

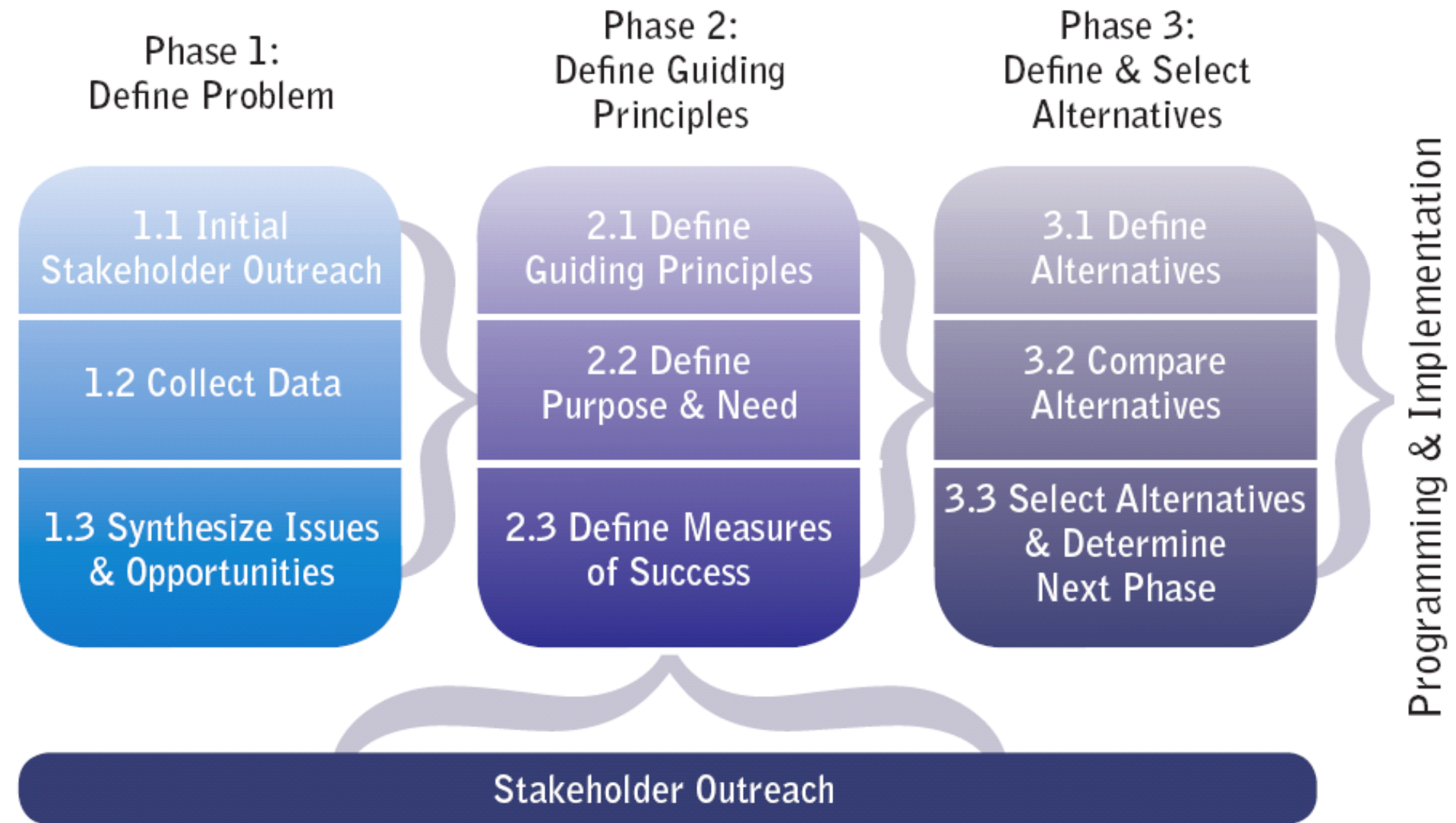


# **Narrow It Down:**

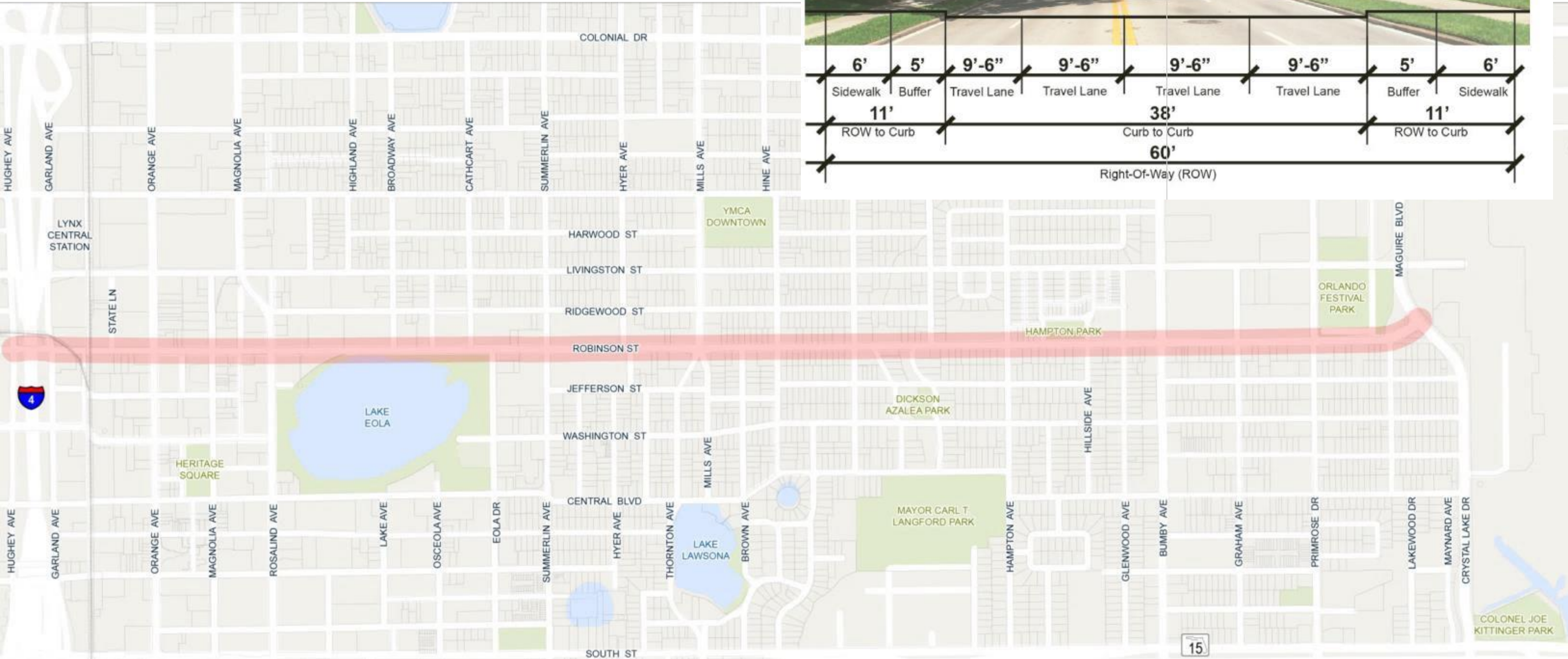
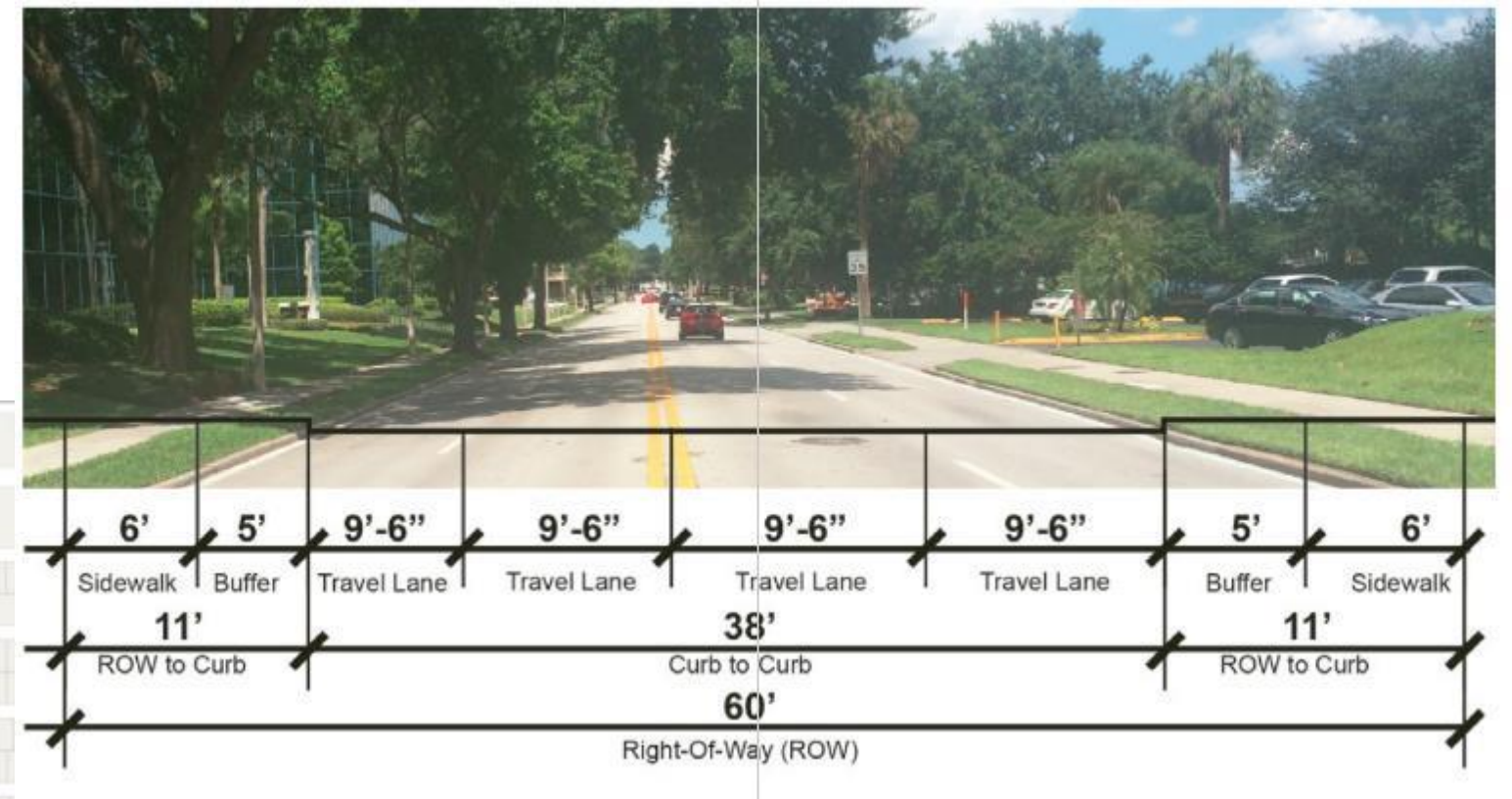
## **Data-driven Approaches to Achieve Multimodal Solutions on Constrained Roadways**

D10-FSITE/SFWTS Annual Meeting  
October 30, 2018

# Focus on Planning



# Study Corridor (Hughey Ave. to Maguire Blvd.)



# Evolving 24-Hour Downtown

**149,300** Jobs

**43,400** Population

**43%** Millennials

**6,000** New residential units  
Since 2000

# Project DTO Vision



NOV  
04

PUT A BIKE LANE ON IT: Robinson Street Corridor Planning Workshop

Public · Neighborhood · Hosted by Juice Bike Share

✓ Interested ▾

✉ Invite ▾

⋮

Dear Neighbor,

The Florida Department of Transportation and the City of Orlando would like to narrow Robinson Street from four to two lanes (no, really. This is not a joke).

Please see the attached flyer about a public workshop on Wednesday at 5:30pm. If you would like hundreds, perhaps thousands of extra cars driving through your neighborhood daily, then don't attend the meeting.

For questions or additional information, please email Steve Palvisak at [steve.palvisak@edwardjones.com](mailto:steve.palvisak@edwardjones.com)

# Multiple Workshops



# Online Engagement

**ROBINSON ST.**  
More than just a street.

## Robinson Street Corridor Study Survey

(Survey open until Friday, November 18, 2016)

I am a Robinson Street Corridor (check all that apply):

- Resident
- Worker
- Visitor
- Other

Home location (nearest intersection):  
  
ex. Robinson Street

Work location (nearest intersection):  
  
ex. Robinson Street

Next

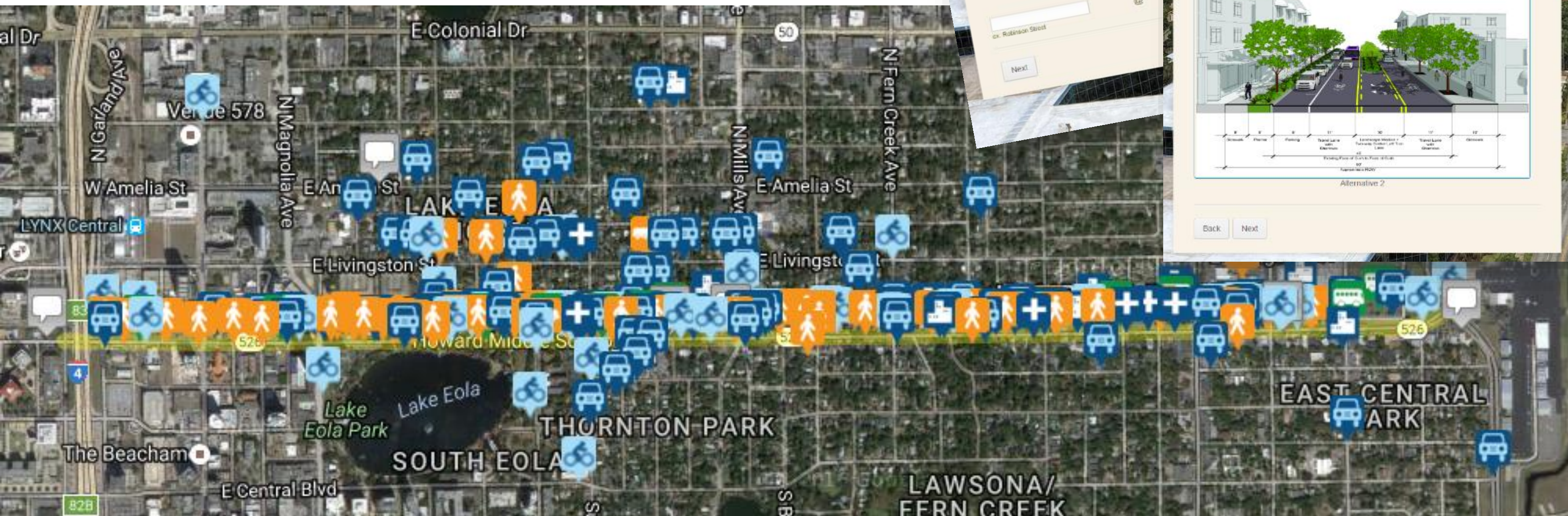
**Corridor-wide Alternative 1A: CBD - Hughey Ave to Rosalind Ave**  
3 Lanes + 2-Way Cycle Track

Alternative 1

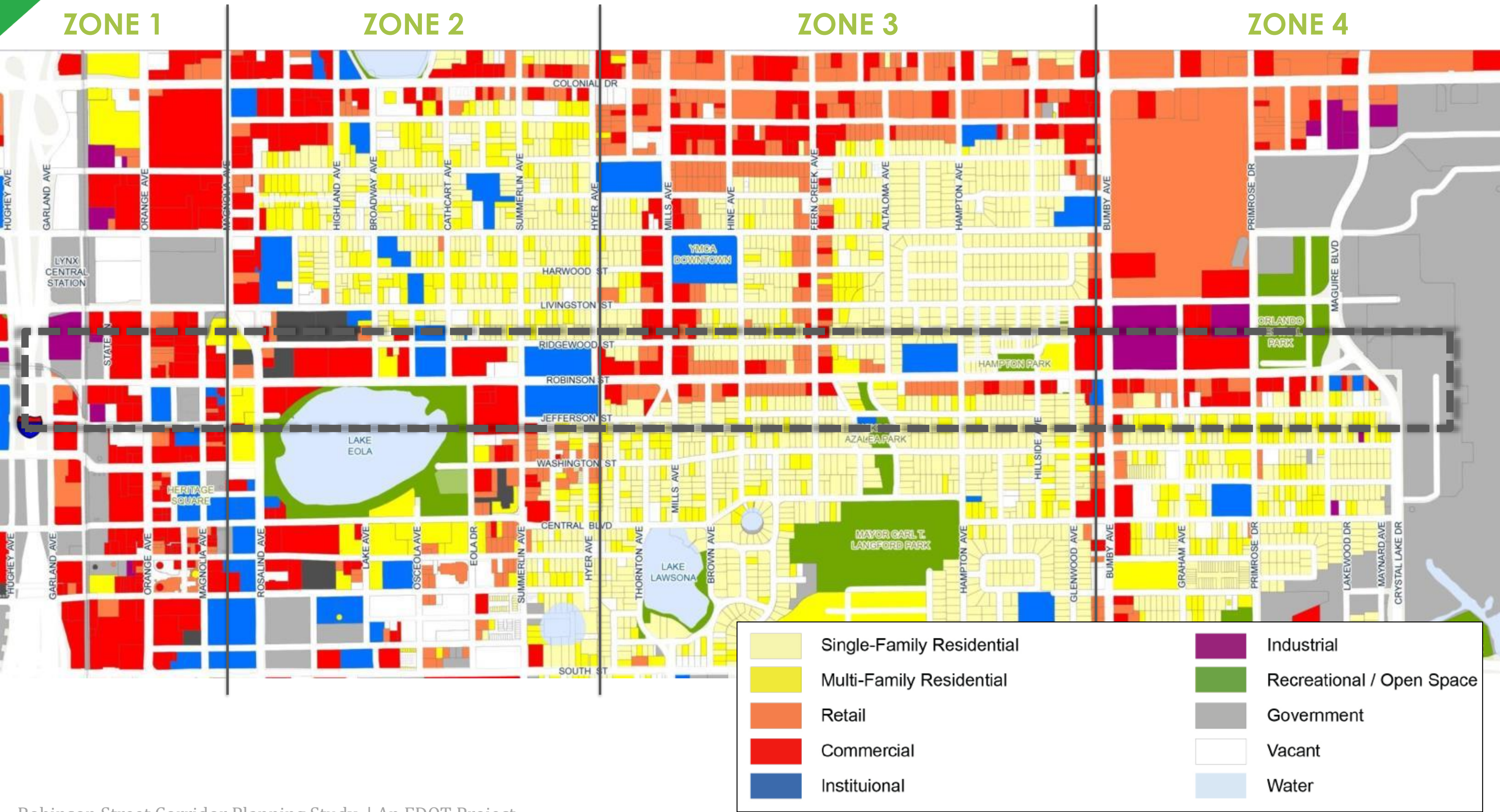
**Corridor-wide Alternative 2: CBD - Hughey Ave to Rosalind Ave**  
3 Lanes + Shoulder + On Street Parking

Alternative 2

Back Next



# Robinson Street has Different Character Districts

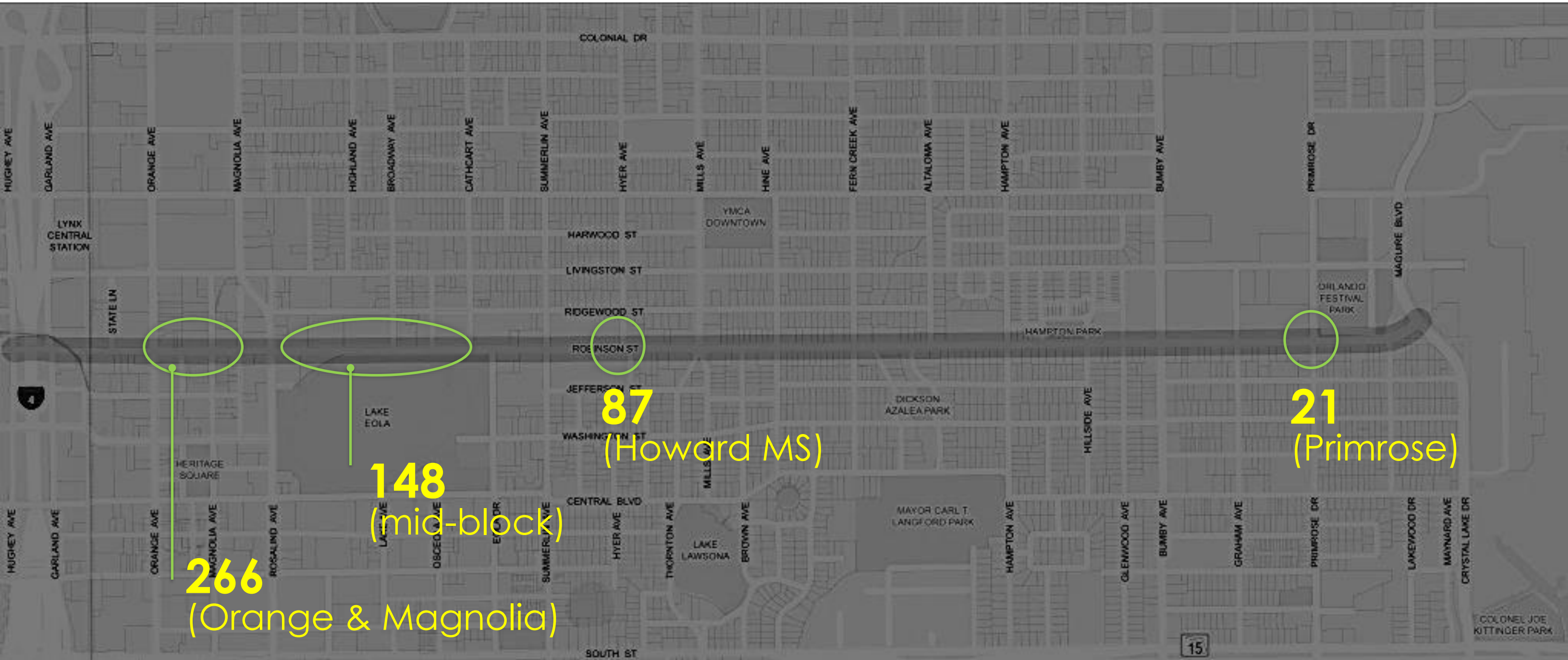


# Desire & Need to Improve Pedestrian Safety & Comfort

Many pedestrians cross mid-block, accepting small gaps to dash across 4 lanes of traffic

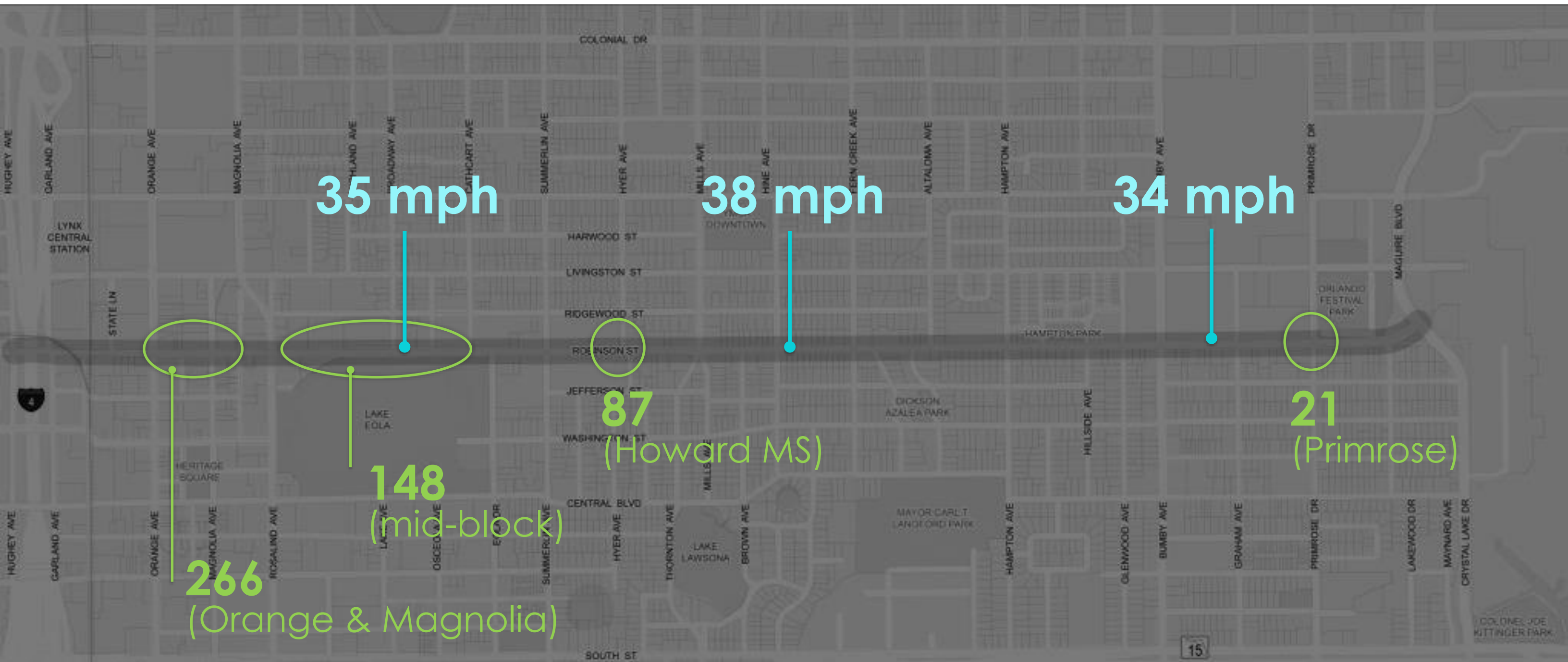


# Where are pedestrians crossing?



## Concentrations of Peak Period Pedestrian Crossings

# What are the speeds in these areas?



## Vehicle Speeds (85th Percentile)\*

\*spot speeds

# Transit Challenges along Robinson

- 33 Incidences of buses hitting trees, other objects, other vehicles on transit routes along Robinson in the last 3 years
- Buses are re-routed during event closures on Robinson Street

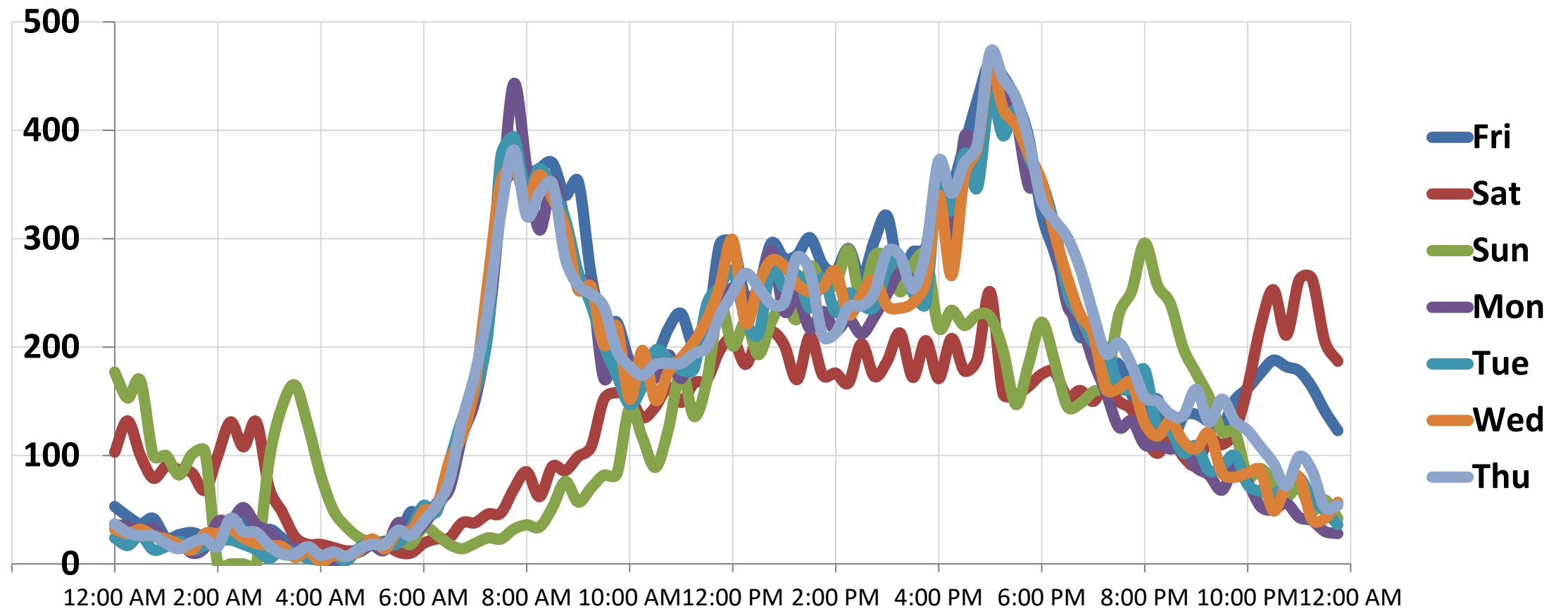


“Curb cuts make it difficult to install bus landing pads near intersections.”

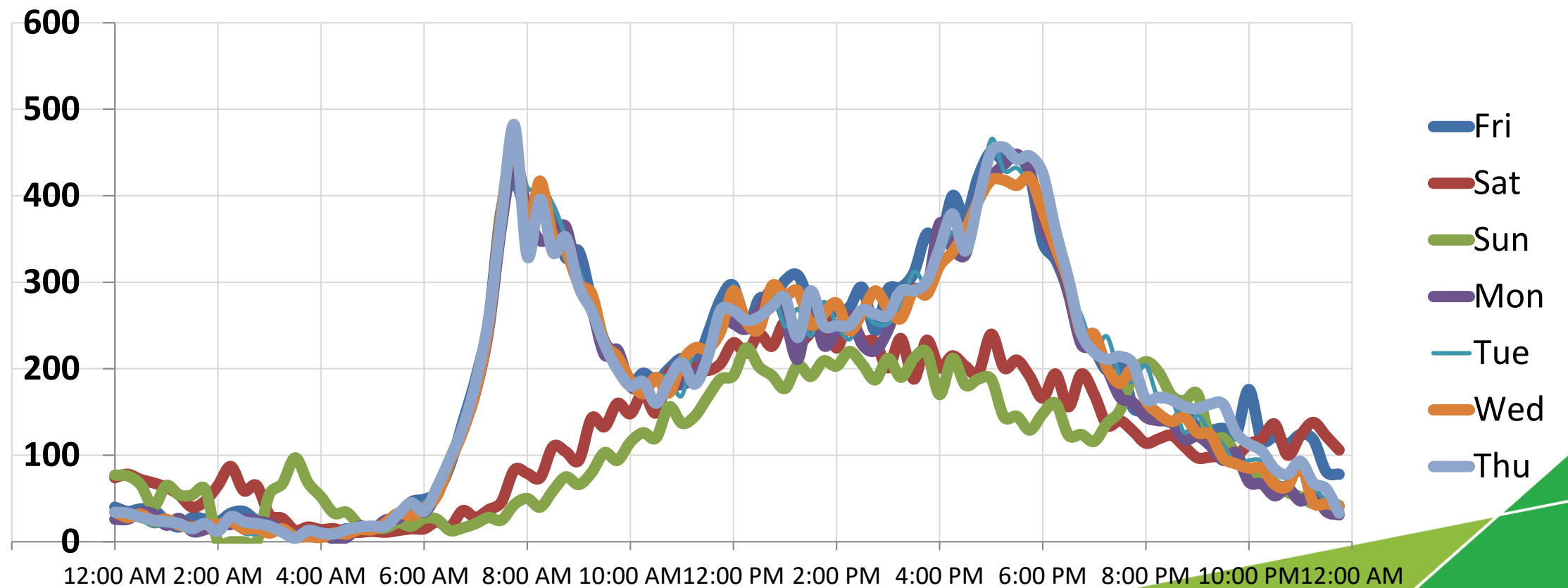
“Bus stops are only poles, not shelters.”

# Pronounced Peaking of Traffic Volumes

East of Rosalind Ave

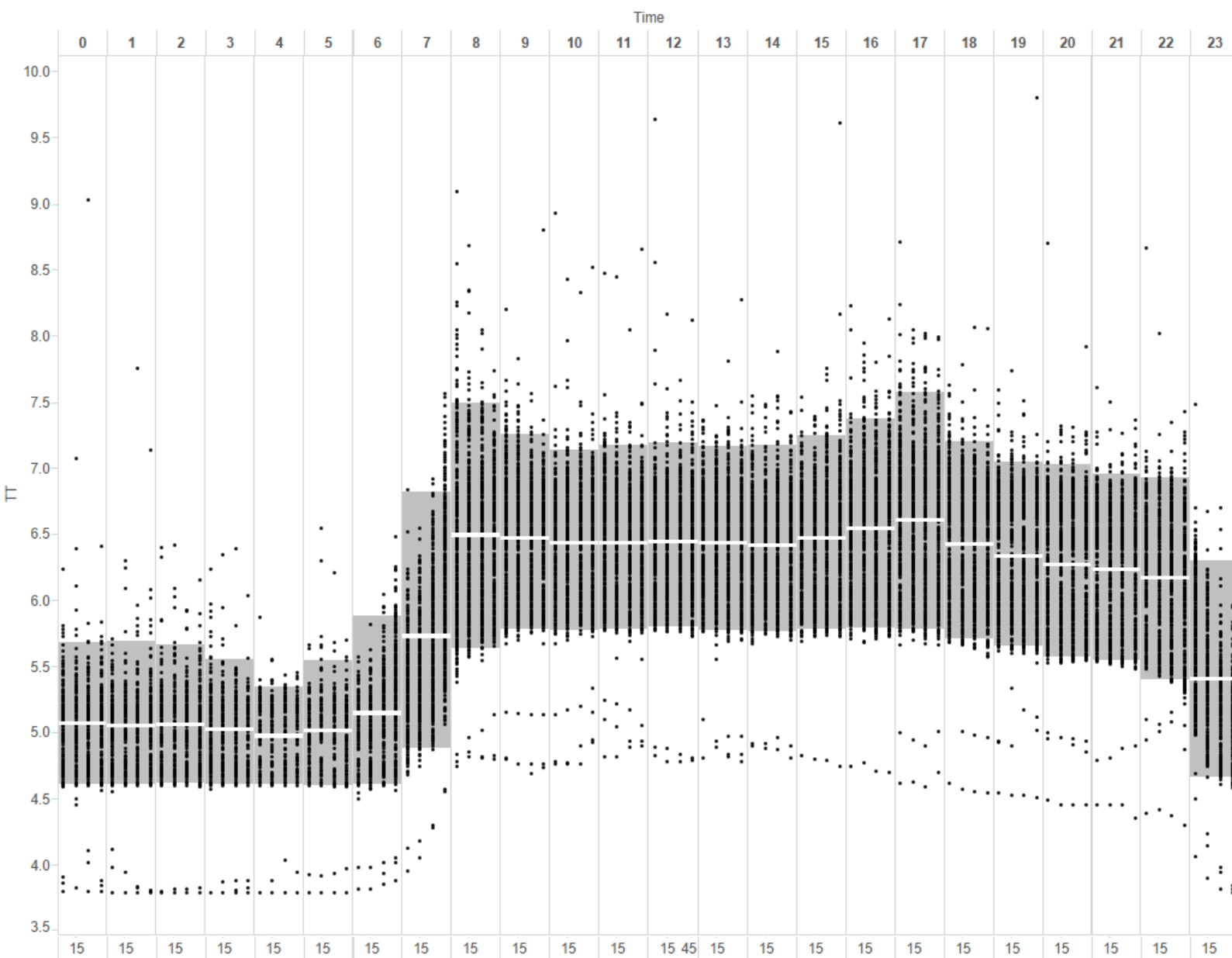


West of Bumby Ave

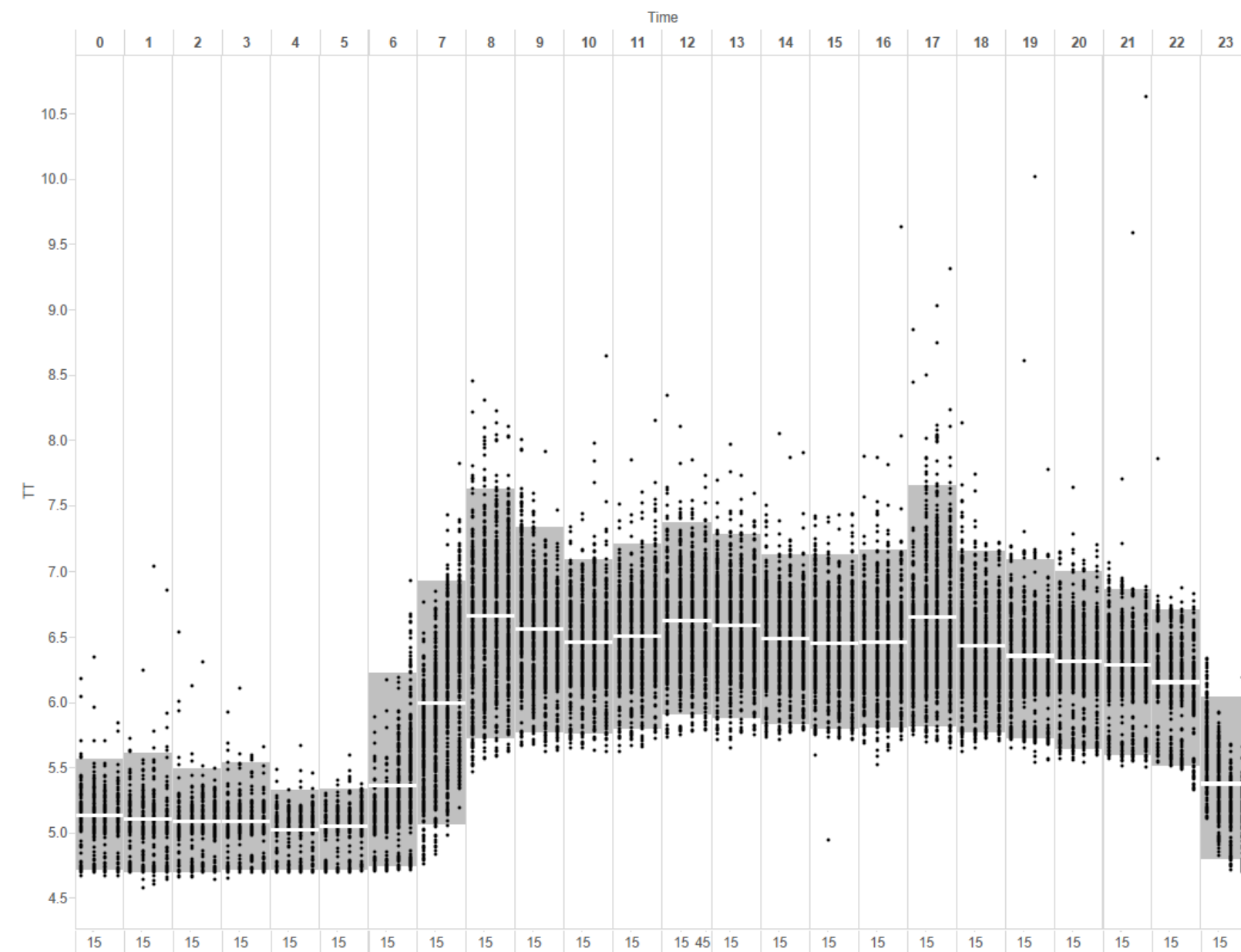


# Reliable Vehicular Travel Times

<Travel Time (WB)>



<Travel Time (EB)>



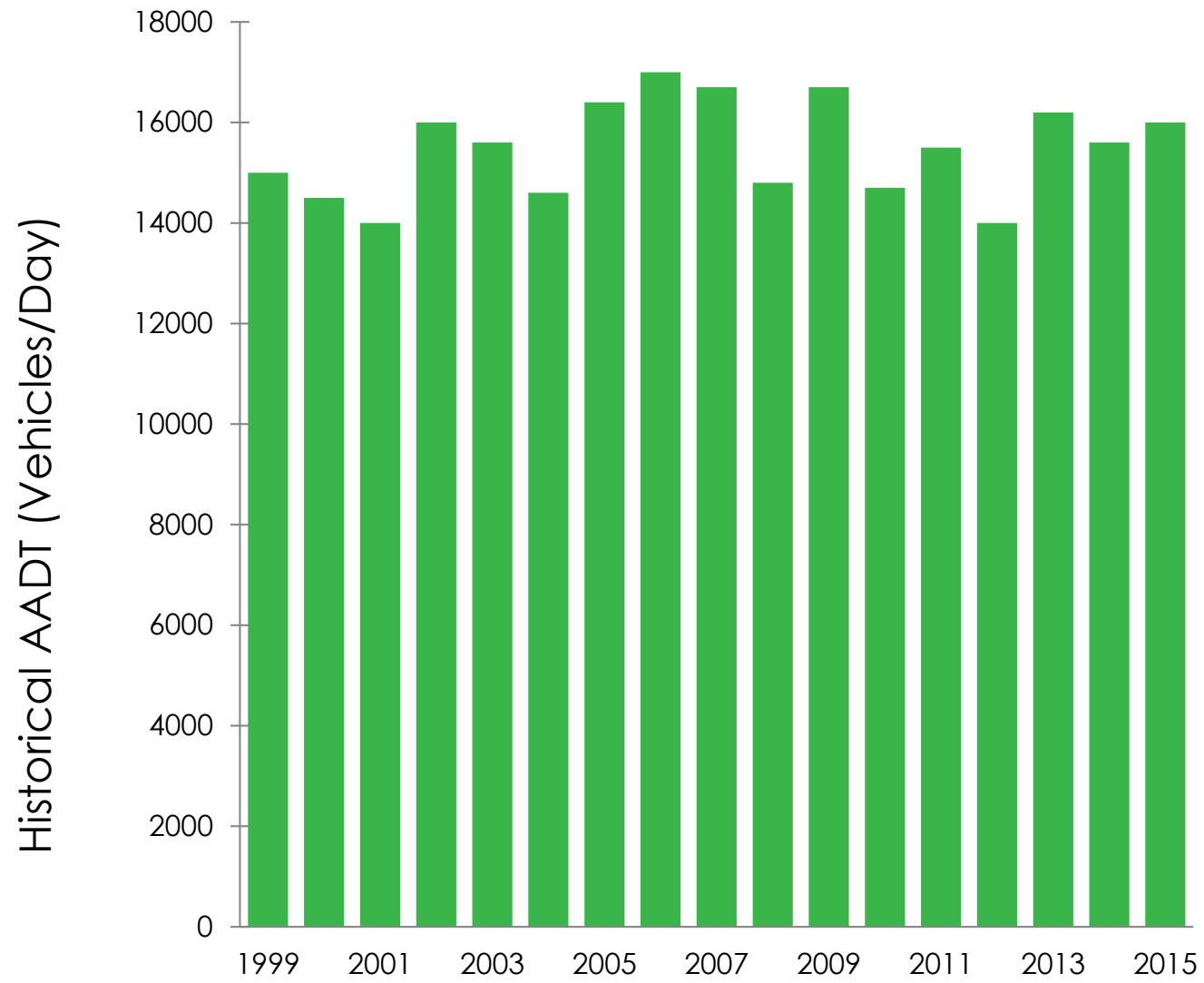
**AM**

**EB: 6.6 minutes**  
**WB: 6.5 minutes**

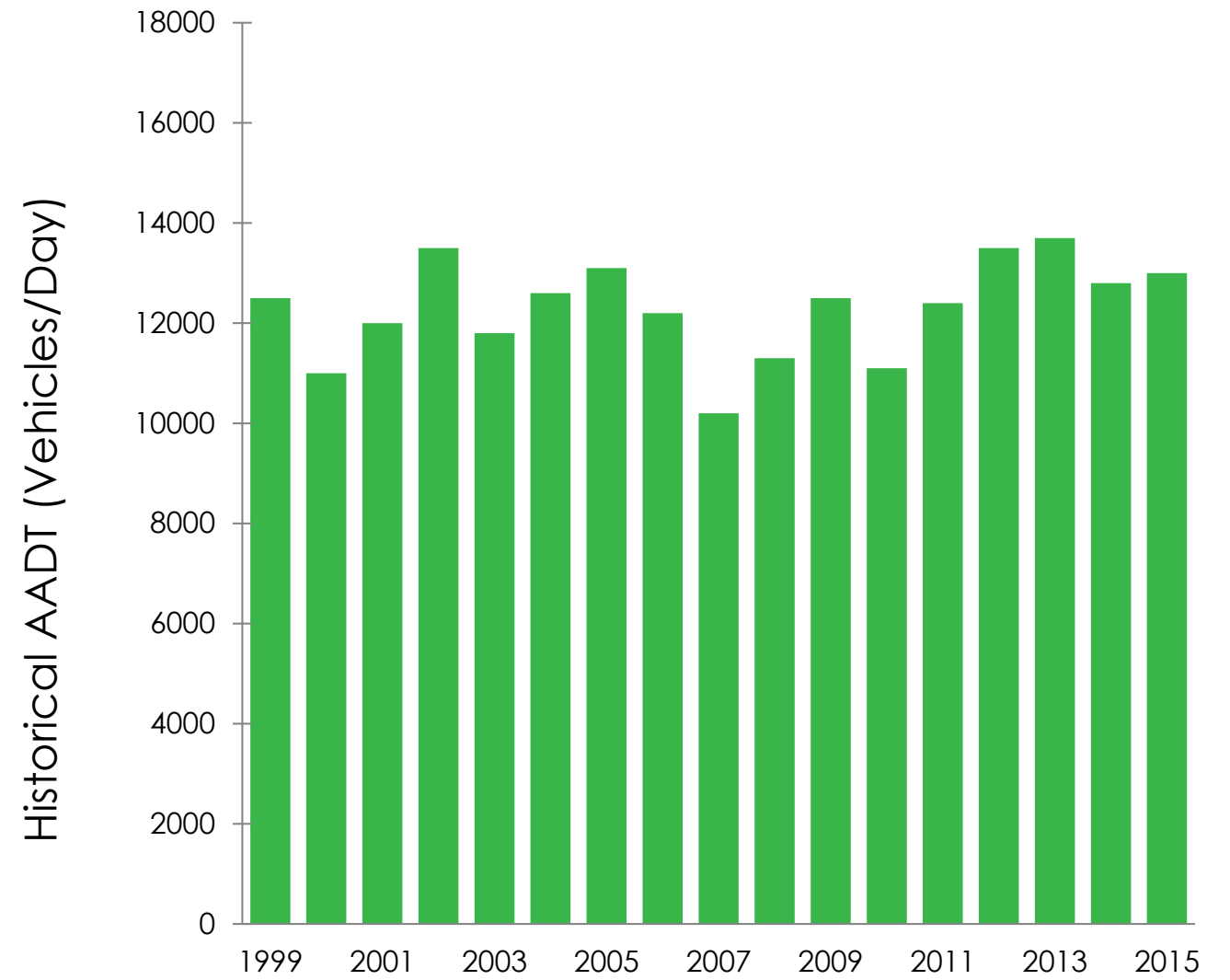
**PM**

**EB: 6.7 minutes**  
**WB: 6.6 minutes**

# Historical AADT- Robinson Street



East of Rosalind Ave

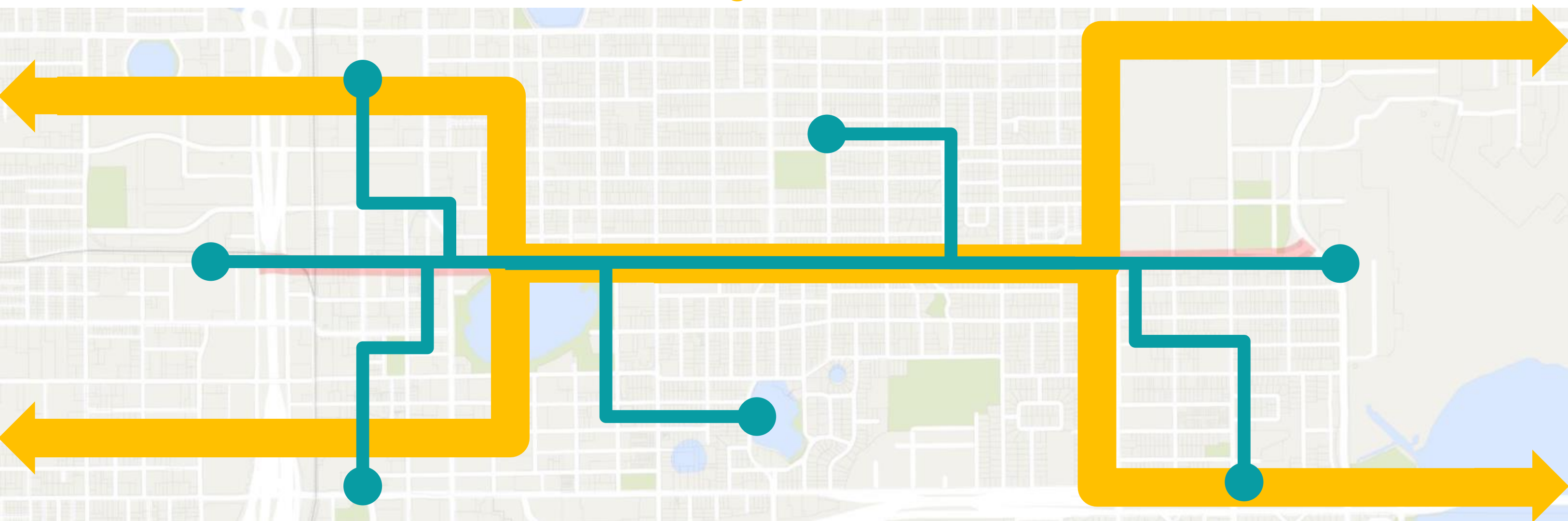


East of Bumby Ave

# Where is traffic on Robinson Street coming from/going to?

## 40% Regional

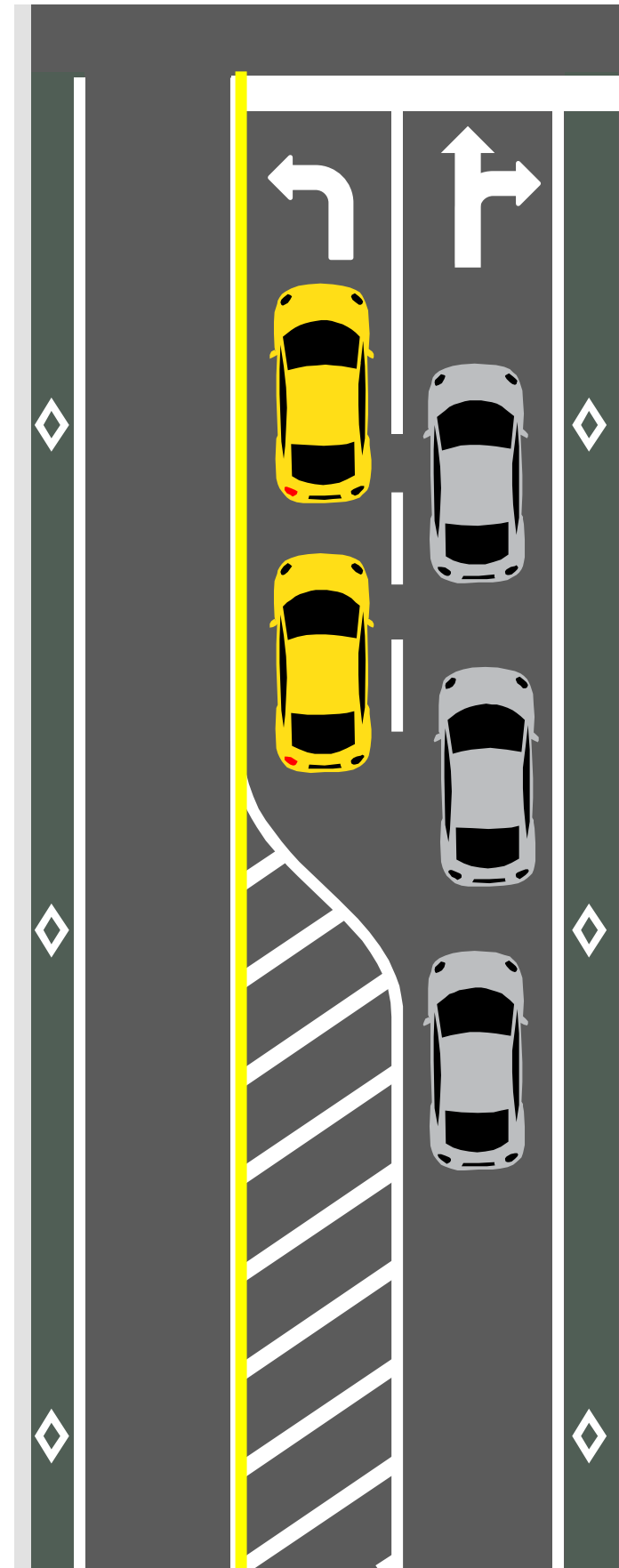
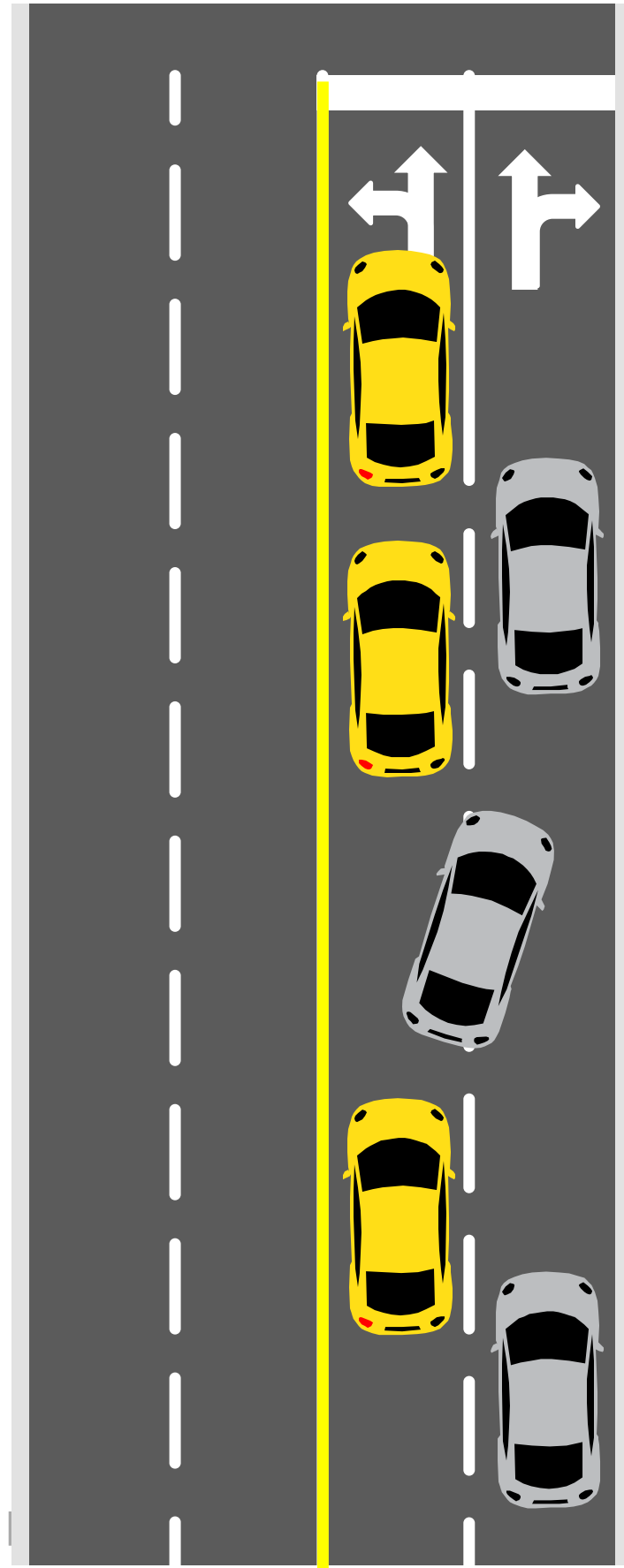
destination and origin **outside** the Corridor and Downtown



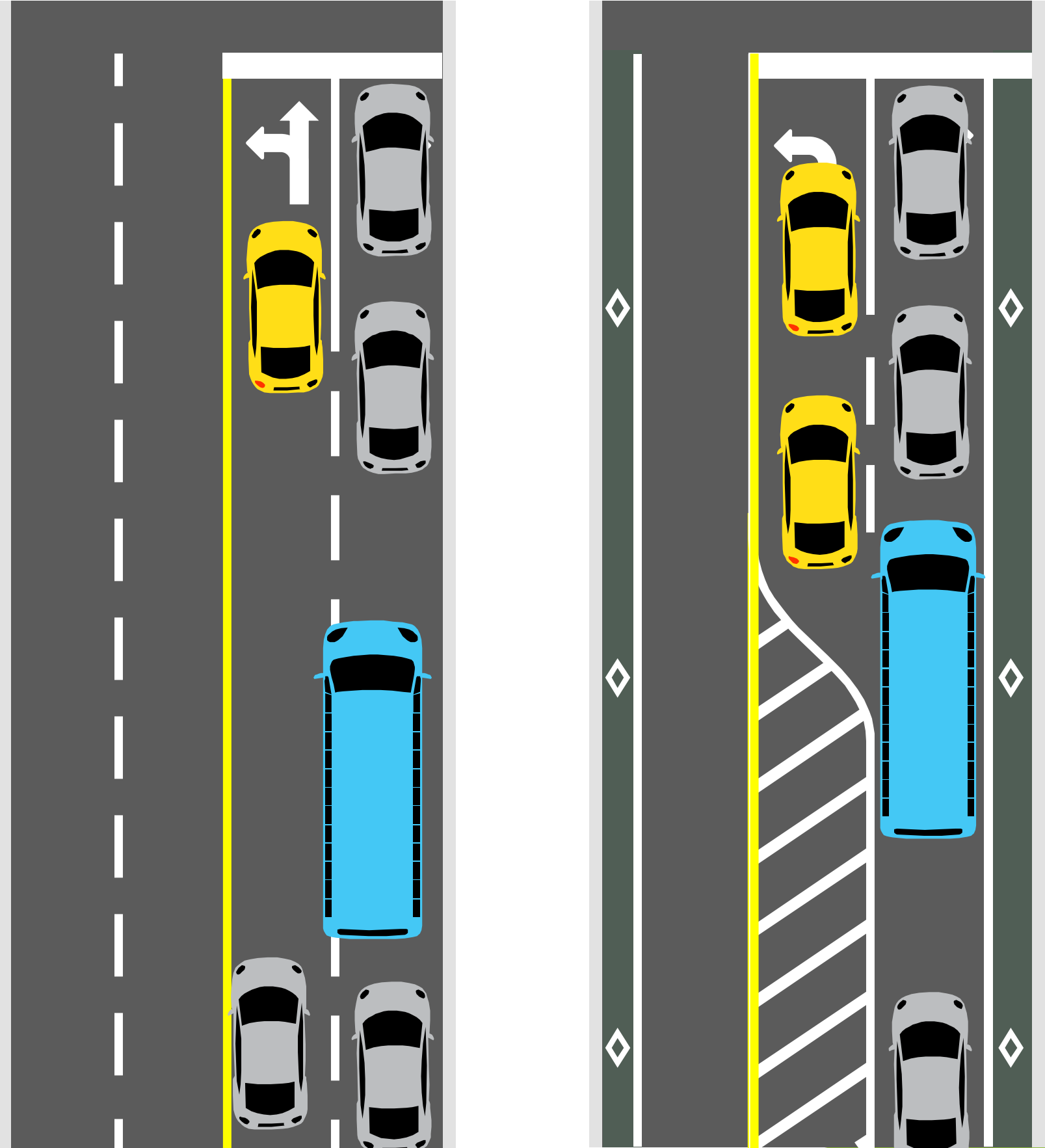
## 60% Local

destination or Origin **along** the Corridor or Downtown

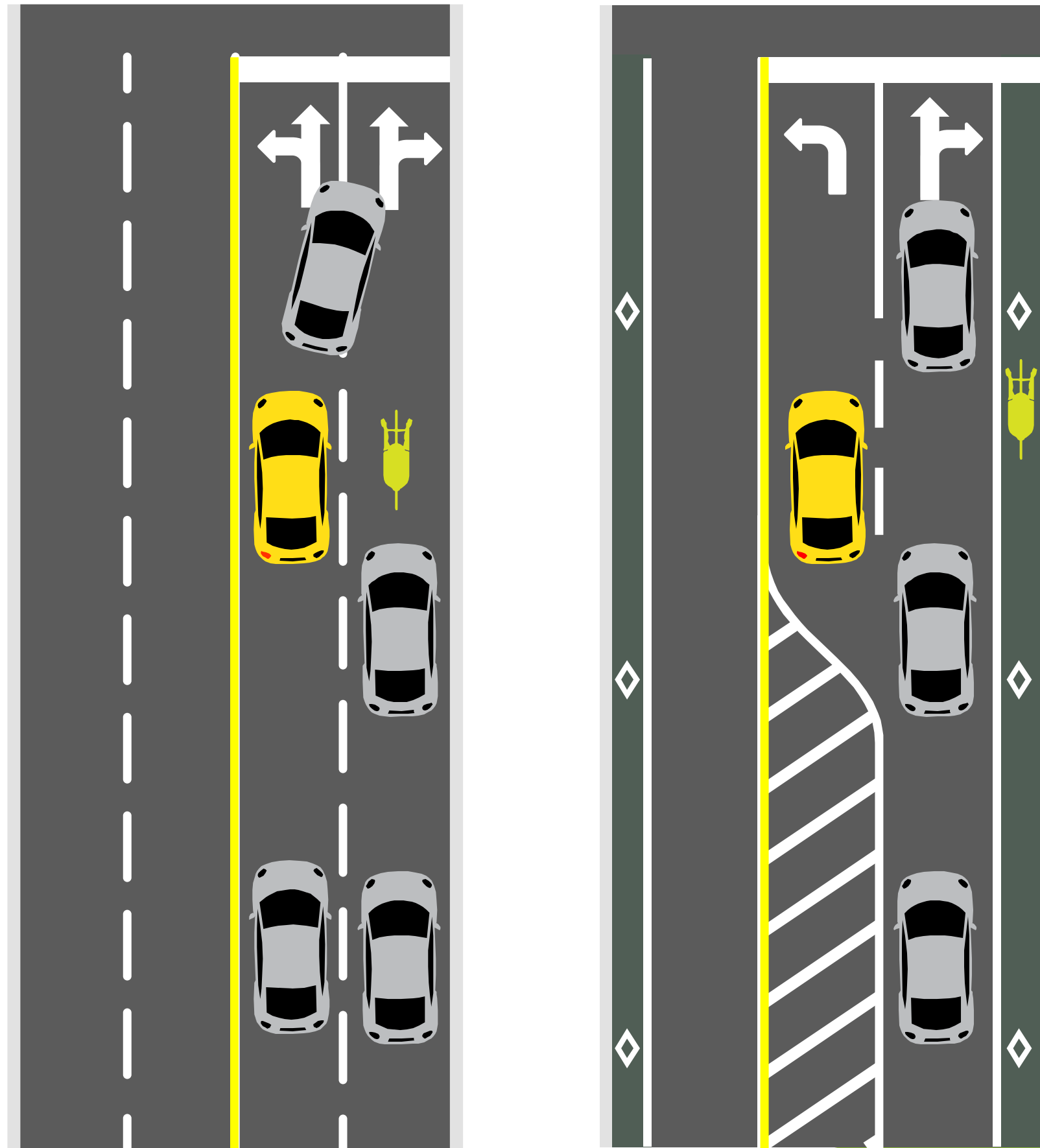
# Left Turning Vehicle Operations: 4 and 3 Lanes



# Bus Operations: 4 and 3 Lanes



# Bicycle Operations: 4 and 3 Lanes



# Roadway Cross Section Alternatives

## Roadway Configuration

- No-Build ●
- 4 lanes with Modifications ●
- 3 lanes ●
- 2 lanes ●

## Bicycling Accommodation

- No Separate Facility ●
- Bike lane ●
- Buffered Bike lane ●
- Shared Use Path ●

## Road-side Elements

- Sidewalk Widths ●
- On-Street Parking ●
- Planting Strip ●
- Street Trees ●
- Loading Zones ●
- Curb Type ●
- Bus Pull-out ●

## Operational Modifications

Alternative		Pedestrian Accommodation				Bicycle Accommodation								Travel Lane/Median			Parking		Sidewalk Landscape					
		S1	S2	S3	S4	B1	B2	B3	B4a	B4b	B5	B6	B7a	B7b	B8	T1	T2	T3	P1a	P2b	L1a	L1b	L2a	
Four Lane	No-build	X				X									X							X	X	
	Alternative 1 - 11' Lanes	X				X									X							X	X	
	Alternative 2 - Bike Lanes		X				X								X									
Three Lane	Sharrows	Alternative 3 - Wide Lanes + Sharrow	X				X										X					X	X	
		Alternative 4 - Reversible Lanes + Sharrow	X				X										R					X	X	
		Alternative 5 - Sharrow + Parking	X		X		X										X		X		X			X
	Bike Lane	Alternative 6 - Bike Lane	X		X				X								X					X		X
		Alternative 7 - One Buffered Bike Lane + One-Way Protected Cycle Track	X							X		X					X					X		
		Alternative 8 - Buffered Bike Lanes			X						X						X							X
	Protected Bike Facility	Alternative 9 - Two One-Way Protected Cycle Track		X							X						X							
		Alternative 10 - Two-Way Striped Cycle Track		X	X								X				X						X	X
		Alternative 11 - Two-Way Protected Cycle Track		X	X									X			X		X				X	X
		Alternative 12 - Shared Use Path		X		X									X		X		X				X	X
	Two Lane	Alternative 13 - Buffered Bike Lanes	X		X					X								X				X		X
		Alternative 14 - Sharrow + Parking	X		X		X										X			X	X			X
Alternative 15 - Two-One Way Protected Cycle Tracks				X						X							X					X	X	
Alternative 16 - Protected Cycle Track + Parking			X							X							X	X						

# Current Concepts

Central Business District

Lake Eola District

Neighborhood District

Milk District

3 LANES

3 LANES

3 OR 4 LANES

3 LANES

Potential Ultimate Alternative



Potential First Phase Alternative



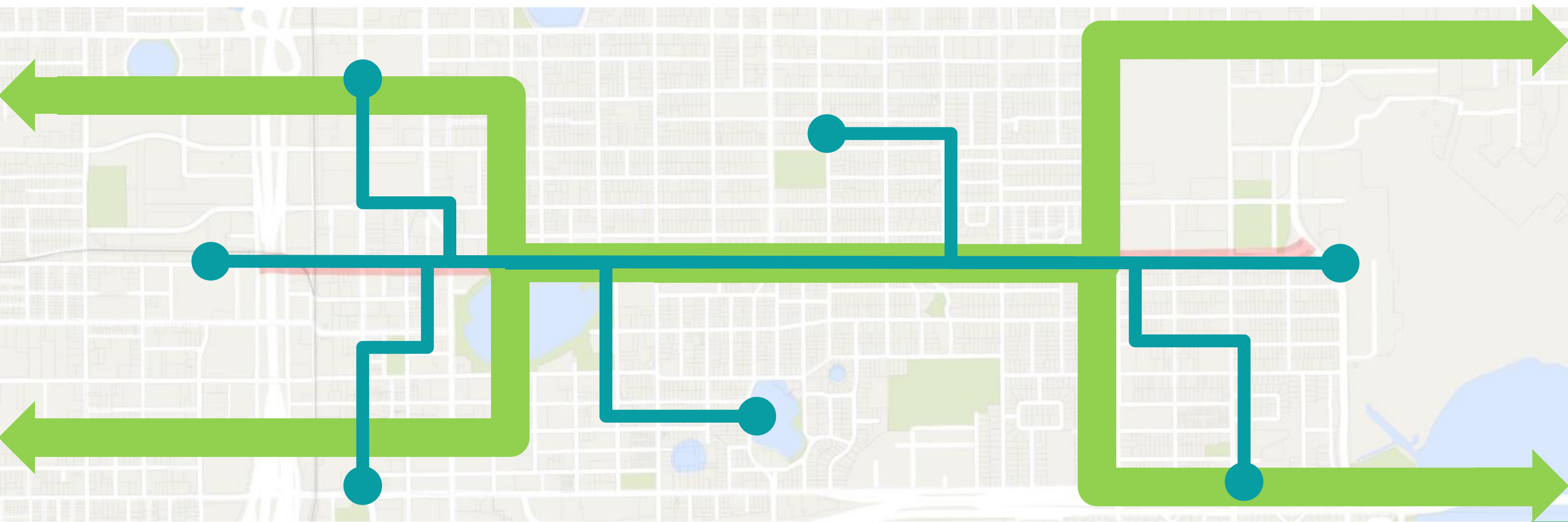
Robinson Street Corridor Planning Study | An FDOT Project

# Proposed



\*Landscaping is for illustrative purposes only. The landscaping shown does not represent a commitment for implementation.

# Diversion to Local Roads?

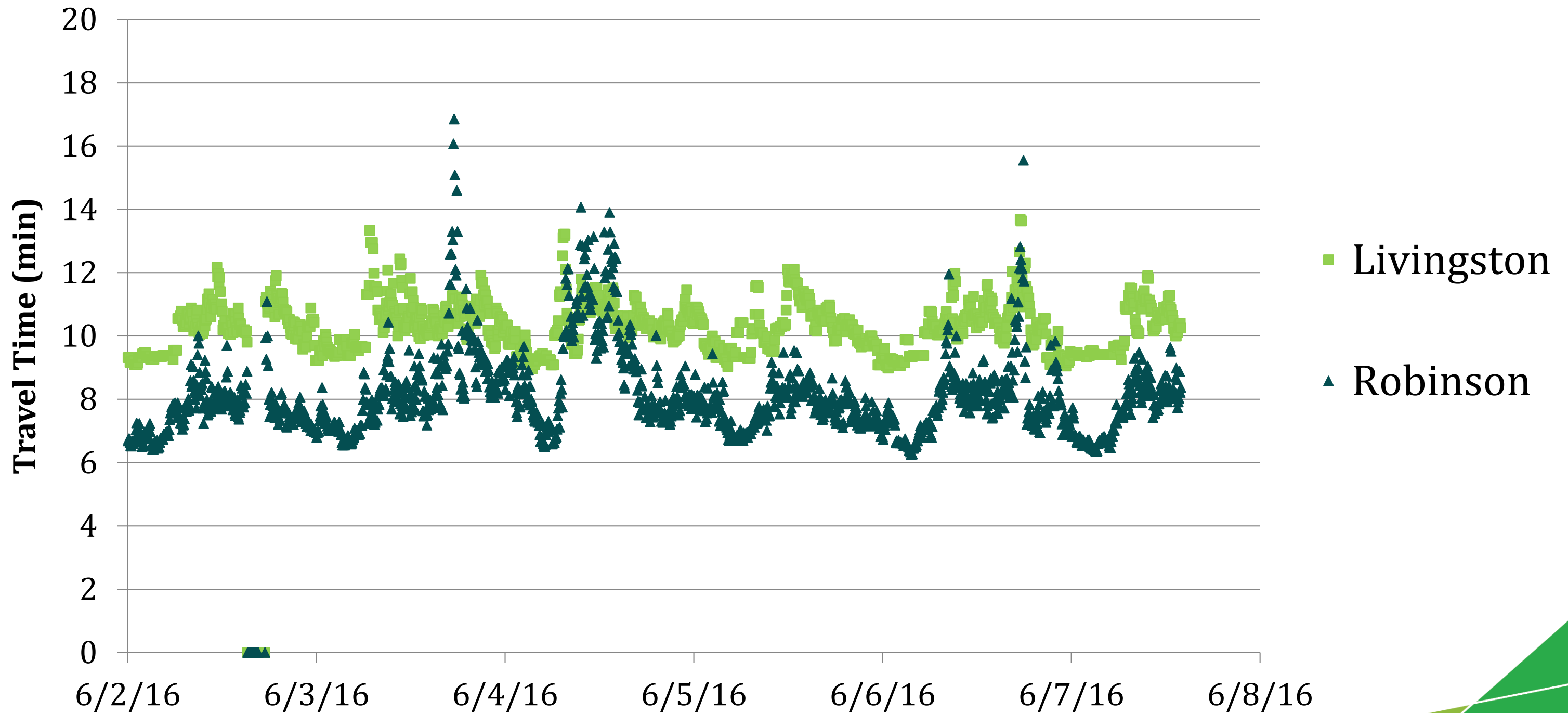


# Network Performance Evaluation



# Parallel Corridor Travel Time – Eastbound PM Peak Hour

## Hughey to Maguire



# Parallel Corridor Travel Time – Eastbound PM Peak Hour



Livingston St. (12 - 13 min)

The image shows a map of a city grid with Robinson Street highlighted in red. Two horizontal arrows originate from the left side of the map. The top arrow is green and points to Livingston Street, with the text 'Livingston St. (12 - 13 min)' above it. The bottom arrow is dark blue and points to Robinson Street, with the text 'Robinson St. (9 - 14 min)' below it. The map includes a grid of streets, a large blue lake on the left, and various green and brown areas representing parks and buildings.

Robinson St. (9 - 14 min)

# PM Peak Hour Diversion

Regional Diversion:  
30 vehicles

**Colonial: +15 vehicles**

Local Diversion:  
40 vehicles

**Amelia: +5 vehicles** (1 veh/12 min)

**Livingston: +15 vehicles** (1 veh/4 min)

**Robinson: -70 vehicles**

**Central: +5 vehicles** (1 veh/12 min)

**South/Anderson: +15 vehicles** (1 veh/4 min)

**SR 408: +15 vehicles**



For more information  
[www.cflroads.com](http://www.cflroads.com)

Brett Boncore  
Kittelsohn & Associates, Inc.  
[bboncore@kittelsohn.com](mailto:bboncore@kittelsohn.com)