



TECHNICAL APPENDIX H

SCENARIO PLANNING

SUPPORTING DOCUMENTATION



Scenario Planning Supporting Documentation

As described within Chapter 5 of Connect 2045, the TPO conducted scenarios focused on Technology, Resiliency, and Funding. This document includes the applicable Board agenda items and maps that were presented for each scenario prior to plan adoption. The scenarios drew heavily from prior studies, data and guidance, so a listing of reference documentation is included.

TECHNOLOGY SCENARIO

The Technology Scenario TPO Board agenda item and map set are included as **Attachment A**. The maps depict the model output for each of the six scenarios for automated, connected, electric, and shared mobility (ACES) that were included in Central Florida Regional Planning Model v7. These scenarios followed the recommended Federal Highway Administration scenarios that were also included in FDOT's *Guidance for Assessing Planning Impacts and Opportunities of Automated, Connected, Electric and Shared-Use Vehicles*.

Technology Scenario Reference Documentation

[River to Sea TPO ITS Master Plan, Phase I](#)

[River to Sea TPO TSM&O Master Plan – Phase 2](#)

[Guidance for Assessing Planning Impacts and Opportunities of Automated, Connected, Electric and Shared-Use Vehicles](#)

Central Florida Regional Planning Model, Version 7 – Draft Model Validation Report – See Technical Appendix B (will link to document once posted)

RESILIENCY SCENARIO

The Resiliency Scenario TPO Board agenda item and map set are included as **Attachment B**. The maps depict potentially vulnerable roadways on the Strategic Intermodal System (SIS), Other Arterial Roadways, and Non-State Major Roadways.

Resiliency Scenario Reference Documentation

[River to Sea TPO Sea Level Rise Vulnerability Assessment](#)

[Resilient Volusia County](#)

[Resilient Flagler County](#)

[Risk Assessment on SIS Facilities](#)

[East Central Florida Regional Resiliency Action Plan](#)

FUNDING SCENARIO

The Funding Scenario TPO Board agenda item is included as **Attachment C**.

Funding Scenario Reference Documentation

2045 Revenue Forecast for the River to Sea TPO – See Technical Appendix J

[2040 River to Sea TPO LRTP Revenue Forecast – Appendix D in the 2040 River to Sea TPO LRTP Appendices](#)

Scenario Planning Supporting Documentation

Attachment A

Technology Scenario TPO Board Agenda Item and Map Series

Connect 2045 Technology/ACES Scenario

Background

Technology is transforming transportation in new ways and the pace of change is accelerating, so it is more important than ever to understand how emerging technologies will shape transportation in the TPO area. Recognizing the importance of preparing for this technological change, the River to Sea TPO (R2CTPO) has completed an *Intelligent Transportation System (ITS) Master Plan* and *Transportation System Management and Operations (TSM&O) Master Plan* that include and recommend technology-related strategies. In addition, the Federal Highway Administration (FHWA) defined six scenarios for automated, connected, electric and shared mobility (ACES) for planning purposes. These scenarios model possible transportation outcomes of emerging transportation technology, policy decisions, and changes in infrastructure:

- **Slow Roll:** Nothing beyond currently available technology and investments already in motion
- **Niche Service Growth:** Innovation proliferates, but only in special purpose zones identified for automated vehicle use
- **Ultimate Traveler Assist:** Connected Vehicle technology progresses rapidly, but AV stagnates
- **Managed Automated Lane Network:** Special lanes with Connected Vehicle/Automated Vehicle integration
- **Competing Fleets:** Automated TNC-like (Transportation Network Companies such as Uber, Lyft) service proliferate
- **Robo Transit:** On-demand shared services proliferate and integrate with other modes

FDOT developed guidance for TPO/MPO long range transportation plans recommending consideration of the FHWA scenarios. FDOT District 5 advanced this recommendation by creating ACES scenarios within the Central Florida Regional Planning Model version 7 (CFRPM) to reflect the six FHWA categories.

Approach

Because of the growing importance of technology and ACES to transportation, it is important that these issues become increasingly integrated into long range planning. As part of developing Connect 2045, R2CTPO has set the stage for this transition through the following steps:

1. Review of the ITS Master Plan and TSM&O Master Plan
2. Analysis of results of the ACES scenarios from FDOT (CFRPM v7)
3. Identification of corridors based upon the ITS/TSM&O Master Plans and results of the ACES scenarios
4. Prioritization of corridors as candidates for future technology investments and/or pilot projects

Identification and Prioritization

An evaluation was performed to identify and prioritize potential corridors for future infrastructure technology improvements. This evaluation was based on the River to Sea TPO TSM&O Master Plan Phase 2, successor to the TPO ITS Master Plan Phase 1, and the ACES Scenario of the CFRPM v7. The TSM&O Master Plan assessed the current state of intelligent transportation assets in the region and identified corridors recommended for deployment of fiber, closed-circuit cameras, and other technologies based on



need and access to existing networks, and to support corridor management and operation. It provided a thorough assessment of roadway characteristics that are also relevant to the deployment of ACES technologies, such as congestion, safety, and existing assets. The data, scoring system, and recommendations provided in that document were used extensively in this analysis. The CFRPM model output identified 2045 projected volume to capacity ratios (V/C) of the regional roadway system based on the Federal Highway Association's (FHWA) six scenarios of ACES technology integration (see attached CFRPM v7 (2045) ACES Scenarios map set).

This evaluation used the following criteria to identify and propose prioritization of corridors for further evaluation as potential areas to focus future technology investments and/or pursue pilot projects, if desired:

- Worst-case V/C from the CFRPM 2045 ACES scenarios that exceeds 0.9 V/C
- Corridor is a designated Strategic Intermodal System (SIS) facility
- Corridor is a designated evacuation route
- Fiber infrastructure is installed or available for extension within the corridor

Twenty-one corridor segments were identified for further review and prioritization based on the metrics listed above. The following contributing factors to the proposed prioritization process are provided for each corridor segment in the table below.

- **Roadway Classification** described the segment's role in providing transportation among population centers in the state, region, or urban area. Most notably, if a facility was designated SIS it was given increased priority as a vital link in statewide traffic.
- **Length** was considered as the centerline distance of the segment in miles and was used to determine the scale of the improvement effort required.
- **Volume** documented in the TSM&O Master Plan was used to quantify use or significance of corridors. This value was provided as Annual Average Daily Traffic (AADT).
- **PM Peak Volume-to-Capacity** was averaged along the corridor length for each of the six CFRPM 2045 scenarios. Generally, V/C was used to quantify need for additional improvements with CFRPM ACES scenarios.
- **Fiber Significance** was developed by overlaying the FDOT fiber network map available on cflsmartrroads.com with each corridor to determine the relative presence or adjacency of fiber optic cable that could be used for ACES infrastructure improvements. This was cross referenced with documented existing conditions in the TSM&O Master Plan.
- **TSM&O Significance** indicated if the corridor segment was identified by the TSM&O Master Plan as a proposed improvement location to upgrade or add infrastructure.
- **Evacuation Routes** described the corridors designated as evacuation routes. Roadway that was designated as a primary evacuation route could be a higher priority for ACES technology to improve rapid movement of large volumes of traffic in emergency situations.

The following table includes each of the 21 corridors identified and the associated prioritization determined from this analysis. The resulting set was divided into three priority tiers that can generally be approached as near-term, mid-term and long-term needs respectively.

Table: ACES Corridor Prioritization

Segment #	Segment Description	Roadway Classification	Length (mi)	Volume (AADT)	PM Volume/Capacity by CFRPM Scenario						Significance			Explanation
					1	2	3	4	5	6	Fiber	TSMO	Evacuation	
Priority 1 – Near-term														
1	US 92 from Indian Lake Rd to SR A1A	Regional	11.1	29400	0.97	0.97	0.86	0.98	1.02	0.92	Yes	Yes	Yes	Congested, high volume evacuation route with existing FOC
2	US 17/92 from Seminole County to Taylor Rd	SIS	11.4	28800	1.18	1.18	1.03	1.16	1.17	1.10	Yes	Yes	Yes	Congested, high volume SIS evacuation route with existing FOC
3	US 1 from N Nova to I-95	Regional	3.9	25800	1.24	1.24	1.09	1.17	1.23	1.15	Some	Yes	Yes	Highly congested, high volume evacuation route with adjacent FOC
4	SR 40 from S Tymber Creek Rd to SR A1A	SIS	6.2	30600	1.03	1.03	0.90	1.06	1.09	0.99	Some	Yes	Yes	High volume evacuation route with existing FOC and identified for TSM&O improvements
5	SR 44 from US 1 to S Atlantic Ave	Regional	2.2	22400	0.89	0.87	0.73	0.90	0.94	0.80	Yes	Yes	Yes	Evacuation route with existing FOC that connects key corridors
6	US 1 from SR 442 to Washington St.	Regional	4.0	25800	0.92	0.94	0.65	0.85	0.93	0.74	Some	Yes	Yes	High volume evacuation route with adjacent FOC and identified for TSM&O improvements
Priority 2 – Mid-term														
7	US 17/92 from Taylor Rd to Glenwood Rd	Regional	5.0	23700	0.96	0.95	0.82	0.91	0.97	0.88	Yes	Yes	Yes	Evacuation route with existing FOC and moderate congestion
8	CR 415 / Tomoka Farms Rd from SR 44 to Taylor Rd	Non-Regional	5.0	9400	1.41	1.43	1.35	1.41	1.54	1.46	No	Yes	Yes	Extremely congested evacuation route with adjacent FOC
9	SR 44 from I-4 to CR 415	Regional	10.2	18500	0.88	0.90	0.74	0.87	0.91	0.81	No	Yes	Yes	Evacuation route with adjacent FOC. Long corridor without severe congestion
10	SR 472 / Howland Blvd from Dr. Martin Luther King Beltway to Catalina Blvd	Non-Regional	2.7	30500	1.04	1.04	0.97	1.04	1.09	1.02	No	Yes	Yes	Congested, high volume evacuation route with adjacent FOC
11	SR 15 from Beresford Ave to US 92	SIS	2.8	24300	1.09	1.09	0.98	1.07	1.10	1.05	No	Yes	No	Congested SIS corridor with no existing FOC and identified for TSM&O improvements

Segment #	Segment Description	Roadway Classification	Length (mi)	Volume (AADT)	PM Volume/Capacity by CFRPM Scenario						Significance			Explanation
					1	2	3	4	5	6	Fiber	TSMO	Evacuation	
12	Saxon from I-4 to Doyle Rd	Non-Regional	4.6	21200	0.99	0.96	0.77	0.91	0.96	0.86	No	Yes	No	Moderate congestion and volume connecting critical corridors, identified for TSM&O improvements
13	Saxon from US 17/92 to I-4	Non-Regional	1.9	31500	0.94	0.98	0.74	0.95	0.98	0.84	No	No	No	High volume with some congestion, connects critical corridors, not identified for TSM&O improvements and no existing FOC
14	Doyle Rd / Debary Ave from the I-4 WB ramps to SR 415	Non-Regional	8.5	17500	0.96	0.98	0.83	0.96	1.03	0.93	No	Yes	Yes	Congested evacuation route with no existing FOC, connecting significant corridors
15	LPGA from US 92 to N Clyde	Non-Regional	6.5	17700	1.17	1.18	1.05	1.20	1.24	1.16	Some	No	Yes	Heavily congested evacuation route, not identified for TSM&O improvements with existing FOC at east end
Priority 3 – Long-term														
16	Dirksen from US 17/92 to I-4	Non-Regional	2.0	12300	1.03	1.14	0.62	0.84	0.78	0.69	No	No	No	Connects critical corridors, not identified for TSM&O improvements and no FOC
17	SR 15 from US 17/92 to Beresford	Collector	2.9	2800	1.05	1.04	0.94	1.02	1.06	1.03	No	No	No	Congested and connects critical corridors, not identified for TSM&O improvements and no FOC
18	SR 15 from US 92 to US 17	SIS	2.3	12800	0.88	0.88	0.70	0.81	0.96	0.82	No	No	No	SIS and connects critical corridors, not identified for TSM&O improvements and no FOC
19	Howland Blvd from Catalina Blvd to SR 415	Non-Regional	7.1	17400	0.84	0.85	0.65	0.83	0.88	0.73	No	Yes	No	Identified for TSM&O improvements and moderately congested, no existing FOC
20	Tomoka Farms from Taylor Rd to US 92	Non-Regional	6.0	7700	1.14	1.15	0.97	1.10	1.21	1.05	No	No	Yes	Congested evacuation route, not identified for TSM&O improvements and no FOC
21	SR 415 from Seminole Co to SR 44	Regional	17.6	14000	1.15	1.17	1.02	1.13	1.13	1.06	No	No	Yes	Congested evacuation route, not identified for TSM&O improvements and no FOC

Recommended Next Steps

Considerations discussed by the LRTP Subcommittee include:

- Document this information in Connect 2045
- Recommend \$40 million set-aside for local initiatives which could include technology projects identified in the ACES Corridor Prioritization
- Establish an ACES committee or working group to provide guidance regarding the approach to future technology investments and potential pilot projects

PM Volume-to-Capacity (V/C) Ratio*

< 0.8

0.8 - 1.0

1.0 - 1.2

> 1.2

River to Sea TPO Boundary

*Based on CFRPM7 output variable PM_VCE



0 4 8 Miles

(WORKING DRAFT)

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TRANSPORTATION PLAN

ACES Scenario 1 | Slow Roll

Minimum plausible change - Nothing beyond currently available technology and investments already in motion is adopted. (Baseline for comparison)

PM Volume-to-Capacity (V/C) Ratio*

< 0.8

0.8 - 1.0

1.0 - 1.2

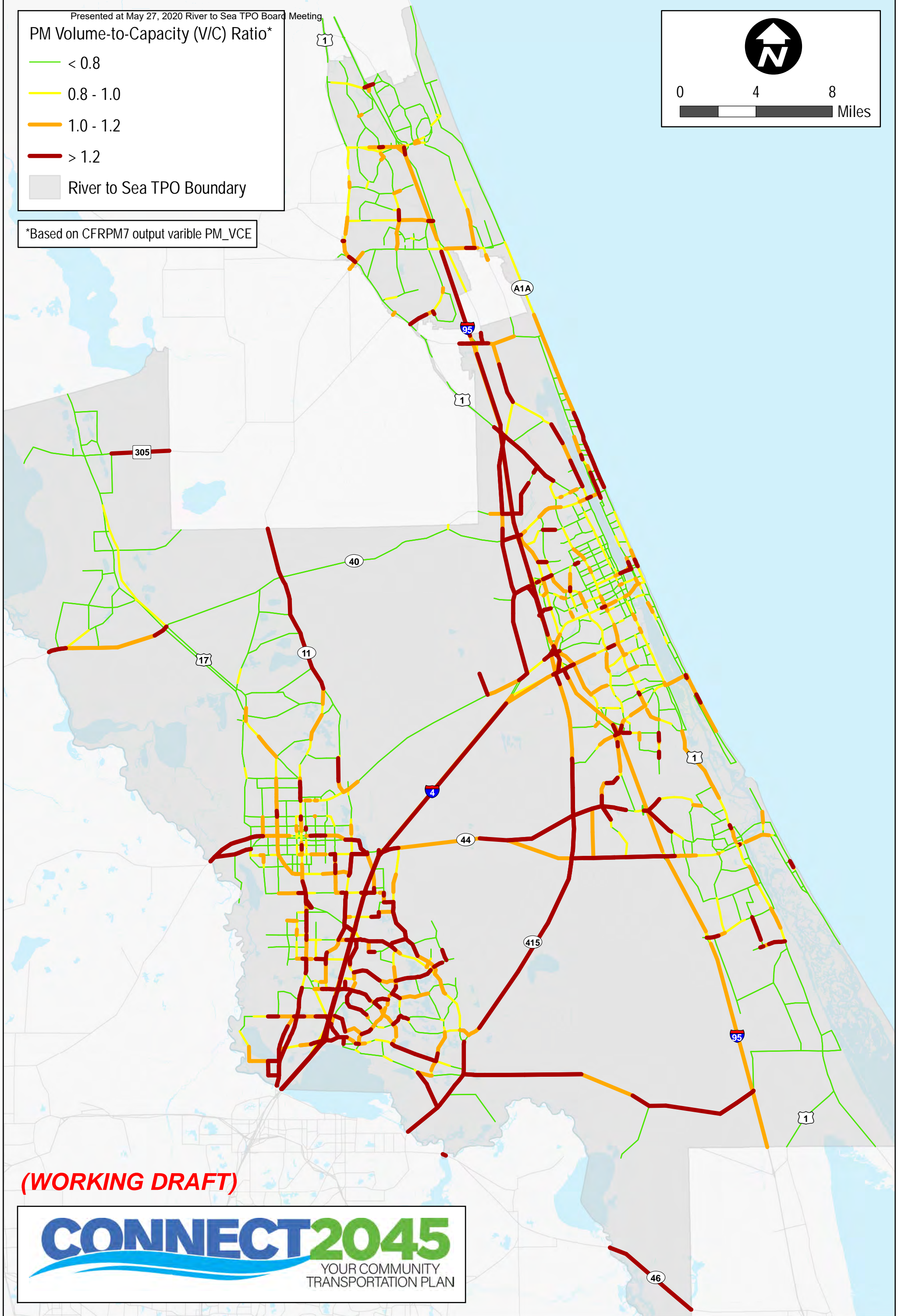
> 1.2

River to Sea TPO Boundary

*Based on CFRPM7 output variable PM_VCE



0 4 8 Miles

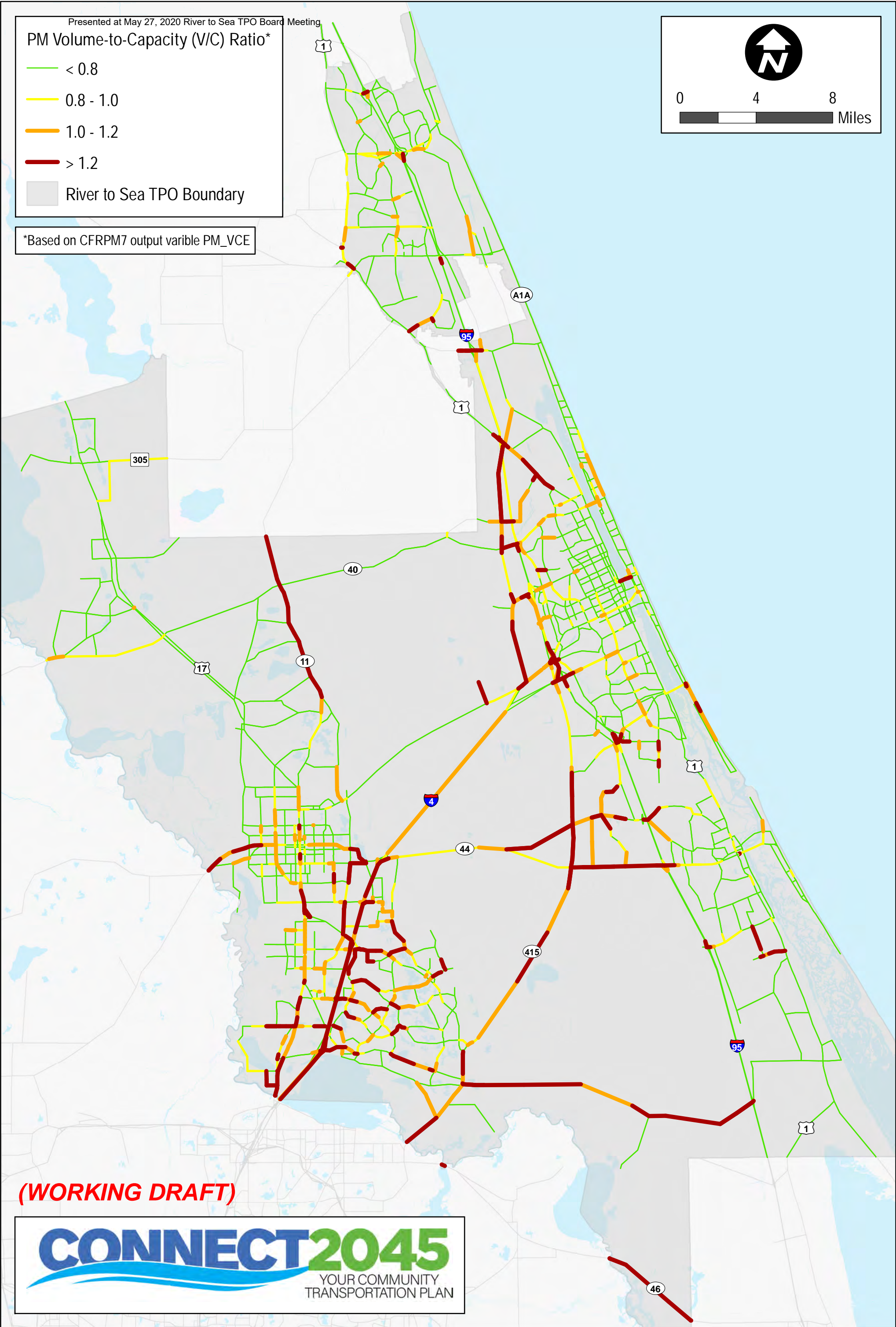


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TRANSPORTATION PLAN

ACES Scenario 2 | Niche Service Growth

Innovation proliferates, but only in special purpose or "niche" AV zones, including retirement communities, campuses, transit corridors, urban cores, and ports.



ACES Scenario 3 | Ultimate Traveler Assist

CV technology progresses rapidly, but AV stagnates - 85% of vehicles have V2X capability by 2035 due to NHTSA mandate allowing DOTs to manage congestion aggressively.

PM Volume-to-Capacity (V/C) Ratio*

< 0.8

0.8 - 1.0

1.0 - 1.2

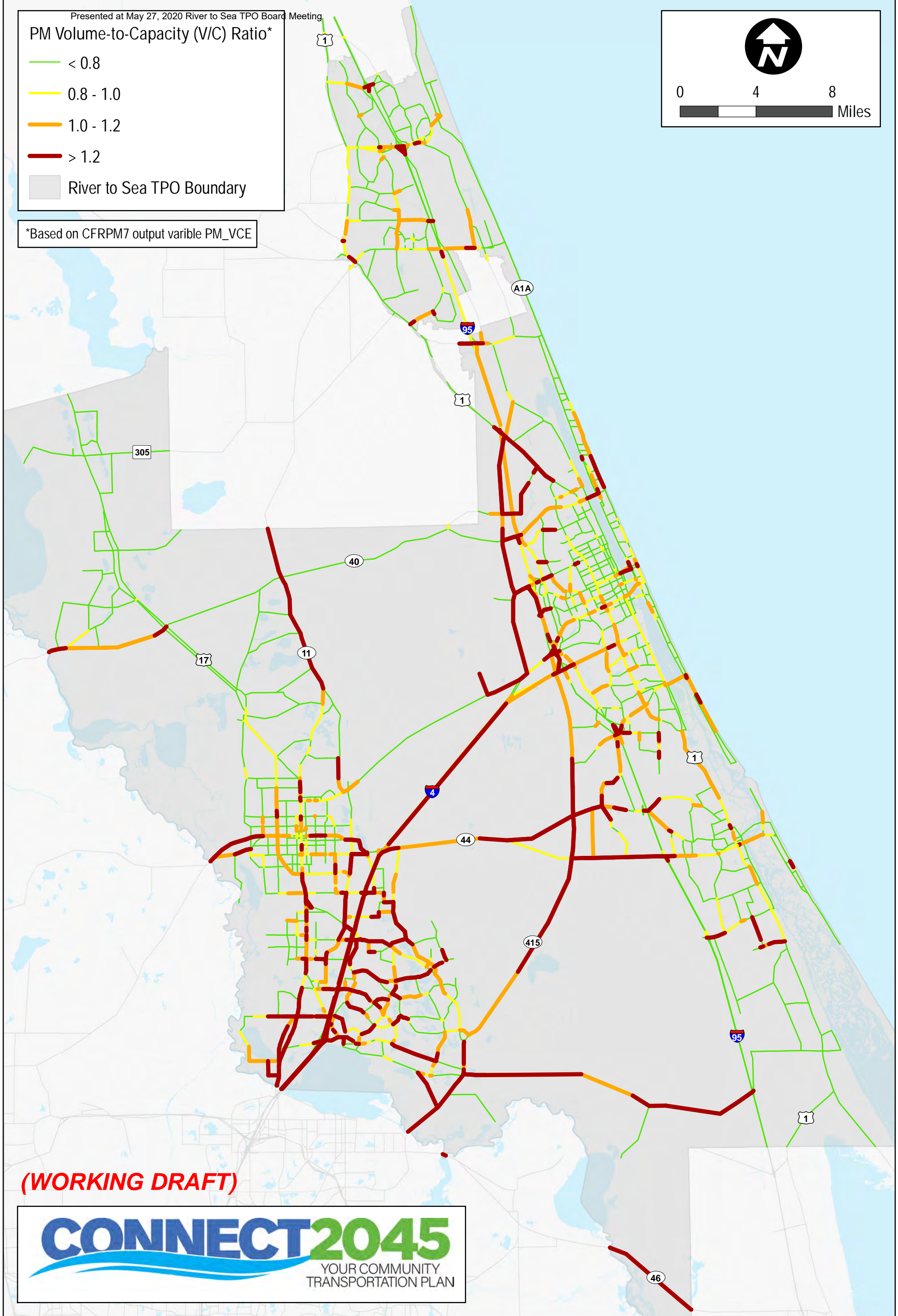
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River to Sea TPO Boundary

*Based on CFRPM7 output variable PM_VCE



0 4 8 Miles



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TRANSPORTATION PLAN

ACES Scenario 4 | Managed Automated Lane Network

Certain lanes become integrated with CV and AV - 50-60% of vehicles (75% of trucks) have automation capability for platooning in controlled settings.

PM Volume-to-Capacity (V/C) Ratio*

< 0.8

0.8 - 1.0

1.0 - 1.2

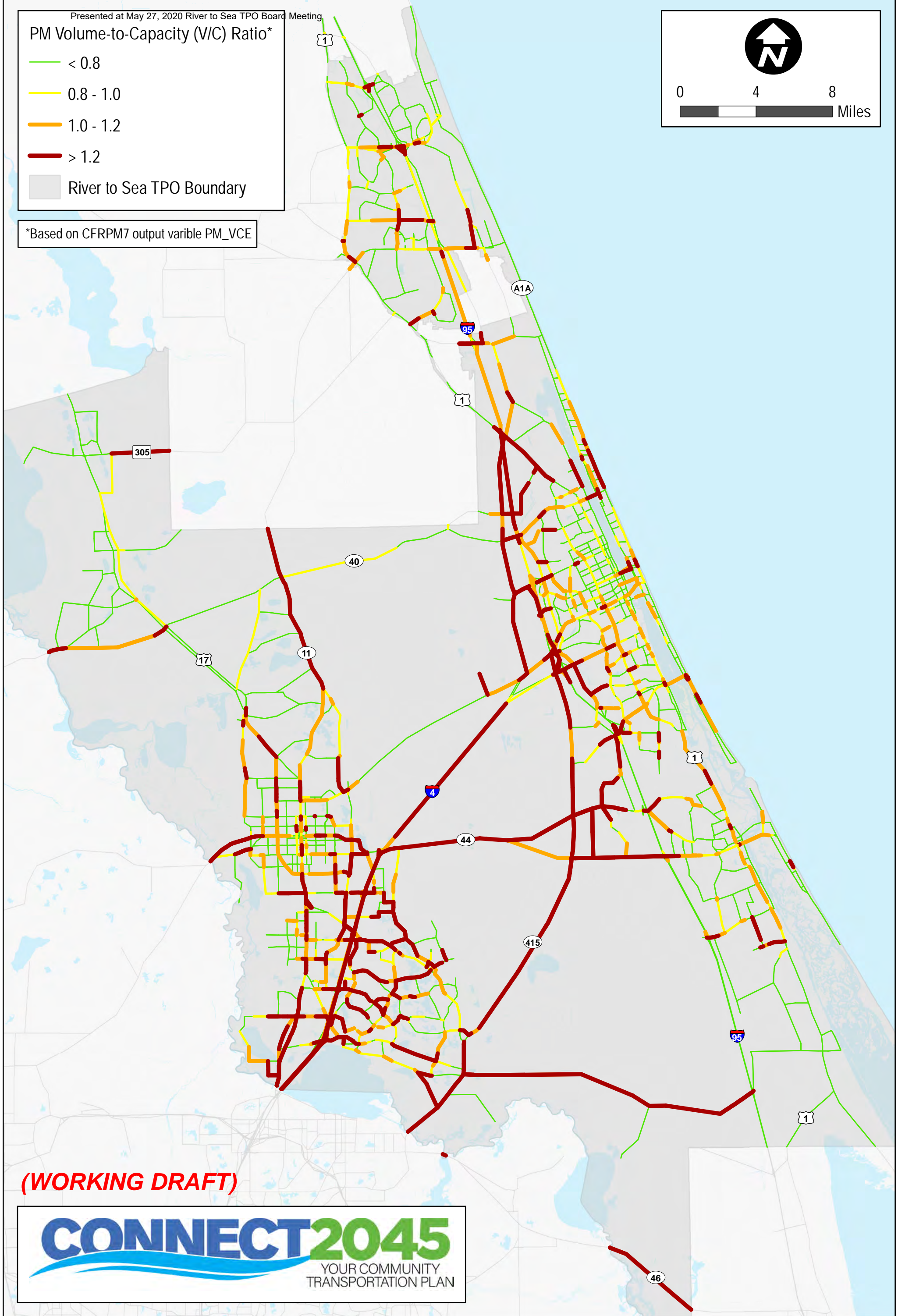
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River to Sea TPO Boundary

*Based on CFRPM7 output variable PM_VCE



0 4 8 Miles



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TRANSPORTATION PLAN

ACES Scenario 5 | Competing Fleets

Automated TNC-like services proliferate rapidly, but do not operate cooperatively. VMT doubles due to induced demand and empty vehicle repositioning.

PM Volume-to-Capacity (V/C) Ratio*

< 0.8

0.8 - 1.0

1.0 - 1.2

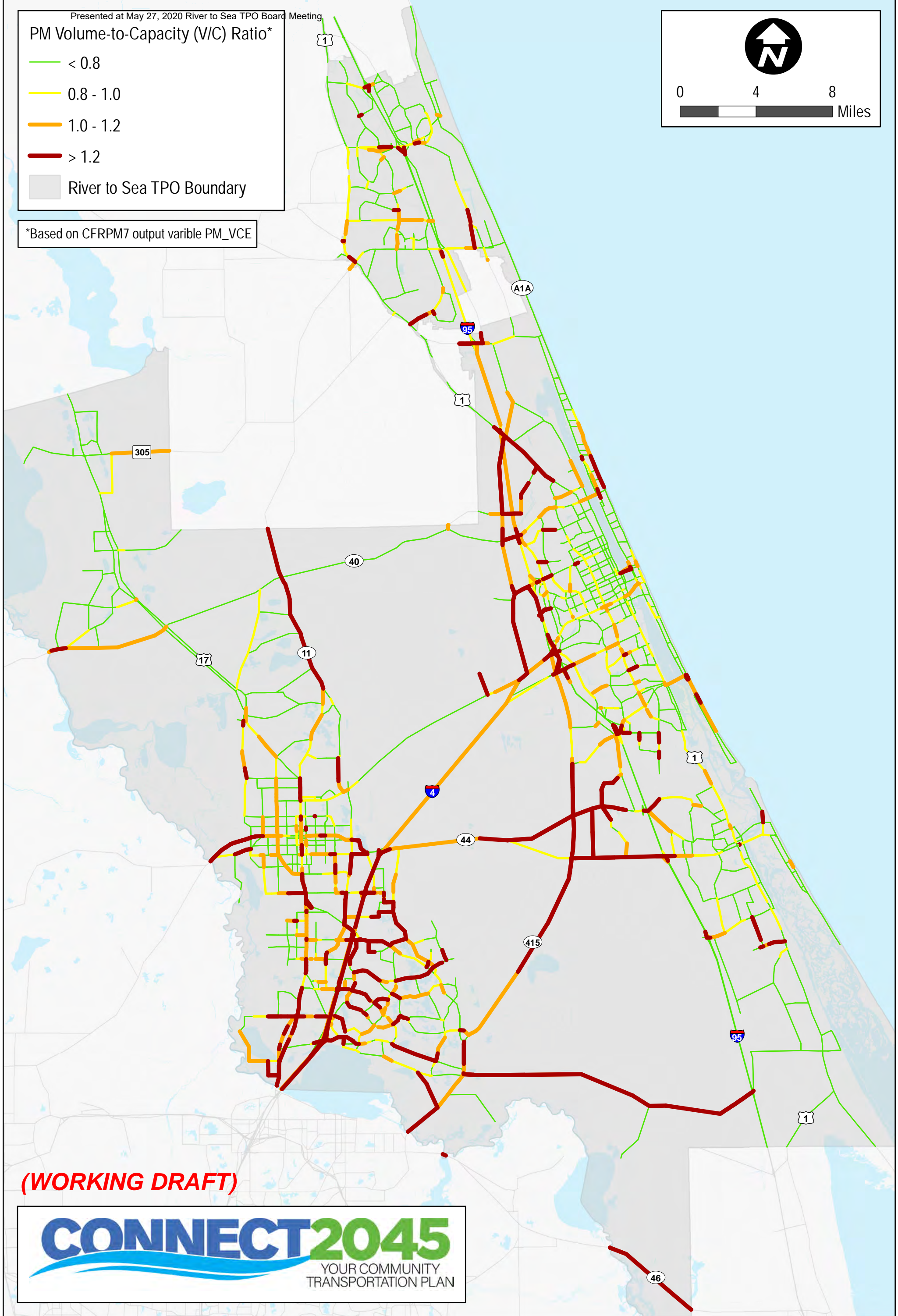
> 1.2

River to Sea TPO Boundary

*Based on CFRPM7 output variable PM_VCE



0 4 8 Miles



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ACES Scenario 6 | Robo Transit

On-demand shared services proliferate and integrate with other modes via cooperative data sharing, policies, and infrastructure.

Scenario Planning Supporting Documentation

Attachment B

Resiliency Scenario TPO Board Agenda Item and Map Series

Connect 2045 Resiliency Scenario

Background

Resiliency reflects the ability to anticipate, prepare for, and adjust to changing conditions, and recover rapidly after disruptive events such as flooding, hurricane damage, or major traffic incidents. It is important for the transportation system to be resilient in the face of these disruptions to ensure reliable movement of people and goods.

To understand the potential vulnerability of transportation infrastructure to disruptive events and changes, the TPO has participated in assessments of sea level rise (SLR) and 100-year storm surge within the planning area. These studies ([Sea Level Rise Vulnerability Assessment - 2016](#), [Resilient Volusia - 2017](#) and [Resilient Flagler - 2018](#)) have provided useful data to inform planning decisions regarding the impact of SLR and 100-yr storm surge in the future. Florida DOT has also completed a [Risk Assessment on SIS Corridors – 2018](#) to evaluate the vulnerability of Strategic Intermodal System (SIS) facilities related to hurricane storm surge.

Approach

For this evaluation, the [Regional Resiliency Action Plan \(RRAP\)](#), coordinated by the East Central Florida Regional Planning Council (ECFRPC), recommends that the US Army Corps of Engineers (USACE) 2013 High Scenario and the National Oceanic and Atmospheric Administration (NOAA) 2017 High Scenario be used as the lower and upper boundaries, respectively, to evaluate potentially vulnerable areas and/or facilities (Figure 1). The goal of the RRAP, in which the TPO is a partner, is to increase the ability of local and regional stakeholders to implement resiliency and climate adaptation strategies. The plan is guided by a cross-disciplined steering committee, extensive stakeholder engagement and best practice research.

Figure 1. Sea Level Rise Projections



Chart source: East Central Florida Regional Planning Council

[More to be added here]

The USACE 2013 data, which was also used for the previously approved TPO studies, is available for the full TPO planning area and was used for this evaluation.

The NOAA 2017 data is available for Volusia County through the ECFRPC and was used for this evaluation. The Northeast Florida Regional Council has not yet completed similar data for its planning area so this data is not available for Flagler County.

Therefore, only the lower SLR boundary (USACE 2013) was used for Flagler, while both lower and upper boundaries (USACE 2013 and NOAA 2017) were used for Volusia. The horizon year used in all cases was 2040 because it is the furthest data year within the LRTP horizon. Table 1 provides the estimated change in sea level rise relative to a baseline year of 2000.

Table 1. Estimated Sea Level Rise		
Sea Level Rise Scenario Data	Horizon Year	Estimated Feet of Sea Level Rise Relative to Baseline Year (2000)
USACE 2013 (lower boundary)	2040	1.13 feet
NOAA 2017 (upper boundary)	2040	1.77 feet

Identification of Potentially Vulnerable Roadway Projects

The analysis compared the inundation area(s) of sea level rise scenarios with the projects identified through the Connect 2045 Needs Assessment. The result of this analysis is a set of potentially vulnerable projects that are identified for improvement or development (see Table 2 and Maps A1-A3). *It is important to note that the intersection of an inundation area and an identified needs project does not definitively imply that a given road would be under water.* The impact on travel lanes will be determined by the height of the roadway in the impact location. Nonetheless, even where roadway travel lanes are unaffected, the road structure, bridge facility and/or right of way would be subject to a sustained increase in water levels. All of the above will have implications for the design and engineering of specific improvements or facilities which would be determined at the project development level, and not during this high-level planning evaluation.

Table 2. Potentially Vulnerable Roadway Projects from Connect 2045 Needs Assessment				
Project ID	Project Name	NOAA 2017	USACE 2013	Location
Strategic Intermodal System (SIS) Roadways				
1	I-4 (Seminole C/L to SR 472)	X	X	Lake Monroe/St. Johns River
6	SR 40 (Breakaway Trails to Williamson Blvd)	X	X	Tomoka River
19	I-95 (SR 400 to Old Dixie Highway)	X	X	Tomoka River
Other Arterial Roadways				
42	SR 415/Tomoka Farms Rd (Seminole C/L to Howland Dr)	X	X	St. Johns River
47	US 1 (Nova Rd. to I-95)	X	X	Tomoka River Dodson Creek
Non-State Major Roadways				
70	Hand Ave Extension (Williamson Blvd to Tymber Creek Rd Ext)	X	X	Tomoka River

Consideration of Other Relevant Studies

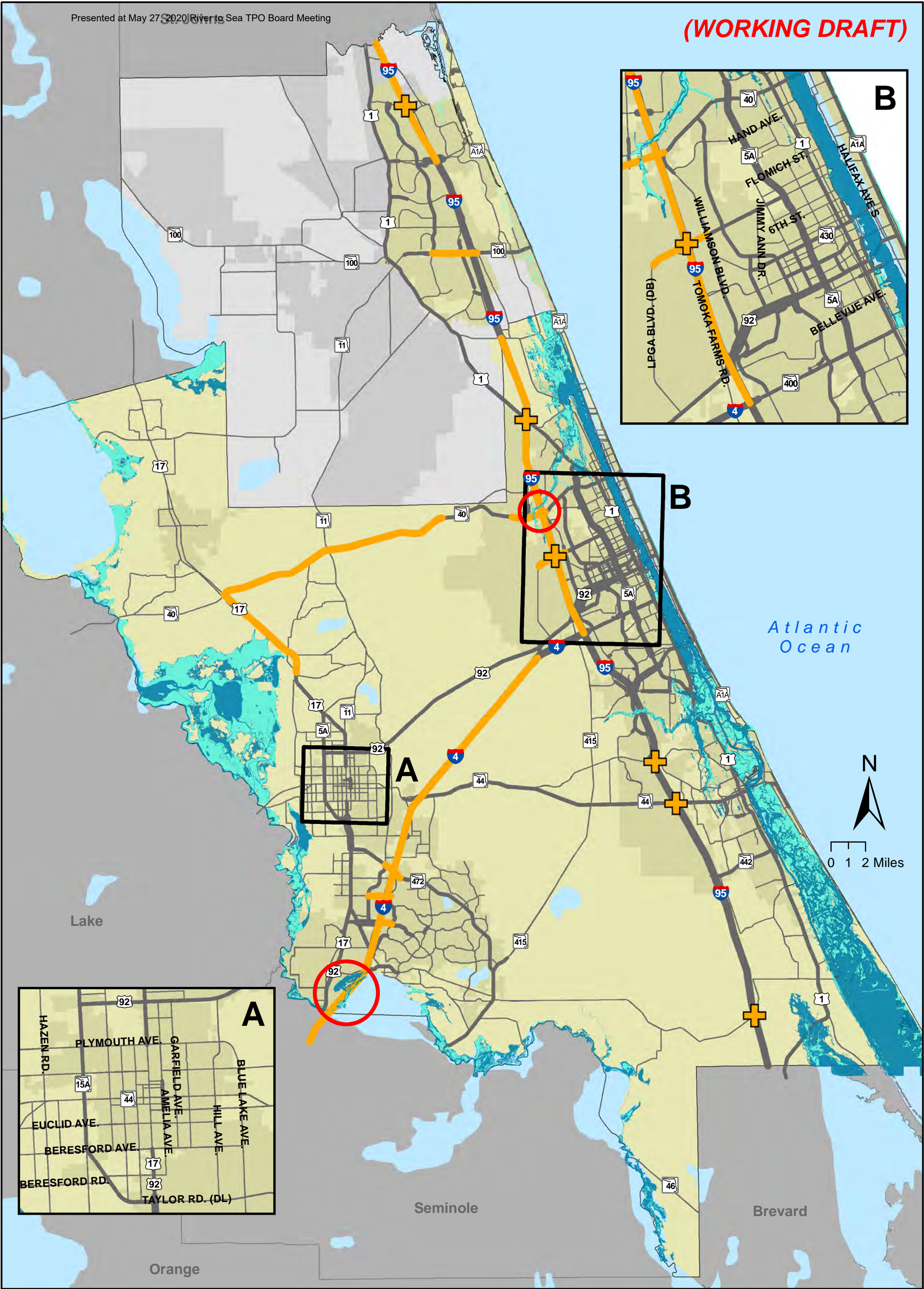
- The [Resilient Volusia – 2017](#) and [Resilient Flagler – 2018](#) studies identified corridors as vulnerable to coastal flooding from 100-year storm influenced by sea level rise. *[more information about these studies will be added]* The following projects identified in Table 2 coincide with potentially vulnerable corridor segments identified in those studies:
 - Project 6 – SR 40
 - Project 19 – I-95
 - Project 47 – US 1
- FDOT's [Risk Assessment on SIS Corridors – 2018](#) was conducted to evaluate Strategic Intermodal System (SIS) facilities at risk during Category 1, Category 3 and Category 5 hurricanes. *[more information about this study will be added]* The following projects identified in Table 2 coincide with potentially vulnerable corridor segments or bridges identified in the FDOT study:
 - Project 1 – I-4
 - Project 6 – SR 40
 - Project 19 – I-95 (I-95 from SR 40 to US 1 is also identified as one of the Top 10 Impacted SIS Facilities during Category 1 Storm Surge)

Recommended Next Steps

Considerations discussed by the LRTP Subcommittee include:

- Document this information in Connect 2045 and include the findings of past TPO studies that provide context regarding impacts to the overall transportation, not just identified needs projects
- Develop a potential strategy for future incorporation of resiliency data into long range planning that is coordinated with the Board's policy direction

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Map A1: Roadway (SIS)

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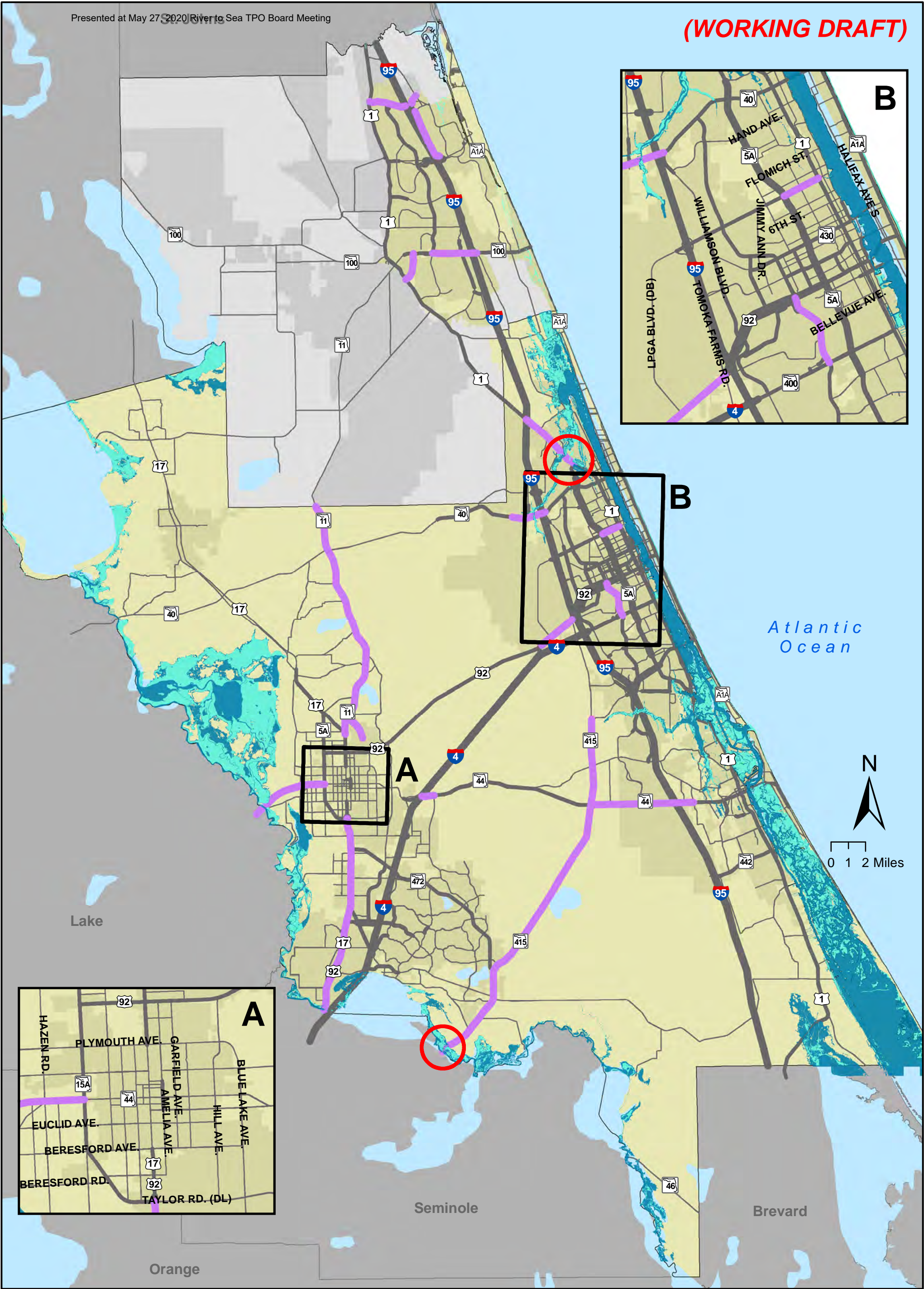
Existing Network
— 2 Lanes
— 4 Lanes
— 6 Lanes
— 8 Lanes
 Project Number

SIS Projects

USACE Scenario (Lower Boundary) for 2040 Horizon Year

NOAA Scenario (Upper Boundary) for 2040 Horizon Year

(WORKING DRAFT)



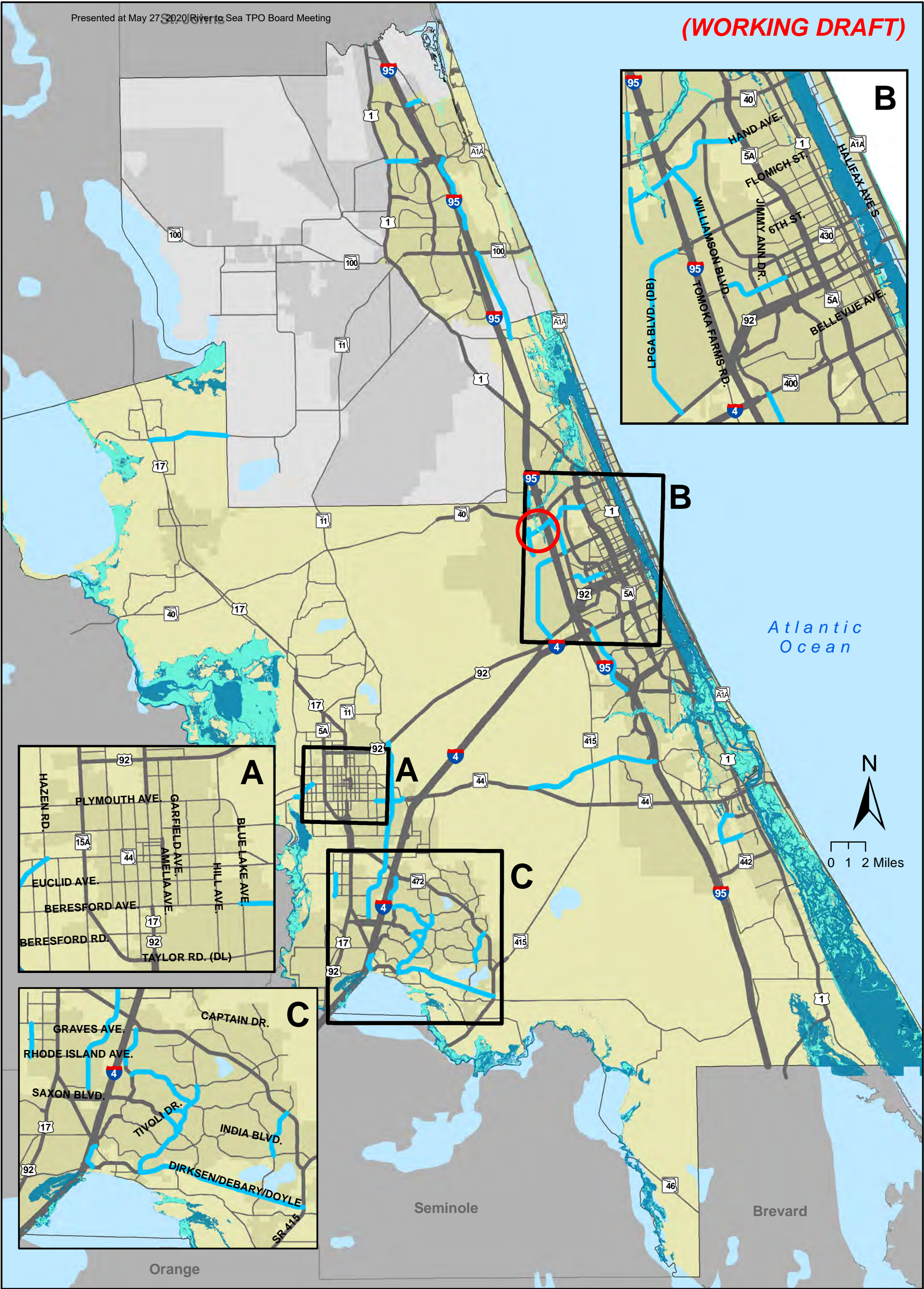
Map A2: Roadway (Other Arterials)

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- Existing Network**
- 2 Lanes
 - 4 Lanes
 - 6 Lanes
 - 8 Lanes
- Project Number**

- Other Arterials Projects**
- USACE Scenario (Lower Boundary) for 2040 Horizon Year
 - NOAA Scenario (Upper Boundary) for 2040 Horizon Year

(WORKING DRAFT)



Map A3: Roadway (Non-State)

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Scenario Planning Supporting Documentation

Attachment C

Funding Scenario TPO Board Agenda Item

Connect 2045 Funding Scenarios

Background

At the heart of developing Connect 2045 is the prioritization and selection of projects for funding within the constraints of forecasted revenues. For each round of LRTP updates, FDOT develops the forecast of funds on the state highway system that are expected to be available over the 25-year planning period. The forecast uses factors known at the time it is developed. As with any long-range financial projection, actual revenue may vary due to unanticipated changes in economic conditions, revenue sources, and other factors. The evaluation of funding scenarios provides a window on potential changes to the Cost Feasible Plan (CFP) set of projects that could be applied in the wake of differing revenue levels.

Within the categories of the revenue forecast, the TPO has the greatest influence over where funds will be prioritized under the *Other Arterials* funding category. This category is the prime focus of the Cost Feasible Plan (CFP) and the funding scenarios.

The scenarios consist of both a LOW and HIGH funding amount relative to the baseline revenue forecast used for development of the Connect 2045 CFP. These funding amounts provide opportunity to illustrate how alternative futures would potentially change the projects and priorities included in the CFP.

Scenario Alternatives

Below is a summary of the baseline and two scenarios. The scenarios consist of three alternatives – two LOW alternatives and one HIGH alternative:

BASELINE / 2045 Cost Feasible Plan – This is the *Other Arterials* funding amount from the Connect 2045 Revenue Forecast being used to develop the CFP.

The BASELINE 2045 CFP consists of \$497,226,138 in *Other Arterials* funds -- \$447,503,524 for State Highway System (SHS) projects and a maximum of \$49,772,614 for local or “off-system” projects.

LOW Scenario / 2040 Plan – This is the *Other Arterials* funding amount from the 2040 LRTP Revenue Forecast. This funding amount acts as an appropriate surrogate for a more constrained financial situation. The potential factors that could drive a more constrained financial future include:

- growing shortfalls in federal transportation funding due to highway fuel tax remaining at the same level since 1993
- projected reductions in fuel tax revenue due to increasing vehicle fuel economy
- projected reductions in fuel tax revenue due to growth in sales of electric and other alternative fuel vehicles

The LOW Scenario assumes \$233,696,285 in *Other Arterials* funds -- \$210,326,656 for SHS projects and a maximum of \$23,369,628 for local or “off-system” projects.



LOW Scenario A assigns funding to the projects based on the rank as recommended by the LRTP Subcommittee. This scenario funds each of the SHS projects in the LOPP, \$40 million in SHS local initiatives (ITS and safety improvements), and the two highest-ranked projects. Of the two Old Kings Road projects included in the LOPP, the southern segment (Palm Harbor Village Way to Farnum Lane) can be fully funded. The remainder of the 10% *Other Arterials* funds earmarked for local projects is assigned to the other segment of Old Kings Road (Farnum Lane to Forest Grove Drive). This amount satisfies approximately 27% of the total needed funds. There is \$7,676,656 identified to fund operational improvements.

LOW Scenario B funds each of the SHS projects in the LOPP, \$40 million in SHS local initiatives (ITS and safety improvements), and approximately \$10 million (33%) of the highest-ranked SHS project (Tomoka River Bridge (LPGA Blvd)). This scenario enables a larger portion of the funds to be used for smaller-scale operational projects to maintain system performance. Of the two Old Kings Road projects included in the LOPP, the southern segment (Palm Harbor Village Way to Farnum Lane) can be fully funded. The remainder of the 10% *Other Arterials* funds earmarked for local projects is assigned to the other segment of Old Kings Road (Farnum Lane to Forest Grove Drive). This amount satisfies approximately 27% of the total needed funds. There is \$39,026,656 identified to fund operational improvements.

HIGH Scenario / 2045 + New Funding Source – This is the *Other Arterials* funding amount from the Connect 2045 Revenue Forecast plus a hypothetical new source of funding. For purposes of developing the specific funding amount, the figure is based on the estimate of 25% of a 1 cent sales tax going to transportation. This is not a policy recommendation. This example is used for illustrative purposes. The potential factors that could drive a more abundant financial future include:

- increase in federal highway fuel tax
- a new local sales tax
- increase in state funding
- implementation of a new revenue source based on miles driven rather than gallons of fuel sold

The HIGH Scenario assumes \$770,700,514 in funding. This is \$273,474,376 in addition to the BASELINE *Other Arterials* funding. The additional funding may or may not be restricted to 10% “off-system”. For the purposes of this scenario alternative, we did not assume that restriction.

In the HIGH Scenario, all *Other Arterials* projects receive full funding. There is \$37,569,129 identified to fund additional operational improvements.

ID	Jurisdiction	On Street	From Street	To Street	Improvement	LOPP	Cost	Baseline	Low Scenario A	Low Scenario B	High Scenario	2045 Status	Criteria Score**
								Percent Funded	Percent Funded	Percent Funded	Percent Funded		
E	Local	Old Kings Road	Palm Harbor Village Way	Farnum Ln	2U-4D	3	\$ 18,650,000	100%	100%	100%	100%	COST FEASIBLE	N/A
F	Local	Old Kings Road	Farnum Ln	Forest Grove Dr	2U-4D	3	\$ 17,450,000	100%	27%	27%	100%	COST FEASIBLE	N/A
K	Local	Old Kings Road - Extension Roadway (Phase II)	Matanzas Woods Pkwy	Old Kings Rd	00-2U	6	\$ 7,381,000	100%	0%	0%	100%	TBD	10.0
L	Local	Commerce Pkwy Connector Road	SR 5 (US 1)	SR 100	00-2U	7	\$ 9,680,000	64%	0%	0%	100%	TBD	10.0
Y	Local	Williamson Blvd	Summer Trees Rd	SR 400 (Beville Rd)	2LN - 4LN		\$ 6,700,000	0%	0%	0%	100%	TBD	32.5
X	Local	Veterans Memorial Pkwy	Harley Strickland	Graves Ave	2LN - 4LN		\$ 9,800,000	0%	0%	0%	100%	TBD	30.0
J	Local	Matanzas Woods Pkwy	SR 5 (US1)	I-95	2U-4D	8	\$ 14,796,900	0%	0%	0%	100%	TBD	20.0
I	Local	LPGA Blvd	Nova Rd	US-1	2U-3D	10	\$ 12,950,000	0%	0%	0%	100%	TBD	19.5
V	Local	Hand Ave	Clyde Morris Blvd	SR 5A (Nova Rd)	2LN - 4LN		\$ 7,000,000	0%	0%	0%	100%	TBD	17.5
W	Local	Josephine St	Old Mission	Tatum	2LN - 4LN		\$ 4,950,000	0%	0%	0%	100%	TBD	10.0
M	Local	North Entrance DeLand Airport (Industrial Park)	Industrial Dr	SR 11	00-2U		\$ 2,263,000	0%	0%	0%	100%	TBD	4.5

ID	Jurisdiction	On Street	From Street	To Street	Improvement	LOPP	Cost	Baseline Percent Funded	Low Scenario A Percent Funded	Low Scenario B Percent Funded	High Scenario Percent Funded	2045 Status	Criteria Score**
A	SHS	US-1	At Park Ave	Intersection	Intersection Improvement	1	\$ 6,300,000	100%	100%	100%	100%	COST FEASIBLE	N/A
C	SHS	SR 483 (Clyde Morris Blvd)	SR 400 (Beville Rd)	US-92	4D-6D	2	\$ 63,900,000	100%	100%	100%	100%	COST FEASIBLE	N/A
D	SHS	SR 44	Grand Ave	SR 15A	2U-4D	4	\$ 19,100,000	100%	100%	100%	100%	COST FEASIBLE	N/A
B	SHS	US-92	I-4 EB RAMP	CR 415 (Tomoka Farms Rd.)	4D-6D	5	\$ 37,500,000	100%	100%	100%	100%	COST FEASIBLE	N/A
Q	SHS	Tomoka River Bridge (LPGA Blvd)***	West of Champions Dr	E of Tomoka Farms Rd	Bridge		\$ 10,000,000	100%	100%	100%	100%	TBD	34.5
G	SHS	Local Initiatives	N/A	N/A	N/A	N/A	\$ 40,000,000	100%	100%	100%	100%	TBD	N/A
H	SHS	US 17/92	SR 472	SR 15A (Taylor Rd)	6D-6D (ITS)	9	\$ 2,000,000	100%	100%	0%	100%	TBD	65.0
N	SHS	SR 44	I-4	Prevatt Ave.	4D-6D		\$ 6,623,038	100%	0%	0%	100%	TBD	52.5
O	SHS	US 1	Nova Rd. (N)	I-95	4D-6D		\$ 34,463,484	100%	0%	0%	100%	TBD	52.5
R1	SHS	SR 415 (Tomoka Farms Rd)	Acorn Lake Rd	Lake Ashby Rd	2U-4D		\$ 51,542,036	100%	0%	0%	100%	TBD	32.5
R2	SHS	SR 415 (Tomoka Farms Rd)	Lake Ashby Rd	SR 44	2U-4D		\$ 61,383,899	100%	0%	0%	100%	TBD	32.5
S	SHS	SR 44	SR 415	Glencoe Rd.	4D-6D		\$ 54,291,449	100%	0%	0%	100%	TBD	27.0
U	SHS	SR 44	Lake County	Grand Ave	2U-4D		\$ 25,771,018	100%	0%	0%	100%	TBD	25.0
(SIS E)	SHS	SR 15 (US 17)***	Deleon Springs	SR 40	2U-4D	2	\$ 10,000,000	100%	0%	0%	100%		N/A
P	SHS	SR 415 (Tomoka Farms Rd) - excludes bridge	Seminole C/L	Howland Dr	4D-6D		\$ 54,551,711	0%	0%	0%	100%	TBD	42.5
T	SHS	SR 11	N. Woodland Blvd.	Flagler County	2U-4D		\$ 141,899,190	0%	0%	0%	100%	TBD	30.0
	SHS	SHS Operational Improvements [§]	N/A	N/A	N/A	N/A		\$24,628,601	\$31,526,656	\$33,526,656	\$74,304,638	TBD	N/A

	Total Revenues	Total Revenues	Total Revenues	Total Revenues
SHS	\$447,503,524	\$210,326,656	\$210,326,656	\$693,630,463
Local	\$49,722,614	\$23,369,628	\$23,369,628	\$77,070,051
TOTAL	\$497,226,138	\$233,696,285	\$233,696,285	\$770,700,514

* Revenue Forecast and project costs are estimated at a planning level using historic data and FDOT guidance.

** Criteria Score is just one factor to consider in determining project prioritization.

*** LPGA Blvd Tomoka River Bridge project is included in the SIS needs list as well.

§ In lieu of additional capacity projects, funding is identified to support smaller-scale operational to maintain system performance.

Projects are listed in priority order as recommended by the LRTP Subcommittee on June 1, 2020.

LOPP = List of Priority Projects; SHS = State Highway System; OA = Other Arterials on State Highway System;

U = Undivided; D = Divided; F = Freeway; LN = Lanes

Projects included in the 2040 LRTP Cost Feasible Plan; Per TPO Policy (Resolution 2019-02) projects 1-5 on the Other Arterials List are protected and remain until they are completed and drop out of the work program.

2045 Fully Funded Projects

2045 Partially Funded Projects

2045 Unfunded Projects