

# Rethinking First & Last Mile: Transit-Driven Complete Streets

June 29, 2017



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**Michael Baker**  
**INTERNATIONAL**



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# Emiko Atherton

Director

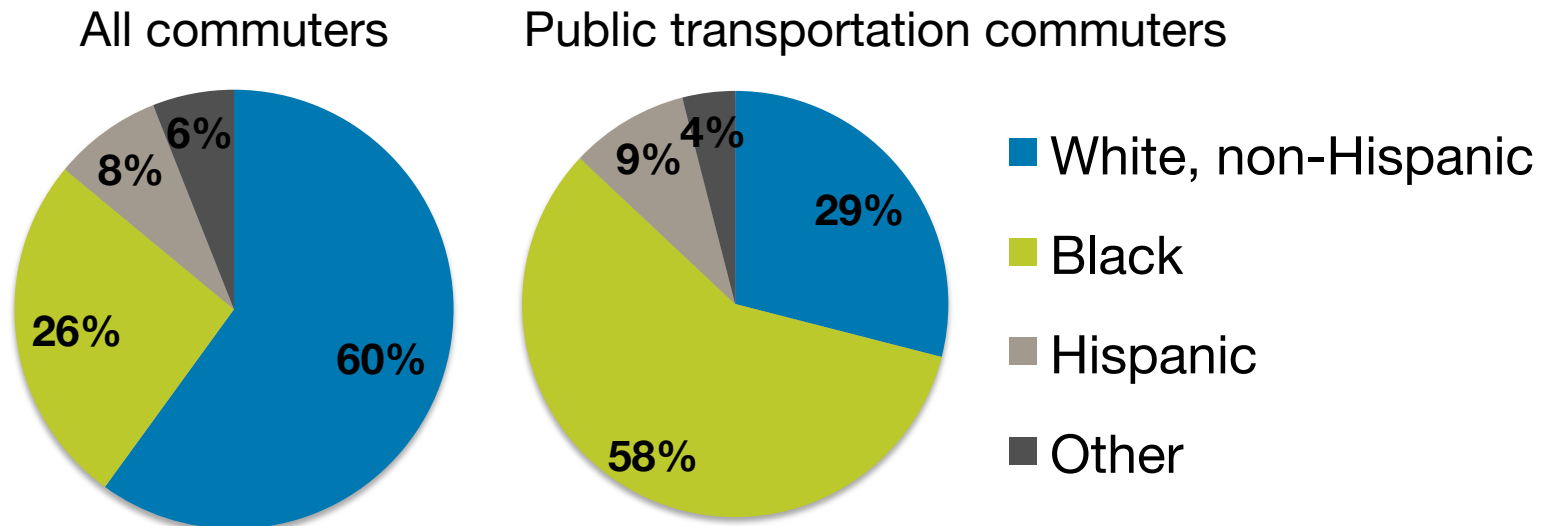
@CompleteStreets

# Importance of Transit

- connects people to jobs, schools, and other resources
- promotes exercise walking to and from stations
- costs less per person per trip than driving
- reduces greenhouse gas emissions

# Equity & Transit-Dependence

Compared to all commuters, public transportation commuters in Jacksonville are more than **3.6 times** as likely to live in poverty and have median incomes **half** as high





AMERICAN  
PUBLIC  
TRANSPORTATION  
ASSOCIATION



# Rich Weaver

Director of Planning, Policy,  
and Sustainability

@APTA\_info

# Rethinking First & Last Mile: Transit-Driven Complete Streets

**Rich Weaver**

Director – Planning, Policy & Sustainability  
American Public Transportation Association



# Overview

- Complete Streets for Better Transit
- Reno, NV – “Bus Stop Toolbox”
- Austin, TX – “Pathway Assessments”
- Washington, DC – “Metrorail Station Area Investment Study”
- San Diego – “Safe Routes to Transit”
- Resources

# Complete Streets Policies

A Complete Streets policy ensures that the entire right of way is planned, designed, operated and maintained to provide safe access for all users.





# Incomplete Streets are a barrier for riders, good service



# Bus Stop Lacking Amenities





# RTC Washoe – Reno, NV

## “Bus Stop Toolbox”



# Capital Metro – Austin, TX

## Pedestrian Pathway Assessment



Data is collected relating to the condition of:

- Sidewalks
- Driveways
- Curb Ramps
- Crosswalks



# SANDAG – San Diego, CA

## Safe Routes to Transit

SANDAG Safe Routes to Transit Plan

STATION AREA  
EXISTING CONDITIONS  
MAP

### LEGEND

- Station Area
- Existing/Planned Bike Route
- Planned Bike Lane
- Planned Bike Boulevard
- Signalized Intersection
- Stop Sign
- Crosswalk
- Yellow Crosswalk (Parallel)
- Yellow Crosswalk (Ladder)
- Raised Median
- Bike Parking
- School



*\*Limited tree canopy throughout site*



# WMATA – Washington, DC

## Metrorail Station Area Investment Study



### Metrorail Station Investment Strategy

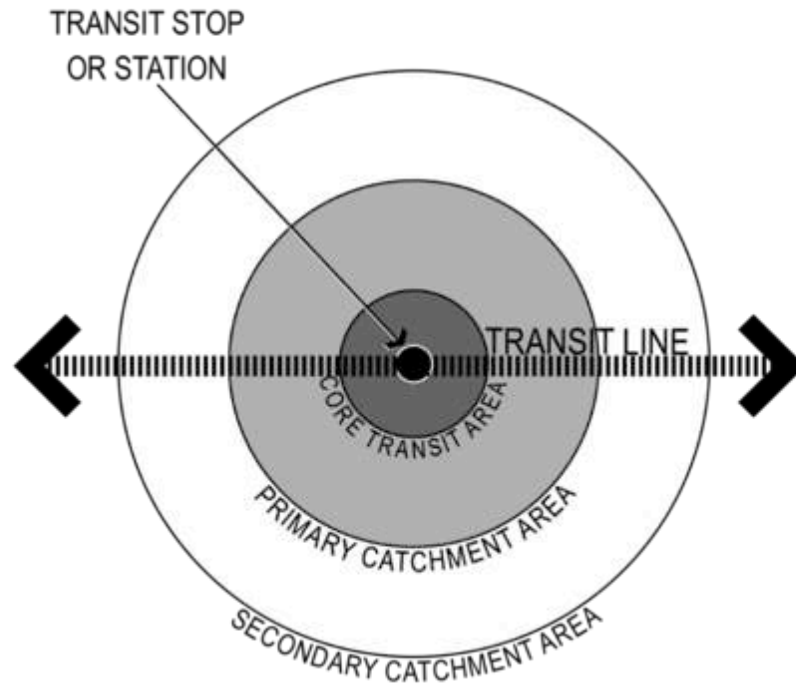
#### Summary Report



- Proposed bicycle and pedestrian projects in all station areas
- Focus off-site: ½ mile for pedestrians, 1 mile for bicyclists
- Prioritized projects using 12 measures

# RESOURCES:

## APTA Urban Design Working Group



- *Defining Transit Catchment Areas*
- *Transit Agency Partnerships to Improve Urban Design and Enhance Service Effectiveness*





# RESOURCES:

## APTA Urban Design Working Group

- *Design of On-street Transit Stops and Access from Surrounding Areas*



### Design of On-street Transit Stops and Access from Surrounding Areas

**Abstract:** This *Recommended Practice* discusses ways to provide or improve connections to, from and at on-street transit stops, regardless of mode.

**Keywords:** accessibility, land use, on-street transit stops, street connectivity, street design, transit-oriented development (TOD), urban design

**Summary:** This *Recommended Practice* is intended to support transit agencies to actively pursue access improvements by describing the on-street stop design features and characteristics that improve or support access to transit.

**Scope and purpose:** An on-street stop is a stop (for bus, streetcar, light rail, or any other mode) that is located within the right-of-way of a public street. Off-street stops, which are located on separate parcels controlled by the transit agency, introduce additional design considerations, which will be covered in an additional standard. However, the guidelines for street connectivity, street design and surrounding land uses in this standard apply to off-street stops as well. Transit agencies can use this document to assess existing or new on-street transit stops and to provide input to local jurisdictions and developers to invest in pedestrian improvements. Local jurisdictions and the general public can use this document to facilitate discussions about planning, design and investment decisions made by public agencies and elected officials. Developers, planners and architects can use this document in making design decisions regarding the interface of private development and the public realm where transit is present or planned. This *Recommended Practice* covers a broad range of subject matter for which there may be more detailed standards. Associated resources within the APTA Standards program may provide additional information about opportunities for developing partnerships, accessibility standards in relation to ADA requirements, and guidance on how to provide cues for persons with disabilities. This document is meant to complement rather than supersede other standards and reports that cover similar subjects.

This *Recommended Practice* represents a common viewpoint of those parties concerned with its provisions, namely, transit operating/planning agencies, manufacturers, consultants, engineers and general interest groups. The application of any standards, practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of a transit system's operations. In those cases, the government regulations take precedence over this standard. APTA recognizes that for certain applications, the standards or practices, as implemented by individual transit agencies, may be either more or less restrictive than those given in this document.

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# JTA'S MOBILITY CORRIDORS

Improving System Performance  
Through Urban Design

## Agenda

- Overview of Jacksonville & JTA
- Catalysts for a Complete Streets Program
- Process
- Concepts
- Next Steps & Lessons Learned

# Overview



## Population:

- City of Jacksonville – 850,000
- Metro area – 1,514,000
- 12th most populous city in nation
- 2<sup>nd</sup> most popular for relocation

## Size:

- 840 square miles
- Largest city in land size U.S.





# Jacksonville Transportation Authority

- Founded 1955 as Expressway Authority
- Became a “multimodal” Transportation Authority in 1971
- Design and constructs roads and bridges with responsibility for: fixed route bus, BRT, paratransit, Skyway monorail, trolley services, Stadium Shuttle
- 220 vehicle fleet; ~13 million trips

# Catalysts



## JTA Route Optimization Initiative (ROI)

- Most transformative project in Authority history
- Increased bus frequency (more direct/fewer stops)
- Extended hours of operation
- Improved stop locations
- Enhanced arrival/departure times



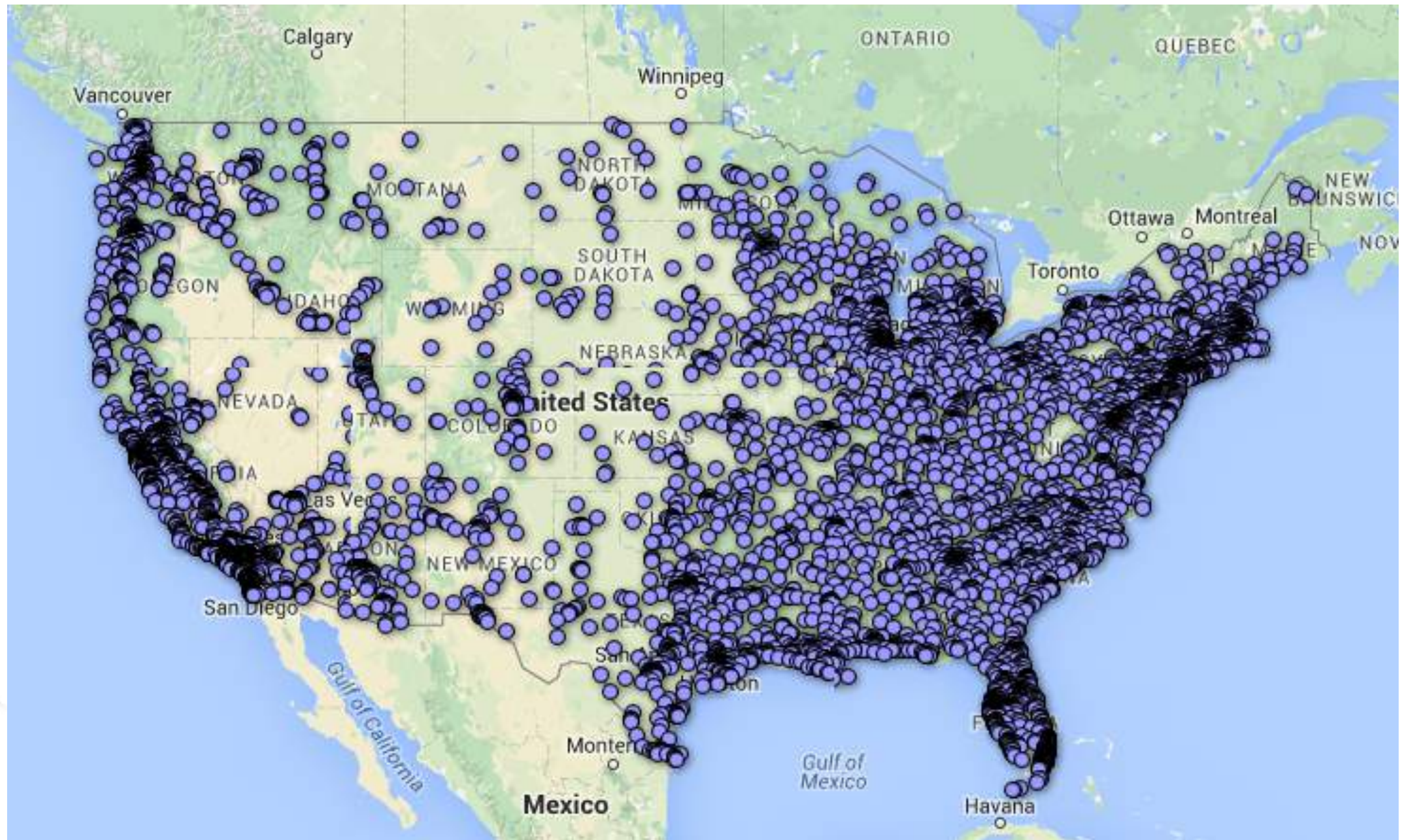




- ## First Coast Flyer BRT development
- Largest in SE—57 miles/\$124 million



# Catalysts



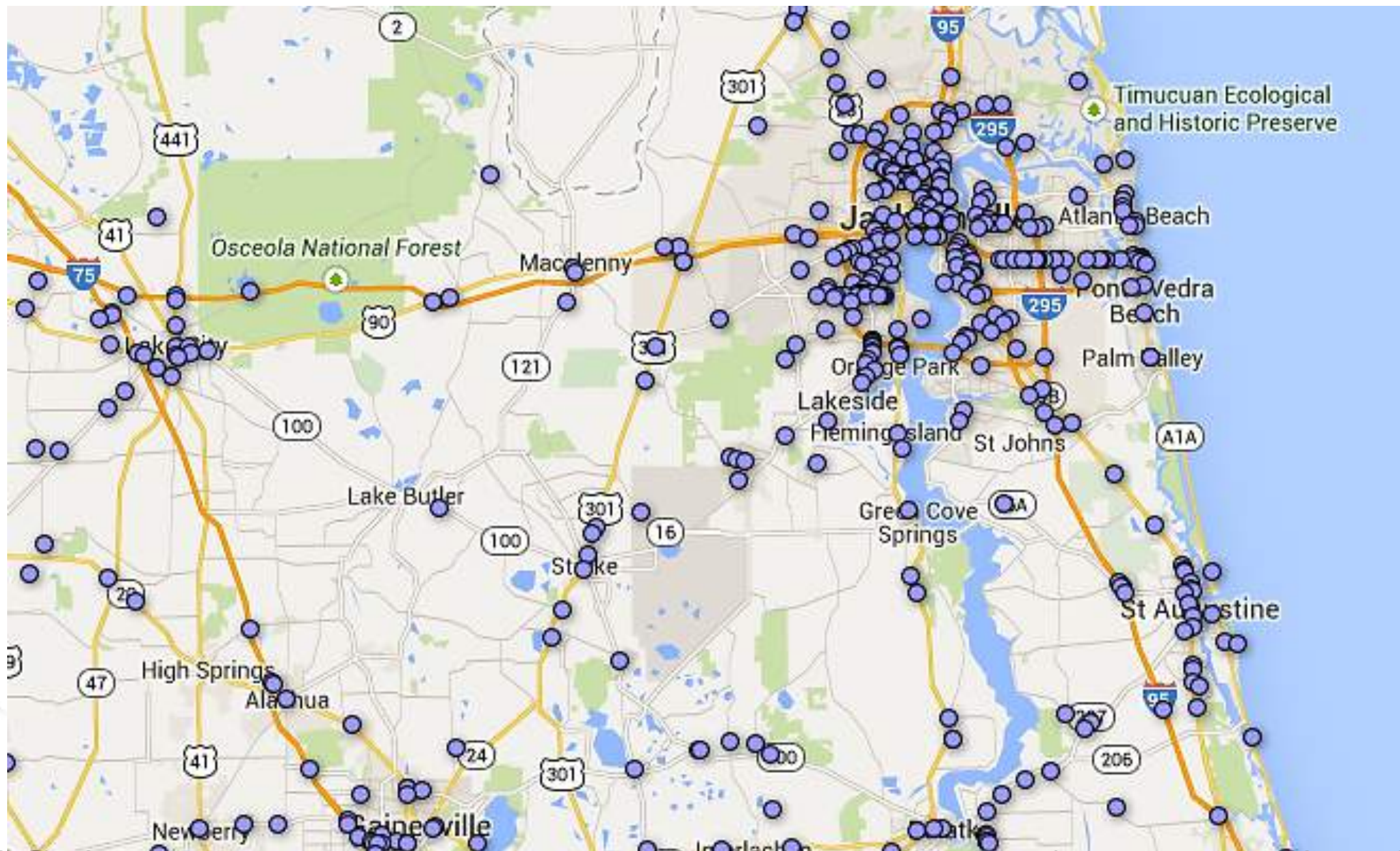


# Catalysts





# Catalysts



## METRO'S RANKED BY PEDESTRIAN DANGER INDEX (PDI)

2016 rank	Metro area	2016 PDI
1	Cape Coral-Fort Myers, FL	283.1
2	Palm Bay-Melbourne-Titusville, FL	235.2
3	Orlando-Kissimmee-Sanford, FL	234.7
4	Jacksonville, FL	228.7
5	Deltona-Daytona Beach-Ormond Beach, FL	228.2
6	Lakeland-Winter Haven, FL	200.6
7	Tampa-St. Petersburg-Clearwater, FL	192.0
8	Jackson, MS	189.6
9	Memphis, TN-MS-AR	153.3
10	North Port-Sarasota-Bradenton, FL	148.2

2016 rank	Metro area	2016 PDI
11	Miami-Fort Lauderdale-West Palm Beach, FL	145.1
12	Bakersfield, CA	132.8
13	Birmingham-Hoover, AL	132.1
14	Little Rock-North Little Rock-Conway, AR	127.9
15	Houston-The Woodlands-Sugar Land, TX	127.2
16	Phoenix-Mesa-Scottsdale, AZ	125.1
17	Detroit-Warren-Dearborn, MI	124.2
18	Riverside-San Bernardino-Ontario, CA	123.4
19	Baton Rouge, LA	120.6
20	McAllen-Edinburg-Mission, TX	118.8

Source: Smart Growth America; *Dangerous by Design*, 2016



## Alliance for Biking and Walking 2016 Benchmarking Report:

- Jacksonville has the **highest rate of bicycle/pedestrian fatalities** among the 50 most populous cities in America.
- At **50.8 deaths per 10,000 commuters**, Jacksonville is much worse than the state of Florida's average (34.4)—the worst state in the U.S.



## Pedestrian killed on Arlington Exp downtown

News Staff, First Coast News 9:03 a.m. EDT August 22, 2015

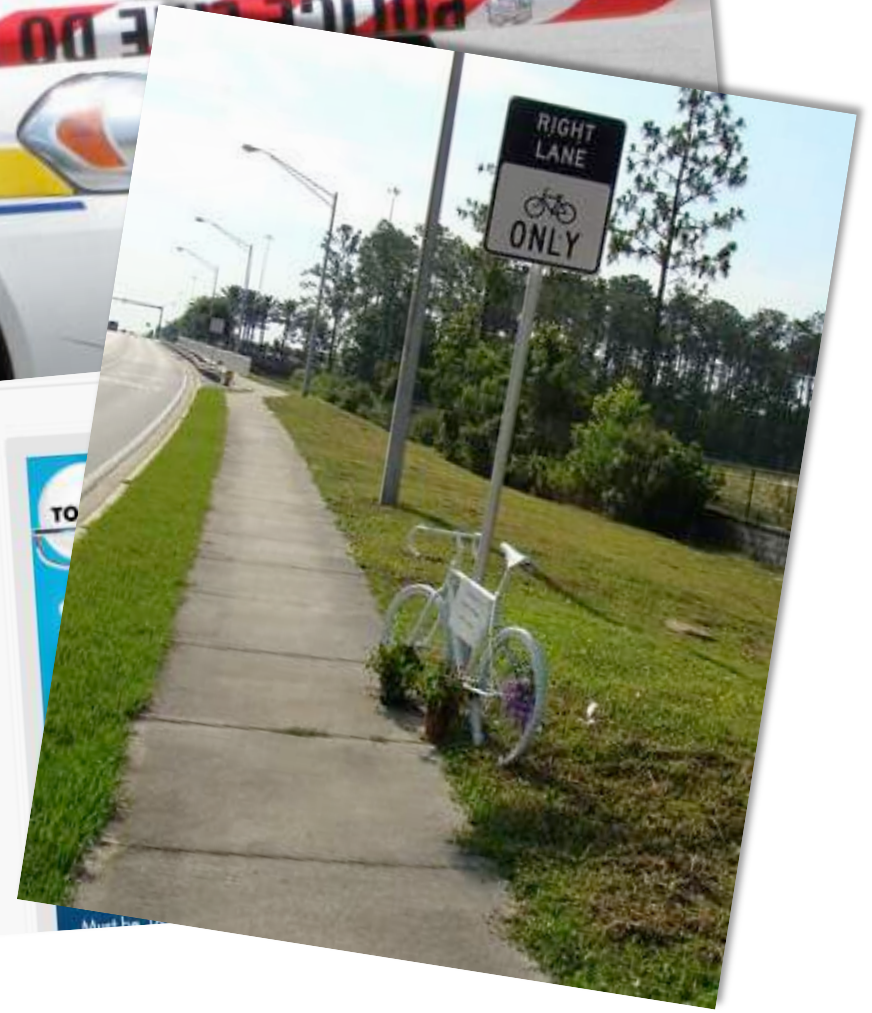


(Photo: FCN)

**f 79** CONNECT **t 15** TWEET **in** LINKEDIN COMMENT EMAIL MORE

JACKSONVILLE, Fla. — A pedestrian was struck and killed while crossing Arlington Expressway early Saturday morning, according to the Jacksonville Sheriff's Office.

Authorities have not released the name of the victim, or any other information about them. Police said they also have no information regarding the vehicle that struck the pedestrian.





## “Dangerous by Design”





## “Dangerous by Design”





## “Dangerous by Design”





## “Dangerous by Design”





## “Dangerous by Design”





## “Dangerous by Design”





# “First Mile/Last Mile” Experience





## “First Mile/Last Mile” Experience





## “First Mile/Last Mile” Experience



# “First Mile/Last Mile” Experience





## “First Mile/Last Mile” Experience



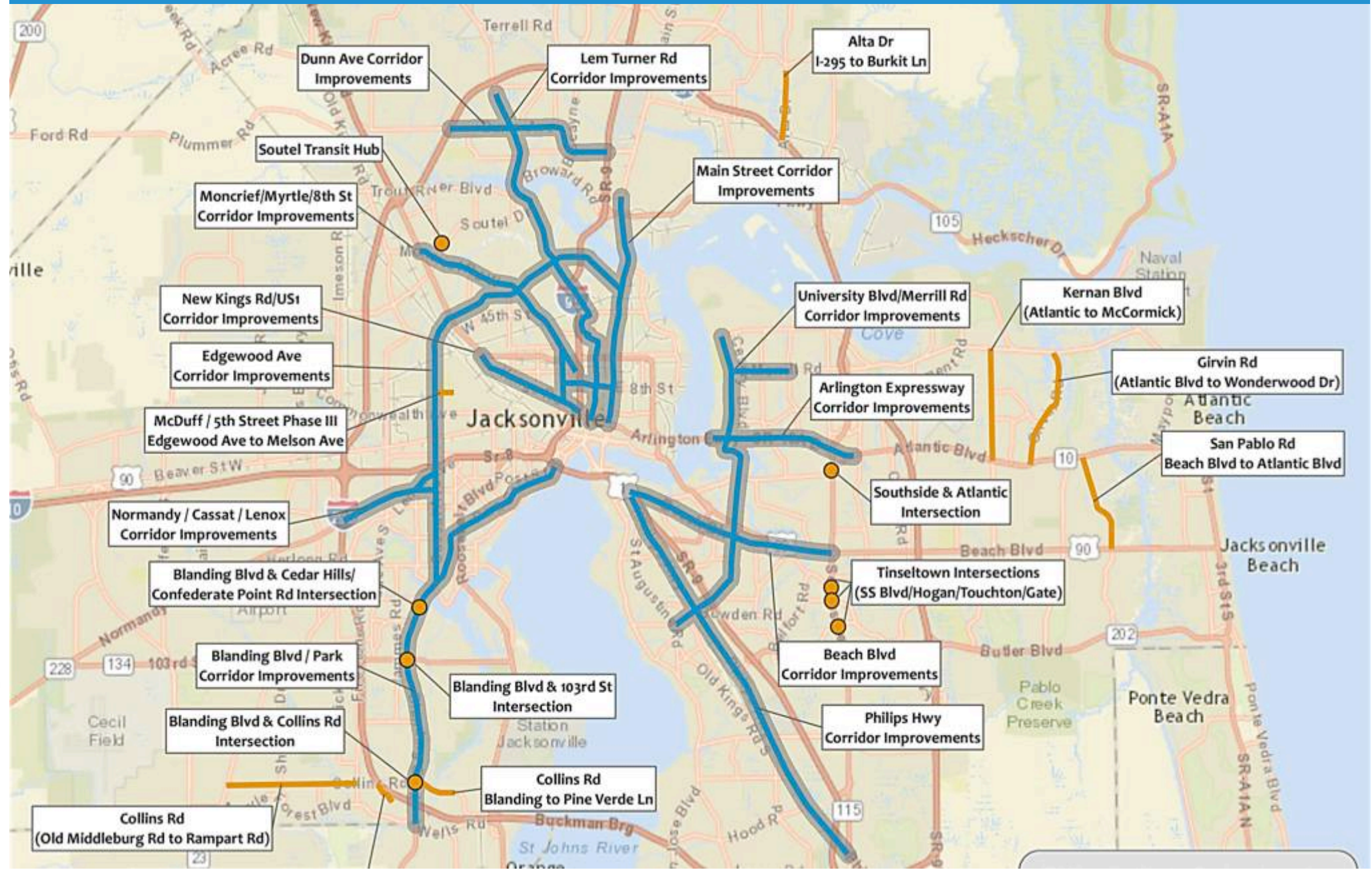
## “First Mile/Last Mile” Experience





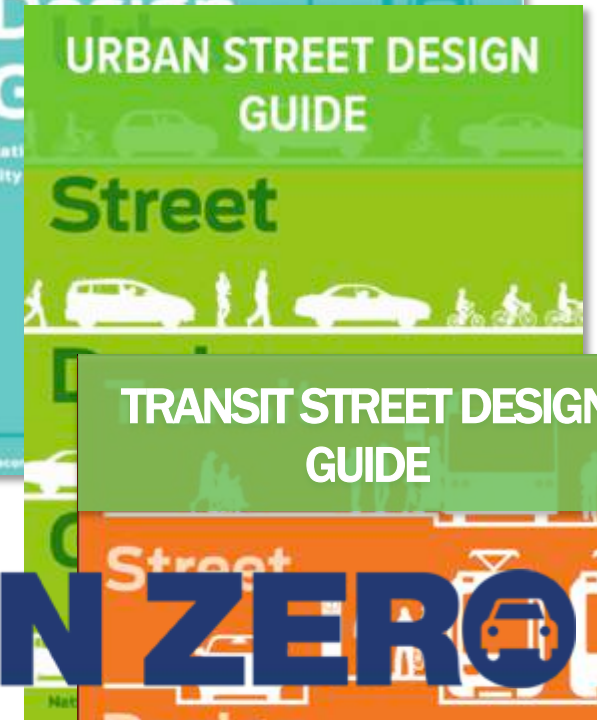
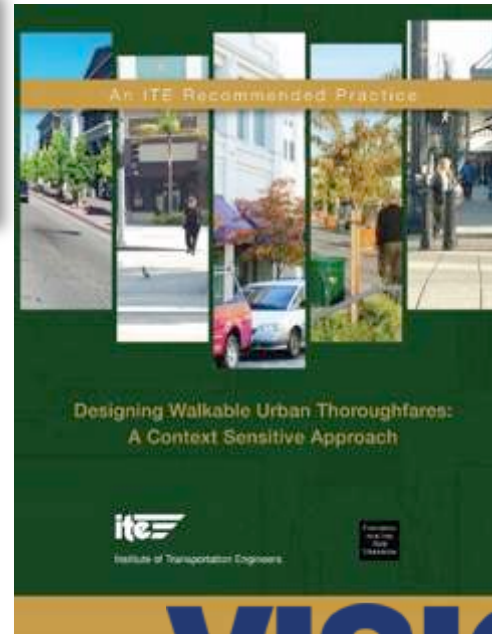
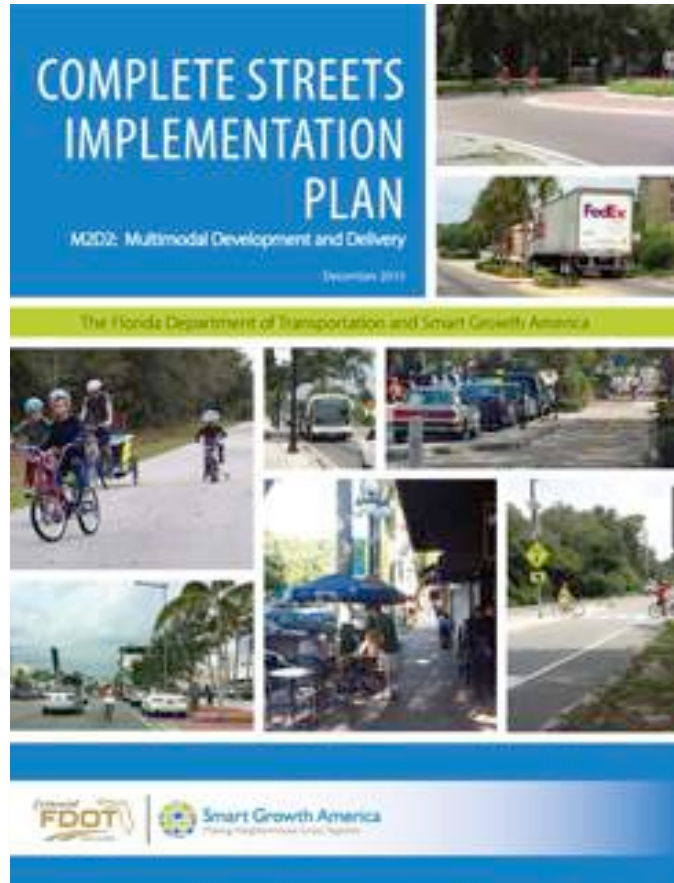
# Program

## JTA's Mobility Corridors





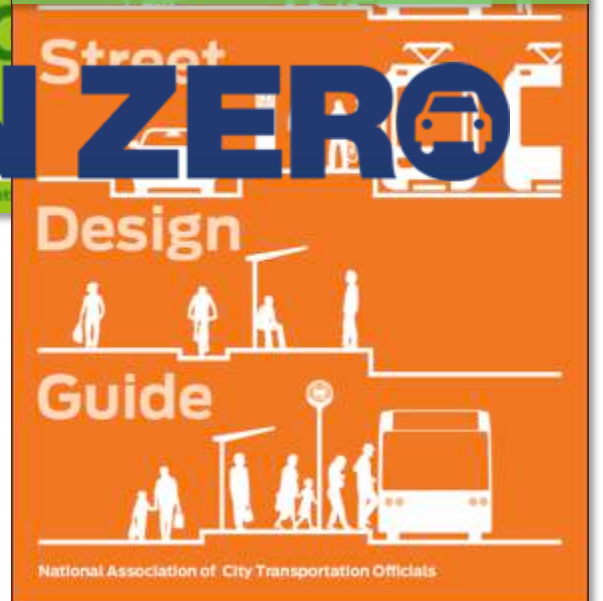
## Growing National and State Guidance



### TRANSIT STREET DESIGN GUIDE

# VISION ZERO

# FAST ACT



# Growing National and State Guidance



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## Complete Streets Implementation

Complete Streets Implementation

**Welcome**



## Latest Updates

Milestone: Internal Draft of Complete Streets Handbook

AARP recognizes FDOT Complete Streets

Presentations from the 2016 Florida Design Training Expo

Milestone: Guiding principles for Complete Streets decisions

Milestone: Proposed Land context classification system

Roadway Design Memorandum RDM16-01 - Florida Design Manual



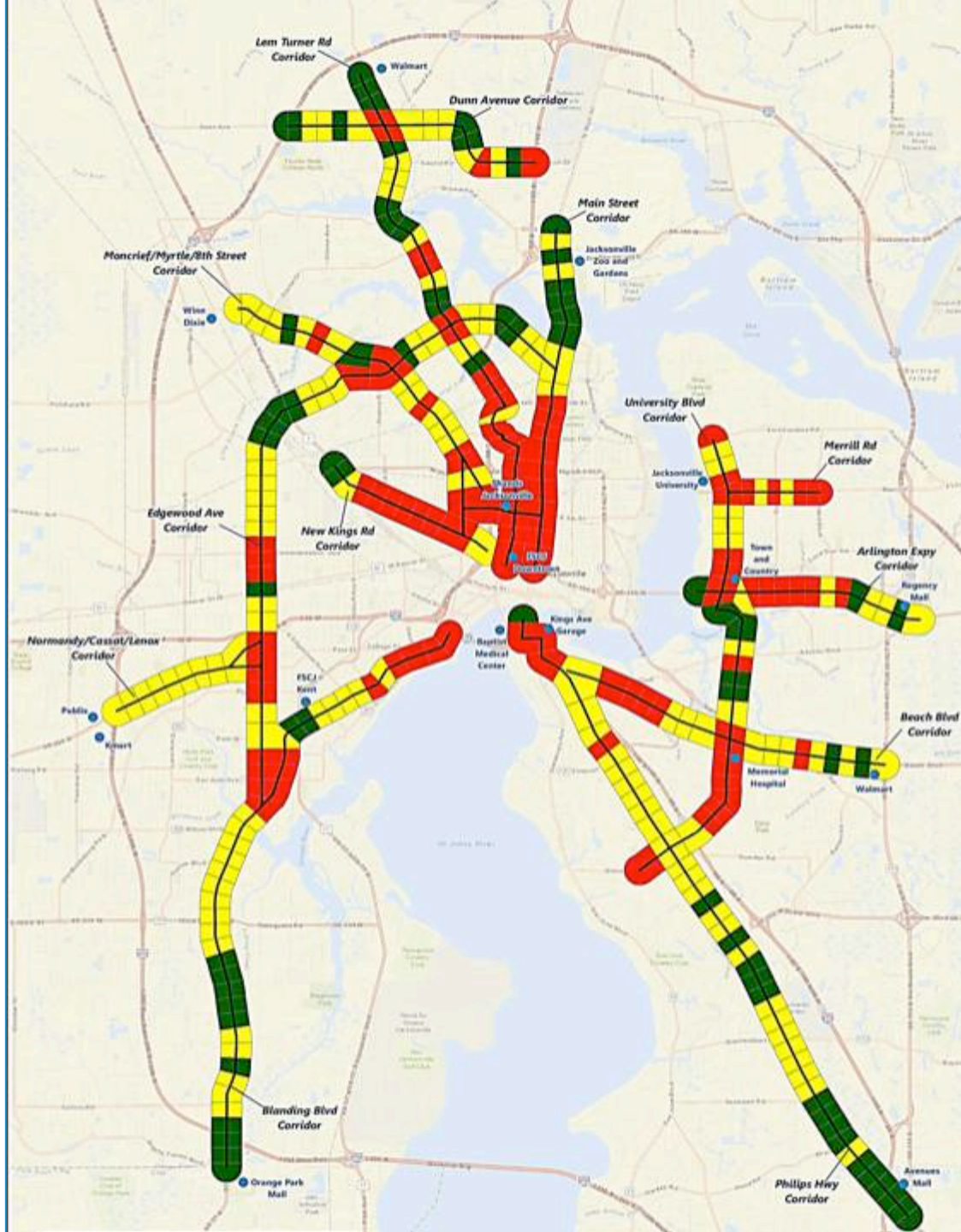
# Process

## 5D Analysis (Pre-screening)

National travel research has found that certain characteristics of the built environment tend to highly affect travel behavior in predictable ways:

- **Density** *in terms of dwelling units or jobs per acre*
- **Diversity** *of land uses within any given area*
- **Design** *of the pedestrian and bicycling environment*
- **Destinations** *or proximity to regional activity centers*
- **Distances** *to transit stops/routes*

**1/4-mile focus areas**-enables improvements into neighborhoods to facilitate access to transit and multimodal transportation along corridors



## 5D Analysis (Pre-Screening)

- Red areas = higher need
- Green/Yellow=less need

**Walk Audits-verified analysis**



# Workshops & Charrettes





Project categories include:

- **Keystone**
- **Operational & Safety**
- **Long Term Visions**

Maximizes current funding to implement priority projects and **quick fixes** in each corridor



## Project Prioritization Tool—Key Goals

- Mobility and Safety
- Planning and Funding Leveragability
- Public Health and Livability
- Economic Development and Competitiveness

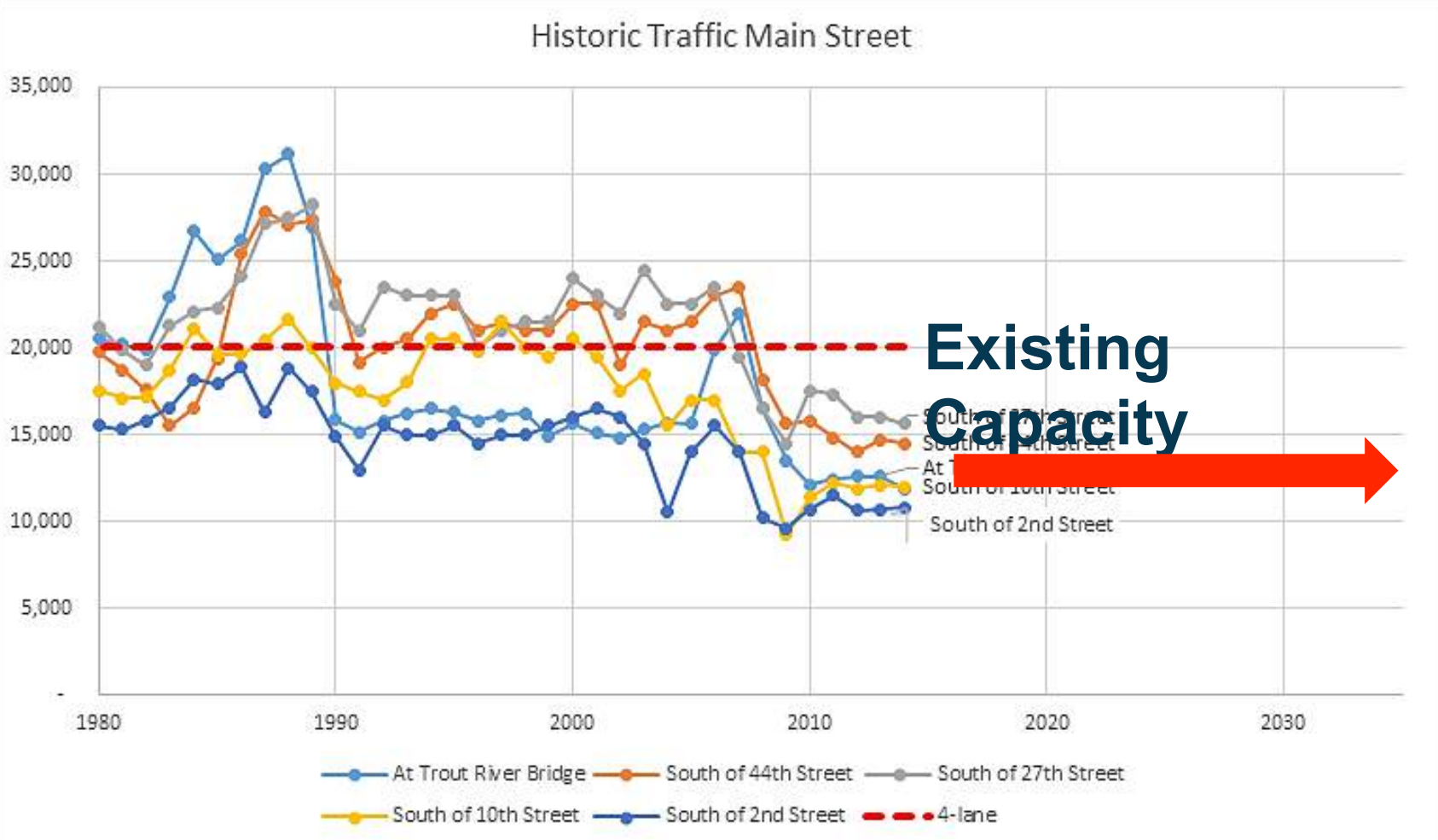
SORT			Mobility Corridors—Complete Streets Project Prioritization Matrix (DRAFT)																								Total Score		Relative Priority (Critical, High, Medium, Low)			
			Goal 1: Increasing Mobility and Safety for All Users												Goal 2: Planning and Funding Leveragability				Goal 3: Public Health and Livability				Goal 4: Economic Development & Competitiveness									
Mobility Corridors			SDs-Density, Diversity, Design, Destinations, Distances <sup>1</sup>		Ped/Bike Crashes <sup>2</sup>		Transit Ridership(s) <sup>3</sup>		Access to Key Transit Route(s) <sup>4</sup>		Presence of Adequate Lighting <sup>5</sup>		ADA Compliance <sup>6</sup>		Vehicle Capacity Ratios <sup>7</sup>		Facility Designation <sup>8</sup>		Support Local Planning Initiatives/ Proximity to CRA Projects <sup>9</sup>		Funding Leveragability <sup>10</sup>		Social Equity <sup>11</sup>		Access to social, cultural, recreational resources <sup>12</sup>		Access to Healthy Food <sup>13</sup>		Adjacent to substantially vacant/redevelopable commercial property <sup>14</sup>			
			Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score	Wt.	Score		
Corridor Projects	Location	Council District	5	5	7	7	5	7	5	7	5	7	3	3	7	1	1	1	1													
Park/Blanding	SW	District 7- Reggie Gaffney; District 14- Jim Love	15	3	10	2	14	2	21	3	5	1	21	3	5	1	6	2	6	2	14	2	2	2	2	3	3	3	127	CRITICAL		
Main St.	UC	District 7- Reggie Gaffney	15	3	15	3	21	3	21	3	5	1	7	1	15	3	6	2	6	2	7	1	1	1	3	3	1	1	3	3	126	CRITICAL
University Blvd. (N)/Merrill Rd.	GA	District 1- Joyce Morgan	10	2	5	1	14	2	7	1	15	3	21	3	5	1	9	3	9	3	21	3	1	1	3	3	2	2	1	1	123	CRITICAL
Manciel/Myrtle/8th	NW	District 7- Reggie Gaffney; District 8- Katrina Brown	10	2	15	3	21	3	21	3	5	1	14	2	10	2	6	2	6	2	7	1	1	1	3	3	2	2	2	2	123	CRITICAL
Arlington Expy.	GA	District 1- Joyce Morgan	10	2	10	2	14	2	14	2	15	3	21	3	5	1	6	2	3	1	14	2	2	2	2	3	3	2	2	2	121	CRITICAL
Dunn Ave.	NW	District 7- Reggie Gaffney; District 8- Katrina Brown	10	2	5	1	14	2	21	3	15	3	21	3	10	2	6	2	3	1	7	1	3	3	2	2	2	2	2	2	121	CRITICAL
Beach Blvd.	SE	District 5- Lori N. Boyer	15	3	5	1	7	1	21	3	10	2	14	2	10	2	6	2	6	2	7	1	3	3	2	2	3	3	2	2	111	HIGH
University Blvd. (S)	SE	District 4- Scott Wilson; District 5- Lori N. Boyer	15	3	10	2	14	2	7	1	15	3	14	2	10	2	6	2	3	1	7	1	2	2	2	2	3	3	2	2	110	HIGH
Lem Turner Rd.	NW	District 7- Reggie Gaffney; District 8- Katrina Brown	10	2	5	1	14	2	14	2	10	2	21	3	10	2	6	2	6	2	7	1	1	1	2	2	2	2	2	2	110	HIGH
Phillips Hwy.	SE	District 5- Lori N. Boyer	10	2	5	1	14	2	21	3	15	3	7	1	10	2	6	2	6	2	7	1	2	2	1	1	3	3	2	2	109	HIGH
Edgewood Ave.	NW	District 8- Katrina Brown; District 10- Reginald L. Brown	10	2	5	1	14	2	14	2	10	2	14	2	10	2	6	2	3	1	14	2	2	2	3	3	2	2	1	1	108	HIGH
Normandy/Cassat/Lenox	SW	District 9- Garrett L. Dennis; District 10- Reginald L. Brown; District 14- Jim Love	10	2	10	2	14	2	7	1	10	2	14	2	10	2	6	2	3	1	7	1	2	2	2	2	3	3	2	2	100	HIGH
Kings Rd.	NW	District 8- Katrina Brown; District 9- Garrett L. Dennis	15	3	5	1	7	1	21	3	5	1	7	1	5	1	6	2	6	2	7	1	2	2	1	1	2	2	1	1	90	MEDIUM
Mandarin Rd.	SE	District 6- Matt Shellenberg	5	1	5	1	7	1	7	1	15	3	7	1	10	2	9	3	3	1	7	1	3	3	1	1	2	2	1	1	82	LOW
Rating Scale Scores			Relative Priority																													
1 = Project Does Not Satisfy Goal			Low = 0 to 89 points																													
2 = Project Minimally Satisfies Goal			Medium = 90 to 99 points																													
3 = Project Satisfies Goal Well			High = 100 to 120 points																													
			Critical = 121 and above																													
			Weighting: Each objective is weighted according to its importance in project implementation: 7: Highly Essential = Exceedingly more significant in terms of supporting both Mobility Corridors implementation and measurable safety outcomes 5: Essential = More significant in terms of supporting both Mobility Corridors implementation and measurable safety outcomes 3: Valuable = Important in terms of supporting Mobility Corridors implementation																													



# Project Prioritization Tool—Key Criteria

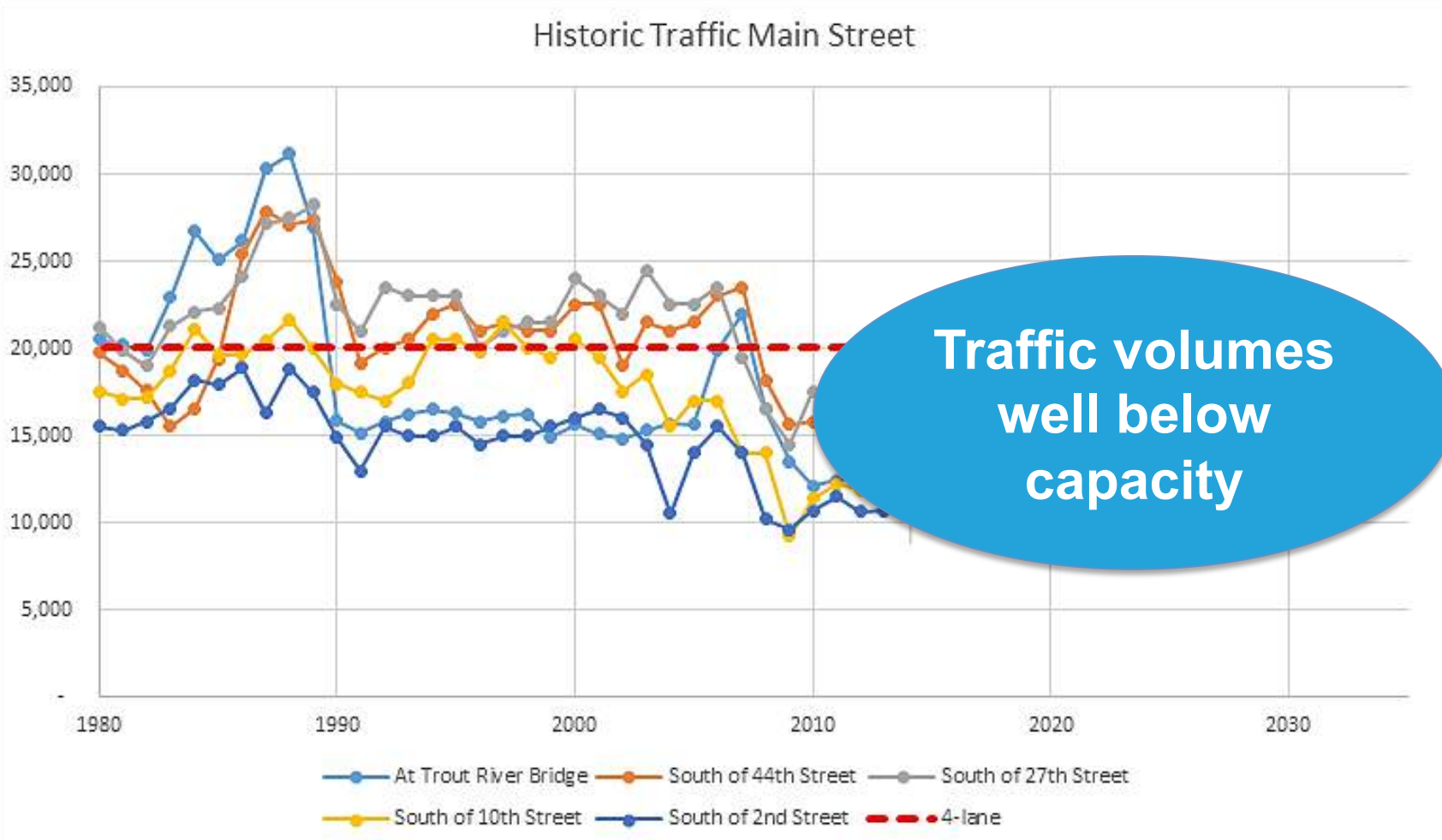
<u>Mobility &amp; Safety</u>	<u>Planning &amp; Funding Leveragability</u>	<u>Public Health &amp; Livability</u>	<u>Economic Development &amp; Competitiveness</u>
<b>Bike Ped Crashes</b>	Facility Designation	Access to Social, Cultural, Recreational Resources	<b>Adjacent to substantially vacant/redevelopable commercial property</b>
Access to Key Transit Routes	<b>Funding Leveragability</b>	Social Equity	
ADA Compliance & Lighting	Support Local Planning Initiatives	<b>Access to Healthy Food</b>	
<b>Vehicle Capacity Ratios</b>			
Transit Ridership			

# “Overbuilt” Corridors





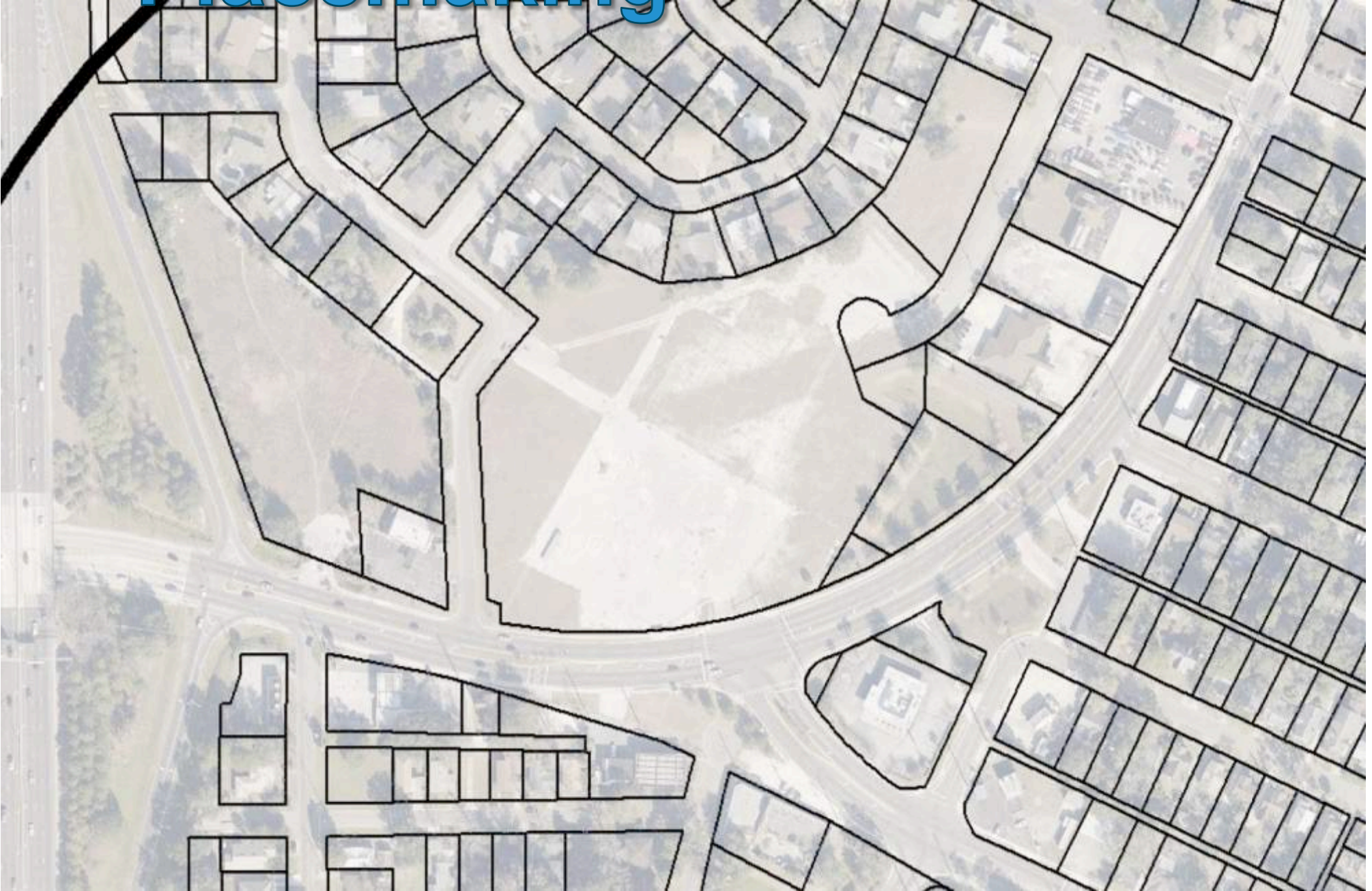
# “Overbuilt” Corridors



# Concepts



## “Placemaking”





## “Placemaking”





# “Placemaking”





## Lem Turner/Norwood Avenue





## Lem Turner/Norwood Avenue





## Main Street





# Main Street





## Park/Blanding Overpass





## Park/Blanding Overpass





# Park/Blanding Overpass





## University Blvd. /Merrill Rd.





## University Blvd. /Merrill Rd.





# Takeaways

## 1. Defining Program

## 2. Coordination

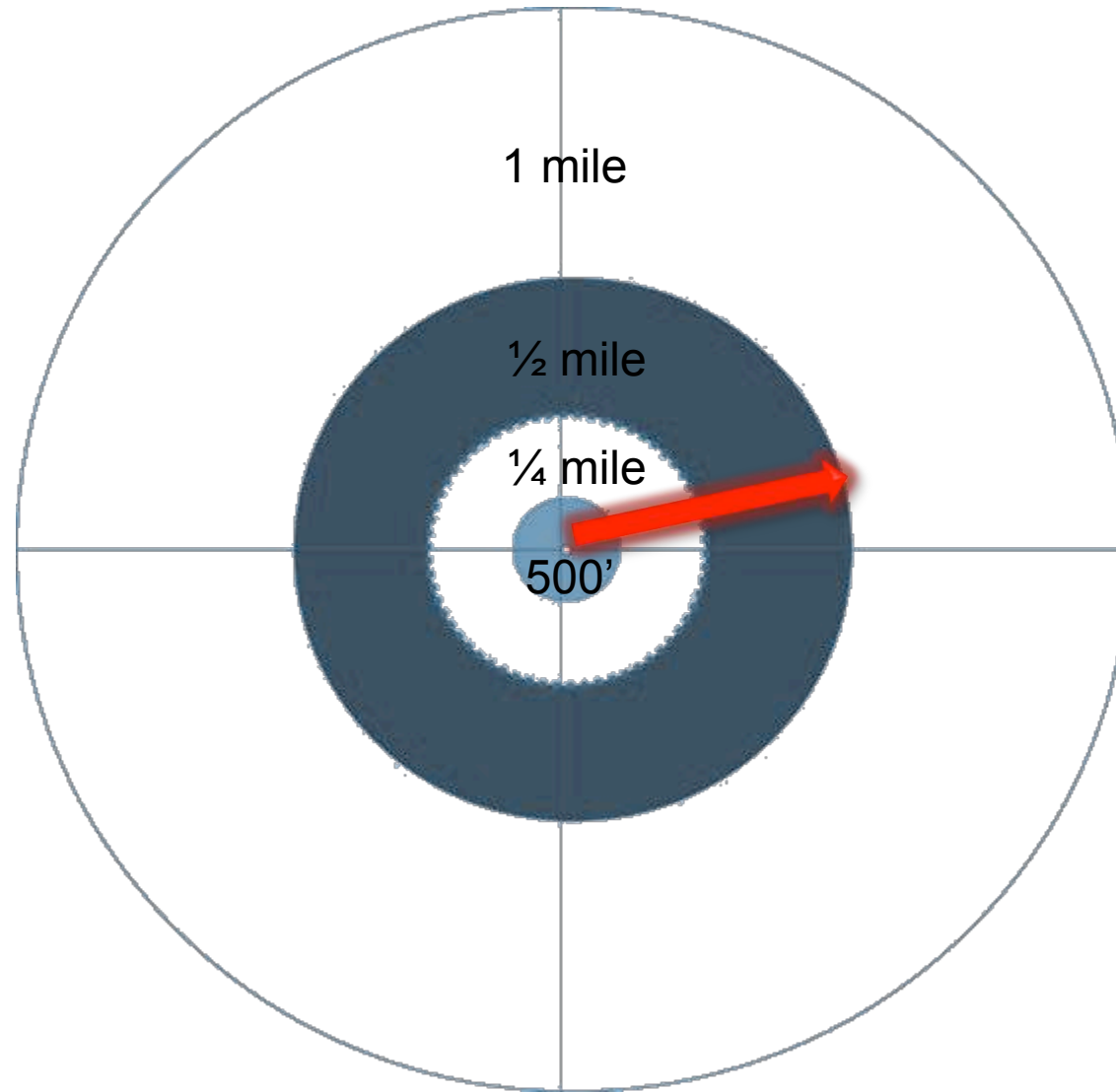
- FDOT
- City of Jacksonville Public Works
- Elected Officials
- JTA

## 3. Resistance to “demonstration project” or “pilots”



- 1. Stick to the message (Mission vs. Process focused)**
- 2. Transit-Driven Approach**
- 3. Attractive Collateral**
- 4. Don't Swallow the Elephant**
- 5. Rethink “first and last mile”**

# Rethinking the “First Mile/Last Mile”





# Rethinking the “First Mile/Last Mile”

Area	Infrastructure & Land Use Needs	Issues	Responsible Agency	Behavior/Human Factors
50-100 feet				
500 feet				
1/4mile				
1/2 mile				
1 mile				

↑  
Walkable

- Advance prioritized “Keystone” and Operational/ Safety-based “quick fixes” into PE/Design/Construction
- Leverage additional resources (City/FDOT/ grants)
- Developing a long-term capital program supporting Complete Streets initiative!
- TRB Publication 2017





**What's the first  
thing an infant  
wants to do and  
the last thing an  
older person  
wants to give up?**



## For More Information:



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# Questions?

Type your questions in  
the ReadyTalk chat box



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# Want to learn more?

Stay tuned for upcoming events



# Upcoming webinar on transit connectivity

**Hear from a city that partnered with Lyft to increase access to their public transit network**



Hosted by  
Transportation for  
America's Smart  
Cities Collaborative  
**Thursday, July 13<sup>th</sup>**  
**3:00-4:00 PM EDT**

# Implementation & Equity 201:

The Path Forward to Complete Streets

## Greening the Streetscape: Complete Streets & Stormwater Management

Monday, July 10<sup>th</sup> 1:00-2:00 PM EDT



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