



In 2010, the **National Association of State Emergency Medical Services Officials (NASEMSO)** brought together subject matter experts in highway safety, emergency medical services (EMS), trauma systems and emergency communications in an effort to create tools designed to quantify and measure readiness to respond to large scale highway incidents. The project was conceptualized following the 2008 Mexican Hat, Utah, motor coach crash, in which all 53 bus passengers were injured - nine fatally. The roll-over occurred in a remote area challenged by limited access to communications, emergency medical response/transport services and hospital capacity, particularly trauma centers. Following its investigation of the Mexican Hat crash, the National Transportation Safety Board (NTSB) made several recommendations surrounding motor coach and roadway safety, but also challenged NASEMSO and the American Association of State Highway and Transportation Officials (AASHTO) to work with the Federal Highway Administration (FHWA) to assess the risk of rural travel by large buses. As a result, the **Highway Mass Casualty Project** was born.

### **EIRRA and MIECE: Tools for Evaluating Emergency Response Readiness on Rural Roads**

The Highway Mass Casualty Project created two tools aimed at measuring emergency response readiness on the nation's highways, particularly rural roads. The **EMS Incident Response and Readiness Assessment (EIRRA)** is a *self-assessment tool designed to measure the level of emergency medical preparedness for response to a highway mass casualty incident*. It is intended to be used by state, regional and local EMS agencies to evaluate the system's capability to respond to large scale emergency incidents. In early 2011, **EIRRA** was completed and subsequently utilized by 28 state EMS offices to assess their respective overall preparedness levels. These initial EIRRA scores can be used as a baseline to identify where resources are lacking and to quantify progress after system improvements are made. EIRRA results could also be used as part of the SAFETEA-LU requirement to identify and select Highway Safety Improvement Program (HSIP) projects.

The **Model Inventory of Emergency Care Elements (MIECE**, pronounced "mice") is another emergency response measurement tool, but is at an earlier stage of development. Completed in 2011, the MIECE *Proof of Concept* was designed to demonstrate the feasibility and utility of *an emergency care inventory that displays resources and capacity by segment of interstates and US highways*. If developed into a full scale project, MIECE would include a scorecard-like assessment of emergency care resources by geographic area. This data could ultimately be used to create a snapshot in time or dynamic real-time "dashboard" where highway officials, EMS officials, motor coach route planners, and even the public could look at a regularly updated highway map and see the capability of the emergency medical and hospital care system in the area.

The Highway Mass Casualty project was funded by a cooperative agreement between NASEMSO and the **National Highway Traffic Safety Administration (NHTSA)** Office of EMS. For further information about EIRRA or MIECE, contact NASEMSO Executive Director Dia Gainor at [dia@nasemsso.org](mailto:dia@nasemsso.org) or Program Manager Mary Hedges at [hedges@nasemsso.org](mailto:hedges@nasemsso.org). More information is also available at the NASEMSO website <http://www.nasemsd.org/Projects/HITS/index.asp>.



Example of how a **MIECE** color-coded road map might appear:

- **Green** – high level of emergency care resources
- **Yellow** – medium level of emergency care resources
- **Red** – low level of emergency care resources

