

Rio Grande Avenue Pedestrian Safety Study

The Virtual Public Meeting will begin at 6:00 P.M.

1. If you are not hearing audio, please check your computer speaker settings or your microphone.
2. If you are an elected or appointed official, please identify yourself in the Q&A box.
3. If you experience technical difficulties during the meeting, this presentation is being recorded and is estimated to be posted onto the project website by December 10th, 2021.

Virtual Meeting Logistics



All attendees will be placed in "Listen Only" mode during the presentation



Type your comments or questions into the Q&A box anytime during the meeting



Questions will be answered at the conclusion of the presentation

Si tiene preguntas en español, utilice el cuadro marcado "Questions". Recibirá una respuesta del Condado de Orange en los días posteriores a la reunión.

Pou kesyon an kreyòl ayisyen, tanpri itilize kare "Kesyon". W ap resevwa yon repons nan men Orange County nan jou apre reyinyon an.

Virtual Meeting Logistics

Ways To Provide Feedback After The Meeting



Call or Email

Project Team

Phone: (407) 836-8682

Email: pedsafety@ocfl.net

Para información en
Español

Joshua Gonzalez

Teléfono: (407) 836-8025

Correo Electrónico:

Joshua.Gonzalez@ocfl.net

Pou enfòmasyon an
kreyòl ayisyen

Celestin Pierre

Telefòn: (407) 836-7755

Imèl:

Celestin.Pierre@ocfl.net

Project Website: www.ocfl.net/TrafficTransportation/TransportationProjects/RioGrandeStudy.aspx

Introductions

Orange County

Lauren Torres – Traffic Engineering Division, Project Manager

Vibhuti Patel – Traffic Engineering Division, Assistant Project Manager

Cristina Pichardo-Cruz – Traffic Engineering Division, Assistant Project Manager

VHB, Project Consultant

Babuji Ambikapathy, Consultant Project Manager

Other Orange County Staff and Consultant Staff

Introductions

Welcome and Opening Remarks



District 6 Commissioner
Victoria P. Siplin



Rio Grande Avenue Pedestrian Safety Study

**From Holden Avenue to Jones High School
Orange County, FL**

**Community Meeting
December 6, 2021**



Agenda



Study Purpose & Need

- Study Need
- Community Demographic
- Pedestrian/Bicycle Crash Data
- Study Purpose and Objectives



Project Overview

- Existing Typical Sections
- Schools
- Transit
- Count Data
- Sidewalks/Bicycle Lanes/Crossing Locations
- Posted Speed
- Lighting/Luminosity Measurements



Community Outreach

- Stakeholder Meetings
- Community Survey Results



Improvement Strategies

- Short-Term Improvements
- Mid-Term Improvements
- Long-Term Improvements
- Anticipated Safety Benefits
- OBT NEXT
- Similar Projects



Next Steps

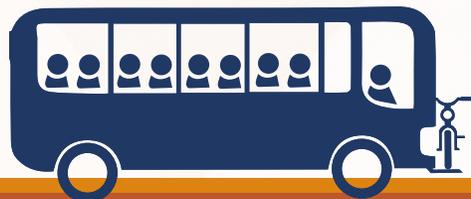
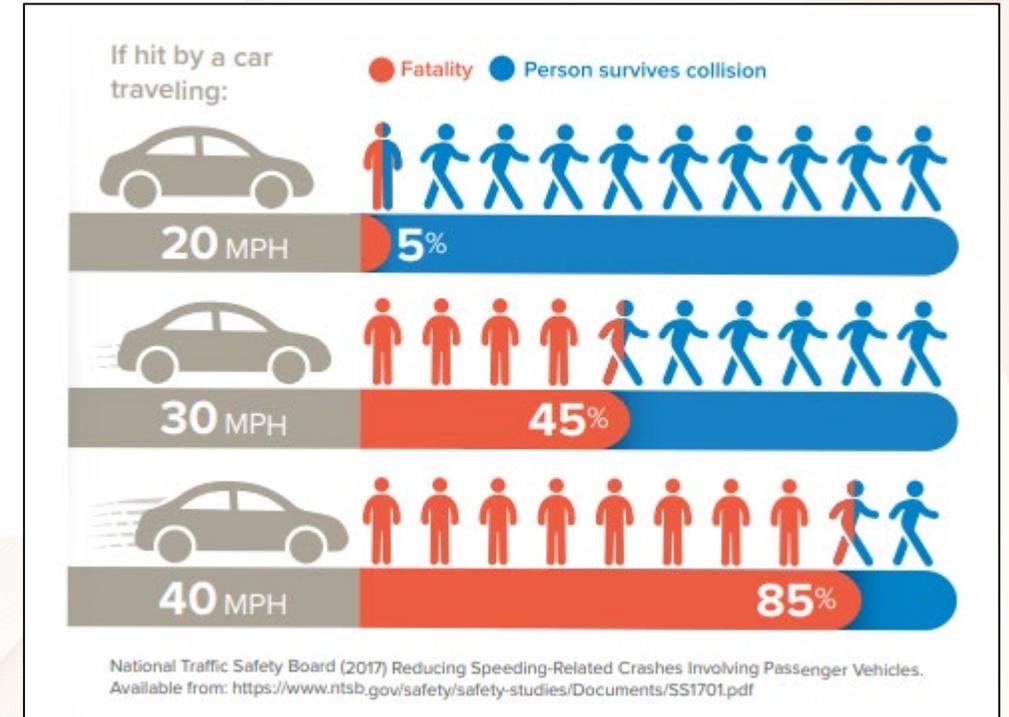
Study Corridor

(Approx. Length 2.7 miles)



Study Need

- **Dangerous by Design 2021** conducted by Smart Growth America for 2010-2019
 - Pedestrian fatalities **Nationwide** up 45%
 - Florida
 - Most dangerous **State** for pedestrians
 - Orlando-Kissimmee-Sanford Metropolitan Area
 - Most dangerous **Area** for pedestrians

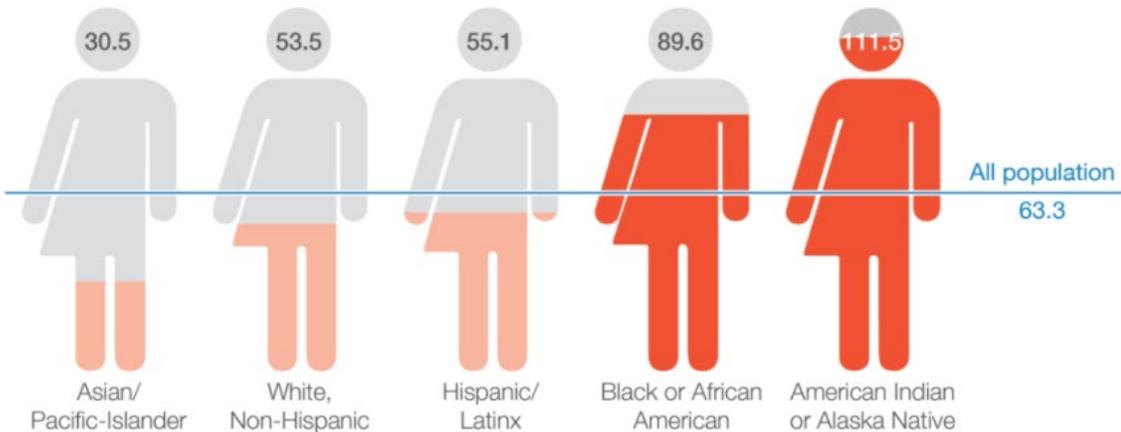


Study Need

- **Dangerous by Design 2021** conducted by Smart Growth America
- **Data analyzed over 2010-2019 period**
- **Imbalance in transportation equity in communities of color**

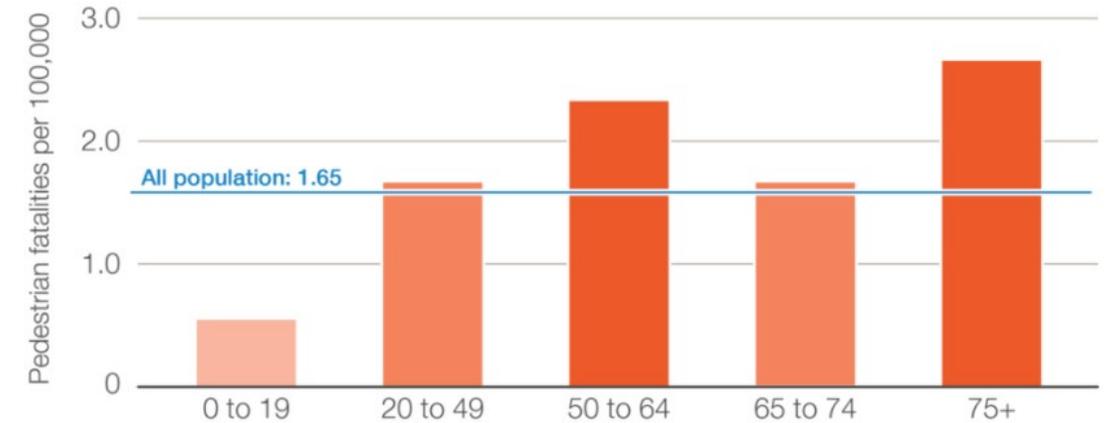
The burden is not shared equally

Relative pedestrian danger by race and ethnicity (2010-2019)

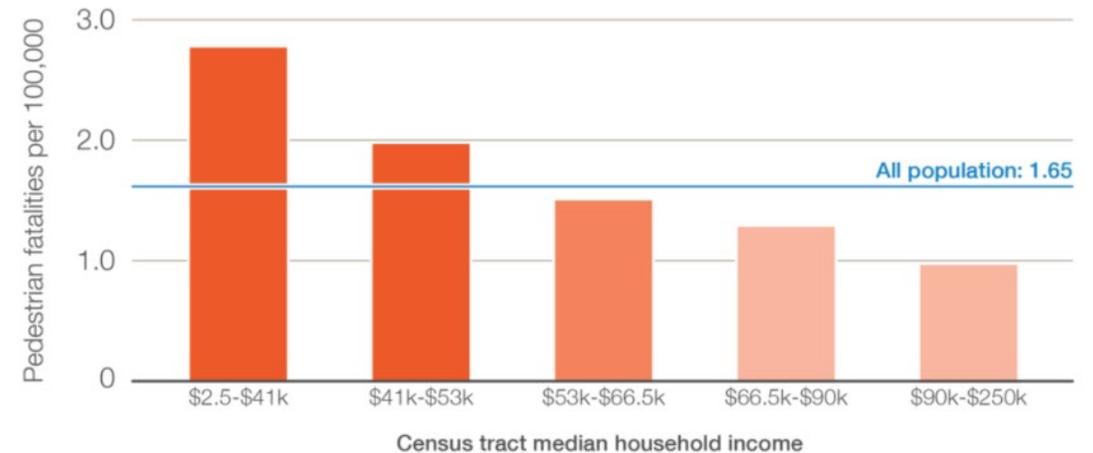


Older adults are disproportionately killed

Pedestrian fatalities per 100,000 people by age

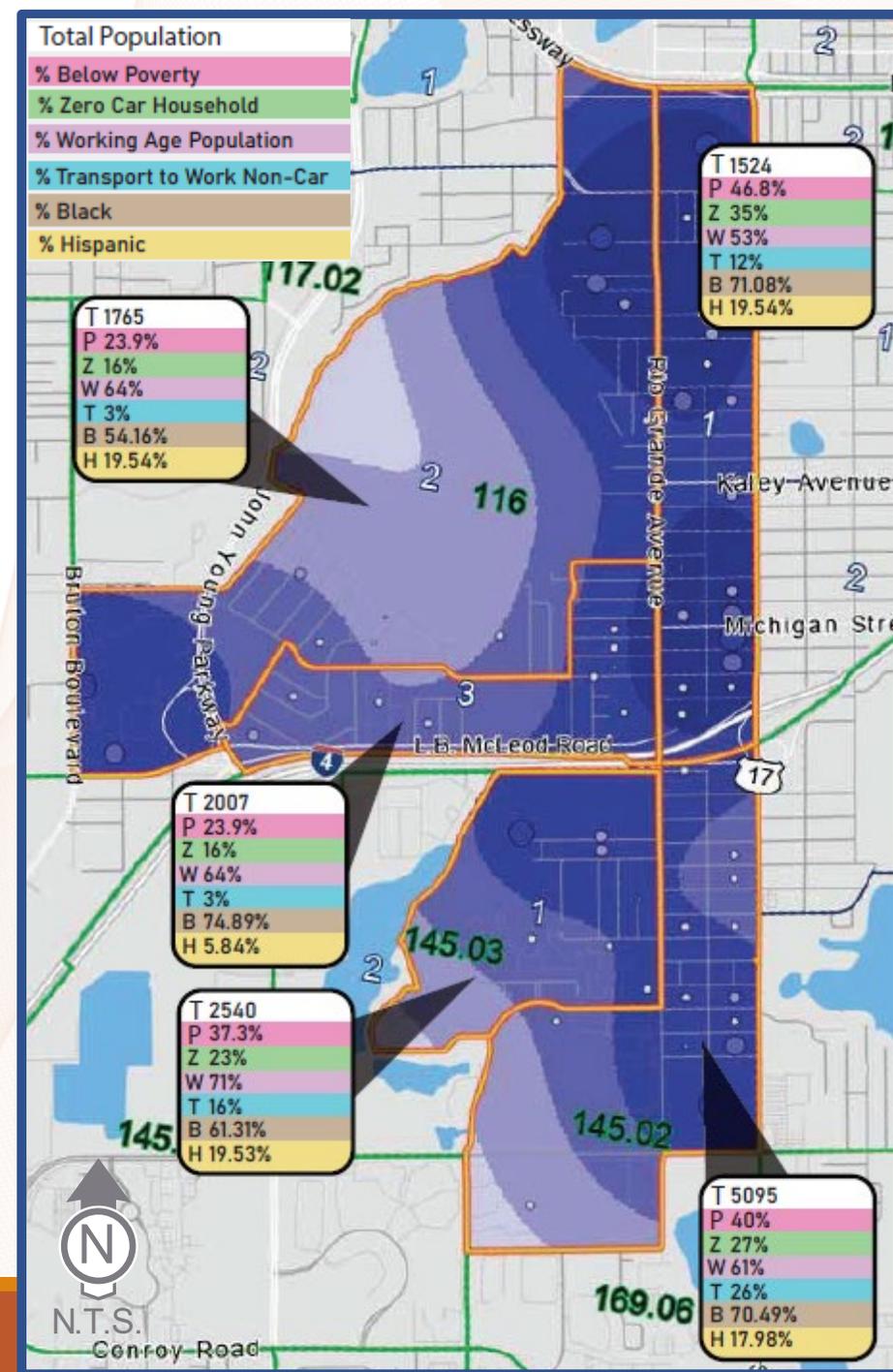


People walking in lower-income areas are struck and killed at much higher rates. People walking in wealthier neighborhoods are killed at far lower rates



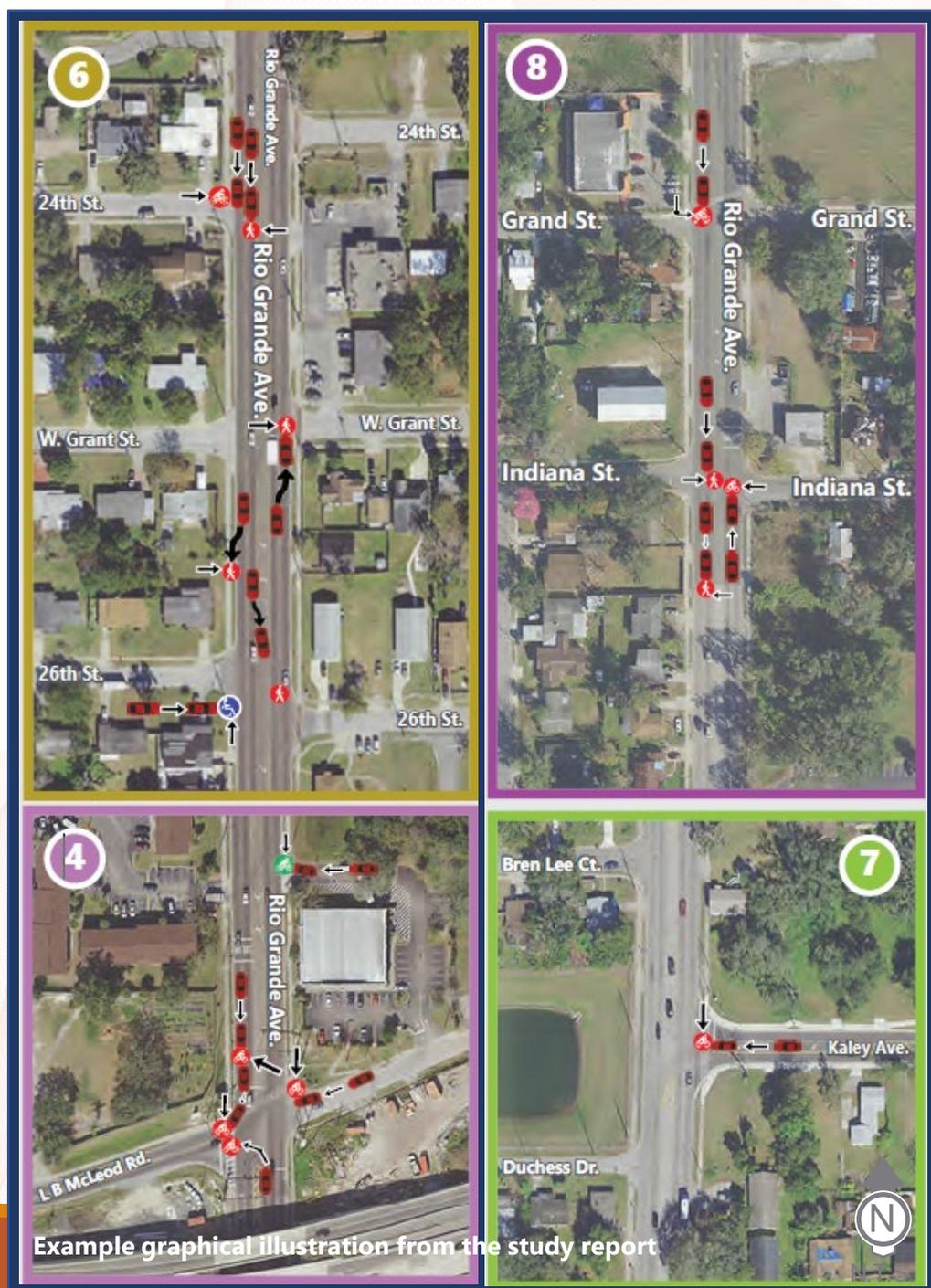
Community Demographic

- **Vehicle Ownership**
 - > 30% without an automobile
- **Senior Citizens**
 - 33% compared to 24% County-wide
- **Transit Use**
 - 3 times higher than County Average
- **Existing Land Use**
 - Largely low- & medium-density residential
 - Neighborhood mixed use north of I-4
 - Within City of Orlando – largely industrial & institutional



Pedestrian/Bicycle Crash Data

- **Jan 2015 – Dec 2019**
 - Total 41 crashes
 - 8.2 crashes per year
- **Crash Severity**
 - 33 (81%) are injury crashes
 - Zero Fatalities
- **Night-time crashes**
 - 17 (41%)
- **Pedestrian/Bicycle Involved**
 - 39 (95%)
- **Scooter/Wheelchair Involved**
 - 2 (5%)



Example graphical illustration from the study report

Study Purpose and Objectives

Study Purpose

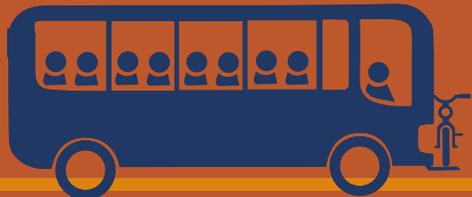
"Comprehensive review of the Rio Grande Avenue corridor for safe integration of pedestrian/bicycle activity with other modes of transportation"

Background

- Part of "Walk-Ride-Thrive!" Initiative
- Critical corridor for pedestrians, bicycles and transit users
 - Land uses – predominantly residential; retail & commercial; schools

Objectives

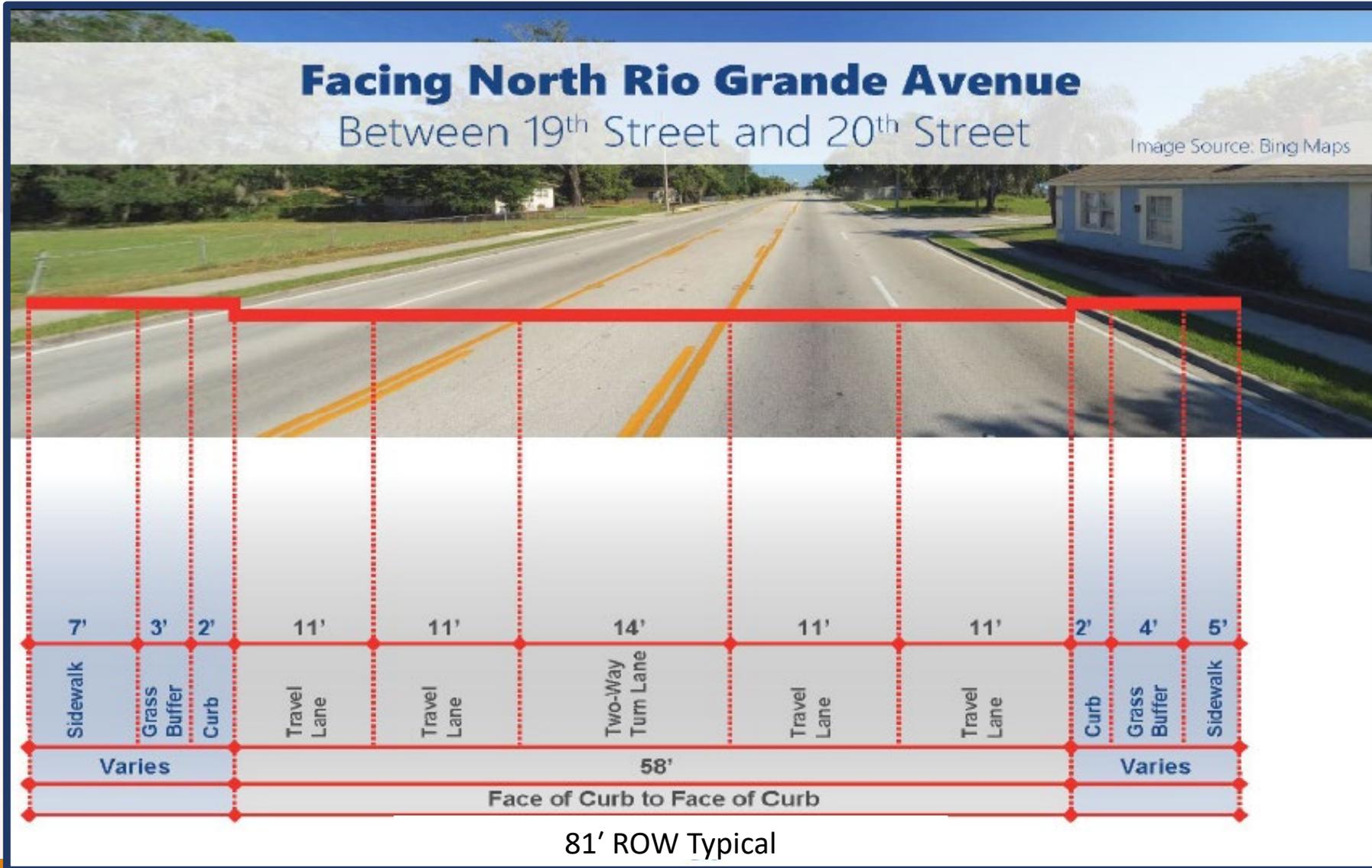
- Evaluate existing roadway, transit, & pedestrian/bicycle facilities
- Identify safety deficiencies & other issues
- Develop improvement strategies based on data analysis & stakeholder outreach



Existing Typical Section #1 (South of I-4)



Existing Typical Section #2 (North of I-4)

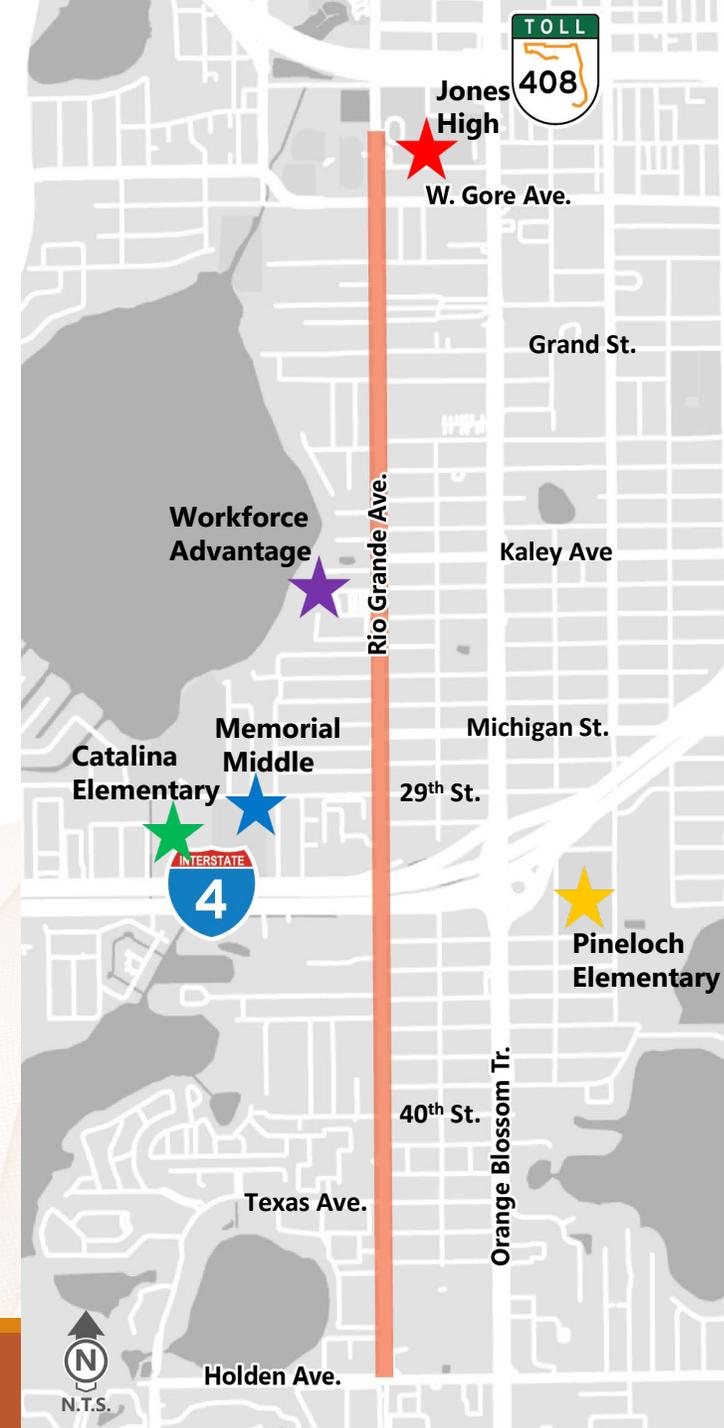


Schools

- **Five Schools**

- ★ Jones High School
- ★ Workforce Advantage Academy
- ★ Memorial Middle School
- ★ Catalina Elementary School
- ★ Pineloch Elementary School

- **One School Zone**



Transit (LYNX)

- **3 Routes along Rio Grande Avenue**

- Route 36
- Route 40
- Route 304

- **Perpendicular**

(that cross the corridor)

- Route 319
- Route 8

- **Transit Stops**

- Spaced about every 0.2 miles

Route #	Name/Location	Average Daily Trips	Typical Headway
Along Rio Grande Avenue			
36	Lake Richmond	717	30 min
40	Americana Boulevard/Universal Orlando	1,570	60 min
304	Rio Grande Avenue/Vistana Resort	169	Daily
Perpendicular			
319	Richmond Heights/Estates	1,132	30 min
8	W. Oak Ridge Road/I-Drive	7,085	15-20 min
Orange Blossom Trail			
107	Downtown Orlando/Florida Mall	3,502	30 min
441	Fast LYNX 441	577	60 min

Count Data

- **Counts**

- Cars, pedestrians/bicycles, & trucks
- All available sources

- **2019 Volumes**

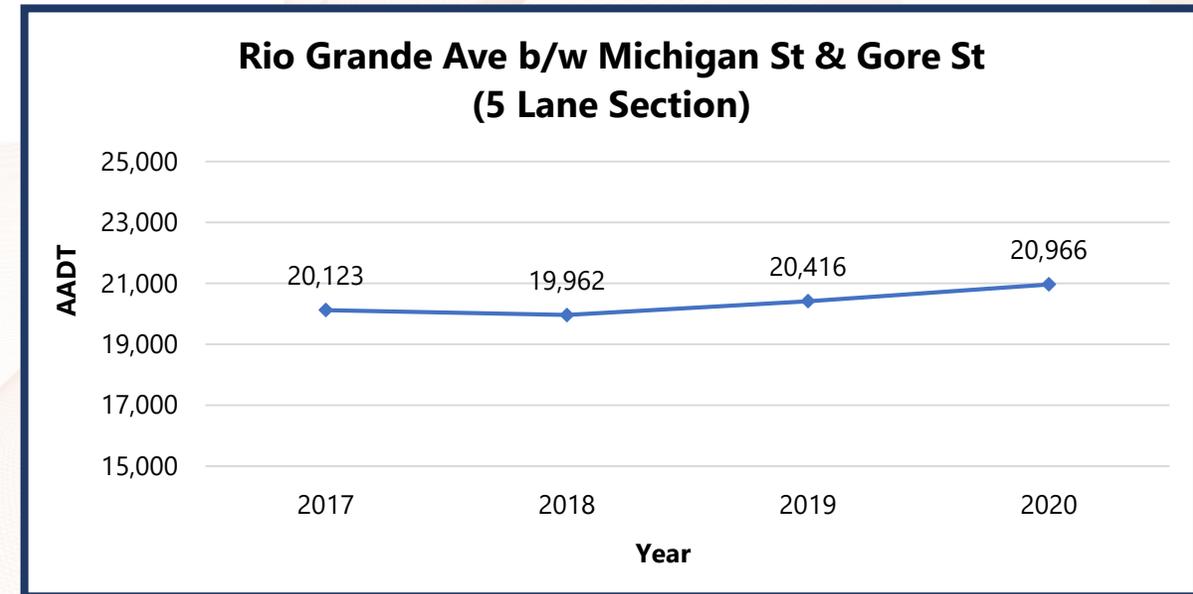
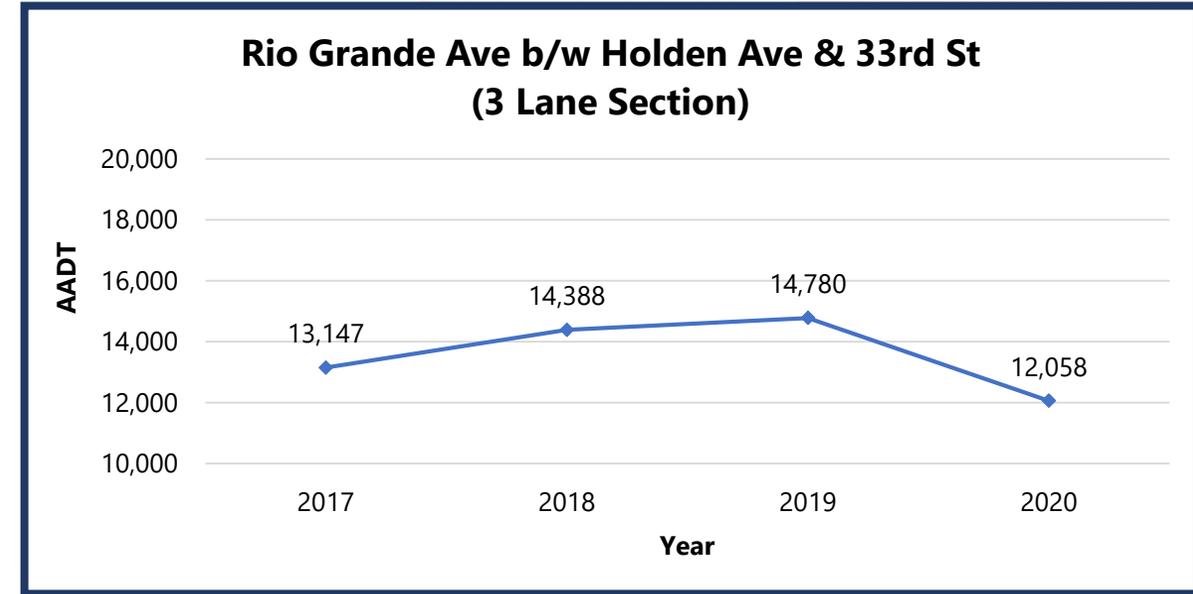
- North of Holden Avenue (3-lane section): **14,780**
- North of Michigan Street (5-lane section): **20,966**

- **Turning Movement Counts**

- 9 Signalized Intersections
- 19 Unsignalized Intersections

- **Counts at Crosswalks**

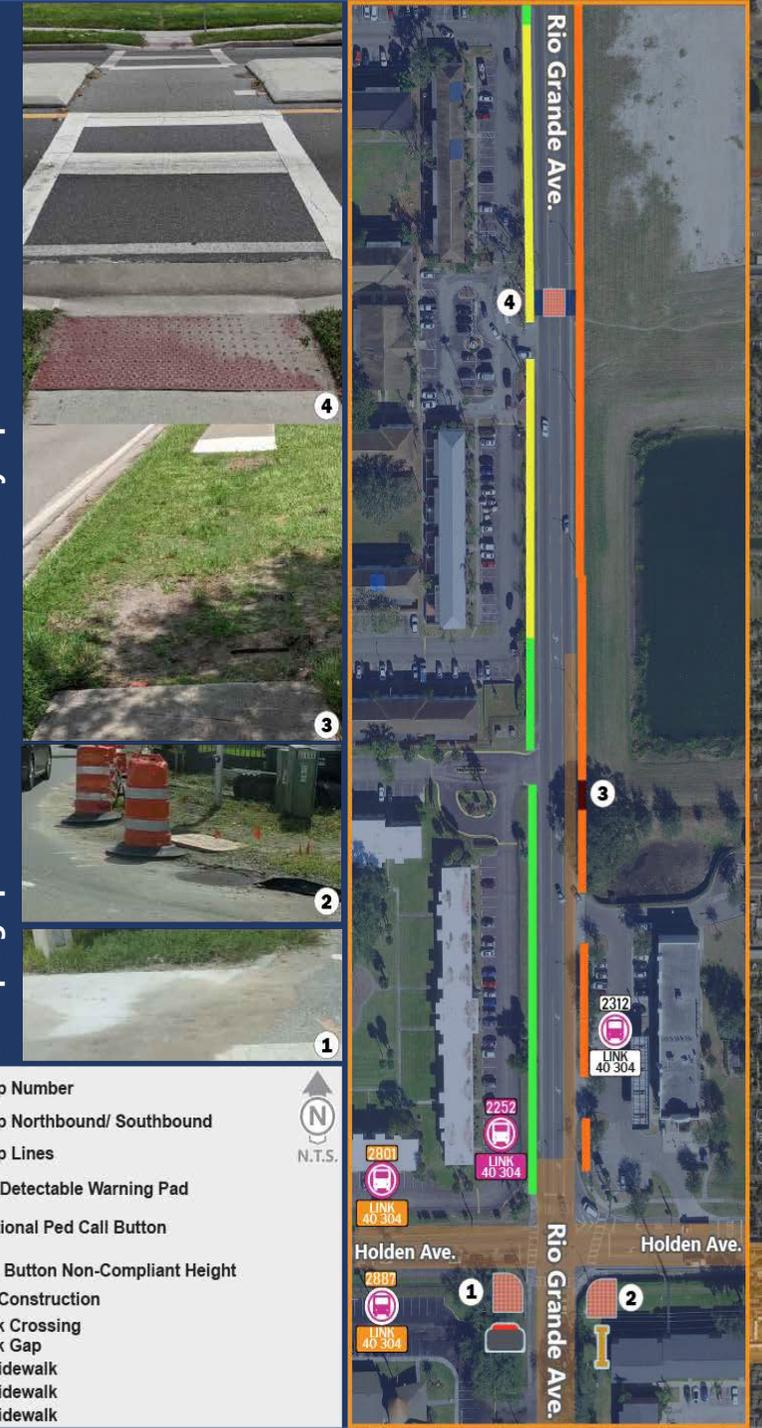
- South of 45th Street
- 45th Street
- 40th Street
- 23rd Street
- Grand Street



Sidewalks/Bicycle Lanes/ Crossing Locations

- **Sidewalks**
 - Continuous with 4 to 7-feet wide
 - One small gap
 - Westside of Rio Grande Avenue, opposite to the Lakeshore At East Mil Apartments
- **Bicycle Lanes**
 - Not provided
- **Crossing Locations along Rio Grande Avenue**
 - 16 marked crosswalks
 - 1 midblock (at Lakeshore At East Mil apartment)
 - 11 at signalized intersections
 - 4 at unsignalized intersections (45th Street, 40th Street, 23rd Street & Grand Street)
- **Crossing Locations on Side Streets**
 - 40 crossing locations

Example graphical illustration from the study report



	Bus Stop Number		N.T.S.
	Bus Stop Northbound/ Southbound		
	Bus Stop Lines		
	Missing Detectable Warning Pad		
	Disfunctional Ped Call Button		
	Ped Call Button Non-Compliant Height		
	Current Construction		
	Midblock Crossing		
	Sidewalk Gap		
	5 Foot Sidewalk		
	6 Foot Sidewalk		
	7 Foot Sidewalk		

Posted Speed

- 35 – 45 mph

Speed Studies

- **North of Holden Avenue (35 mph zone)**
 - 85th percentile speed > posted speed
- **South of Grand Street (45 mph zone)**
 - 85th percentile speed > posted speed
- **South of Carter Street (35 mph zone)**
 - 85th percentile speed ~ posted speed



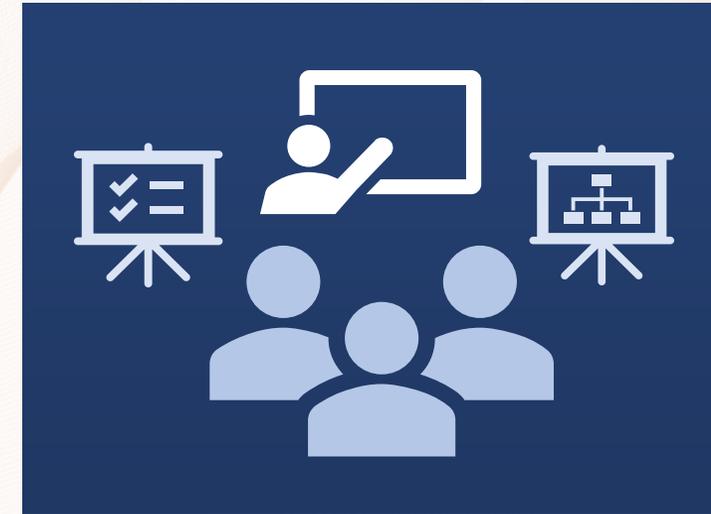
Stakeholder Meetings

Community Stakeholders

- Orange County Library South Trail Branch
- New Covenant Baptist Church
- Covenant on the Lakes Senior Center
- Crescent Club/Camden Club Apartments

OCPS

- Jones High School
- Memorial Middle School
- Catalina Elementary School
- Pineloch Elementary School



Community Survey Results

- **Number of Surveys**

- **132** (direct mail, hard copies, online submissions)

- **Survey Highlights**

- Survey respondents
 - **Residents**
 - Who attend a school
- Major concerns
 - **Too much traffic or traffic moving too fast**
 - Improvements to crossing
 - Lighting improvements
- More respondents said **“yes”** to walking with improvements

Pedestrian Safety Survey – Rio Grande Avenue
The Orange County Public Works Traffic Engineering team is conducting a survey of city residents and businesses to identify and prioritize problem areas for pedestrians around Rio Grande Avenue. This survey will ask questions about your experience with traveling on Rio Grande Avenue.

1. What is your relationship with Rio Grande Avenue?
 I am a resident I work or attend school nearby I do not live here, but I do spend time here

2. Please refer to the attached map: Do you think any of the areas within the study corridor needs modifications to improve pedestrian safety? Feel free to use street names, building names or iconic structures to help us understand the exact suggested locations.
Location of concern address or nearest intersection: _____

<input type="checkbox"/> Crosswalk striping hard to see/no crosswalk present	<input type="checkbox"/> Street too wide to cross
<input type="checkbox"/> Hard to see oncoming traffic	<input type="checkbox"/> Intersection too dark/not enough lighting at night
<input type="checkbox"/> Too much traffic/traffic moving too fast	<input type="checkbox"/> There are not enough sidewalks
<input type="checkbox"/> The street does not have a traffic light	<input type="checkbox"/> No curb ramp
<input type="checkbox"/> Install more audible pedestrian signals at intersection	<input type="checkbox"/> Install median so pedestrian can safely cross
<input type="checkbox"/> Install mid-block crosswalk	<input type="checkbox"/> Other (please specify): _____

Location of concern address or nearest intersection: _____

<input type="checkbox"/> Crosswalk striping hard to see/no crosswalk present	<input type="checkbox"/> Street too wide to cross
<input type="checkbox"/> Hard to see oncoming traffic	<input type="checkbox"/> Intersection too dark/not enough lighting at night
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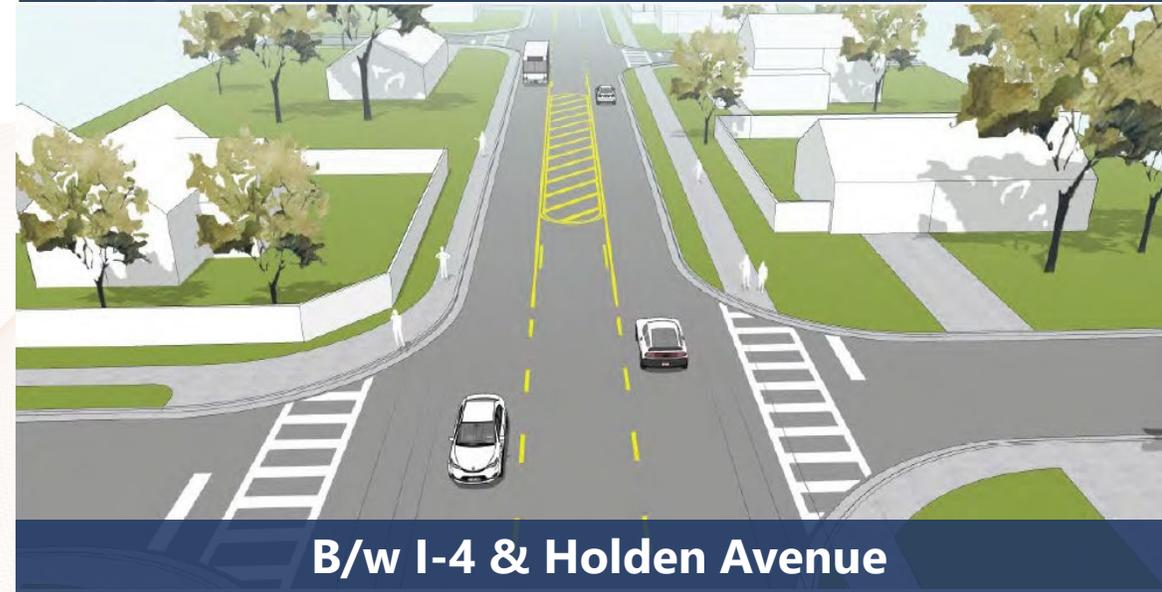
3. This question focuses on the frequency with which you travel in this area in several different ways. The purpose of your travel could be for any reason (going to work/school, running errands, visiting friends, entertainment, library, exercising, etc.) How often do you travel by:

Car	Walk	Bike
<input type="checkbox"/> 3-5 times a week(or more)	<input type="checkbox"/> 3-5 times a week(or more)	<input type="checkbox"/> 3-5 times a week(or more)
<input type="checkbox"/> 1-2 times a week	<input type="checkbox"/> 1-2 times a week	<input type="checkbox"/> 1-2 times a week
<input type="checkbox"/> 1-3 times a month	<input type="checkbox"/> 1-3 times a month	<input type="checkbox"/> 1-3 times a month
<input type="checkbox"/> Less than once a month	<input type="checkbox"/> Less than once a month	<input type="checkbox"/> Less than once a month
<input type="checkbox"/> Never	<input type="checkbox"/> Never	<input type="checkbox"/> Never

Transit: LYNX	Taxi/LYFT/UBER
<input type="checkbox"/> 3-5 times a week(or more)	<input type="checkbox"/> 3-5 times a week(or more)
<input type="checkbox"/> 1-2 times a week	<input type="checkbox"/> 1-2 times a week
<input type="checkbox"/> 1-3 times a month	<input type="checkbox"/> 1-3 times a month
<input type="checkbox"/> Less than once a month	<input type="checkbox"/> Less than once a month
<input type="checkbox"/> Never	<input type="checkbox"/> Never

Short-Term Improvements

- **Between I-4 and Gore Street**
 - Restripe the existing roadway to provide two travel lanes (one in each direction)
 - Buffered bicycle lane
- **Entire Corridor**
 - Painted medians within two-way left-turn lane
 - Improve existing pedestrian crosswalks with RRFBs, raised refuge islands, and enhanced lighting
 - South of 45th Street
 - 45th Street
 - 40th Street
 - 23rd Street
 - Relocate existing crosswalk at Grand Street to south of Grand Street
 - Add new midblock crosswalk
 - B/w 24th Street and 25th Street
 - North of Acme Street
 - Tighten intersection corners
 - Speed Limit 35 mph within the corridor
- **Estimated Cost and Timeline**
 - \$200,000 (Phase 1)
 - 1 to 2 years

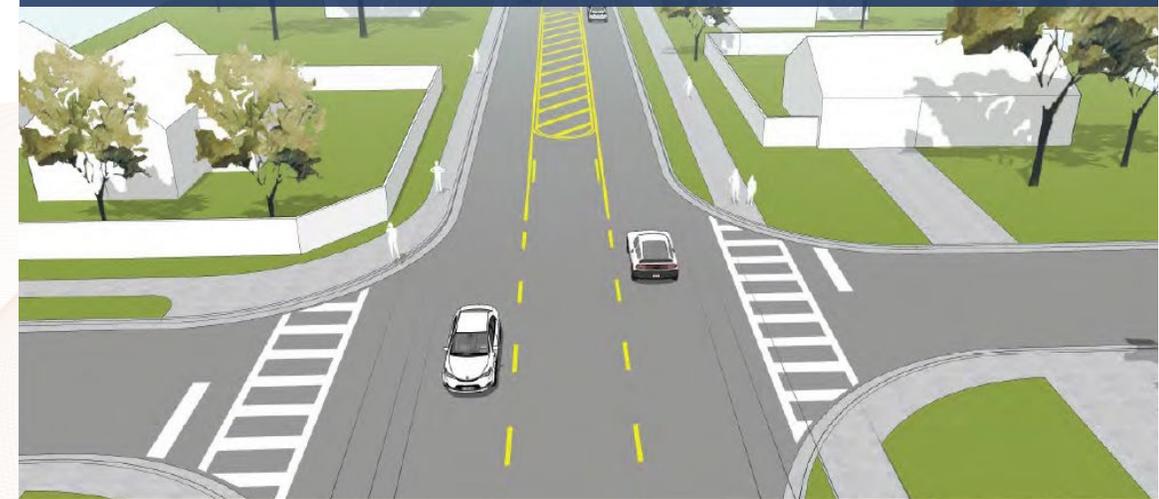


Mid-Term Improvements

- **Between I-4 and Gore Street**
 - Separate bicycle and travel lanes with temporary physical barrier
- **Entire Corridor**
 - Improve crosswalk visibility on minor streets/driveways
 - Improve pedestrian safety at signals
 - Improve ADA compliance
- **Estimated Cost and Timeline**
 - \$376,984
 - 2 to 5 years



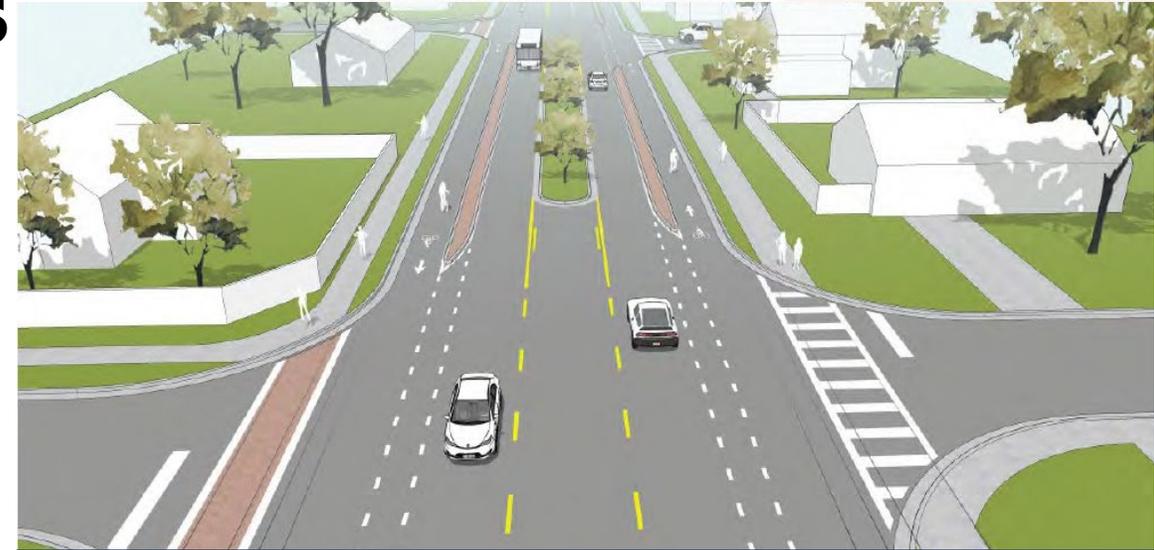
B/w Gore Street & I-4



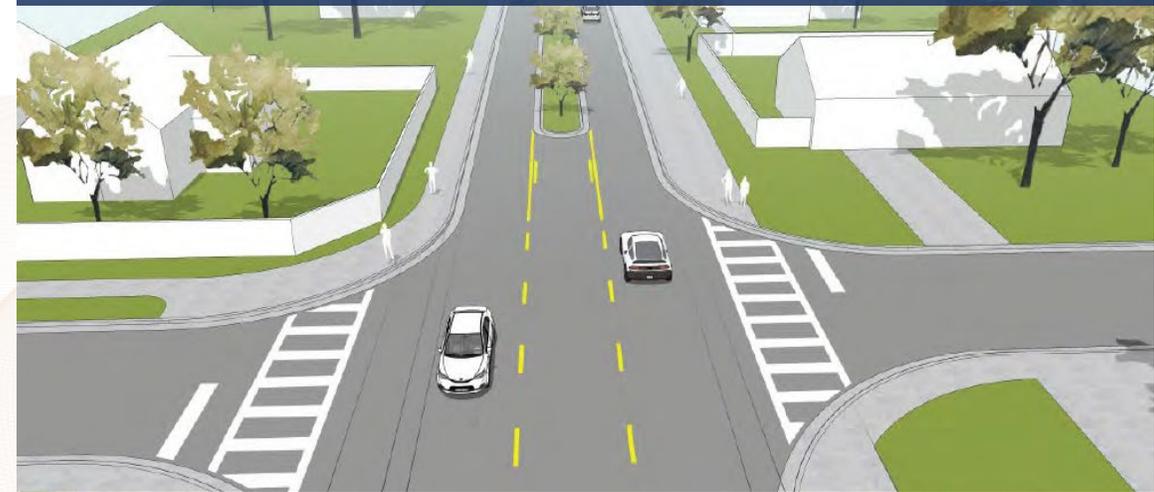
B/w I-4 & Holden Avenue

Long-Term Improvements

- **Between I-4 and Gore Street**
 - Separate bicycle and travel lanes with permanent physical barrier
- **Between Holden Avenue and I-4**
 - Provide 12-foot-wide sidewalk/path
- **Improve Michigan Street/Montview Street Intersection**
- **Entire Corridor**
 - Replace painted medians with raised landscaped medians
 - Provide lighting enhancements
- **Estimated Cost and Timeline**
 - Cost unknown
 - Timeline based on funding - up to 10 years
 - May require additional ROW



B/w Gore Street & I-4



B/w I-4 & Holden Avenue

Anticipated Safety Benefits

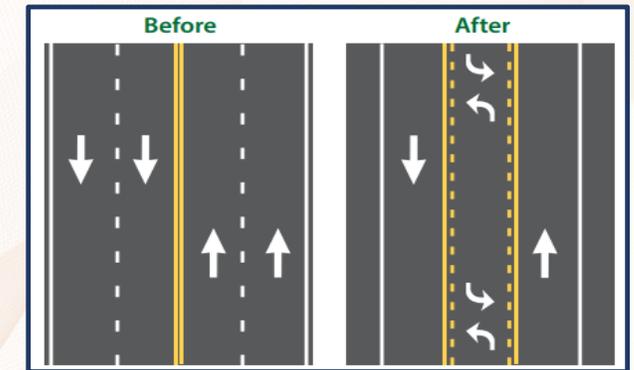
- **Percentage Crash Reduction**

- Road Diet/Lane Repurposing: **19% (All crash types)**
- Speed Reduction: **32% (All crash types)**
- Raised Median: **32% (Pedestrian crashes)**
- RRFB: **47% (Pedestrian crashes)**
- Highway Lighting: **32% (All crash types)**

Source: <http://www.cmfclearinghouse.org/>. CFRs with a star quality rating of 3 or more are considered



Bike lane separated by flexible delineators on Fowler Ave, Tampa, FL., source: Google Maps



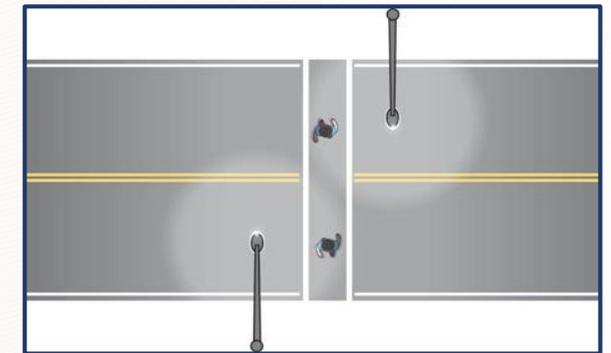
Road Diet Example, source: FHWA Road Diet Informational Guide



RRFB at midblock crosswalk, source: VHB



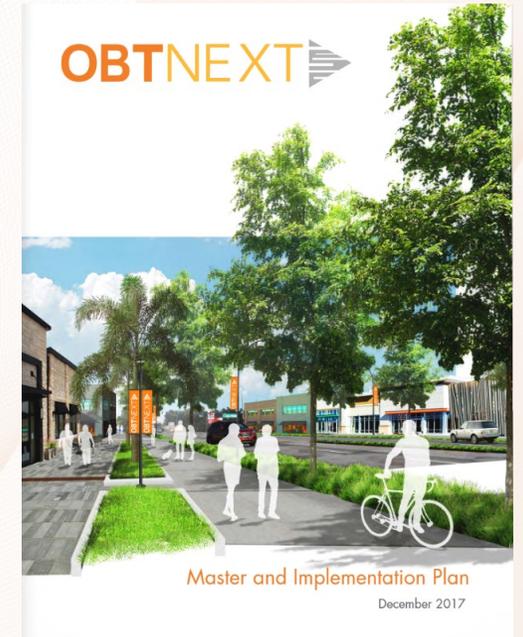
Raised Pedestrian Refuge Island, source: www.pedbikeimages.org/Dan Burden



Source: FHWA Informational Report on Lighting Design for Midblock Crosswalks

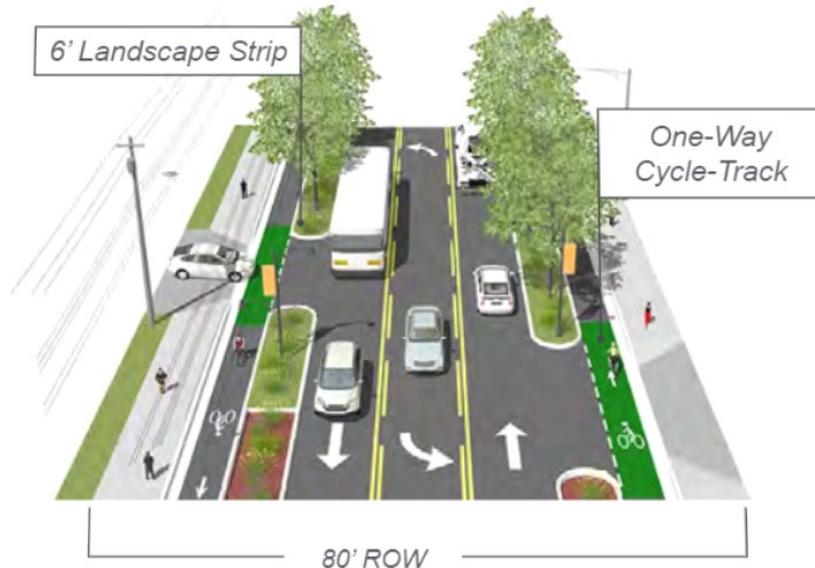
OBT NEXT

- **Master and Implementation Plan completed in December 2017**
- **Includes recommendations for Rio Grande Avenue from SR 408 to I-4**
 - Two concepts – both reduce roadway to two lanes with a center turn lane
 - Concepts provide accommodations for bicycles and landscaping
 - Consistent with the Rio Grande Avenue Pedestrian Safety Study recommendations



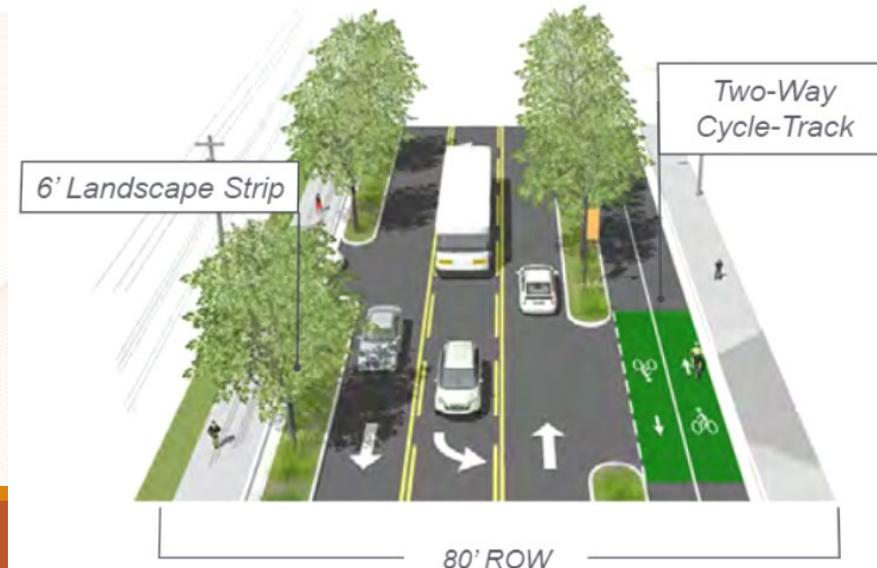
Concept 1

2-Lane Road with Center Turn Lane and Protected Bike Lanes on Both Sides of the Road

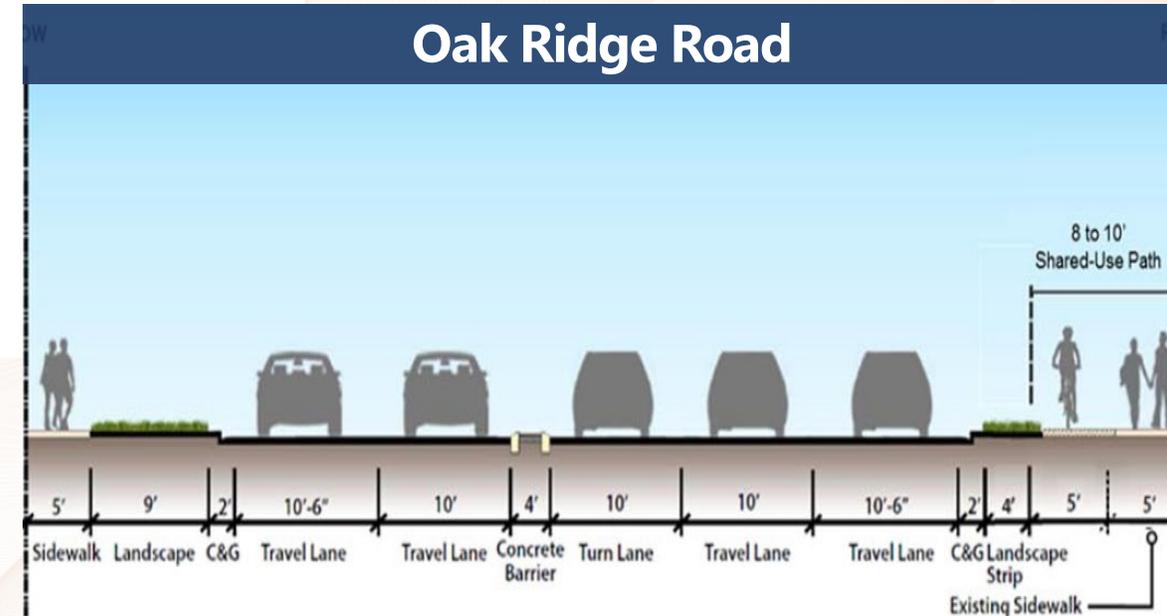
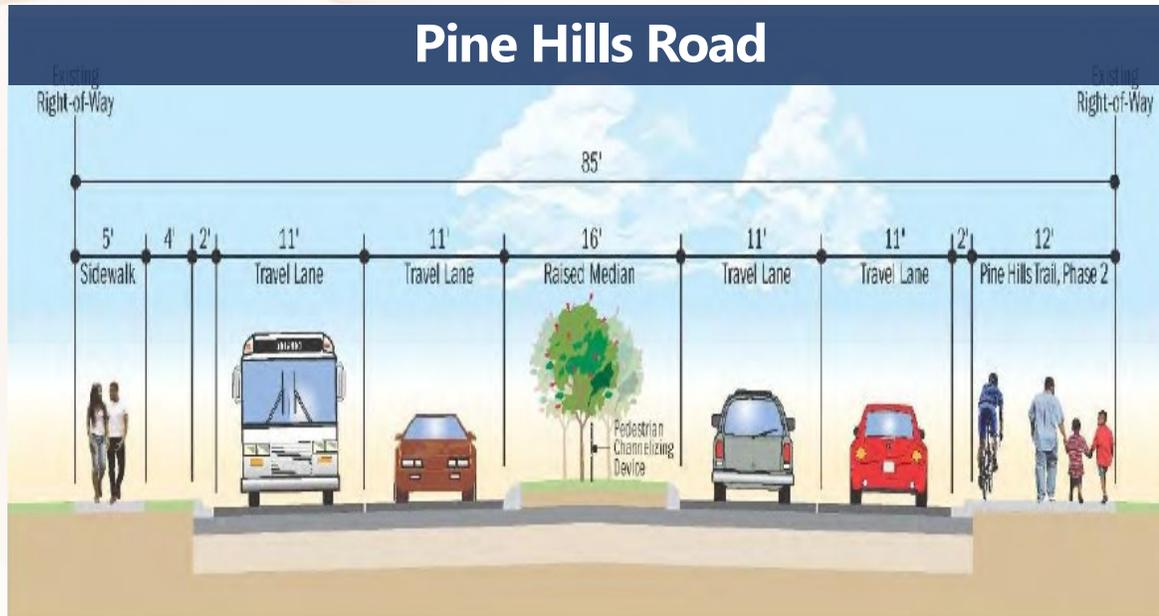


Concept 2

2-Lane Road with Center Turn Lane and Protected Bike Lanes on one Side of the Road



Other Similar Projects



Next Steps

- **Short-Term Improvement (Phase 1) Design**
- **Pursue funding for mid- & long-term improvements**

Funding

- Orange County
 - Short-term improvements
- Capital Improvement Funding and/or MetroPlan Orlando
 - Mid- & long-term improvements
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)

Submit Comments



Submit your comments and questions using
the GoToWebinar chat box



Or email your comments following the
meeting to: pedsafety@ocfl.net

All questions and answers will be posted to the project website within 10 days of the meeting

Project Website: www.ocfl.net/TrafficTransportation/TransportationProjects/RioGrandeStudy.aspx

Thank you!



Lauren Torres

Project Manager

Orange County Traffic Engineering Division

Lauren.Torres@ocfl.net

Vibhuti Patel

Assistant Project Manager

Orange County Traffic Engineering Division

Vibhuti.Patel@ocfl.net

Cristina Pichardo-Cruz

Assistant Project Manager

Orange County Traffic Engineering Division

Cristina.Pichardo-Cruz@ocfl.net

Babuji Ambikapathy

Consultant Project Manager

VHB

BAmbikapathy@VHB.com