Congestion Management Process (CMP)

Technical and Citizens' Advisory Committee Meetings

August 24, 2022

AGENDA

- Current Project Status
- Congestion Management Process (CMP)
  - Steps 1 through 4
- Technical Analyses (Step 5)
- CMP Strategies (Step 6)
- Next Steps

CURRENT PROJECT STATUS

- TAC/CAC Meetings and Board Meeting, *August/September 2021*
- Data Collection & Technical Analysis, *August 2021 – February 2022*
- Internal Working Group Meetings (3#s), *September 2021 through March 2022*
- External Working Group Meetings (3#s), *October 2021 through April 2022*
- Coordination with Transportation Demand Management (TDM) Study, *March to May 2022*
- Technical Report, *June 2022*
- Congestion Management Process (CMP) Update Report, *Q4 2022*

CONGESTION MANAGEMENT PROCESS

For TMAs - required process to receive federal funding

- 23 CFR 450.320(a) and (b). Metropolitan Transportation Planning, Final Rule, February 14, 2007

Stakeholder Collaboration

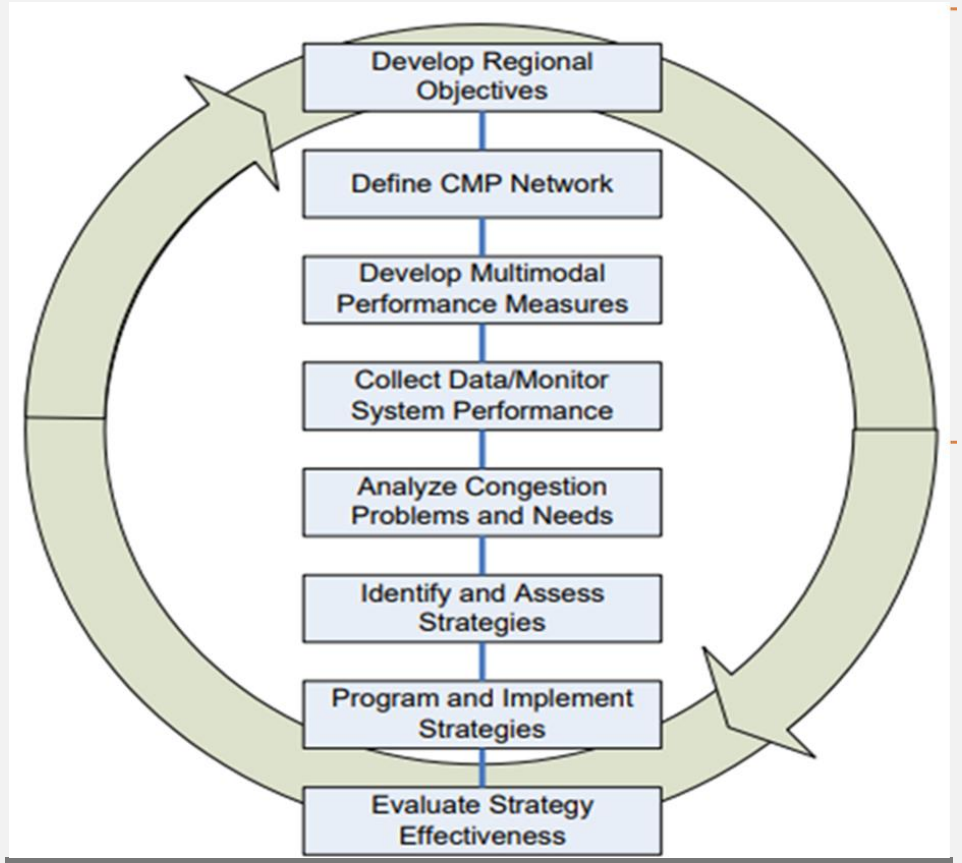
- MPO planners, FDOT, BCT, SFRTA, local governments, Florida's Turnpike Enterprise, private sector – is an important foundation for an effective CMP.

BMPO included CMP in Corridor/Livability Studies

- SR-7, University Drive, Oakland Park Blvd., etc.

More than just eliminating traffic congestion

- Livability principles & multimodal considerations



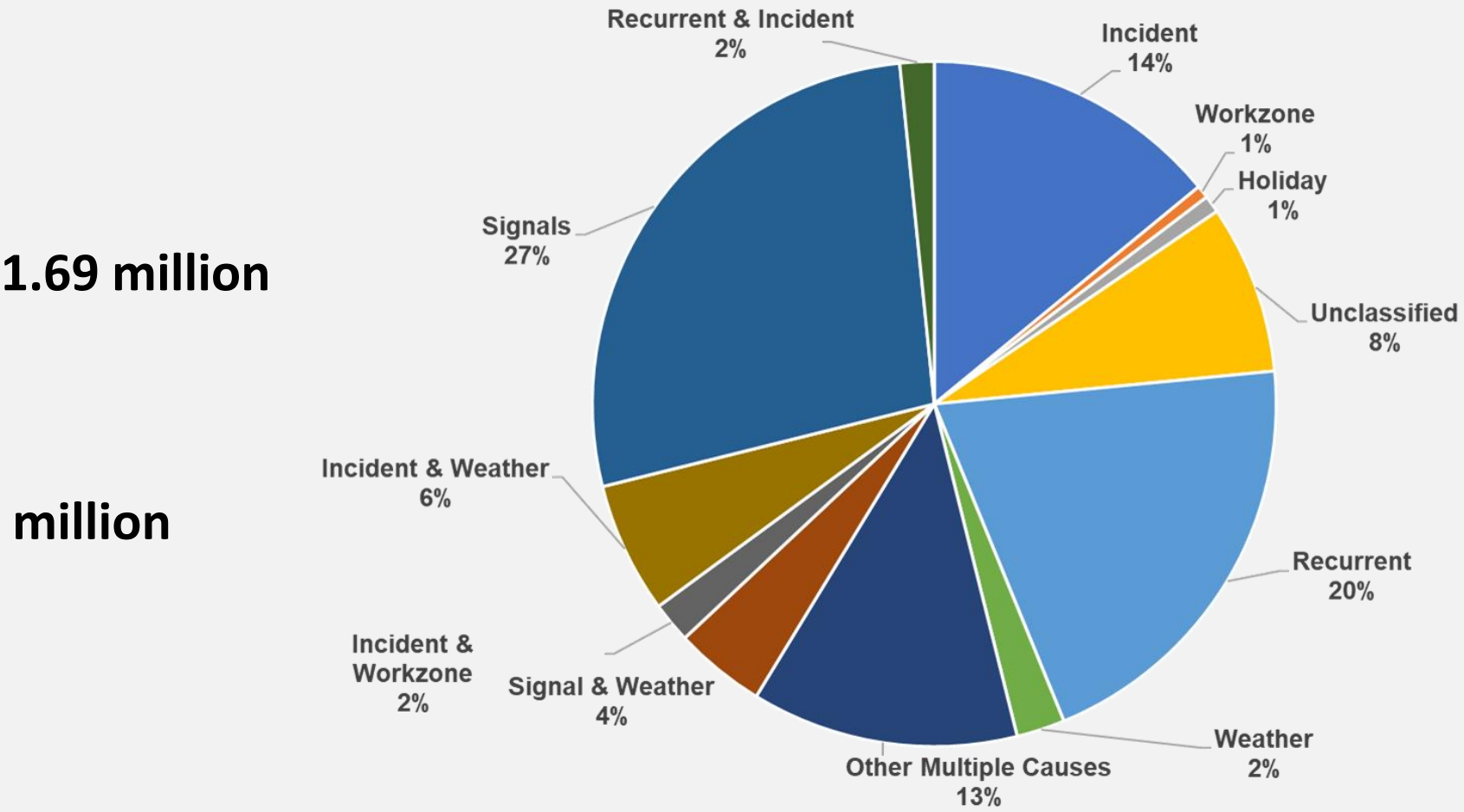
EIGHT-STEP PROCESS

CAUSES OF CONGESTION, BROWARD COUNTY, YEAR 2019

- **Vehicle Hours of Delay: 11.69 million**

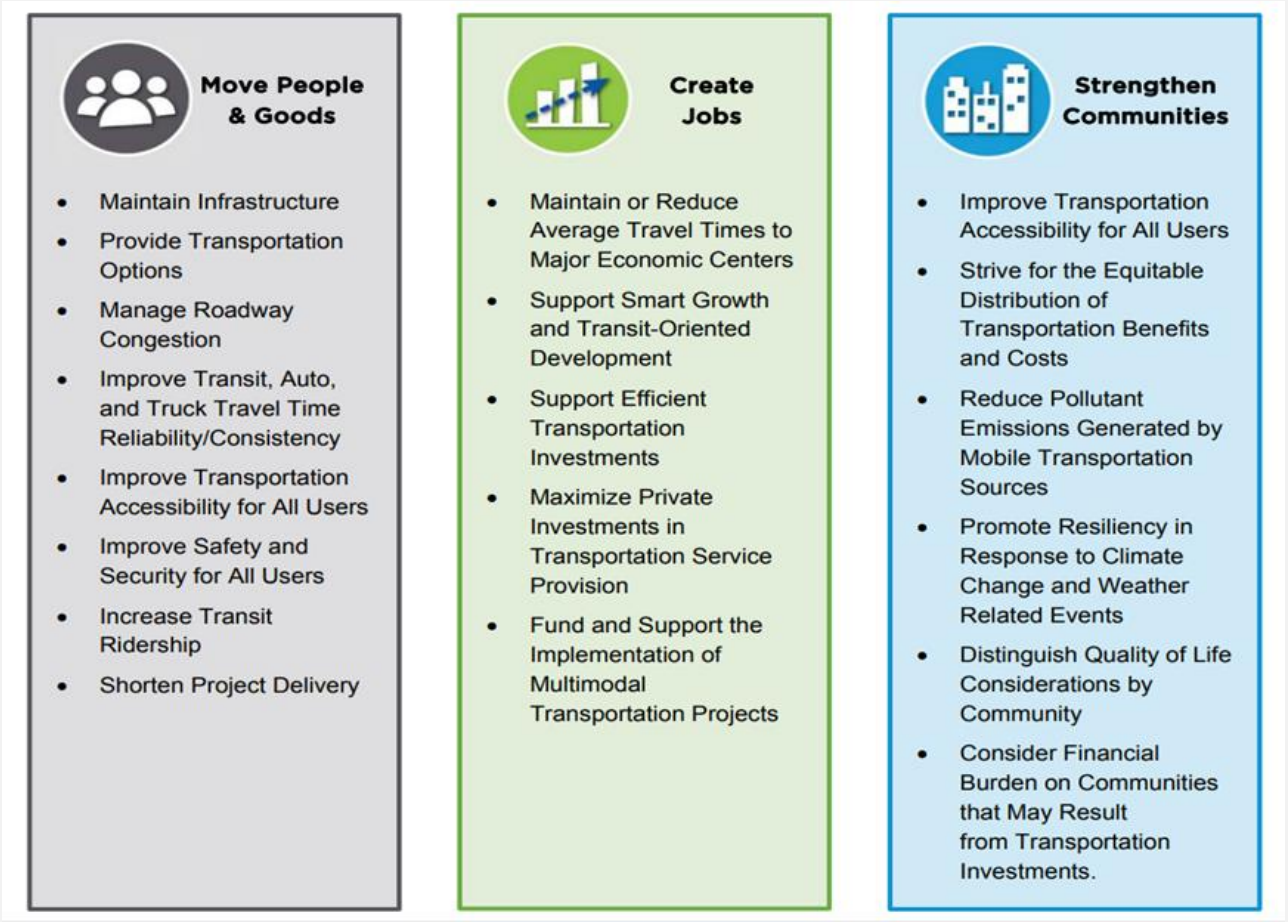
(approx. 10.7% of Florida)

- **User Delay Cost: $305.91 million**



STEP 1: DEVELOP REGIONAL OBJECTIVES

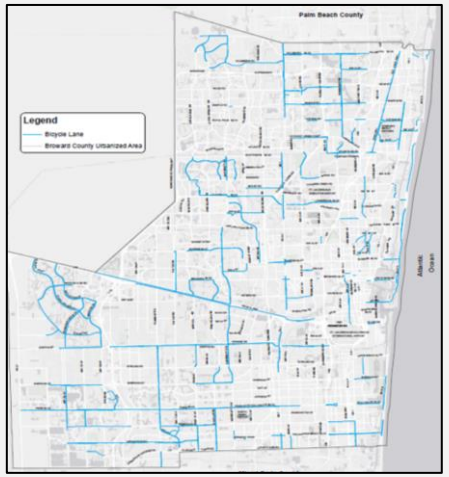
- Regional CMP objectives reflect the priorities of the MPO and the regional partners.
- Serve as a valuable tool for the MPO to assess how well its actions and policies are helping to achieve its goals.
- Regional objectives for CMP draw from the regional vision and goals agreed to in the Commitment 2045 Metropolitan Transportation Plan.



STEP 2: DEFINE CONGESTION MANAGEMENT PROCESS (CMP) NETWORK

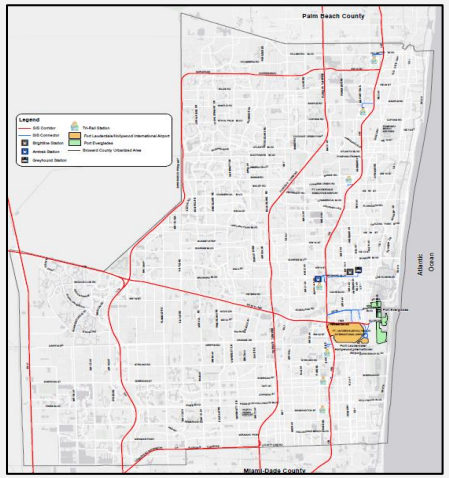
On- and off-system roadways

Bicycle facilities



Pedestrian facilities

Strategic Intermodal System facilities



Bus Routes

Port, Airport, and Rail facilities

STEP 3: DEVELOP MULTIMODAL PERFORMANCE MEASURES

- **System Safety** - Number and rate of fatalities and serious injuries for motorized and non-motorized modes.
- **Roadway Level of Service** – Measures for freight, delay, travel times and crash clearance times.
- **Transit** – Measures for frequency, headways, hours of service, and passenger trips.
- **Non-Motorized** – Miles of bicycle lanes, sidewalks and paved trails.
- **Mode Share** – Percentage of transit and non-motorized share of trips.
- **Transit System Access** – Percentage of jobs, population and equity areas within ½ mile of transit service.
- **Transportation Equity** – Jobs within 45-minute transit commute of equity areas and miles of bicycle and sidewalk facilities within equity areas.
- **Air Quality/Emissions** – Amount of carbon dioxide emitted per person.
- **Transportation System Vulnerability & Resiliency** – Miles of evacuation routes and road forecasted to be inundated by two feet of sea level rise.

STEP 4: COLLECT DATA/MONITOR SYSTEM PERFORMANCE

Tools/Datasets		Capacity-Related Recurring Congestion	Unanticipated Non-Recurring Congestion	Planned Event-Based Congestion	Timeframe
Regional Integrated Transportation Information System (RITIS)	Bottleneck Ranking Function	✓	-	✓	March and April 2019
	Planning Time Index (PTI)	✓	-		March and April 2019
	Congestion Scan (TTI, Speed profile)	-	-	✓	Varies (Year 2019)
Signal Four Analytics		-	✓	-	2015 and 2019 Historical Crash Data, During Congested Period
Southeast Regional Planning Model (SERPM), v 8.5.12		✓	✓	-	2015 and 2045 Volume to Capacity Ratio
Broward Level of Service (LOS) Reports		✓	✓	-	Year 2020 and 2045

STEP 5: ANALYZE CONGESTION PROBLEMS & NEEDS

Capacity-Related Recurring Congestion

Metric	Threshold
Vehicle Hours of Delay (VHD)	Top 25% percentile
Volume/Capacity Ratio	>0.9
Travel Time Index (TTI)	>=1.5
RITIS Bottleneck Ranking (difference in speed and travel time compared to free flow for minimum duration of five minutes)	Speed <60% (Travel time >=40%)
Planning Time Index (PTI)	>=1.3

Unanticipated Non-Recurring Congestion

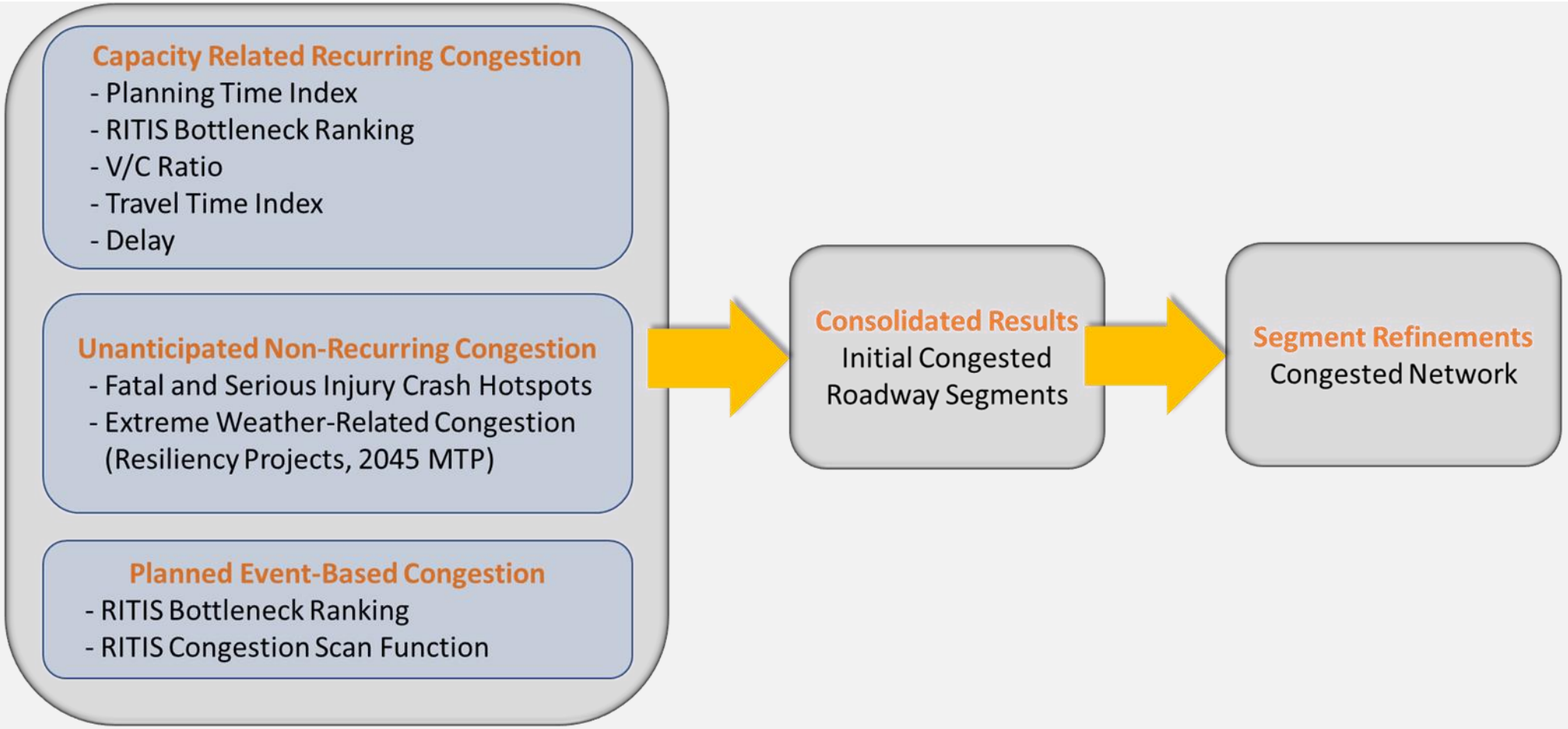
Metric	Threshold
Fatal and Serious Injury Crashes (All modes)	Crash hotspots
Volume/Capacity Ratio	0.9

Planned Event-Related Congestion

- Based on congestion scan function available in RITIS

STEP 5: ANALYZE CONGESTION PROBLEMS & NEEDS *(continued)*

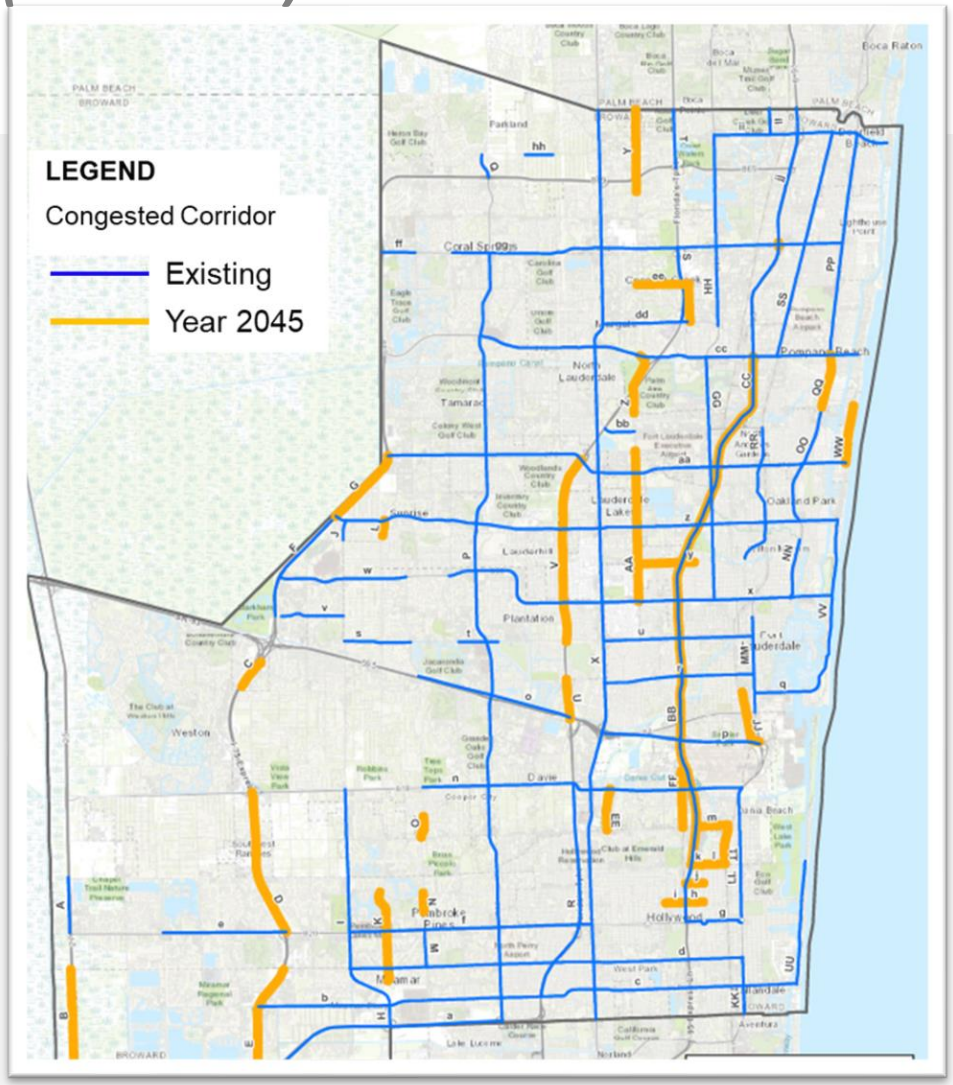
CONGESTED NETWORK IDENTIFICATIION PROCESS



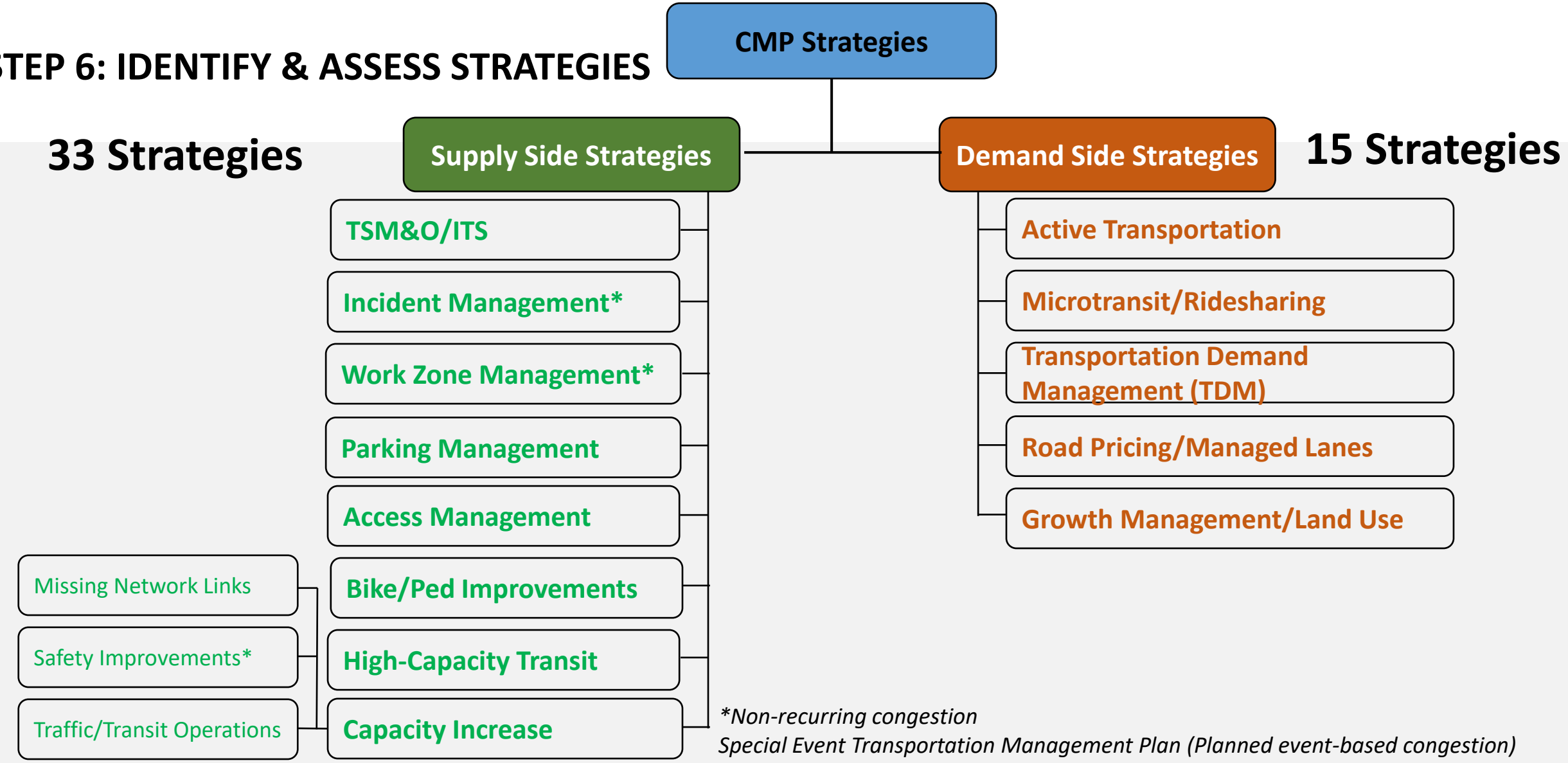
STEP 5: ANALYZE CONGESTION PROBLEMS & NEEDS *(continued)*

CONGESTED NETWORK, EXISTING & FUTURE

- # of Roadway Segments
  - East-west: 35 *(29 existing + 6 Year 2045)*
  - North-south: 50 *(27 existing + 23 Year 2045)*
- # of Miles of Congested Corridors
  - East-west: 152 miles *(146 existing + 6 Year 2045)*
  - North-South: 200 miles *(146 existing + 54 Year 2045)*
- Year 2045 congested corridors identified based on a subset of metrics
- Subsequent CMP updates to refine and adjust future year congested corridors



STEP 6: IDENTIFY & ASSESS STRATEGIES



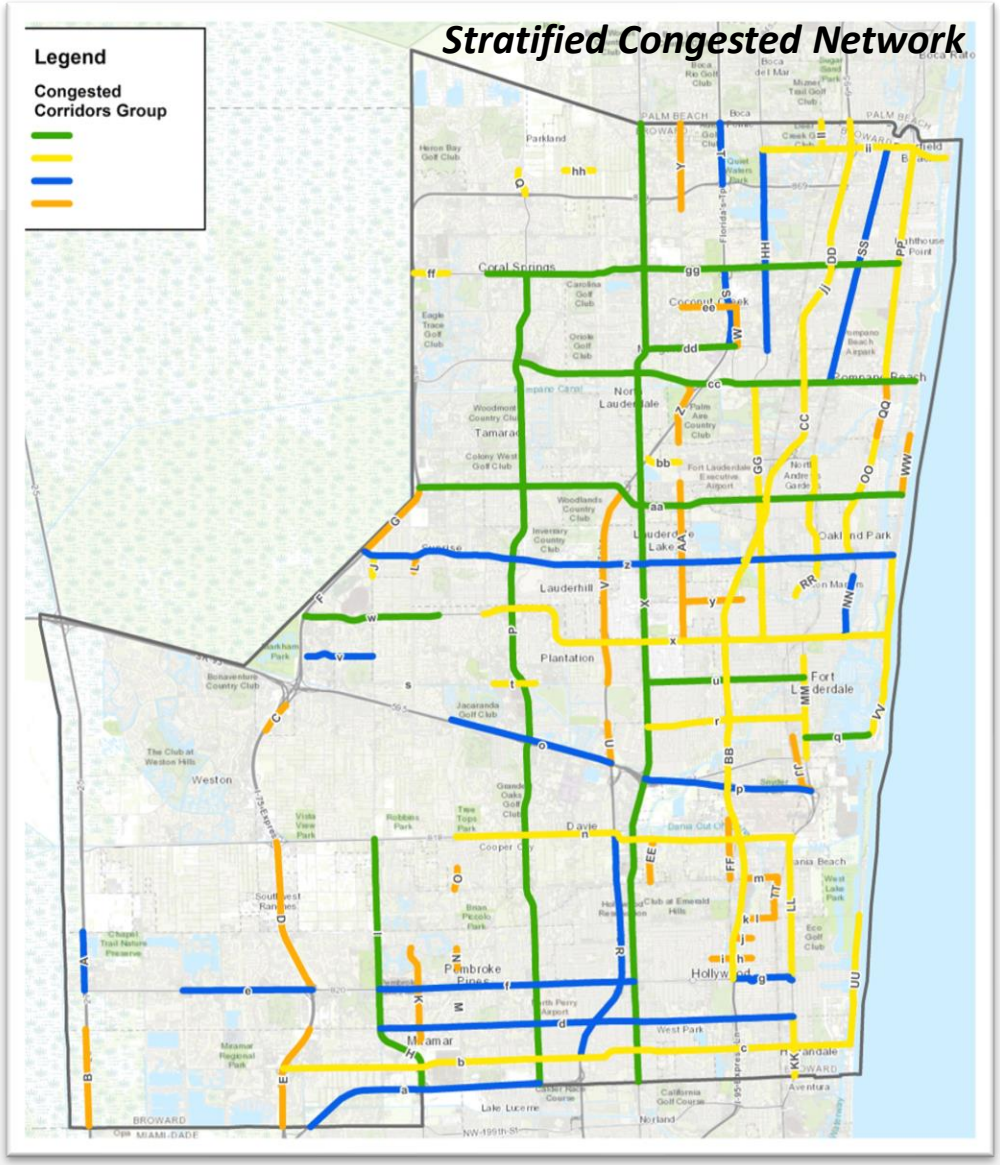
*Non-recurring congestion
Special Event Transportation Management Plan (Planned event-based congestion)

STEP 6: IDENTIFY & ASSESS STRATEGIES *(continued)*

STRATIFIED CONGESTED NETWORK

If a congested corridor or a segment of it is:

- A future year 2045 corridor: Orange
- On FDOT's TSM&O Master Plan; Broward County Surtax congestion management (CM) project or fiber optic network, potential high-capacity transit corridor; and BMPO's CMP analysis: Green
- On any two of the above plans/projects: Yellow
- On only one of the above plans/projects: Blue



STEP 6: IDENTIFY & ASSESS STRATEGIES *(continued)*

CORRIDOR/AREA SPECIFIC SELECT CMP STRATEGIES

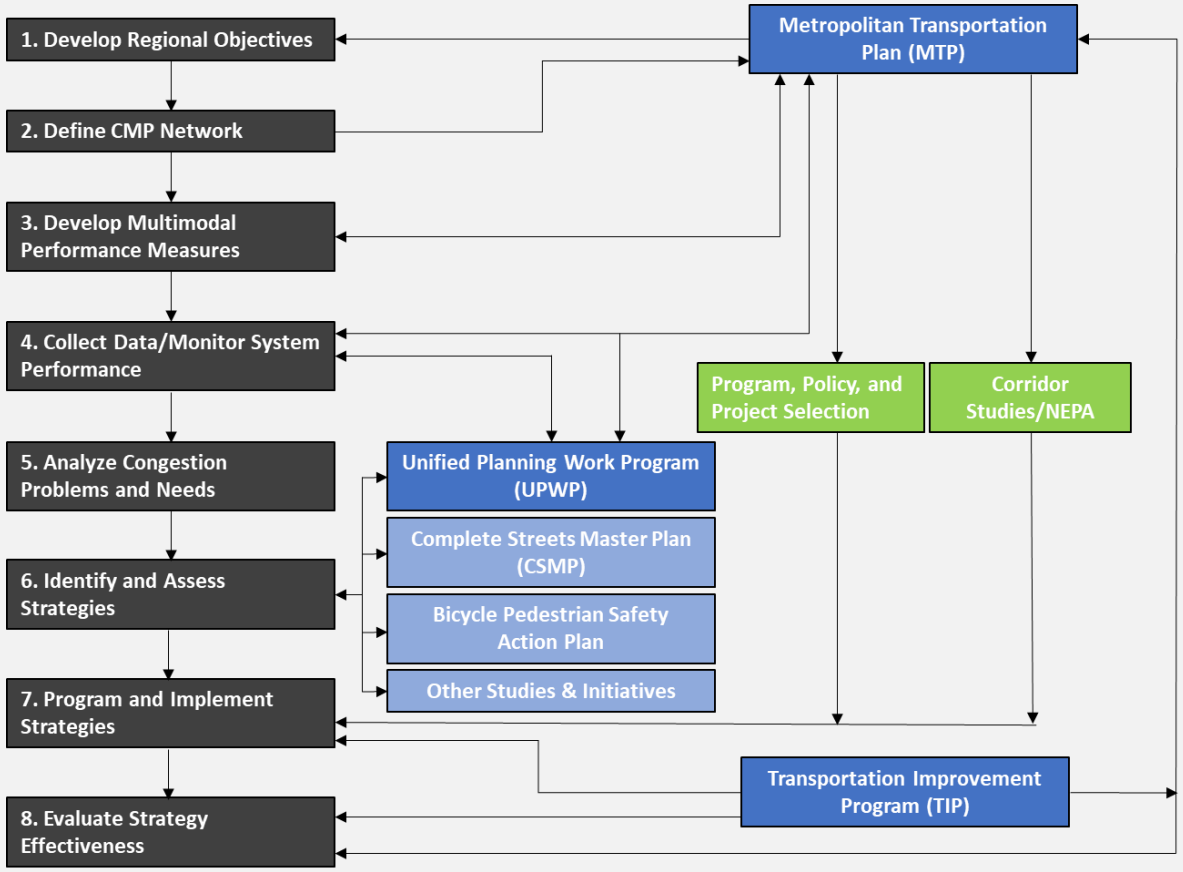
- Corridor Category
  - Green: 12 corridors (98 miles)
  - Yellow: 25 corridors (117 miles)
  - Blue: 19 corridors (78 miles)
  - Orange: 29 corridors (60 miles)
- Phased approach to CMP strategy implementation
- Consider other CMP strategies from the toolbox based on detailed corridor study
- Set-up corridors for prioritization through MTP process and TIP with input from partner agencies and stakeholders

Sample matrix showing corridor/area specific CMP strategies

Direction	Map ID	Road Name	From	To	Length (in miles)	Timeframe	Corridor/Area Specific Select CMP Strategies		BMPO CMP Group Color
							Supply Side	Demand Side	
North-South	A	US-27	Pines Boulevard	Sheridan Street	1.50	Existing	TSM&O Improvements from Pembroke Rd. to Griffin Rd. (US-27 Grade Separation Study)	US-27 Grade Separation Study	Blue
North-South	B	US-27	Miami-Dade/Broward Co. Line	Pembroke Road	2.47	2045	TSM&O Improvements from Pembroke Rd. to Griffin Rd. (US-27 Grade Separation Study)	US-27 Grade Separation Study	Orange
North-South	C	I-75	Just south of I-595	N/A	0.83	2045	Integrated Corridor Management (ICM)		Orange
North-South	D	I-75	Griffin Road	Pines Boulevard	3.96	2045	Integrated Corridor Management (ICM)		Orange
North-South	E	I-75	Pembroke Road	Miami-Dade/Broward Co. Line	2.70	2045	Integrated Corridor Management (ICM)		Orange
North-South	F	Sawgrass Expressway	NW 8th Street	Oakland Park Boulevard	3.29	Existing	Increase Roadway Capacity (6 to 10 Lanes)		Yellow
North-South	G	Sawgrass Expressway	Oakland Park Boulevard	Commercial Boulevard	2.18	2045	Increase Roadway Capacity (6 to 10 Lanes)		Orange
North-South	H	Red Road	Florida's Turnpike	Pembroke Road	2.14	Existing	TSM&O (Miami-Dade Co. Line to Miramar Pkwy), ATCS (Miami-Dade Co. Line to Griffin Rd.)		Green
North-South	I	Flamingo Road	Pembroke Road	Griffin Road	4.84	Existing	TSM&O (Miami-Dade Co. Line to Miramar Pkwy), ATCS (Miami-Dade Co. Line to Griffin Rd.), Center Turn Overpass (CTO) at Flamingo Rd. and Pines Blvd.		Green
North-South	J	Flamingo Road	NW 136th Ave	Oakland Park Boulevard	0.53	Existing	TSM&O		Yellow
North-South	K	Hiatus Road	Miramar Blvd	Taft Street	2.51	2045	TSM&O	Microtransit/Ridesharing, Active Transportation	Orange
North-South	L	Hiatus Road	NW 29th Manor	Oakland Park Boulevard	0.41	2045	TSM&O	Capacity Increase (Lane Configuration)	Orange
North-South	M	Palm Avenue	Pembroke Road	Pines Boulevard	1.01	Existing		Microtransit/Ridesharing, Active Transportation, Targeted TMD strategies	Blue
North-South	N	Palm Avenue	Johnson Street	Taft Street	0.51	2045		Microtransit/Ridesharing, Active Transportation, Targeted TMD strategies	Orange
North-South	O	Palm Avenue	Stirling Road	SW 53rd Street	0.57	2045		Microtransit/Ridesharing, Active Transportation, Targeted TMD strategies	Orange
North-South	P	University Drive	Florida's Turnpike	W Sample Road	21.00	Existing	Adaptive Traffic Control System (Stirling Rd. to Sunrise Blvd.), Transit Signal Priority, TSM&O (Southgate Blvd. to Ramblewood Dr.), (Sunrise Blvd. to Sunset Strip), High-Capacity Transit		Green
North-South	Q	University Drive	Sawgrass Expressway	Holmberg Road	0.66	Existing	Transit Signal Priority, High-Capacity Transit		Yellow

NEXT STEPS

- Incorporate input received from TAC/CAC members
- BMPO Board Meeting (September 8, 2022)
- Prepare Draft and Final CMP Update Report
- Advance CMP projects/congested corridors into BMPO's MTP and TIP processes



Thank You

Contact:
Amanda Christon, AICP
Transit Manager
Broward MPO
(954)876-0078
christona@browardmpo.org