



SR 524 Corridor PLANNING STUDY

FM# 437983-1

Space Coast TPO

Viera Government Center

Technical and Citizens Advisory Committee Meeting - July 10, 2017

Governing Board Meeting - July 13, 2017

Cocoa City Council Meeting - July 25, 2017

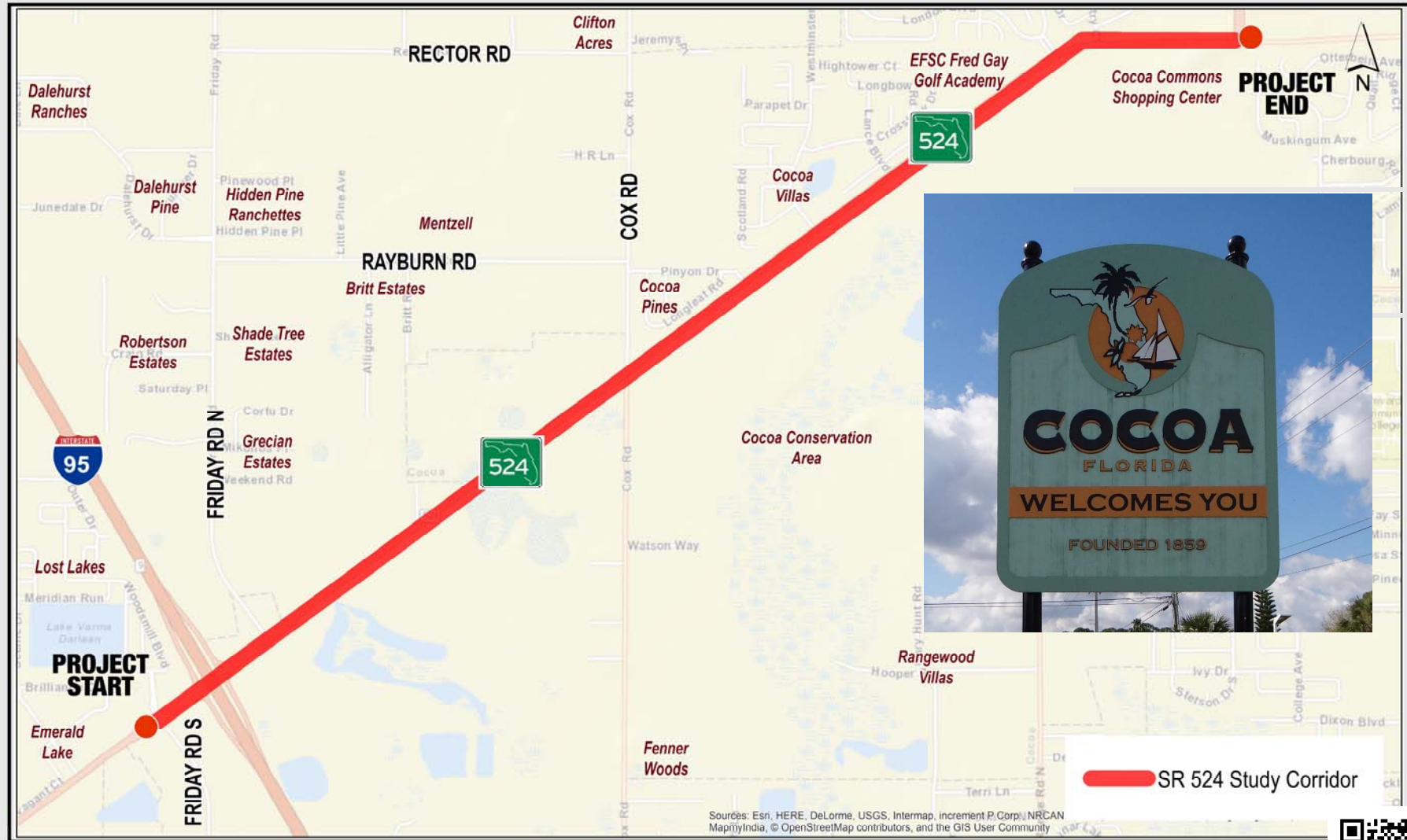




- **What Have We Learned?**
- **What are the Potential Solutions?**
- **How Do we Move Forward?**
- **Questions and Discussion**



What are the Study Area Limits?

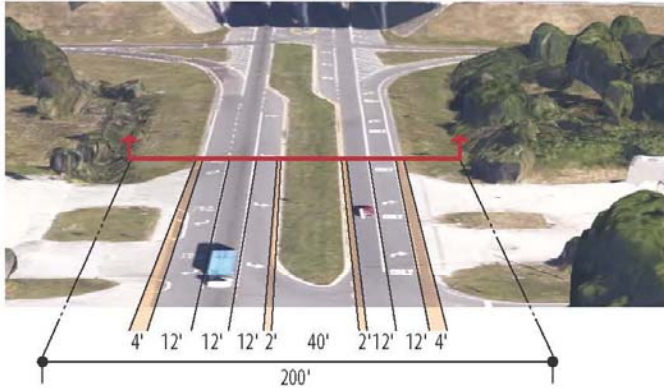


What SR 524 Looks Like Today

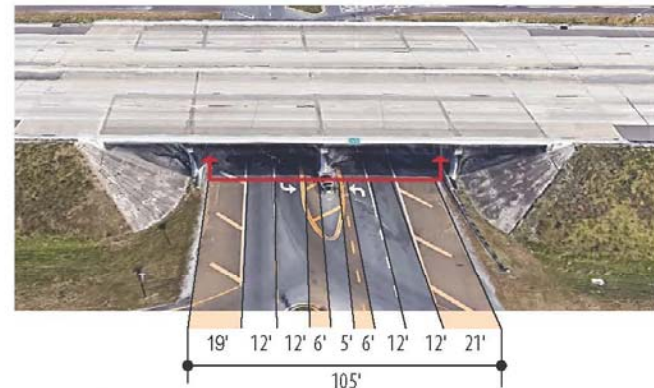
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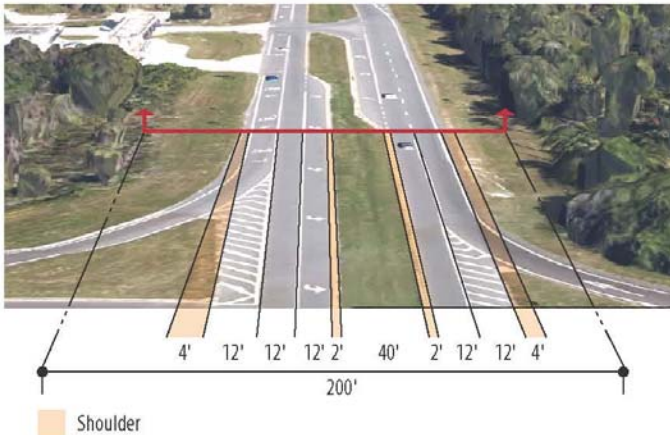
1 S. Friday Road to I-95



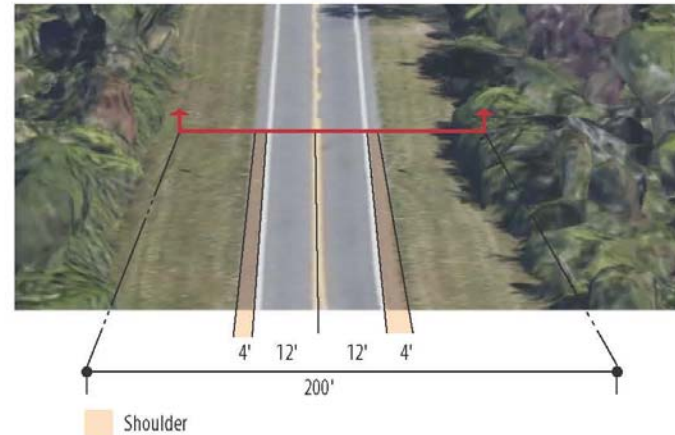
2 I-95 Interchange



3 I-95 to N. Friday Road



4 N. Friday Road to Cox Road

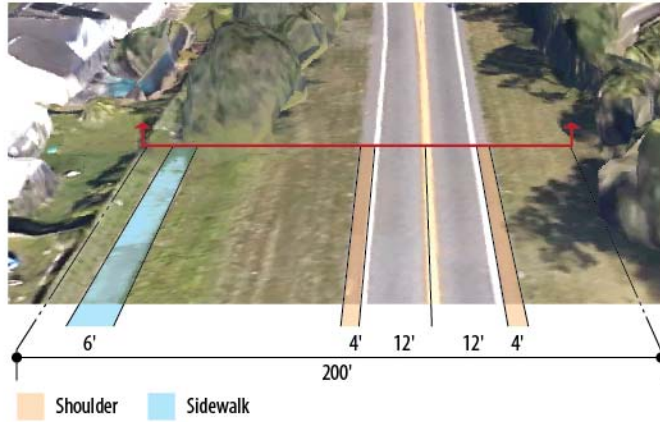


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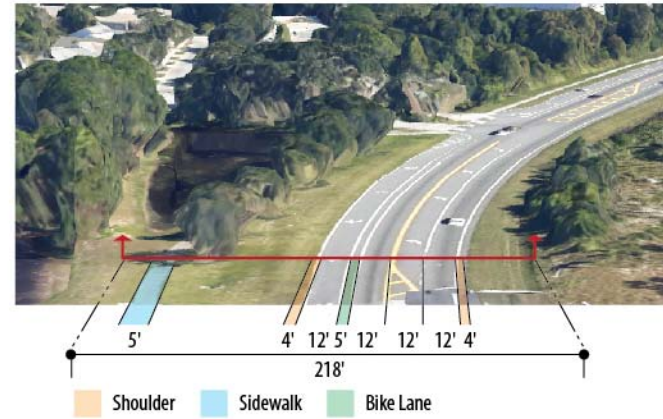
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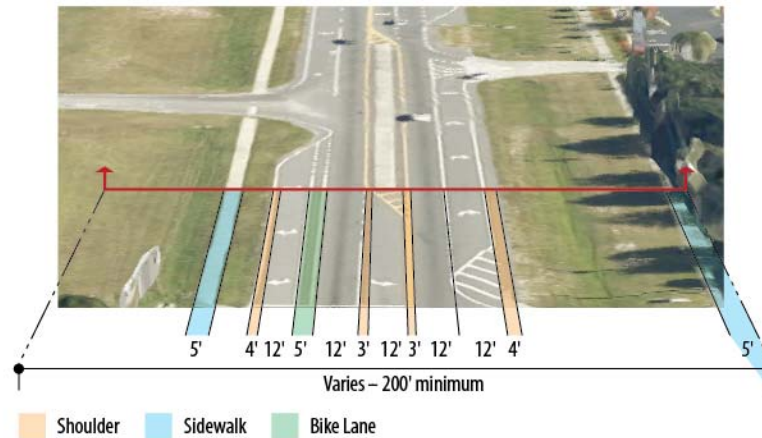
5 Cox Road to London Boulevard



6 London Boulevard to Shopping Center Intersection



7 Shopping Center Intersection to Industry Road





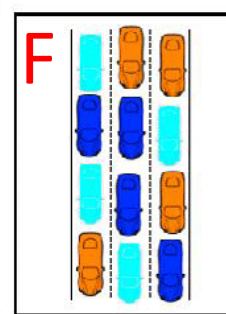
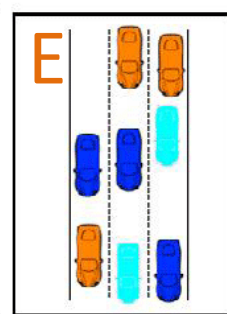
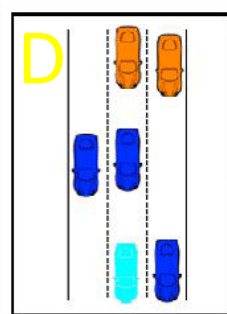
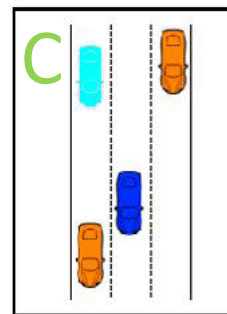
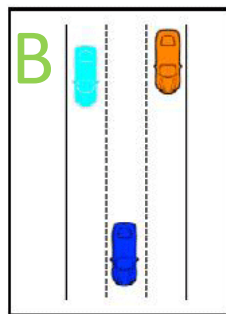
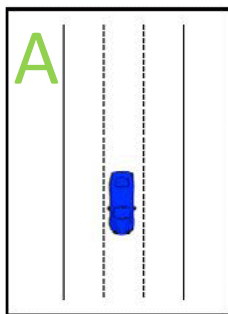
Purpose & Need: What Improvements are Needed and Why?



Roadway Operating Conditions will Decline



Segment	2017		2040	
	AADT	LOS	AADT	LOS
S. Friday Road to I-95 SB Ramps	8,600	LOS C	21,100	LOS E
I-95 SB Ramps to I-95 NB Ramps	9,100	LOS C	21,700	LOS E
I-95 NB Ramps to N. Friday Road	9,900	LOS C	22,300	LOS E
N. Friday Road to Walmart Access Road	7,300	LOS C	18,600	LOS E
Walmart Access Road to Cox Road	7,300	LOS C	16,500	LOS C
Cox Road to Pinyon Drive	10,600	LOS C	18,700	LOS E
Pinyon Drive to Westminster Drive	10,600	LOS C	18,800	LOS E
Westminster Drive to London Blvd	9,300	LOS C	17,600	LOS D
London Blvd to Shopping Center	14,200	LOS C	21,300	LOS E
Shopping Center to Industry Road	14,400	LOS C	23,300	LOS E



Intersection Operating Conditions will Decline



Intersection	Control	Peak Hour	2017	2040
			LOS	LOS
S. Friday Road	Two-Way Stop Controlled	AM	C	F
		PM	D	F
I-95 SB Ramps	Two-Way Stop Controlled	AM	E	F
		PM	F	F
I-95 NB Ramps	Two-Way Stop Controlled	AM	C	F
		PM	C	F
N. Friday Road	Two-Way Stop Controlled	AM	C	F
		PM	C	F
Walmart Access Road	Signalized	AM	N/A	A
		PM		A
Cox Road	Signalized	AM	B	E
		PM	B	E
London Boulevard	Signalized	AM	A	A
		PM	A	A
Industry Road	Signalized	AM	B	F
		PM	B	F



Source: Analyzed using Synchro's HCM 2000 Unsignalized Intersection Capacity Analysis & Synchro's Lanes, Volumes, Timings Methodology. For unsignalized intersections, LOS reflects worst LOS on side road approach.



Higher than Average Crash Rate

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Motor Vehicle Crashes

- Higher than statewide average at 3.78 vs. 2.09
- Within I-95 interchange area – nearly 3x higher than statewide average
- 3 were fatal, 60 involved injuries, and 61 involved property damage

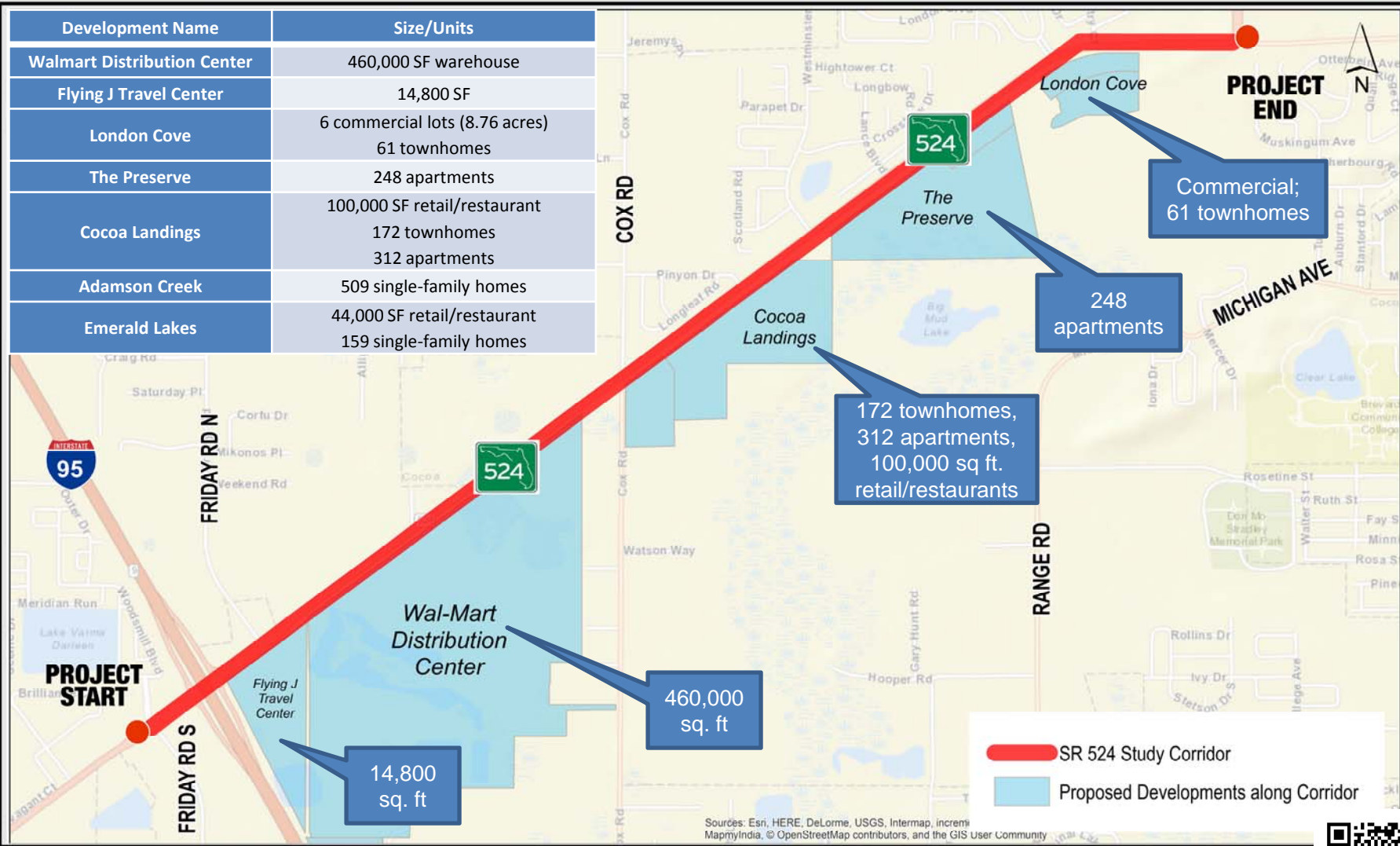
Pedestrian/Bicycle Crashes

- 4 bicycle/pedestrian accidents (2009 to 2013)

Crash Location	Total Number of Crashes	Pedestrian Involved	Bicycle Involved	Corridor Average Crash Rate	Statewide Crash Rate
S. Friday Road to I-95	1	0	0	6.15	2.63
I-95 Interchange	23	0	0	6.98	2.25
I-95 to N. Friday Road	12	1	0	4.30	2.63
N. Friday Road to Cox Road	14	0	0	0.28	0.93
Cox Road to London Blvd	21	1	1	0.32	1.72
London Blvd to Industry Road	53	1	0	4.65	2.38
Total (2010-2014)	124	3	1	3.78 (Average)	2.09 (Average)



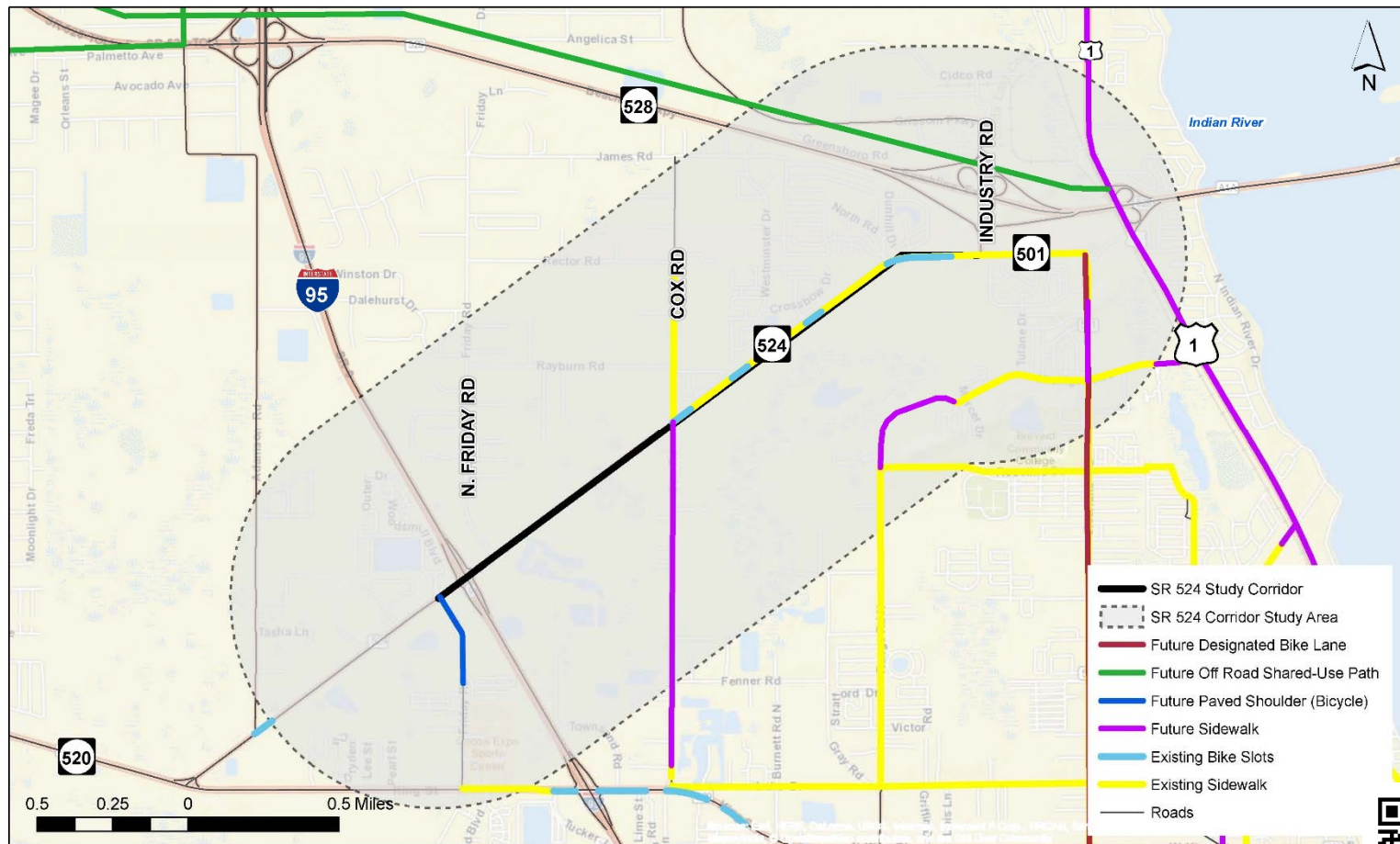
Major Developments will Increase Traffic



Pedestrian Paths and Bicycle Lanes are Limited



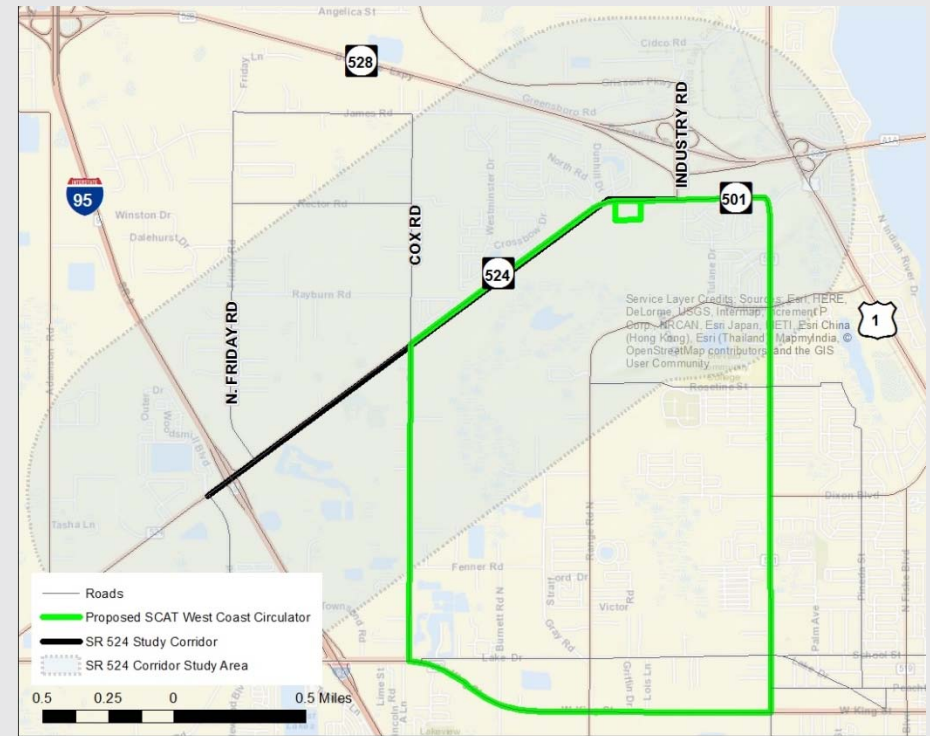
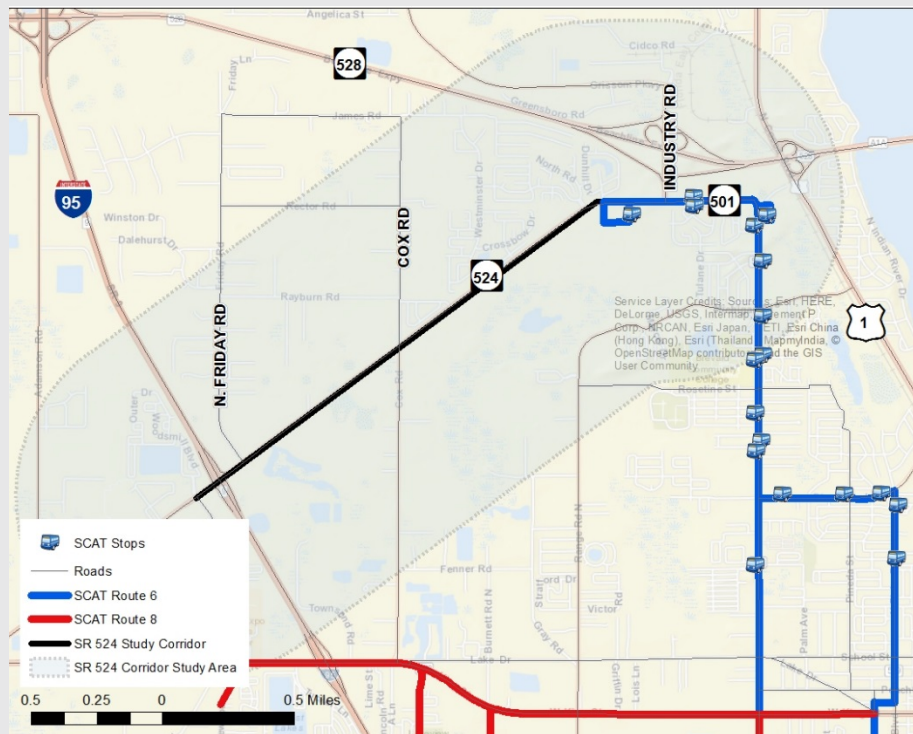
- Existing sidewalk on the north side between Cox and Industry
- Bicycle lane on the north side between London and Industry



Transit Routes are Limited



- Currently served by two Space Coast Area Transit (SCAT) bus routes at corridor ends – Route 6 and Route 8
- Future West Cocoa Circulator route planned



- **Land Use**

- The Corridor is projected to experience both residential and employment growth in the next 15 years. The combination of planned developments are estimated to generate over **12,000 additional trips** on the Corridor.

- **Traffic**

- By **2040**, the majority of the Corridor is **projected to operate in failing conditions** with no geometric improvements to existing infrastructure.
- By **2040**, the majority of the Corridor **intersections (five out of eight) will be operating at failing conditions** with no geometric improvements to existing infrastructure,
 - Particularly long delays at the I-95 Southbound ramp and N. Friday Road intersections.

- **Safety**

- **Vehicular safety improvements are needed**, particularly at the I-95 intersection.
- **Pedestrian safety improvements are needed**, especially at London Road.

- **Multimodal Accommodations**

- **Enhanced bicycle and pedestrian accommodations** are needed to provide safe travel for non-vehicular users of the Corridor.



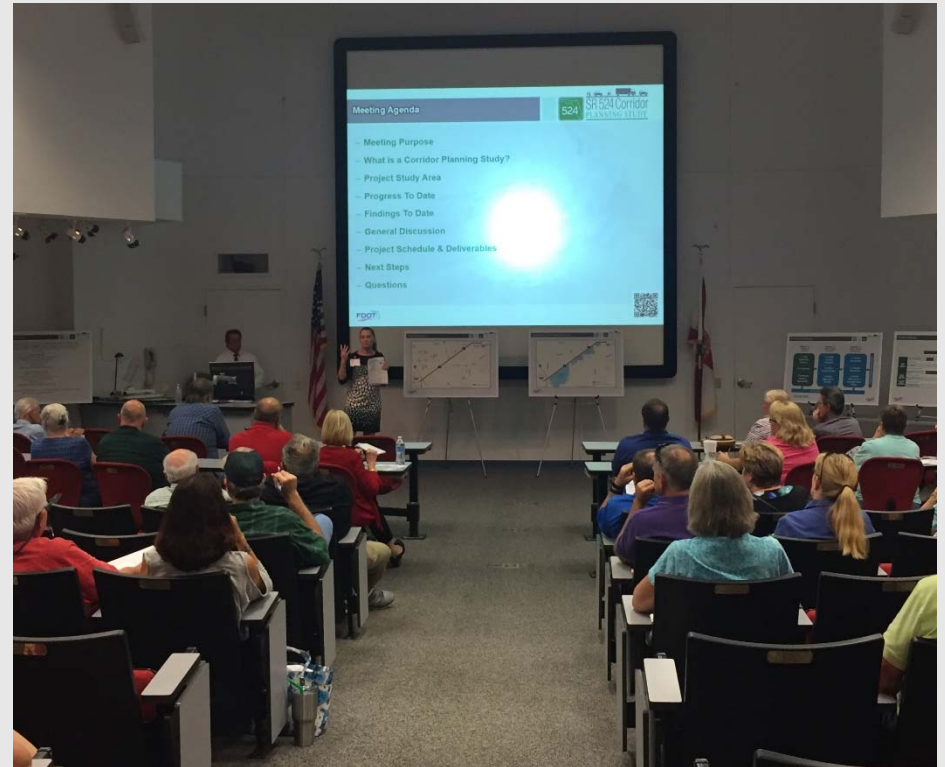
What We Heard from the Public and Stakeholders....

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Concerns Included:

- Impacts of new development
 - On traffic volumes
 - On corridor character
 - On property values
- Provide additional roadway capacity (widening)
- Improve safety for all users
- Minimize right-of-way impacts
- Develop and maintain corridor character
- Provide safe and reliable access to all users
- Prioritize multi-modal facilities
 - Pedestrian & bicyclists; multi-use paths
- Ensure driveways are accessible and safe
- Improve I-95 interchange ramp terminal intersections
- Mitigate traffic noise
 - Noise barriers





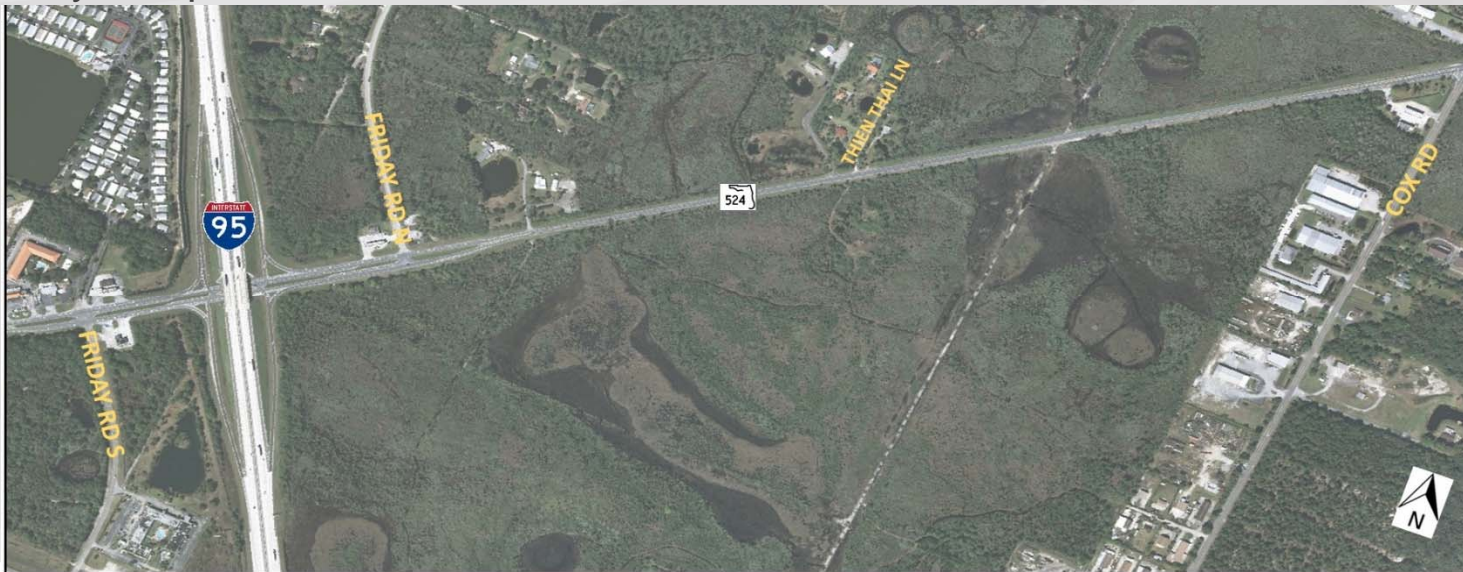
Recommendations to Improve SR 524 Corridor: Conceptual Alternatives





Industrial Character

- **Four travel lanes** to accommodate additional traffic
- **Raised landscaped median** reduces impervious surface area
- **Wider through lanes** (2-12' lanes in each direction to N. Friday; 1-12' lane, 1-11' lane in each direction to Cox) to accommodate anticipated truck volumes
- **Major intersections signalized** to improve safety and mobility
- **Right turns lanes** into Walmart Distribution Center to facilitate movement of traffic
- **Accommodation for pedestrians and bicycles** on both sides SR 524 to improve safety and provide for all users



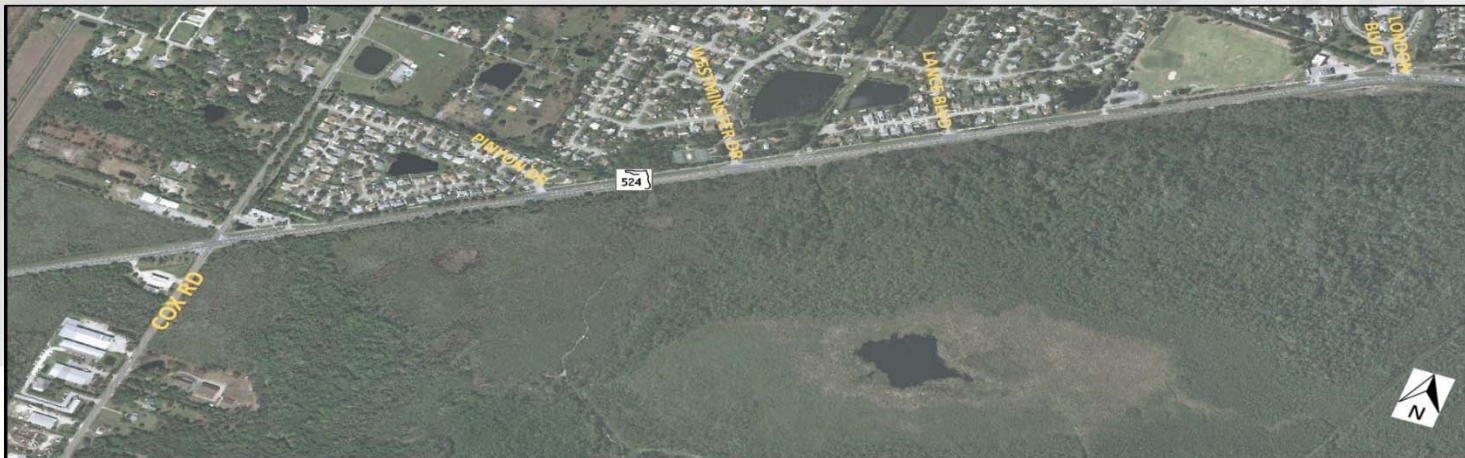
Context Sensitive Improvements: Cox Road to west of Industry Road

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Residential/Mixed-Use Character

- **Four travel lanes** – accommodates additional traffic demand and mobility needs
- **Winding alignment** – slows traffic, supports livable communities, minimizes environmental impacts
- **Narrower through lanes** – 2-11' lanes in each direction
- **Raised landscaped median** – improves safety; improves aesthetics, minimizes stormwater runoff
- **Speed limit reduction** – slows traffic, discourages truck traffic, recognizes bike/ped presence
- **Curb and gutter** – improves stormwater collection away from pavement; helps reduce speeds by providing definable barrier
- **Potential roundabouts** at Cox Road and London Blvd – improves aesthetics, slows traffic speeds, improves traffic flow and mobility
- **Enhanced pedestrian crossings** – accommodates all users; improves safety
- **Green bike lane** closer to Industry Road – accommodates all users; improves safety



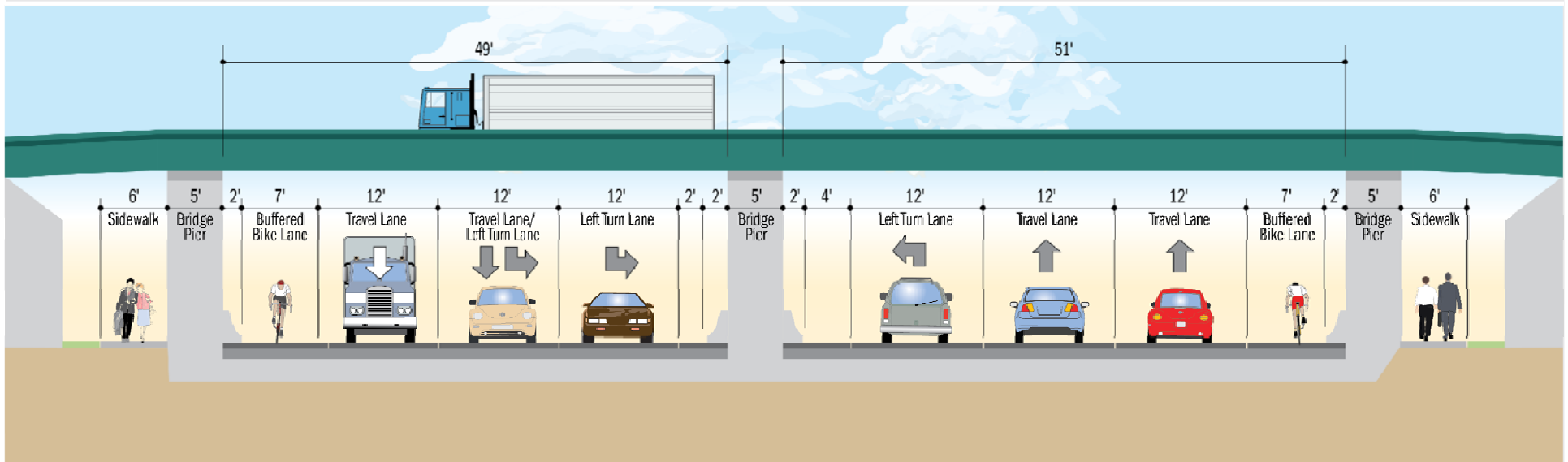
Conceptual Alternative: I-95 Interchange

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Key Improvements:

- Additional travel lanes for future traffic at the interchange
- Additional turn lanes for heavy left turns onto southbound I-95
- Traffic signals at ramps to I-95 to improve safety and traffic flow
- Buffered bicycle lanes and protected sidewalks for pedestrian safety



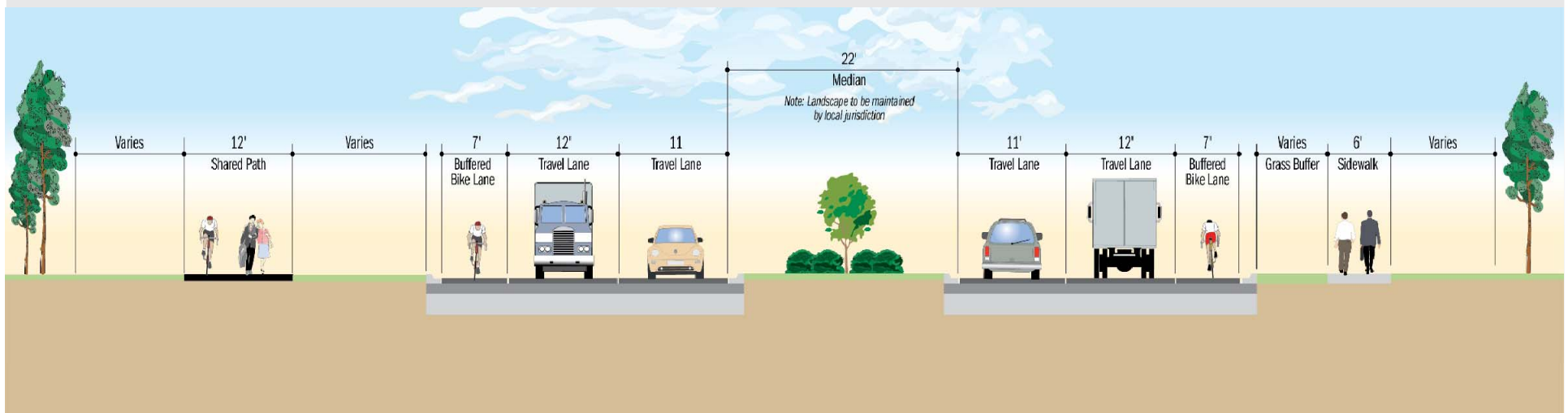
Conceptual Alternative: N. Friday Road to Cox Road

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Key Improvements:

- Additional lanes to accommodate future traffic along the Corridor
- Buffered bicycle lanes and sidewalks, for pedestrian safety
- Raised median to improved safety
- Speed limit reduction, to promote increased safety for all users



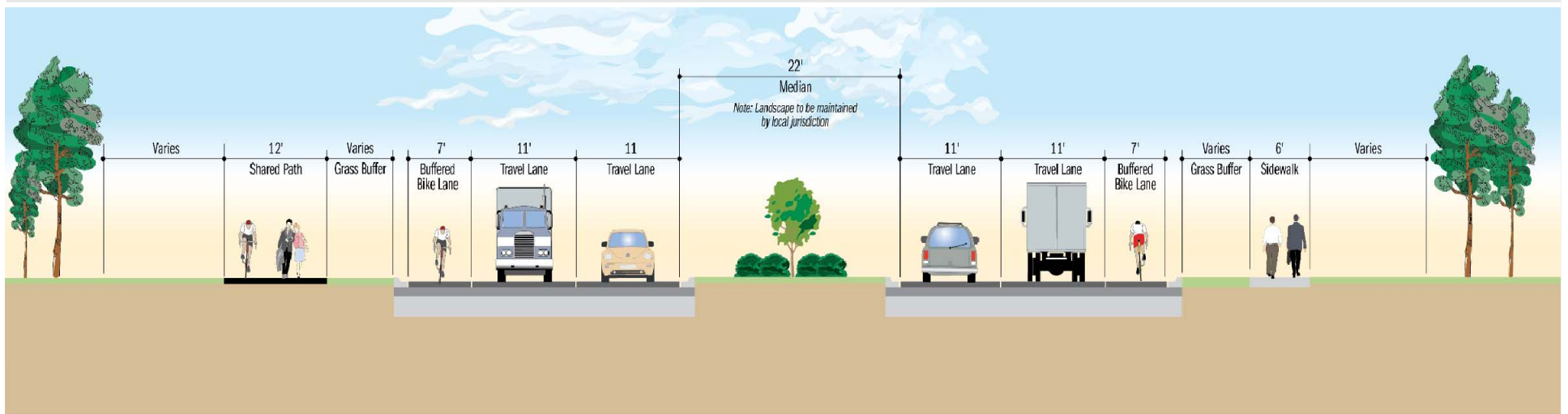
Conceptual Alternative: Cox Road to Coventry Court

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Key Improvements:

- Additional lanes for future traffic along the Corridor
- Buffered bicycle lanes and sidewalks, for pedestrian safety
- Raised median to improve safety
- Reduced lane widths to discourage freight traffic
- Speed limit reduction to promote walkability, safety for all users, and discourage freight traffic



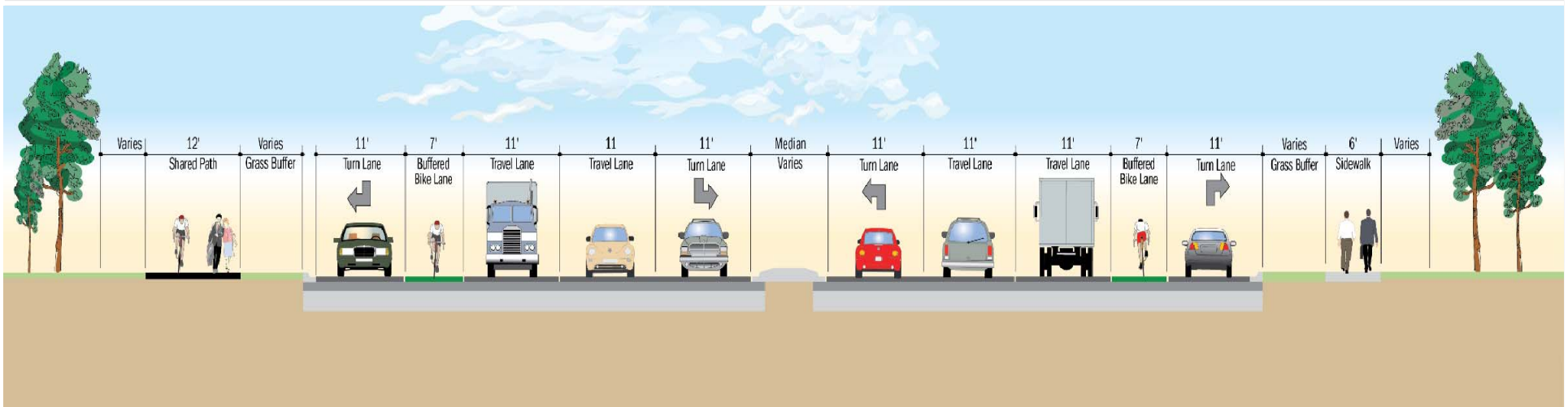
Conceptual Alternative: Coventry Court to west of Industry Road

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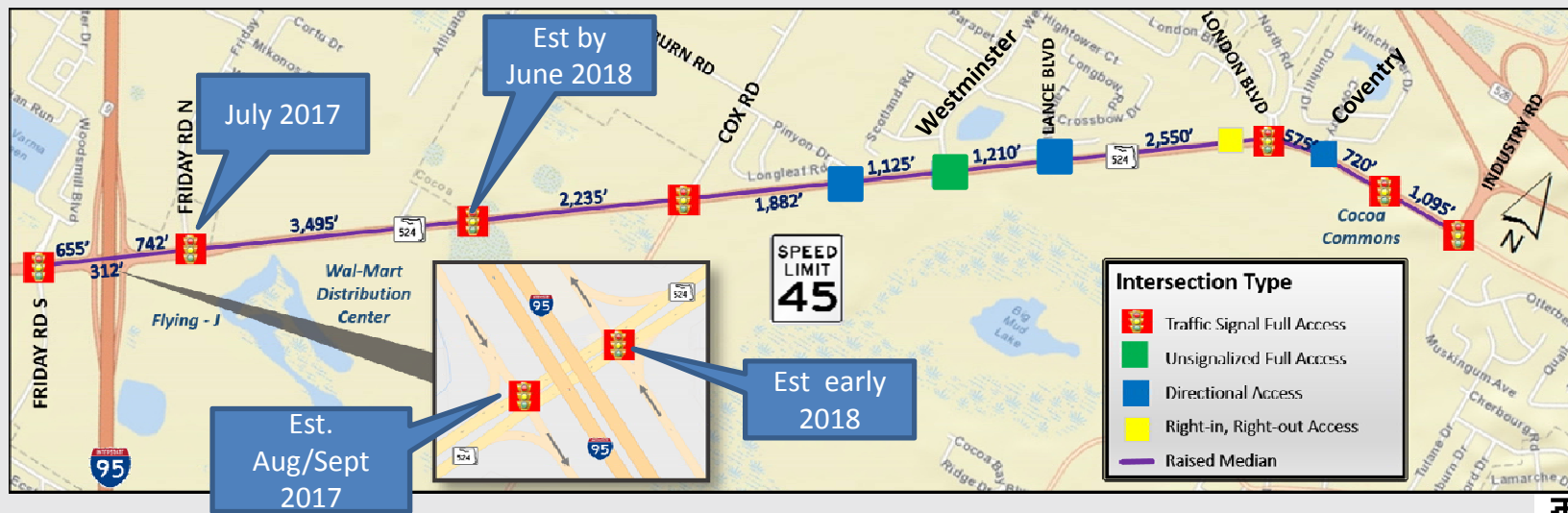


Key Improvements:

- Additional lanes to accommodate future traffic along the Corridor
- Buffered bicycle lanes and sidewalks, for pedestrian safety
- Speed limit reduction to promote walkability, safety for all users, and discourage freight traffic
- Reduced lane widths to discourage freight traffic
- Turning lanes at shopping centers



Access Management



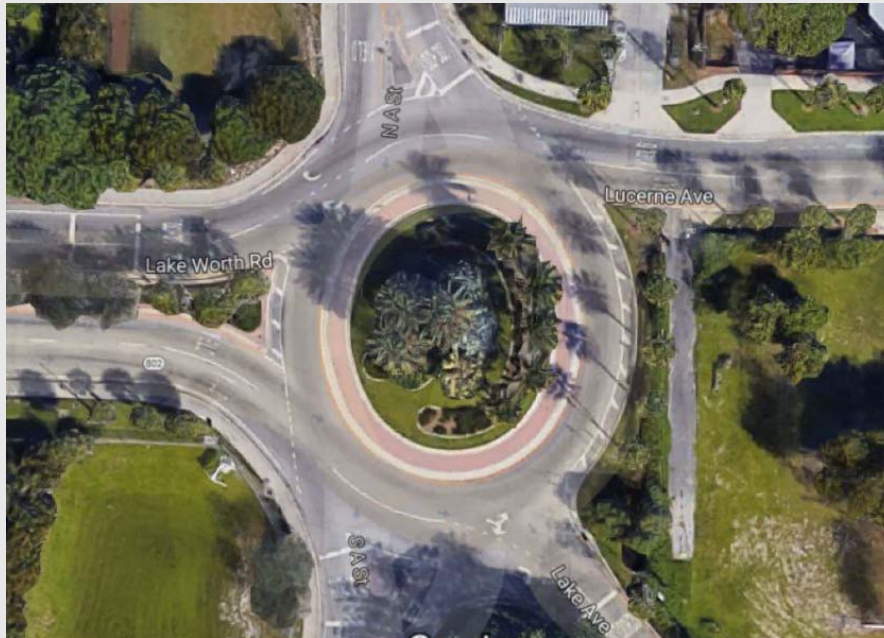
Would Roundabouts Improve SR 524?

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FDOT Policy:

- Assess applicability of a roundabout when a road undergoes major reconstruction or before a new traffic signal is approved
- First step is a “Level 1 Screening” of intersections



SR 802/Lake Worth
Palm Beach



SR 44 at Grand Ave
Volusia County



What are the Benefits of Roundabouts?

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Improves Safety

- Fewer crashes; 90% fewer fatalities and 75% fewer injuries
- 10 – 40% fewer pedestrian/bicycle crashes
- Safer for beginning and elderly drivers
- Can be used in multiple road intersections



Saves Travel Time

- 30 to 50% increase in traffic capacity for intersection, less delay waiting at stops and signals



Is Environmentally Friendly

- Reduces pollution, fuel consumption and noise (from cars not idling at traffic signals)
- Roundabout islands can be landscaped with native plants and trees
- Generally require less land to construct than traditional intersections



Saves Money

- No cost for traffic signals and yearly maintenance
- Intersection still operates in power outages, no need for police to direct traffic



Improves Aesthetics

- Can serve as a gateway feature into the community





Building on the Corridor Study: What are the Next Steps?





Key Issues for Additional Analysis in PD&E Study

- What is the best alignment for the reconstructed road?
- Where are median openings full versus directional access?
- What speed limit should the road be designed for?
- How do we best address stormwater impacts?
- What lighting improvements are needed?
- Is there a way to minimize potential noise impacts?
- Coordination with I-95 interchange study

Final Steps in Corridor Study	Date
Corridor Alternatives and Strategy Report	July 2017
City of Cocoa Council Briefing	July 25, 2017
Study Close-out	July 2017
Project Development & Environment Study (PD&E) Begins	2018





SR 524 Corridor PLANNING STUDY

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