

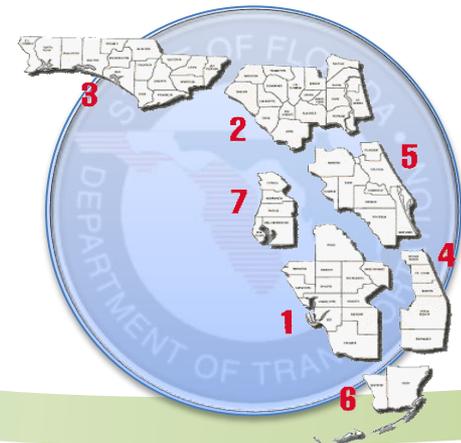


# Florida's Multimodal Mobility Performance Measures

**Doug McLeod**

**FDOT Planning Manager, Mobility Performance Measures**

October 23, 2014





# Presentation

- Introduction to mobility
- MAP-21 requirements
- Florida's Statewide Mobility Performance Measures Team
- Roles and responsibilities
- FDOT's Multimodal Mobility Performance Source Book



# Importance of **Mobility**



“Providing **mobility** for people and goods is transportation’s most essential function.”

Mobility performance measures



**MAKE  
SENSE**



# Florida DOT's Perspective

“FDOT is committed to being leaders and innovators in this vitally important area of transportation management”

Get out in front

“We track progress toward meeting our own goals”

Positive

Ananth Prasad  
FDOT Secretary



Supportive



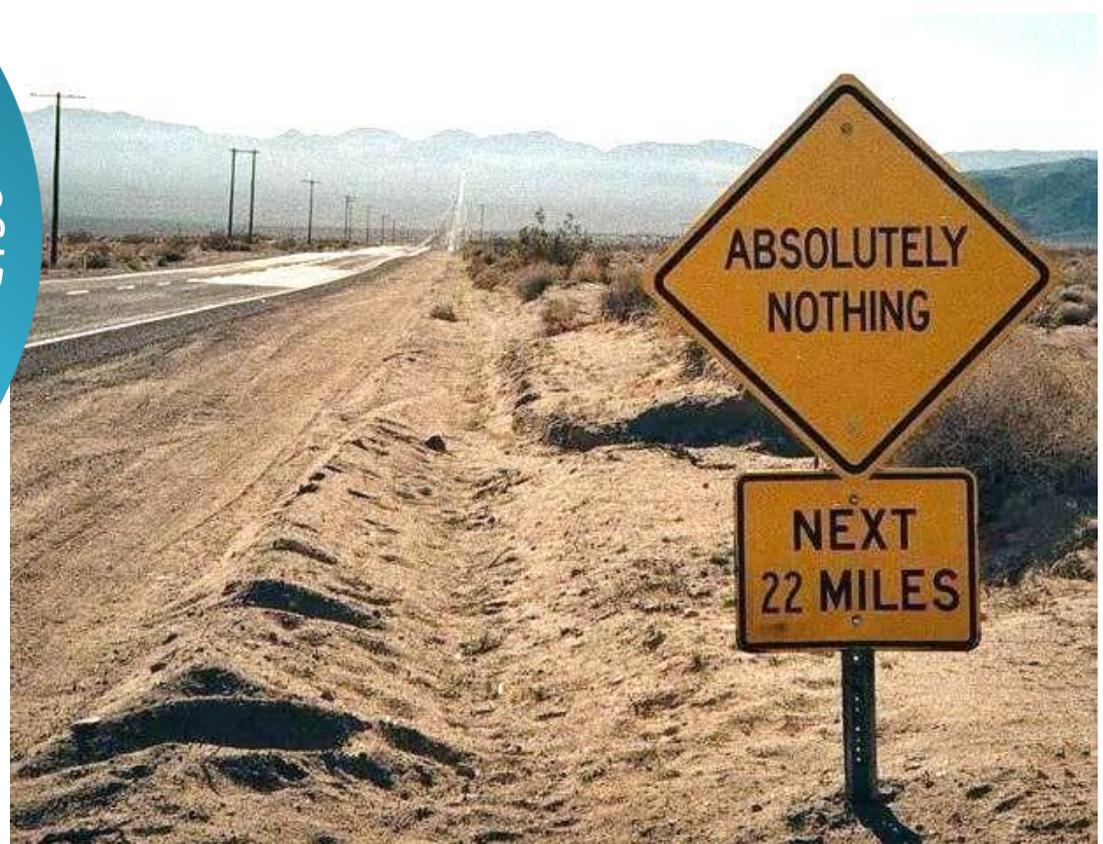
# Dimensions of Mobility

To adequately address mobility,  
**all four dimensions**  
should be emphasized  
and multiple  
performance  
measures used.

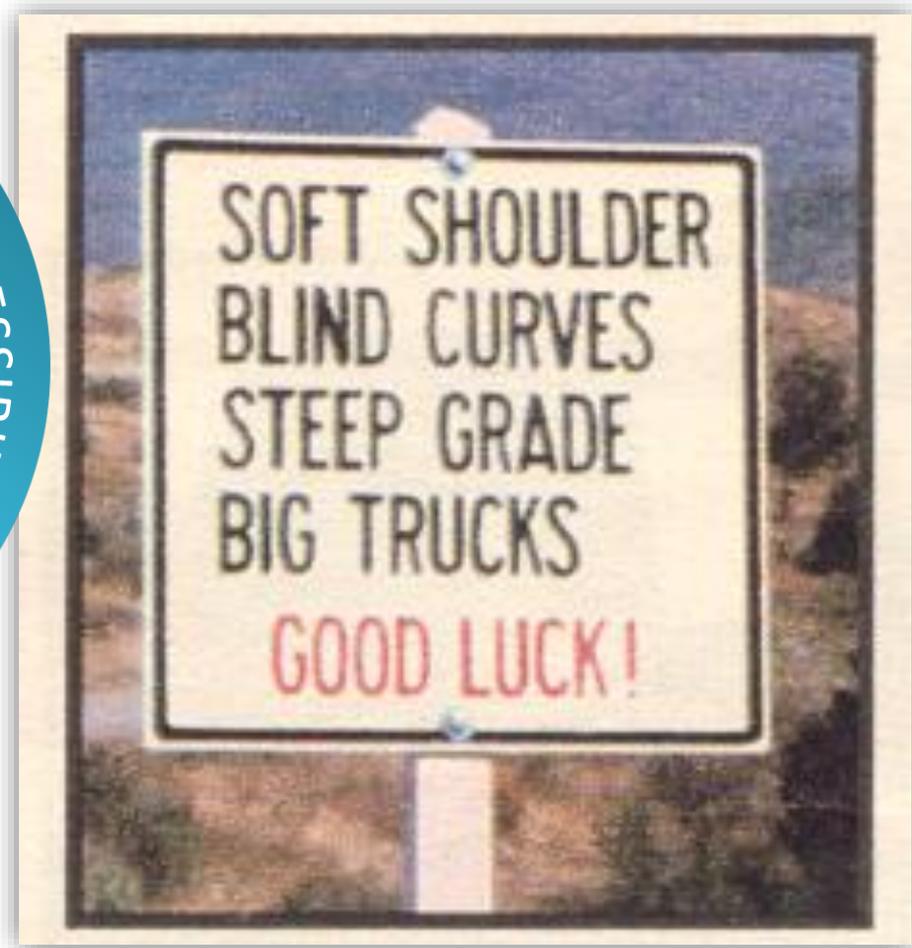
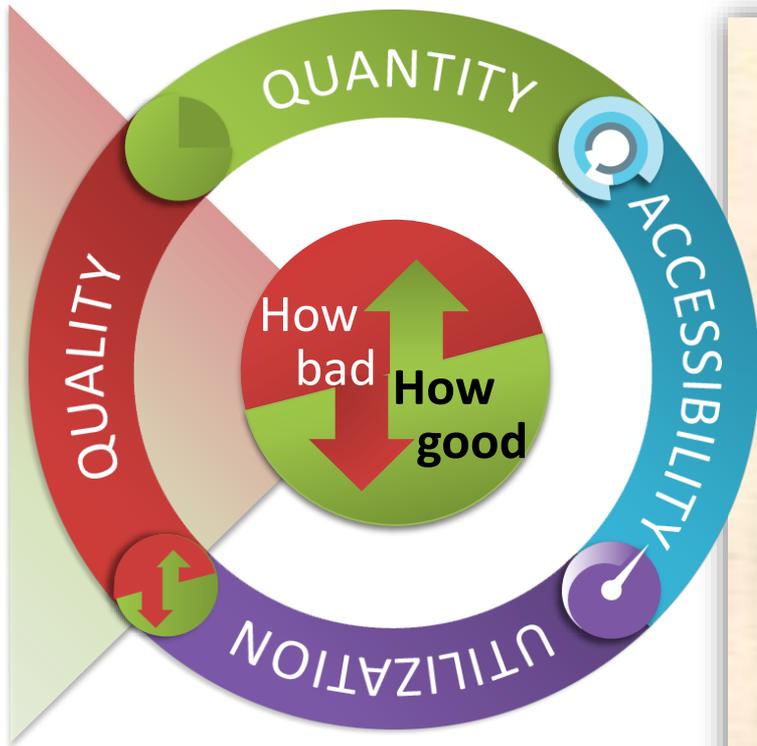




# Quantity



# Quality





# Accessibility



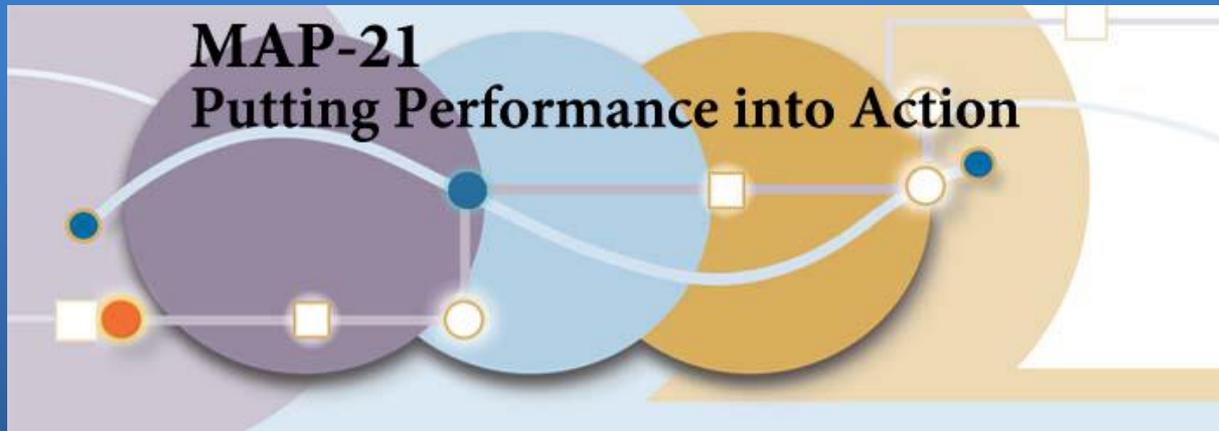


# Capacity Utilization





# MAP-21 Requirements

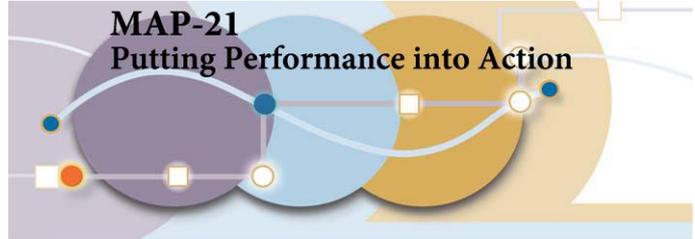
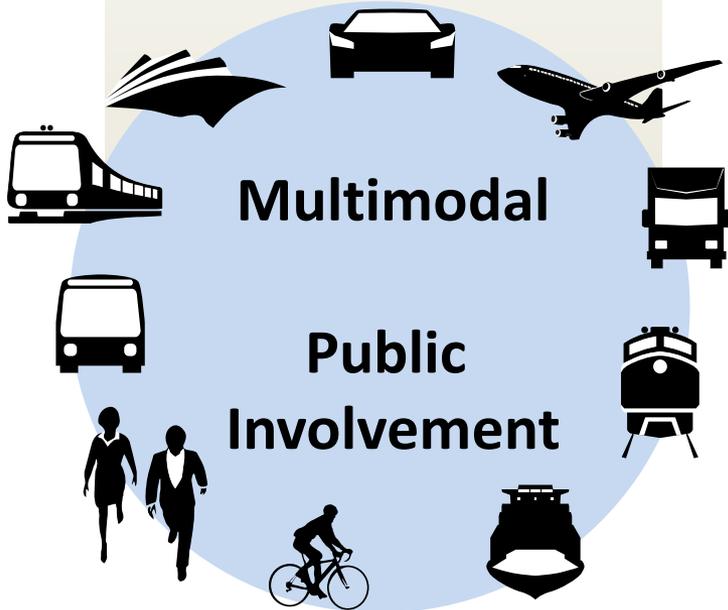


Moving Ahead for Progress in the 21<sup>st</sup> Century

USDOT requires States and MPOs to do performance based planning



# ISTEA/TEA-21





# MAP-21 National Goal Areas for the Federal Aid Highway Program



Safety

Infrastructure Condition

**Congestion Reduction**

**System Reliability**

**Freight Movement and Economic Vitality**

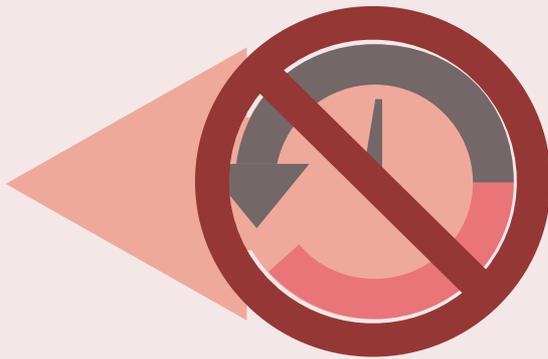
Environmental Sustainability

Reduced Project Delivery Delays



# MAP-21 National Goal Areas for the Federal Aid Highway Program

Does not address  
mobility in general



Not multimodal in  
scope





# Use of Performance Measures



Performance  
Based planning

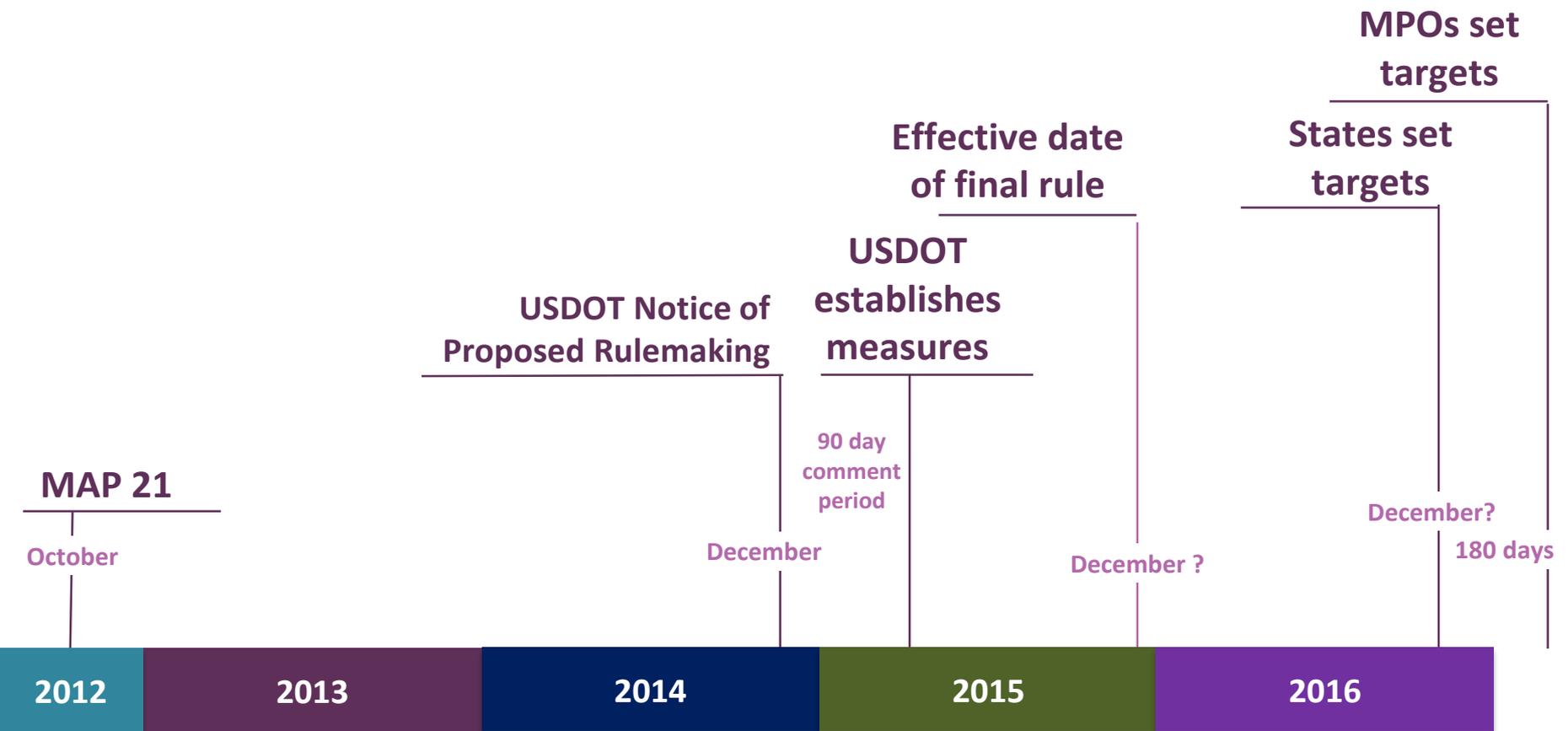


Not area  
funding  
allocations

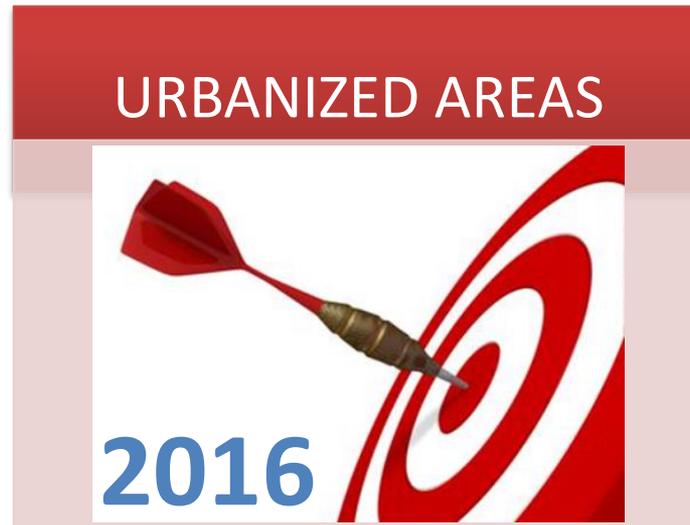
Application of performance management principles to transportation system policy and investment decisions



# MAP-21 Mobility Performance Measures Schedule



# Performance Targets



**States** will set targets  
within 1 year after the final rule



**MPOs** will set targets  
within 180 days after States set  
their targets



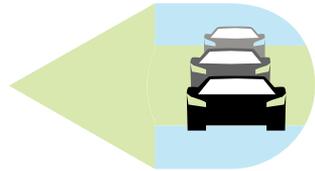
# Performance Targets



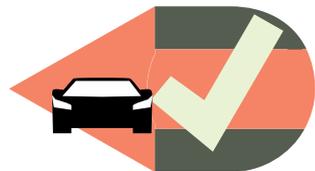
States and MPOs must integrate performance plans into a performance-based process



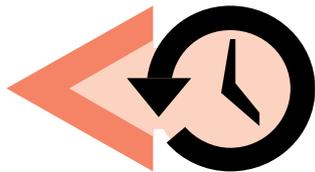
# FDOT Draft MAP-21 Recommendations



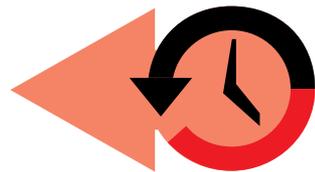
Vehicle miles traveled



% travel meeting generally acceptable operating conditions



Travel time reliability



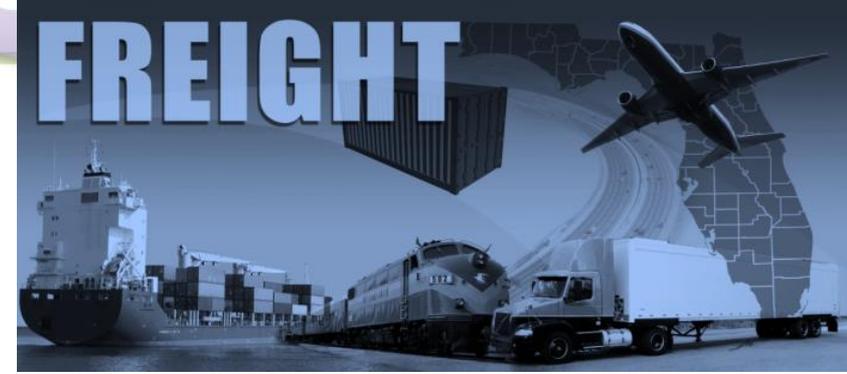
Delay



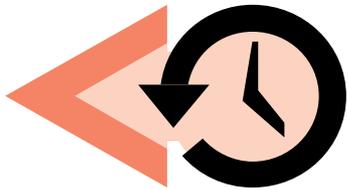
% miles severely congested



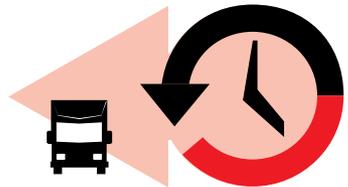
# FDOT Draft MAP-21 Freight Recommendations



Combination truck miles traveled



Travel time reliability



Combination Truck Delay



% miles severely congested



# Meaning of trucks

FHWA Vehicle Classifications			
<b>1. Motorcycles</b> 2 axes, 2 or 3 tires 	<b>2. Passenger Cars</b> 2 axes, can have 1- or 2-axle trailers 	<b>3. Pickups, Panels, Vans</b> 2 axes, 4-tire single units Can have 1 or 2 axle trailers 	<b>4. Buses</b> 2 or 3 axes, full length 
<b>5. Single Unit 2-Axle Trucks</b> 2 axes, 6 tires (dual rear tires), single-unit 	<b>6. Single Unit 3-Axle Trucks</b> 3 axes, single unit 	<b>7. Single Unit 4 or More-Axle Trucks</b> 4 or more axes, single unit 	<b>8. Single Trailer 3- or 4-Axle Trucks</b> 3 or 4 axes, single trailer 
<b>9. Single Trailer 5-Axle Trucks</b> 5 axes, single trailer 		<b>10. Single Trailer 6 or More-Axle Trucks</b> 6 or more axes, single trailer 	
<b>11. Multi-Trailer 5 or Less-Axle Trucks</b> 5 or less axes, multiple trailers 		<b>12. Multi-Trailer 6-Axle Trucks</b> 6 axes, multiple trailers 	
<b>13. Multi-Trailer 7 or More-Axle Trucks</b> 7 or more axes, multiple trailers 			



1-3

<b>1. Motorcycles</b> 2 axes, 2 or 3 tires 	<b>2. Passenger Cars</b> 2 axes, can have 1- or 2-axle trailers 	<b>3. Pickups, Panels, Vans</b> 2 axes, 4-tire single units Can have 1 or 2 axle trailers 
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4

<b>4. Buses</b> 2 or 3 axes, full length 
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5-7

<b>5. Single Unit 2-Axle Trucks</b> 2 axes, 6 tires (dual rear tires), single-unit 	<b>6. Single Unit 3-Axle Trucks</b> 3 axes, single unit 	<b>7. Single Unit 4 or More-Axle Trucks</b> 4 or more axes, single unit 
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8-13

<b>9. Single Trailer 5-Axle Trucks</b> 5 axes, single trailer 	<b>10. Single Trailer 6 or More-Axle Trucks</b> 6 or more axes, single trailer 	<b>8. Single Trailer 3- or 4-Axle Trucks</b> 3 or 4 axes, single trailer 
<b>11. Multi-Trailer 5 or Less-Axle Trucks</b> 5 or less axes, multiple trailers 	<b>12. Multi-Trailer 6-Axle Trucks</b> 6 axes, multiple trailers 	
<b>13. Multi-Trailer 7 or More-Axle Trucks</b> 7 or more axes, multiple trailers 		



# Thoughts on MAP-21 Mobility Performance Measures





# Statewide Mobility Performance Measures Team Purpose

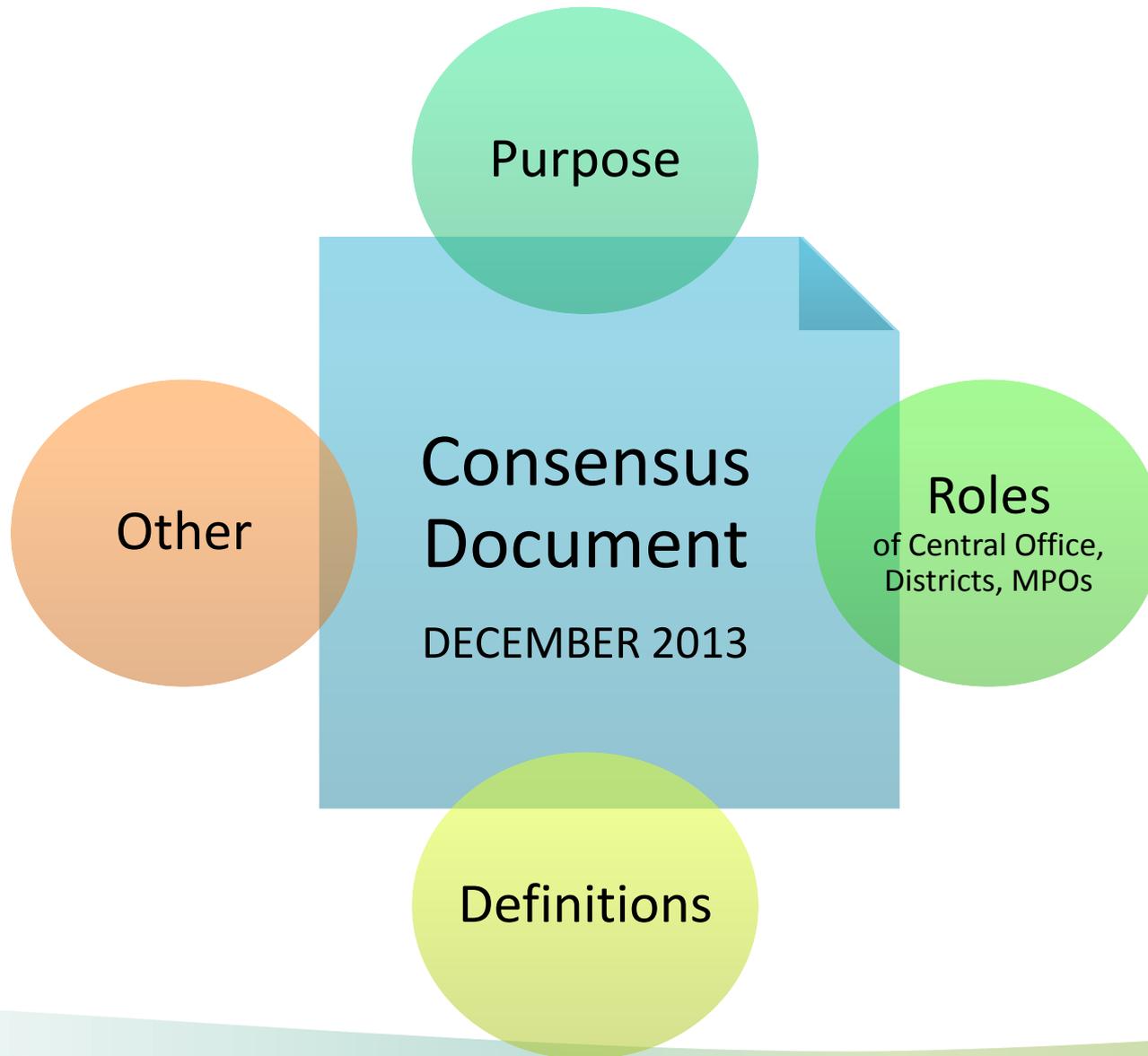
To provide guidance and support to FDOT and the state's MPOs on multimodal mobility performance measures including reporting for internal and MAP-21 purposes



Consensus on approach and measures

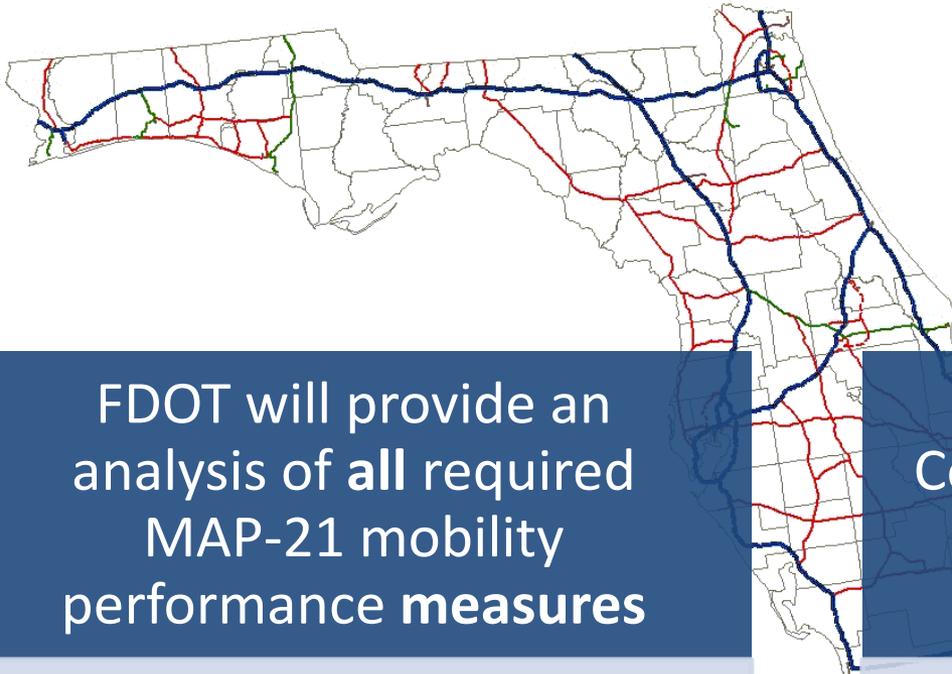


# Consensus Document





# FDOT TranStat's Intent



FDOT will provide an analysis of **all** required MAP-21 mobility performance **measures**

- For the state as a whole (**not by Districts**)
- Each MPO (has the option to use or not)

Comparable measurements for road networks

- MAP-21 networks
- State Highway System



# FDOT Central Office Roles:

Central Office



District Office



MPO

Coordinate statewide efforts on MPM Program

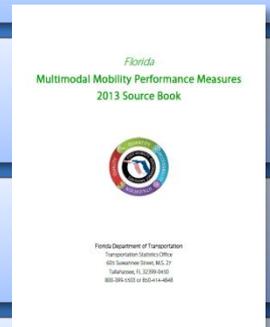
Produce and report on statewide MAP-21 measures

Produce annual TranStat Source Book

Provide additional MPMs

Lead development of targets and support MPOs

Develop and provide training in 2014





# FDOT District Offices Roles:

Central Office

Provide input to Central Office on MPM program

District Office

Implement FDOT projects/programs to implement Federal and State goals/objectives and document activities

Develop own MPMs within districts, if appropriate

MPO

Coordinate with MPOs and Regional MPOs

- Provide MAP-21 mobility performance measure analyses developed by the Central Office
- Provide technical support
- Provide advice on setting goals and objectives



# MPOs Roles:



- Comply with MAP-21
  - Use calculated results provided by FDOT, if desired
  - Report to FHWA as required
  - Develop performance targets
  - Include in LRTPs and Congestion Management Plans to evaluate alternatives, programming/prioritization of projects
- Develop own MPMs, if appropriate
- Coordination with other MPOs, if appropriate



# On-going Activities

## Transportation Statistics' Source Book

## Transportation Statistics Task Work Orders

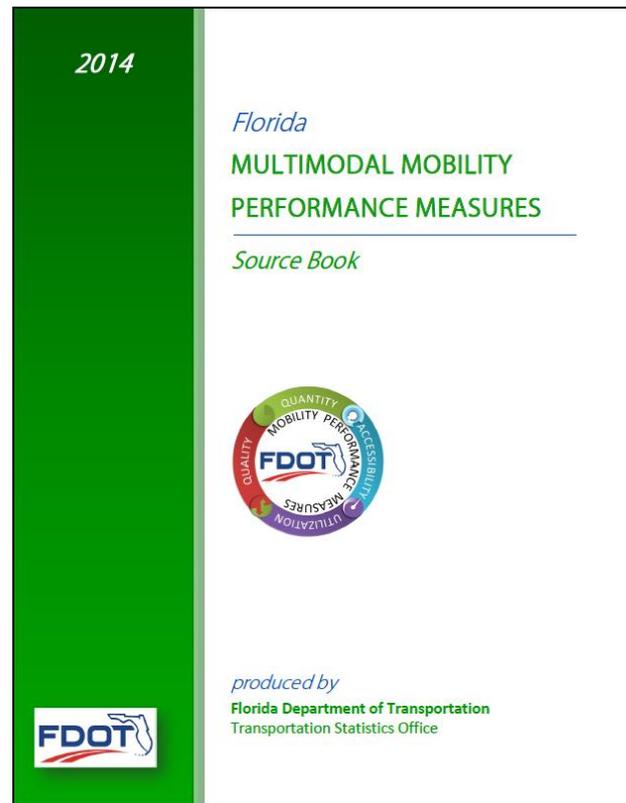
- Freight Performance Metrics (initiate soon)
- Travel time reliability (many underway)
- Travel time probe data
- SIS & NHS Connector Adequacy Analysis
- Freight data base
- Training
- Bottlenecks
- Highway Capacity Manual passenger car equivalencies

## Others

- FHWA Technical Working Group (freight primer)
- MPOAC Freight Committee
- Other



# Mobility Performance Measures Reporting



<http://www.dot.state.fl.us/planning/statistics/sourcebook/>



## Multimodal Mobility Performance Measures Matrix

	MODE	QUANTITY	QUALITY	ACCESSIBILITY	UTILIZATION
People	Auto/Truck	Vehicle Miles Traveled Person Miles Traveled	% Travel Meeting LOS Criteria <input type="checkbox"/> % Miles Meeting LOS Criteria Travel Time Reliability <input type="checkbox"/> Travel Time Variability <input type="checkbox"/> Vehicle Hours of Delay Person Hours of Delay Average Travel Speed		% Miles Severely Congested % Travel Severely Congested <input type="checkbox"/> Hours Severely Congested <input type="checkbox"/> Vehicles Per Lane Mile
	Transit	Passenger Miles Traveled Passenger Trips	Average Headway		
	Pedestrian		Level of Service (LOS)	% Sidewalk Coverage	
	Bicycle		Level of Service (LOS)	% Bike Lane/Shoulder Coverage	
	Aviation	Passengers	Departure Reliability	Highway Adequacy (LOS)	Demand to Capacity Ratios
	Rail	Passengers	Departure Reliability		
	Seaports	Passengers		Highway Adequacy (LOS)	
Freight	Truck	Combination Truck Miles Traveled <input type="checkbox"/> Truck Miles Traveled <input type="checkbox"/> Combination Truck Tonnage Combination Truck Ton Miles Traveled	Travel Time Reliability <input type="checkbox"/> Travel Time Variability <input type="checkbox"/> Combination Truck Hours of Delay <input type="checkbox"/> Combination Truck Average Travel Speed		% Miles Severely Congested Vehicles Per Lane Mile Combination Truck Backhaul Tonnage
	Aviation	Tonnage		Highway Adequacy (LOS)	
	Rail	Tonnage		Highway Adequacy (LOS) Active Rail Access	
	Seaports	Tonnage Twenty-foot Equivalent Units		Highway Adequacy (LOS) Active Rail Access	

Reporting Periods: = Peak Hour = Peak Period  = Daily = Yearly

Bold = FDOT MAP-21 Recommended Measure

Italicized Text = Measures added 2014



# MPOs



Others  
Consensus in Approach



# Presentation

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