Response, Emergency Staging, Communications, Uniform Management, and Evacuation (R.E.S.C.U.M.E.)

Transportation Research Board
Traffic Law Enforcement Committee
Annual Meeting

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Overview

- US DOT ITS Program Background
- Dynamic Mobility Applications Program
- Status and Next Steps
What is ITS?

- **Transaction Automation**
- **System Control**
- **Decision Information**
USDOT ITS Program

- ~$100 million annual research program addressing intelligent vehicles and infrastructure
- Primary focus on “connected vehicles” to address safety, mobility and environmental challenges
- The ITS Joint Program Office, housed in RITA, coordinates multimodal research initiatives across six USDOT administrations: FHWA, NHTSA, FTA, FMCSA, FRA, and MARAD.
Dynamic Mobility Applications (DMA) Programs
Dynamic Mobility Applications Program

- Expedite development, testing, commercialization, and deployment of innovative mobility applications
- Develop and assess decision support applications
- Demonstrate promising applications
- Determine infrastructure requirements
Response, Emergency Staging, Communications, Uniform Management, and Evacuation (R.E.S.C.U.M.E.)
Response, Emergency Staging and Communications, Uniform Management, and Evacuation (R.E.S.C.U.M.E.)

- Incident Scene Pre-Arrival Staging Guidance for Emergency Responders (RESP-STG)
- Incident Scene Work Zone Alerts for Drivers and Workers (INC-ZONE)
- Emergency Communications and Evacuation (EVAC)
Incident Scene Pre-Arrival Staging Guidance for Emergency Responders (RESP-STG)

- Situational awareness info to responders while en route
- Enabled through enhancements and expansions of the existing Government Off-the-Shelf (GOTS) software solutions developed by the Capital Wireless Information Net (CapWIN) Coalition.
- Input to responder vehicle routing, staging and secondary dispatch decisions
  - Satellite imagery
  - GIS data
  - Current weather data
  - Real-time modeling outputs

• Source: Oconto County, WI
Incident Scene Pre-Arrival Staging Guidance for Emergency Responders (RESP-STG) (cont.)

- Vehicles On Scene

  - LS 1 2 3 4 RS

  - Add Selected Vehicle To Lane
  - Remove Vehicle From Lane

- Road Orientation
  - North

- Editor Mode
  - Bidirectional
  - Unidirectional

- Lane Configuration
  - Click To Preset 2 Lanes
  - Click To Preset 2x2 with Median
  - Click To Preset 4x4 with Median

- Lane Options
  - Open Selected Lane
  - Close Selected Lane
  - Set Selected Lane Status To Unknown
  - Remove Selected Lane

- Lane States
  - LS
  - 1
  - 2
  - 3
  - 4
  - RS

- Vehicle Types
  - F/EMS
  - TRANS
  - POLICE

- Save Changes and Close
  - Close Without Saving
Incident Scene Work Zone Alerts for Drivers and Workers (INC−ZONE)

- Functions

1. With an in-vehicle messaging system, provides motorists with merging and speed guidance as they approach an incident scene.

2. Provides drivers with warnings if they approach the incident scene at an unsafe speed or trajectory.

3. Provides a warning system for on-scene workers when a vehicle approaching or in the incident zone is operated outside of safe parameters for the conditions. (Audible warnings conveyed through the respective radio systems of emergency responders and one of the responder vehicle’s horn)
REDUCE SPEED

U.S. Department of Transportation
Research and Innovative Technology Administration
ITS Joint Program Office
Emergency Communication and Evacuation (EVAC)

- Addresses the needs of two different evacuee groups:

  1. Those using their own transportation
     - Dynamic route guidance information
     - Current traffic and road conditions
     - Location of available lodging
     - Location of fuel, food, water, cash machines and other necessitates

  2. Those requiring assistance
     - Identify and locate people who are more likely to require guidance and assistance
     - Identify existing service providers and other available resources

Note: Current prototype development efforts only entail framework development and identification of institutional issues.
Status and Next Steps
Current Status

- Detailed requirements definition completed
- System architecture definition completed
- System design underway
- Development Spring 2014
- Testing late Spring 2104
Testing Activities

- Battelle’s facilities in Columbus, Ohio and Aberdeen, Maryland.
- Maryland Police and Correctional Training Commission’s Driver Training Facility located in Sykesville, MD.
  - Highway response course
  - Tactical course