



# I-10 RURAL ITS FREEWAY MANAGEMENT SYSTEM



Lee Smith, P.E.  
Supervising ITS/Traffic Engineer  
WSP USA  
*Former* TSM&O Program Manager  
FDOT-District 3



## *OBJECTIVES:*

- Overview of the I-10 Rural ITS Project
- Technology necessary to create a safe traveling environment for the motoring public
- Additional services and their benefits to the Freeway Management program
- Applications for Rural ITS in Tennessee

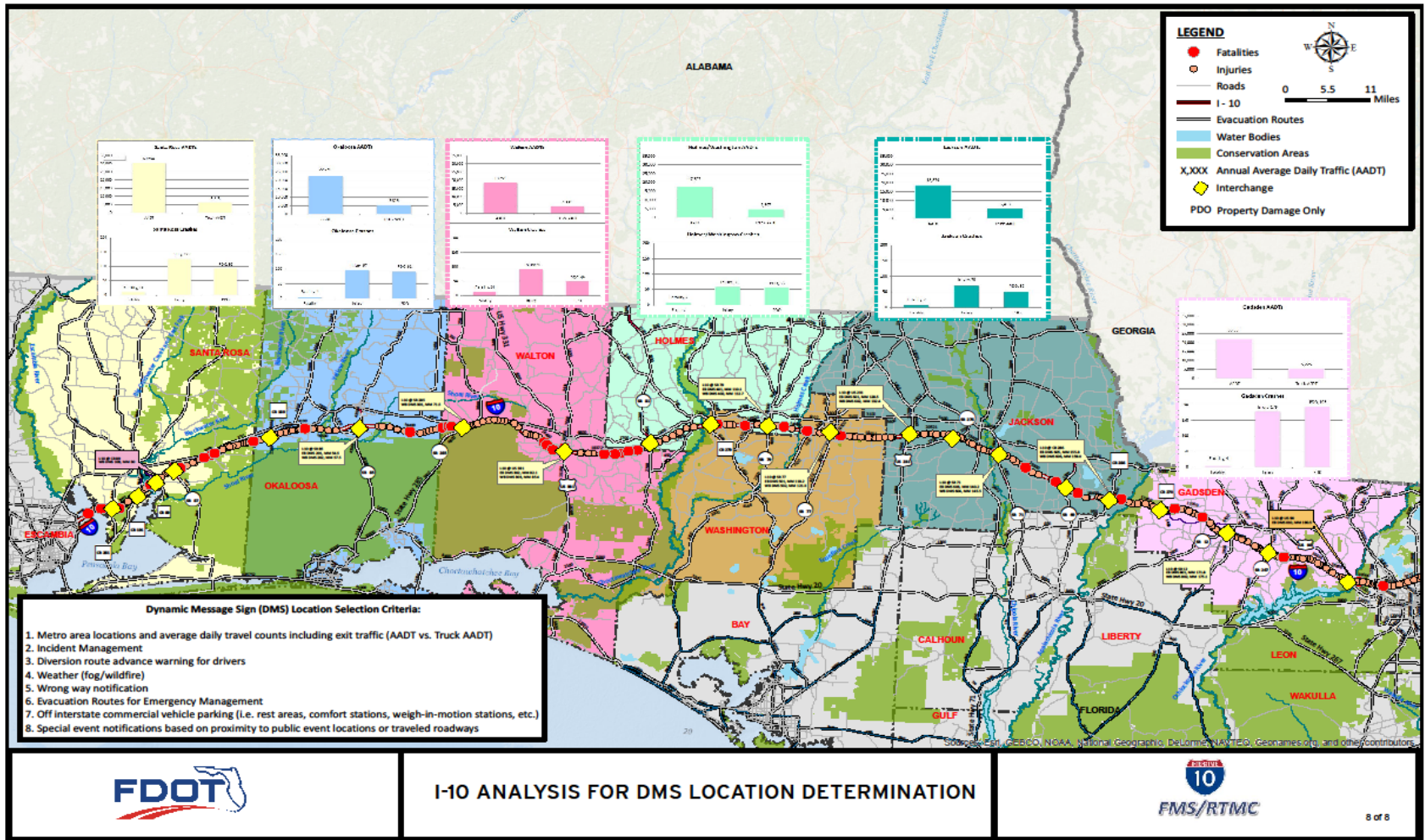


# Plain Language Initiative

- ITS = Intelligent Transportation System
- NUG = National Unified Goal
- FMS = Freeway Management System
- RTMC = Regional Transportation Management Center
- SF = Square Foot
- CCTV = Closed Circuit Television
- MVDS = Microwave Vehicle Detection System
- TTS = Travel Time System (Bluetooth)
- DMS = Dynamic Message Sign
- HAR = Highway Advisory Radio
- RWIS = Roadway Weather Information System
- ATMS = Arterial Traffic Management System
- RRSP = Road Ranger Service Patrol
- Gbps = Gigabits per second
- V2V = Vehicle to Vehicle (communication)
- FL 511 = Florida's 511 Traveler Information System
- FHP = Florida Highway Patrol
- SO = Sherriff's Office
- PD = Police Department
- EMT = Emergency Medical Technician
- HAZMAT = Hazardous Materials
- EOC = Emergency Operation Center
- FDOT = Florida Department of Transportation



# I-10 Rural ITS Deployment Project Limits



# I-10 Rural ITS Deployment

## *Why do we need a Freeway Management System?*

- Reduce emergency response time
- Reduce secondary crashes
- Monitor and manage traffic flow
- Detect incidents earlier
- Dispatch resources faster
- Notify motorists of conditions
- Minimize traffic delays
- Reduce congestion
- Assist first responders with visuals
- Reduce air pollution emissions
- Maximize use of existing roadway capacity



# I-10 FREEWAY MANAGEMENT REGIONAL TRAFFIC MANAGEMENT CENTER (RTMC)

- Operates 24/7/365
- State of the art communications center
- Dispatches Road Rangers and Rapid Incident Scene Clearance (RISC)
- Field equipment data comes back via fiber optics
- SunGuide, our management software, organizes data for the operator to use
- Disseminates information to the public



*Inside the Operations Room*



# I-10 Rural ITS Deployment

## *The Tools We Use ...*

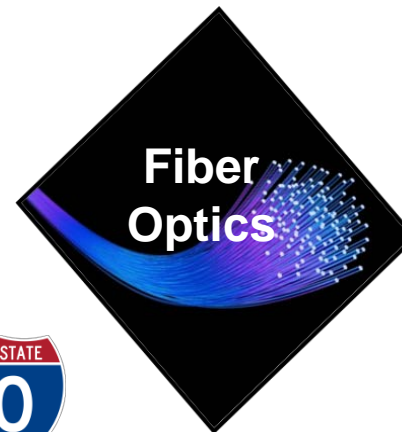
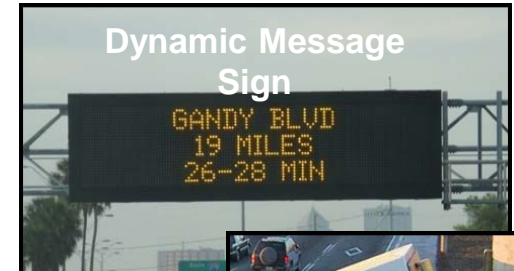
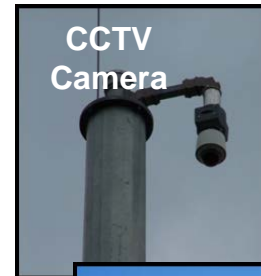
- CCTV
- DMS
- MVDS
- TTS (Blue Tooth)
- Highway Advisory Radios
- CB Wizards
- Roadway Weather Information Systems (RWIS)



# I-10 Rural ITS Deployment

## *The Stats...*

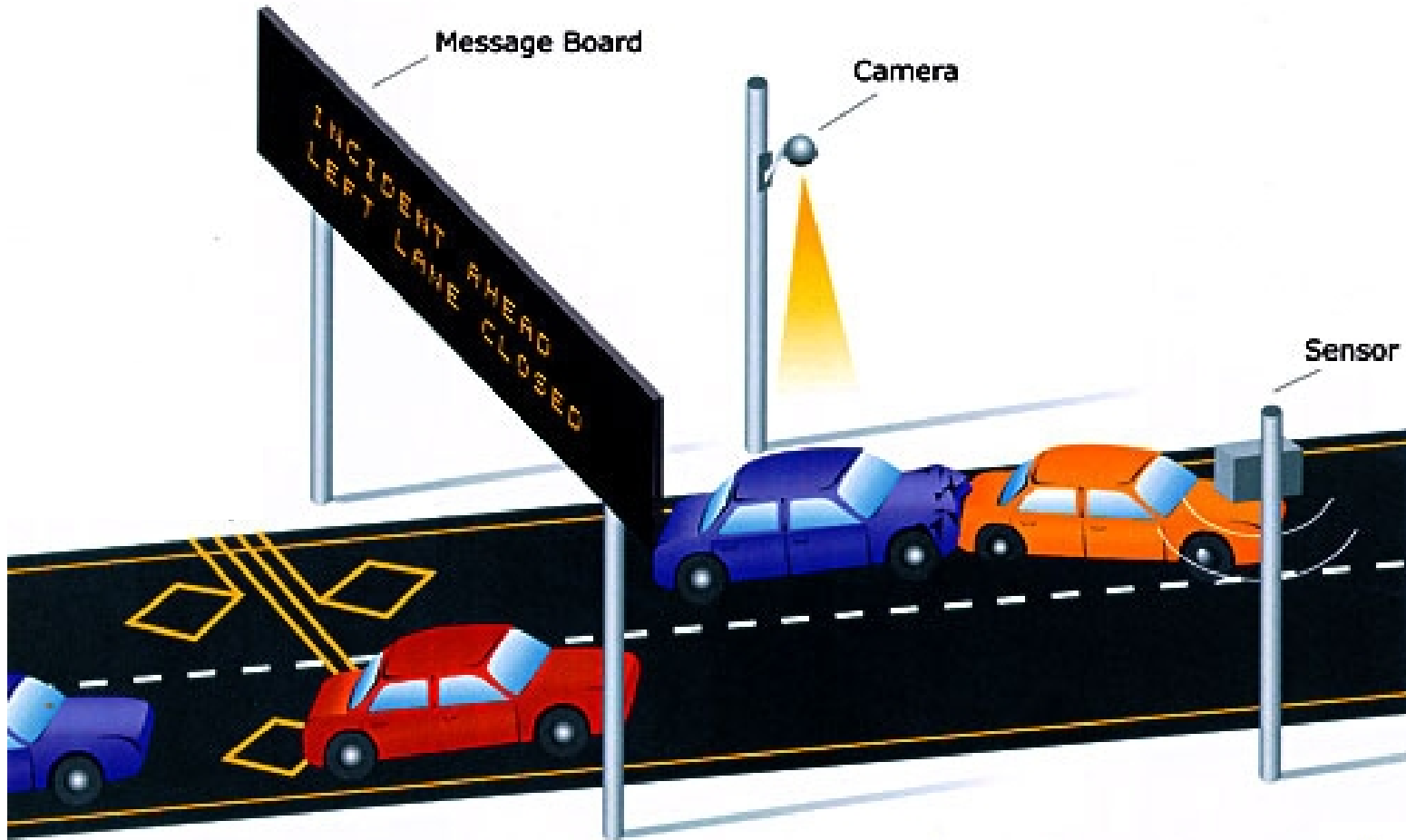
- \$24M Budget
- 230 miles of Fiber Optic Cable along Interstate 10 and US 231
- 184 Closed Circuit Television, 141 Microwave Detection Systems, 40 Travel Time Systems, 17 Dynamic Message Signs, 8 Highway Advisory Radios, 3 Roadway Weather Information Systems
- Road Ranger Service Patrol (12x5 with on-call)
- Connect Regional Traffic Monitoring Centers 's in Pensacola and Tallahassee, Arterial Management System in Bay County and Okaloosa County





# I-10 Rural ITS Deployment

*How it works...*



# I-10 Rural ITS Deployment

## *How can we see you...*

### *Closed Circuit Television Cameras (CCTV)*

- Spaced approximately 1 mile apart
  - Can zoom up to a half mile
  - Can see most of interstate
  - Can see incidents quickly
  - Monitor traffic conditions
- Quickly get information to:
  - FHP
  - Road Rangers
  - RISC Contractors
  - Asset managers
  - FDOT management



# I-10 Rural ITS Deployment

## *Message Dissemination...*

### *Importance of Dynamic Message Signs (DMS)*

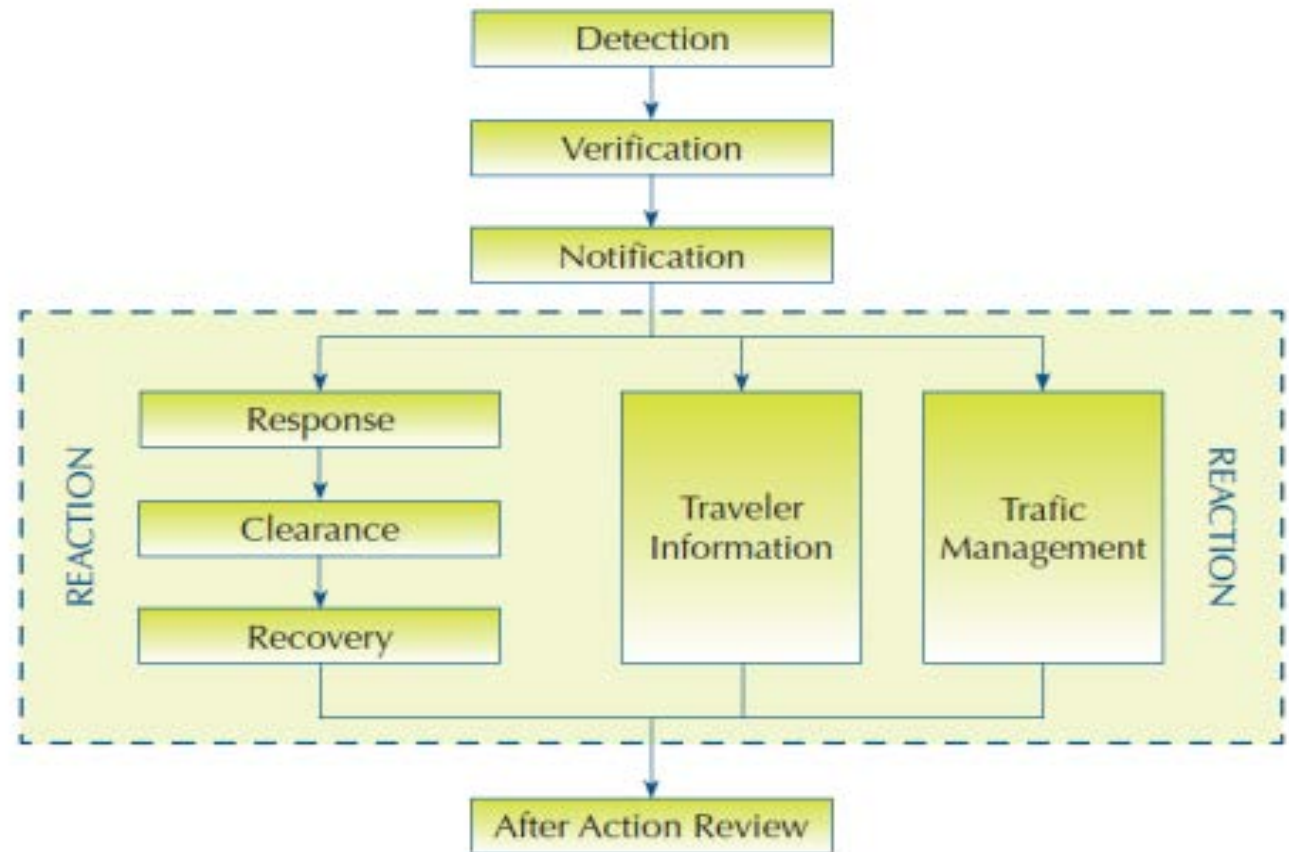
- Messages inform motorists of conditions such as:
  - Crashes
  - Lane blockages
  - Roadwork or construction
  - Travel times
  - AMBER, LEO and Silver Alerts
  - Special events
  - Public safety campaigns
- Message characteristics include:
  - **What** the problem is
  - **Location** of the problem
  - **Action** required of the motorist





# I-10 Rural ITS Deployment

## *Incident Management Process...*



# I-10 Rural ITS Deployment

## *Incident Detection....*

- Detection Sources

- MVS
- FHP; SO; PD
  - Motorists call 911 or \*FHP
- Operators scanning CCTV
- Road Rangers
- TTS
- RWIS
- WAZE





# I-10 Rural ITS Deployment

## *Working an Incident....*

### • Verify Detected Incident

- CCTV – 1 mile spacing; complete video coverage of I-10
- Road Ranger arrives on scene
- Law enforcement reports from incident scene

### • Notify Law Enforcement and FDOT

- As incident severity increases, the more people need to be notified
  - Executive Notification E-mails
  - Phone calls to management
- FHP is updated as conditions change





# I-10 Rural ITS Deployment

## *Working an Incident....*

- **Motorist Information**

- DMS
- HAR (w/ CB Wizard)
- FL 511

- **Response/Clearance/Recovery**

- Road Rangers; FDOT Maint Staff
- FHP; SO; PD
- EMT; Fire/Rescue
- Tow Truck
- HAZMAT

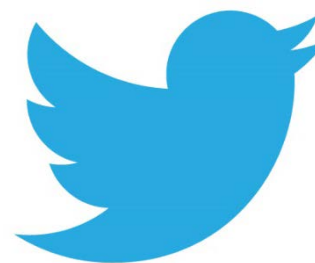


# I-10 Rural ITS Deployment

## *Information to the Public...*

### *Information Is Disseminated To The Public*

- FL 511 Traveler Information Services
  - Mobile App
  - Website – [www.FL511.com](http://www.FL511.com)
  - Phone
  - Email notification (by subscription)
- Twitter Mobile App
- WAZE Mobile App
  - Crowd sourcing
- Media Outlets (Television, Radio)
  - Tips from motoring public
  - FHP
  - Video sharing (from FDOT cameras)
- Highway Advisory Radio (HAR)
  - AM radio and CB



***Communication is the key to success***



# I-10 Rural ITS Deployment

## *Information to the Public...*

### *Information Is Disseminated To The Public*

- Dynamic Message Signs (DMS)
  - Use of DMS is an excellent way to provide immediate information to the motoring public. This creates:
    - Less distracted driving
    - Enhanced public safety
    - Public involvement (finding AMBER/LEO/Silver alerts)
    - Provides informed choice options
  - Use of Arterial DMS provides additional information dissemination such as:
    - Choices prior to entering interstates
    - Alternate routes



***Communication is the key to success***



# Traffic Incident Management Components

# I-10 Rural ITS Deployment

## *Road Rangers...*

### A Free Service

- Available by dialing \*FHP (\*347) on mobile phone
- Identify Incidents
- Provide Maintenance of Traffic (MOT) at crashes
- Assist disabled motorists
- Remove dangerous debris from roadway



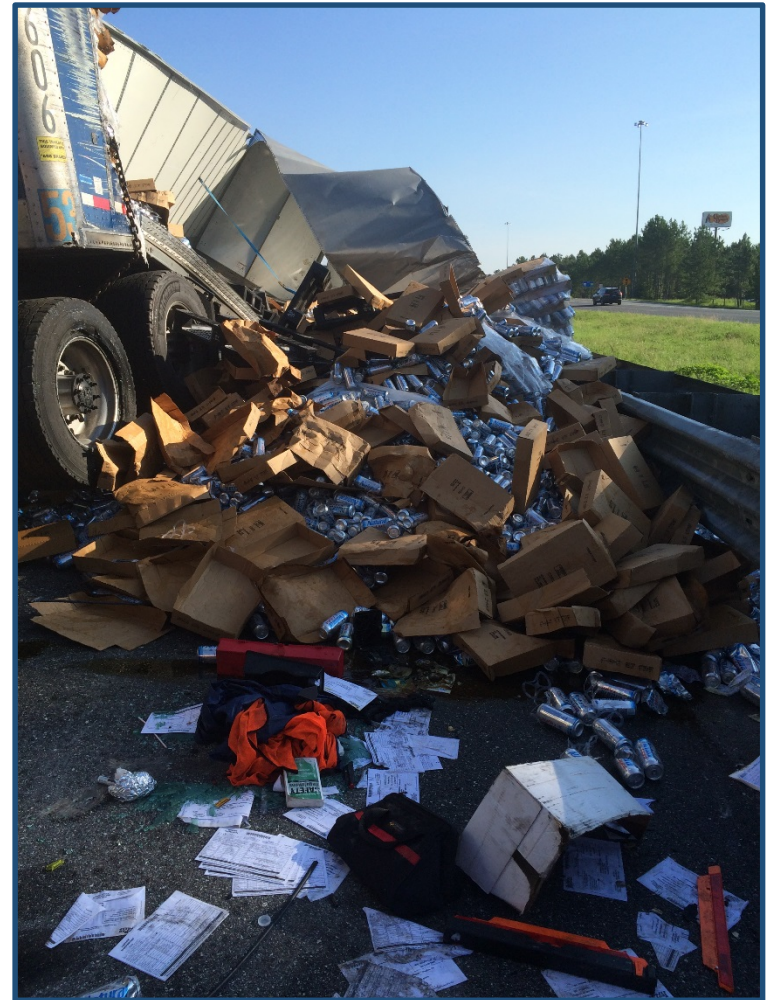
# I-10 Rural ITS Deployment

## *Rapid Incident Scene Clearance...*



## WHAT IS RISC?

- An innovative Florida program offering cash incentives to towing and recovery companies that quickly and adequately respond to incidents involving:
  - Large commercial vehicles
  - Large non-commercial vehicles such as RV's, larger marine vessels in transport and aircraft



# I-10 Rural ITS Deployment

## *Rapid Incident Scene Clearance...*



### CONTRACTOR REQUIREMENTS

- Requires two heavy wreckers and support vehicle
- All equipment must arrive within 60 minutes
- Travel lanes must be open in 90 minutes
- RISC contractors receive bonus if on time
- Available primarily on interstates



# I-10 Rural ITS Deployment

## *Rapid Incident Scene Clearance...*



# I-10 Rural ITS Deployment

*Rapid Incident Scene Clearance...*



# I-10 Rural ITS Deployment

## *Rapid Incident Scene Clearance...*





# I-10 Rural ITS Deployment

## *Rapid Incident Scene Clearance...*



# I-10 Rural ITS Deployment

## *Rapid Incident Scene Clearance...*



# I-10 Rural ITS Deployment

## *Traffic Incident Management*



- Meetings held quarterly
- All first responders encouraged to attend
- Incident debriefing
- Coordination efforts reviewed
- Information sharing among law enforcement, agencies and contractors

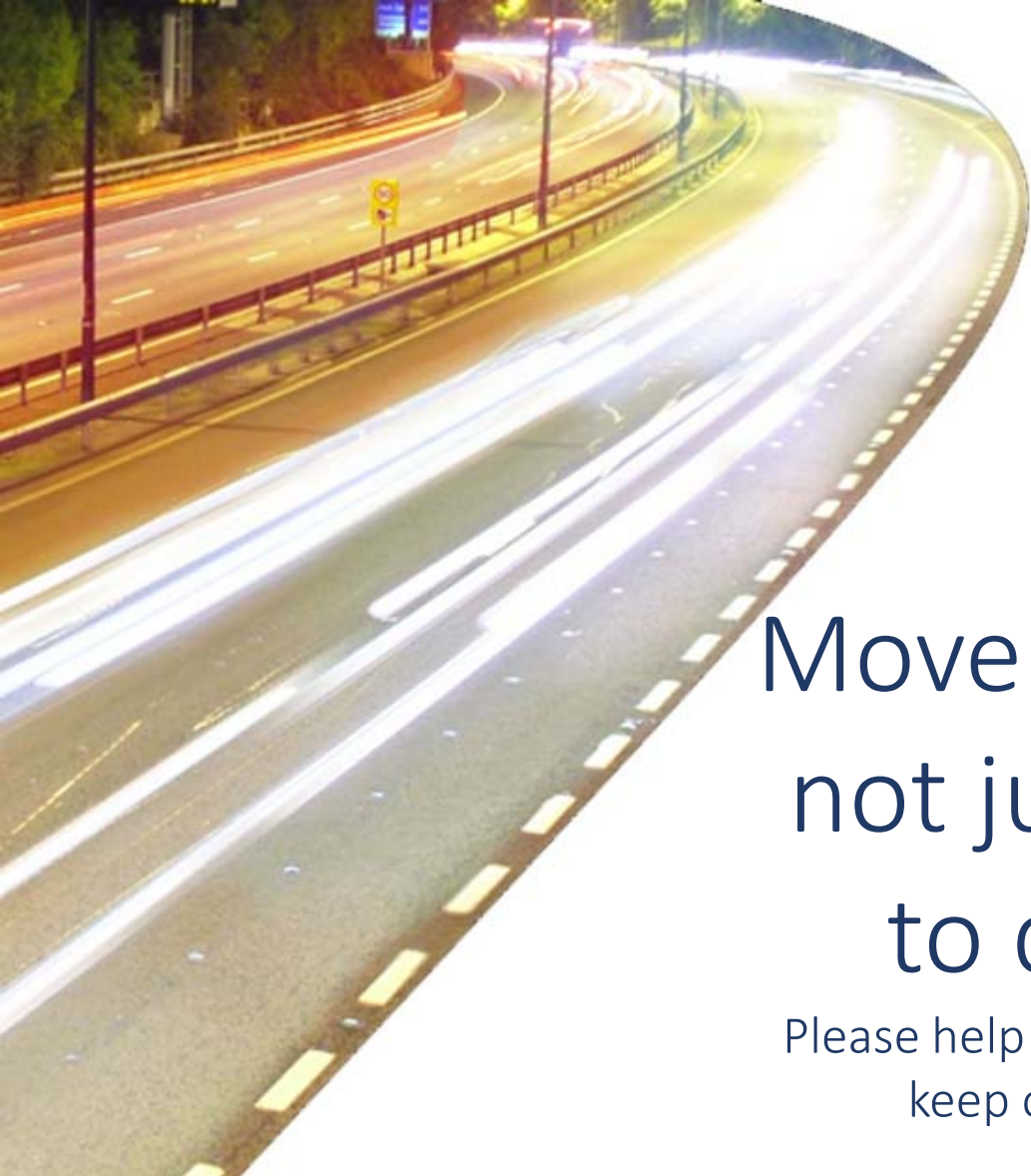




**THANK YOU**

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Move Over, Florida! It's  
not just the safe thing  
to do, it's the law.

Please help protect Florida's first responders and  
keep our road-ways safe for all users.

**◀ MOVE OVER ▶**