MetroPlan Orlando

Intelligent Transportation System (ITS) Master Plan

ITS Master Plan

- ITS Vision, Goals and Objectives
- Existing Conditions
- Needs/Strategies
- Concept of Operations
- Prioritized Project List

Project Team

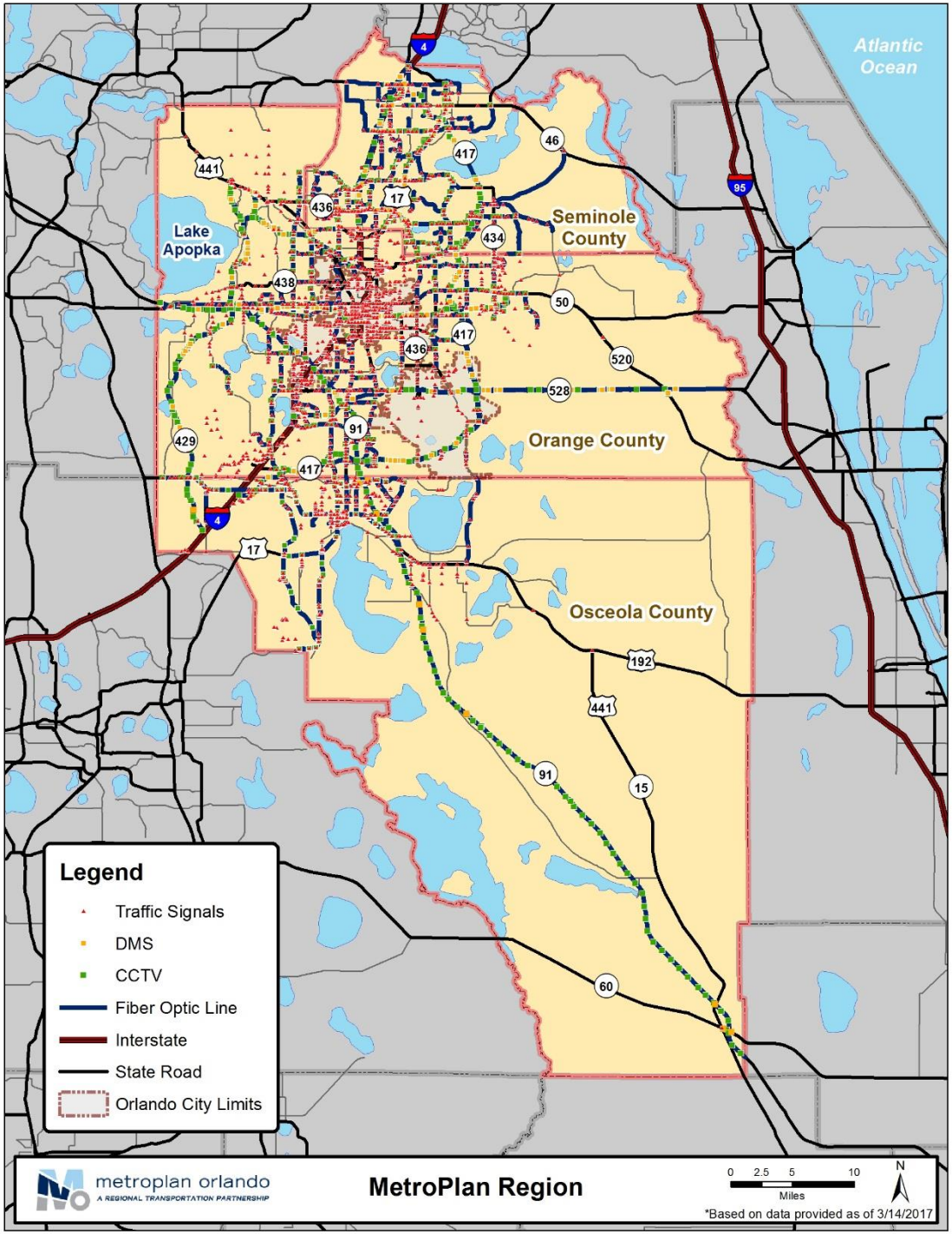
- Gannett Fleming, Inc.
  - Kimley Horn & Associates, Inc.
  - Cambridge Systematics, Inc.
  - Ghyabi & Associates, Inc.
- Steering Committee
  - Joedel Zaballero, Osceola County
  - Benton Bonney, City of Orlando
  - Charlie Wetzel, Seminole County
  - Doug Jamison, LYNX
  - Hazem El-Assar, Orange County
  - Jeremy Dilmore, FDOT D5

ITS Vision Statement

Maximize the performance of our transportation system by continually improving safety, efficiency, and reliability for all systems users through the application of technology.

Goals/Objectives

- Performance, efficiency and reliability
- Information, communication and technology
- Safety and security
- Environment and quality of life


Atlantic Ocean
Lake Apopka
Seminole County
Orange County
Osceola County
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Legend
Traffic Signals
DMS
CCTV
Fiber Optic Line
Interstate
State Road
Orlando City Limits
metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP
MetroPlan Region
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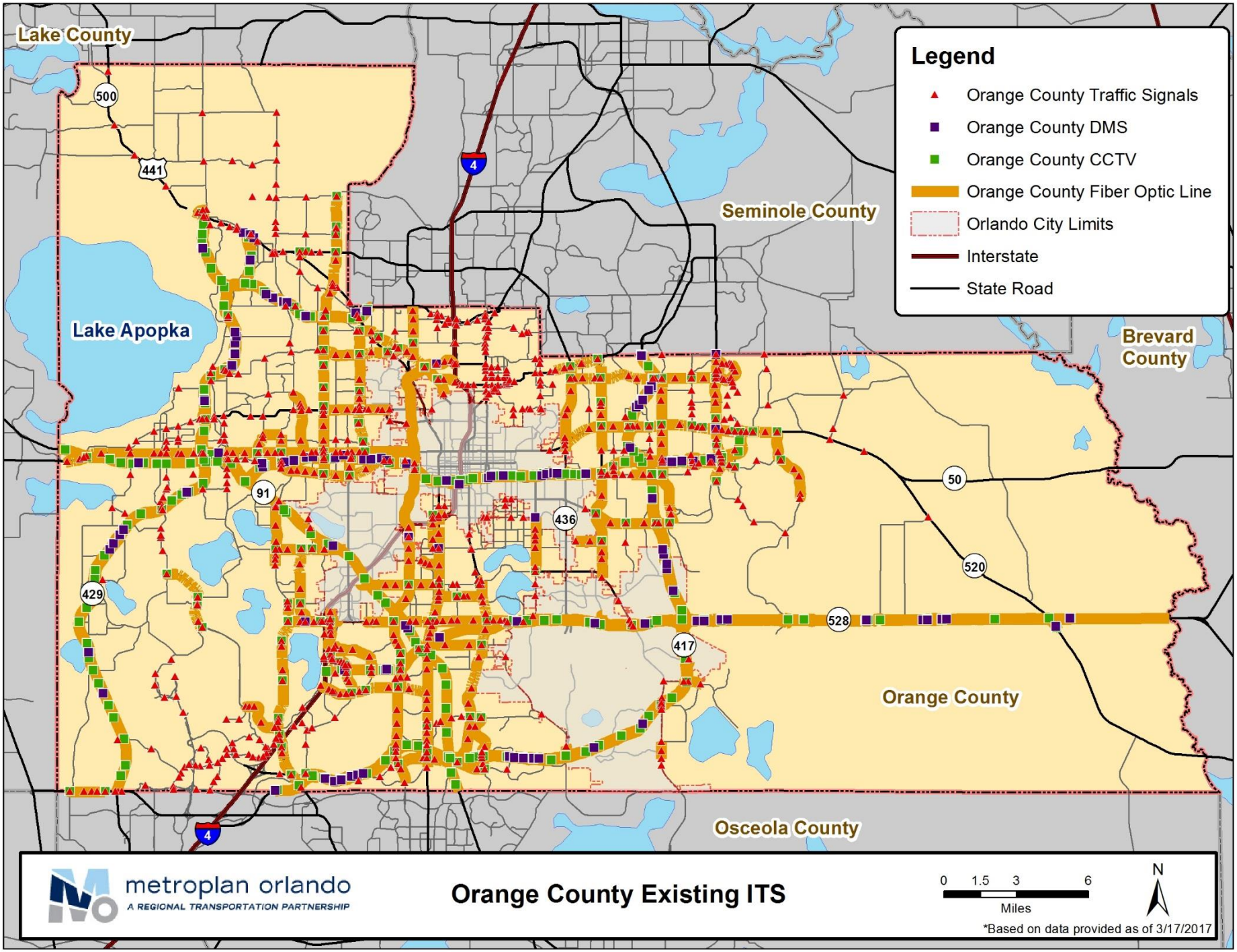
Miles
N
*Based on data provided as of 3/14/2017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Orange County DMS
Orange County CCTV
Orange County Fiber Optic Line
Orlando City Limits
Interstate
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metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP
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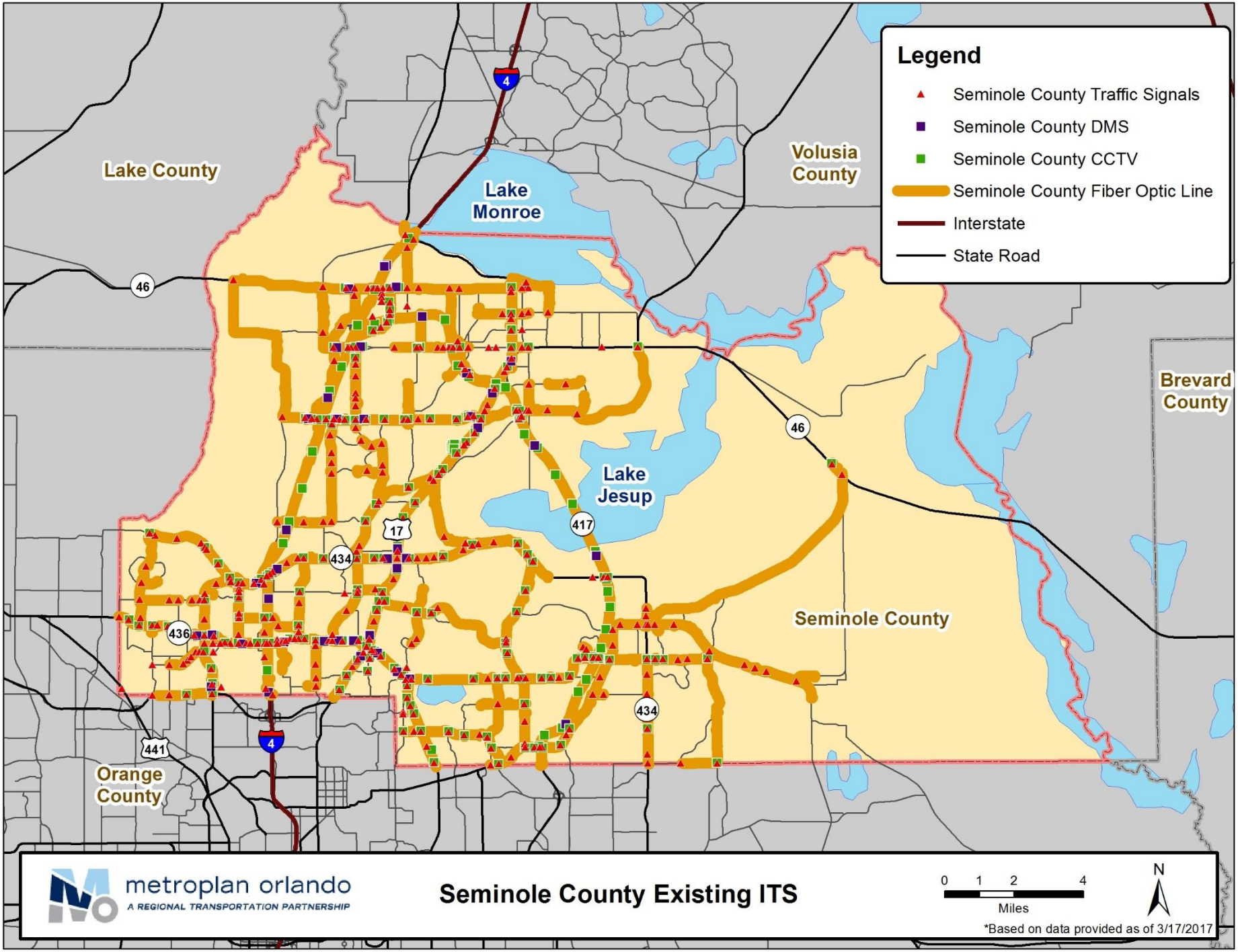
*Based on data provided as of 3/17/2017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A REGIONAL TRANSPORTATION PARTNERSHIP
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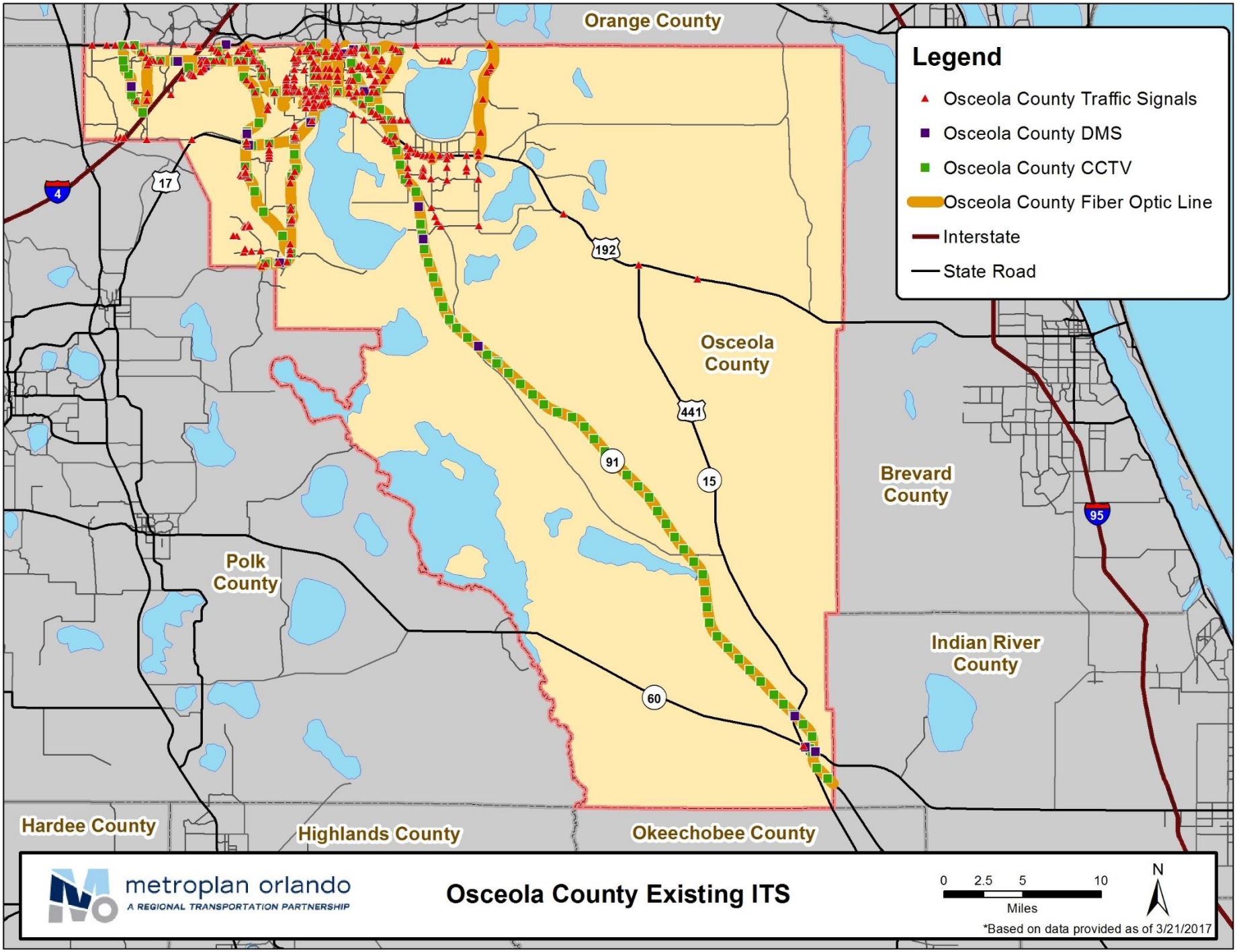
*Based on data provided as of 3/17/2017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Osceola County DMS
Osceola County CCTV
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Indian River County
Hardee County
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Osceola County Existing ITS
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Miles
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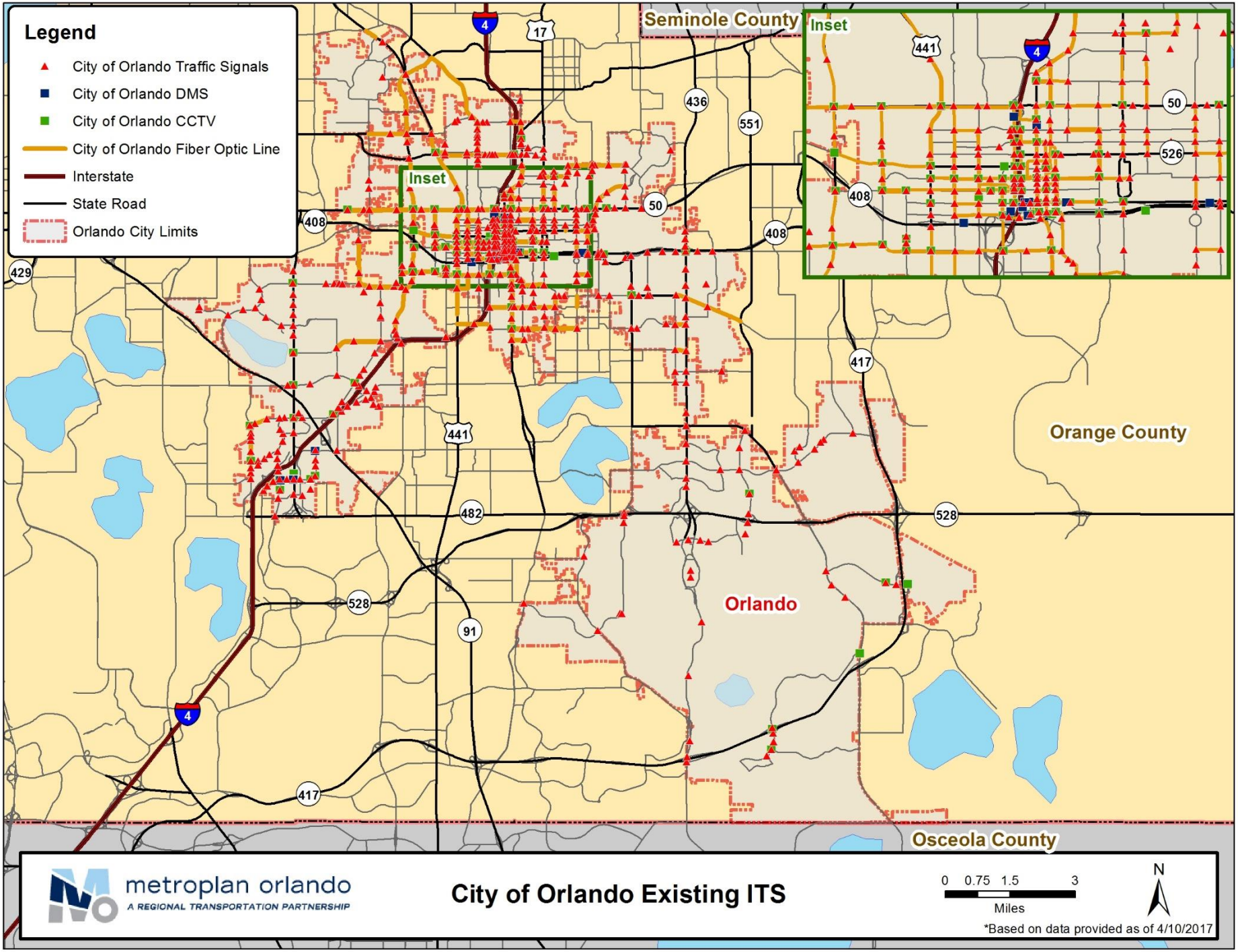
*Based on data provided as of 3/21/2017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City of Orlando Traffic Signals
City of Orlando DMS
City of Orlando CCTV
City of Orlando Fiber Optic Line
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metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP
City of Orlando Existing ITS
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Miles
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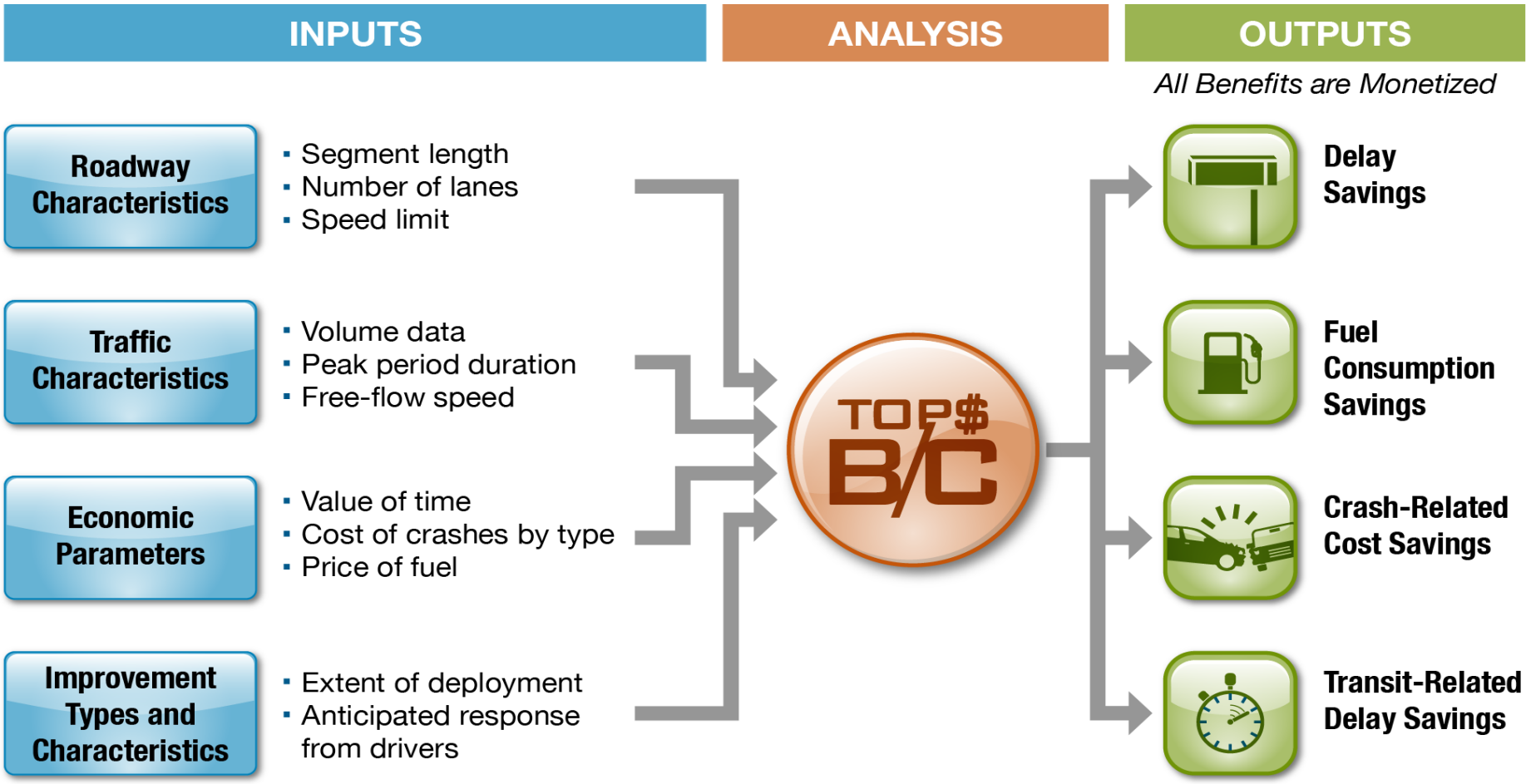
*Based on data provided as of 4/10/2017

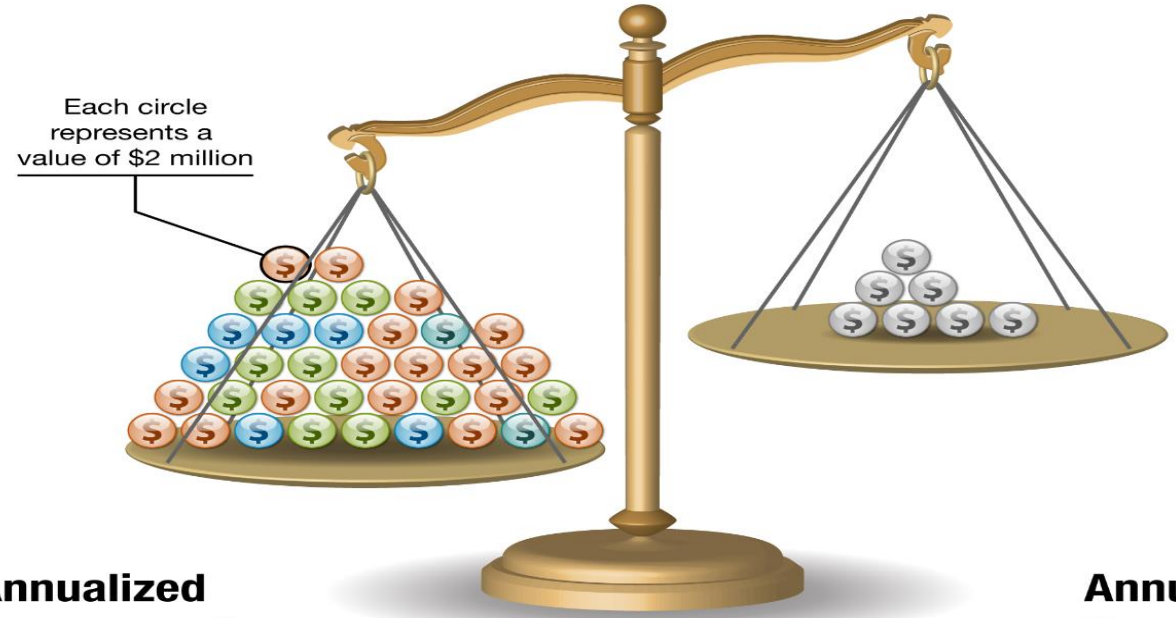
Tool for Operations Benefit/Cost (TOPS-BC)



ITS Strategies for TOPS-BC

Improvement Category	Project Types Included
Signalization Improvements	• Signal Retiming Studies (arterials) • Coordinated Signal Control Systems (arterials)
Incident Management Strategies	• Closed Circuit TV (CCTV) • Emergency Vehicle Pre-emption (arterials) • Road Rangers Service Patrol (freeways)
Travel Time System	• On-road Traveler Information System (using DMSs) • 511 Traveler Information System
Transit Strategies	• Transit Signal Priority • Automatic Vehicle Location Service

Business Case – Aggregate Benefit-Cost



Annualized
Benefits

Delay Savings:
$21,751,306

Fuel Consumption Savings:
$11,304,050

Crash-Related Cost Savings:
$33,007,268

Transit-Related Delay Savings:
$4,239,291

Total:
$70,301,914

5.1 TO 1
Benefit/Cost Ratio

Annualized
Costs

Transit-Oriented Strategies:
$2,531,136

Traveler Information Systems:
$1,302,989

Signalization Improvements:
$7,104,021

Incident Management:
$2,814,628

Total:
$13,752,773

Benefit-Cost Ratio

County	Benefits	Cost	B/C
Orange	$34.3 million	$8.4 million	4.06
Osceola	$9.8 million	$1.6 million	6.13
Seminole	$26.3 million	$3.7 million	7.07

Needs/Strategies

- Upgrades
- Coverage
- Connectivity
- Sensors
- Information sharing
- Transit; SunRail

Needs/Strategies (2)

- Travel and Traffic Management
- Parking Management
- Public Transit Management
- Emergency Management
- Information Management
- Maintenance and Construction
- Other

Concept of Operations

- Enhancements
- Changes
- Assumptions and Constraints
- State-of-the-practice
  - Virtual traffic signal control
  - Traffic monitoring
  - Roadway surveillance
  - Incident management and traveler information
  - Multiple subsystems

FY 2016/17-2020/21 TIP

Federal Funding Categories

Highway Safety Program (HSP)- $802,000

STP over 200,000 Pop. (SU) - $16 million

State Funding Categories

District Dedicated Revenue (DDR, DDRF)- $5.4 million

In-House Product Support (DIH)- $3.3 million

Statewide ITS (DITS)- $1.1 million

Local Funding Categories

Local Funds for Federal/State Projects

(LF, LFD, LFF, LFP, LFR, LFRF)- $48,000

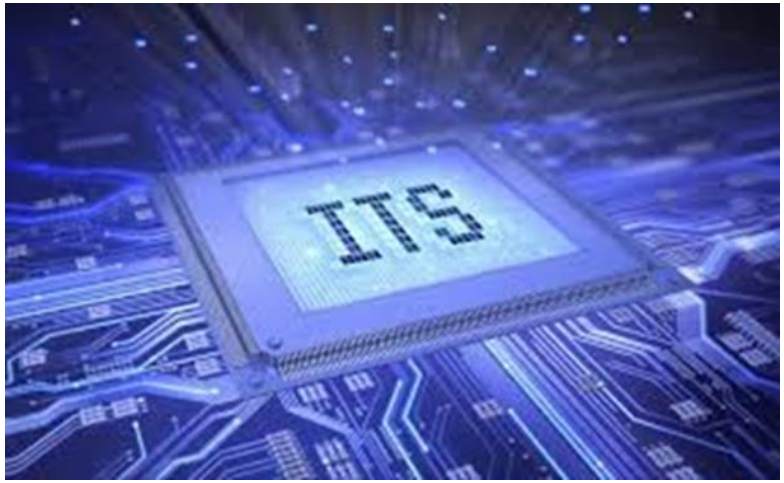
FY 2016/17-2020/21 TIP

Funds for ITS Projects

Source/ County	Orange	Osceola	Seminole	Region (FDOT)	Total
STP	$6,862,000	$550,000	$4,933,000	$3,750,000	$16,095,000
DDR	$5,196,000		$137,000	$107,000	$5,440,000
DIH	$58,000	$4,000	$81,000	$3,251,000	$3,394,000
HSP			$802,000		$802,000
DITS	$400,000		$744,000		$1,144,000
LF	$48,000				$48,000
Totals/ (% of total)	**$12,564,000 (47%)**	**$554,000 (2%)**	**$6,697,000 (25%)**	**$7,108,000 (26%)**	**$26,923,000**

Prioritized Project List

- Prioritized Project List (PPL) - Unranked
- New Projects
- Criteria



Project Ranking Criteria

- ITS Plan Goals and Objectives
- Regional Connectivity
- ITS Strategies
- Stakeholder Survey Results
- Safety
- Transit
- Existing Volume to Capacity
- Planned Priority

Cost Estimates for ITS Master Plan

0 – 5 Years	$41,117,200
6 – 10 Years	$ 7,300,000
Total	**$48,417,200**

Emerging Technologies

- Surveillance Drones
- Mobility as a Service (MaaS) or Mobility on Demand (Mod)
- Pedestrian/Bicycle ITS
- Open data
- Equity

Thank You

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