



Greenville Avenue Demonstration Project

November 18, 2019

City of Richardson
Transportation & Mobility



Overview

Purpose: To receive City Council direction regarding Greenville Avenue street cross-section for inclusion in proposed code.

- Overview of demonstration project
- Quantitative data evaluation
- Qualitative feedback review

NOTE: The crosswalk at the Arapaho Center Station is not a part of the proposed code. Continued observation and evaluation following the installation of additional safety features.

Arapaho Station Pedestrian Crossing Continued Observation & Evaluation

Additional Safety Features to be Installed:

- Retroreflective pavement markings
- Rapid Flashing Beacon (RRFB)
- Additional advanced warning signs and rumble strips
- Increased pedestrian lighting

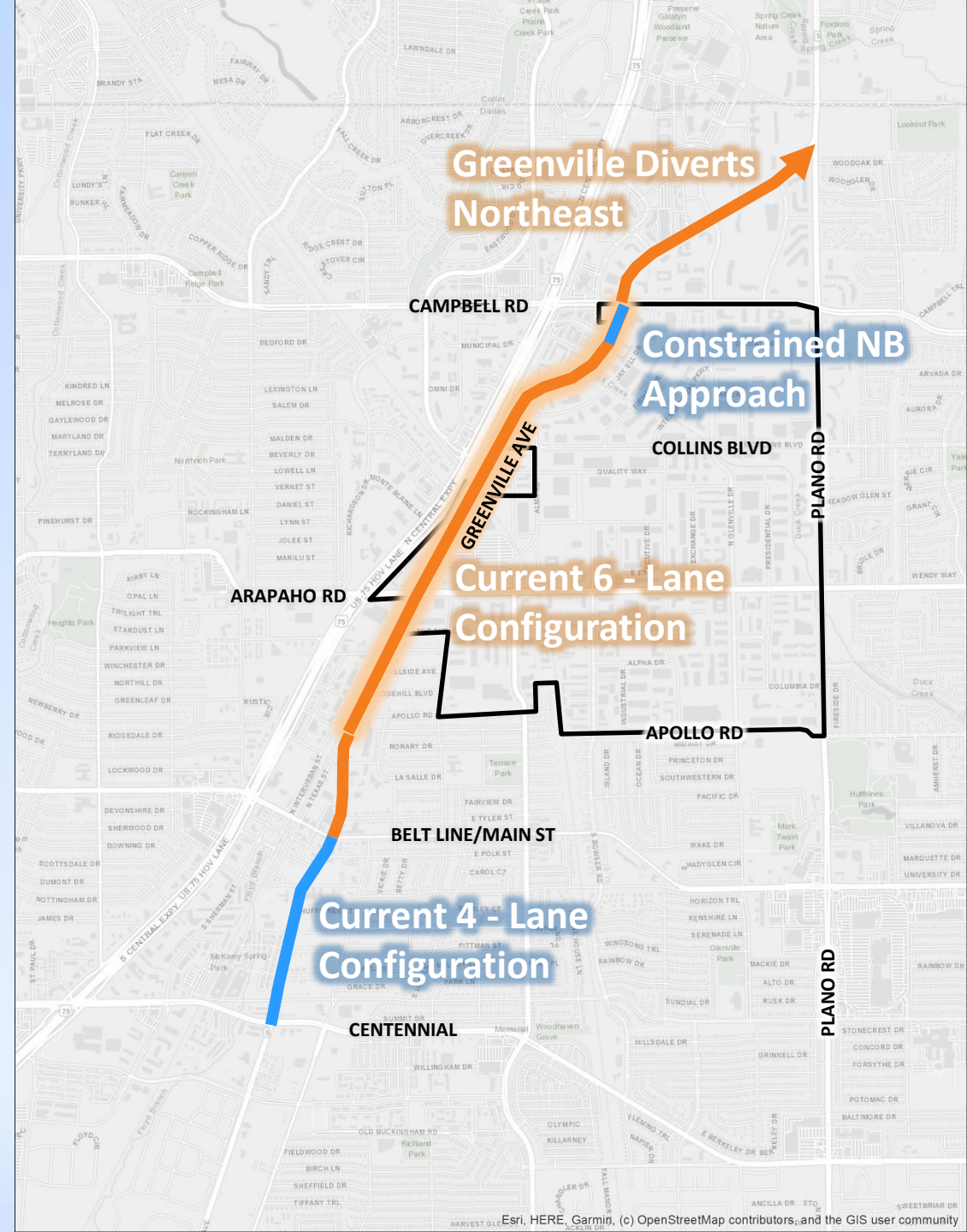
Report back to City Council in 2020

Flashing beacon (RRFB)



Why Greenville Ave?

- Collins/Arapaho TOD & Innovation District Study
 - Study vision and goals
 - Consensus among CC, CPC, Chamber, Stakeholder and Property Owners
- Multimodal opportunity for underutilized corridor



Existing

EXISTING VIEW OF GREENVILLE AVENUE LOOKING SOUTH



Ultimate Concept

POTENTIAL STATION AREA DEVELOPMENT AND
GREENVILLE AVE REDESIGN



Demonstration

DEMONSTRATION PROJECT CROSSWALK AND BIKE LANES



Demonstration Project Timeline

Greenville Road Diet

- Before-data collected May 2019
- Opened late-Sept 2019
- After-data collected October 2019
- Cross section to be incorporated in new zoning code

DEMONSTRATION PROJECT OVERVIEW

- Greenville Avenue temporary **on-street bike lanes** from Campbell Road to Jackson Street

QUANTITATIVE DATA EVALUATION

- US 75 incident impacts
- Traffic volume
- Traffic speeds
- Design iterations

QUALITATIVE FEEDBACK

- Input survey
- Road Reveal community event

OVERVIEW

QUANTITATIVE

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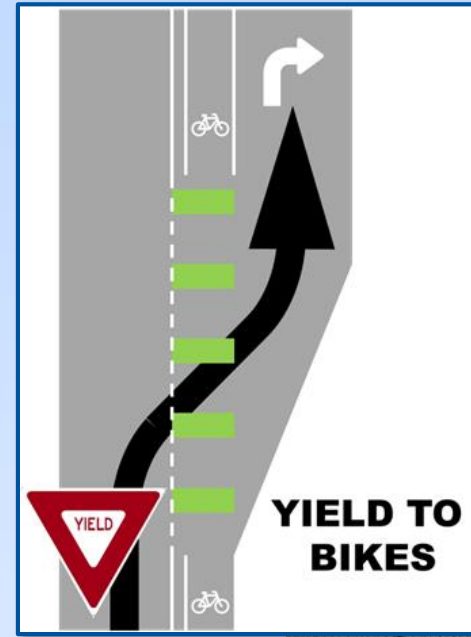
Road Diet with Bike Lanes



Road Diet with Bike Lanes



Vertical Separation in Bike Buffer



Green Paint in Transition Zones

Positioning Area for TOD

Key Characteristics for Successful TODs

- Compact
 - *New Zoning Code Addresses*
- Mixed-Use
 - *New Zoning Code Addresses*
- Centered around Transit
 - Existing Today
- Walkable, Pedestrian-Oriented
 - *Greenville Avenue must be redesigned to achieve this characteristic*

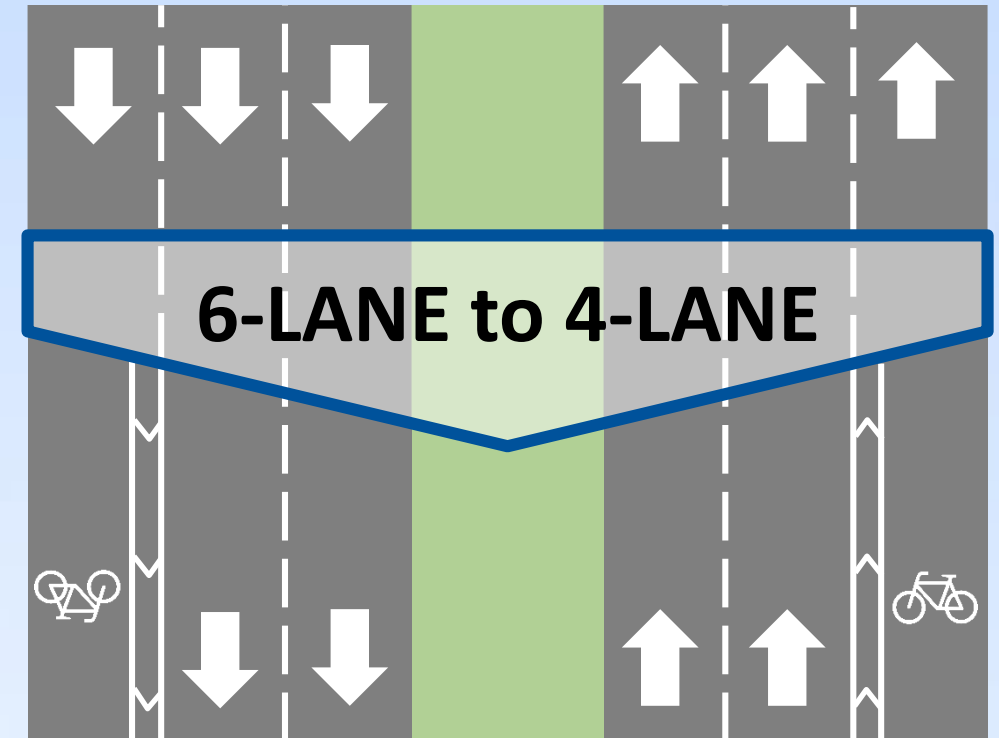


Study Recommendation*

**Before-After Study performed by Kimley-Horn and Associates, Inc.*

Greenville Avenue Road Diet

“[I]t can be concluded that **one lane can be removed from northbound and southbound Greenville Avenue and still operate within acceptable conditions...** leaving adequate room for future growth along the corridor.”



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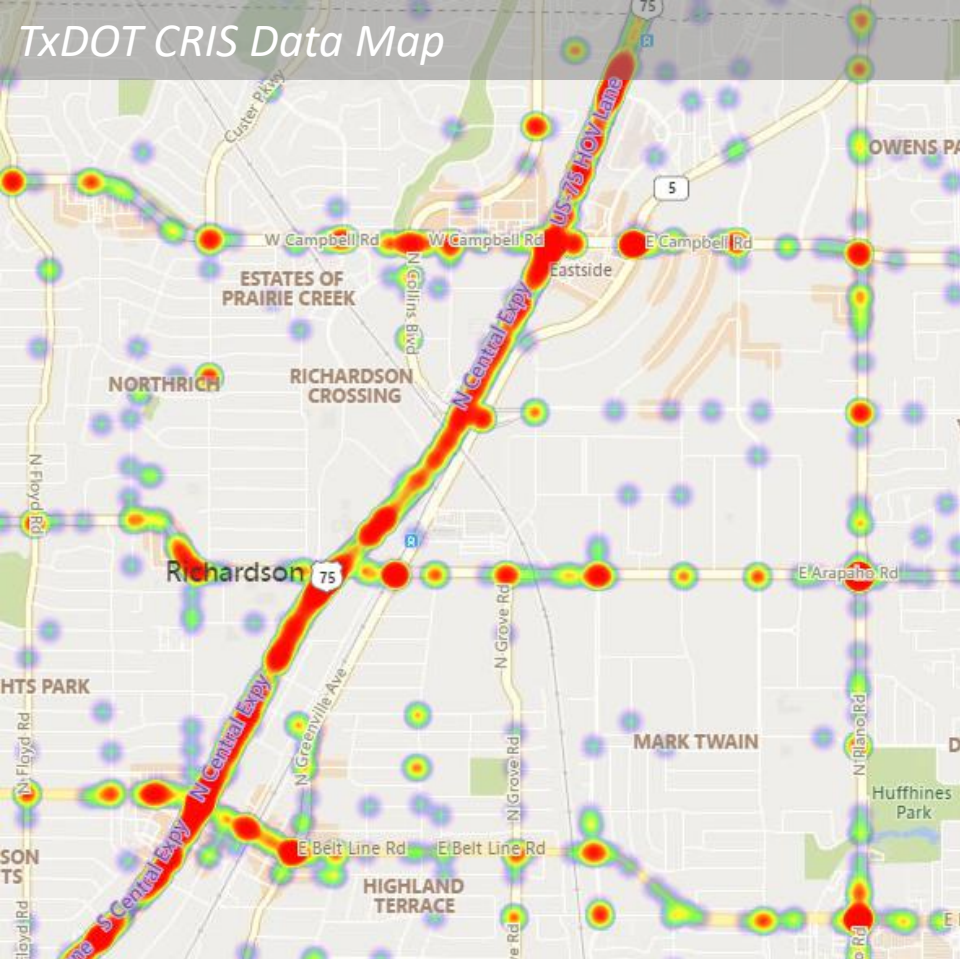
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OVERVIEW

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US 75 Incidents

- 3-year data analyzed (TxDOT)
 - 3 incidents met criteria for significance to divert traffic
- Data does not show Greenville as a significant reliever to US 75 incidents
- Delays experienced during severe incidents were similar for both 4-lane and 6-lane configurations

Traffic Volumes

- 7-day traffic volumes collected in before and after conditions
- No period exceeds a 4-lane capacity
- Only 25-30% of 6-lane capacity utilized
- Capacity bottlenecks are typically found at intersections, not segment lane configuration
- Data shows roadway carries volume similar to a 2-lane facility

Before-After Evaluation

- Level-of-Service (LOS) remains unchanged
- Greenville traffic volumes remained consistent
 - Less than +/- 5% difference
- Crowdsourced Travel Data (INRIX)
 - Average increase of 11.5 seconds in corridor travel time
 - Average travel time: +4%
 - PM northbound traffic most impacted
 - Signal timing adjustments can improve

Traffic Signals

- DART signal preemption **prevents progression**
 - Delay/queue at Jackson
- Signal timing not adjusted during project
- **Signal system and communications improvements** could alleviate incident impacts



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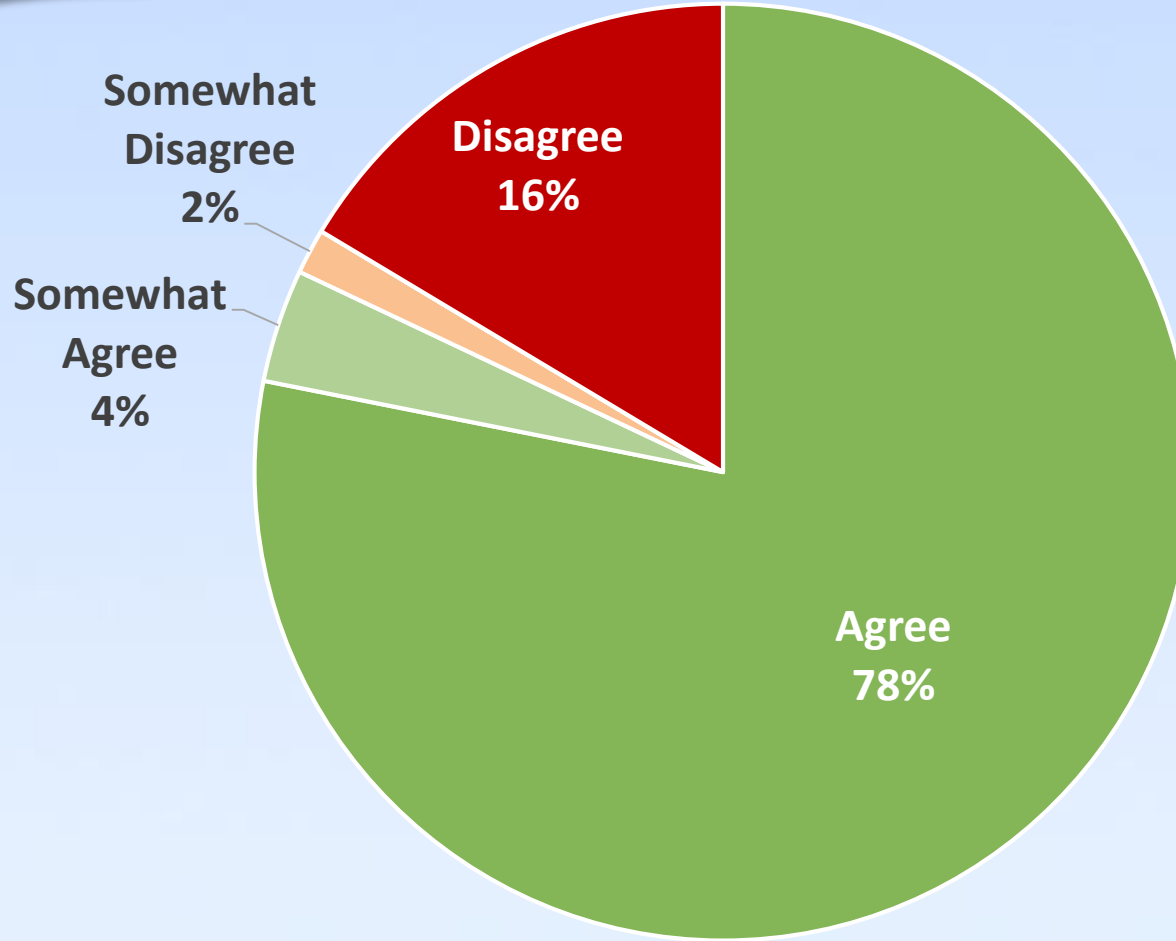
QUALITATIVE

Greenville Ave Mobility Demonstration Project Survey

(as of 11/11/19)

Greenville Avenue should be designed for all modes of
transportation (walking, biking, vehicles, bus)

Total Respondents: 130



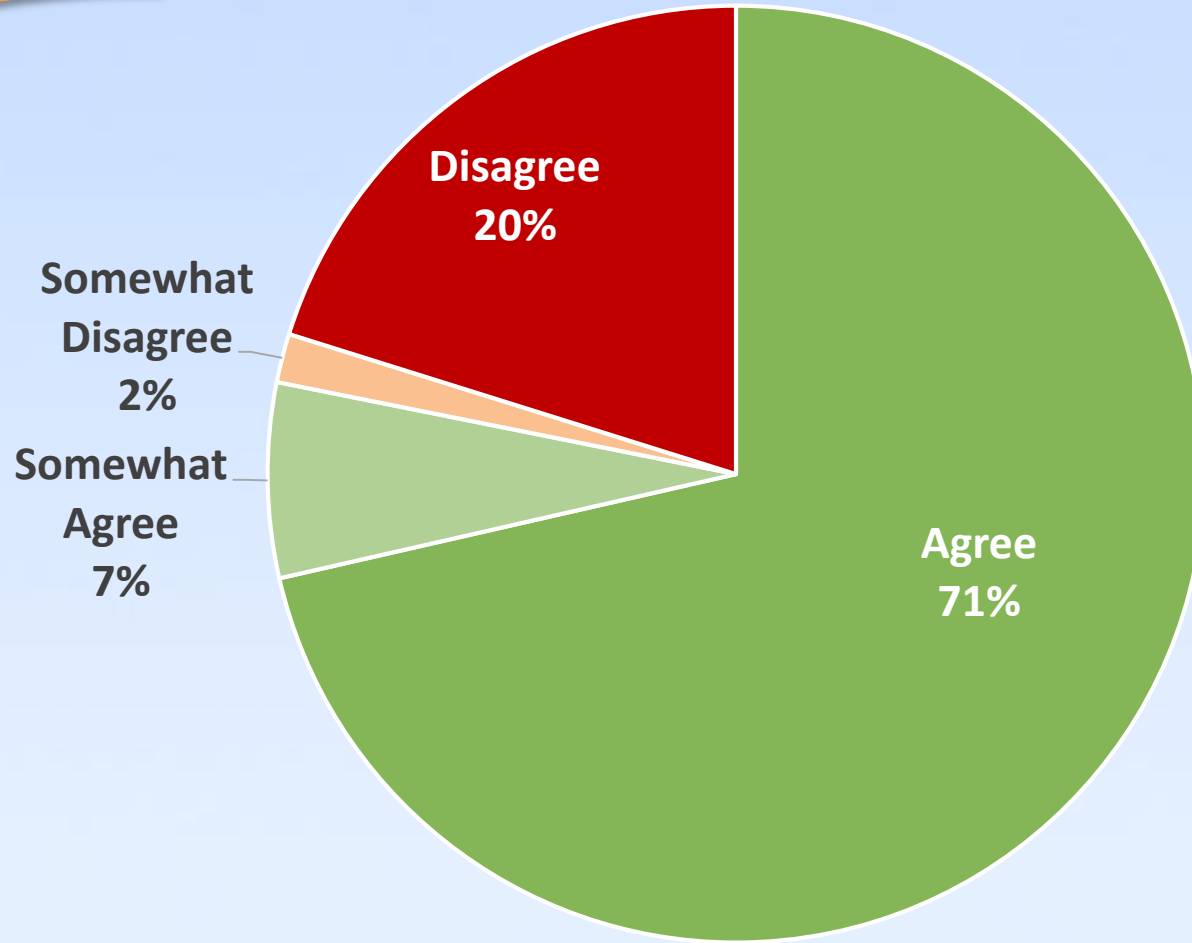
Note:
1 vote – No Preference
1 vote – Not Applicable

Greenville Ave Mobility Demonstration Project Survey

(as of 11/11/19)

I would like to see the temporary bike lanes along Greenville Ave from Campbell Rd to Jackson St become permanent

Total Respondents: 128



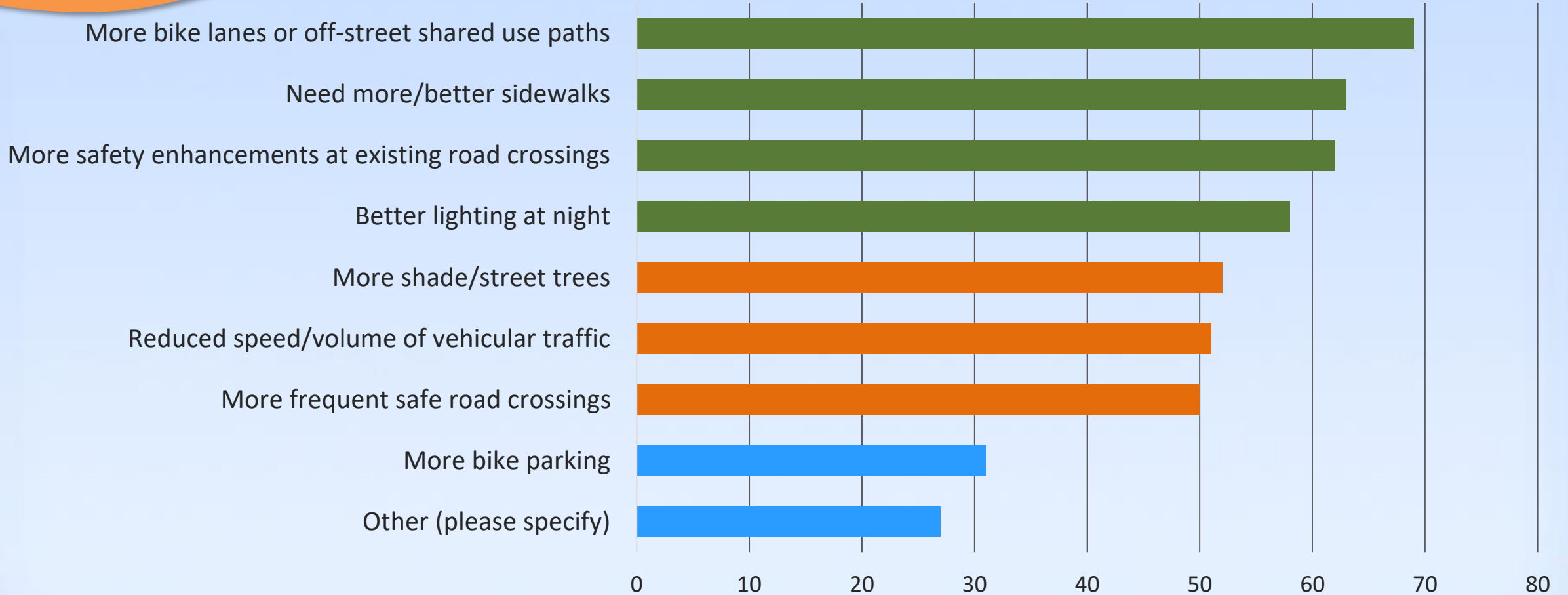
Note:
7 votes – No Preference
2 votes – Not Applicable

Greenville Ave Mobility Demonstration Project Survey

(as of 11/11/19)

What street improvements might better encourage or enable you to walk or bike more along Greenville Avenue?

Total Respondents: 123





Greenville Avenue Road Reveal Community Event



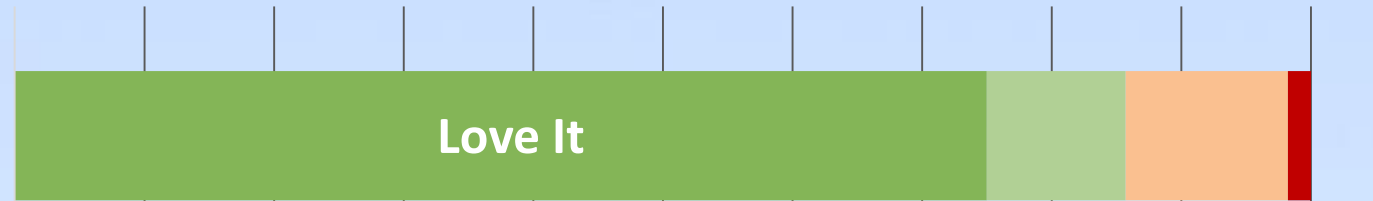
Road Reveal Community Input (10/17/19)

Comments:

- Separation curb [bike lane]
- More poles! [vertical barriers]

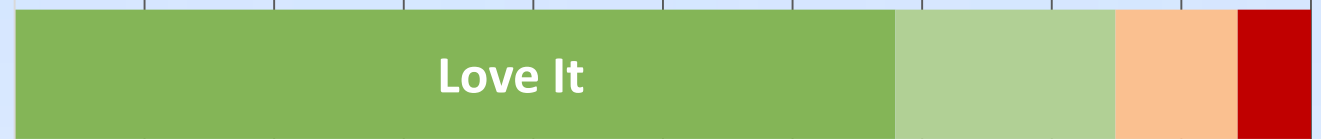
Dedicated Bike Lanes

Total Dots: 56



Use of Green Paint for Transition Zones

Total Dots: 53



Vertical Protection Barriers for Bike Lanes

Total Dots: 59



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Love It Like It Meh Dislike It

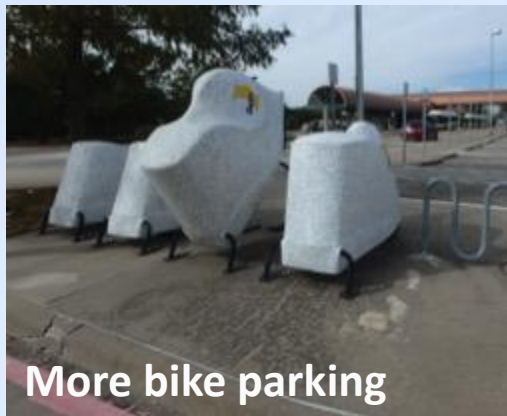
Bike Audit Recommendations



More protection from traffic



Broader perspectives & engagement



More bike parking



Bike & ped way-finding



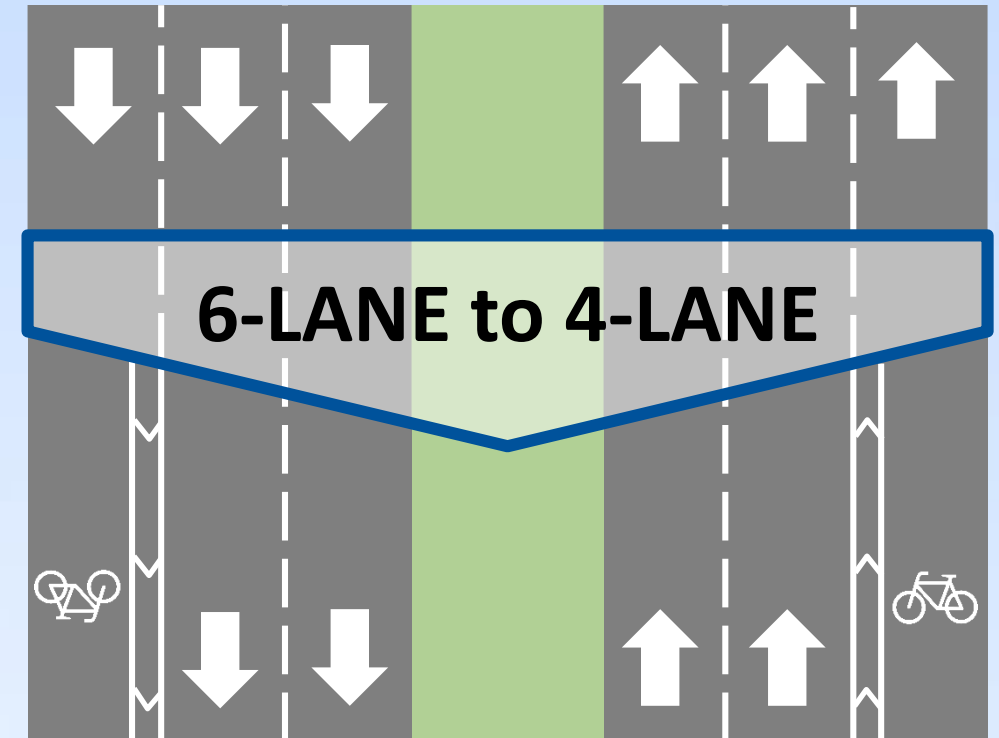
More complete network

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Made To Move Grant

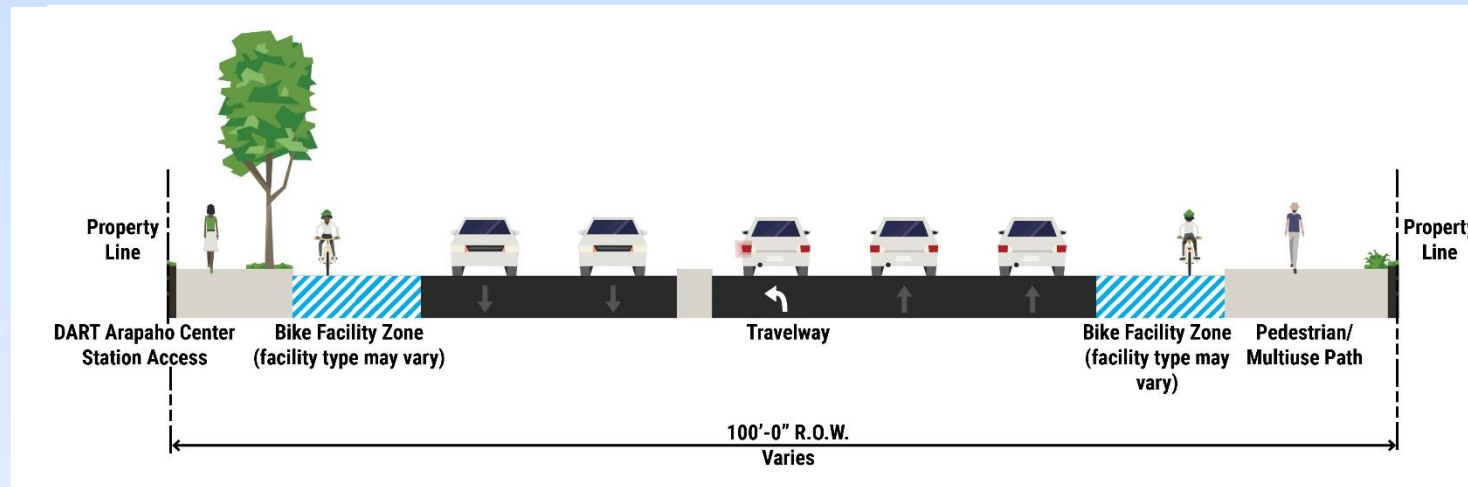


- Grant's ultimate goal of promoting more walkable, bikeable, transit-friendly environments for all ages, incomes and abilities
- 1 of 5 award recipients from across the nation
- \$100,000 grant award
 - \$10,000 for planning and community engagement
 - \$90,000 for permanent installation, if approved

Recommended Code Cross-Sections

- Four Lane Travelway Zone
- Code provides flexibility with bicycle facilities

Minimum
(Current)



Preferred

