

Utah/Florida MPO and Mobility Performance Measures Coordination

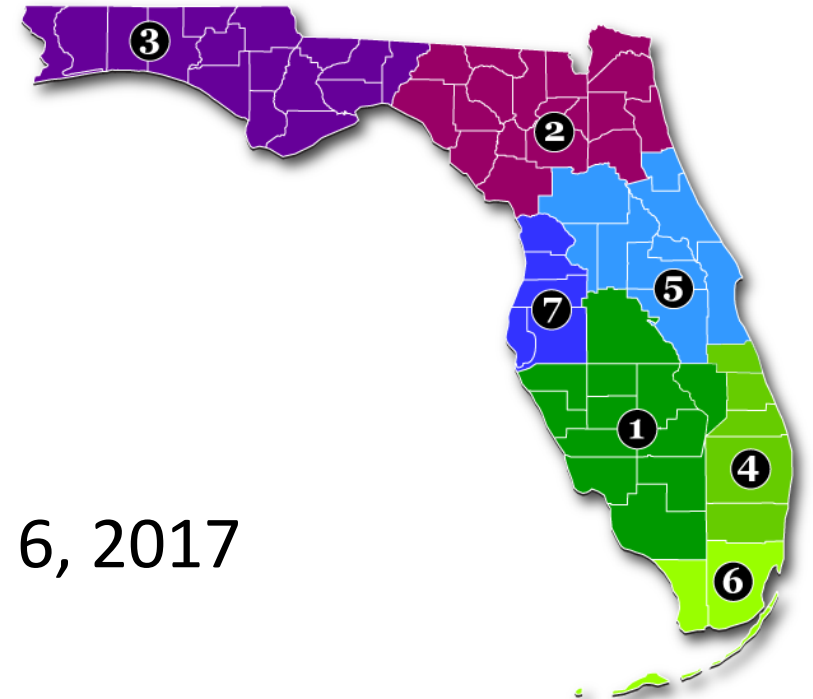


Doug McLeod

FDOT Mobility Performance Measures Program Manager

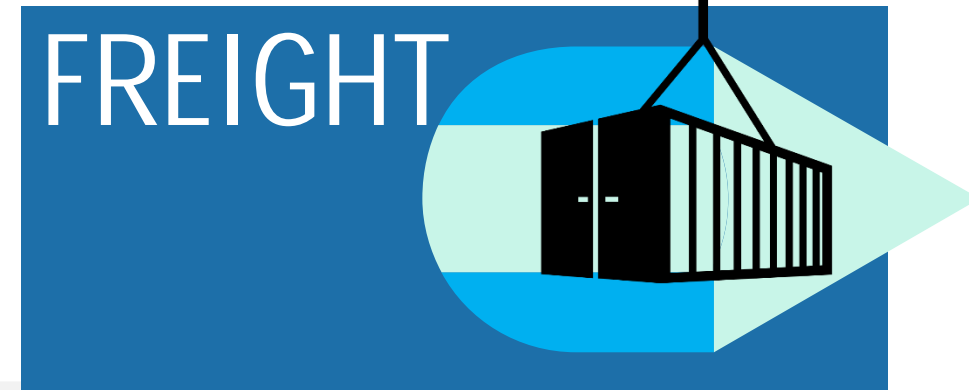
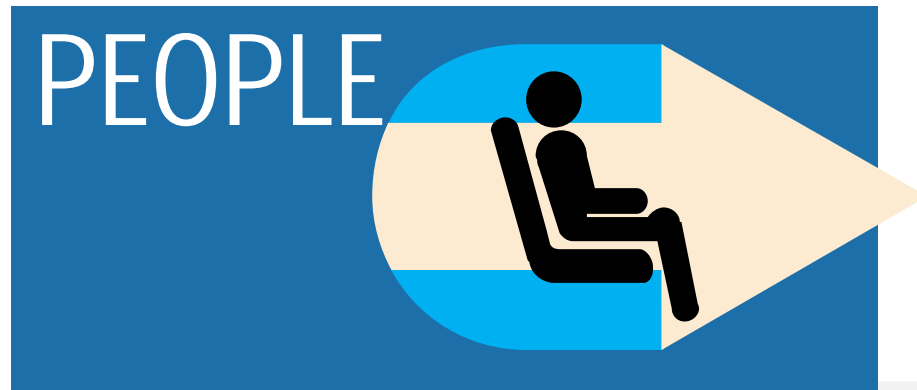
TRB Performance Measurement Committee

TRB Highway Capacity Committee



November 6, 2017

Importance of Mobility



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

Mobility performance measures



**MAKE
SENSE**

Dimensions of Mobility



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



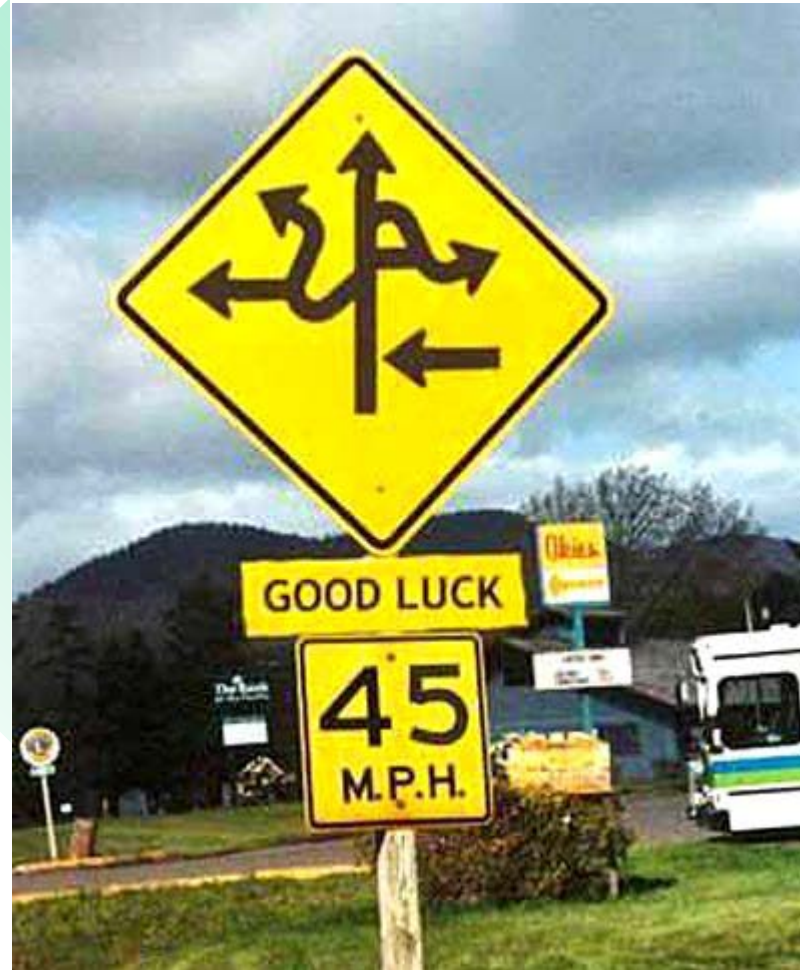
Quantity



Quality



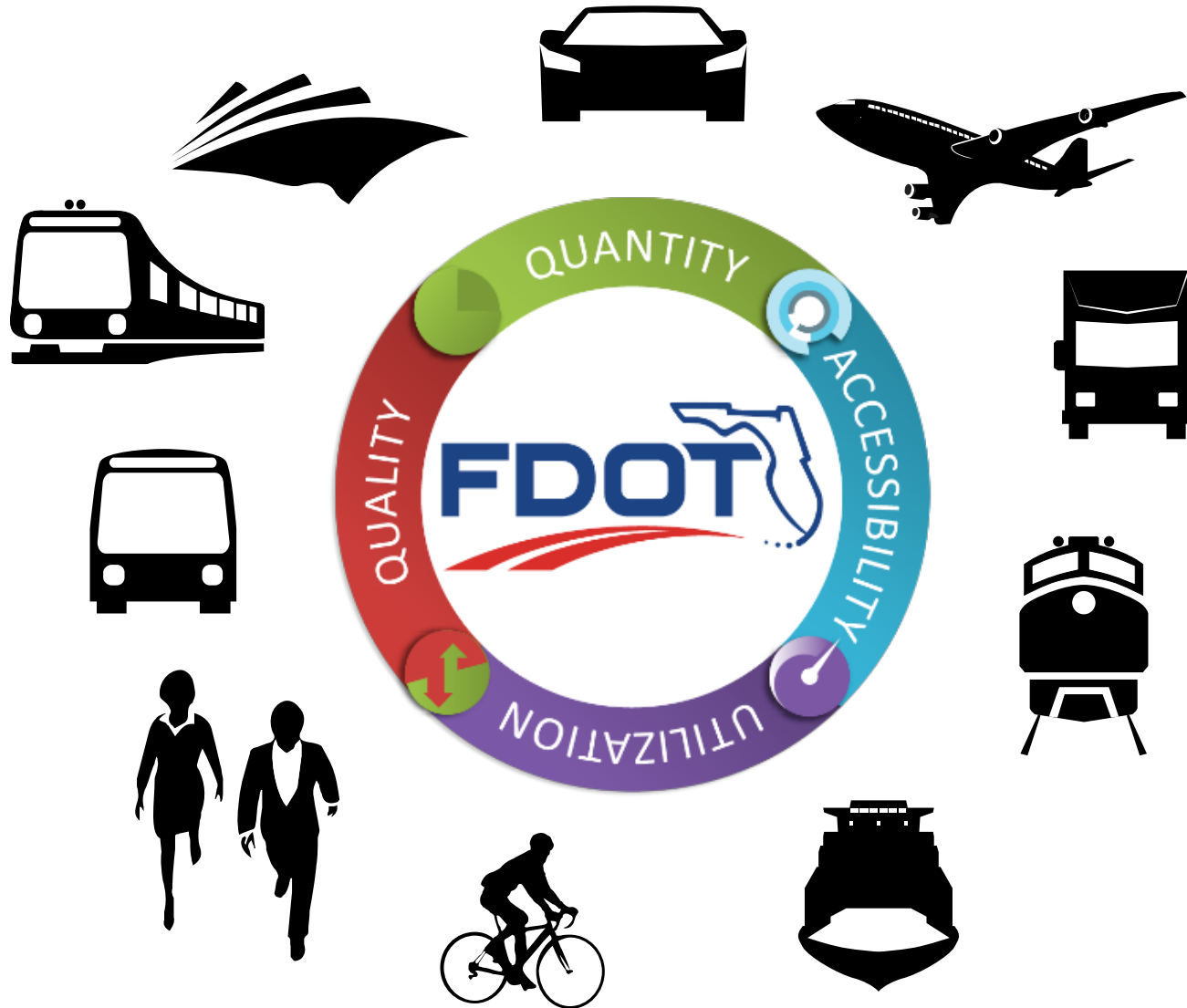
Accessibility



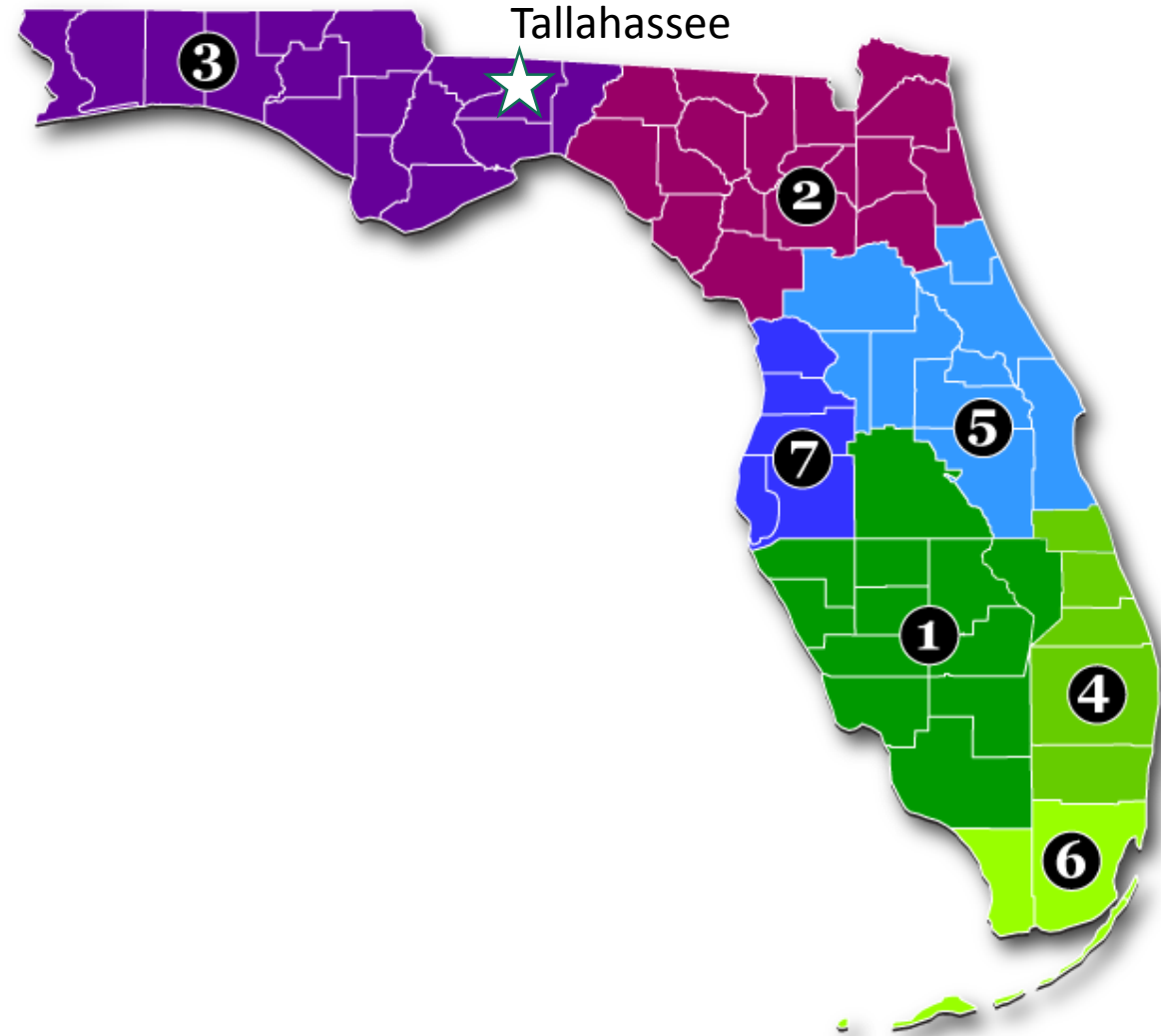
Capacity Utilization



Applicability to All Modes



Interesting Florida/Utah Items

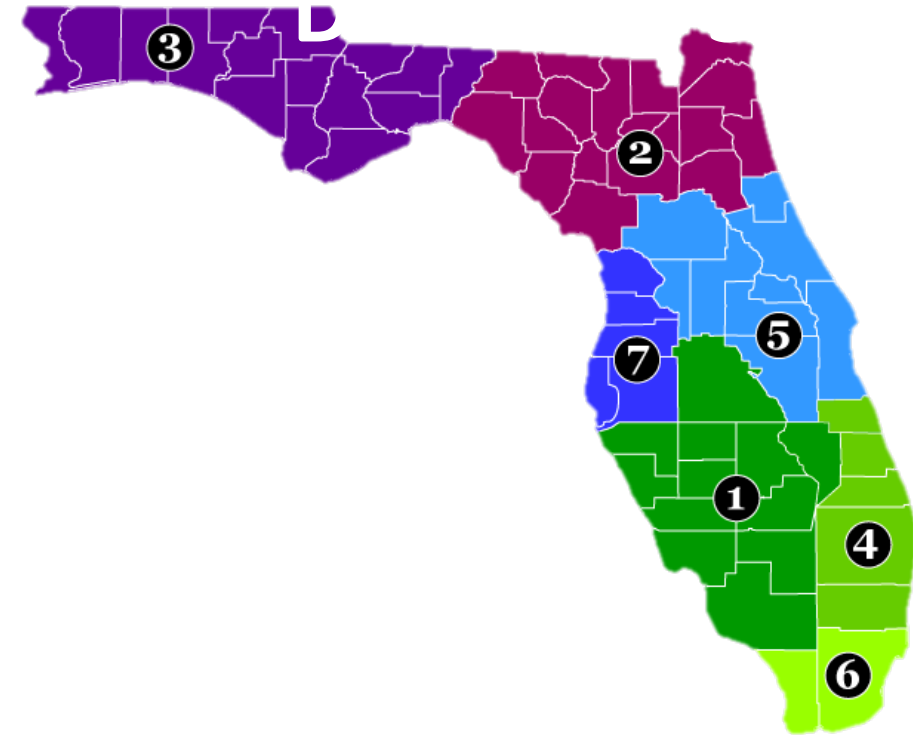


State DOTs/MPOs Relationships





Mobility Performance Measures Outreach



27 MPOs Oct 2016 – Feb 2017
7 meetings

Preliminary Discussion Agenda/Topics

- Introduction/Update on Florida's Mobility Performance Measures Program
- Status of MAP-21 (FAST Act) performance measures requirements
- Travel time reliability understanding
- Desired travel times (speeds) for MAP-21
- Target setting for MAP-21 and for ourselves
- Roles of FDOT Districts (and C.O.) and MPOs for MAP-21
- Mobility measures MPOs would like FDOT to supply beyond MAP-21
- Travel time reliability implementation
- Other



Perceived Keys to Success in Florida

Our (FDOT/MPO) joint coordination with a common approach

We (FDOT & MPOs) will comply with ultimate federal requirements

FHWA
Headquarters
quote

FDOT/MPOs can
“use their own measures in
performance-based planning”

- Florida can use measures and calculation techniques most relevant to us
 - Travel time reliability
 - Congestion
 - Multimodal
 - Other



Target establishment
(conservative approach)



FDOT/ MPOs submit
consistently and together

FDOT supply every MPO

- Federally required measures
- MPOAC agreed upon additional measures



FDOT Supplied MPO Mobility Performance Measure Analyses for 2015 (Broward MPO)

Broward (Urbanized Area)

Networks/Measures	A: Daily vehicle miles traveled (Millions)	B: Daily truck miles traveled (Millions)	C: Travel time reliability in the peak hour	D: Travel time variability	E: Daily vehicle hours of delay (Thousands)	F: Percent miles heavily congested	G: Percent sidewalk coverage	H: Percent bicycle lane coverage
A: National Highway System	26.6	2.1			66.9	13%		
B: Interstate	10.5	1.0	70%	1.94	23.6	42%		
C: Strategic Intermodal System ¹	16.2	1.6	69%	1.83	31.5	25%		
D: State Highway System	26.3	2.0			73.5	14%		
E: Freeways	15.5	1.5	77%	1.76	26.8	26%		
F: Non-freeways (SHS)	10.8	0.5			46.7	9%	89.3%	42.7%

Broward (MPO/TPO Boundary)

Networks/Measures	A: Daily vehicle miles traveled (Millions)	B: Daily truck miles traveled (Millions)	C: Travel time reliability in the peak hour	D: Travel time variability	E: Daily vehicle hours of delay (Thousands)	F: Percent miles heavily congested	G: Percent sidewalk coverage	H: Percent bicycle lane coverage	I: Average job accessibility within 30 minute car trip (Millions)	J: Average job accessibility within 30 minute transit trip (Thousands)
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D: State Highway System	27.1	2.1			74.0	12%				
E: Freeways	16.2	1.6	78%	1.72	27.2	21%				
F: Non-freeways (SHS) ²	11.0	0.6			46.8	9%	89.3%	34.6%		

Broward (County Boundary)

Networks/Measures	A: Daily vehicle miles traveled (Millions)	B: Daily truck miles traveled (Millions)	C: Travel time reliability in the peak hour	D: Travel time variability	E: Daily vehicle hours of delay (Thousands)	F: Percent miles heavily congested	G: Percent sidewalk coverage	H: Percent bicycle lane coverage	I: Average job accessibility within 30 minute car trip (Millions)	J: Average job accessibility within 30 minute transit trip (Thousands)
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¹ SIS travel time reliability and travel time variability excludes freeways

² Percent sidewalk coverage is limited to the urbanized areas



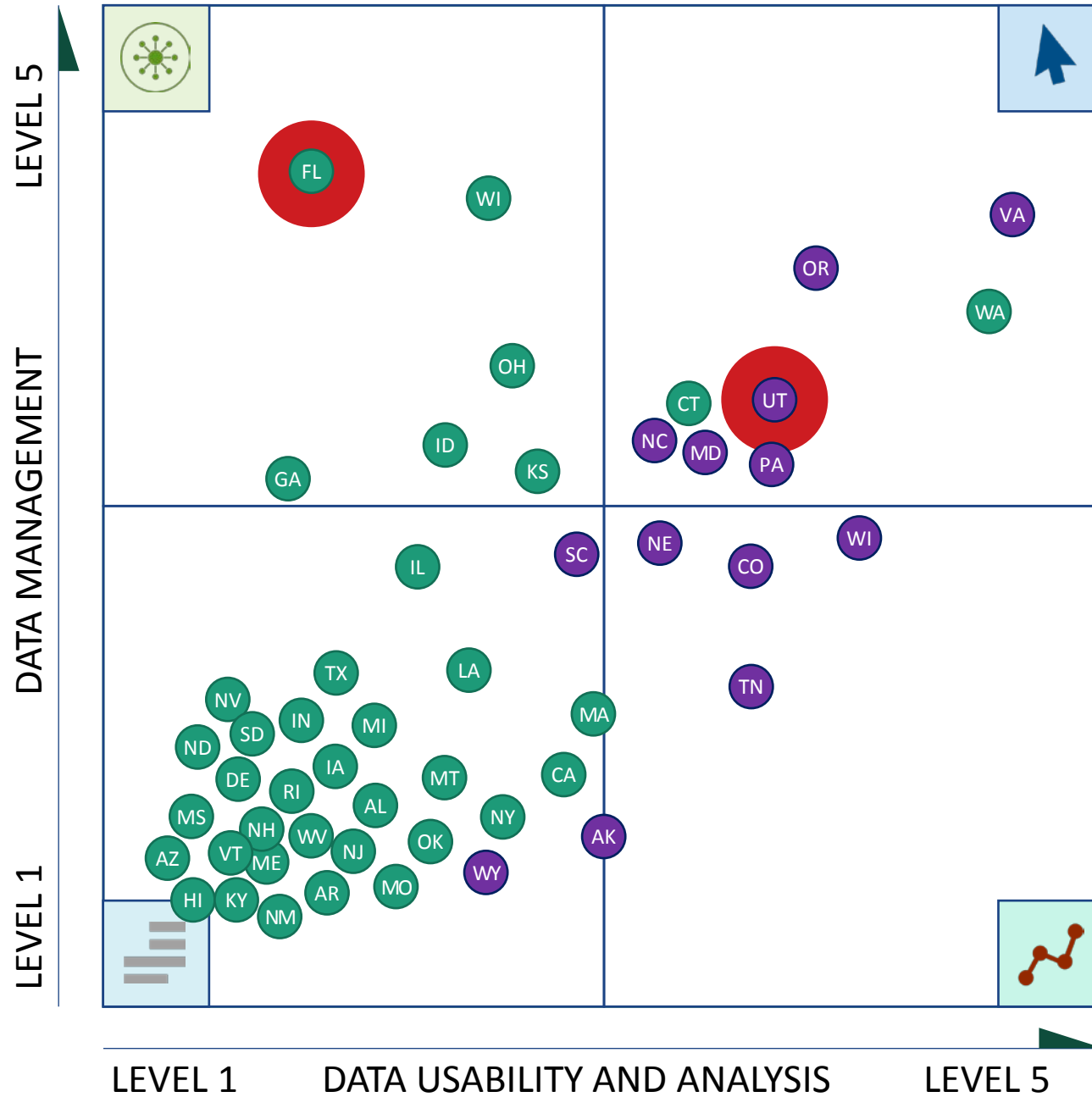


Recognized as a

Premier Mobility Program

in the nation

www.floridampms.com





Others

Consensus in approach and measures






Florida Performance Measures Workshops



Statewide Performance Measures Workshops with MPOs

FDOT • FHWA • FTA • MPO STATEWIDE MEETING




Jacksonville

Collaboration Workshop
MAP-21 Performance Measures
April 3, 2014

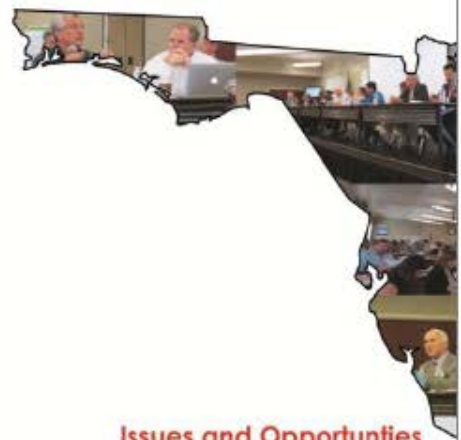



FDOT • FHWA • FTA • MPO STATEWIDE MEETING




Orlando

Collaboration Workshop
Performance Measures
April 15, 2015



Issues and Opportunities
April 15, 2015



FDOT • FHWA • FTA • MPO STATEWIDE MEETING



Orlando



**FLORIDA METROPOLITAN
PLANNING PARTNERSHIP
STATEWIDE MEETING**

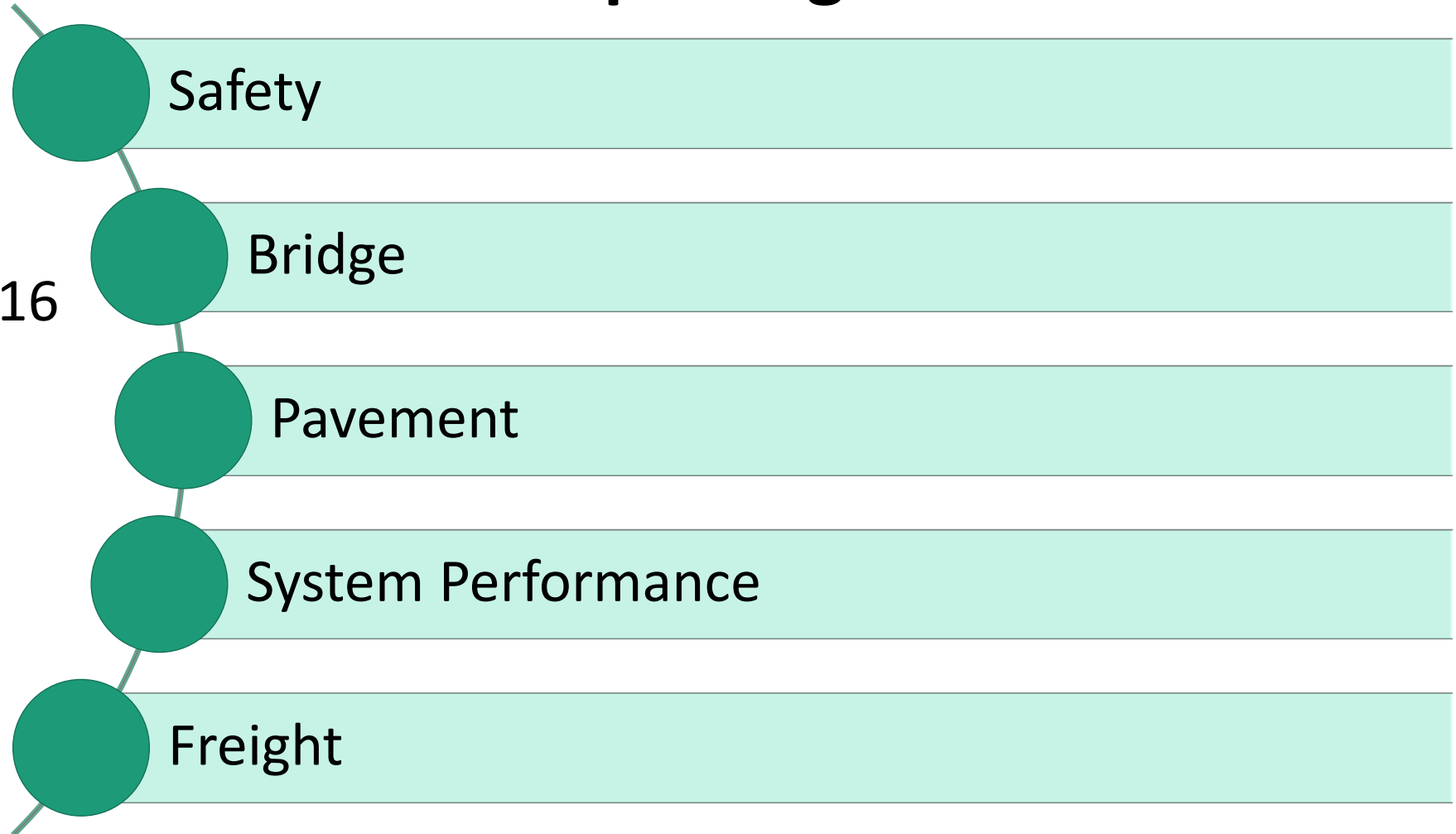
SEPTEMBER 27 & 28, 2016

Collaboration Workshop
Performance Measures
2016




Purpose of MPO Pilot: Provide data and analysis to 4 MPOs in preparation of MAP21 Reporting

September 28, 2016



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

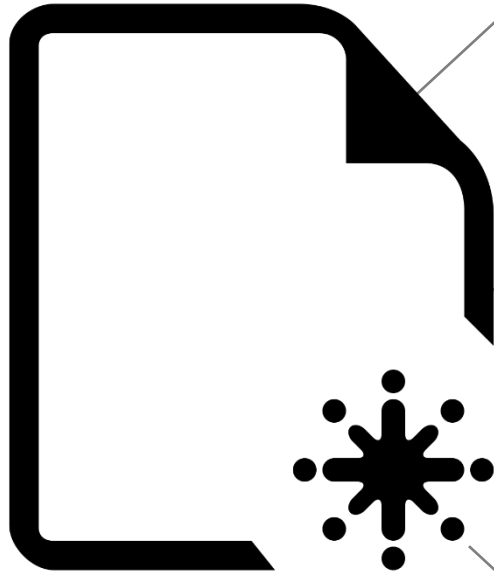
Consensus in approach and measures



www.floridampms.com

MPM Consensus Document

Outreach to
Districts and
MPOs



Recommended
mobility
performance
measures

PEOPLE 

FREIGHT 

Roles of Central
Office, Districts,
and MPOs

Definitions



FDOT's Intent

FDOT provides all
MAP-21 measures

For the **state** as a
whole & each **MPO**

Areawide groupings

- Urbanized boundaries
- Planning boundaries
- County boundaries
- Regional boundaries



Source Book

Compendium of current and historical data and analyses describing the performance of Florida's transportation system. Intended to be the primary/official source of mobility measure results for Florida.

FLORIDA

Multimodal Mobility Performance Measures
Source Book



2016

PRODUCED BY
Florida Department of Transportation
Transportation Statistics Office

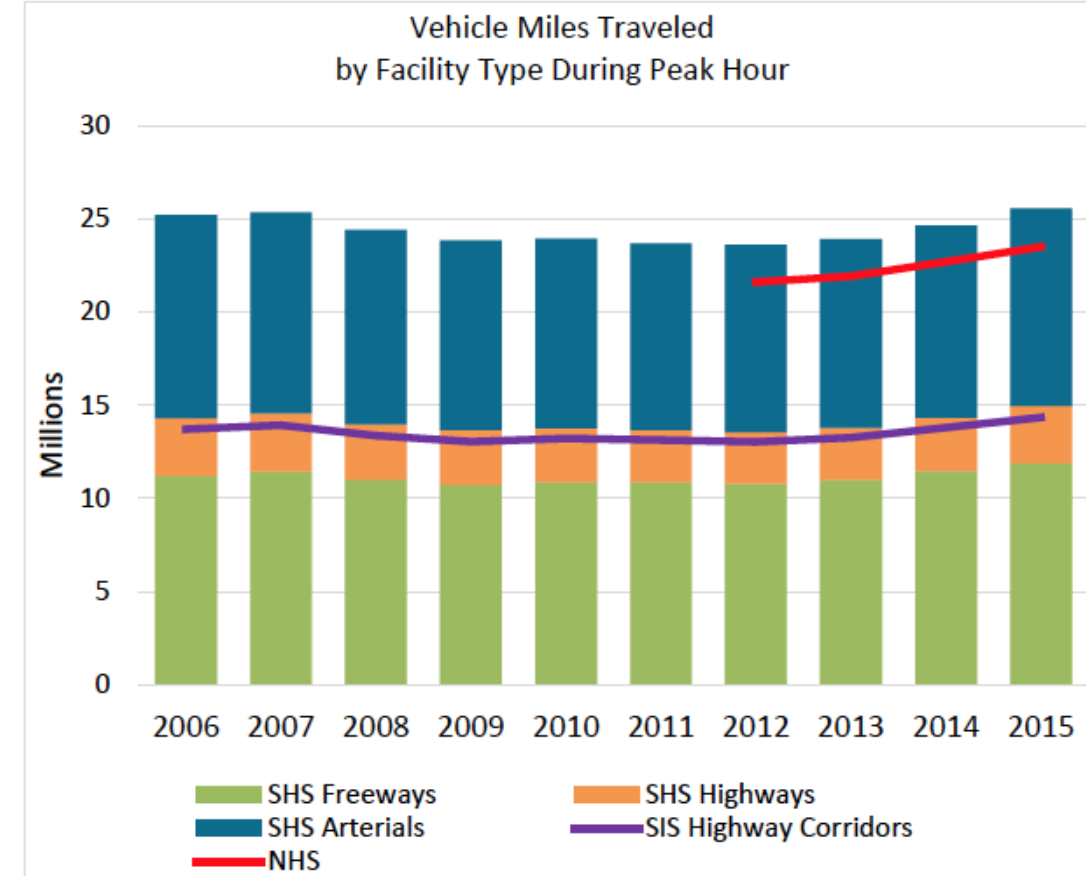
<http://www.dot.state.fl.us/planning/statistics/sourcebook/>





Reported for the Last 10 years

Vehicle Miles Traveled (VMT), Millions											
Year	Facility	Peak Hour				Daily					
		State	7 Largest MPOs	Other Urbanized Areas	Non-Urbanized Areas	State	7 Largest MPOs	Other Urbanized Areas	Non-Urbanized Areas		
2006	SHS Total	25.2	12.6	7.1	5.5	303.6	150.7	84.8	68.1		
	SIS Highway Corridors	13.7	7.1	2.8	3.7	165.0	84.1	34.1	46.7		
	SIS Highway Connectors	0.3	0.1	0.1	0.0	3.6	1.5	1.6	0.5		
	SHS Freeways	11.2	6.8	2.0	2.4	134.9	79.9	24.5	30.5		
	SHS Highways	3.1	0.3	0.5	2.3	37.6	3.9	6.3	27.3		
2007	SHS Arterials	10.9	5.6	4.5	0.9	131.2	67.0	53.9	10.3		
	SHS Total	25.4	12.7	7.1	5.6	305.1	151.7	84.8	68.6		
	SIS Highway Corridors	13.9	7.2	2.9	3.8	167.8	85.6	34.7	47.5		
	SIS Highway Connectors	0.3	0.1	0.1	0.0	3.8	1.6	1.7	0.5		
	SHS Freeways	11.4	6.9	2.1	2.4	137.7	81.5	25.0	31.1		
2008	SHS Highways	3.1	0.3	0.5	2.3	37.5	3.9	6.3	27.3		
	SHS Arterials	10.8	5.5	4.4	0.8	129.9	66.3	53.4	10.2		
	SHS Total	24.4	12.3	6.8	5.3	293.9	146.4	81.8	65.7		
	SIS Highway Corridors	13.4	6.9	2.8	3.6	160.7	82.0	33.3	45.5		
	SIS Highway Connectors	0.3	0.1	0.1	0.0	3.7	1.5	1.6	0.5		
2009	SHS Freeways	11.0	6.7	2.0	2.4	132.6	78.5	24.1	30.0		
	SHS Highways	3.0	0.3	0.5	2.2	35.5	3.7	5.9	25.8		
	SHS Arterials	10.5	5.3	4.3	0.8	125.7	64.2	51.7	9.9		
	SHS Total	23.8	12.0	6.6	5.2	286.9	142.6	79.7	64.5		
	SIS Highway Corridors	13.0	6.8	2.7	3.6	157.1	80.1	32.5	44.5		
2010	SIS Highway Connectors	0.3	0.1	0.2	0.0	4.1	1.7	1.8	0.6		
	SHS Freeways	10.7	6.5	2.0	2.3	129.2	76.5	23.5	29.2		
	SHS Highways	2.9	0.3	0.5	2.1	35.3	3.7	5.9	25.7		
	SHS Arterials	10.2	5.2	4.2	0.8	122.4	62.5	50.3	9.6		
	SHS Total	24.0	12.1	6.7	5.2	288.2	143.7	80.0	64.5		
2011	SIS Highway Corridors	13.2	6.9	2.7	3.6	159.0	81.1	32.9	45.0		
	SIS Highway Connectors	0.3	0.1	0.1	0.0	4.0	1.6	1.8	0.5		
	SHS Freeways	10.9	6.6	2.0	2.3	130.8	77.5	23.8	29.6		
	SHS Highways	2.9	0.3	0.5	2.1	34.7	3.6	5.8	25.3		
	SHS Arterials	10.2	5.2	4.2	0.8	122.6	62.6	50.4	9.6		
2011	SHS Total	23.7	12.0	6.6	5.2	285.0	142.4	79.0	63.6		
	SIS Highway Corridors	13.1	6.8	2.7	3.6	157.9	80.5	32.7	44.7		
	SIS Highway Connectors	0.3	0.1	0.1	0.0	4.0	1.6	1.8	0.5		
	SHS Freeways	10.9	6.6	2.0	2.3	130.5	77.3	23.7	29.5		
	SHS Highways	2.8	0.3	0.5	2.1	33.8	3.5	5.7	24.6		
2011	SHS Arterials	10.0	5.1	4.1	0.8	120.7	61.6	49.6	9.5		





Florida's 2015 Target Setting Meetings (Workshops)

Purposes

- Context
- Approach
- Method to select targets



General

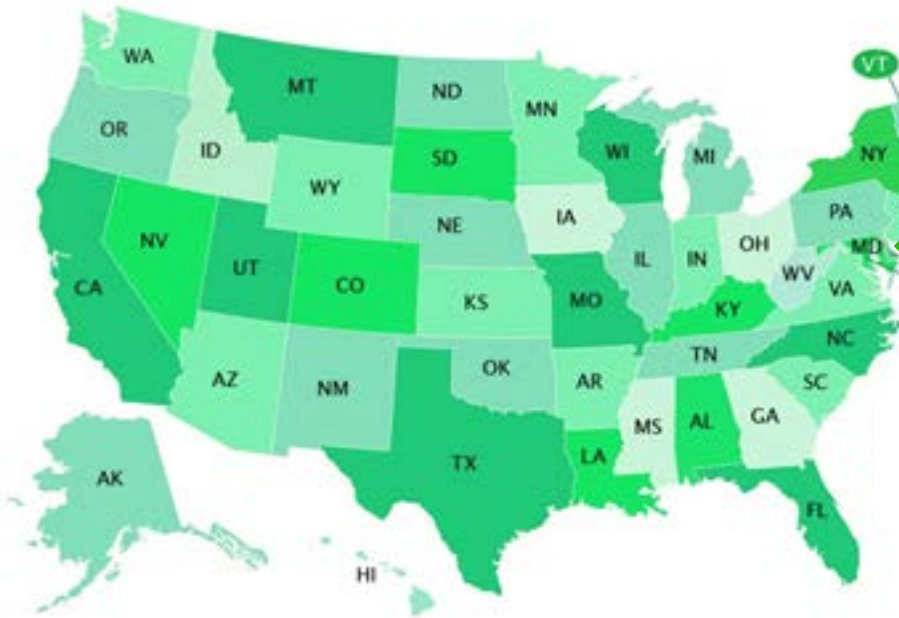
Locations: Fort Lauderdale, Ocala
Timing: May, 2015

Representation

11 MPOs
3 Districts
Central Office



Performance Targets

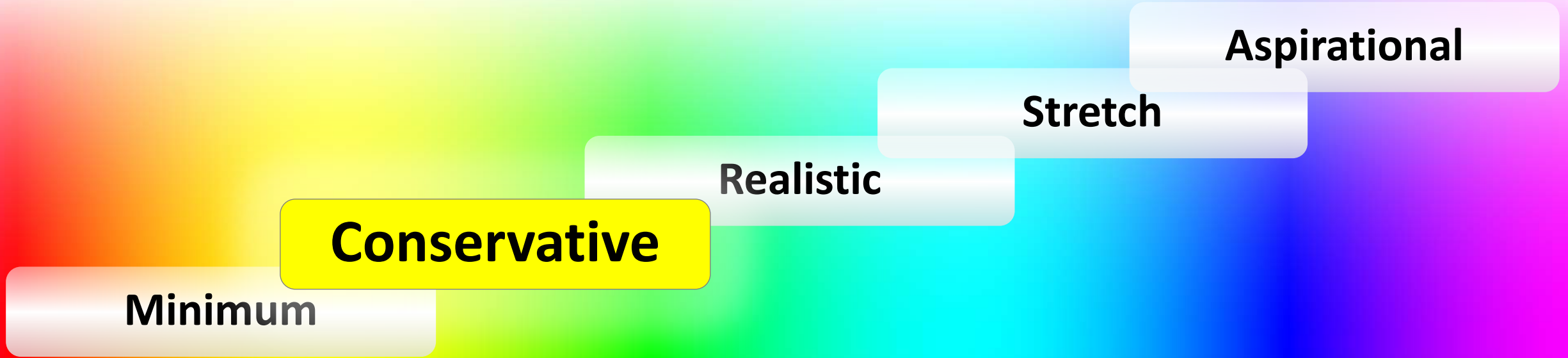


States and MPOs determine targets relevant to area



Preliminary Recommendation **for Map-21** Purposes

(federal reporting requirements)



Allows FDOT and MPOs most **flexibility** to use our current/evolving 😊

“Keep the Feds out of our business”; “set our internal targets to strive to do better”

Use our own existing performance based planning processes

Highway and multimodal mobility performance measures

Allows more time to get our “feet wet”



Target Setting Coordination



More to come in 2017/18 ...



Be careful of MAP21 System Performance and Freight Measures



MAP-21



Multimodal

Seattle



FHWA/FDOT Grant on Travel Time Reliability Implementation in Planning and Programming

1

Subtask

- Consideration of Operations and Reliability Prediction into FDOT's Strategic Investment Tool (SIT)

2

Subtask

- **Incorporating Reliability into FDOT and MPO Planning Processes**
 - FDOT Central Office, Districts
 - MPOs

3

Subtask

- Incorporating Reliability Prediction into PD&E and Corridor Planning

4

Subtask

- Evaluation and Outreach



Incorporating Reliability into FDOT's Planning and Programming Processes: Planning for Travel Time Reliability Guide

Funding sources

1. Definition of Operations Projects
2. Description of Funding Sources and Eligibility
3. Programming

Adapting FDOT's Traffic Analysis Tools for Reliability

- FDOT Analysis Tools
- Reliability Estimation
- Reliability and Benefit-Cost Analysis



Mobility Performance Measures MPOs Would Like FDOT to Supply



Networks

National Highway System

Interstate

SIS (Strategic Intermodal System)

State Highway System

Freeways

Non-Freeways (SHS)

Areas

Broward (Urbanized Area)

Networks/Measures	A: Daily vehicle miles traveled (Mill)	B: Daily truck miles traveled	C: Travel time reliability in the	D: Travel time reliability	E: Daily vehicle hours of delay (Thousands)	F: Percent miles heavily congested	G: Percent sidewalk coverage	H: Percent bicycle lane coverage
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Urbanized Area

Broward (MPO/TPO Boundary)

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MPO/TPO Boundaries

Broward (County Boundary)

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County Boundaries



Primary and Secondary Measures

Daily VMT	Daily Truck miles traveled	Travel Time Reliability	Travel Time Variability	Daily vehicle hours of delay	Percent miles heavily congested	Percent sidewalk coverage	Percent bicycle lane coverage	Average job accessibility (Auto)	Average job accessibility (Transit)
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Broward (MPO/TPO Boundary)

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In 2018:

Daily VMT	Daily Truck miles traveled	Travel Time Reliability	Travel Time Variability	Daily vehicle hours of delay	Percent miles heavily congested	Person miles traveled	Truck Travel Time Reliability	Average Travel Speed	Percent of travel meeting LOS criteria
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Infographics

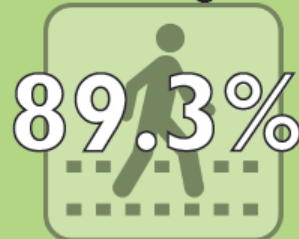
Average Job Accessibility within 30 Minute Car Trip



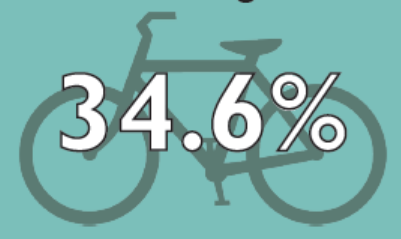
Average Job Accessibility within 30 Minute Transit Trip



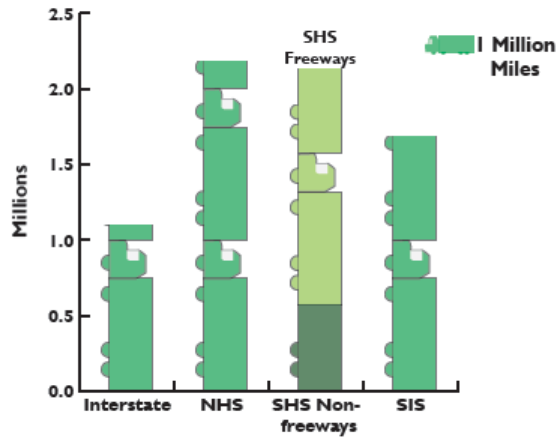
Percent Sidewalk Coverage



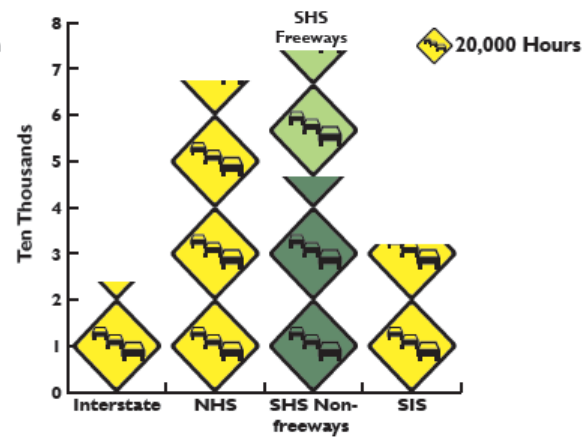
Percent Bicycle Lane Coverage



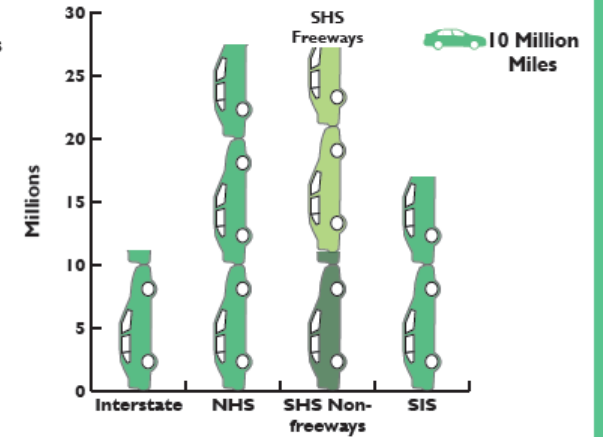
Daily Truck Miles Traveled



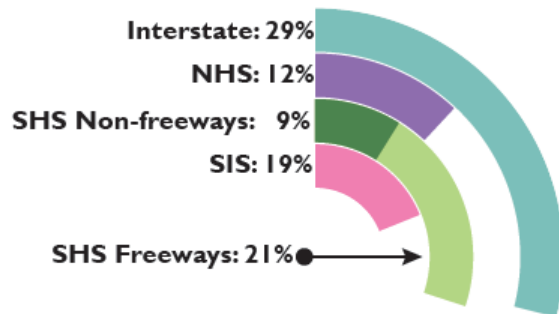
Daily Vehicle Hours of Delay



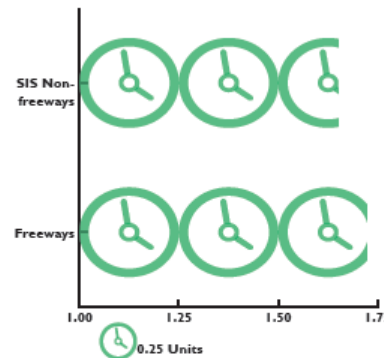
Daily Vehicle Miles Traveled



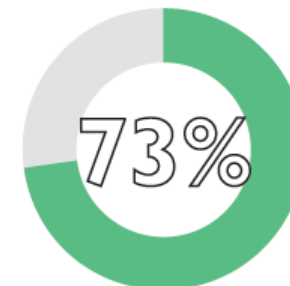
Percent Miles Heavily Congested



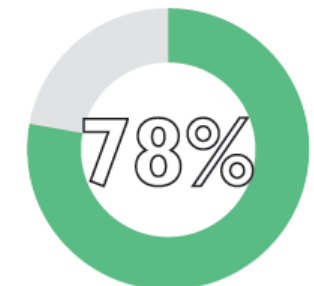
Travel Time Variability



Travel Time Reliability: SIS Non-freeways



Travel Time Reliability: Freeways




Perceived Keys to Success in Florida

Our (FDOT/MPO) joint coordination with a common approach

We (FDOT & MPOs) will comply with ultimate federal requirements

FHWA
Headquarters
quote

FDOT/MPOs can
“use their own measures in
performance-based planning”

- Florida can use measures and calculation techniques most relevant to us
 - Travel time reliability
 - Congestion
 - Multimodal
 - Other
- 

Target establishment
(conservative approach)



FDOT supply every MPO

- Federally required measures
- MPOAC agreed upon additional measures

