MPOS AND DATA

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Florida Metropolitan Planning Organization Advisory Council

Opening Thought on data

MPOS AND DATA

- Performance measures will be nothing new
  - MPOs have used data for years
  - MPOs are very good with data
  - Data has gotten easier
    - Getting it
    - Transferring it

Using data to rank projects

RIVER TO SEA TPO

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(3) Mobility and Operational Benefits (30 points max.)

This criterion looks at the extent of traffic operational benefits that will be derived from a proposed project.

Mobility and Operational Benefits			Points	
Existing volume to capacity ratio (i.e., existing congestion severity)	Select only one	< 0.75	☐	0
		0.75 to 0.99	☐	3
		1.00 to 1.25	☐	4
		> 1.25	☐	5
Mobility Enhancements (i.e., level of increased mobility that a project will provide)	Select all that apply	- None	☐	0
		- Bike, Pedestrian or Transit	☐	0 - 5
		- Access Management, ITS, Critical Bridge, Intersection Improvement, or Traffic Signal Retiming[1]	☐	0 - 10
Approved signal warrant (new signals only), left turn phase warrant, left turn lane warrant, street light warrant or widening justification[2], access management or ITS improvements[3]	Select only one	No	☐	0
		Yes	☐	0 - 5
Hurricane evacuation route upgrade including, but not limited to, converting critical traffic signal to mast arm or other operational improvements[4]	Select only one	No	☐	0
		Yes	☐	0 - 5
Subtotal				**0 - 30**

[1] Attach Traffic Signal Timing Study.
[2] Attach Warrant Study to application; otherwise VTPO staff will assume that a Warrant Study justifying the improvement has not been completed.
[3] Access management and ITS improvements include, but are not limited to, addition of non-traversable median greater than 50% project length, addition of curb/gutter at intersection or greater than 50% project length, closure of minor intersections or crossovers, reduction of the number of access points (driveways or driveway widths), elimination of existing at-grade RR crossing, elimination of existing on-street parking, provision of traffic signal preemption for emergency vehicles, connection of three or more traffic signals, and new connection of traffic signal system to computerized signal control.
[4] The term "other operational improvements" includes any improvement that will likely result in a significant: a) increase in vehicular capacity or b) reduction in the probable occurrence or severity of traffic delay and/or disruption from signal failure, lane blockage, etc.

Using data to show needs

There is a lot data assembled to create these “simple” maps

Figure 4: 2040 HIGHWAY NEEDS (NUMBER OF LANES)

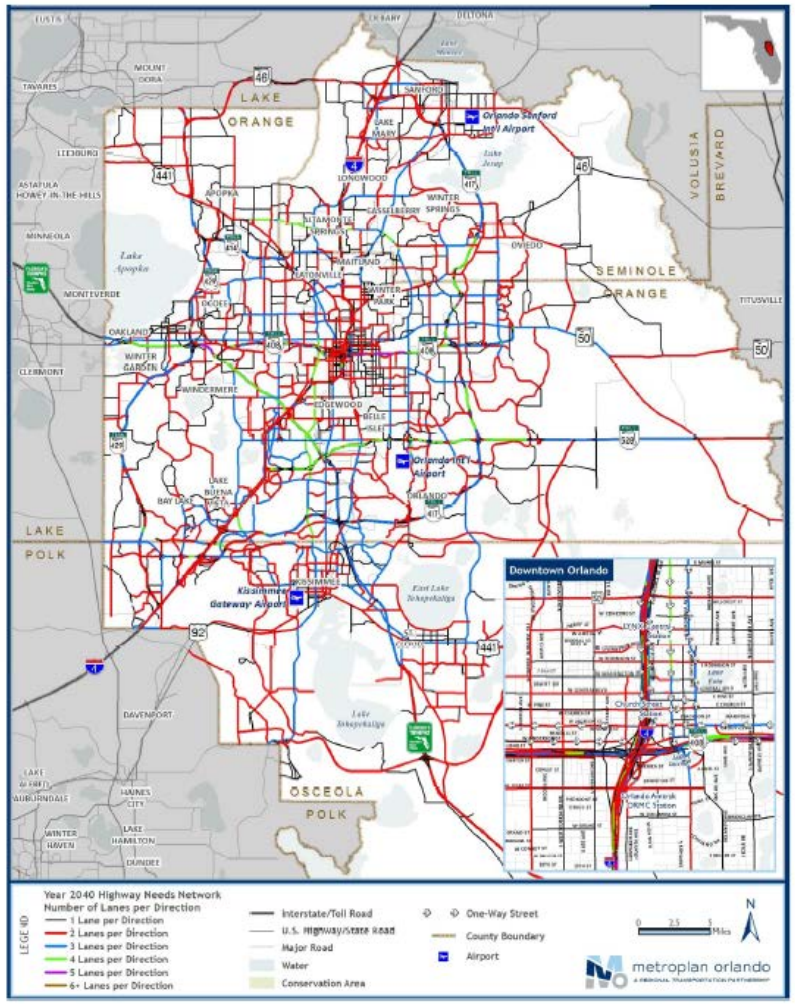
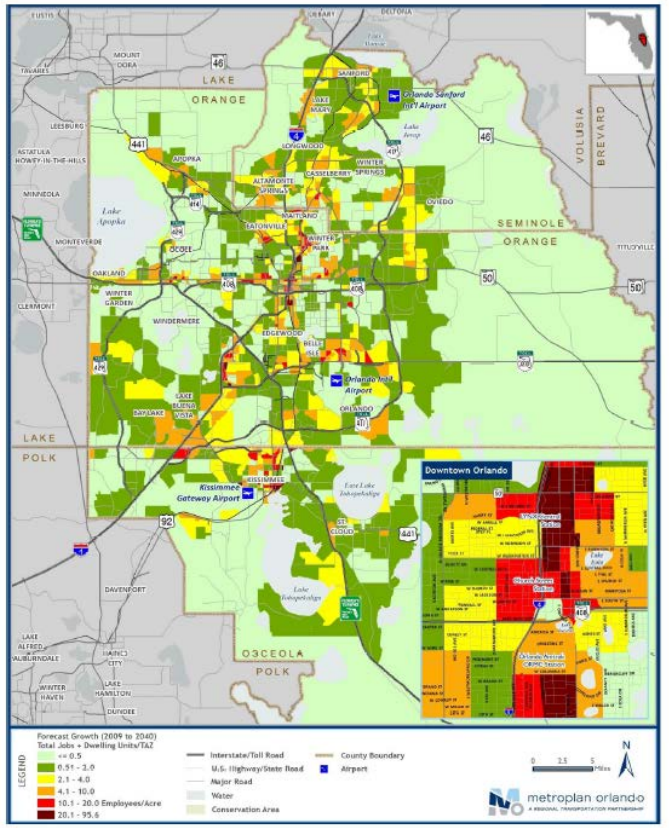


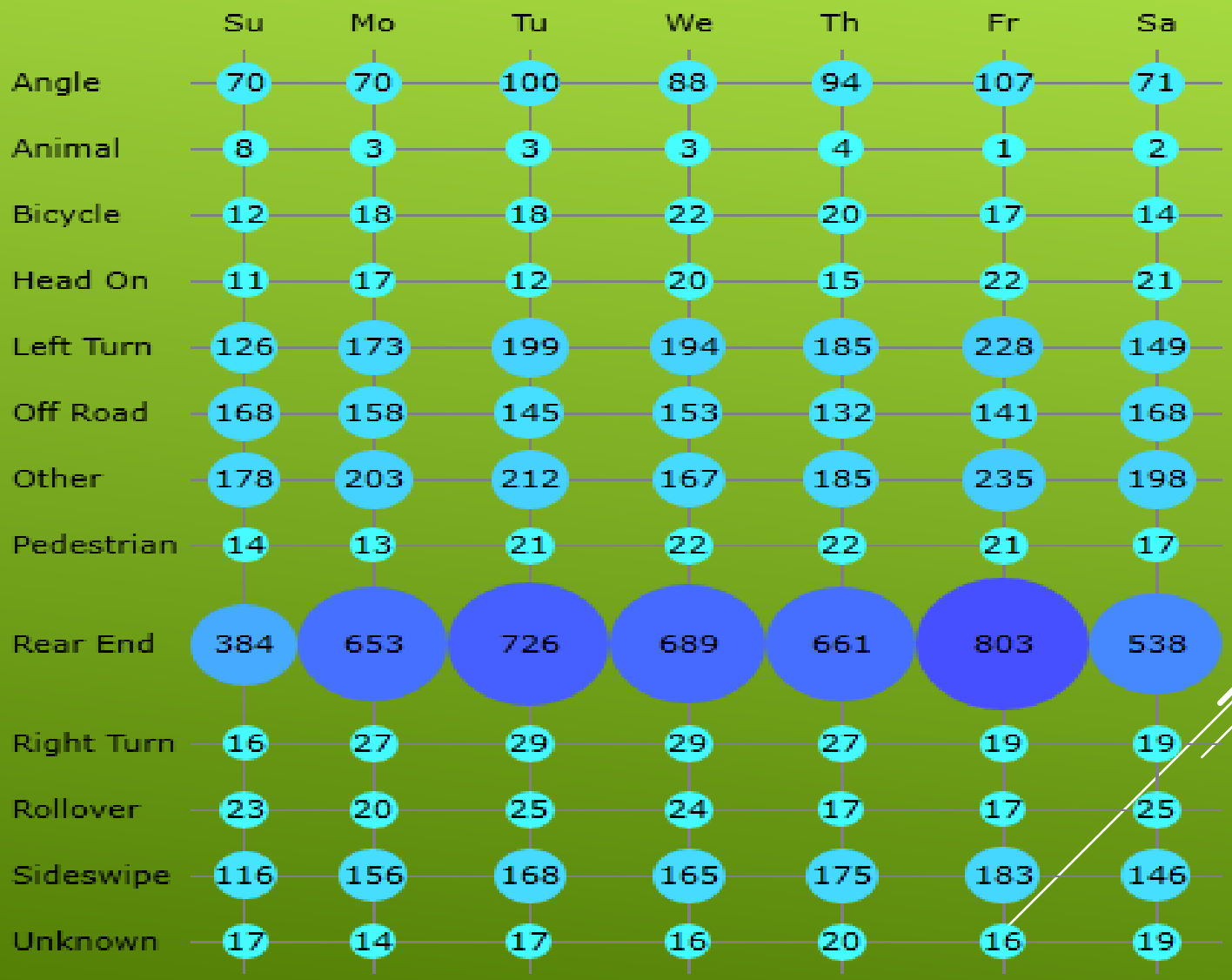
FIGURE 3: 2040 FORECAST GROWTH IN UNITS AND JOBS



METROPLAN ORLANDO

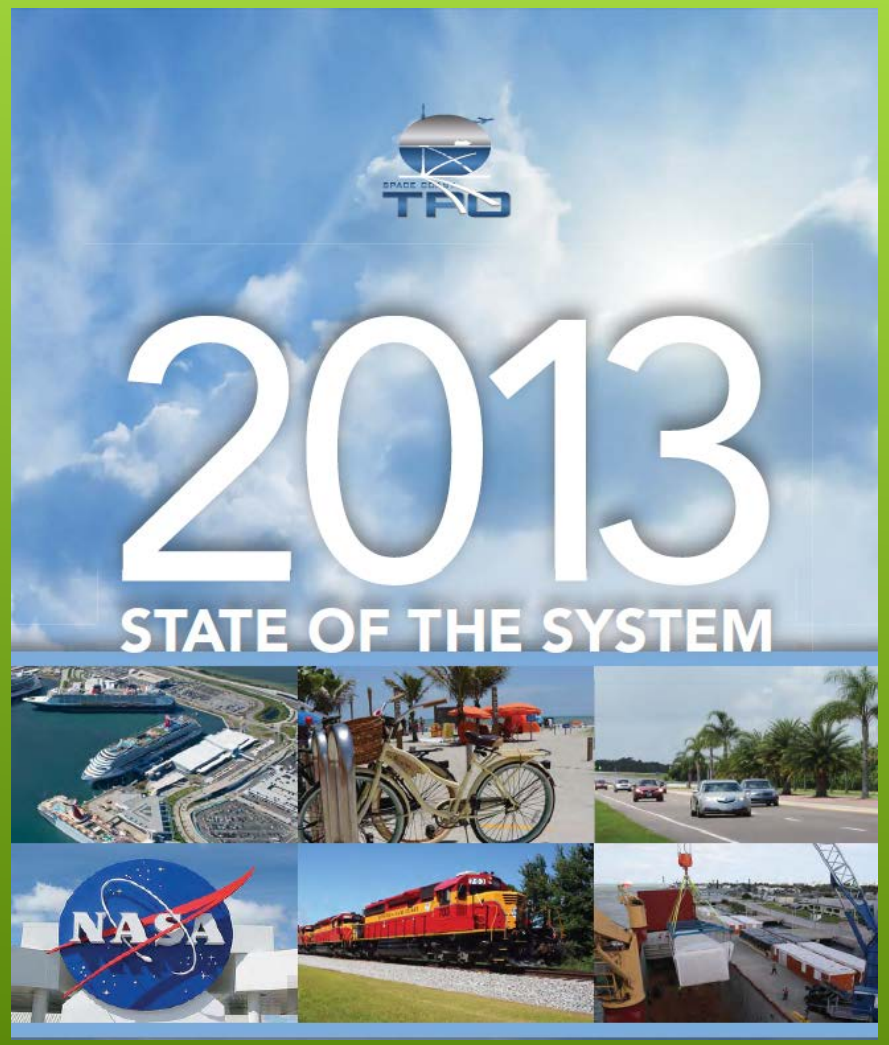
CRASH TYPES BY DAY OF THE WEEK

2ND QTR.



Source: Signal Four Analytics

METROPLAN ORLANDO



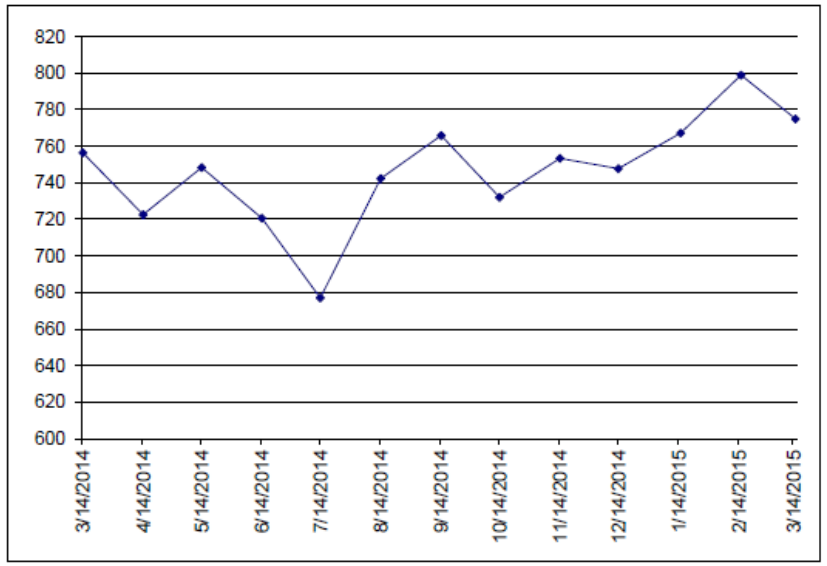
SPACE COAST TPO

- 232 pages
- Comprehensive
- A lot of data
- Great amounts of detail aggregated

MPOs are good at "Mining Data"

THE TREASURE COAST CONNECTOR (ROUTE 1 TO 6)
MONTHLY OPERATING STATISTICS

	OPS # OF DAYS	TOTAL TRIPS	REVENUE MILES	REVENUE HOURS	REVENUE MILE	TRIPS PER REVENUE HOUR	DAY
Mar-14	21	15885	26,172	1,848	0.61	8.60	756
Apr-14	22	15896	27,431	1,936	0.58	8.21	723
May-14	21	15715	26,146	1,848	0.60	8.50	748
Jun-14	21	15133	25,993	1,848	0.58	8.19	721
Jul-14	22	14894	27,162	1,936	0.55	7.69	677
Aug-14	21	15589	25,897	1,848	0.60	8.44	742
Sep-14	21	16083	25,947	1,848	0.62	8.70	766
Oct-14	23	16837	28,628	2,024	0.59	8.32	732
Nov-14	19	14313	23,694	1,672	0.60	8.56	753
Dec-14	21	15702	26,061	1,848	0.60	8.50	748
Jan-15	20	15344	24,917	1,760	0.62	8.72	767
Feb-15	19	15179	23,607	1,672	0.64	9.08	799
Mar-15	22	17048	27,257	1,936	0.63	8.81	775



St. Lucie Transportation Planning Organization

Coco Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, FL 34953
772-462-1593 www.stlucietpo.org

Traffic Counts and Level of Service Report
Fall 2014

Roadway Name	Location	AADT	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
				Volume	LOS	V/C	Volume	LOS	V/C
KEEN RD	JUANITA AVE to ST LUCIE BLVD	2,566	590	220	C	0.393	225	C	0.402
KINGS HWY	OKEECHOBEE RD to CROSSROADS PKWY	7,321	790	321	C	0.406	328	C	0.415
KINGS HWY	CROSSROADS PKWY to GRAHAM RD	7,321	620	321	C	0.518	328	C	0.529
KINGS HWY	GRAHAM RD to PICOS RD	7,852	620	387	C	0.624	372	C	0.600
KINGS HWY	PICOS RD to ORANGE AVE	7,852	790	387	C	0.490	372	C	0.471
KINGS HWY	ORANGE AVE to ANGLE RD	14,224	870	749	C	0.861	754	C	0.867
KINGS HWY	ANGLE RD to ST LUCIE BLVD	11,141	790	613	C	0.776	616	C	0.780
KINGS HWY	ST LUCIE BLVD to INDRIO RD	13,000	790	806	D	0.960	758	C	0.959
KITTERMAN RD	OLEANDER AVE to US 1	3,162	710	225	C	0.643	200	C	0.571
KITTERMAN RD	US 1 to LENNARD EXT	2,100	710	146	C	0.417	128	C	0.366
KIRBY LOOP RD	EDWARDS RD to 35TH ST	4,200	590	271	C	0.484	280	C	0.500
LENNARD RD	US 1 to MARIPOSA AVE	17,579	1,710	905	D	0.529	1,024	D	0.599
LENNARD RD	MARIPOSA AVE to MELALEUCA BLVD	17,579	1,710	905	D	0.529	1,024	D	0.599
LENNARD RD	MELALEUCA BLVD to JENNINGS RD	17,579	1,630	905	D	0.555	1,024	D	0.628
LENNARD RD	JENNINGS RD to HILLMOOR DR	17,579	1,710	905	D	0.529	1,024	D	0.599
LENNARD RD	HILLMOOR DR to TIFFANY AVE	17,579	1,710	905	D	0.529	1,024	D	0.599
LENNARD RD	TIFFANY AVE to WALTON RD	4,845	1,710	300	C	0.390	278	C	0.361
LENNARD RD	WALTON RD to S OF SAVANNA CLUB BLVD	3,450	790	510	D	0.646	541	D	0.685
LYNGATE DR	VETERANS MEMORIAL PKWY to MORNINGSIDE BLVD	10,110	920	691	C	0.794	625	C	0.718
LYNGATE DR	MORNINGSIDE BLVD to US 1	10,110	920	691	C	0.794	625	C	0.718
MARIPOSA AVE	LENNARD RD to HALLAHAN ST	6,997	840	601	C	0.761	610	C	0.772
MCNEIL RD	OKEECHOBEE RD to KIRBY LOOP RD	4,400	790	256	C	0.656	276	C	0.708
MCNEIL RD	KIRBY LOOP RD to EDWARDS RD	4,400	510	256	D	0.502	276	D	0.541
MCCARTY RD	WILLIAMS RD to MIDWAY RD	350	510	32	C	0.128	27	C	0.108
MCCARTY RD	MIDWAY RD to OKEECHOBEE RD	300	510	30	C	0.120	31	C	0.124
MELALEUCA BLVD	LENNARD RD to GREEN RIVER PKWY	9,100	920	598	C	0.687	541	C	0.622
MIDWAY RD	EAST TORINO PKWY to MILNER DR	19,000	840	950	F	1.131	985	F	1.173
MIDWAY RD	MILNER DR to W OF SELVITZ RD	19,000	750	950	F	1.267	985	F	1.313
MIDWAY RD	OKEECHOBEE RD to SHINN RD	4,802	760	277	C	0.413	352	C	0.525

* Volumes shown were adjusted using FDOT Seasonal Factors
* AADT = Annual Average Daily Traffic

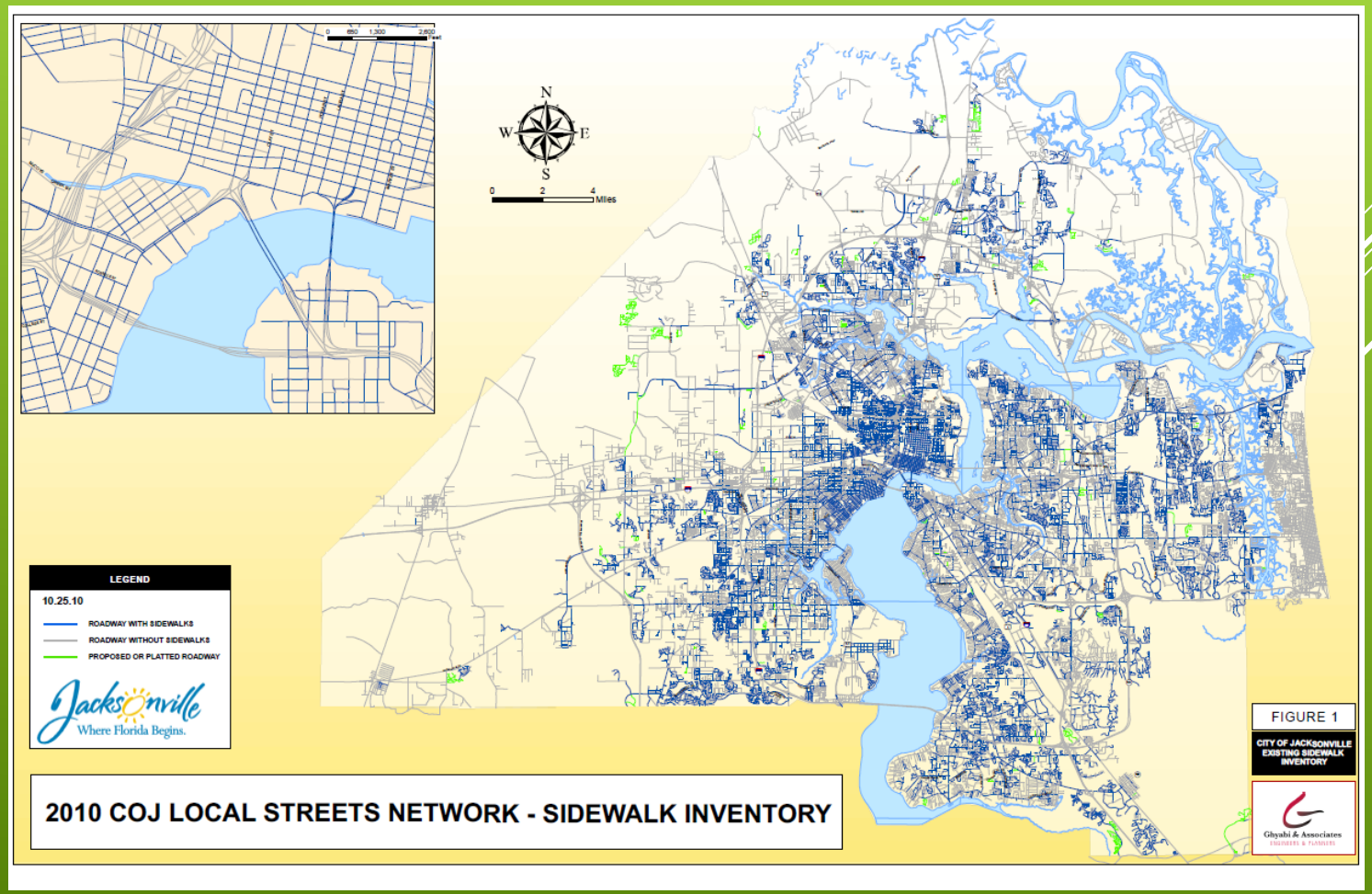
ST. LUCIE TPO

NORTH FLORIDA TPO

A complete inventory of sidewalks in Jacksonville

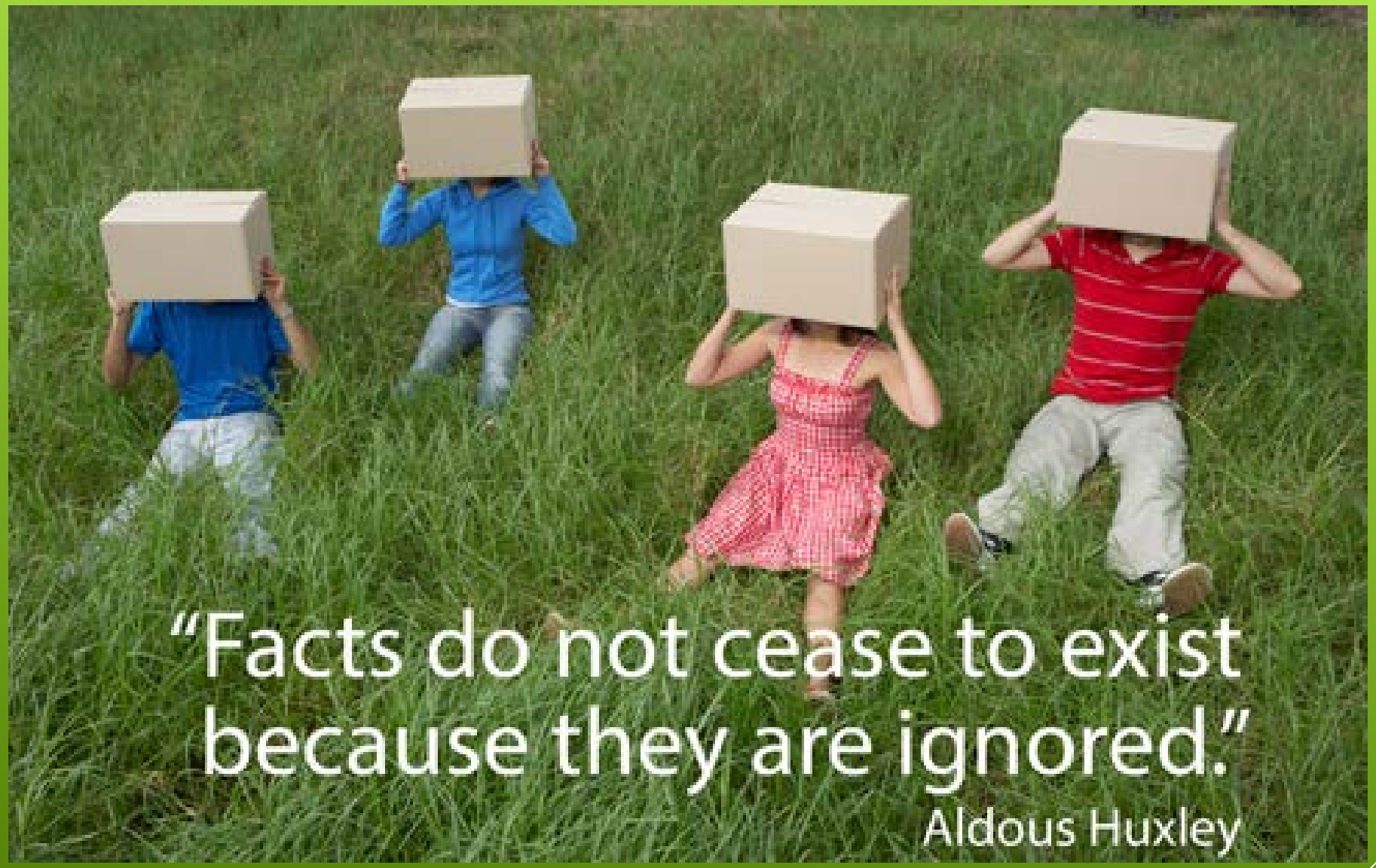
Data Intensive!

Great for decision-making



MPOS AND DATA - CONTINUED

- A lot of unknowns
  - Time
  - Expense
- FDOT Role – Provider
- MPO Role – Looking smaller


"Facts do not cease to exist
because they are ignored."
Aldous Huxley

INITIAL DISCUSSIONS

- We will figure it out
- Surprised by the Performance Measures
  - Especially the length (423 pages)
- All reporting through HPMS
- Target Setting/Consistency
  - 27 MPOs
  - Targets above baseline

FLORIDA CONCERNS

- High Growth State – Target above Baseline
- Managed Lanes with General Lanes
  - How is data handled?
- Learn from it and modify as needed?
- Will our data work for these needs?
  - Will it work?

INITIAL EFFORTS

FDOT Supplied MPO Mobility Performance Measure Analyses for 2014 (Gainesville MTPO)

Date: 11/20/2015

Source: FDOT Transportation Statistics Office

Gainesville (Urbanized Area)

Networks/Measures	A: Daily vehicle miles traveled (Millions)	B:Percent travel meeting LOS criteria in the peak hour	C: Travel time reliability in the peak hour	D:Daily vehicle hours of delay (Thousands)	E: Percent miles severely congested	F:Daily combination truck miles traveled (Thousands)	G:Freight travel time reliability in the peak hour	H:Daily combination truck hours of delay (Thousands)
A: National Highway System	2.0	95%		1.8	1%	100		0.1
B: Interstate	0.6	>99%	95%	0.2	<1%	76	87%	0.1
C: Strategic Intermodal System	1.3	>99%		0.5	<1%	92		0.1
D: State Highway System	2.5	94%		2.7	<1%	120		0.1
E: Freeways	0.6	>99%	95%	0.2	<1%	76	87%	0.1
F: Non-freeways (SHS)	1.9	92%		2.5	<1%	41		0.1

Gainesville (MPO/TPO Boundary)

Networks/Measures	A: Daily vehicle miles traveled (Millions)	B:Percent travel meeting LOS criteria in the peak hour	C: Travel time reliability in the peak hour	D:Daily vehicle hours of delay (Thousands)	E: Percent miles severely congested	F:Daily combination truck miles traveled (Thousands)	G:Freight travel time reliability in the peak hour	H:Daily combination truck hours of delay (Thousands)
A: National Highway System	2.1	96%		2.0	<1%	110		0.1
B: Interstate	0.7	>99%	95%	0.2	<1%	79	87%	0.1
C: Strategic Intermodal System	1.4	>99%		0.6	<1%	94		0.1
D: State Highway System	2.7	95%		3.0	<1%	120		0.2
E: Freeways	0.7	>99%	95%	0.2	<1%	79	87%	0.1
F: Non-freeways (SHS)	2.0	93%		2.8	<1%	45		0.1

Alachua (County Boundary)

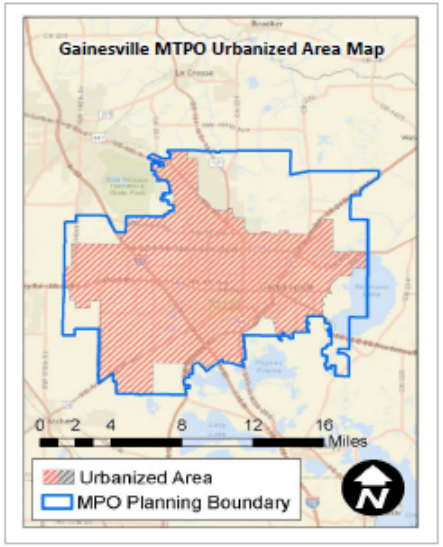
Networks/Measures	A: Daily vehicle miles traveled (Millions)	B:Percent travel meeting LOS criteria in the peak hour	C: Travel time reliability in the peak hour	D:Daily vehicle hours of delay (Thousands)	E: Percent miles severely congested	F:Daily combination truck miles traveled (Thousands)	G:Freight travel time reliability in the peak hour	H:Daily combination truck hours of delay (Thousands)
A: National Highway System	4.5	98%		3.8	<1%	350		0.4
B: Interstate	2.0	>99%	97%	0.4	<1%	250	90%	0.2
C: Strategic Intermodal System	3.2	>99%		1.7	<1%	320		0.3
D: State Highway System	5.4	97%		5.4	<1%	380		0.5
E: Freeways	2.0	>99%	97%	0.4	<1%	250	90%	0.2
F: Non-freeways (SHS)	3.4	96%		4.9	<1%	130		0.2

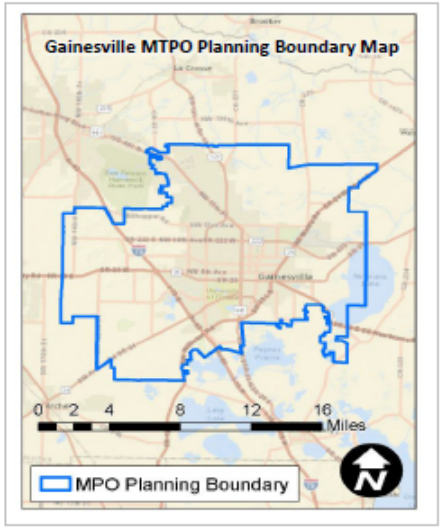
INITIAL EFFORTS

Definitions

Measures	Definitions
A: Daily vehicle miles traveled	The product of vehicle traffic volume and road (segment) length.
B: Percent travel meeting LOS criteria in the peak hour	The percentage of travel meeting FDOT's LOS standards is determined by summing the vehicle miles traveled on roadways operating acceptably and then dividing by the total system vehicle miles traveled. Acceptably is defined as LOS D (two-hour peak) for the 7 largest counties, LOS D (one-hour peak) for other urbanized areas, and LOS C (one-hour peak) everywhere else.
C: Travel time reliability in the peak hour	For seven largest counties travel time reliability is defined as the percentage of freeway trips traveling at least 45 mph. For all others travel time reliability is defined as the percentage of freeway trips travelling at greater than or equal to 5 mph below the posted speed limit.
D: Daily vehicle hours of delay	Delay is the product of directional hourly volume and the difference between travel time at "threshold" speeds and travel time at the average speed. The thresholds are based on LOS B as defined by FDOT.
E: Percent miles severely congested	The percentage of miles severely congested is determined by summing the miles of roadway operating at LOS F in the peak hour and then dividing by the total highway miles.
F: Daily combination truck miles traveled	Determined using combination truck traffic volume and segment length. Combination trucks are defined by FHWA as Classification 8-13.
G: Freight travel time reliability in the peak hour	For seven largest counties freight travel time reliability is defined as the percentage of freeway trips by combination trucks traveling at least 45 mph. For all others travel time reliability is defined as the percentage of freeway trips by combination trucks travelling at greater than or equal to 5 mph below the posted speed limit.
H: Daily combination truck hours of delay	Combination truck hours of delay is based on combination truck speed. Delay is calculated as the product of directional hourly volume and the difference between travel time at "threshold" speeds (at LOS B) and travel time at the average speed.

Roadway Networks	Definitions
A: National Highway System	Includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility
B: Interstate	Includes all interstate highway system roadways
C: Strategic Intermodal System	Florida's transportation system composed of facilities and services of statewide and interregional significance, including appropriate components of all modes.
D: State Highway System	All roadways that the Florida Department of Transportation operates and maintains.
E: Freeways	Multilane, divided highways with at least two lanes for exclusive use of traffic in each direction and full control of ingress and egress.
F: Non-freeways (SHS)	Arterials and highways of the State Highway System which are not freeways





WHAT WE LEARNED FROM THIS…..

- May be difficult
  - Small MPOs?
  - Miami Area > 15 States
  - May be shifted to State DOTs
- Proved that we can do this

JUST WHAT WILL BE REQUIRED?

It could be “No big deal” or it could be “OMG!!!!”

The Devil is in the details

- Time and Money
  - Already have it?
  - How reported?
  - Same format?
  - Transfer effort?

MPOS HAVE:

- Lots of data
- The capability

- THE BIG QUESTIONS
  - Does the request match what we have?
  - Will I have to collect new data? – Very expensive and time-consuming
    - Parking Lot example

CLOSING

To write it, it took three months; to conceive it three minutes; to collect the data in it all my life.

F. Scott Fitzgerald explaining his novel *This Side of Paradise*


I DON'T ALWAYS GRAPH MY DATA...
OH WAIT, YES I DO!
memegenerator.net

QUESTIONS?

REMEMBER – THERE ARE 2 RULES TO SUCCESS

1. Never tell everything you know.

THANK YOU!