1st Avenue: River Road to Grant Road

1st Avenue Citizens' Task Force Meeting

6/12/2025

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Approval of March Meeting Minutes

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Call to the Audience

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Election of Chairperson

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Future Agenda Items

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Future Agenda Items

- Corridor Field Trip – Postponed
- Summer Meeting Schedule

Intersection Configurations and Operational Models

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2045 Traffic Modeling Process

Objective: accommodate 2045 traffic demand by improving signal operations instead of widening the roadway

2045 Volume Update

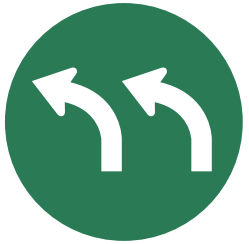
- New Walmart Expansion at 1st Avenue & Wetmore Road
  - DTM provided site layout and approved Traffic Statement
  - Approved Traffic Statement trip generation was used to update volumes
- Off-site improvements are not expected
- Site is expected to have a net increase of 600 daily trips, 59 trips in AM, and 81 trips in PM

2045 Volume Update

- New Salad And Go at 1st Avenue & Limberlost
  - DTM provided site layout
  - Layout was used to estimate trip generation and update volumes
- Off-site improvements include:
  - Eastbound right-turn deceleration lane at 1st Avenue & Limberlost Road
  - Traffic signal upgrades at SW Corner
  - Southbound deceleration lane on 1st Avenue into site

Confirming Initial Results:
Preliminary Treatments

Signal Timing
All Intersections



Dual Left Turn Lanes
Wetmore Road

Right Turn Lanes
Multiple Locations

Feasible strategies to reduce physical impacts and accommodate 2045 traffic demand

River Road at 1st Avenue

- 5-lane approaches, dual lefts, right-turns
- Significant WBRT volume
- 2045 No-Build PM Operations:
  - High delay on WB Approach
  - Westbound Right with a volume-to-capacity greater than 1.0
  - Left-Turns would operate at LOS E

Improvement #1: Modified Ring-Barrier

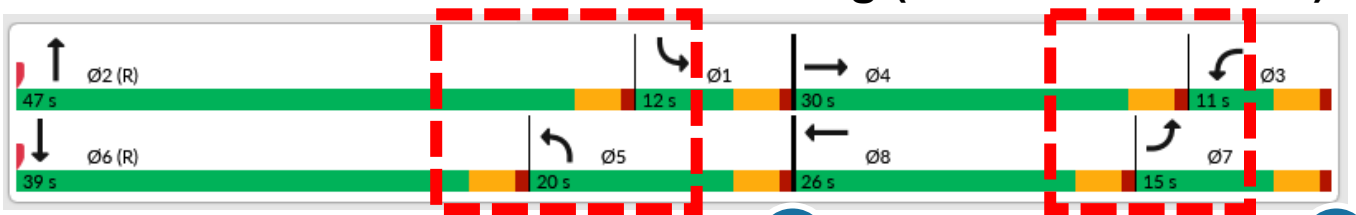
NEMA Phasing (e.g. Pima County)

- Each phase has its own green time and can terminate independently
- Adjacent thru and left-turn movements can run simultaneously
- Flexible timing reduces delay

City of Tucson Phasing

- Opposing movements start and end at the same time
- Ideal when opposing volumes are similar
- This phasing scheme limits the intersection to operate at maximum capacity

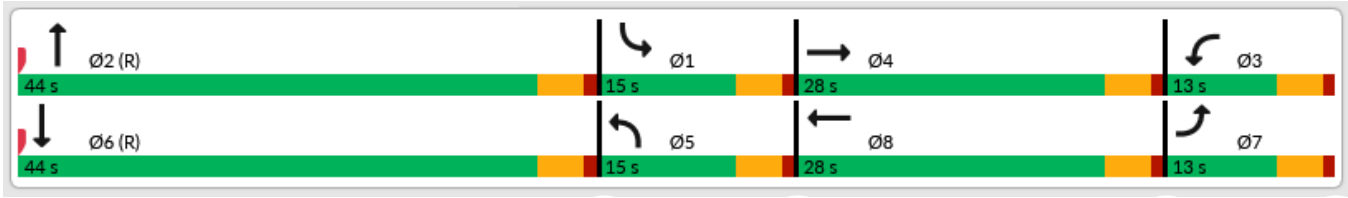
NEMA Phasing (Standard Scheme)



Barriers: 1 2

Thru and left may be green concurrently

Non-NEMA Phasing (City of Tucson)

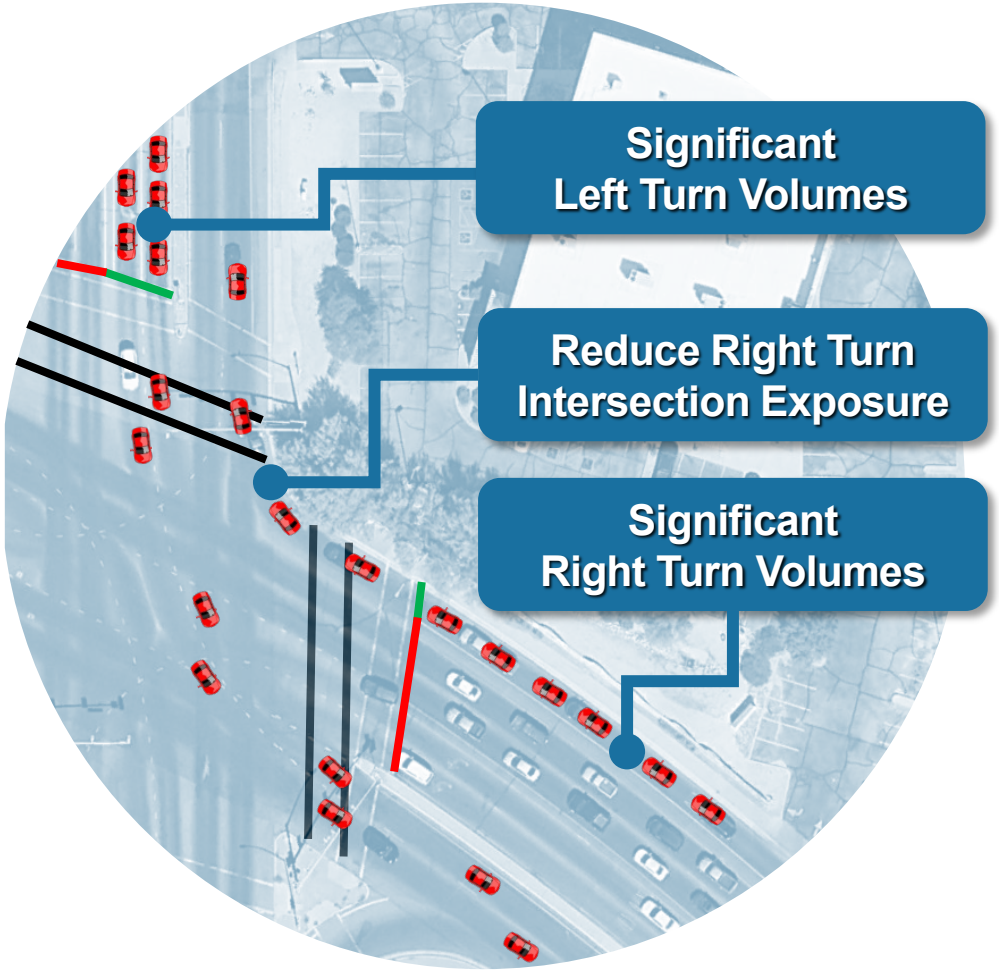


Barriers: 1 2 3 4

Thru movements and left turns never overlap

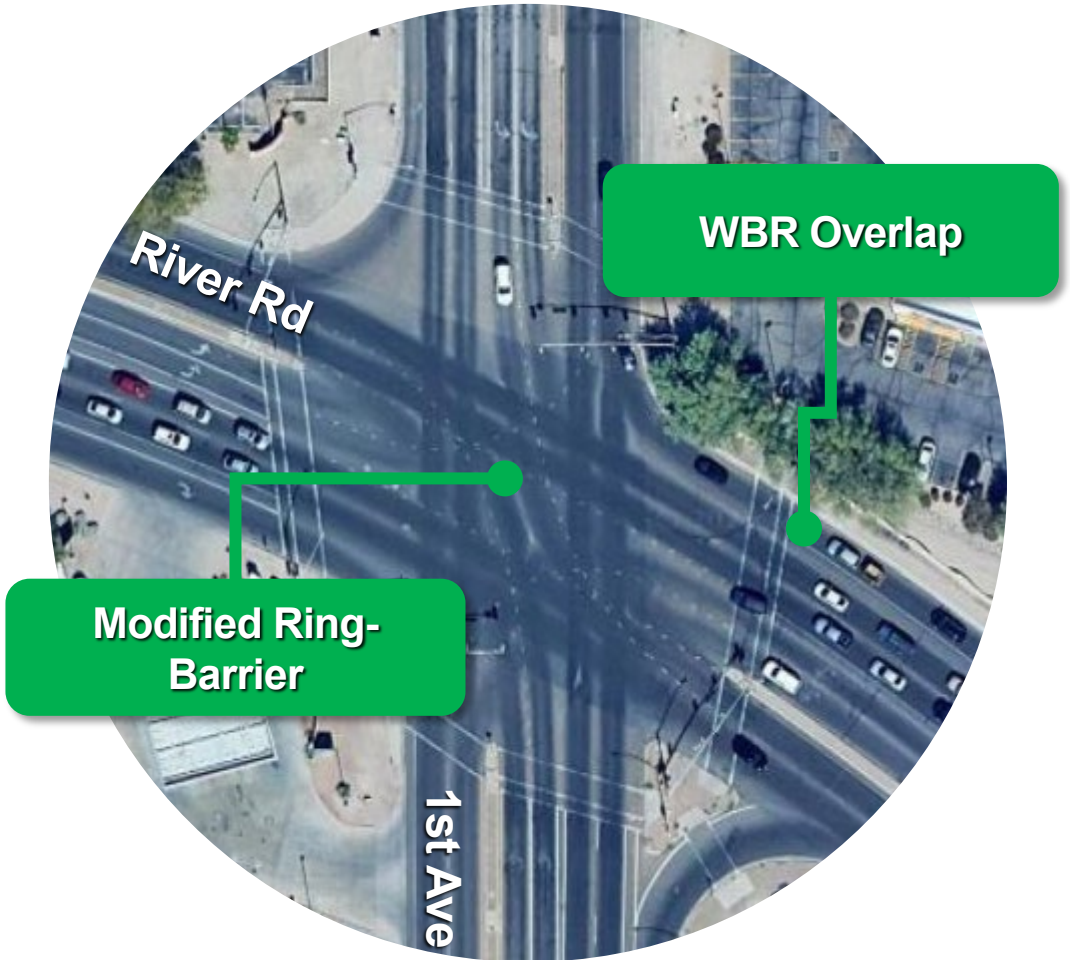
Improvement #2: WBR Overlap

- Increase the capacity of WBR to lower delay and queueing by providing a WBR overlap during the SBL protected phase.
- Move crosswalks and stop bars closer to intersection to increase pedestrian visibility and reduce vehicle lost time.



River Rd - Cumulative Improvements

PM Peak Hour	Existing Condition	2045 No-Build	2045 with Improvements
Intersection Delay	36.8 sec	63.4 sec	48.5 sec
Level of Service	LOS D	LOS E	LOS D
Max V/C Ratio	0.78	1.25	0.86
Critical Movement	SBL, 63.8 sec (LOS E)	WBR, 166.3 sec (LOS F)	WBL, 73.9 sec (LOS E)



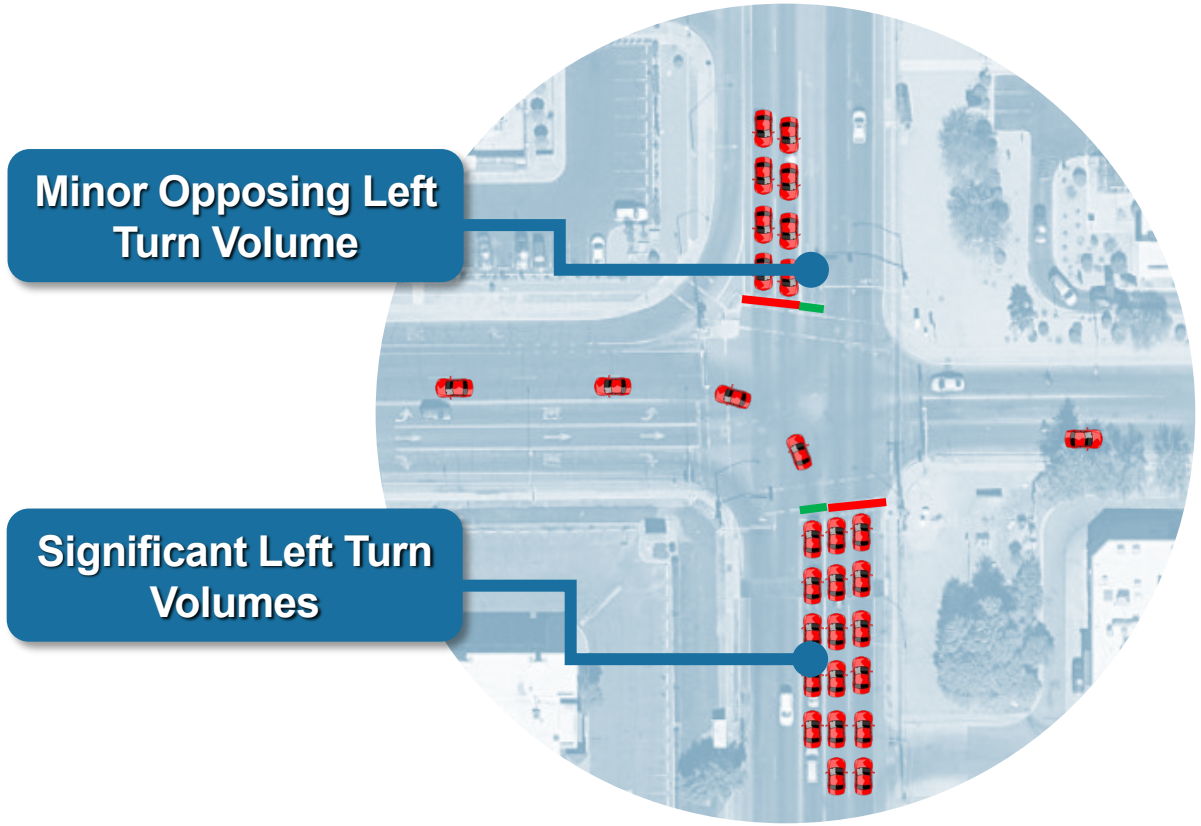
Wetmore Road at 1st Ave

- Significant turning volumes to and from Wetmore
- Large difference in opposing volume
  - NBL vs SBL
  - EBL vs WBL
- Significant NBLT volume
- 2045 No-Build PM Operations:
  - Failing NB Approach
  - NBL and EBL volume-to-capacity greater than 1.0
  - NBT operating LOS E

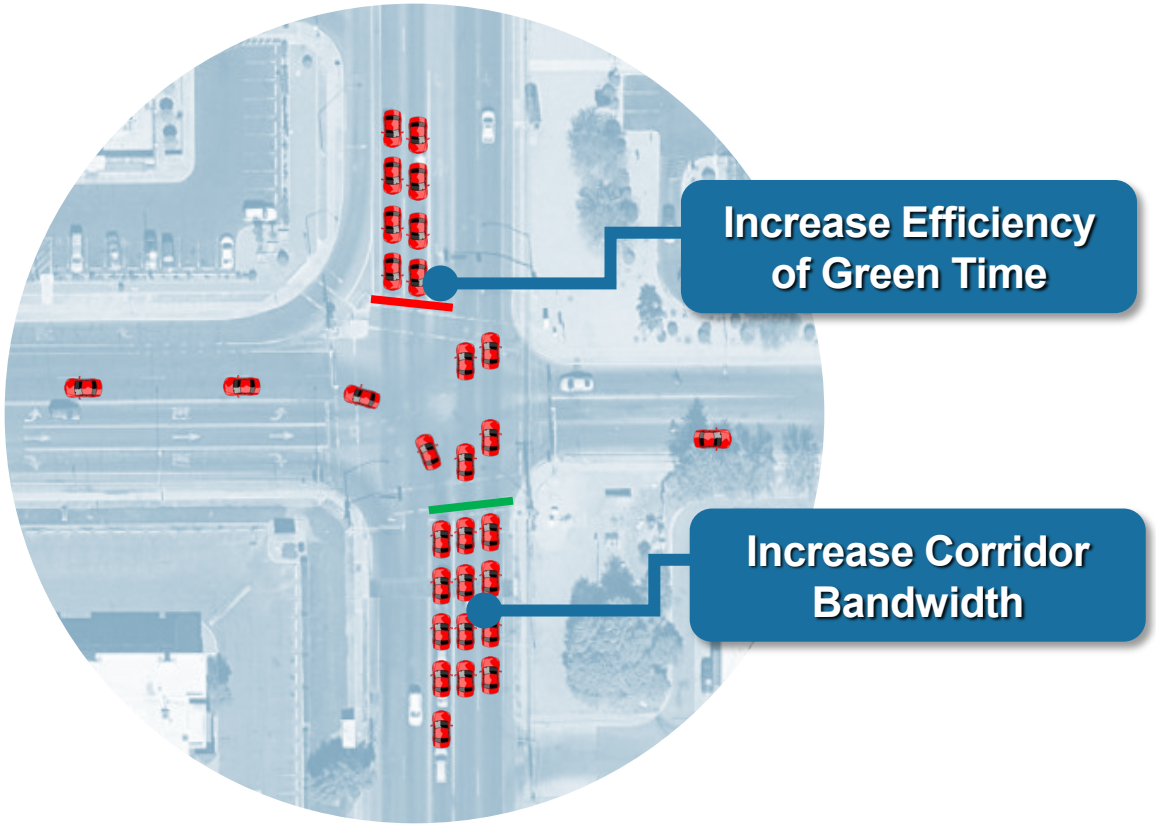
Improvement #1: Modified Ring-Barrier

Intersections with large differences in opposing volumes would benefit from more efficient use of the green time.

Non-NEMA (City of Tucson)



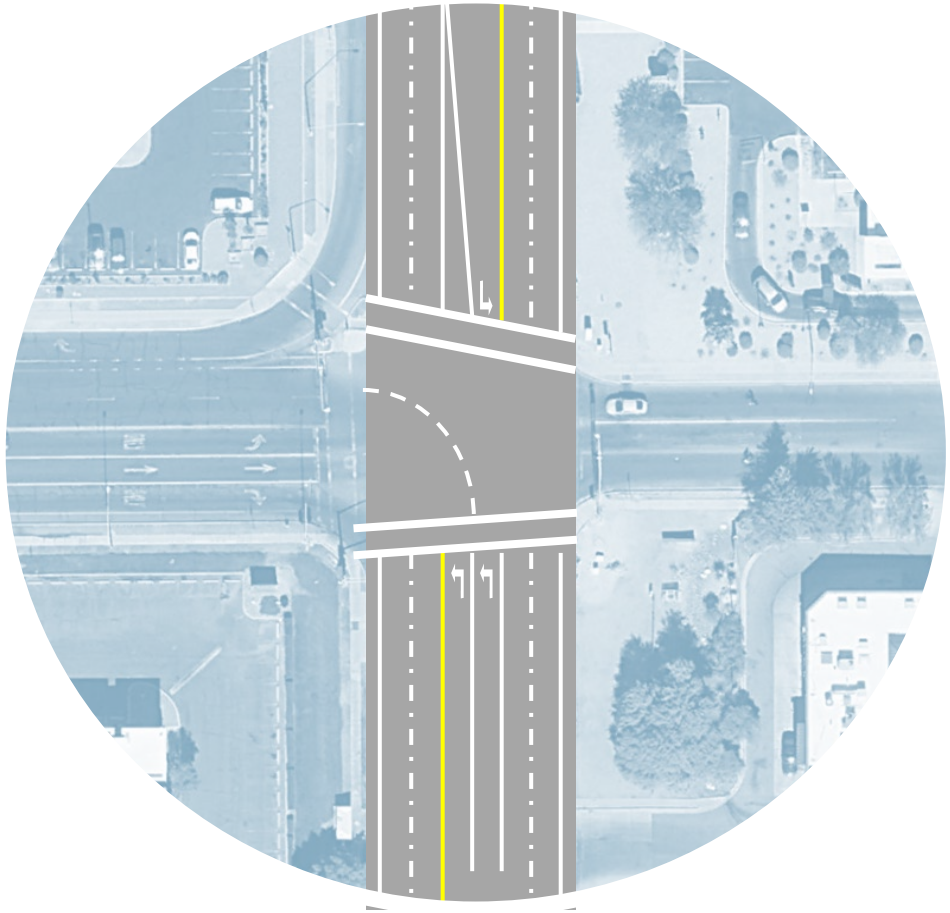
NEMA



Improvement #2: Dual Left-Turn Lanes

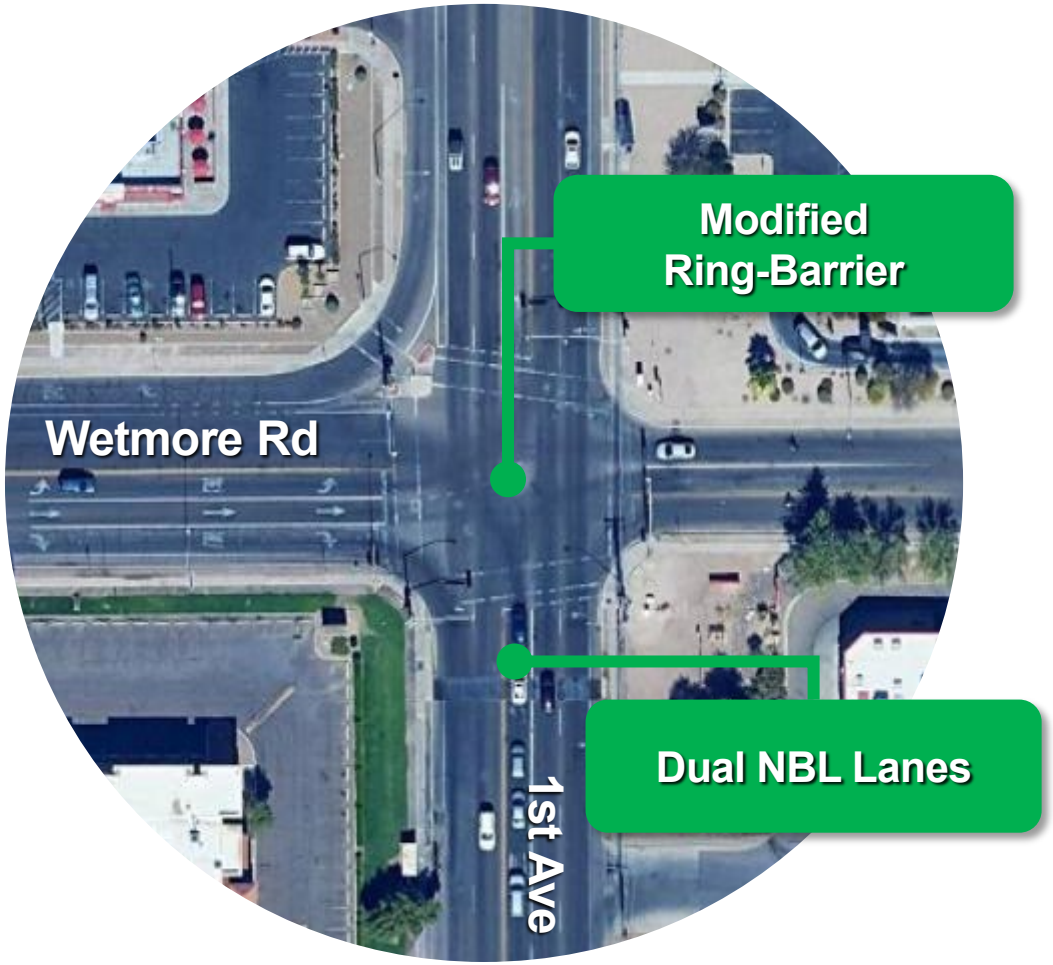
No-Build

Northbound Left	AM Peak Hour	PM Peak Hour
Hourly Volume	251	327
Volume-to-Capacity	0.87	1.26
95th Queue Length	13 cars	16 cars



Wetmore Rd - Cumulative Improvements

PM Peak Hour	Existing Condition	2045 No-Build	2045 with Improvements
Intersection Delay	26.9 sec	61.7 sec	41.6 sec
Level of Service	LOS C	LOS E	LOS D
Max V/C Ratio	0.86	1.26	0.91
Critical Movement	EBL, 58.2 sec (LOS E)	NBL, 184.2 sec (LOS F)	NBL, 65.6 sec (LOS E)



Preferred Alternative
Prince Road to
Roger Road

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Project Goals

1. **Improve Safety** for all users of 1st Avenue, particularly for the most vulnerable road users, such as pedestrians, bicyclists, people with disabilities, motorcyclists, and others.

2. **Increase transportation options** and reduce barriers on 1st Avenue by improving comfort, convenience, and accessibility for people walking, biking, and using public transportation.

3. Improve the condition of **existing infrastructure** to ensure that 1st Avenue meets community needs now and into the future.

4. **Support mobility** along the corridor through the efficient movement of traffic, including transit, personal, and commercial vehicles.

5. **Minimize the impacts** of 1st Avenue improvements on adjacent residents and businesses.

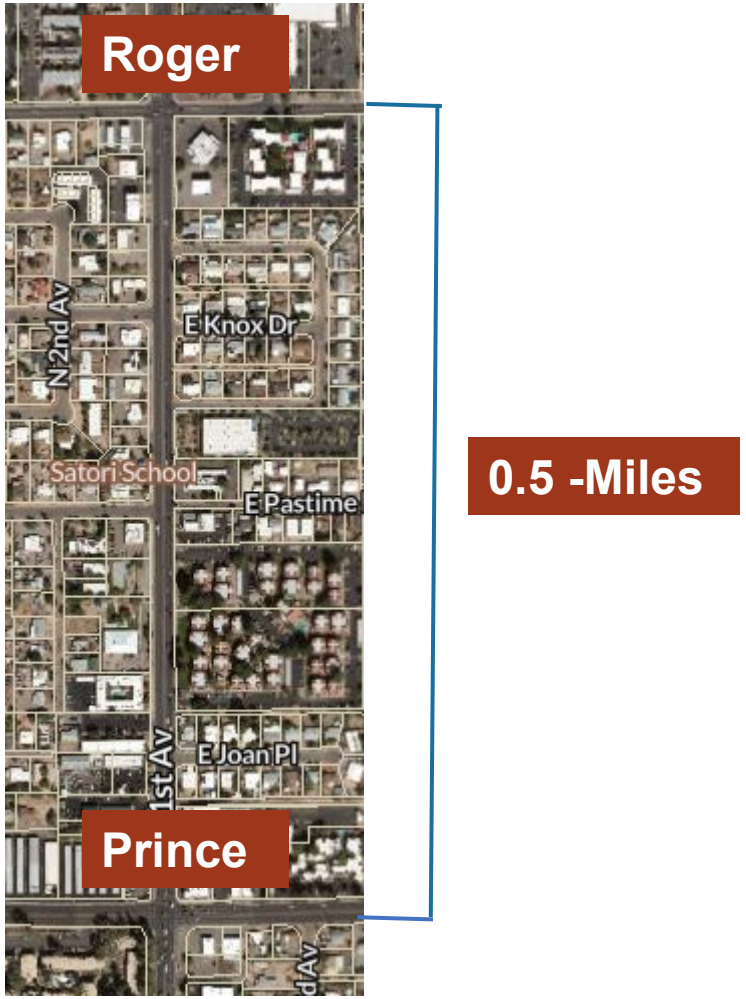
6. Enhance the **visual character** of 1st Avenue to support economic and community vitality.

Segment 2: Prince Road to Roger Road

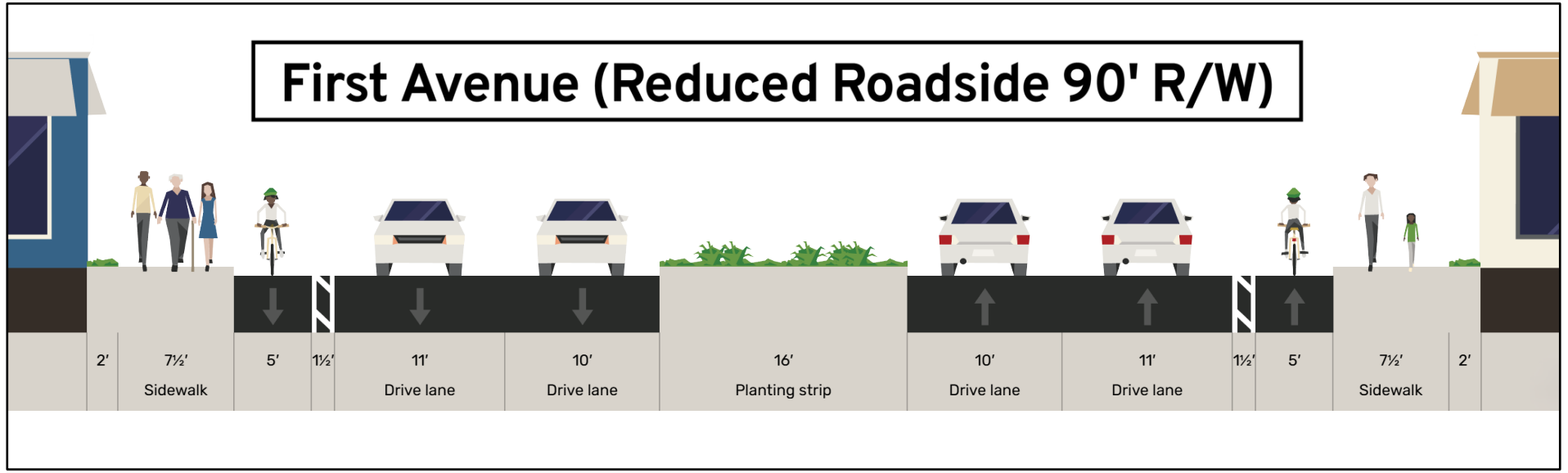
Most constrained segment of the corridor (80 to 85-ft R/W - minimal building setbacks)

Most residential segment of 1st Ave.

Developed two alternatives for consideration

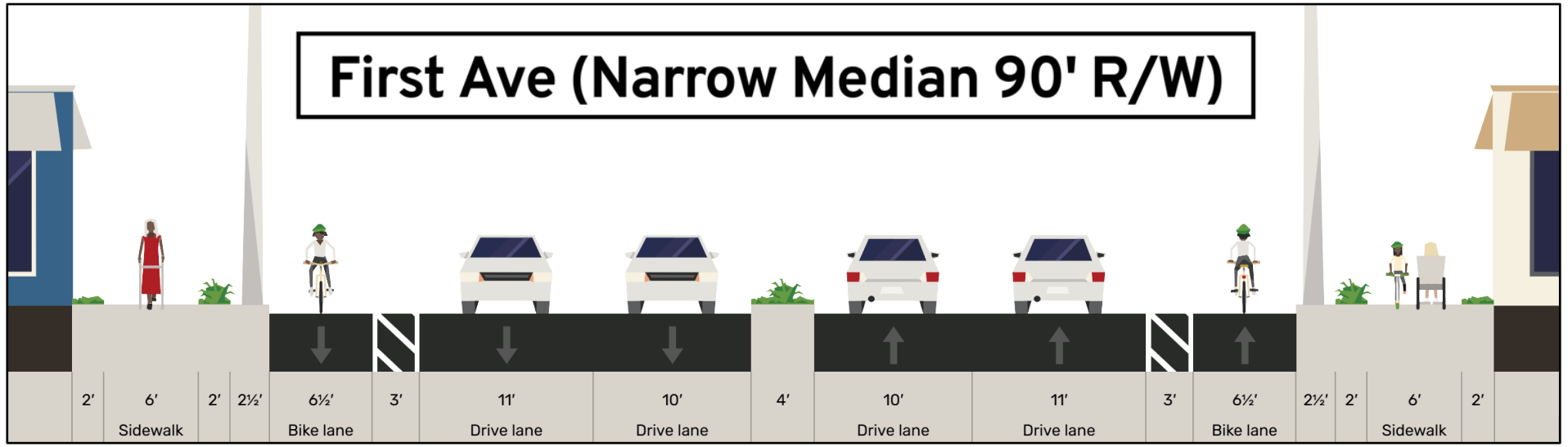


Potential Narrow Cross-Section Alternatives



MOE Score: 6.5

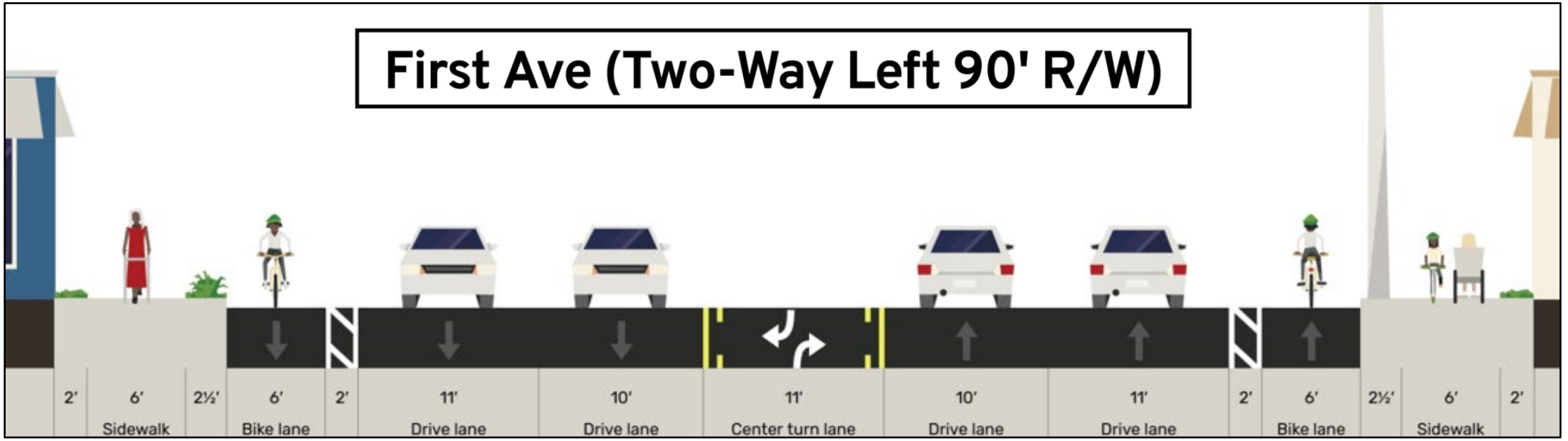
- Lower score primarily driven by reduction in bike lane buffer
- Meets all project goals.

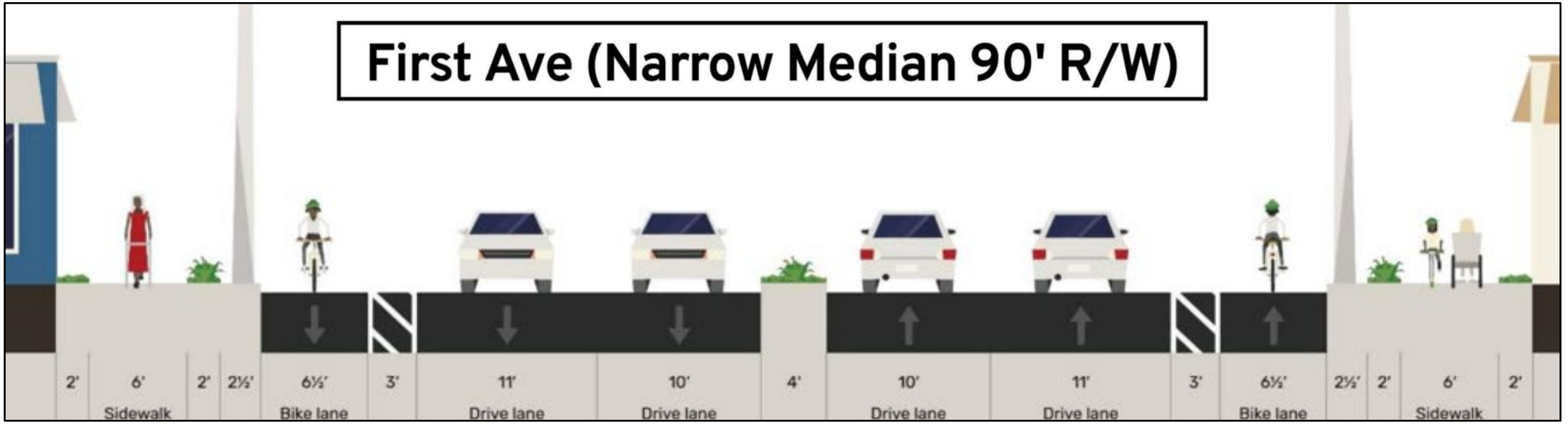


MOE Score: 10.4

- Score remains high. However, all Left or U-turn access has been eliminated.
- Does not meet all project goals.

Revised Narrow Cross-Section Alternatives





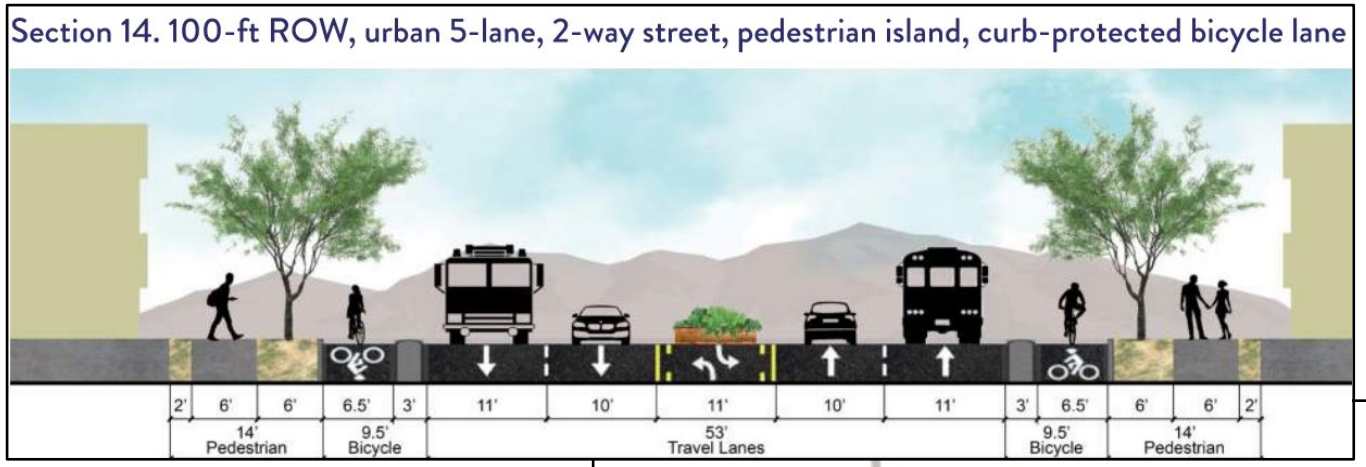
Previous design strategies to reduce property impacts

Conducted *Needs Assessment Study* to verify a widened six-lane roadway is not necessary to accommodate future traffic volumes

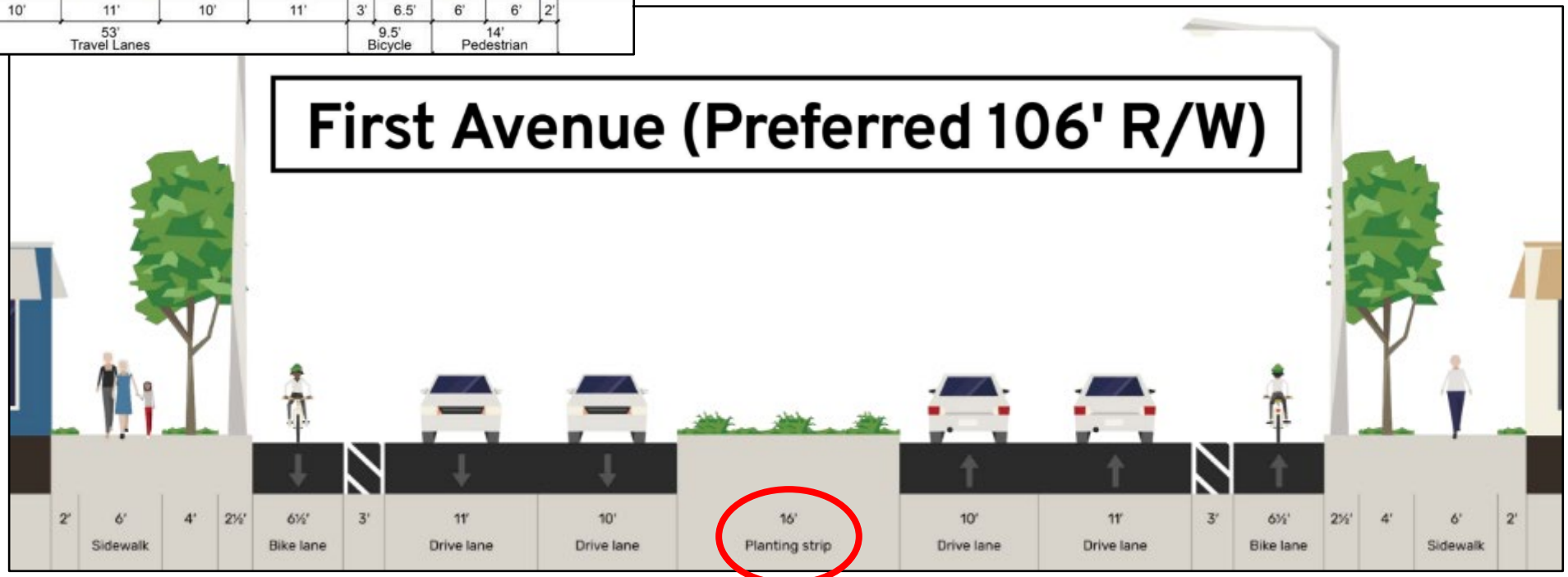
Off-set roadway from centerline to take advantage of larger building setbacks on one side of the road

Introduced curvature to avoid structures

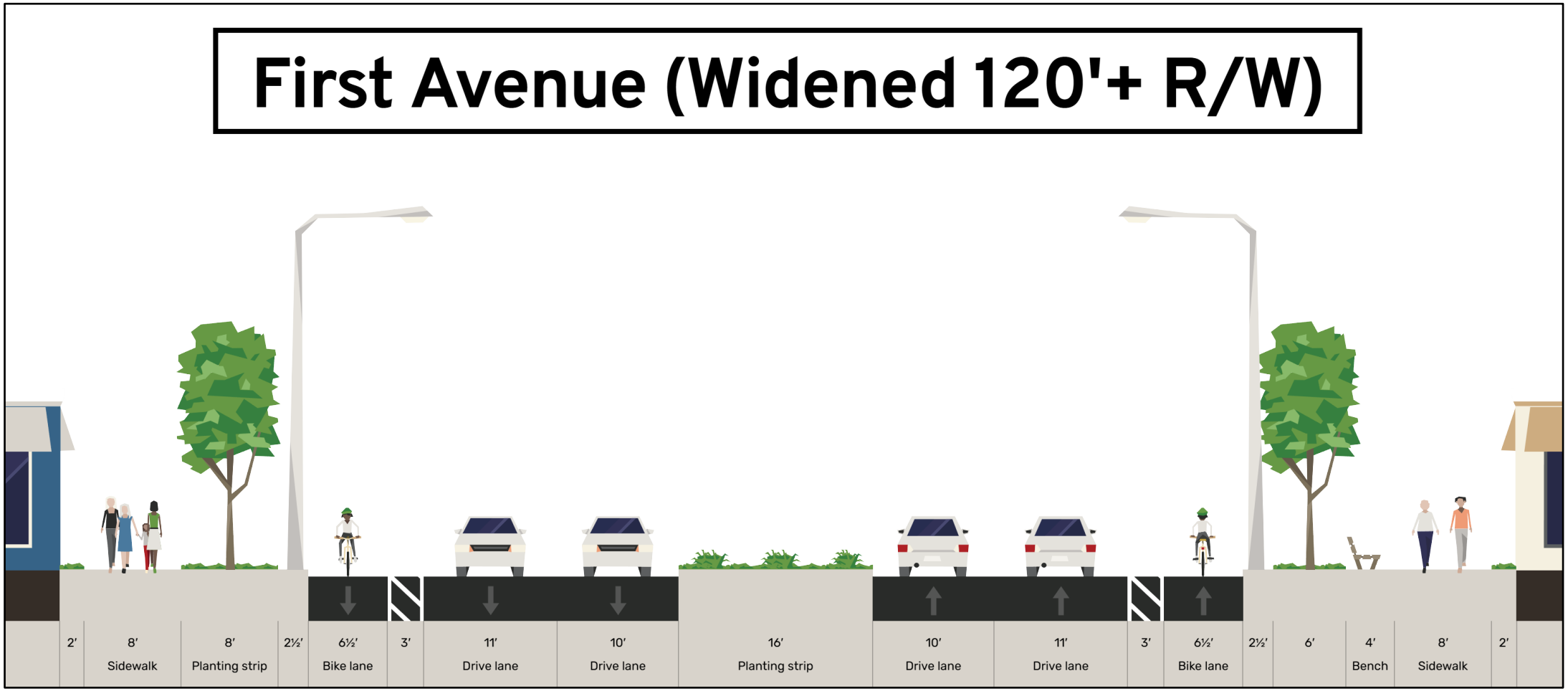
City of Tucson Preferred Cross-Section



Median has been widened to 16’ to provide better accessibility options along the corridor.

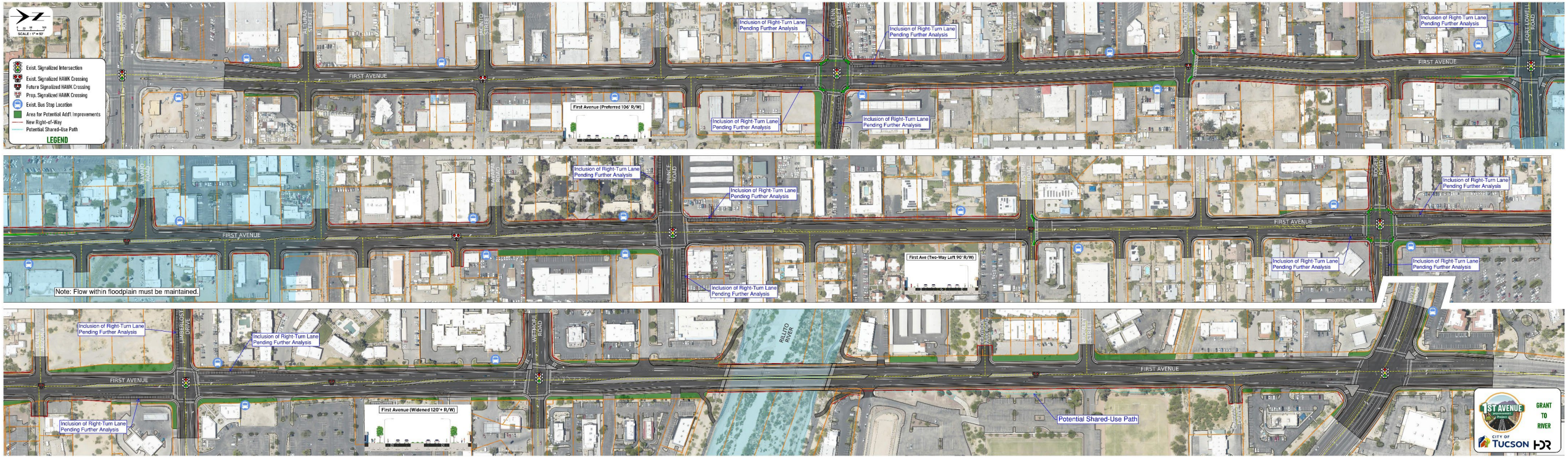


Potential Wider Cross-Section Alternative



- Maintains all preferred widths within the curb line.
- Increases widths of areas behind the curb to maximize the use of existing Right-of-Way.
- Meets all project goals.

1st Ave Corridor Map



Adjournment

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