



# **Regional Transit Feasibility Plan**

A ROUTE MAP TO IMPLEMENTATION

1

What is the project to be built?



(Emphasis of the Regional  
Transit Feasibility Plan)

2

How is it funded?

3

Who is responsible for building and  
maintaining it?

# Traveling to Our Regional Centers in 2040...

Source: Adopted MPO Long Range Transportation Plans (Hillsborough, Pasco, and Pinellas)



**51%**

**More Miles Traveled**

Cost Feasible in Long Range Plans



**219%**

**Increase in Delay Due to Congestion**

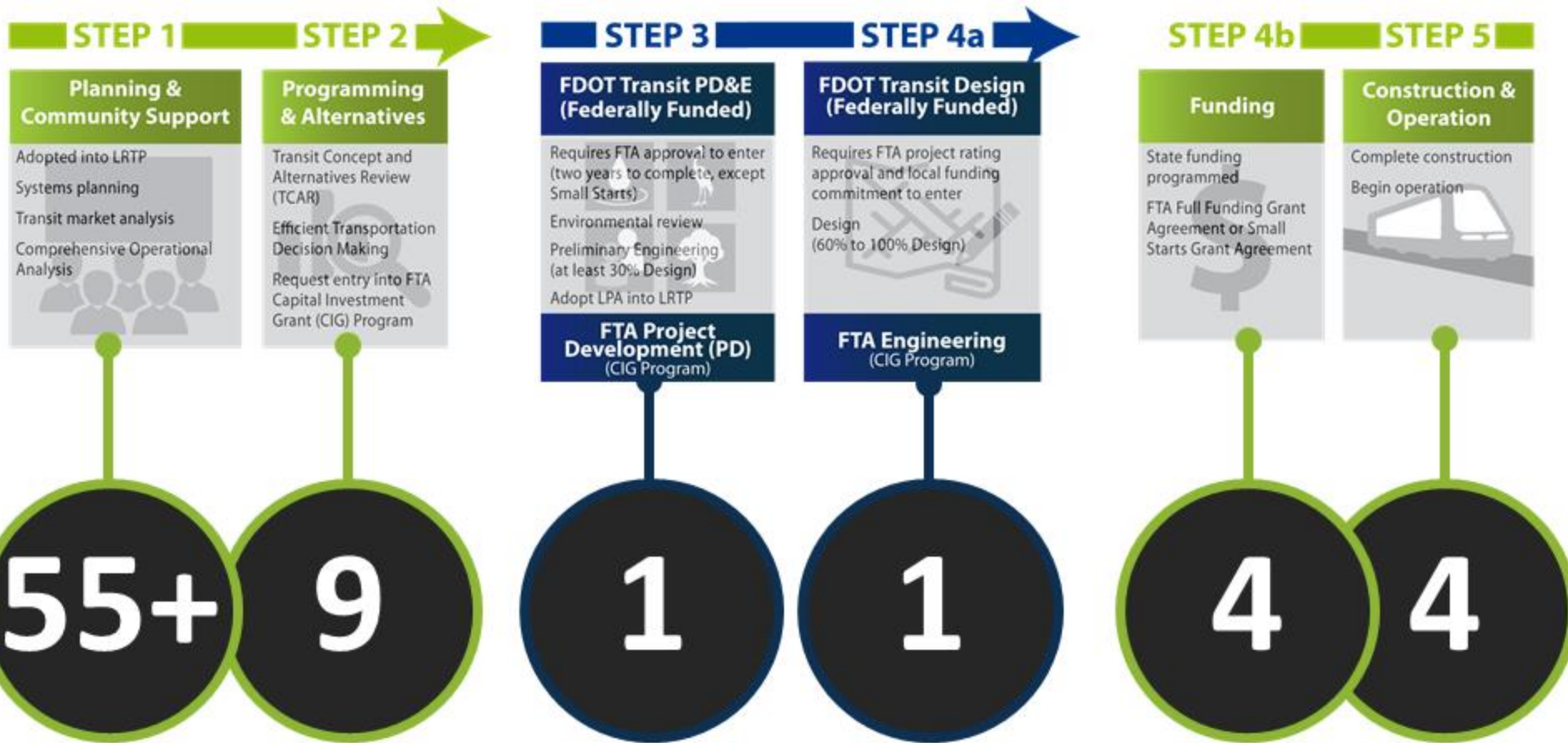
Cost Feasible in Long Range Plans



**19%**

**More Miles of New Lanes**

Cost Feasible in Long Range Plans



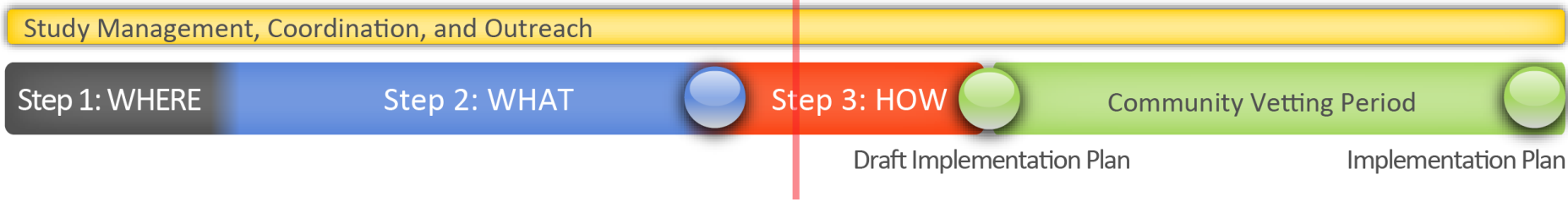
Number of Projects Over the Past 30+ Years in Tampa Bay





# Purpose of the Plan

- ✓ Projects that have the greatest potential to be funded (compete for state and federal grants) and implemented
- ✓ Projects that are the most forward thinking and make the best use of today's technology
- ✓ Projects that best serve our region today while supporting tomorrow's growth



- 90+** Presentations/meetings
- 600+** Participants
- 7,000+** Website visits
- 500+** Social media posts
- 14+** New Articles
- 450+** Comments Received

# WHAT WE'VE HEARD

“Rail has left the station, focus on rubber tire”

“Stop talking, start building”

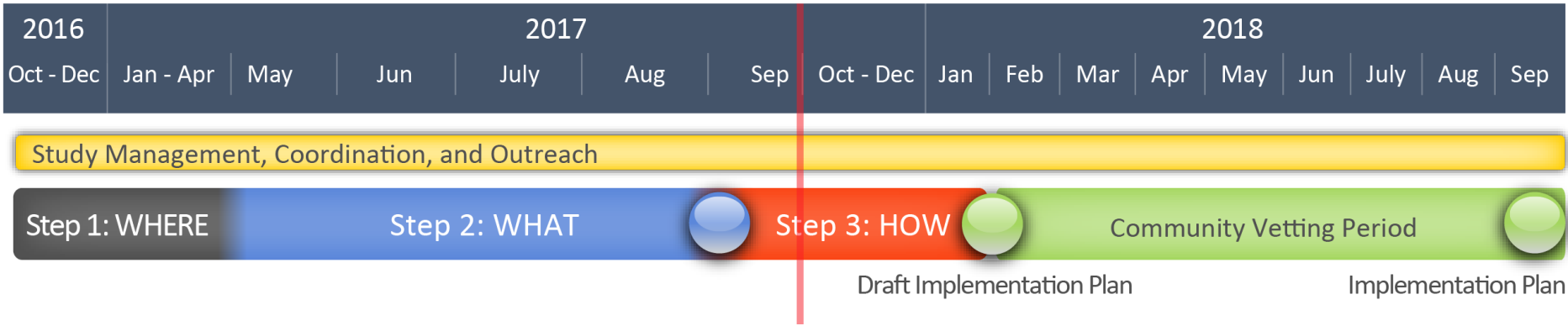
“Autonomous vehicles are a no brainer”

“Focus on land use and economic growth”

“Need frequent rail transit”

“Use CSX”

“Need a connection to the airport”



- ✔ Data collection and plans review
- ✔ Travel market and purpose and need
- ✔ **Step 1 evaluation**
- ✔ Ridership forecasting
- ✔ Operating plans
- ✔ Station locations
- ✔ Transit mode assignment
- ✔ **Step 2 evaluation** and return on investment



**STEP 1: WHERE ARE THE TOP PERFORMING CONNECTIONS?**

**STEP 2: WHAT ARE THE BEST PROJECTS?**

**STEP 3: HOW AND WHEN ARE PROJECTS BUILT?**

# Purpose of the Plan



Projects that have the greatest potential to be funded (compete for federal grants) and implemented

## Step One Evaluation Criteria

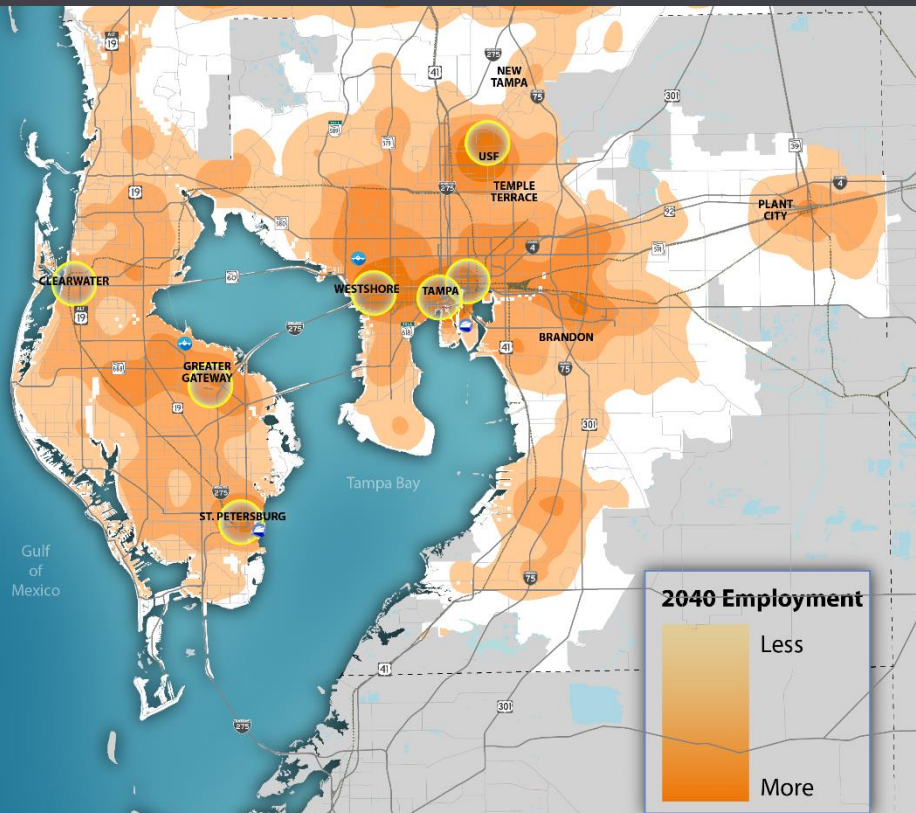
- Most studied
- **Activity centers served**
- **Trips to activity centers**
- **Jobs and population per mile**
- Resiliency
- Amenities
- **Transit Oriented Development (TOD) policies and Community Reinvestment Areas (CRAs) served**

# Purpose of the Plan

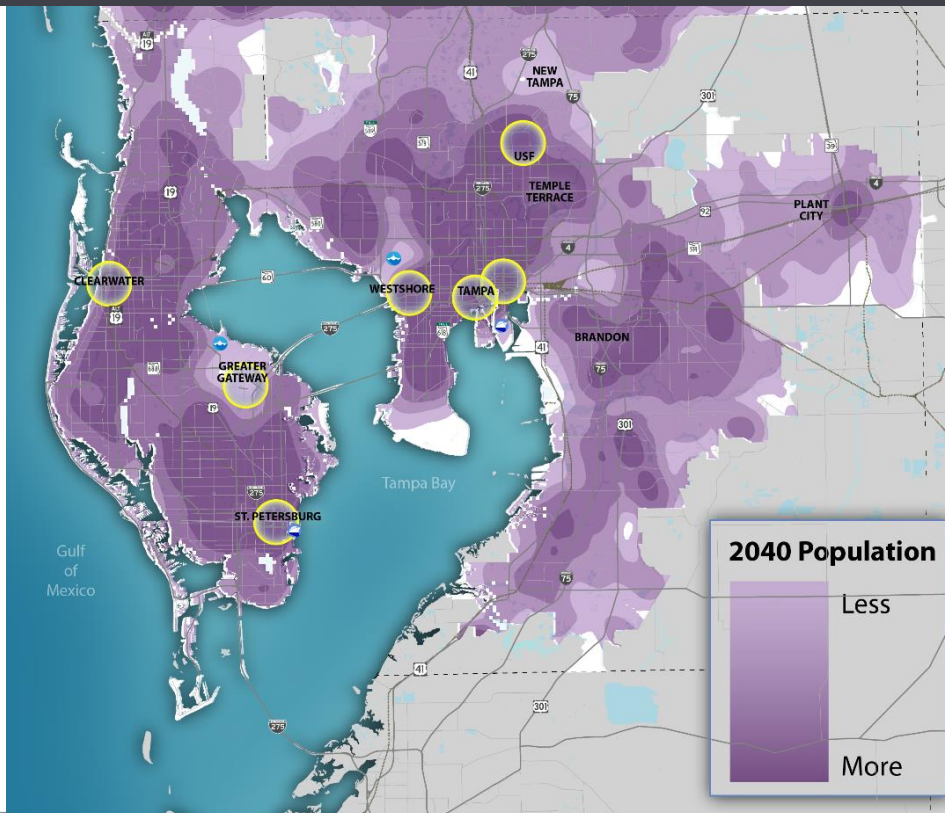


Projects that best serve our region today while supporting tomorrow's growth

## Job Centers

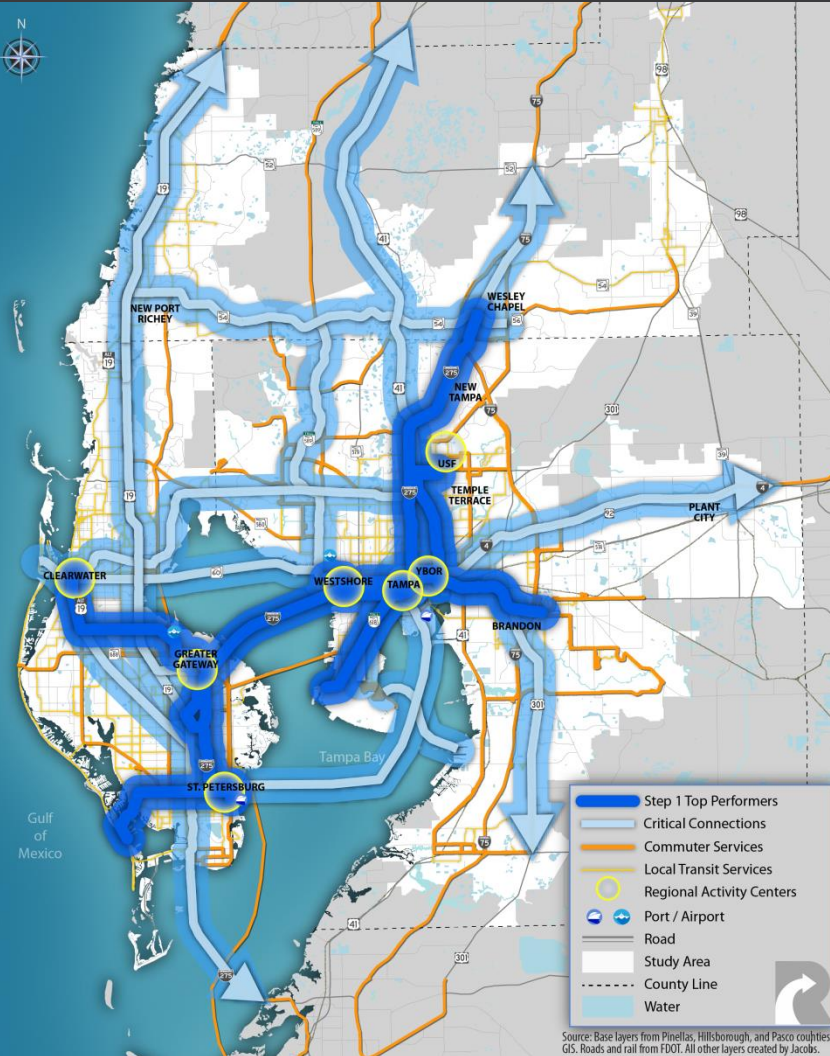


## Population Centers



# REGIONAL TRANSIT VISION

THE TOP PERFORMERS AND CRITICAL REGIONAL CONNECTION WOULD SERVE THE FOLLOWING WITHIN 1/2 MILE OF EACH CONNECTION BY 2040



Source: Base layers from Pinellas, Hillsborough, and Pasco counties GIS. Roads and rail from FDOT. All other layers created by Jacobs.



SERVES APPROX.  
**6 IN 10**  
JOBS (2040)

SERVES APPROX.  
**5 IN 10**  
RESIDENTS (2040)



SERVES APPROX. **2,100**  
JOBS PER MILE (2040)

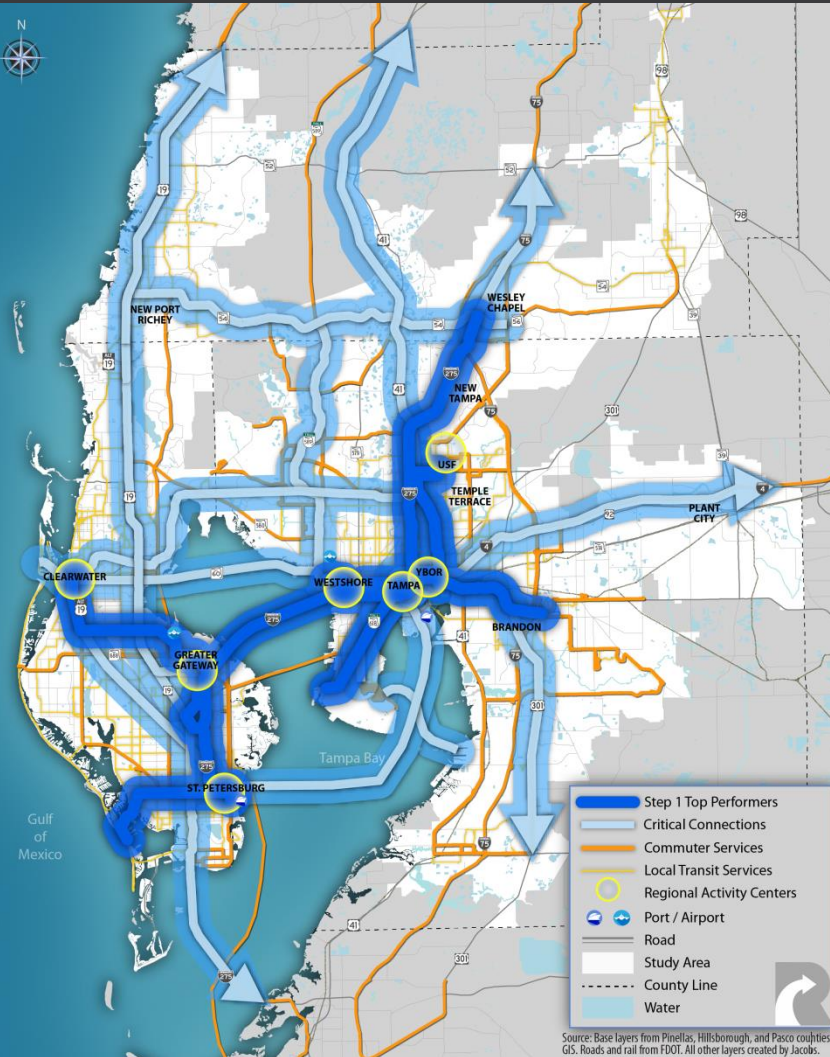
SERVES APPROX. **3,000**  
RESIDENTS PER MILE (2040)



SERVES APPROX.  
**6 IN 10**  
RESIDENTS WITHOUT CARS  
(2040)



# REGIONAL TRANSIT VISION



● Vision for Tampa Bay region and for all stakeholders

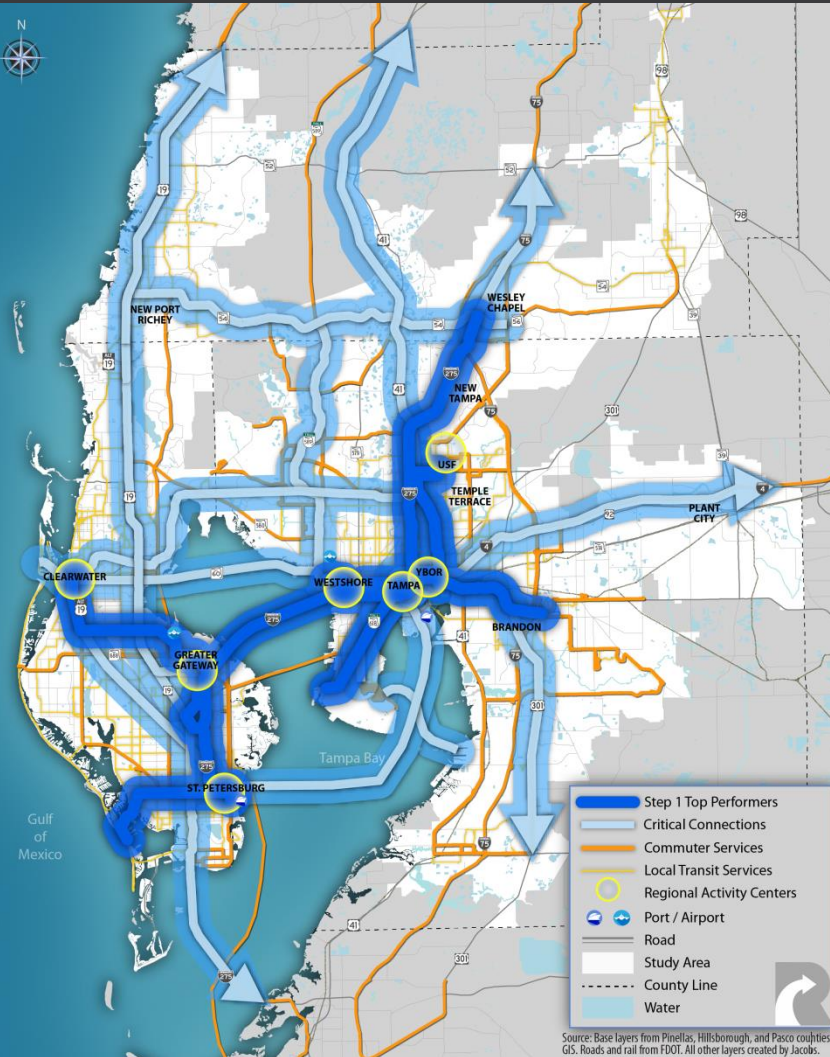
*“What about a connection on Gandy”*

*“Have to connect urban centers”*

*“St. Pete to Tampa is where we live and work”*



# REGIONAL TRANSIT VISION



## REGIONAL TRANSIT VISION

Top Performing Connections

Top Performing Projects

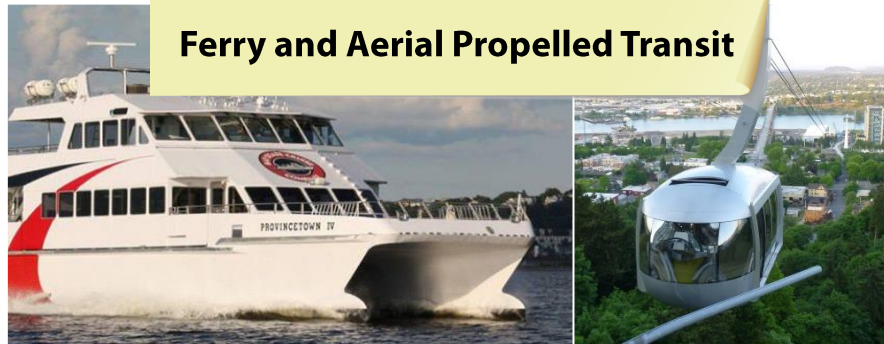
Implementation Plan

# CHOOSING MODES

Understanding the travel needs of riders along and near each of the top connections illustrates which modes best serve that need, such as:

- Capacity
- Average Trip Distance
- Type of Work Trips
- Population Characteristics

## Ferry and Aerial Propelled Transit



## Steel Wheel or Rail Transit

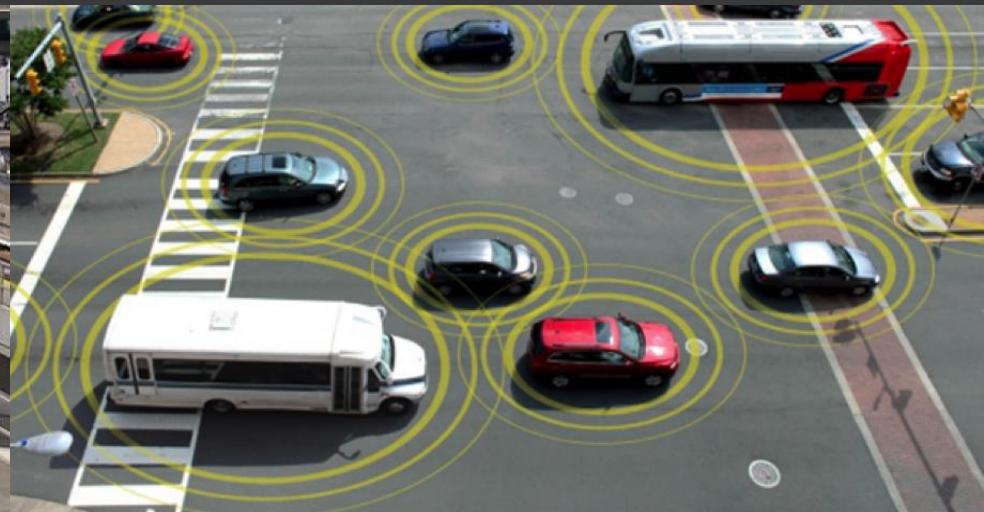


## Rubber Tire Rapid Transit



# EMERGING AUTONOMOUS SOLUTIONS

- ✓ Projects that have the greatest potential to be funded (compete for state & federal grants) and implemented
- ✓ **PROJECTS THAT ARE THE MOST FORWARD THINKING AND MAKE THE BEST USE OF TODAY'S TECHNOLOGY**
- ✓ Projects that best serve our region today while supporting tomorrow's growth



## Autonomous Solutions

- Rail
- Rubber Tire



# EMERGING AUTONOMOUS SOLUTIONS

**NAVYA ARMA SHUTTLE** Operating in Switzerland and France



**EASYMILE** Operating in the Netherlands, Australia, Singapore



**MITSUBISHI** Delivered to Tampa International Airport



**2GETTHERE** Operating in Netherlands



# EMERGING AUTONOMOUS SOLUTIONS

CREDIT: CHARACTERISTICS PROVIDED BY MANUFACTURER WEBSITES

<u>MANUFACTURER</u>	<u>HEADQUARTERS</u>	<u>TOP SPEED/PASSENGERS</u>
NAVYA	Paris France	25 MPH / 12 Passengers Per Vehicle
EASY MILE	Toulouse France	28 MPH / 15 Passengers Per Vehicle
AURO ROBOTICS	California	25 MPH / 12 Passengers Per Vehicle
2GETTHERE	Netherlands	38 MPH / 16 Passengers Per Vehicle
LOCAL MOTORS	Chandler Arizona	25 MPH / 8 Passengers Per Vehicle
ULTRA GLOBAL	Bristol UK	25 MPH / 8 Passengers Per Vehicle

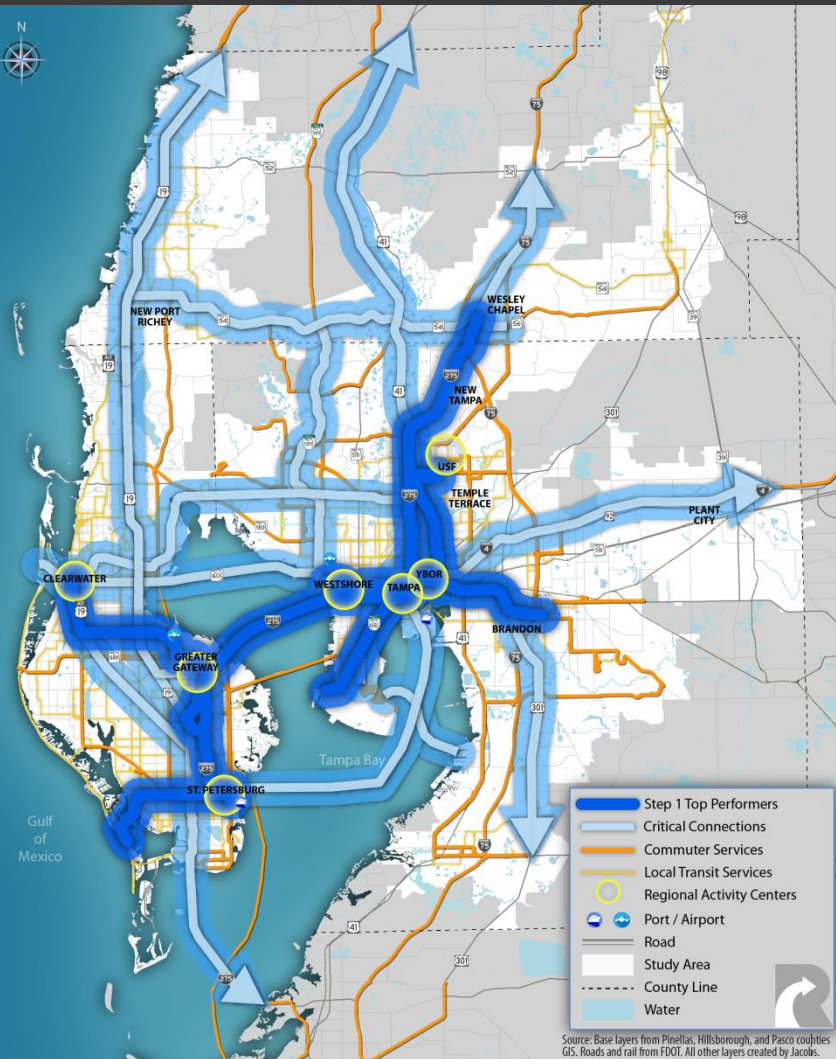


Most applications operate in a mixed travel environment

**CAN IT GO FASTER IN A DEDICATED LANE?**



# REGIONAL TRANSIT VISION



Source: Base layers from Pinellas, Hillsborough, and Pasco counties GIS. Roads and rail from FDOT. All other layers created by Jacobs.

## REGIONAL TRANSIT VISION

Top Performing Connections

Top Performing Projects

Implementation Plan

# STEP 2 “WHAT”: TOP PERFORMING PROJECTS

65+ connections

5 connections

15 projects

3 projects

3 projects

3 projects in order

## PRELIMINARY FTA RATING

Mobility, environmental benefits, congestion relief, cost effectiveness, and land use

## RETURN ON INVESTMENT

Annual crash reduction cost, farebox, energy savings, greenhouse gas and air quality, increased revenue compared to annual capital and operating costs

## IMPACTS

Utility, noise, natural, and cultural resource impacts

## BENEFITS

Serves employment and population growth (2040), elderly, low income, and minority populations

## PUBLIC OPINION

Workshops and website survey

Compete for state and federal grants

Best serves our region today while supporting tomorrow's growth



# STEP 2 “WHAT”: TOP PERFORMING PROJECTS

65+ connections

5 connections

15 projects

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3 projects in order

## ALL PROJECTS COMPARED TO EACH OTHER

Performance of all projects are compared to each other to define best performing

## PROJECTS DIVIDED INTO QUINTILES

Range of project performance divided into 5 statistical quintiles

## MAX SCORE OF 5

Each quintile is given a score of 1 through 5, with the highest performing receiving a score of 5

SCORE KEY <small>(BEST PERFORMANCE RECEIVES A SCORE OF 5)</small>	PRELIMINARY FTA RATING	RETURN ON INVESTMENT <small>(FOR EVERY DOLLAR SPENT)</small>	IMPACTS				REGIONAL COMMUNITY BENEFITS	
			UTILITY CONFLICTS PER MILE	NOISE IMPACTS PER MILE	% OF ALTERNATIVE WITH NATURAL RESOURCES PRESENT	CULTURAL RESOURCE CONFLICTS PER MILE	2040 JOBS SERVED/ 2040 POPULATION DENSITY <small>(PER SQUARE MILE)</small>	PERCENTAGE OF STATIONS THAT SERVE LOW INCOME, MINORITY, OR ELDERLY POPULATIONS
<b>5</b>	3.04 – 3.27	\$5.49 – \$6.27	0.00 – 1.15	0.0 – 20.6	0.0 – 10.1	0.0 – 69.6	239K/12K – 266K/14K	91 – 100
<b>4</b>	2.80 – 3.03	\$4.70 – \$5.48	1.16 – 1.48	20.7 – 32.7	10.2 – 14.2	69.7 – 82.8	211K/10K – 265K/13K	81 – 90
<b>3</b>	2.57 – 2.79	\$3.91 – \$4.79	1.49 – 1.87	32.8 – 48.7	14.3 – 18.0	82.9 – 99.1	184K/8K – 210K/9K	71 – 81
<b>2</b>	2.33 – 2.56	\$3.12 – \$3.90	1.88 – 2.38	48.8 – 59.6	18.1 – 21.3	99.2 – 120.4	156K/6K – 184K/8K	61 – 71
<b>1</b>	2.13 – 2.32	\$2.33 – \$3.11	2.39 – 3.18	59.7 – 108.8	21.6 – 26.3	120.5 – 126.9	129K/4K – 156K/6K	55 – 61

THRESHOLDS FOR EACH SCORE ARE DETERMINED BY THE RANGE OF RESULTS OF ALL ALTERNATIVES.

# STEP 2 PROJECTS: TECHNICAL RANKING

Rank	Connection	Mode
<b>1</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Exclusive Lane
<b>1</b>	(CSX North) Downtown Tampa to USF	Rubber Tire in Exclusive Lane
<b>3</b>	(CSX North) Downtown Tampa to USF	Light Rail
<b>4</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Light Rail
<b>5</b>	Westshore to Brandon	Rubber Tire in Exclusive Lane
<b>6</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Toll Lanes
<b>6</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Commuter Rail
<b>6</b>	(CSX North) Downtown Tampa to USF	Commuter Rail
<b>9</b>	Westshore to Brandon	Light Rail
<b>10</b>	(CSX South) South Tampa to Downtown Tampa	Light Rail
<b>11</b>	Clearwater, Gateway, St. Petersburg	Rubber Tire in Exclusive Lane
<b>12</b>	Clearwater, Gateway, St. Petersburg	Light Rail
<b>13</b>	Westshore to Brandon	Commuter Rail
<b>13</b>	(CSX South) South Tampa to Downtown Tampa	Rubber Tire in Exclusive Lane
<b>13</b>	(CSX South) South Tampa to Downtown Tampa	Elevated Rail

# STEP 2 PROJECTS: PUBLIC OPINION RANKING

Rank	Connection	Mode
<b>1</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Light Rail
<b>2</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Exclusive Lane
<b>3</b>	(CSX North) Downtown Tampa to USF	Light Rail
<b>4</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Commuter Rail
<b>5</b>	Clearwater, Gateway, St. Petersburg	Light Rail
<b>6</b>	(CSX South) South Tampa to Downtown Tampa	Light Rail
<b>7</b>	Westshore to Brandon	Light Rail
<b>8</b>	(CSX North) Downtown Tampa to USF	Commuter Rail
<b>9</b>	(CSX North) Downtown Tampa to USF	Rubber Tire in Exclusive Lane
<b>10</b>	Westshore to Brandon	Rubber Tire in Exclusive Lane
<b>11</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Toll Lane
<b>12</b>	Clearwater, Gateway, St. Petersburg	Rubber Tire in Exclusive Lane
<b>13</b>	Westshore to Brandon	Commuter Rail
<b>14</b>	(CSX South) South Tampa to Downtown Tampa	Rubber Tire in Exclusive Lane
<b>15</b>	(CSX South) South Tampa to Downtown Tampa	Elevated Rail



# STEP 2 PROJECTS: PRELIMINARY RANKING

Rank	Connection	Mode
<b>1</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Light Rail
<b>2</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Exclusive Lane
<b>3</b>	(CSX North) Downtown Tampa to USF	Light Rail
<b>4</b>	(CSX North) Downtown Tampa to USF	Rubber Tire in Exclusive Lane
<b>5</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Commuter Rail
<b>5</b>	(CSX North) Downtown Tampa to USF	Commuter Rail
<b>7</b>	Westshore to Brandon	Rubber Tire in Exclusive Lane
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<b>9</b>	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Toll Lane
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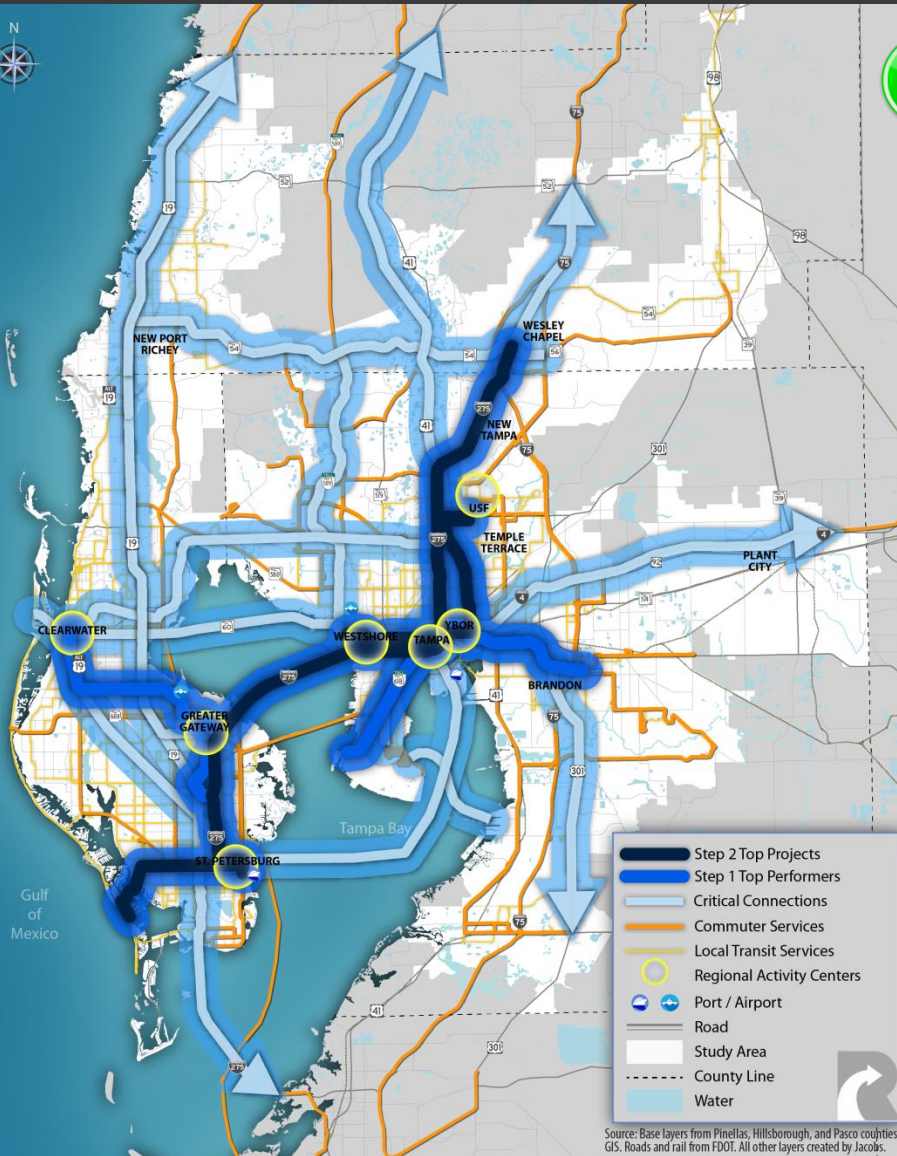
# STEP 2 RESULTS: TOP PERFORMING PROJECTS



Projects that have the greatest potential to be funded (compete for state and federal grants)

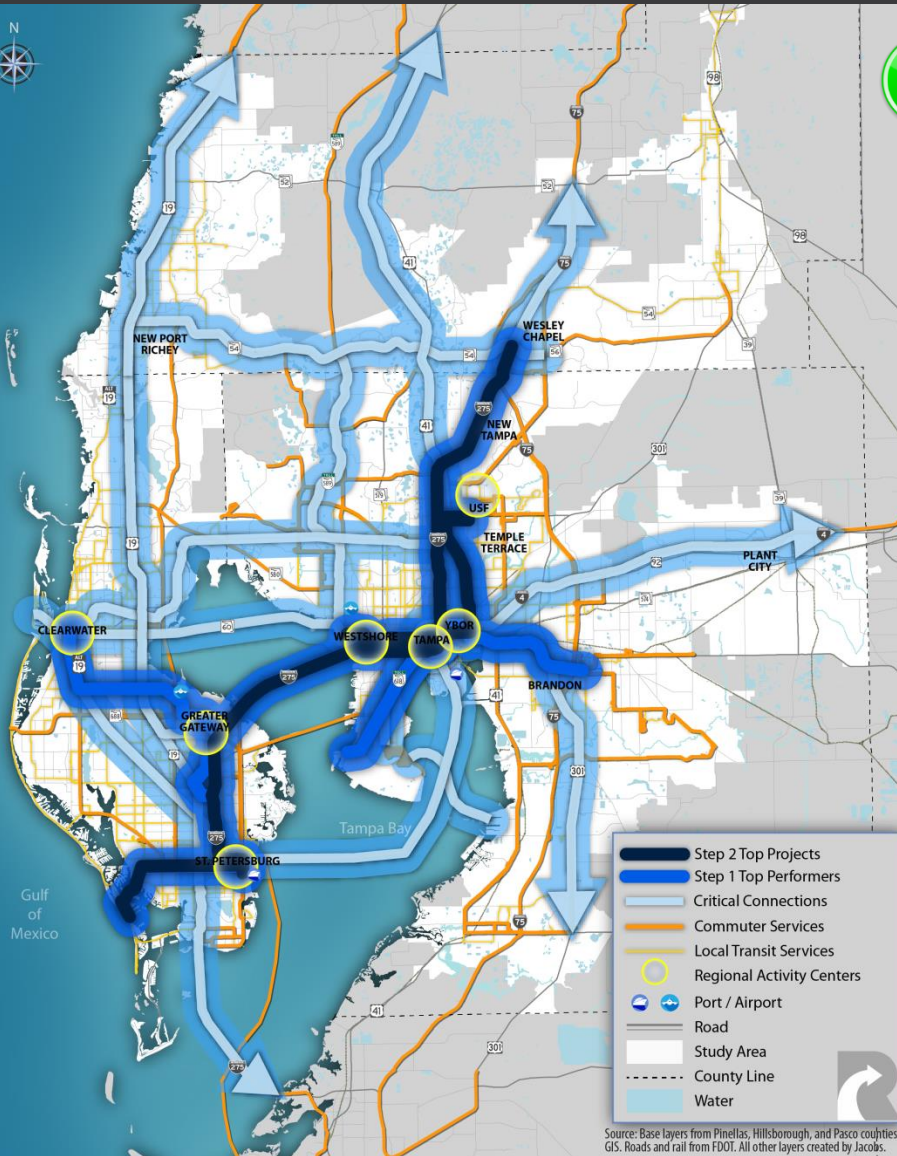
## Preliminary **Medium** FTA Rating:

- (I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg
- (CSX North) Downtown Tampa to USF



STEP 2 PRELIMINARY RESULTS

# STEP 2 RESULTS: TOP PERFORMING PROJECTS



Projects that are the most forward thinking and make the best use of today's technology

## Technology:

- All recommendations should consider infrastructure improvements that support autonomy and advanced communication systems



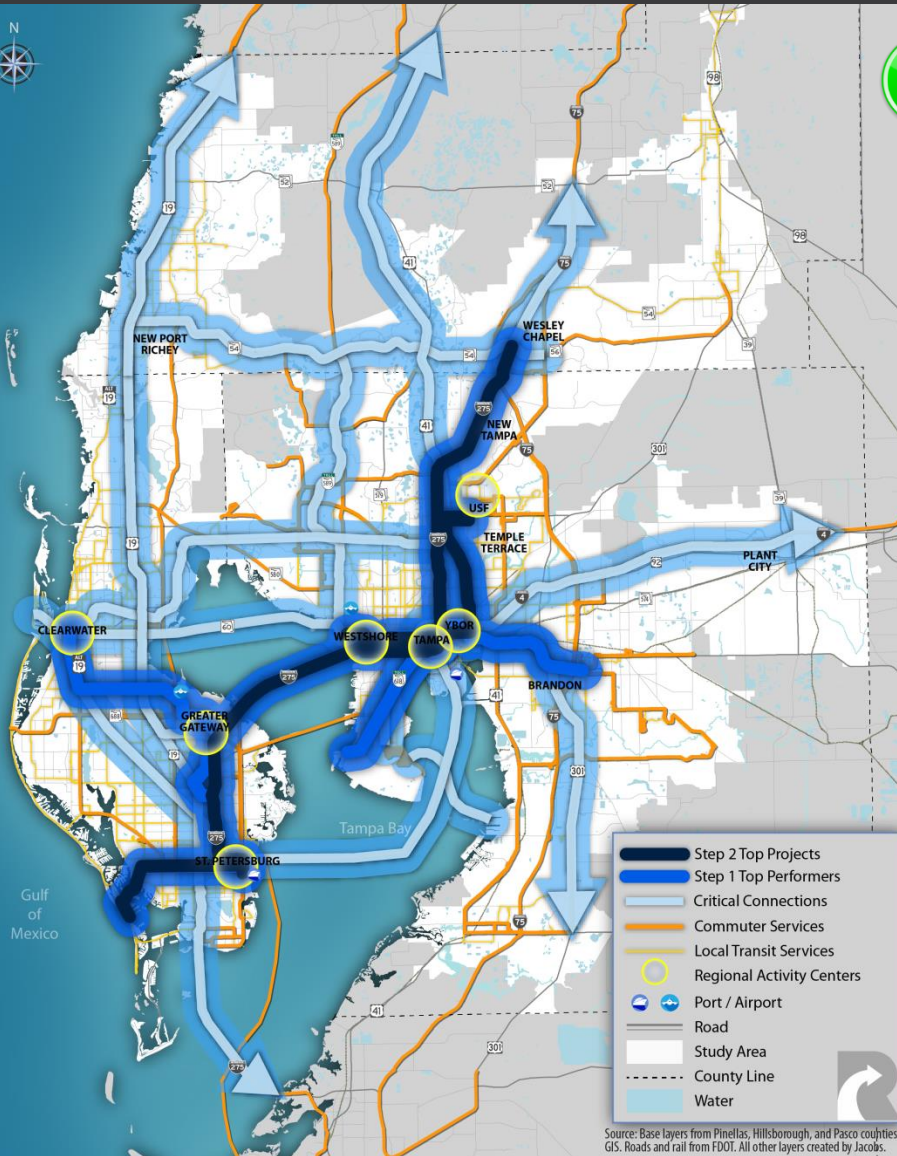
# STEP 2 RESULTS: TOP PERFORMING PROJECTS



Projects that best serve our region today while supporting tomorrow's growth

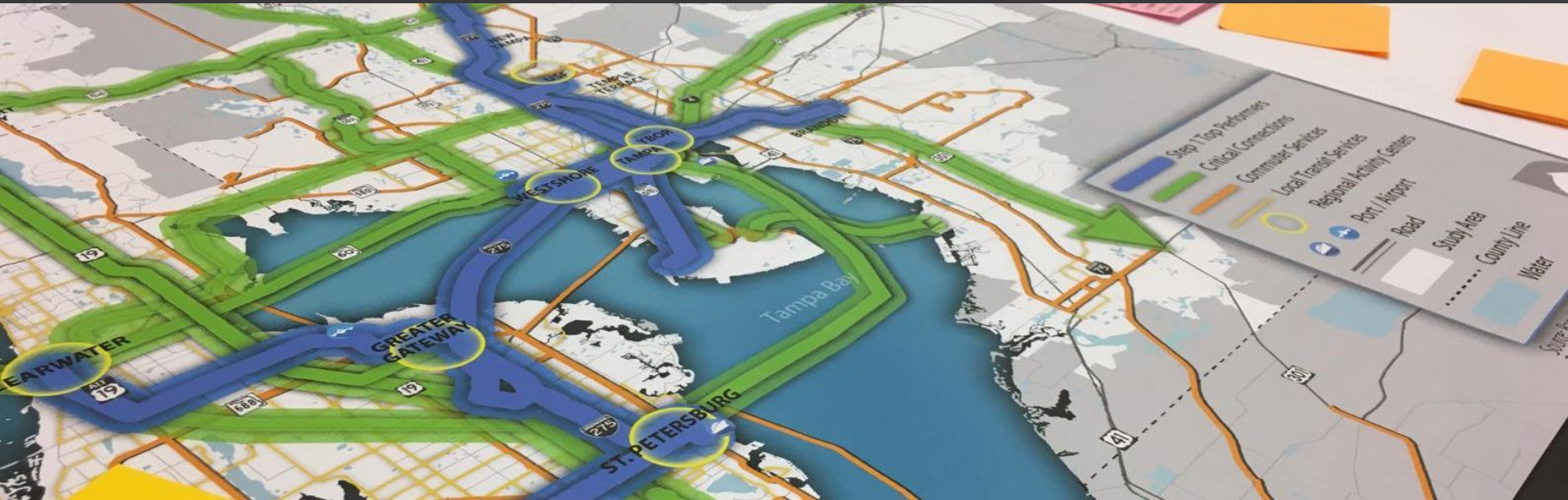
**Projects that provide the greatest community benefits:**

- Wesley Chapel, USF, Tampa, Gateway, St. Petersburg
- Downtown Tampa to USF



Source: Base layers from Pinellas, Hillsborough, and Pasco counties GIS. Roads and rail from FDOT. All other layers created by Jacobs.

# NEXT STEPS



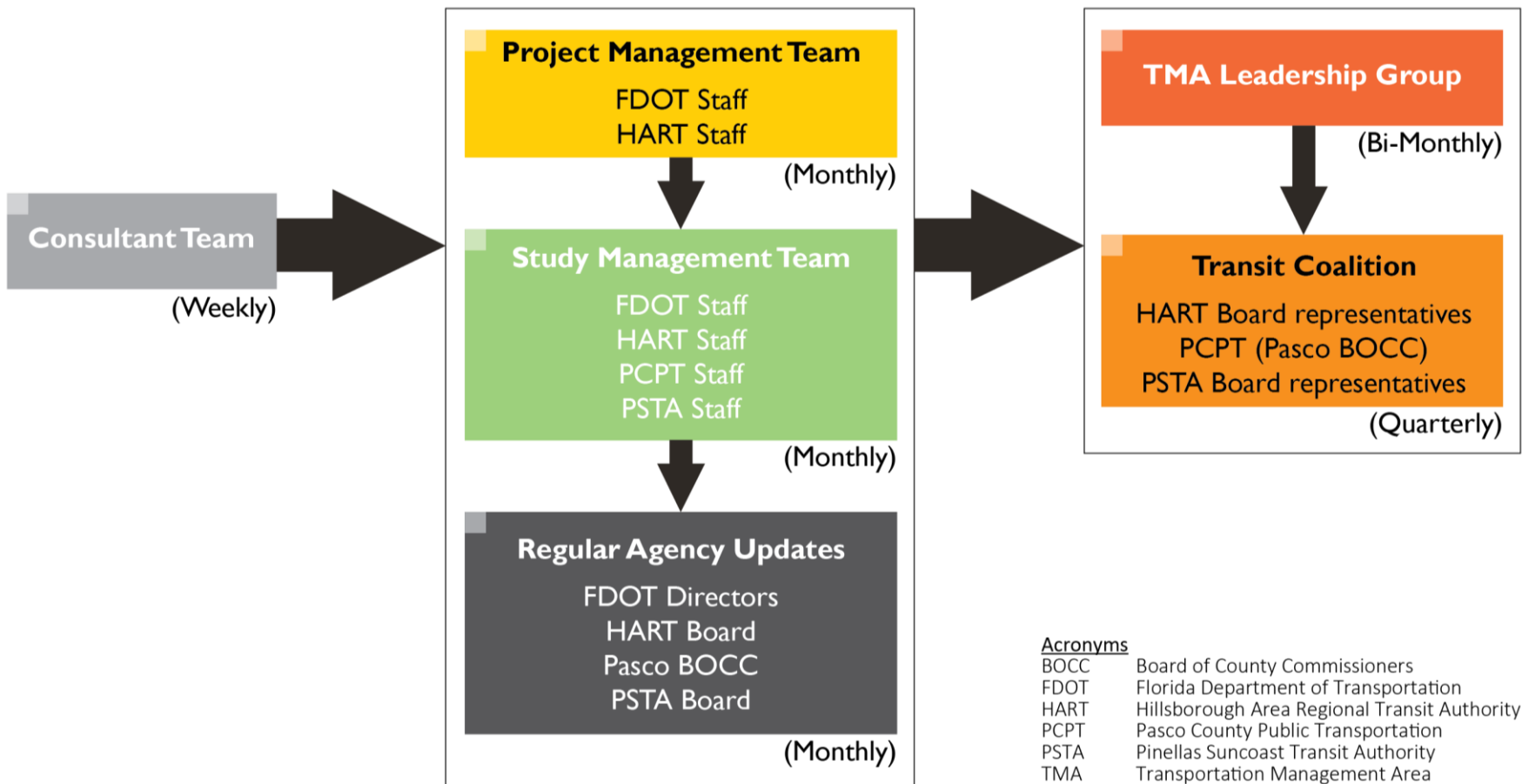
- Alignments
- Value Engineering (revisiting performance)
- Phasing
- Prioritizing for implementation





# **Regional Transit Feasibility Plan**

A ROUTE MAP TO IMPLEMENTATION



# STEP 2 PROJECTS: PUBLIC OPINION BY COUNTY

## Pasco County

Rank	Connection	Mode
1	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Exclusive Lane
2	(CSX North) Downtown Tampa to USF	Commuter Rail
3	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Light Rail
3	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Commuter Rail

## Hillsborough County

Rank	Connection	Mode
1	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Light Rail
2	(CSX North) Downtown Tampa to USF	Light Rail
3	(CSX South) South Tampa to Downtown Tampa	Light Rail

## Pinellas County

Rank	Connection	Mode
1	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Light Rail
2	Clearwater, Gateway, St. Petersburg	Light Rail
3	(I-275) Wesley Chapel, USF, Tampa, Gateway, St. Petersburg	Rubber Tire in Exclusive Lane