



Statewide Arterial Management Program

Raj V. Ponnaluri, PhD, P.E, PTOE

FDOT Traffic Engineering & Operations, TSM&O Program

Integrated Approach



STAMP Footprint

1. Develop Vision, Mission and Objectives
2. Develop Policies and Guidance
3. Evaluate national best practices
4. Facilitate District and local agency initiatives
5. Provide approach to leveraging traffic signal systems
6. Focus on process orientation
7. Learn from deployments
8. Explore funding opportunities
9. Build capacities through training
10. Understand District and local needs

1. Vision, Mission and Objectives

- **Vision:** To maximize throughput and provide a safe, reliable and efficient arterial transportation system.
- **Mission:** To deploy a Program focused on mobility outcomes through real-time and effective management of the existing transportation system.
- **Objectives:** To apply technology for reducing travel times, improving system reliability, and providing positive benefits in return for system investments.

2. Policies and Guidance

- **Policy:** develop arterial-management related principles and course of action for the future.
- **Guidance:** develop advice, information and approaches to realize the VMOs.

ASCT Guidance

- Provide guidance on ASCT as a tool to improve flow
- Conducted literature and deployed systems review
- Discussed with engineers who deployed ASCT
- Potential to improve arterial and signal operations
- All systems are similar in their end goal
 - Operate more efficient traffic signal system
- Important to understand what the systems can do

Study Findings

- Reduced
 - Travel times
 - Fuel consumption
 - Emissions
 - Stopped delay
- Increased average speed
- Supports efficient use of road network
- Will **not**
 - Add capacity to the roadway
 - Eliminate saturation if roadway is over capacity

Technical Memorandum



Advanced Signal Control Technology

Version 1.5

March 20, 2016



Prepared for:

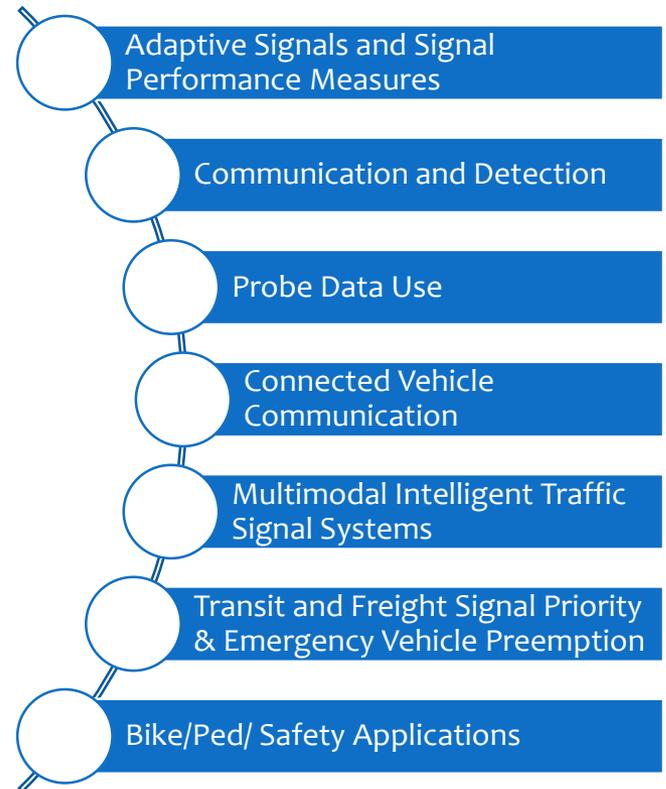
Florida Department of Transportation
TSM&O Program
605 Suwannee Street, M.S. 90
Tallahassee, Florida 32399-0450
(850) 410-5600

Pre-deployment Considerations

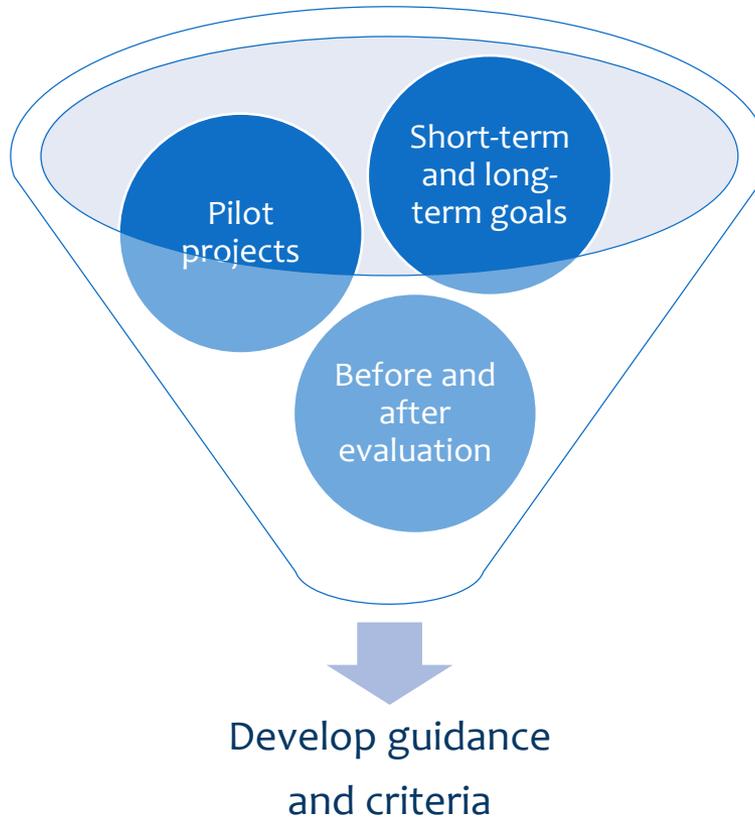
- Side street delays
- Saturated conditions
- Emergency vehicle preemption, pedestrian calls, and transit signal priority
- Vendor support
- Staff training
- Learning curve in some instances
- Dependence on detection
- Hardware and software needs
- Costs – both initial and long-term

3. Evaluate Best Practices

- Review national best practices
- Conduct Big Idea workshops
 - Central office leadership
 - National experts
- Work closely with District Traffic Ops, STAMP Group and TSM&O Task Team



Best Practices and Big Idea Workshops Findings



4. Facilitate District and Local Agency Initiatives

- Support Districts
 - Define regional vision
 - Define regional priorities
 - Facilitate process orientation
 - Lead innovation
- Help deploy pilot projects and technology testing
- Assist with projects such as Routes of Significance
 - Part of Real-Time System Management Information Program
 - Non-interstate roads in metropolitan areas designated by Districts for real-time traveler information dissemination

Routes of Significance

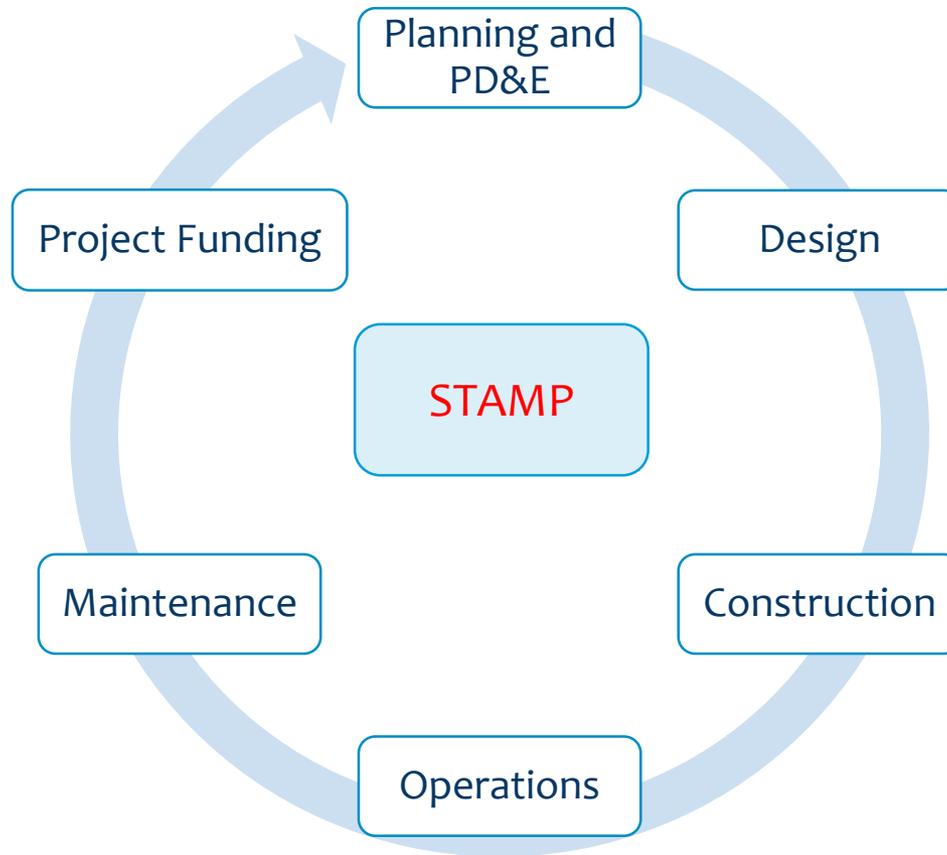
- RoS to begin reporting by November 8, 2016
- RoS example criteria set with MPOs/TPOs
 - Existing ITS infrastructure
 - Connectivity with interstates/major routes
 - Regional Connectivity
 - Severity and Frequency of Congestion
 - Major Evacuation routes
 - Economic Activity
 - Travel Time reliability
 - Roadway volumes
 - Crash Rates

5. Approach to Leveraging Existing Systems

- Understand local needs
- Optimize use of existing traffic signal systems
 - Signal Performance Measures
 - Adaptive Signals
 - Multimodalism
 - Connected Vehicle
 - TSP/FSP/EVP
 - Ped-Bike Safety Applications
 - New detection
- Evaluate new technologies



6. STAMP Process Integration



STAMP: Next Steps

- Develop STAMP Strategic Plan
- Explore short- and long-term deployment opportunities
- Actively consider Integrated Corridor Management
- Evaluate emerging technology solutions
- Consider multi-modal solutions
- Review dynamic ridesharing solutions
- Study Work Program instructions
- Focus on deployment-oriented opportunities
- Include CV technologies where possible

7. Learn from Deployments

- Learn from pilot projects
 - Adaptive Signals Control Technology
 - Signal Performance Measures
 - Wrong Way Driving
 - Travel Time Reliability
- Lessons learned and share knowledge
- Require before and after analysis in all pilot project deployments
- Develop recommendations and guidelines for implementation

Pilot Projects

- Adaptive Signals Control Technology
- Signal Performance Measures
- Bike and Pedestrian Safety
- Wrong Way Driving
- Bluetooth Devices

8. Explore Funding Opportunities

- Federal Funds
 - Advanced Transportation Congestion Management Technology Deployment (ATCMTD) – FASTAct
 - State Transportation Block Grant Program (STBG)
 - National Highway Performance Program (NHPP)
 - Congestion Mitigation and Air Quality Improvement (CMAQ)
 - Subject to Florida remaining in attainment
 - Highway Safety Improvement Program (HSIP)

State Funds

- Categories
 - Needs based
 - Statutory
 - Discretionary
- Capital and O&M Costs
 - DS – District funds
 - DITS – District ITS funds
 - DDR – District Dedicated/District Revenue
 - CIGP – County Incentive Grant Program
 - TRIP – Transportation Regional Incentive Program
 - TSMCA – Traffic Signal Compensation and Maintenance Agreement

9. Build capacities through training

- Statewide TSM&O Excellence Program (STEP)
- STAMP trainings for
 - Entry level professionals
 - Mid-level professionals
 - Signal technicians
- STAMP trainings
 - Traffic Signals
 - Emerging Technologies
 - Bid Idea Workshops
 - Work program 101
 - Other online trainings

Big Idea Workshop

- First Big Idea Workshop in July, 2016
- Workshop focus
 - Assess where we are
 - Discuss where we want to be
 - Define goals
 - Discuss ideas and strategies
 - Seek District feedback
 - Discuss emerging technologies
 - Review national best practices
- Workshop frequency
 - Annual or sooner as requested by the Districts



10. Understand District and local needs

- Understand District/local needs; not limited to
 - Training
 - Technology
 - Technical expertise
- Define deployment preferences and strategy
- Work with Districts to identify significant corridors
- Establish local partnerships
- Leverage funding opportunities



Thank you