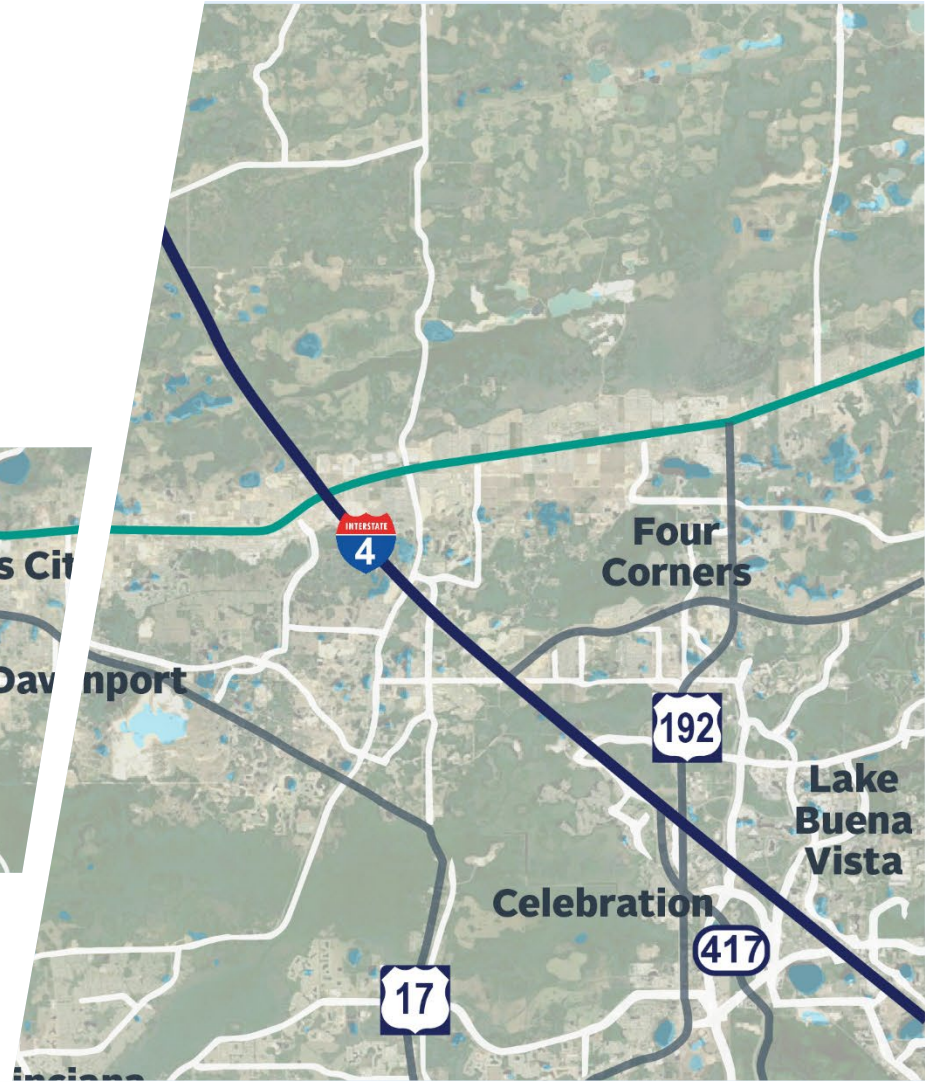


# *NE Polk County US 27 Mobility Study from SR 60 to Lake County Line*

FPID 440320-1-22-01

## *Project Advisory Group (PAG) Meeting #3*

December 3, 2019



# Agenda

- 1) Introductions**
- 2) Study Status
- 3) Short Term Recommendations
- 4) Online Public Survey
- 5) Travel Demand Modeling Results
- 6) Recommendations & Next Steps



# Agenda

1) Introductions

**2) Study Status**

3) Short Term Recommendations

4) Online Public Survey

5) Travel Demand Modeling Results

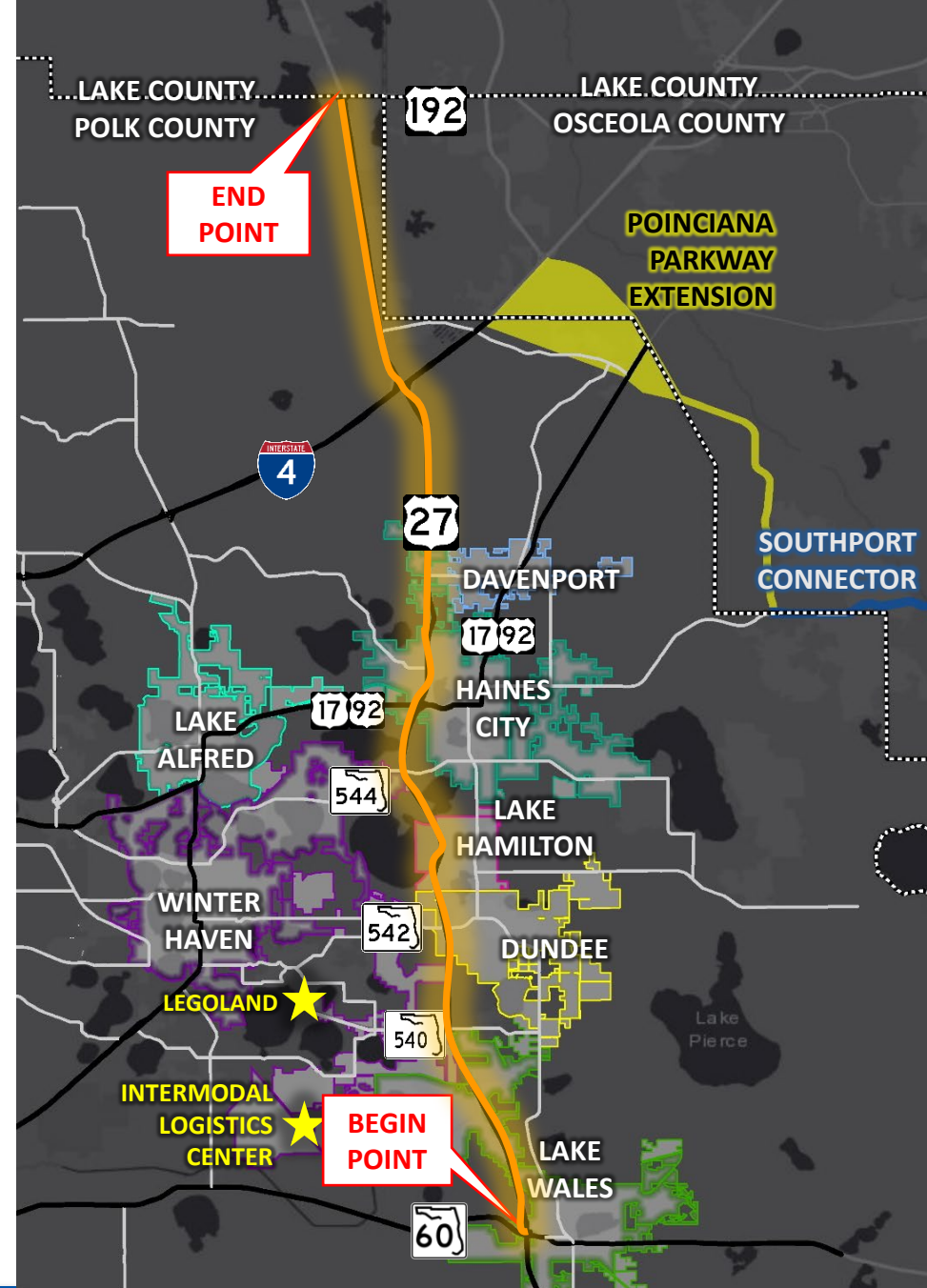
6) Recommendations & Next Steps





## Location

- » 32 mile long State of Florida Strategic Intermodal System (SIS) highway corridor in Polk County
- » Critical north-south freight corridor throughout and beyond Florida
- » Commercial, industrial, residential development on both sides



## Study Purpose

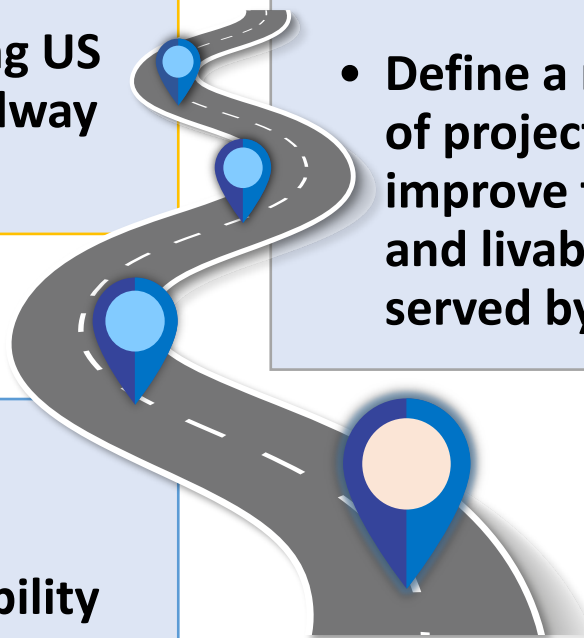
- Evaluate the study area along US 27 and the surrounding roadway network.

## Goal

- Define a multimodal program of projects and strategies to improve the mobility, safety, and livability within and served by the US 27 corridor.

## Overarching Purpose

- Address congestion and mobility issues within the study area using Context-Sensitive Solutions.



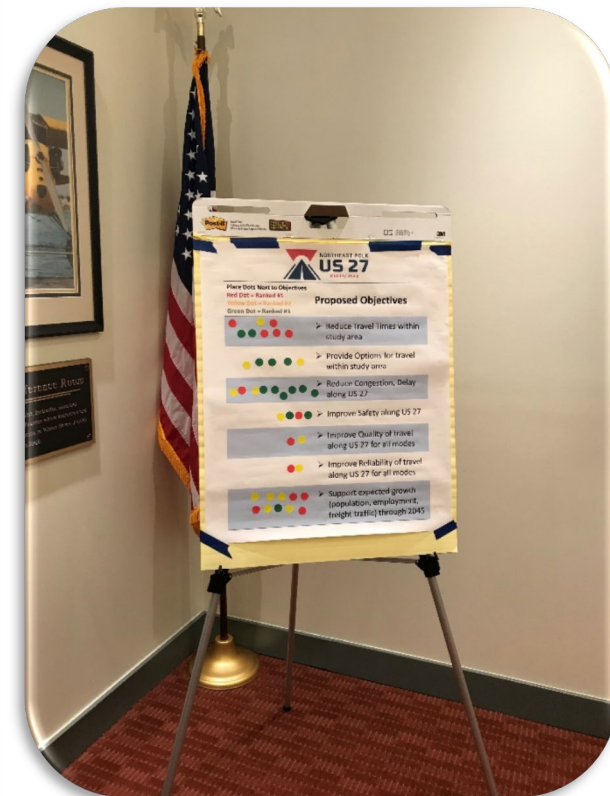
# Technical Work Status

- ✓ Existing Conditions Analysis & Report - *Complete*
- ✓ Short term Recommendations - *Complete*
- ✓ Regional Long-term Improvements Modeling Analysis  
- *Finalizing*
- ✓ Future Conditions Analysis & Report - *In Progress*
- ✓ Evaluation of Concepts - *In Progress*

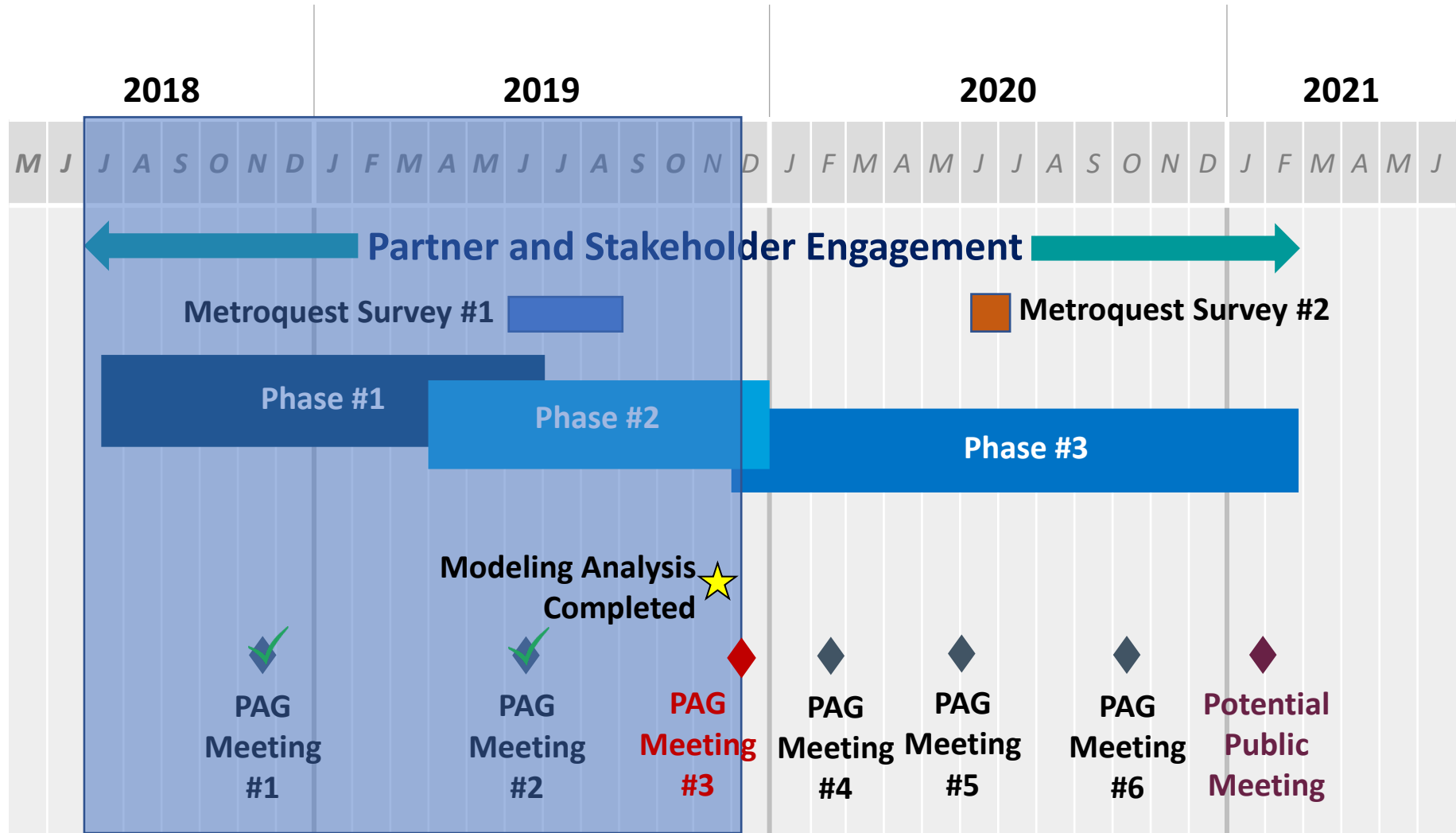


# Coordination Status

- ✓ Nov 2018 - Project Advisory Group (PAG) Meeting #1
- ✓ Jun 2019 - PAG Meeting #2
- ✓ Jun - Aug 2019 - Online Public Survey Conducted
- ✓ May & Nov 2019 - Working Meetings w/ FDOT, County, TPO staff



# Study Status





# Agenda

- 1) Introductions
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# Short Term Recommendations on US 27

- » **Road Safety Audit (RSA) Conducted**
- » **Intersection Operational Analysis Completed**
- » **Short term Recommendations**
  - » Maintenance Items (signs, pavement markings, etc.)
  - » Add Lighting
  - » Median Opening Modifications
  - » Traffic Signal Changes
  - » Sidewalk
  - » Add Turn Lanes
- » **Coordination with FDOT D1 Traffic Operations, Polk County staff, TPO staff to identify possible ways to address recommendations**

# Agenda

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# MetroQuest Survey Participation



3,322

*participants*



96,000+

*data points*



6,000+

*comments*

Online  
Outreach

NE Polk County US 27 Mobility Study More at: <http://www.ontimewith27.com/>

1 **We need your help!**  
Learn a bit about On Time with 27 before you begin.

**WELCOME**

**On Time with 27**  
Traffic congestion on US 27 constrains mobility for residents and visitors alike in NE Polk County. Help FDOT understand your priorities by completing this brief survey. Your input will be used to develop mobility solutions benefiting you and your community!

Click here for a study area map! → Next

Population in NE Polk County is estimated to grow by 250,000 people by 2040.

NORTHEAST POLK  
**US 27**  
Mobility Study

Traditional  
Outreach

# Public Priorities - MetroQuest Survey Results are IN!

Participants were asked to identify which key transportation elements they believe were important to improving mobility in NE Polk County.

1  Alternative Routes

2  Improvements to US 27

3  Local Access

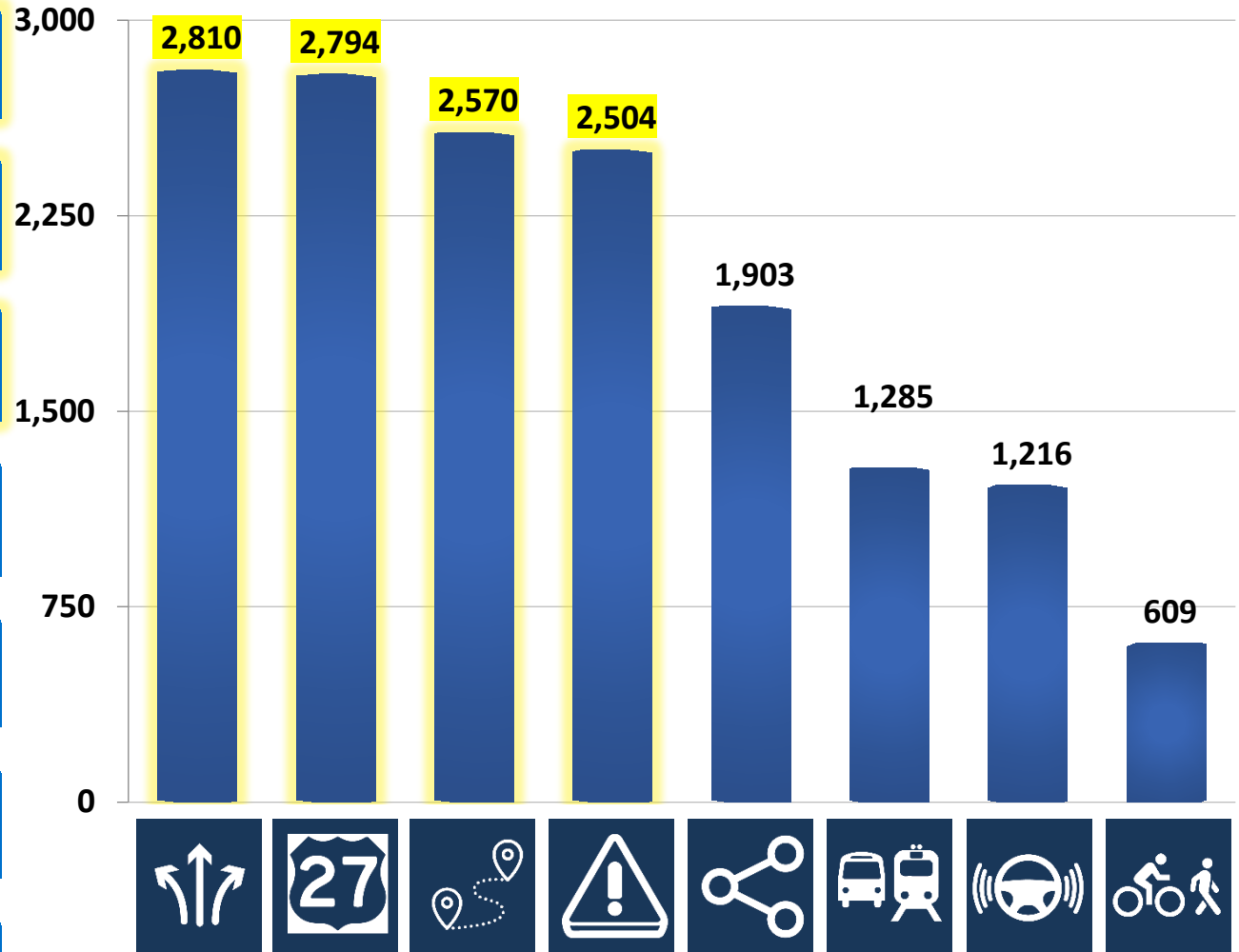
4  Safety Improvements

5  Regional Connections

6  Transit

7  Technology Options

8  Bicycle & Pedestrian



# Agenda

- 1) Introductions
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- 5) Travel Demand Modeling Results**
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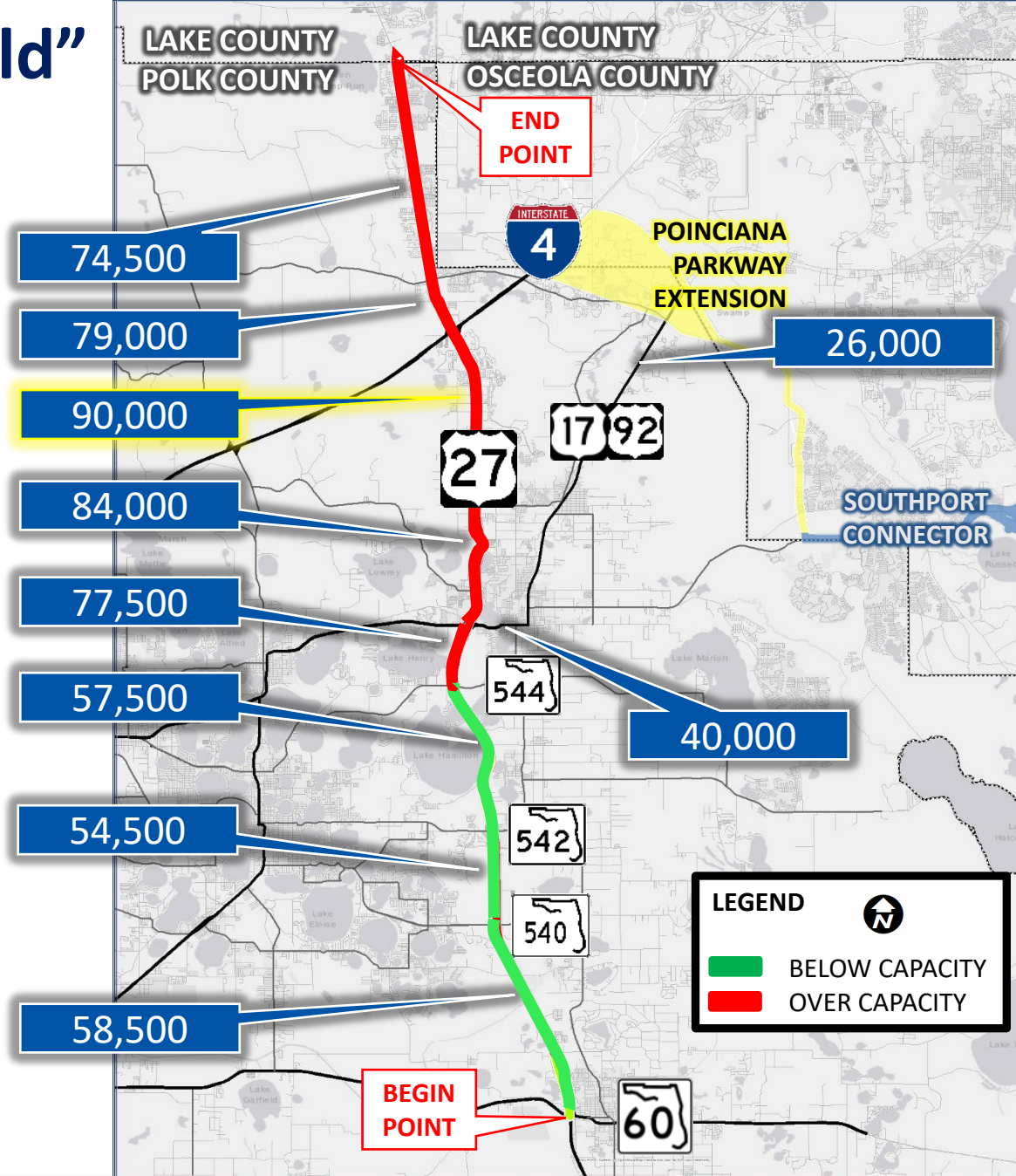
# **Year 2040 Assumed Background Roadway Improvements**

## **The Regional Model Included:**

- » **Select Polk TPO 2040 Cost Feasible Plan Projects**
- » **I-4 Managed Lanes (from Hillsborough County to Osceola County)**
- » **Poinciana Parkway Extension (with partial interchange at CR 532)**
- » **Southport Connector**
- » **Central Polk Parkway (CPP) from Polk Parkway to 91 Mine Road**

# US 27 2040 “No Build”

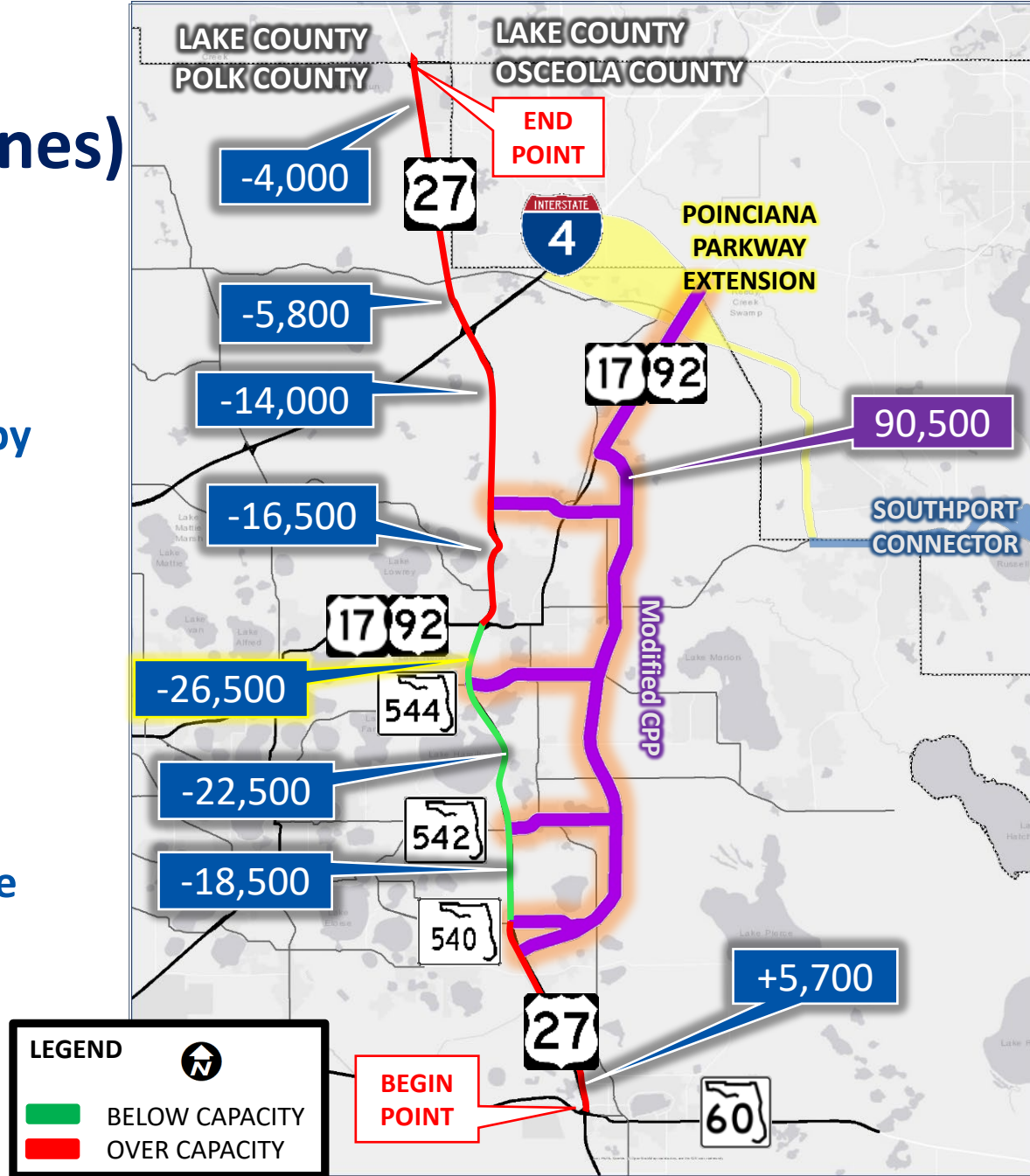
- » US 27 2040 Average Annual Daily Traffic (AADT) volume will exceed the capacity on majority of corridor (red line)
- » AADT is 150% over capacity near I-4
- » Significant need for improvement



# Concept A1

## Modified CPP (4-Lanes)

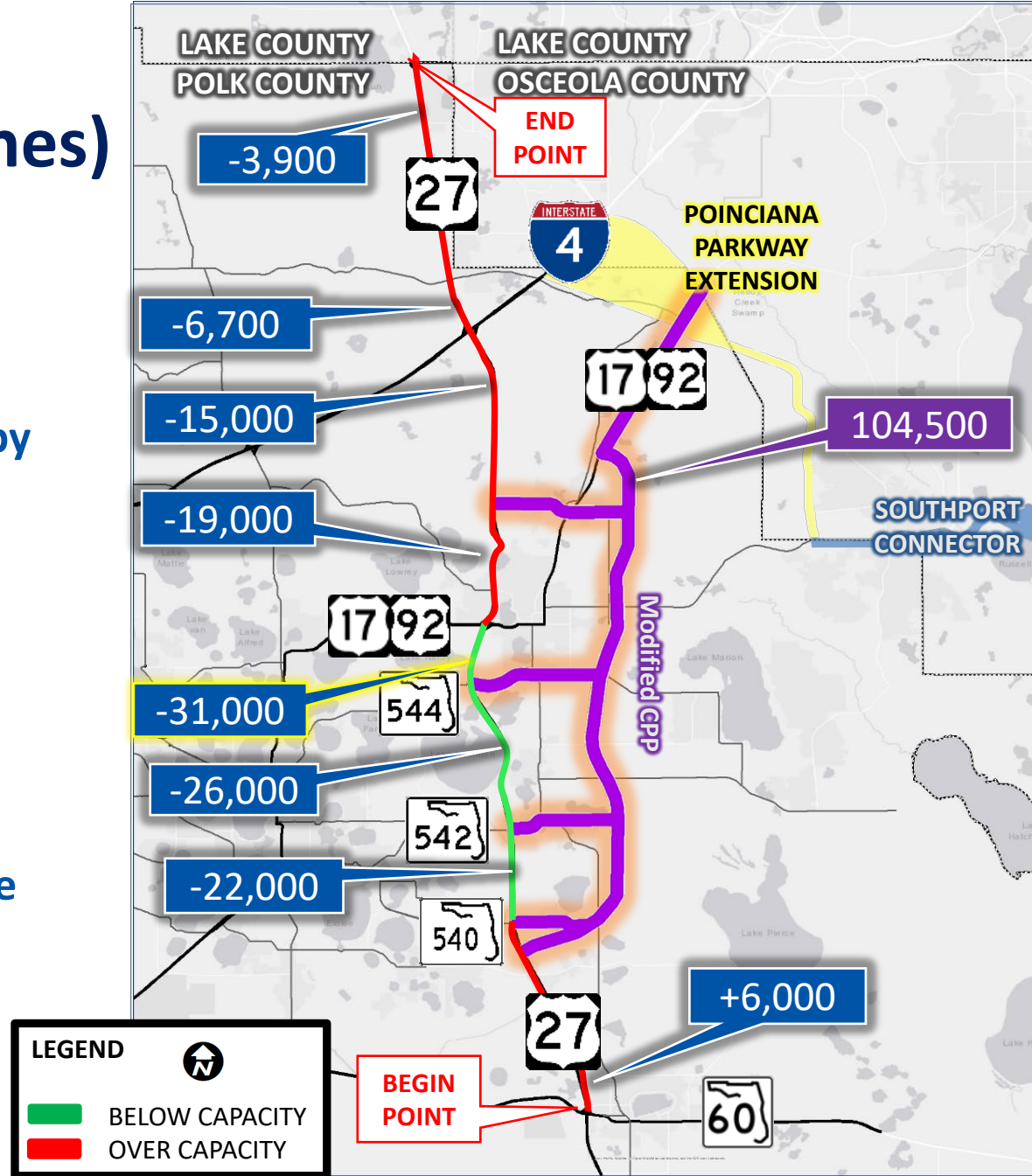
- » New 4-Lane North/South Limited Access Roadway
- » Decreases traffic on US 27 by up to 26,500 future daily vehicles 
- » Decreases # of study road miles with volumes greater than capacity 
- » Decreases % of freight route miles with volume greater than capacity 



# Concept A2

## Modified CPP (6-Lanes)



- » New 6-Lane North/South Limited Access Roadway
- » Decreases traffic on US 27 by up to 31,000 future daily vehicles 
- » Decreases # of study road miles with volumes greater than capacity 
- » Decreases % of freight route miles with volume greater than capacity 

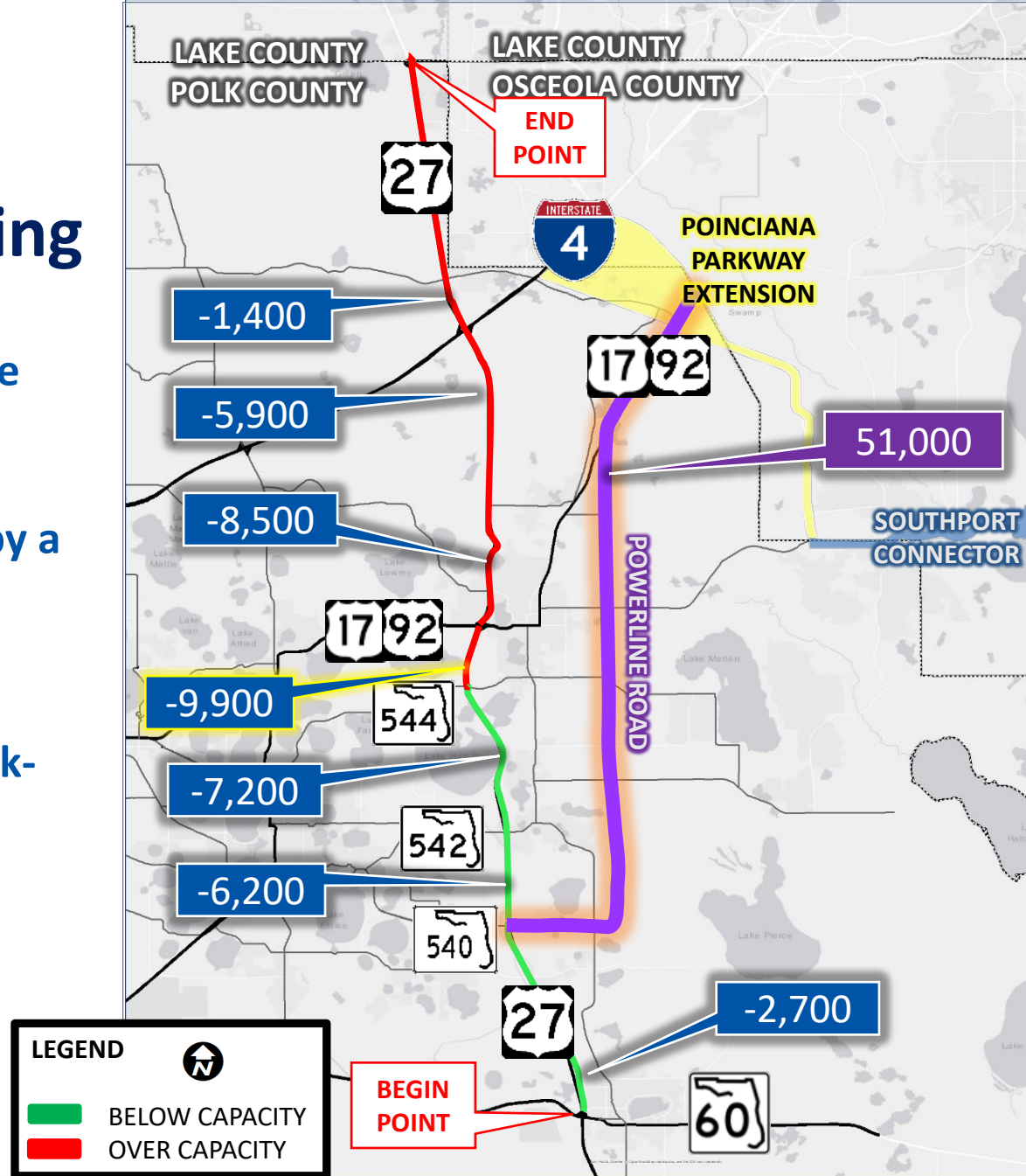




# Concept B

## Powerline Road Extension & Widening

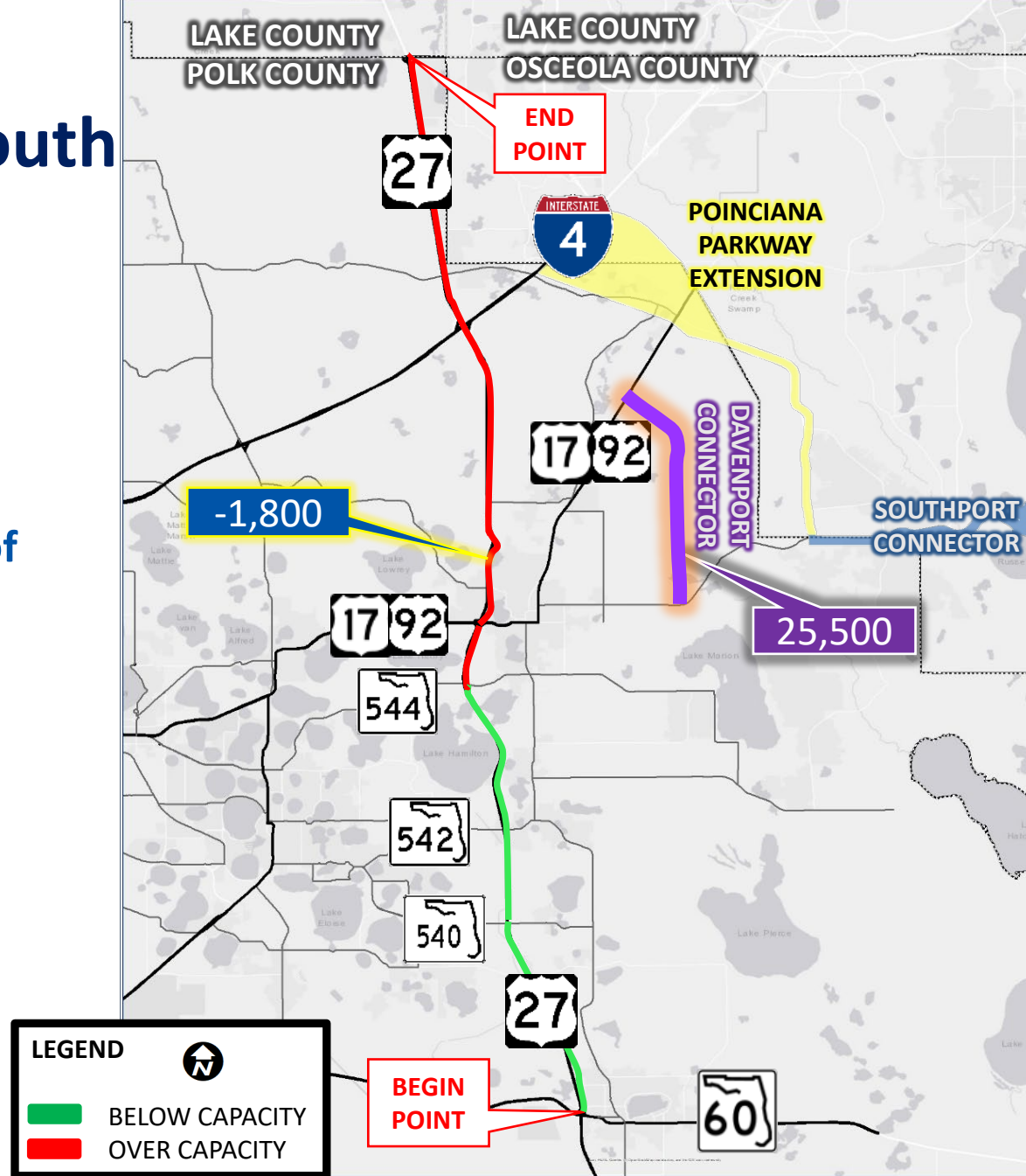
- » **Extend and widen Powerline Road to 4-Lanes**
- » **Decreases traffic on US 27 by a max of 9,900 future daily vehicles** 
- » **Reduces travel time network-wide** 



# Concept C

## Davenport North/South Connector

- » New 4-Lane Major Arterial
- » Decreases traffic on US 27 northern section by a max of 1,800 future daily vehicles

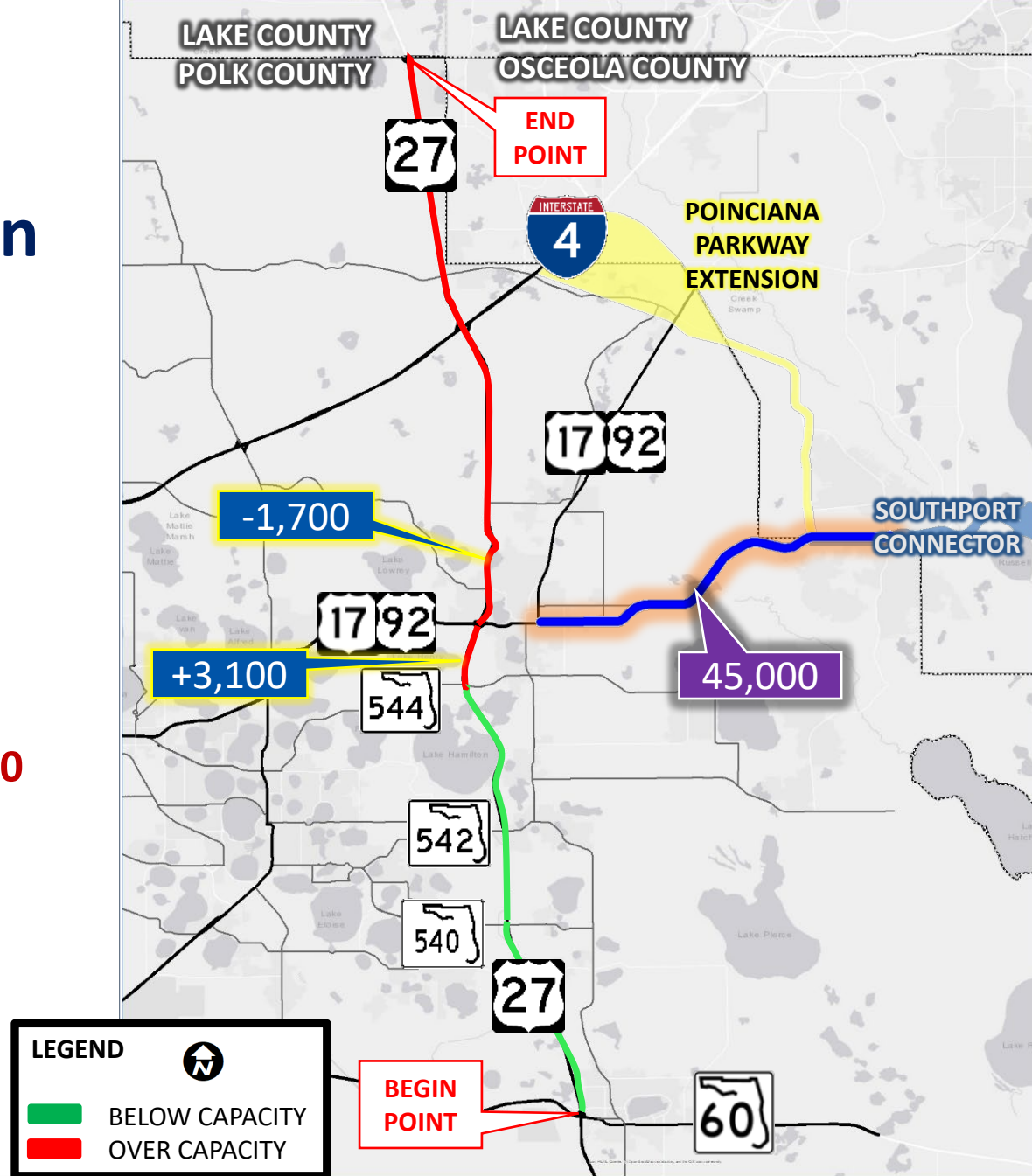




# Concept D1

## CR 580/Southport Connector Extension

- » 4-Lane Major Arterial
- » Decreases traffic on US 27 northern section by max of 1,700 future daily vehicles
- » Increases traffic on US 27 southern section up to 3,100 future daily vehicles



# Concept D2

## Powerline Rd. Ext. with CR 580/Southport Ext.

» Extend and widen Powerline Road to 4-Lanes, and extend Southport Connector as 4-Lane Freeway

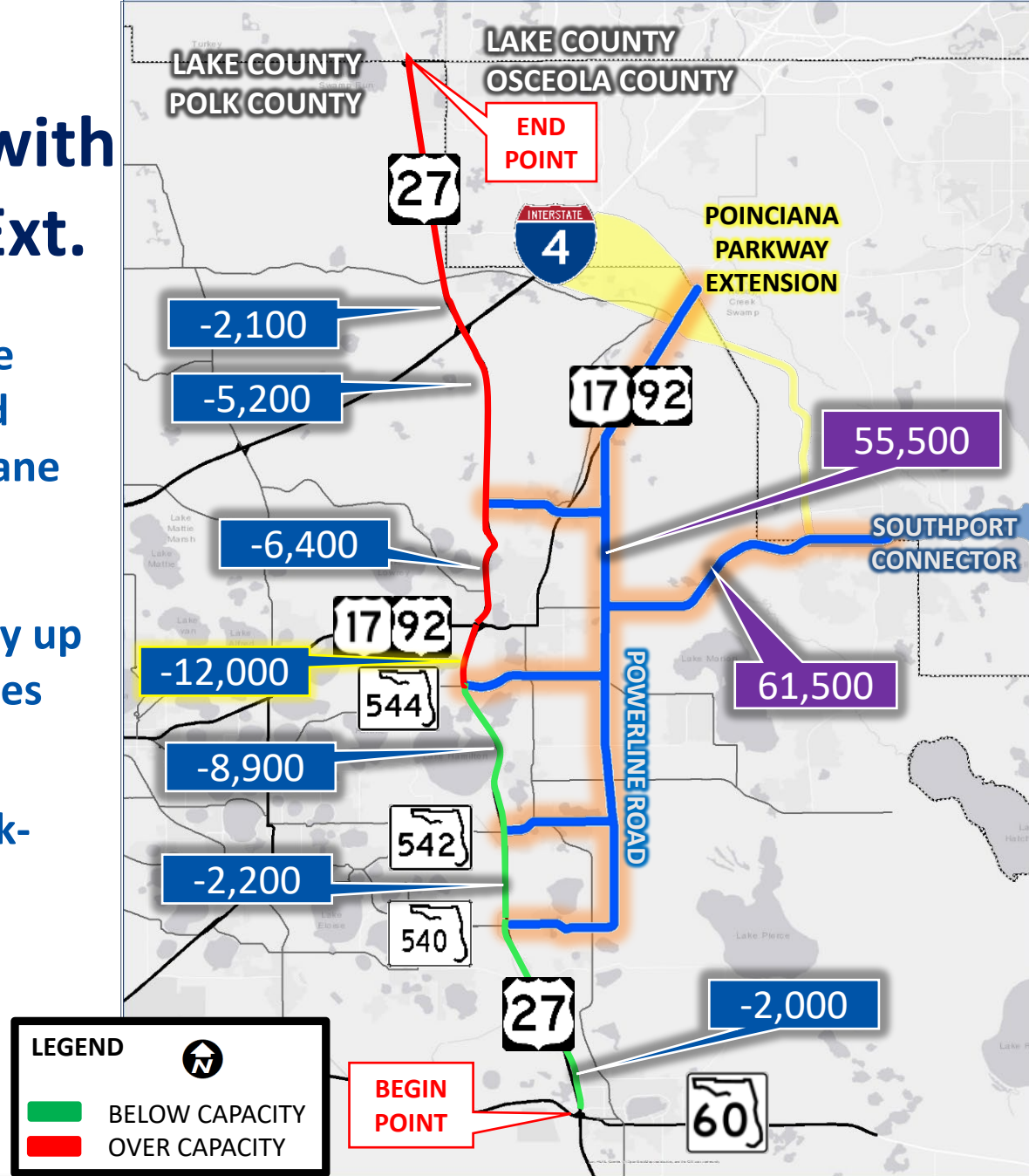
» Decreases traffic on US 27 by up to 12,000 future daily vehicles



» Reduces travel time network-wide



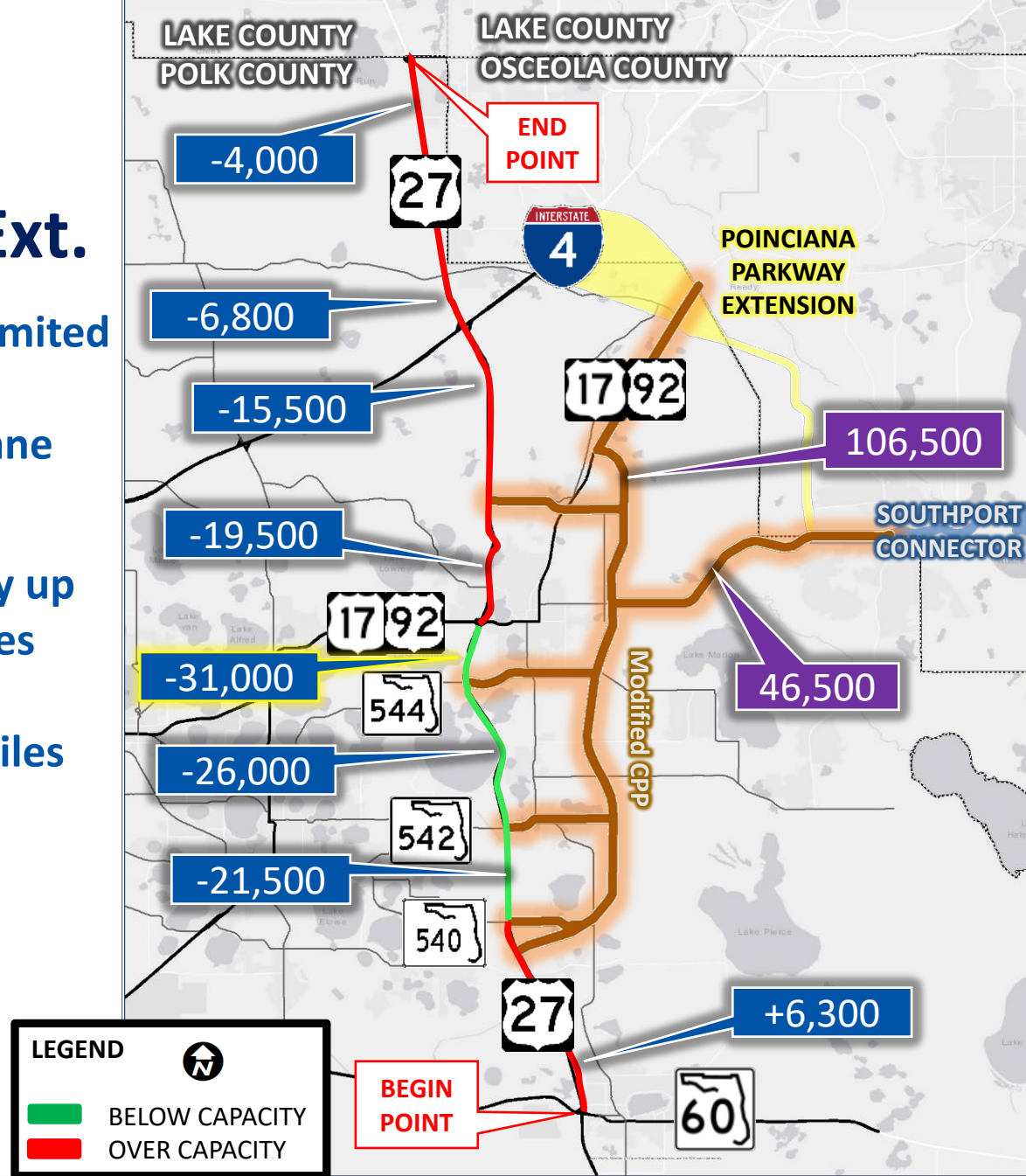
» Increase in miles traveled network-wide



# Concept E

## Modified CPP with CR 580/Southport Ext.

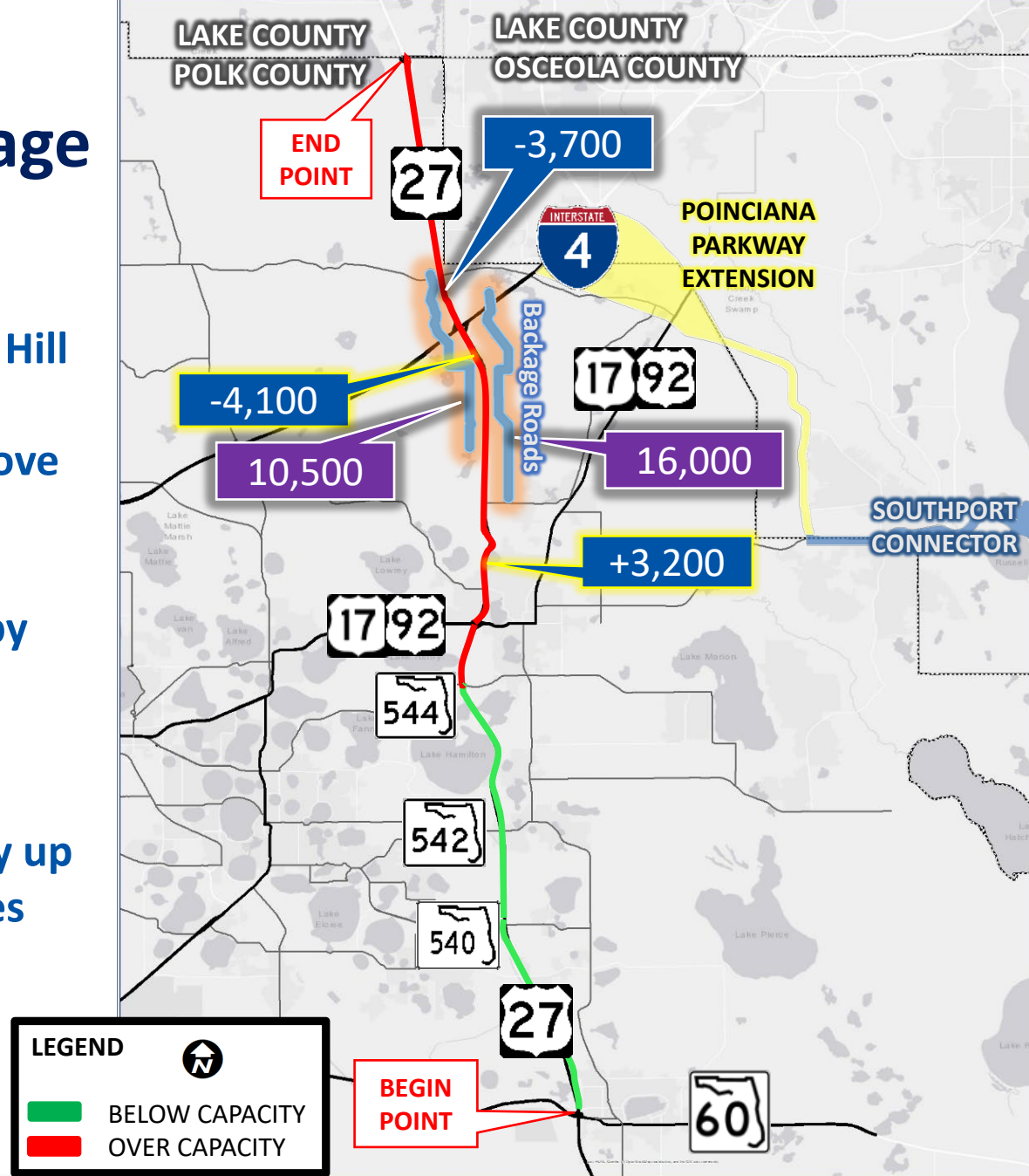
- » New 6-Lane Modified CPP Limited Access Facility, and extend Southport Connector as 4-Lane Freeway
- » Decreases traffic on US 27 by up to 31,000 future daily vehicles
- » Decreases # of study road miles with volumes greater than capacity
- » Decreases % of freight route miles with volume greater than capacity



# Concept F

## US 27 Parallel Backage Roads

- » New 4-Lane Arterials: Holly Hill Road, Grand View Parkway, North Ridge Trail, & FDC Grove Road with I-4 overpasses
- » Decreases traffic on US 27 by up to 4,100 future daily vehicles near I-4
- » Increases traffic on US 27 by up to 3,200 future daily vehicles south of CR 547

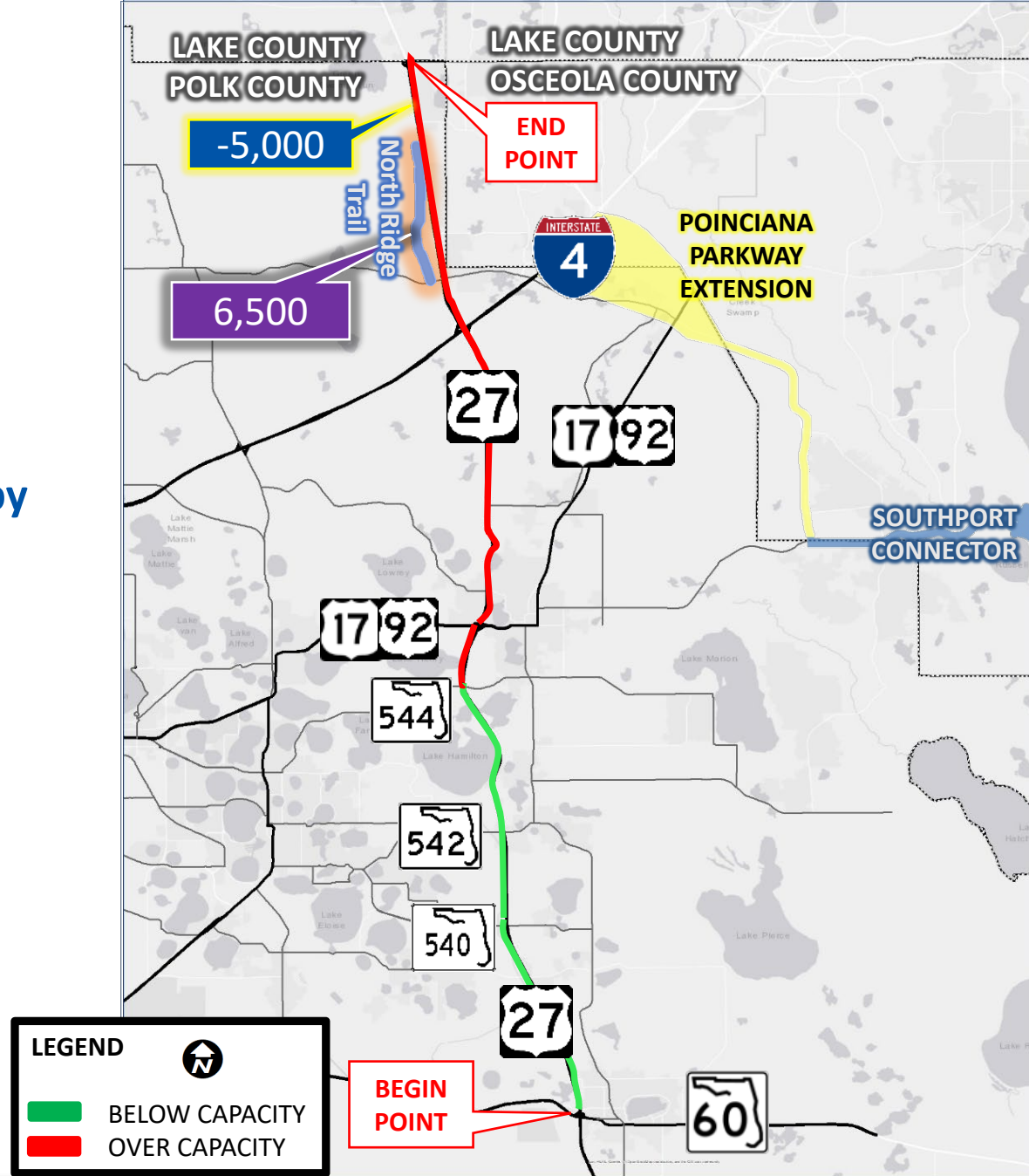




# Concept G

## North Ridge Trail

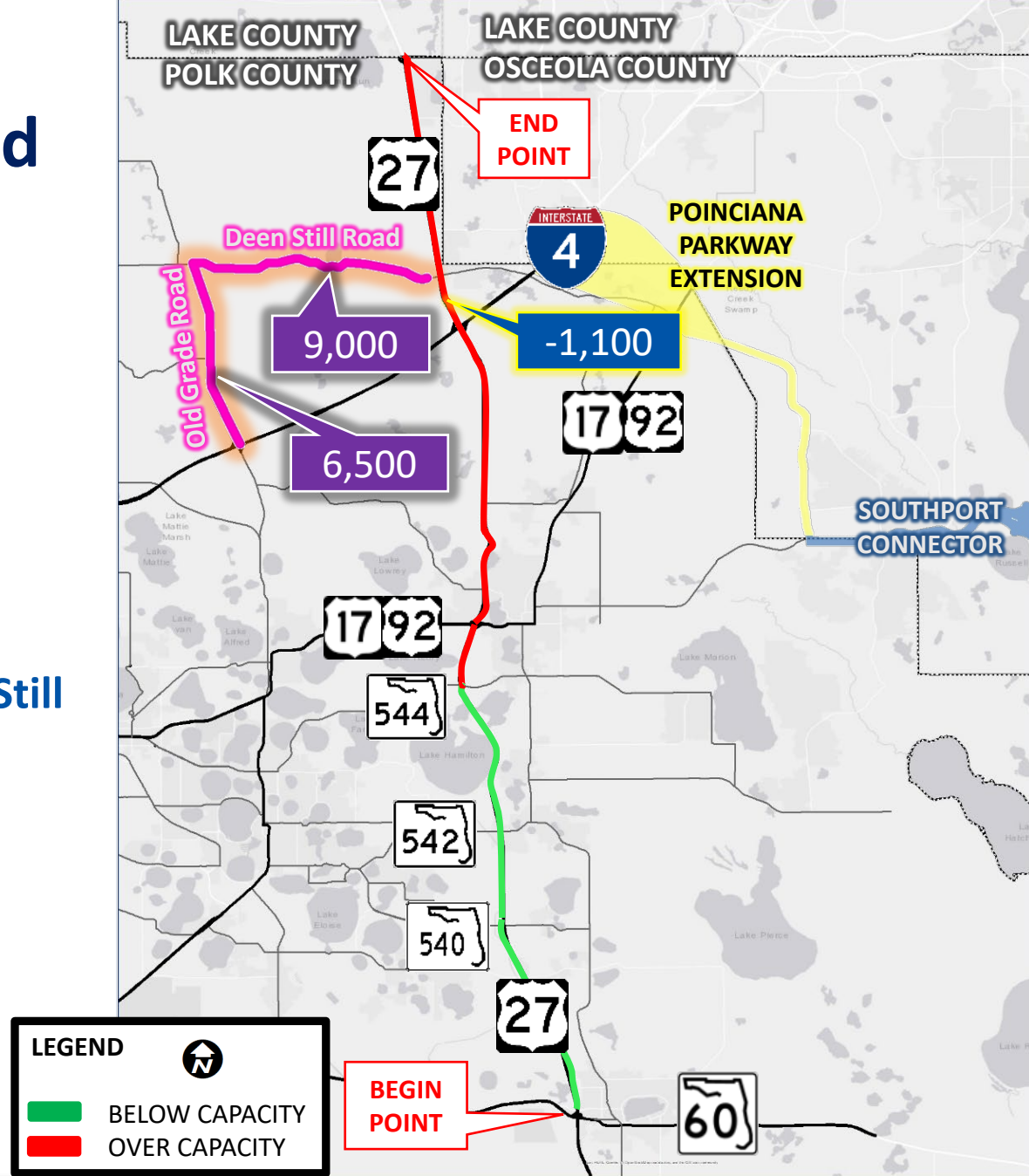
- » New 4-Lane Arterial
- » Decreases traffic on US 27 by up to 5,000 future daily vehicles near US-192



# Concept H

## Deen Still Road / Old Grade Road Improvements

- » Widen to 4-Lane Arterials
- » Decreases traffic on US 27 between SR 544 and Deen Still Road by up to **1,100** future daily vehicles

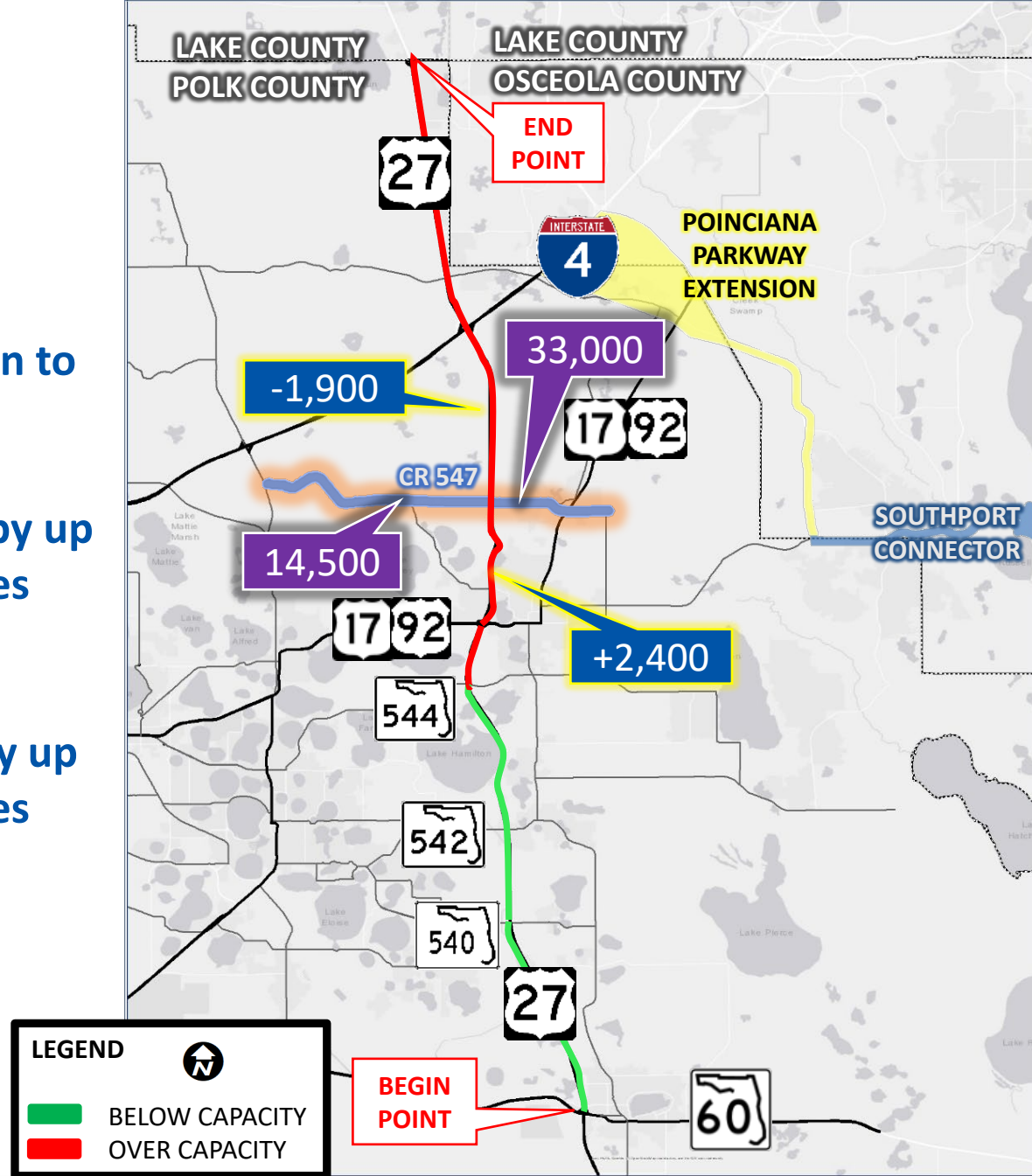




# Concept I

## CR 547 Extension

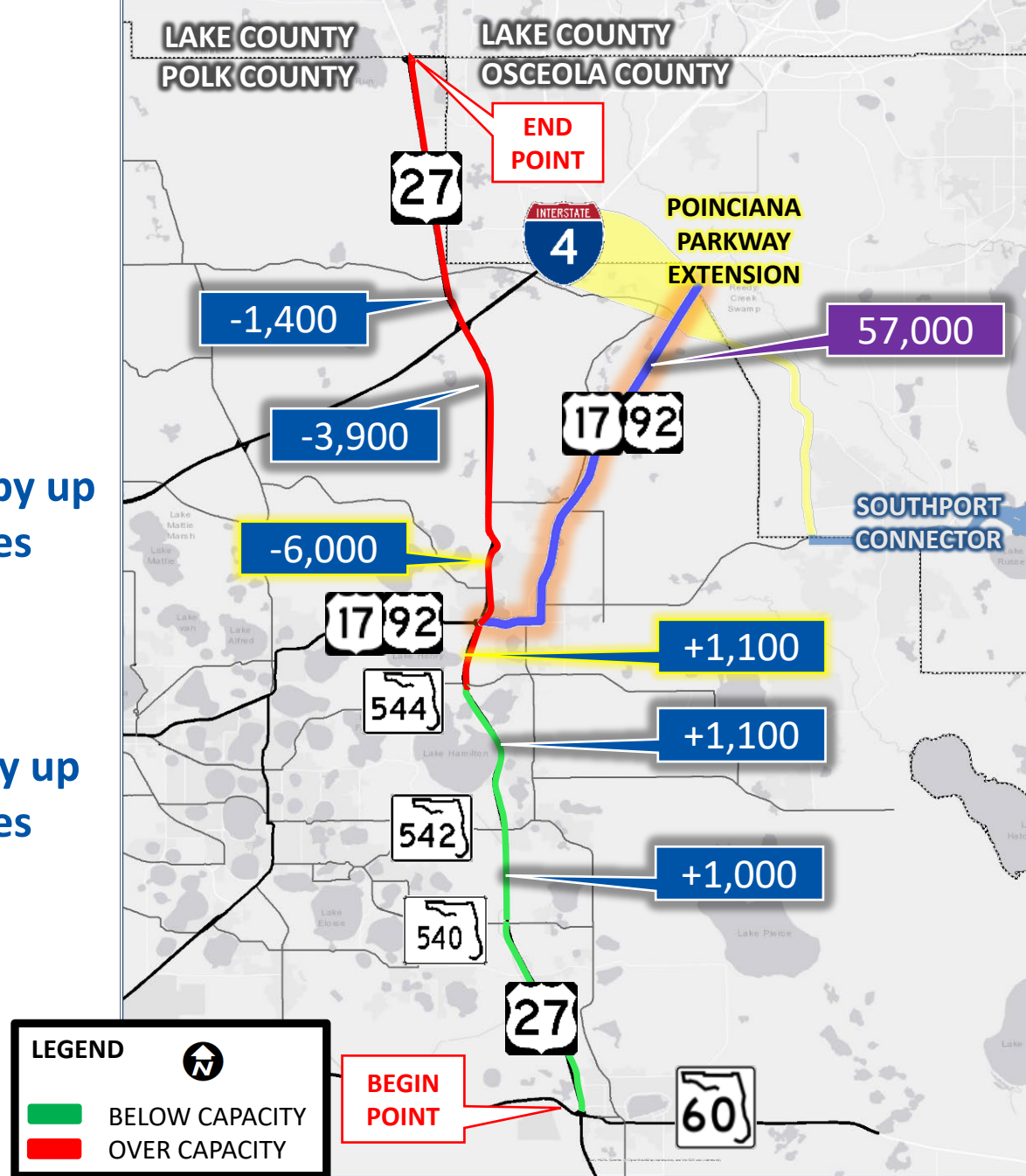
- » Extend CR 547 west & widen to 4-Lane Major Arterial
- » Decreases traffic on US 27 by up to **1,900** future daily vehicles between I-4 and CR 547
- » Increases traffic on US 27 by up to **2,400** future daily vehicles south of CR 547



# Concept J

## US 17/92 Widening

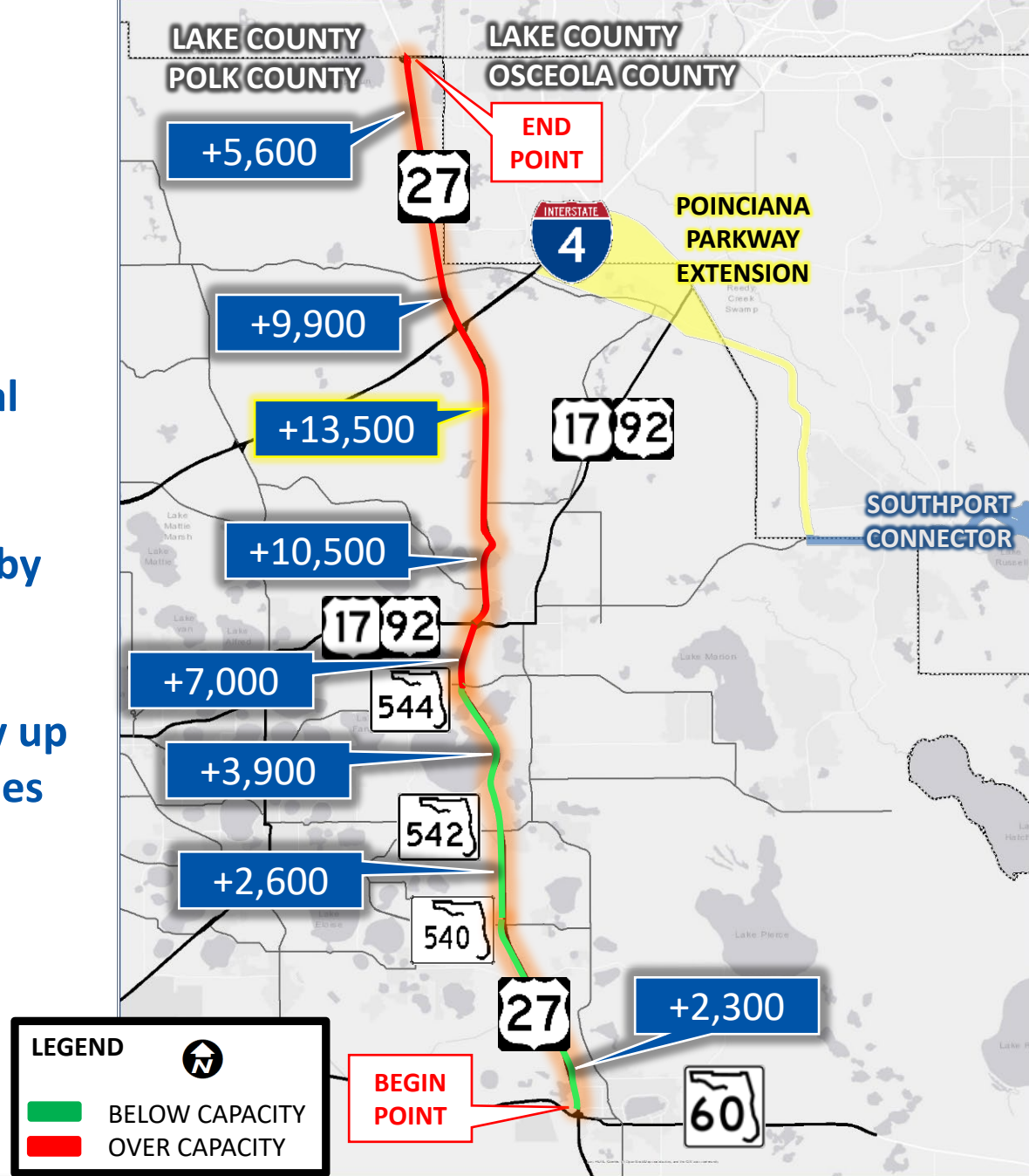
- » Widen to a 4-Lane Major Arterial
- » Decreases traffic on US 27 by up to **6,000** future daily vehicles north of US 17/92
- » Increases traffic on US 27 by up to **1,100** future daily vehicles south of US 17/92



# Concept K

## US 27 Widening

- » Widen to an 8-Lane Principal Arterial
- » Increases capacity of US 27 by 20,200 daily vehicles
- » Increases traffic on US 27 by up to **13,500** future daily vehicles



Concept	Description	Travel on US 27	Travel on Regional Roadways			Freight Traffic	Overall Score
		Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	
		% of US-27 miles with $V/C^{(1)} > 1.0$	# of Study Road miles with $V/C^{(1)} > 1.0$	Vehicle-Hours-Traveled (VHT) Network-wide	Vehicle-Miles-Traveled (VMT) Network-wide	% of Total Freight Route miles with $V/C^{(1)} > 1.0$	
A1	Modified CPP (New 4-lane)						
A2	Modified CPP (New 6-lane)						
B	Powerline Road Extension and Widening						
C	Davenport North-South Connector						
D1	CR 580 / Southport Connector Extension						
D2	Powerline Road Extension with CR 580 / Southport Connector Ext						
E	Modified CPP (New 6-lane) with CR 580 / Southport Connector Ext						
F	US 27 Parallel Backage Roads						
G	North Ridge Trail						
H	Deen Still Rd / Old Grade Rd						
I	CR 547 Extension						
J	US 17/92 Widening						
K	US 27 Widening						

**Criteria 1**

Performance Measure:

% of US 27 miles with Average Annual Daily Traffic (AADT) volume greater than roadway capacity

Desired Result:

Lower % of US 27 that exceeds capacity

Concept	Description	Travel on US 27	Travel on Regional Roadways			Freight Traffic	Overall Score
		Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	
		% of US-27 miles with $V/C^{(1)} > 1.0$	# of Study Road miles with $V/C^{(1)} > 1.0$	Vehicle-Hours-Traveled (VHT) Network-wide	Vehicle-Miles-Traveled (VMT) Network-wide	% of Total Freight Route miles with $V/C^{(1)} > 1.0$	
A1	Modified CPP (New 4-lane)						
A2	Modified CPP (New 6-lane)						
B	Powerline Road Extension and Widening						
C	Davenport North-South Connector						
D1	CR 580 / Southport Connector Extension						
D2	Powerline Road Extension with CR 580 / Southport Connector Ext						
E	Modified CPP (New 6-lane) with CR 580 / Southport Connector Ext						
F	US 27 Parallel Backage Roads						
G	North Ridge Trail						
H	Deen Still Rd / Old Grade Rd						
I	CR 547 Extension						
J	US 17/92 Widening						
K	US 27 Widening						

**Criteria 2**

Performance Measure:

# of all study road miles with AADT volume greater than roadway capacity

Desired Result:

Lower # of miles that exceed capacity

Concept	Description	Travel on US 27	Travel on Regional Roadways			Freight Traffic	Overall Score
		Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	
		% of US-27 miles with $V/C^{(1)} > 1.0$	# of Study Road miles with $V/C^{(1)} > 1.0$	Vehicle-Hours-Traveled (VHT) Network-wide	Vehicle-Miles-Traveled (VMT) Network-wide	% of Total Freight Route miles with $V/C^{(1)} > 1.0$	
A1	Modified CPP (New 4-lane)						
A2	Modified CPP (New 6-lane)						
B	Powerline Road Extension and Widening						
C	Davenport North-South Connector						
D1	CR 580 / Southport Connector Extension						
D2	Powerline Road Extension with CR 580 / Southport Connector Ext						
E	Modified CPP (New 6-lane) with CR 580 / Southport Connector Ext						
F	US 27 Parallel Backage Roads						
G	North Ridge Trail						
H	Deen Still Rd / Old Grade Rd						
I	CR 547 Extension						
J	US 17/92 Widening						
K	US 27 Widening						

**Criteria 3**

Performance Measure:

Vehicle-hours-traveled (VHT) on all study roadways

Desired Result:

Lower VHT



Concept	Description	Travel on US 27	Travel on Regional Roadways			Freight Traffic	Overall Score
		Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	
		% of US-27 miles with $V/C^{(1)} > 1.0$	# of Study Road miles with $V/C^{(1)} > 1.0$	Vehicle-Hours-Traveled (VHT) Network-wide	Vehicle-Miles-Traveled (VMT) Network-wide	% of Total Freight Route miles with $V/C^{(1)} > 1.0$	
A1	Modified CPP (New 4-lane)						
A2	Modified CPP (New 6-lane)						
B	Powerline Road Extension and Widening						
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D1	CR 580 / Southport Connector Extension						
D2	Powerline Road Extension with CR 580 / Southport Connector Ext						
E	Modified CPP (New 6-lane) with CR 580 / Southport Connector Ext						
F	US 27 Parallel Backage Roads						
G	North Ridge Trail						
H	Deen Still Rd / Old Grade Rd						
I	CR 547 Extension						
J	US 17/92 Widening						
K	US 27 Widening						

**Criteria 4**

Performance Measure:

Vehicle-miles-traveled (VMT) on all study roadways

Desired Result:

Higher VMT

Concept	Description	Travel on US 27	Travel on Regional Roadways			Freight Traffic	Overall Score
		Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	
		% of US-27 miles with $V/C^{(1)} > 1.0$	# of Study Road miles with $V/C^{(1)} > 1.0$	Vehicle-Hours-Traveled (VHT) Network-wide	Vehicle-Miles-Traveled (VMT) Network-wide	% of Total Freight Route miles with $V/C^{(1)} > 1.0$	
A1	Modified CPP (New 4-lane)						
A2	Modified CPP (New 6-lane)						
B	Powerline Road Extension and Widening						
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D1	CR 580 / Southport Connector Extension						
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E	Modified CPP (New 6-lane) with CR 580 / Southport Connector Ext						
F	US 27 Parallel Backage Roads						
G	North Ridge Trail						
H	Deen Still Rd / Old Grade Rd						
I	CR 547 Extension						
J	US 17/92 Widening						
K	US 27 Widening						

**Criteria 5**

Performance Measure:

% of total freight route miles with AADT volume greater than roadway capacity

Desired Result:

Lower % of freight miles that exceed capacity

Concept	Description	Travel on US 27	Travel on Regional Roadways				Freight Traffic	Overall Score
		Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5		
		% of US-27 miles with V/C <sup>(1)</sup> > 1.0	# of Study Road miles with V/C <sup>(1)</sup> > 1.0	Vehicle-Hours-Traveled (VHT) Network-wide	Vehicle-Miles-Traveled (VMT) Network-wide	% of Total Freight Route miles with V/C <sup>(1)</sup> > 1.0		
A1	Modified CPP (New 4-lane)	<div><div></div></div> 5	<div><div></div></div> 10	<div><div></div></div> 5	<div><div></div></div> 1	<div><div></div></div> 7	<div><div></div></div> 28	
A2	Modified CPP (New 6-lane)	<div><div></div></div> 5	<div><div></div></div> 9	<div><div></div></div> 7	<div><div></div></div> 2	<div><div></div></div> 7	<div><div></div></div> 30	
B	Powerline Road Extension and Widening	<div><div></div></div> 5	<div><div></div></div> 3	<div><div></div></div> 8	<div><div></div></div> 4	<div><div></div></div> 3	<div><div></div></div> 23	
C	Davenport North-South Connector	<div><div></div></div> 0	<div><div></div></div> 0	<div><div></div></div> 2	<div><div></div></div> 2	<div><div></div></div> 4	<div><div></div></div> 8	
D1	CR 580 / Southport Connector Extension	<div><div></div></div> -1	<div><div></div></div> -4	<div><div></div></div> 1	<div><div></div></div> 3	<div><div></div></div> -4	<div><div></div></div> -5	
D2	Powerline Road Extension with CR 580 / Southport Connector Ext	<div><div></div></div> 5	<div><div></div></div> 4	<div><div></div></div> 10	<div><div></div></div> 10	<div><div></div></div> 4	<div><div></div></div> 33	
E	Modified CPP (New 6-lane) with CR 580 / Southport Connector Ext	<div><div></div></div> 5	<div><div></div></div> 10	<div><div></div></div> 7	<div><div></div></div> 3	<div><div></div></div> 7	<div><div></div></div> 32	
F	US 27 Parallel Backage Roads	<div><div></div></div> 3	<div><div></div></div> 0	<div><div></div></div> 3	<div><div></div></div> 2	<div><div></div></div> -2	<div><div></div></div> 6	
G	North Ridge Trail	<div><div></div></div> 3	<div><div></div></div> 0	<div><div></div></div> 1	<div><div></div></div> 1	<div><div></div></div> 1	<div><div></div></div> 6	
H	Deen Still Rd / Old Grade Rd	<div><div></div></div> 0	<div><div></div></div> 1	<div><div></div></div> 2	<div><div></div></div> 1	<div><div></div></div> 1	<div><div></div></div> 5	
I	CR 547 Extension	<div><div></div></div> 0	<div><div></div></div> -1	<div><div></div></div> 2	<div><div></div></div> 2	<div><div></div></div> -1	<div><div></div></div> 2	
J	US 17/92 Widening	<div><div></div></div> -2	<div><div></div></div> 3	<div><div></div></div> 6	<div><div></div></div> 1	<div><div></div></div> 0	<div><div></div></div> 8	
K	US 27 Widening	<div><div></div></div> -10	<div><div></div></div> 0	<div><div></div></div> 2	<div><div></div></div> 3	<div><div></div></div> -1	<div><div></div></div> -6	

Concept	Description	Travel on US 27		Travel on Regional Roadways				Freight Traffic		Overall Score			
		Criteria 1		Criteria 2		Criteria 3		Criteria 4			Criteria 5		
		% of US-27 miles with V/C <sup>(1)</sup> > 1.0		# of Study Road miles with V/C <sup>(1)</sup> > 1.0		Vehicle-Hours-Traveled (VHT) Network-wide		Vehicle-Miles-Traveled (VMT) Network-wide			% of Total Freight Route miles with V/C <sup>(1)</sup> > 1.0		
D2	Powerline Road Extension with CR 580 / Southport Connector Ext	<div><div></div></div>	5	<div><div></div></div>	4	<div><div></div></div>	10	<div><div></div></div>	10	<div><div></div></div>	4	<div><div></div></div>	33
E	Modified CPP (New 6-lane) with CR 580 / Southport Connector Ext	<div><div></div></div>	5	<div><div></div></div>	10	<div><div></div></div>	7	<div><div></div></div>	3	<div><div></div></div>	7	<div><div></div></div>	32
A2	Modified CPP (New 6-lane)	<div><div></div></div>	5	<div><div></div></div>	9	<div><div></div></div>	7	<div><div></div></div>	2	<div><div></div></div>	7	<div><div></div></div>	30
A1	Modified CPP (New 4-lane)	<div><div></div></div>	5	<div><div></div></div>	10	<div><div></div></div>	5	<div><div></div></div>	1	<div><div></div></div>	7	<div><div></div></div>	28
B	Powerline Road Extension and Widening	<div><div></div></div>	5	<div><div></div></div>	3	<div><div></div></div>	8	<div><div></div></div>	4	<div><div></div></div>	3	<div><div></div></div>	23
C	Davenport North-South Connector	<div><div></div></div>	0	<div><div></div></div>	0	<div><div></div></div>	2	<div><div></div></div>	2	<div><div></div></div>	4	<div><div></div></div>	8
J	US 17/92 Widening	<div><div></div></div>	-2	<div><div></div></div>	3	<div><div></div></div>	6	<div><div></div></div>	1	<div><div></div></div>	0	<div><div></div></div>	8
G	North Ridge Trail	<div><div></div></div>	3	<div><div></div></div>	0	<div><div></div></div>	1	<div><div></div></div>	1	<div><div></div></div>	1	<div><div></div></div>	6
F	US 27 Parallel Backage Roads	<div><div></div></div>	3	<div><div></div></div>	0	<div><div></div></div>	3	<div><div></div></div>	2	<div><div></div></div>	-2	<div><div></div></div>	6
H	Deen Still Rd / Old Grade Rd	<div><div></div></div>	0	<div><div></div></div>	1	<div><div></div></div>	2	<div><div></div></div>	1	<div><div></div></div>	1	<div><div></div></div>	5
I	CR 547 Extension	<div><div></div></div>	0	<div><div></div></div>	-1	<div><div></div></div>	2	<div><div></div></div>	2	<div><div></div></div>	-1	<div><div></div></div>	2
D1	CR 580 / Southport Connector Extension	<div><div></div></div>	-1	<div><div></div></div>	-4	<div><div></div></div>	1	<div><div></div></div>	3	<div><div></div></div>	-4	<div><div></div></div>	-5
K	US 27 Widening	<div><div></div></div>	-10	<div><div></div></div>	0	<div><div></div></div>	2	<div><div></div></div>	3	<div><div></div></div>	-1	<div><div></div></div>	-6

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- 1) Introductions
- 2) Study Status
- 3) Short Term Recommendations
- 4) Online Public Survey
- 5) Travel Demand Modeling Results
- 6) Recommendations & Next Steps**



# Recommendations

## » Discuss and Compare Results

1) Eliminate Concepts 

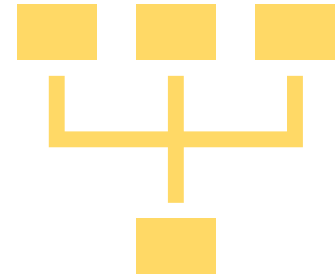
2) Combine Concepts 

3) Recommend Concepts for Tier Two evaluation



# Next Steps

- » **Tier Two evaluation of recommended concepts**
- » **Recommend improvements On US 27**





# Wrap Up

» **Recap**

» **Adjourn Meeting**



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<http://swflroads.com/us27/mobilitystudy/>