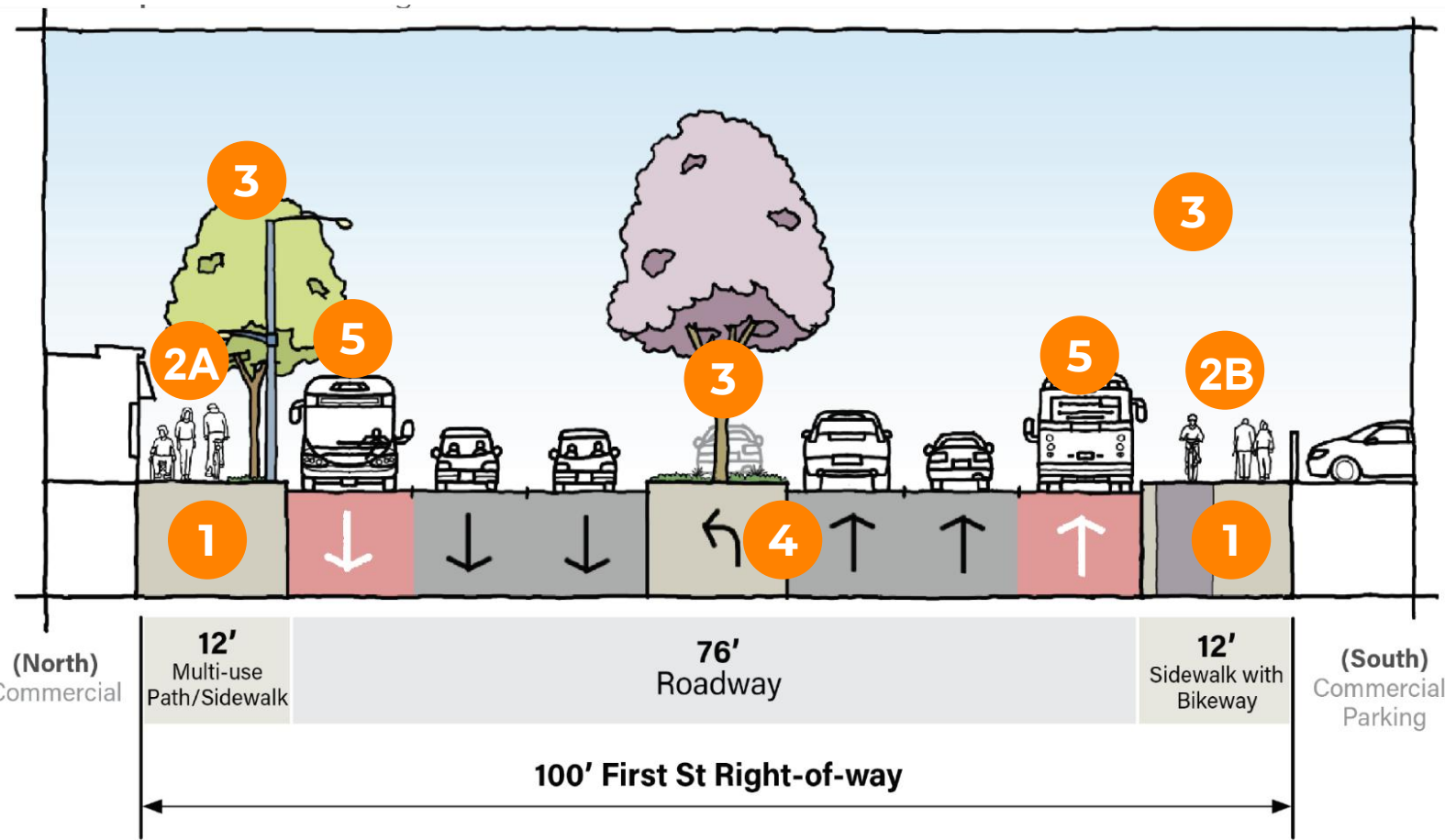


**Conceptual View** Looking East near Shelton St

- **Extra-wide sidewalks with separated bikeways** create dedicated, predictable zones that increase separation from roadway traffic, enhancing safety by providing more comfortable ADA access for walking and rolling on both sides of First Street.
- **Additional safety improvements** include enhanced pedestrian crossings with tighter curb radii, improved crosswalk visibility, and new signalized crossings for safer, more consistent crossing opportunities, with transit signal priority to improve bus operations and on-time performance.

# Bus Lanes & Bikeway Concept

Conceptual View Looking East



**4 travel lanes and 2 bus lanes with a sidewalk and bikeway on each side of First Street**

- 1 Wider sidewalks
- 2A Shared multi-use path
- 2B Sidewalk with separated bikeway
- 3 Raised center median
- 4 Four travel lanes
- 5 Two dedicated bus lanes

# Bus Lanes & Bikeway Concept



**Conceptual View** Looking East near Shelton St

- **Wide sidewalks with a separated bikeway** improve ADA access and provide safer, more comfortable space for walking and rolling on both sides of First Street.
- **Additional safety improvements** include enhanced pedestrian crossings with tighter curb radii, improved crosswalk visibility, and new signalized crossings for safer, more consistent crossing opportunities, with transit signal priority to improve bus operations and on-time performance.



# Alternatives Analysis



# Analysis Metrics



**Safety** – Do the improvements address historic crash issues?



**Pedestrian Connectivity** – Do the improvements reduce crossing distance at intersections, increase controlled crossings along the corridor and improve pedestrian safety?



**Bicycle Comfort** – Do the improvements provide a separated bikeway for bicyclists?



**Bike Connectivity** – Do the improvements link to the Citywide Bike Plan?



**Travel Time – Buses** – Do the improvements increase or decrease bus travel time?



**Opportunity for Improved Streetscape / Landscape** – Do the improvements widen the pedestrian/bicycle zone to accommodate new lighting, seating, landscape and other features?

# Analysis Metrics



- **Travel Time – Autos**  
Do the improvements increase or decrease travel time?
- **Delay at Intersections**  
Do the improvements increase or decrease the overall delay at intersections?
- **Potential for Diverted Trips**  
Do the improvement increase the potential for trips to divert to other routes?
- **Consistency with Mobility Element Goals**

# Microsimulation & Analysis Approach

|  |  |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Typical Weekday<br>Peak AM (6 a.m. - 10 a.m.)                                     | Typical Weekday<br>Peak PM (3 p.m. - 7 p.m.)                                      | Typical Weekend<br>Peak AM (6 a.m. - 10 a.m.)                                     | Typical Weekend<br>Peak PM (3 p.m. - 7 p.m.)                                        |
| 25,184                                                                            | 22,567                                                                            | 24,937                                                                            | 30,747                                                                              |
| 23,335                                                                            | 30,653                                                                            | 20,014                                                                            | 33,950                                                                              |



- Develop detailed microsimulation (Vissim) models of the full corridor
- Test multiple design scenarios (baseline vs. alternatives)
- Evaluate peak-period operations and corridor performance
- Analyze vehicle delay, queue lengths, and travel times
- Assess transit reliability and multimodal interactions
- Use results to quantify impacts and support data-driven decisions

# Travel Time Analysis

## AUTO



**AM** **PM**

EB: -2:05 -0:09  
WB: -0:03 -0:59



EB: -2:12 0:00  
WB: +0:30 +1:30



EB: +0:49 +1:48  
WB: +0:27 +3:01

| #                                   | START LOCATION         | END LOCATION           | AVERAGE TRAVEL TIME (mm:ss) |                |                   |                |              |
|-------------------------------------|------------------------|------------------------|-----------------------------|----------------|-------------------|----------------|--------------|
|                                     |                        |                        | NO BUILD                    | Multi-Use Path | Enhanced Ped-Bike | Bus/Bike Lanes |              |
|                                     |                        |                        |                             |                |                   | Base           | TSP          |
| <b>AM PEAK HOUR [7:30am-8:30am]</b> |                        |                        |                             |                |                   |                |              |
| 1                                   | 1st St. at Bristol St. | 1st St. at Zoo Ln.     | 10:00                       | 07:59          | 07:53             | 10:27          | 10:53        |
| 2                                   | 1st St. at Zoo Ln.     | 1st St. at Tustin Ave. | 01:16                       | 01:12          | 01:11             | 01:11          | 01:11        |
| <b>Eastbound Total</b>              |                        |                        | <b>11:16</b>                | <b>09:11</b>   | <b>09:04</b>      | <b>11:38</b>   | <b>12:05</b> |
| 4                                   | 1st St. at Tustin Ave. | 1st St. at Zoo Ln.     | 01:48                       | 01:36          | 01:39             | 01:35          | 01:36        |
| 5                                   | 1st St. at Zoo Ln.     | 1st St. at Bristol St. | 06:50                       | 06:59          | 07:29             | 07:30          | 07:29        |
| <b>Westbound Total</b>              |                        |                        | <b>08:38</b>                | <b>08:35</b>   | <b>09:08</b>      | <b>09:05</b>   | <b>09:05</b> |
| <b>PM PEAK HOUR [5:00pm-6:00pm]</b> |                        |                        |                             |                |                   |                |              |
| 1                                   | 1st St. at Bristol St. | 1st St. at Zoo Ln.     | 10:37                       | 10:27          | 10:36             | 12:34          | 12:24        |
| 2                                   | 1st St. at Zoo Ln.     | 1st St. at Tustin Ave. | 01:12                       | 01:12          | 01:12             | 01:11          | 01:12        |
| <b>Eastbound Total</b>              |                        |                        | <b>11:48</b>                | <b>11:39</b>   | <b>11:48</b>      | <b>13:46</b>   | <b>13:36</b> |
| 4                                   | 1st St. at Tustin Ave. | 1st St. at Zoo Ln.     | 01:29                       | 01:21          | 01:21             | 01:21          | 01:22        |
| 5                                   | 1st St. at Zoo Ln.     | 1st St. at Bristol St. | 07:26                       | 06:35          | 09:04             | 10:06          | 10:34        |
| <b>Westbound Total</b>              |                        |                        | <b>08:55</b>                | <b>07:56</b>   | <b>10:25</b>      | <b>11:26</b>   | <b>11:56</b> |

| #                                   | START LOCATION         | END LOCATION           | AVERAGE TRAVEL TIME (mm:ss) |                |                   |                |              |
|-------------------------------------|------------------------|------------------------|-----------------------------|----------------|-------------------|----------------|--------------|
|                                     |                        |                        | NO BUILD                    | Multi-Use Path | Enhanced Ped-Bike | Bus/Bike Lanes |              |
|                                     |                        |                        |                             |                |                   | Base           | TSP          |
| <b>AM PEAK HOUR [7:30am-8:30am]</b> |                        |                        |                             |                |                   |                |              |
| 1                                   | 1st St. at Bristol St. | 1st St. at Zoo Ln.     | 15:03                       | 11:27          | 11:19             | 11:12          | 11:53        |
| 2                                   | 1st St. at Zoo Ln.     | 1st St. at Tustin Ave. | 02:35                       | 02:14          | 02:08             | 02:12          | 02:06        |
| <b>Eastbound Total</b>              |                        |                        | <b>17:38</b>                | <b>13:41</b>   | <b>13:27</b>      | <b>13:24</b>   | <b>13:59</b> |
| 4                                   | 1st St. at Tustin Ave. | 1st St. at Zoo Ln.     | 02:53                       | 04:03          | 03:57             | 03:57          | 03:34        |
| 5                                   | 1st St. at Zoo Ln.     | 1st St. at Bristol St. | 11:17                       | 12:19          | 13:11             | 12:06          | 11:11        |
| <b>Westbound Total</b>              |                        |                        | <b>14:10</b>                | <b>16:22</b>   | <b>17:08</b>      | <b>16:03</b>   | <b>14:45</b> |
| <b>PM PEAK HOUR [5:00pm-6:00pm]</b> |                        |                        |                             |                |                   |                |              |
| 1                                   | 1st St. at Bristol St. | 1st St. at Zoo Ln.     | 16:22                       | 14:23          | 14:38             | 12:45          | 12:41        |
| 2                                   | 1st St. at Zoo Ln.     | 1st St. at Tustin Ave. | 02:27                       | 02:09          | 02:10             | 02:10          | 02:05        |
| <b>Eastbound Total</b>              |                        |                        | <b>18:49</b>                | <b>16:32</b>   | <b>16:48</b>      | <b>14:55</b>   | <b>14:45</b> |
| 4                                   | 1st St. at Tustin Ave. | 1st St. at Zoo Ln.     | 02:57                       | 02:38          | 02:37             | 02:37          | 02:38        |
| 5                                   | 1st St. at Zoo Ln.     | 1st St. at Bristol St. | 12:25                       | 12:02          | 14:21             | 11:23          | 10:22        |
| <b>Westbound Total</b>              |                        |                        | <b>15:23</b>                | <b>14:40</b>   | <b>16:58</b>      | <b>14:01</b>   | <b>13:00</b> |

## BUS



**AM** **PM**

EB: -3:57 -2:17  
WB: +2:12 +0:43



EB: -4:11 -2:01  
WB: +2:58 +1:35



EB: -3:39 -4:04  
WB: +0:35 +2:23

# Concept Evaluation Summary

|                                                          | <br>Description | <br>Multi Use Path Concept | <br>Enhanced Pedestrian & Bicycle Concept | <br>Bus Lane/Bike Lane Concept |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Pedestrian &amp; Bicycle Safety</b>                   | Add buffer/barrier between cars & pedestrian/bike zone                                           |                            |                                           |                               |
| <b>Pedestrian Connectivity</b>                           | Add new controlled crossings                                                                     |                            |                                           |                               |
| <b>Pedestrian/Bicycle Exposure Time</b>                  | Reduce crossing distance across First Street                                                     |                            |                                           |                               |
| <b>Provides Dedicated Bicycle &amp; Pedestrian Space</b> | Creates separate spaces for pedestrians and bikes                                                |                            |                                           |                               |
| <b>Travel Time for Buses</b>                             | Improves travel time (solid)                                                                     |                            |                                           |                               |
| <b>Opportunity to Improve Streetscape/Landscape</b>      | Increases space for new trees and landscaping                                                    |                            |                                           |                               |
| <b>Traffic Speeds</b>                                    | Potential to reduce traffic speeds (solid=high potential)                                        |                            |                                           |                               |
| <b>Travel Time for Autos (SOVs) - Lowest, High)</b>      | Potential to increase travel time (solid=low potential)                                          |                            |                                           |                               |
| <b>Delay for Autos</b>                                   | Potential to increase delay (solid=lowest)                                                       |                          |                                         |                             |
| <b>Traffic Diversion</b>                                 | Potential to divert traffic to other routes (solid=lowest)                                       |                          |                                         |                             |
| <b>Consistency with Mobility Element</b>                 | Concept reflects goals of multimodal corridor                                                    |                          |                                         |                             |



- ✓ Widens sidewalk on one side
- ✓ Maintains or improves travel times
- ✓ Limited safety improvements



- ✓ Dedicated pedestrian & bicycle facilities
- ✓ Narrowest crossing distance across First Street
- ✓ Maximum area for landscape
- ✓ Minimal change in travel time
- ✓ Westbound right turn pockets and bus turnouts



- ✓ Limited separated pedestrian & bicycle facilities
- ✓ Narrow sidewalk for utilities, lighting and streetscape
- ✓ Highest increase in travel time
- ✓ 2-minute bus travel time savings

# Key Trade-offs: Capacity vs Reliability vs Safety



- Reduced vehicle capacity vs. improved transit efficiency
- Lane reductions vs. enhanced bicycle and pedestrian safety (e.g., shorter crossing)
- Higher speeds vs. crash severity reduction through traffic calming
- Intersection throughput vs. multimodal access and crossing safety
- Balancing corridor throughput with equitable space allocation
- Prioritizing long-term safety and sustainability over short-term capacity gains

# Questions?

