

VOLUSIA COUNTY INFRASTRUCTURE

RIVER TO SEA TRANSPORTATION PLANNING ORGANIZATION

PUBLIC WORKS DEPARTMENT

Ben Bartlett
Public Works Director

Jon Cheney, P.E.
County Traffic Engineer

Lori Koontz
Interim Road & Bridge Director

Tadd Kasbeer, P.E.
County Engineer



Agenda

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❑ Infrastructure Maintenance

- Pavement Management
- Traffic Signals
- Bridge Infrastructure

❑ Non-County Maintained Infrastructure

❑ 2021 Road Program

- Transportation Funding
- Traffic – Development Trends
- Current Projects
- Potential Projects



INFRASTRUCTURE MAINTENANCE

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- **Paved Roads** - 973 centerline miles / 2,042 lane miles
- **Dirt Roads** - 81 centerline miles
- **Emergency Maintenance Roads** - 86 centerline miles
- **Sidewalks** - 282 miles
- **Traffic Signals** - 341 traffic signals (Includes: County, FDOT & Cities)
- **Right-of-way maintenance** (mowing, tree trimming, signs/markings)
- **Operating budget for maintenance** - **\$20± million/year**



Stormwater Assets

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County Maintained:

- Open channels (160 miles)
- Roadside ditches (325 miles)
- Drainage structures (8,225)
- Stormwater pipes (200+ miles)
- Stormwater ponds (268)



Pavement Management

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Pavement Condition

Network Valuation

The County has over **\$777.5M** **invested** in its paved road network

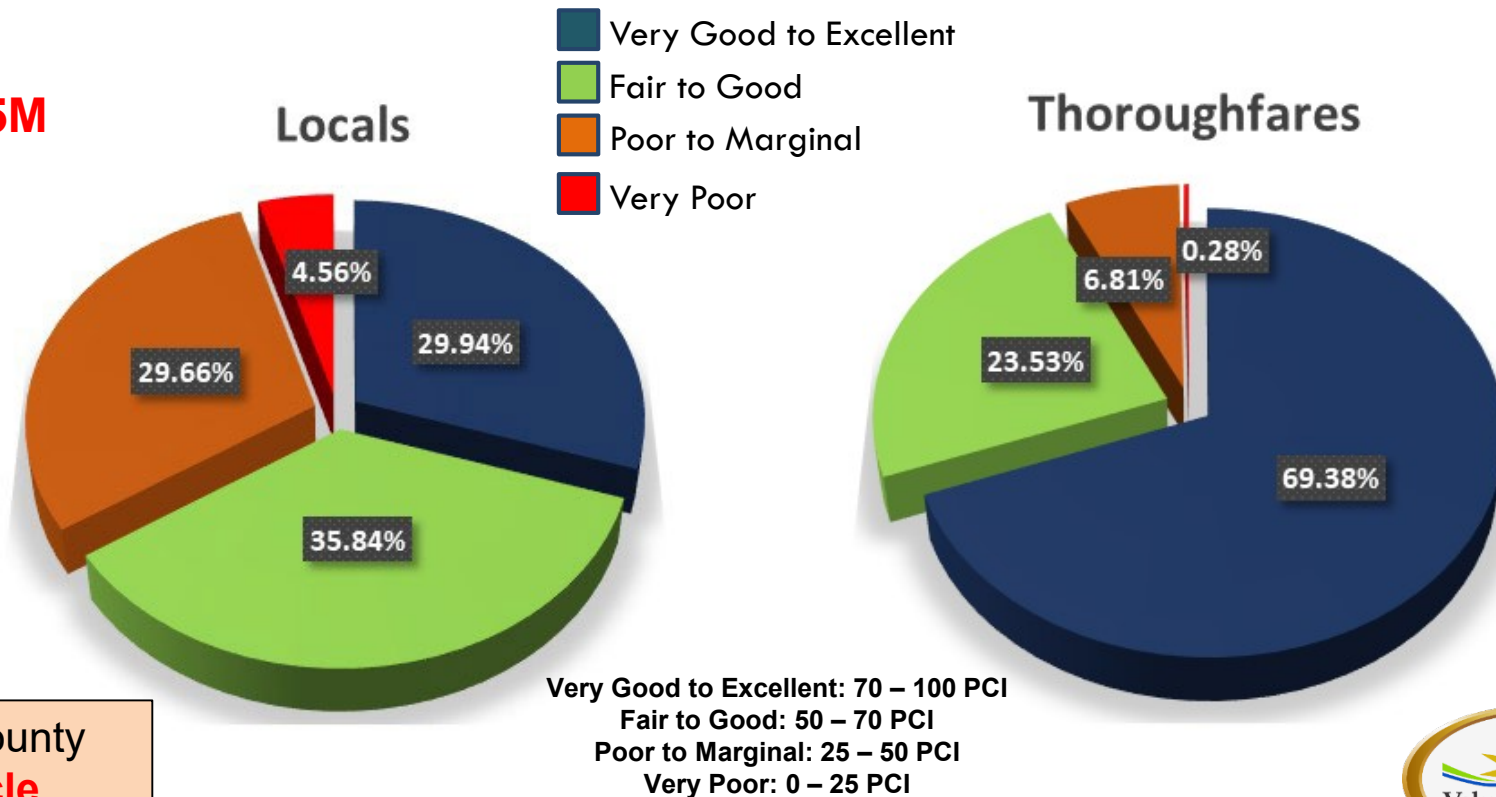
Network PCI (1-100)

Overall Network – 67

Thoroughfares – 75

Locals - 59

- Pavement condition survey of county maintained roads on **3-Year Cycle**
- Countywide resurfacing **\$5 million annually**



Based on current PCI data as of 5/26/21

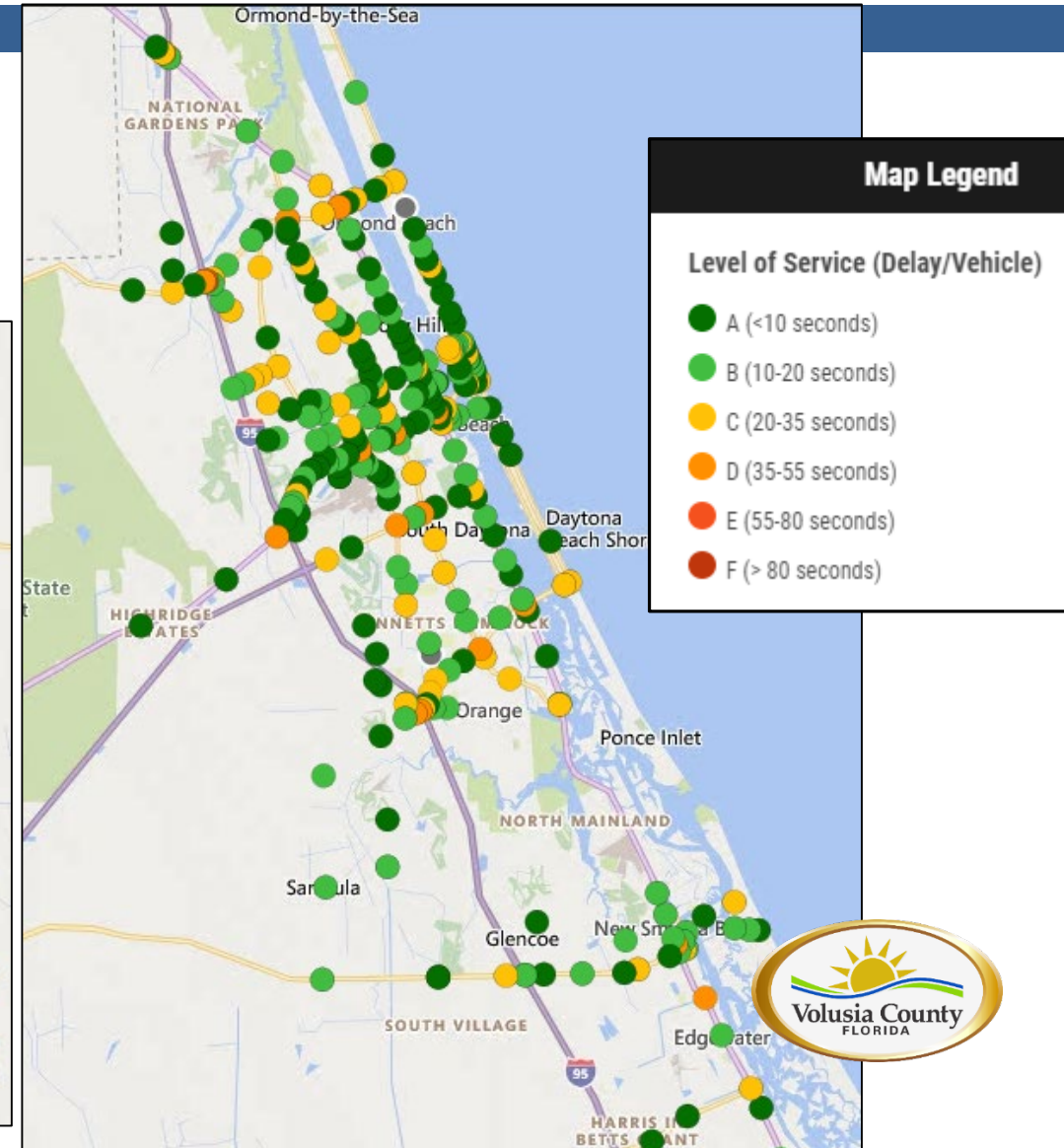
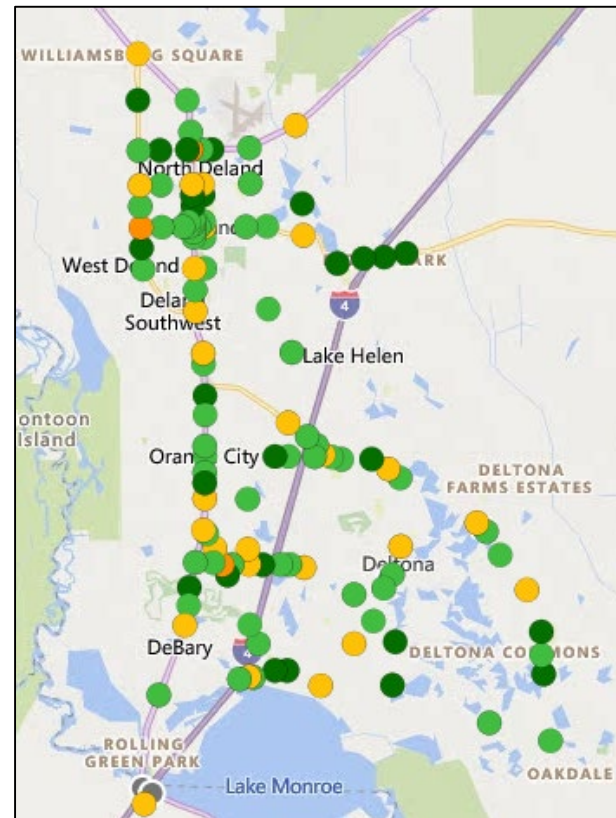
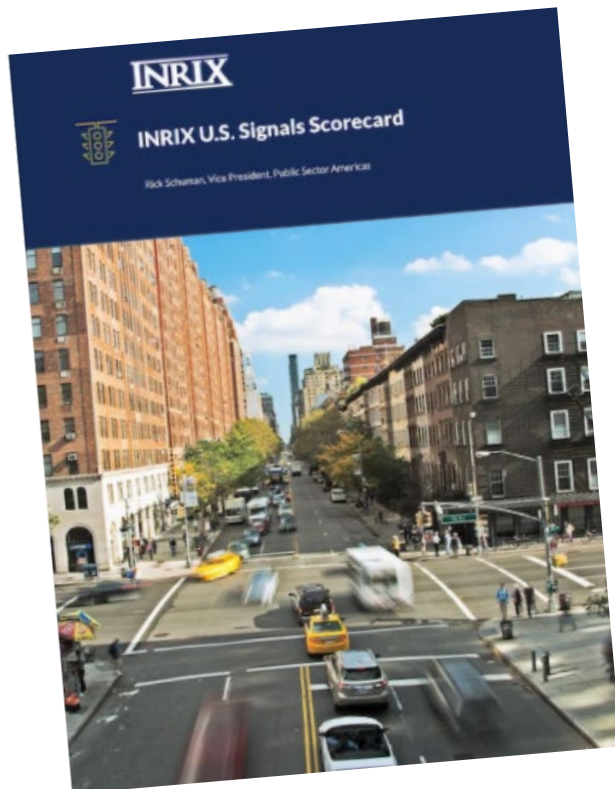


Traffic Signals

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- Traffic Signals – Performance
 - *INRIX U.S. Signals Scorecard (Feb 2021)*

Source: <https://inrix.com/signals-scorecard>

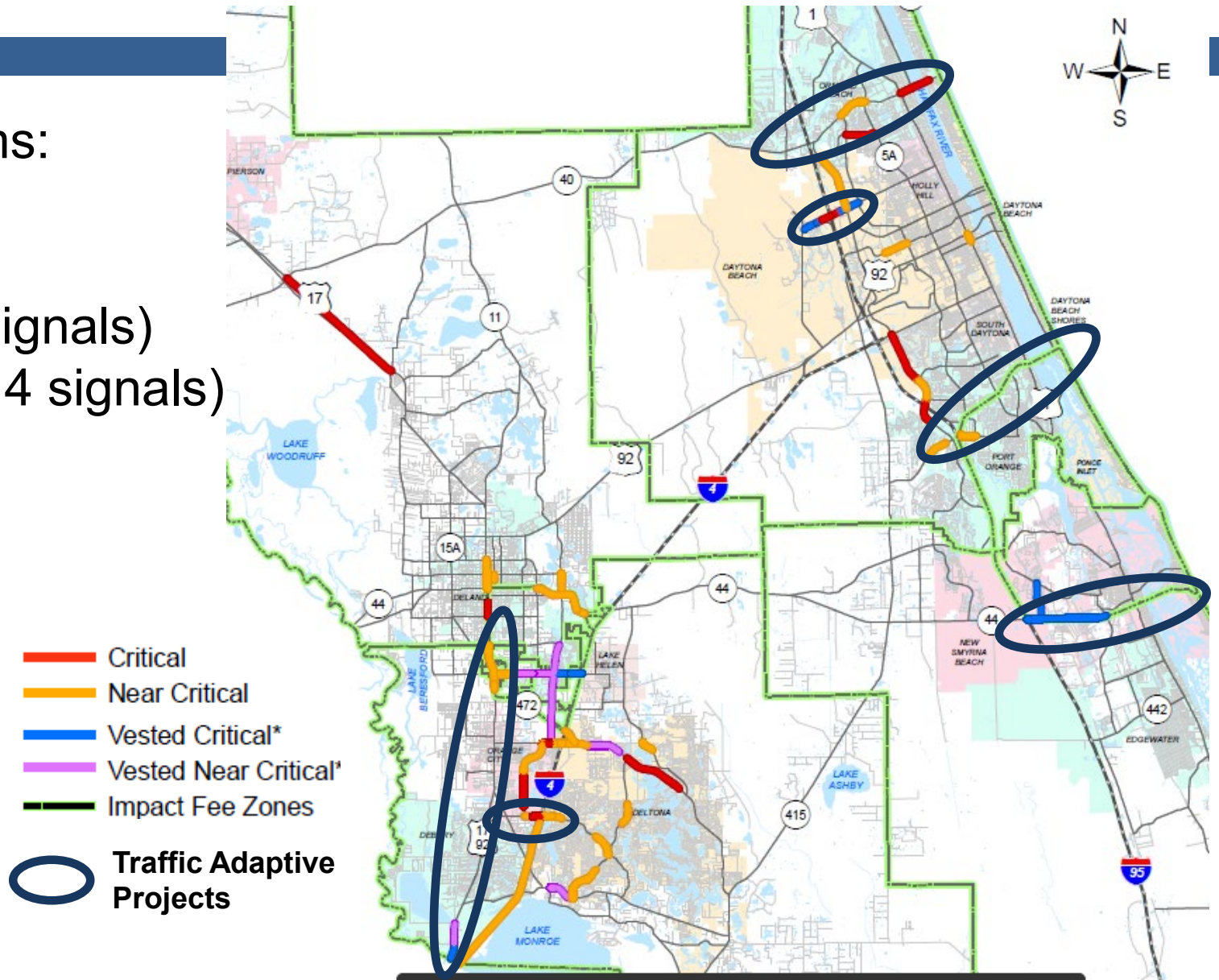


Traffic Signals

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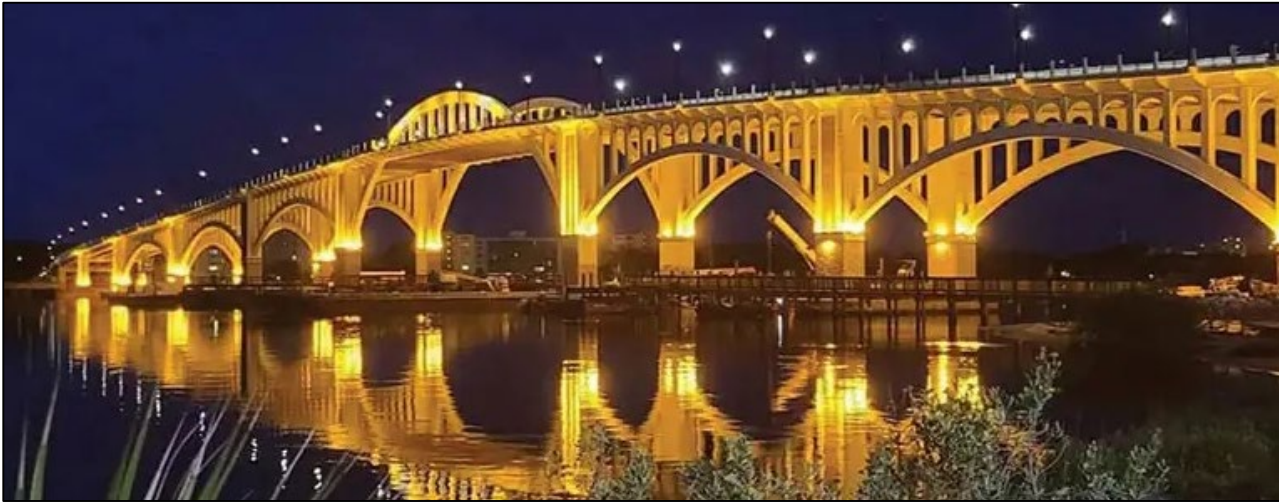
□ Traffic Adaptive Signal Systems:

- *State Road Corridors*
 - α SR 40/Granada Ave (17 signals)
 - α SR 421/Dunlawton Ave (14 signals)
 - α SR 44 (14 signals)
 - α US 17/92 (19 signals)
- *County Corridors*
 - α LPGA Blvd (9 signals)
 - α Saxon Blvd (8 signals)



BRIDGE INFRASTRUCTURE

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County Maintained Bridges

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County Maintains 49 Bridges

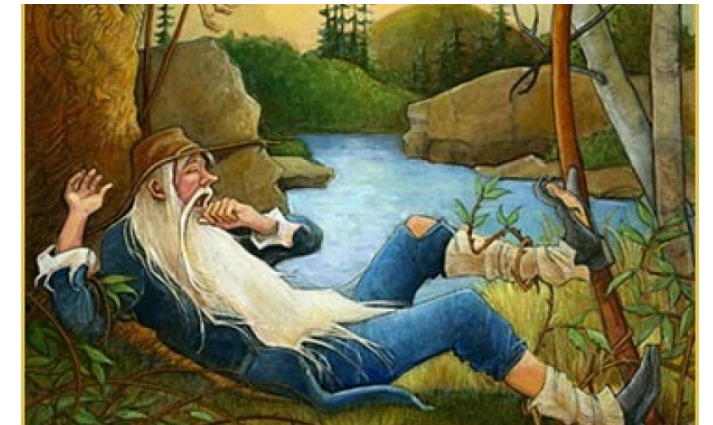


 Functionally Obsolete

 Structurally Deficient
(repair/replace)

Lk Harney
Rd (1948)
Bascule-Knox Bridge (1955)
Bascule-Main St Bridge (1959)

- Average Age +42 years
- Oldest Bridge – 101 Years

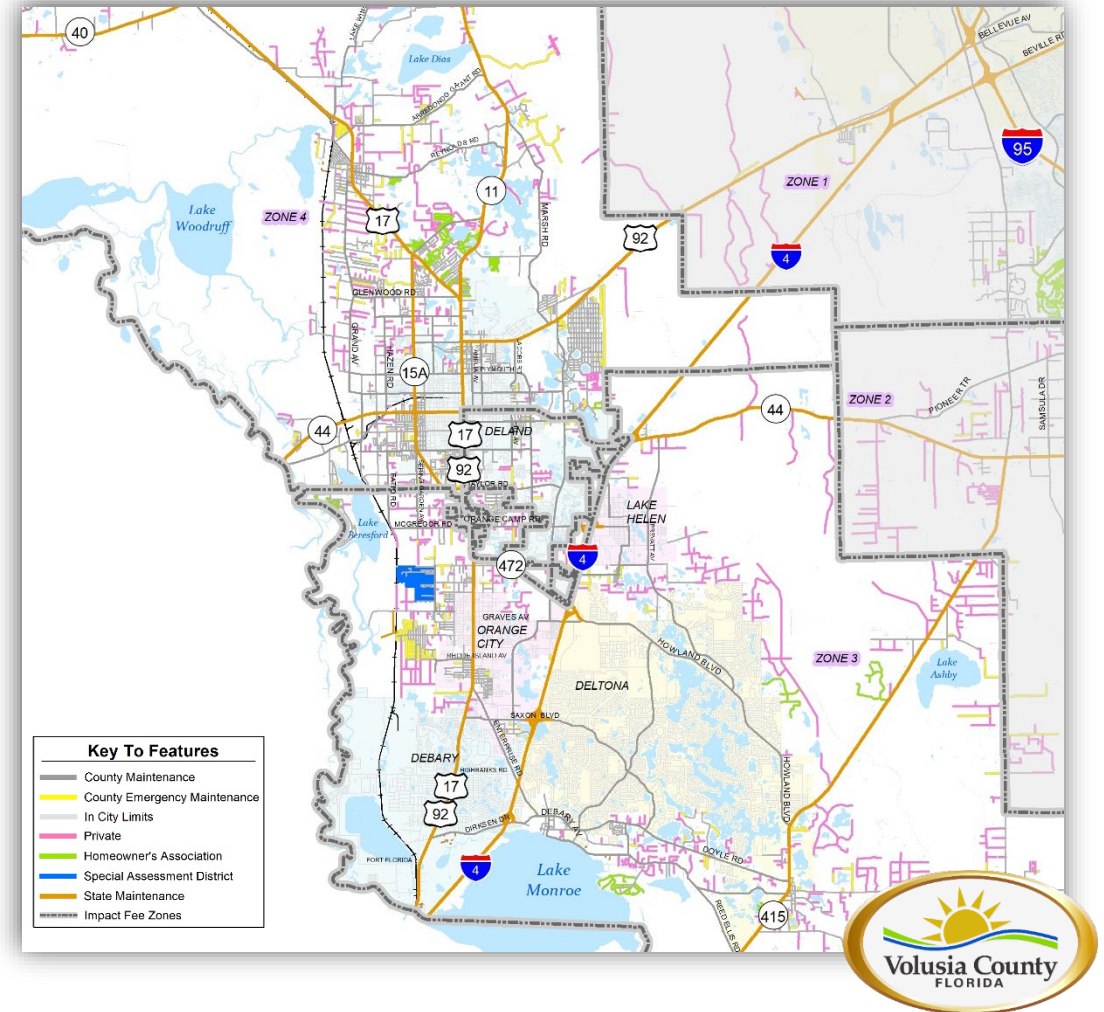


(5 pedestrian bridges maintained by others)

Non-County Maintained Infrastructure

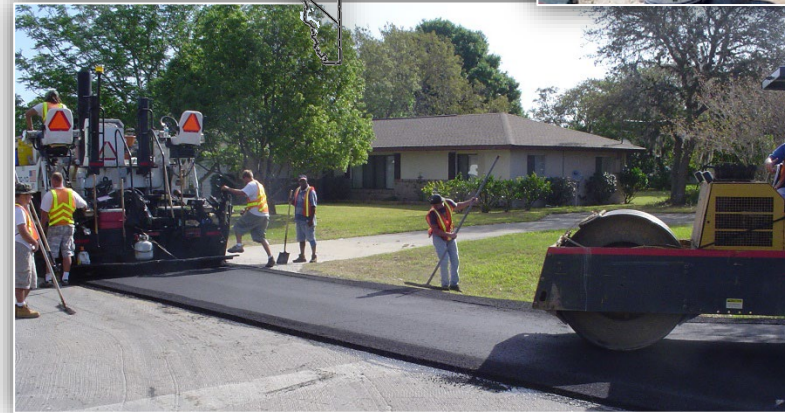
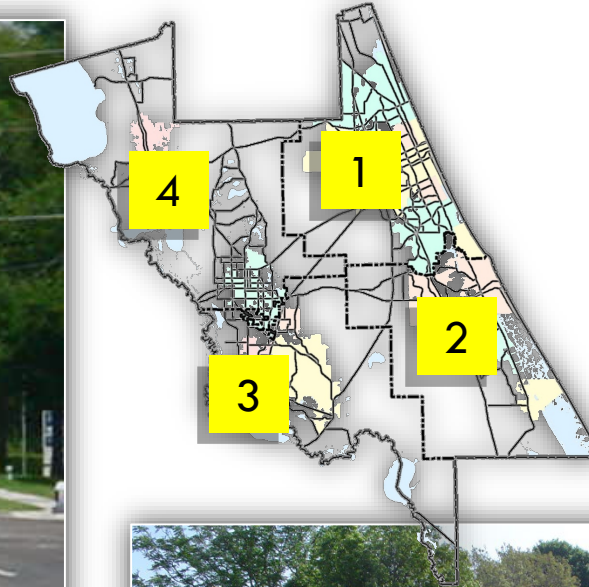
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- **HOA Roads**
 - 119 centerline miles
- **Private Roads**
 - 466 centerline miles (2± miles paved)
- **Not in Public Right-of-Way**
- **Special Assessment District**
 - West Highlands – 16 centerline miles



2021 ROAD PROGRAM

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TRANSPORTATION FUNDING SOURCES

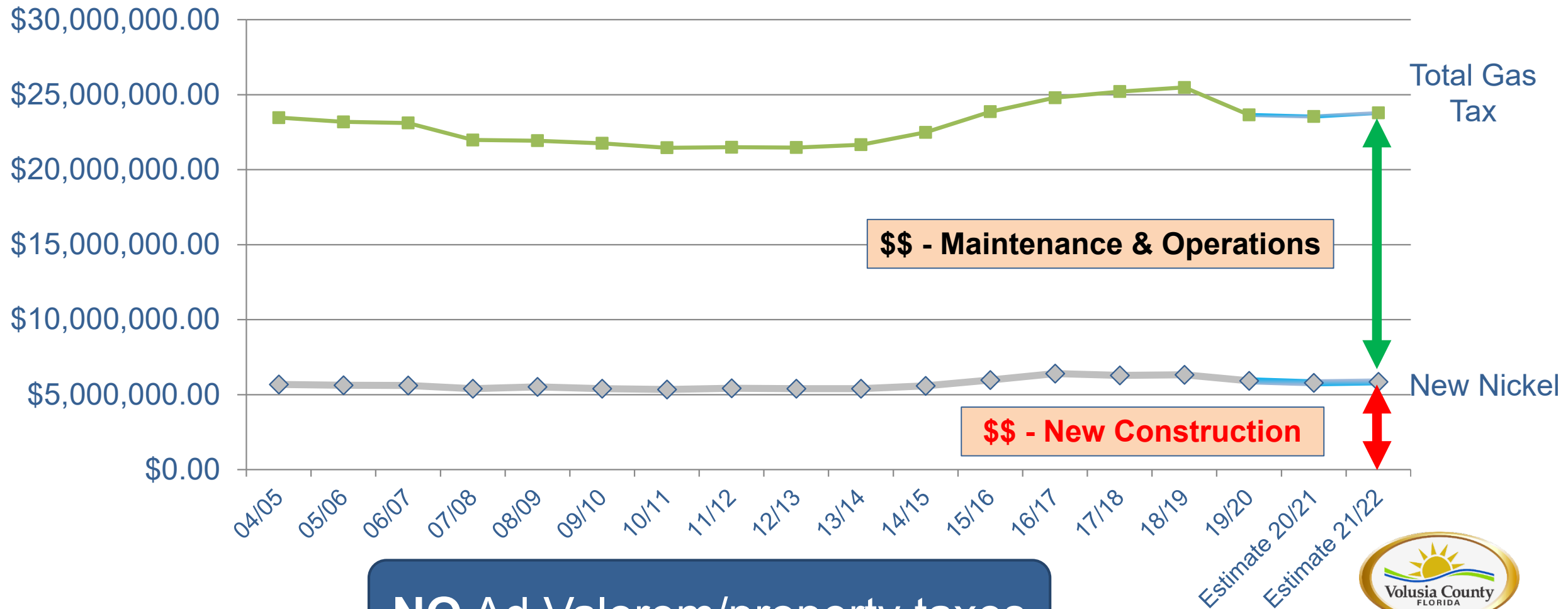
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- ▣ **Gas Taxes** - 15 cents / gallon includes 5 cents specifically for construction of capacity projects. (County wide)
- ▣ **Impact Fees** – Generated by new development can only be used for new capacity in that particular impact fee zone. (Zones)
- ▣ **Proportionate Fair Share** - Development driven funding for impacts created by their development in congested areas. (Zones)
- ▣ **Bond** – **Fully Committed FY 03/04 \$65M Road Bond.** (County wide)
- ▣ **Grants** - State/Federal project grants, e.g., LAP & TRIP. (County wide)
- ▣ **Legislative Appropriations**



Gas Tax Revenue

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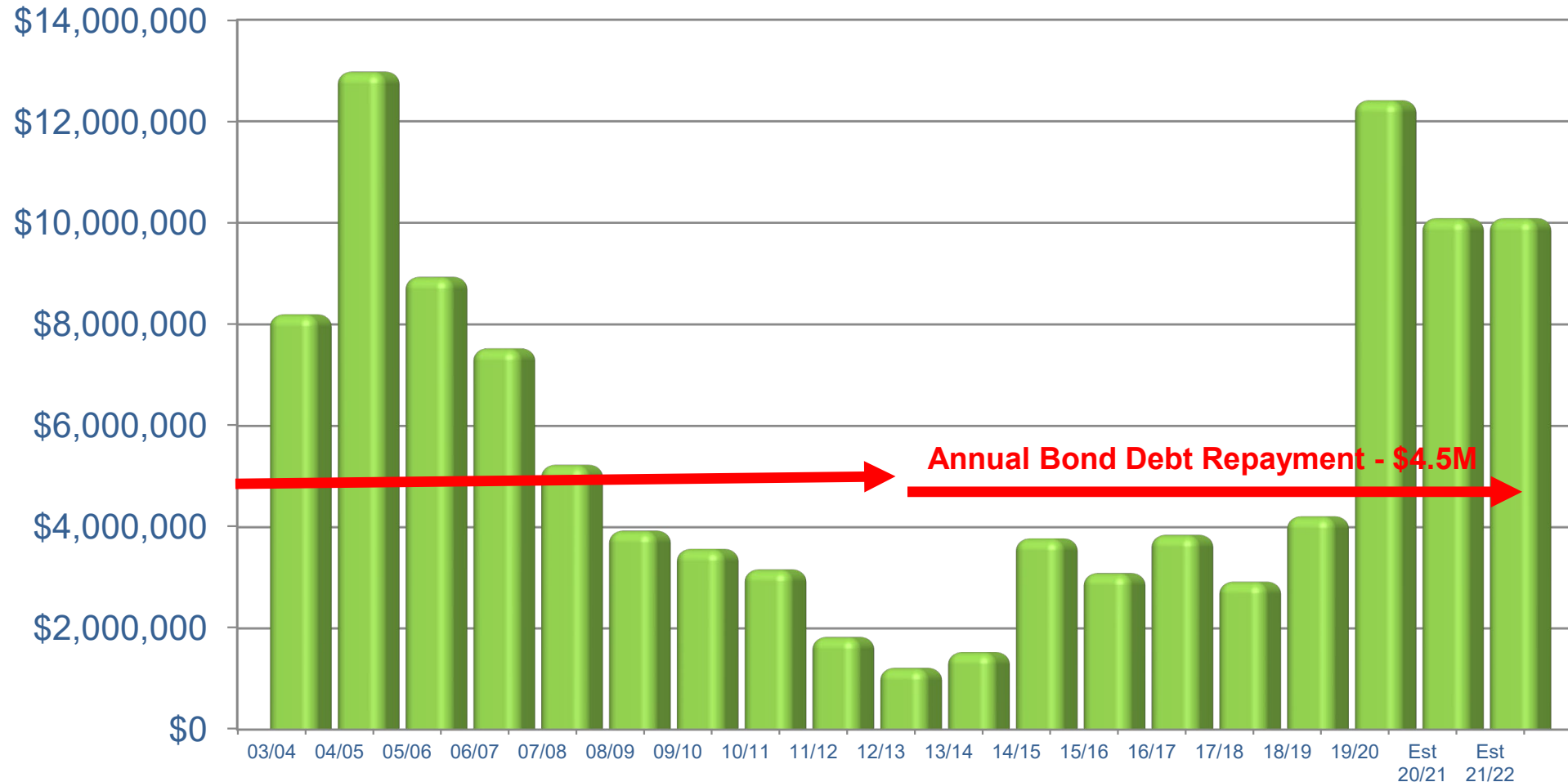
NO Ad Valorem/property taxes





Thoroughfare Impact Fees

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\$65M Bond Debt:
-\$4.5M annual payment
-Debt paid in full **Oct, 2024**

Annual Bond Debt paid first from collected impact fees with any shortfall made up by the New Nickel portion of the Local Option Gas Tax.

Estimated Revenues

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▣ Local Option Gas Tax collected for capacity improvements (New Nickel):

$$\$5,792,014 \text{ (Projected FY21)} - \$1,013,608 \text{ (Williamson Loan)} = \text{\textcolor{red}{\$4,778,406}}$$

▣ Impact Fees (collected FY19/20):

	<u>Collected</u>	<u>Bond Payment</u>	<u>Net</u>	<u>Balance</u>
Zone 1:	\$ 2,899,480	- \$1,870,037	= \textcolor{red}{\\$1,029,443}	\$ 2,260,328
Zone 2:	\$ 2,535,788	- \$ 496,335	= \textcolor{red}{\\$2,039,453}	\$ 3,814,239
Zone 3:	\$ 5,183,281	- \$1,759,731	= \textcolor{red}{\\$3,423,550}	\$ 5,844,522
Zone 4:	\$ 1,793,504	- \$ 360,971	= \textcolor{red}{\\$1,432,533}	\$11,245,543
Total:	\$12,412,053	- \$4,487,074	= \$7,924,979	\$23,164,632

It costs roughly \$6M/mile to widen a road 2 → 4 lanes



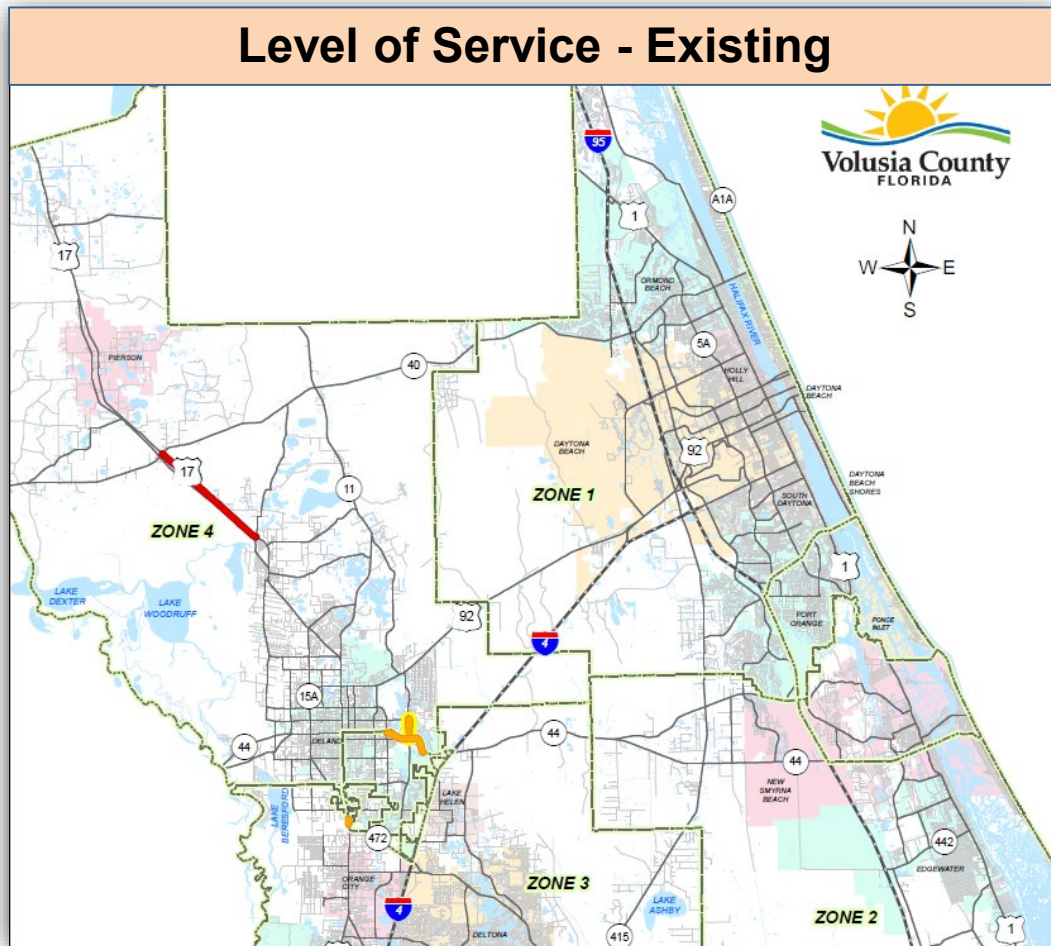
Traffic – Development Trends



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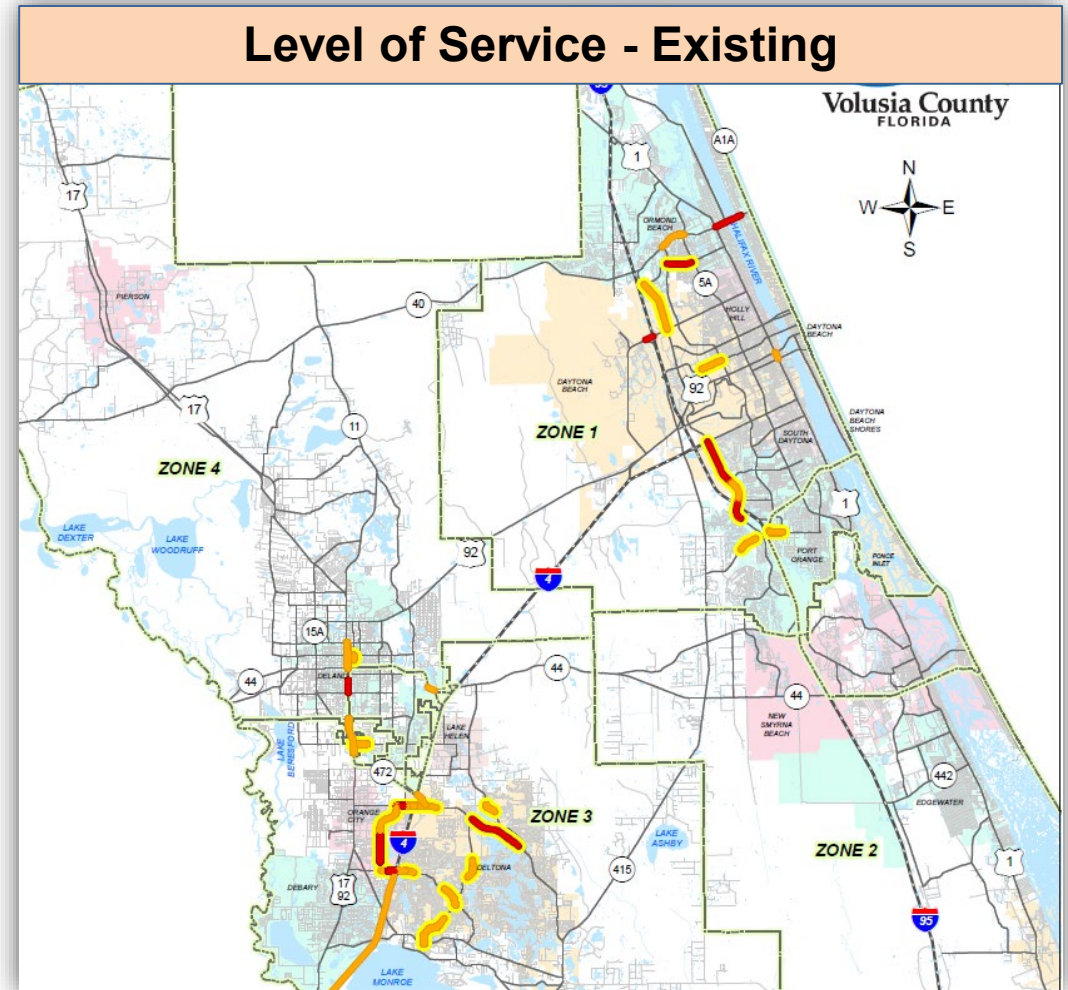
Unincorporated

Level of Service - Existing



Incorporated

Level of Service - Existing

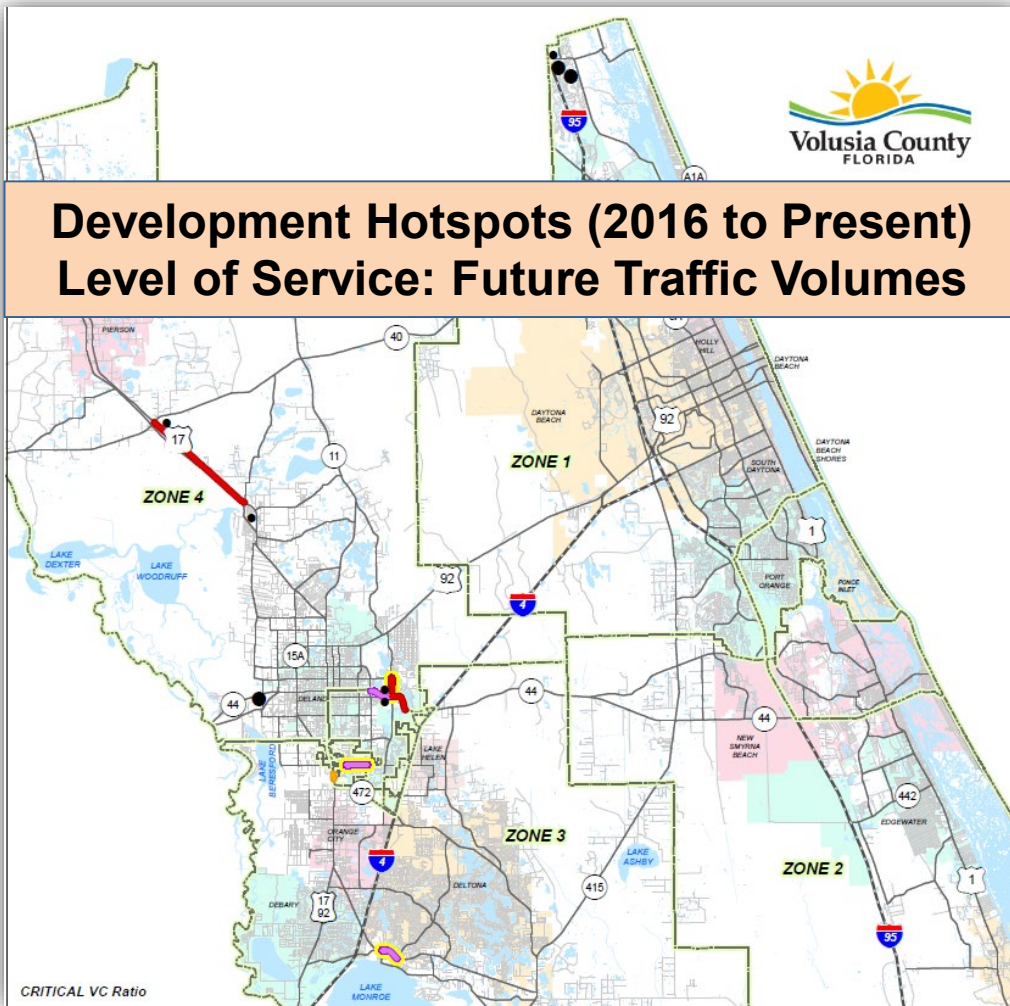


Traffic – Development Trends

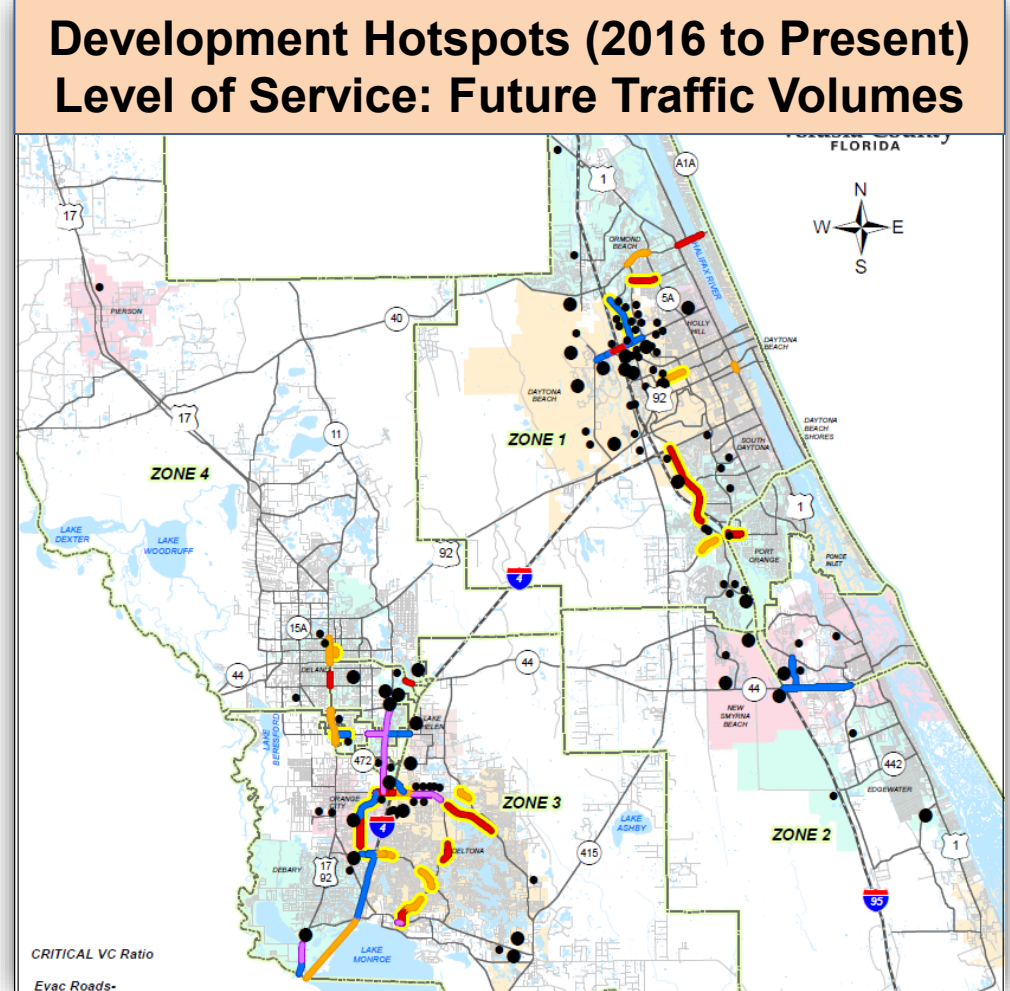


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Unincorporated



Incorporated



Estimated Revenues

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▣ Proportionate Fair Share based on executed PFS Agreements through 5/4/21:

Zone 1:

Funds collected = **\$8,690,000**
Pending = \$5,051,000
\$13,741,000

Zone 2:

Funds collected = **\$1,313,000**
Pending = \$ 695,000
\$2,008,000

Zone 3:

Funds collected = **\$ 241,000**
Pending = \$ 290,000
\$ 531,000

Zone 4:

Funds collected = **\$1,331,000**
Pending = \$1,412,000
\$2,743,000

▣ Grants:

Federal (Local Agency Program) = **\$4,831,000**
State (Legislative Appropriation) = **\$2,500,000**



Impact Fee Zone 1 (NE Volusia)

Daytona Beach:

Williamson Blvd (2 → 4 lanes) – Construction underway

LPGA to Strickland Range Rd

Williamson Blvd (Intersection Improvement) – Design underway

Williamson Blvd & Strickland Range Rd

Williamson Blvd (2 → 4 lanes) – Design & ROW underway

Strickland Range Rd to Hand Ave

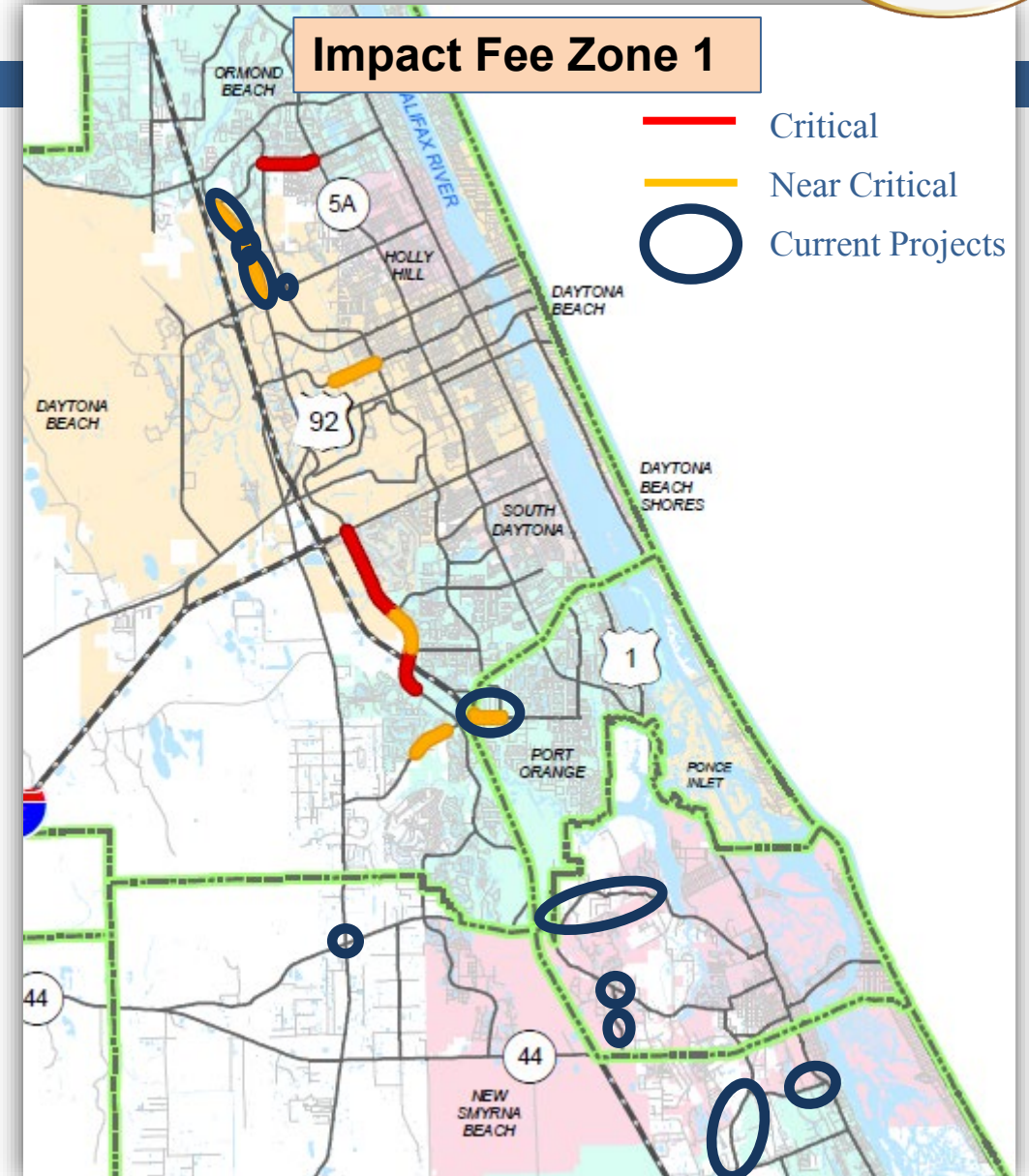
LPGA Blvd (Intersection Improvement) – Design underway

LPGA Blvd & Clyde Morris Blvd

Port Orange:

Taylor Branch Rd (2 → 4 lanes) – Study underway

SR 421/Dunlawton Ave to Clyde Morris Blvd



Impact Fee Zone 2 (SE Volusia)

New Smyrna Beach:

Tenth St (2 → 4 lanes) – Construction underway

Myrtle Ave to US 1

Sugar Mill Dr (Safety Improvement) – Construction underway

Southern Curve north of SR 44

Old Mission Rd (Safety Improvement) – Design & ROW underway

West Park Ave to Joesphine St

Turnbull Bay Rd (Paved Shoulders) – Design & ROW underway

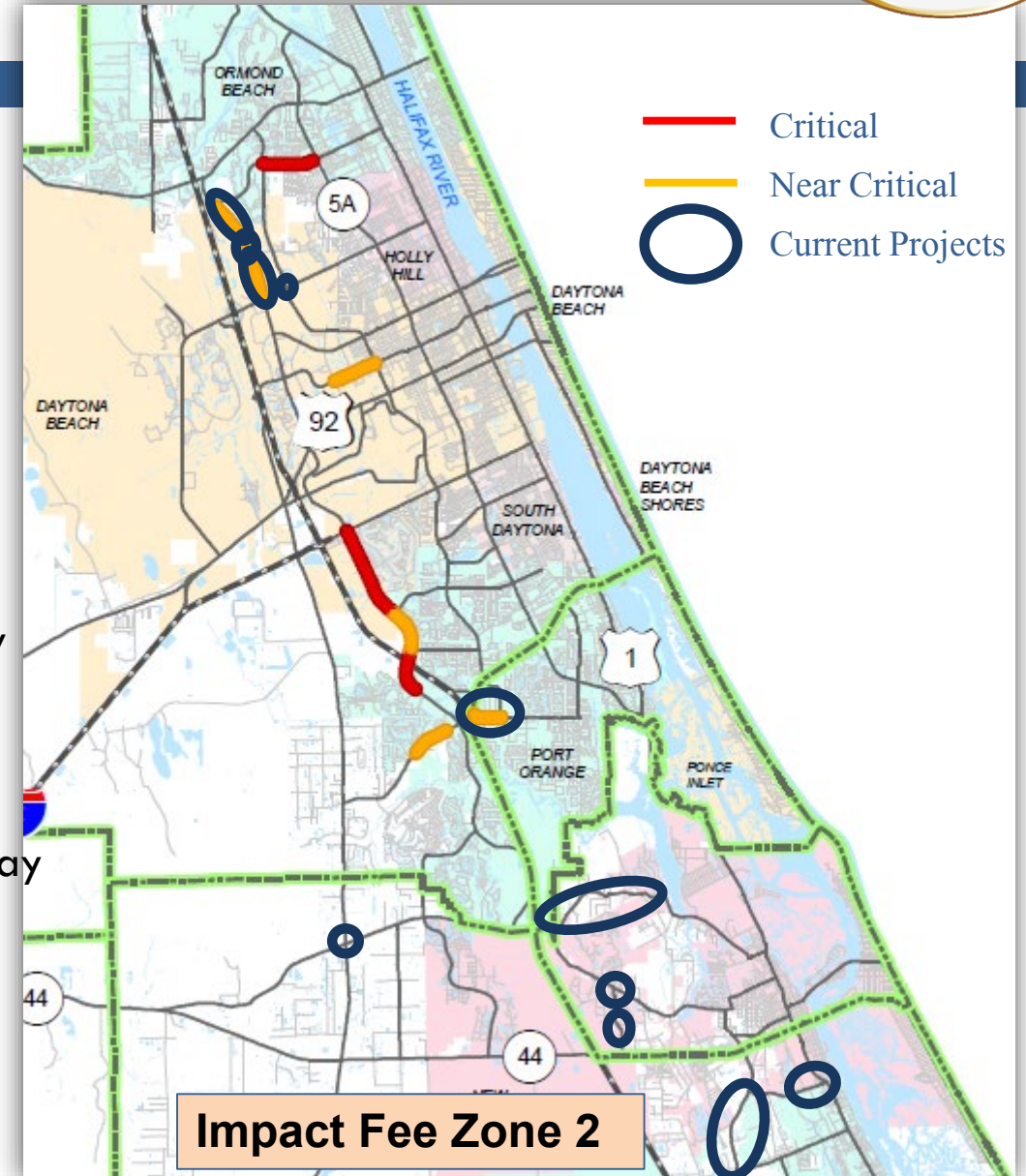
Pioneer Trail to Creek Shore Trail

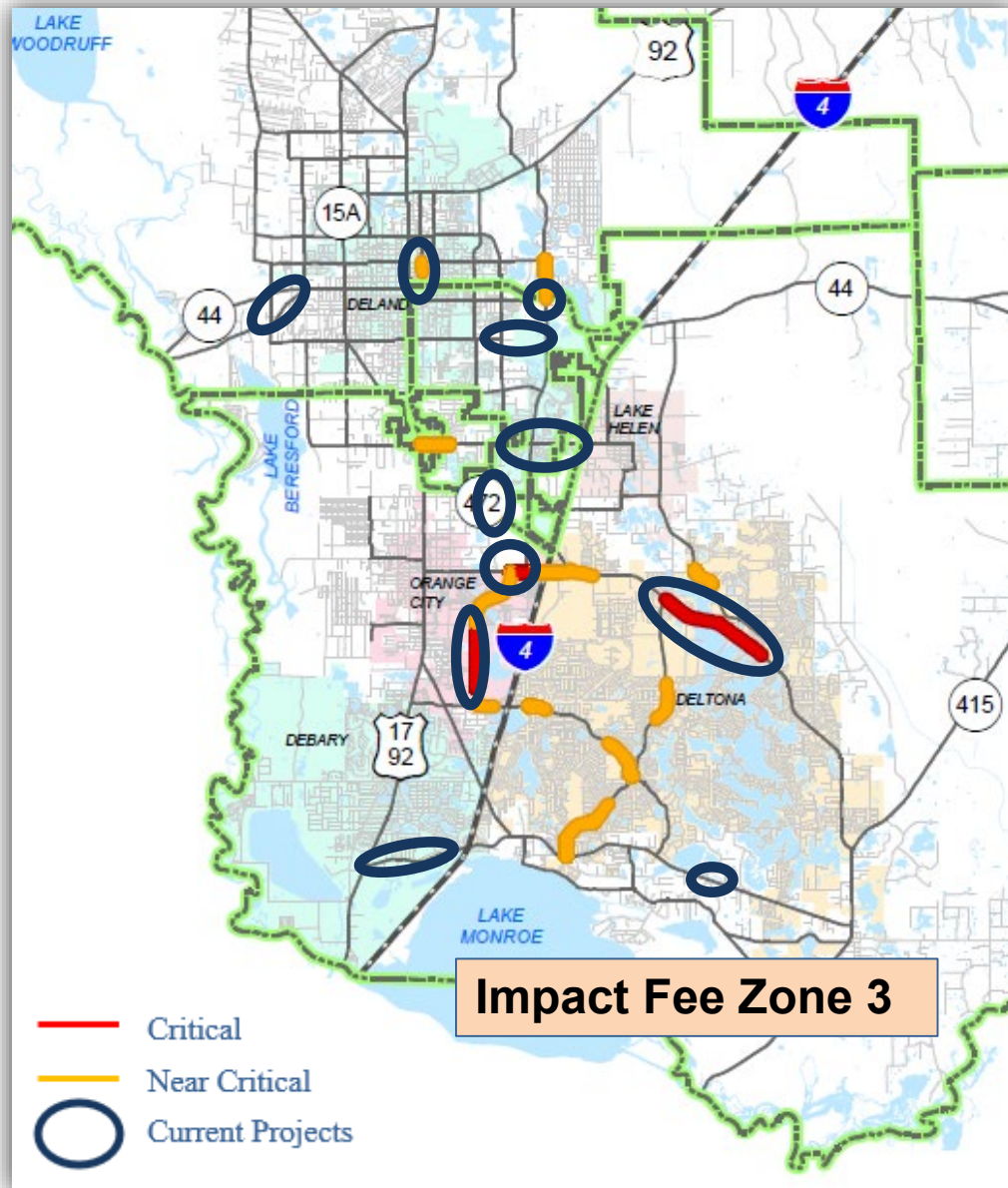
Pioneer Trail (Intersection Improvement) – Design & ROW underway

Pioneer Trail & Tomoka Farms Rd

Pioneer Trail (Intersection Improvement) – Design underway

Pioneer Trail & Sugar Mill Dr





Impact Fee Zone 3 (SW Volusia)

Deltona:

Howland Blvd (2 → 4 lanes) – Construction underway

Providence Blvd to Elkcam Blvd

Doyle Rd (Paved Shoulders) – Design underway

Twisted Oak to Lush Lane

DeBary:

Dirksen Rd (2 → 4 lanes) – Alignment Study

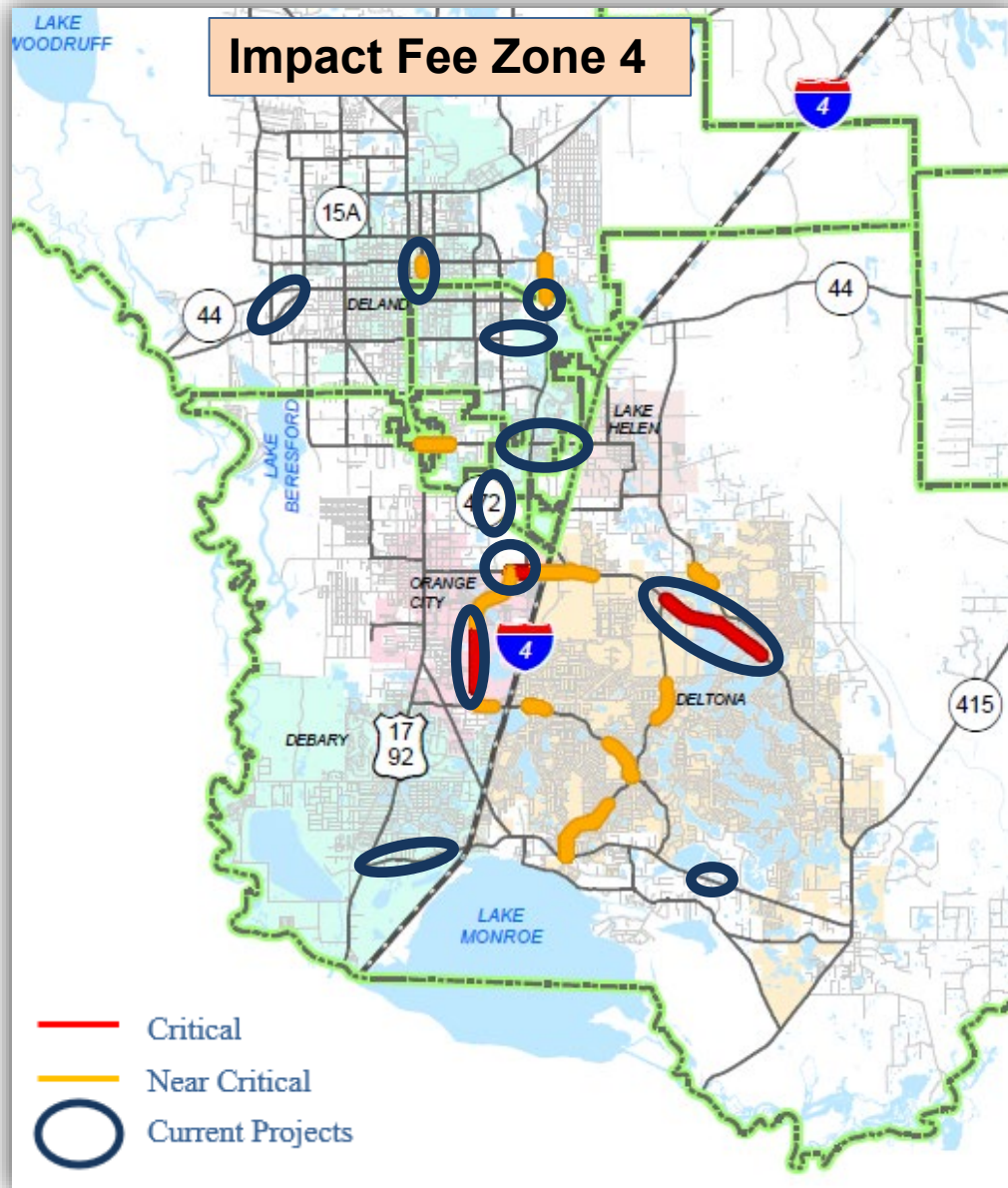
US 17/92 to Interstate 4

Orange City:

Veterans Memorial Pkwy (2 → 4 lanes) – Design underway
termini of 4 lanes to Rhode Island Ave

Graves Blvd (Safety Improvement) – Design underway

Veterans Memorial Pkwy to Kentucky Ave



Impact Fee Zone 4 (NW Volusia)

DeLand:

Orange Camp Rd (2 → 4 lanes) – Construction underway

MLK, Jr Beltway to Interstate 4

South Blue Lake (NEW 2 lanes) – Design underway

SR 472 to S Blue Lake termini in Victoria Park

Beresford Rd (NEW 2 lanes) – Design & ROW underway

S Blue Lake to MLK, Jr Beltway/Kepler Rd

SR 44 (Intersection Improvement) – ROW Acquisition/FDOT

SR 44 & Kepler Rd

Amelia Ave (Safety Improvement) – Design & ROW underway

Voorhis Ave to Ohio Ave

Old New York Ave (Paved Shoulders) – Design underway

DeLand Train Station to SR 44

EAST VOLUSIA

Potential Future Projects



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Ormond Beach:

- Hand Ave (2 → 4 lanes) – Williamson Blvd to Clyde Morris Blvd
- Hand Ave (2 → 4 lanes) – Clyde Morris Blvd to SR 5A/Nova Rd

Daytona Beach:

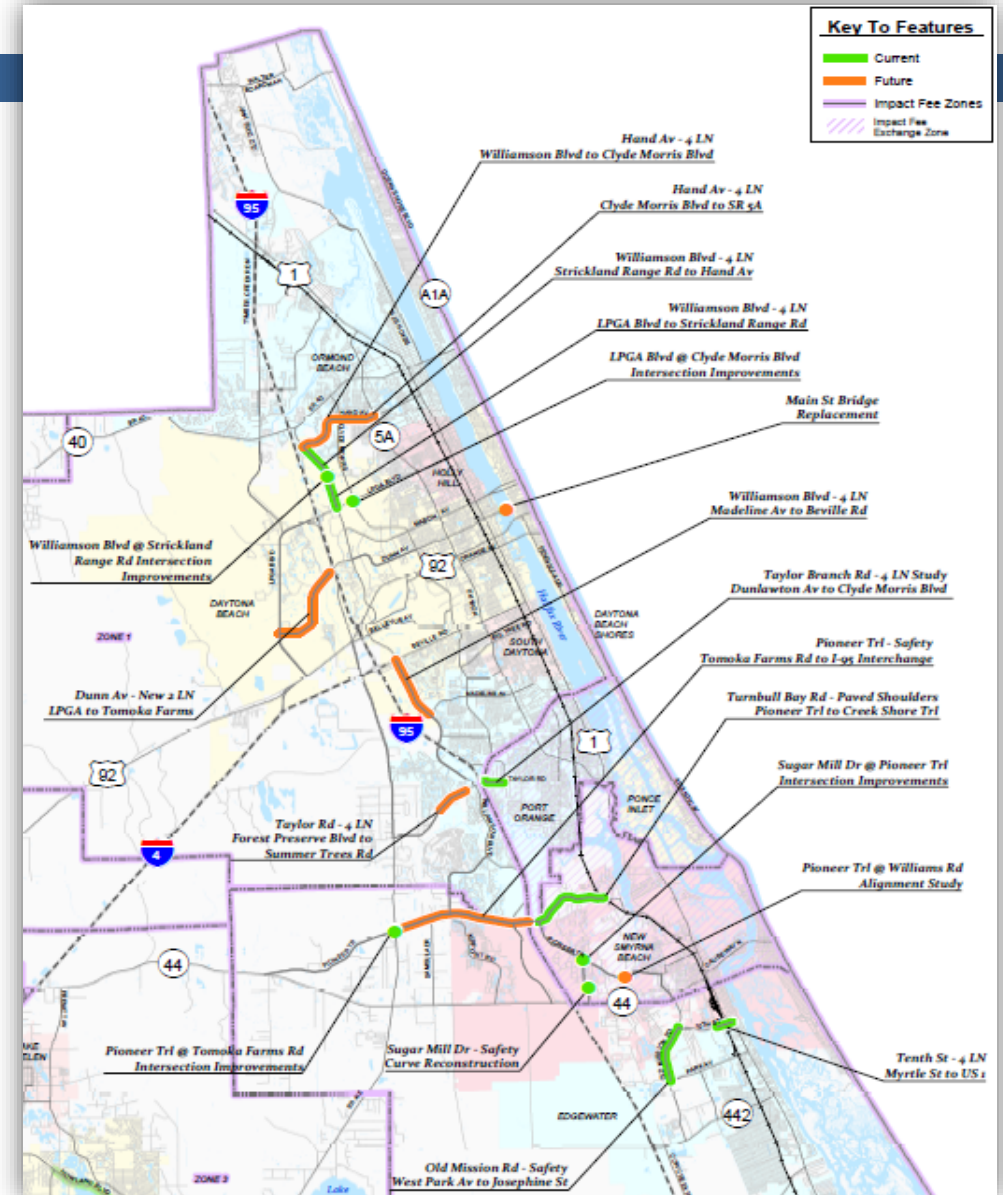
- Dunn Ave (NEW 2 lanes) – LPGA Blvd to Tomoka Farms Rd
- Williamson Blvd (2 → 4 lanes) – Madeline Ave to SR 400/Beville
- Main St Bridge (Replacement) – Beach St to Halifax Ave (**\$71M**)

Port Orange:

- Taylor Rd (2 → 4 lanes) – Forest Preserve Blvd to Summer Trees Rd

New Smyrna Beach:

- Pioneer Trail (Safety Improvement) – Tomoka Farms Rd to I-95
- Pioneer Trail (Intersection Improvement) – at Williams Rd/Colony Pk

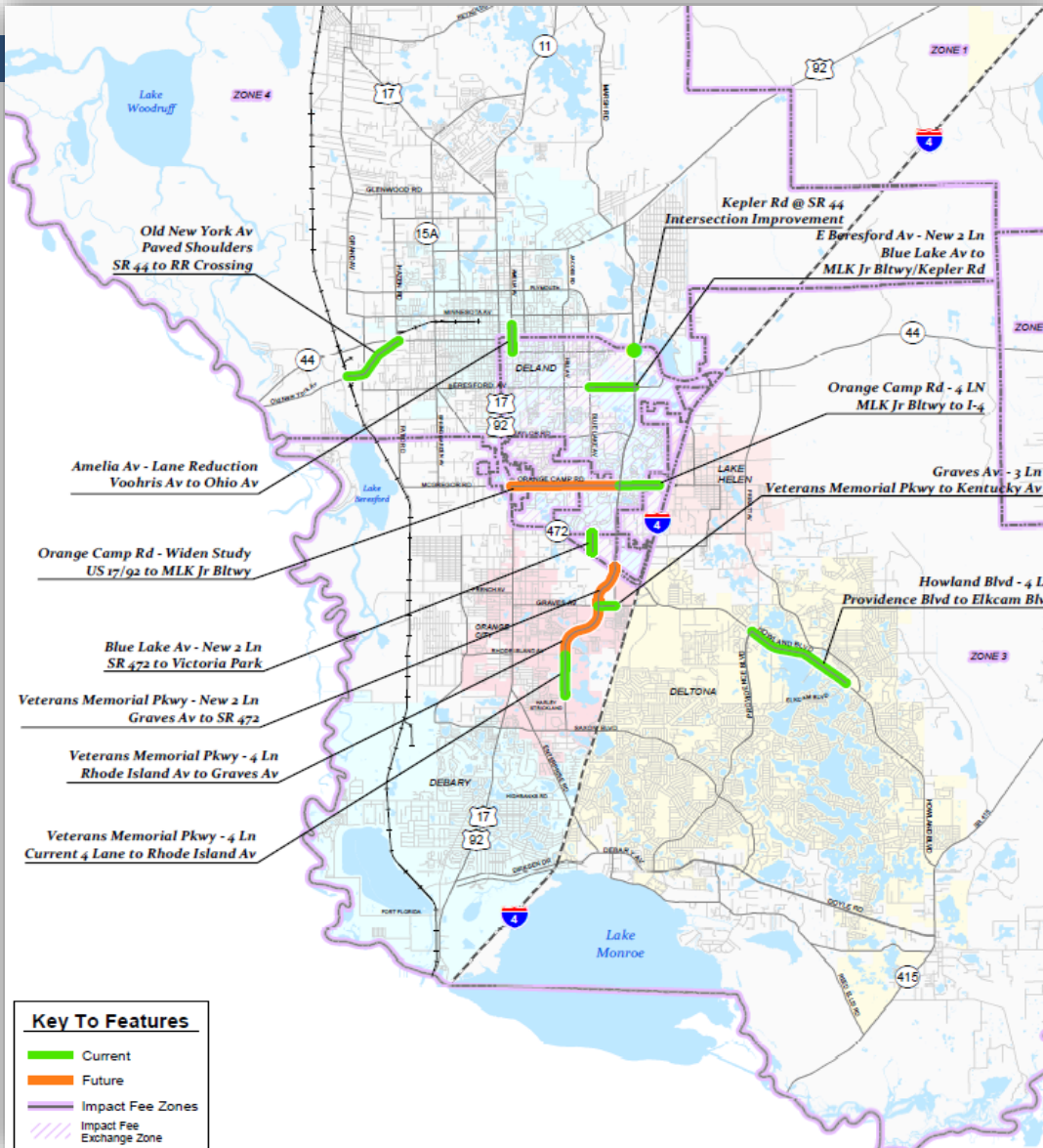


WEST VOLUSIA

Potential Future Projects



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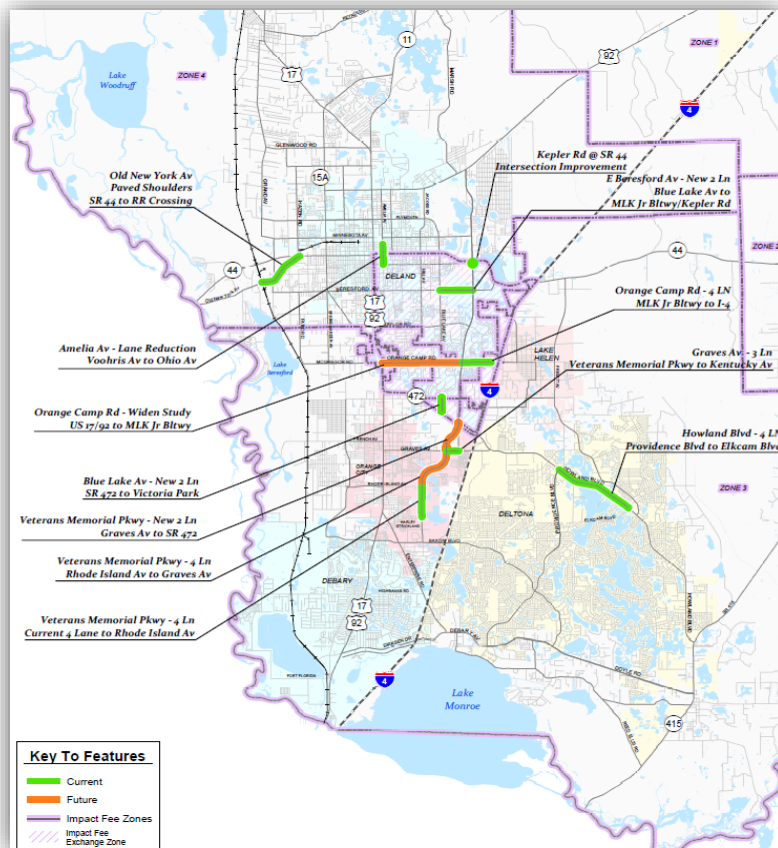
DeLand:

Orange Camp Rd (2 → 4 lanes) – Alignment Study
US 17/92 to MLK, Jr Beltway

Orange City:

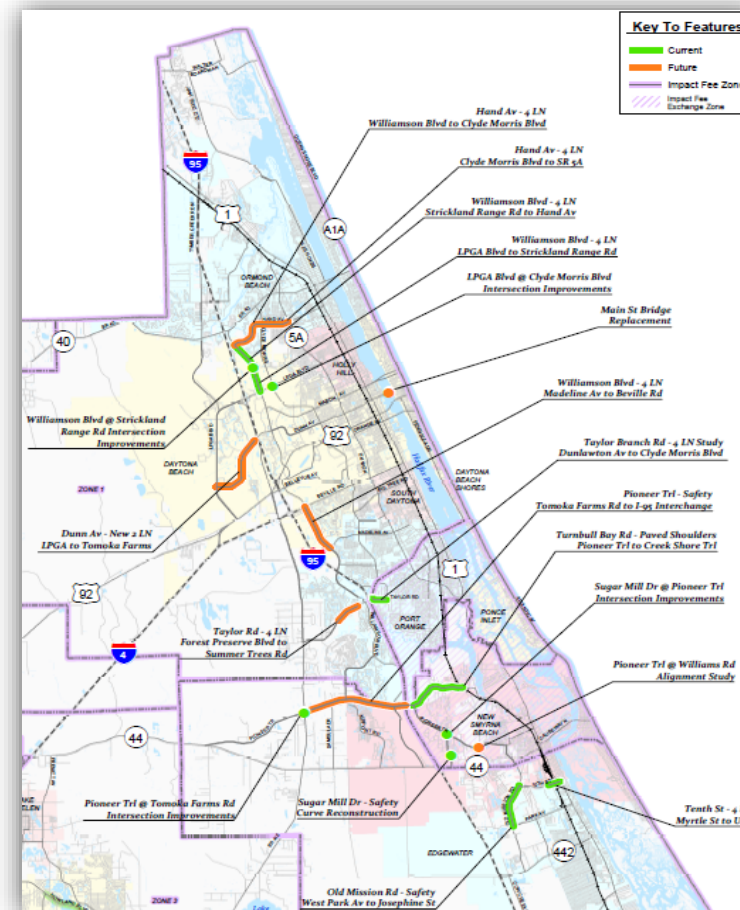
Veterans Memorial Pkwy (2 → 4 lanes)
Rhode Island Ave to Graves Ave
Veterans Memorial Pkwy (2 → 4 lanes)
Graves Ave to SR 472/MLK, Jr Beltway

There are several critical road segments that are not included in the recommended projects listed because there are other circumstances affecting their widening or improvement. This includes: LPGA Blvd (FDOT PD&E), Saxon Blvd (I-4 BtU), Kepler Rd, Beresford Av Extension (Developer & School Board), Tymber Creek Rd (Developer).



LPGA Blvd
Tymber Creek Rd

Saxon Blvd
Kepler Rd
Beresford Av Extension



2021 ROAD PROGRAM

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Road Projects

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Daytona Beach (Impact Fee Zone 1)

- Williamson Blvd Widening from 2 Lanes to 4 Lanes

LPGA Blvd to Strickland Range Rd

(Construction Underway)

Funding: \$ 783,000 County
 \$1,961,000 State
 \$2,538,000 Developer Proportionate Fair Share – collected

- Williamson Blvd Intersection Improvements

Williamson Blvd & Strickland Range Rd

(Design Underway)

Funding: \$ 143,000 County
 \$1,958,000 Developer Proportionate Fair Share – collected

- Williamson Blvd Widening from 2 Lanes to 4 Lanes

Strickland Range Rd to Hand Av

(Design & ROW Acquisition Underway)

Funding: \$ 183,000 County
 \$4,000,000 State
 \$ 761,000 Developer Proportionate Fair Share – collected
 \$2,803,000 Developer Proportionate Fair Share – pending
 \$3,302,000 Funding needed



Road Projects

28

- **LPGA Blvd Intersection Improvements**

LPGA Blvd & Clyde Morris Blvd

(Design Underway)

Funding: \$1,589,000

Developer Proportionate Fair Share – collected

\$ 264,000

Developer Proportionate Fair Share – pending

Port Orange (Impact Fee Zone 1)

- **Taylor Branch Rd Widening from 2 to 4 Lanes Study**

Dunlawton Blvd to Clyde Morris Blvd (incl B-19 bridge)

(Feasibility Study Underway)

Funding: \$1,064,000

Developer Proportionate Fair Share – collected

New Smyrna Beach (Impact Fee Zone 2)

- **Turnbull Bay Rd Add Paved Shoulders**

Pioneer Trl to Creek Shore Trl

(Design & ROW Acquisition Underway)

Funding: \$ 693,000

County

\$1,708,000

Federal

ORANGE text denotes road projects that do not increase road capacity.



Road Projects

29

- **Sugar Mill Dr Safety Improvement**

Southern Curve north of SR 44

(Construction Underway)

Funding: \$ 874,000 County
 \$ 679,000 Developer

- **Pioneer Trl Intersection Improvements**

Pioneer Trl & Tomoka Farms Rd

(Design & ROW Acquisition Underway)

Funding: \$ 579,000 County
 \$ 500,000 State
 \$2,432,000 Federal

- **Sugar Mill Dr Intersection Improvements**

Sugar Mill Dr & Pioneer Trl

(Design Underway)

Funding: \$ 522,000 County
 \$ 897,000 Developer

- **Old Mission Rd Safety Improvement**

West Park Av to Josephine St

(Design & ROW Acquisition Underway)

Funding: \$7,200,000 County – Annual Safety Allocation



Road Projects

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Edgewater/New Smyrna Beach (Impact Fee Zone 2)

- Tenth St Widening from 2 Lanes to 4 Lanes

Myrtle Av to US 1

(Construction Underway)

Funding:	\$9,964,000	County
	\$2,800,000	State

Deltona (Impact Fee Zone 3)

- Howland Blvd Widening from 2 Lanes to 4 Lanes

Providence Blvd to Elkcam Blvd

(Construction Underway)

Funding:	\$17,747,000	County
	\$ 80,000	Developer Proportionate Fair Share

Orange City (Impact Fee Zone 3)

- Graves Ave Widening from 2 Lanes to 3 Lanes

Veterans Memorial Pkwy to Kentucky Av

(Design Underway)

Funding:	\$ 10,000	County
	\$1,119,000	Federal



Road Projects

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- **Veterans Memorial Pkwy Widening from 2 Lanes to 4 Lanes**

Current limits of 4 Lanes to Rhode Island Av

(Design Underway)

Funding: \$ 185,000 Developer Proportionate Fair Share

 \$ 4,100,000 Funding Pending – potential developer built road segment

DeLand (Impact Fee Zone 4)

- **Orange Camp Rd Widening from 2 Lanes to 4 Lanes**

Martin Luther King Jr. Btwy to I-4

(Construction Underway)

Funding: \$11,328,000 County

 \$ 219,000 Developer Proportionate Fair Share

- **Old New York Av Add Paved Shoulders**

SR 44 to Shell Rd

(Design Underway)

Funding: \$ 1,517,000 County

 \$ 1,774,000 Federal



Road Projects

32

- **Beresford Rd Extension**

Blue Lake Av to Kepler Rd/Martin Luther King Jr. Btwy

(Design & ROW Acquisition Underway)

Funding: \$3,900,000

County

\$ 219,000

Developer Proportionate Fair Share

- **Amelia Av Lane Reduction from 4 lanes to 3 Lanes**

Voorhis Ave to Ohio Ave

(Design & ROW Acquisition Underway)

Funding: \$ 10,000

County

\$2,443,000

Federal

- **Blue Lake Av Extension**

Blue Lake Av in Victoria Park to SR 472

(Conceptual Preparation Underway)

Funding: \$2,745,000

County – Impact Fees

\$1,454,000

Developer Proportionate Fair Share

- **SR 44 & Kepler Rd Roundabout**

FDOT - Design and Construction

(Design Underway)

County – Right-of-Way Acquisition

Funding: \$3,900,000

County – Impact Fees



POTENTIAL FUTURE PROJECTS



33

There are several critical road segments that are not included in the recommended projects listed because there are other circumstances affecting their widening or improvement. This includes: LPGA Blvd, Saxon Blvd, Kepler Rd, Beresford Av Extension, Tymber Creek Rd & Veterans Memorial Pkwy.

Ormond Beach (Impact Fee Zone 1)

- Hand Av Widening from 2 Lanes to 4 Lanes

Clyde Morris Blvd to Nova Rd

Estimated Cost: \$ 6,200,000

(New Project)

- Hand Av Widening from 2 Lanes to 4 Lanes

Williamson Blvd to Clyde Morris Blvd

Estimated Cost: \$10,000,000

(New Project)

Daytona Beach (Impact Fee Zone 1)

- Dunn Av Extension

Tomoka Farms Rd to LPGA Blvd

Estimated Cost: \$15,318,000

(Alignment Study Approved 1999)

Potential Future Projects



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- **Williamson Rd Widening from 2 Lanes to 4 Lanes**
Beville/SR 400 to Madeline Av (New Project)
Estimated Cost: \$ 7,500,000

- **Main St Bridge Replacement**
Beach St to Halifax Av (New Project)
Estimated Cost: \$71,000,000

Port Orange (Impact Fee Zone 1)

- **Taylor Rd Widening from 2 Lanes to 4 Lanes**
Forest Preserve Blvd to Summer Trees Rd (Design Update Needed / ROW needed)
Estimated Cost: \$10,522,000

New Smyrna Beach (Impact Fee Zone 2)

- **Pioneer Trl Safety Improvements**
Tomoka Farms Rd to I-95 (New Project)
Estimated Cost: \$10,625,000

Potential Future Projects



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- **Pioneer Trl Intersection Improvements**

Pioneer Trl & Williams Rd / Colony Park

Estimated Cost: \$100,000 (Study only)

(Alignment Study)

Orange City (Impact Fee Zone 3)

- **Veterans Memorial Pkwy Widening from 2 Lanes to 4 Lanes**

Rhode Island Av to Graves Av

Estimated Cost: \$ 7,358,000

(New Project)

- **Veterans Memorial Pkwy Extension**

Graves Av to SR 472/Martin Luther King Jr. Btwy

Estimated Cost: \$15,000,000

(Design Update Needed / ROW needed)

DeLand (Impact Fee Zone 3 & 4)

- **Orange Camp Rd Widening Study**

US 17/92 to Martin Luther King Jr. Btwy

Estimated Cost: \$ 500,000 (Study only)

(Alignment Study)