

Emergency Response Information System



Iowa Safety Management Systems Coordination Committee

Improving Communications with Emergency Responders By Jacqueline Comito, Ph.D.

Warmer weather in Iowa often brings with it varying flowers, vegetables and the inevitable road construction. To the average Iowan, the yearly advent of road construction can represent detours, delays and other minor inconveniences. However, to our local community emergency response providers, changes in the transportation system in a county can greatly impact their ability to serve their communities effectively.

Although a completed road repair or expansion project can positively impact local communities, the additional demands and stresses on local resources can adversely affect emergency response services before and during construction projects on county roads and highways. A primary component of Iowa's Safety Management System's Strategic Plan is the enhancement of local and regional emergency response system capacity for timely response to highway crashes, thus increasing survivability of victims.

Creating a system to enhance Iowa's emergency response system capacity to respond to highway crashes and highway crash victims has been at the heart of the development of the Emergency Response Information System (ERIS). By fall of 2001, through the efforts of Jerry Roche, CTRE staff, Joyce Emery, members of SMS Coordination Committee, George Oster and myself, ERIS will be up and running with the data from 16 counties picked as pilot areas. Before I discuss ERIS in more detail, I want to take a moment to discuss the work that led to the development of this vital planning tool.

The United States is one of the few countries that places 99% of the burden of emergency response services on local communities. This fragmented responsibility produces obvious inefficiencies and inequalities while ignoring the advantages of resource and service sharing on a county and state level. In Iowa, the authority and responsibility for these services lie mainly with cities and townships.

Eighty percent of all Iowa fire and emergency medical response departments have budgets of \$30,000 or less and serve districts with populations of 5,000 or less.



ERIS is created through layered mapping of emergency response districts

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Shrinking or level budgets combined with increasing responsibilities have a major impact on emergency response departments’ ability to serve their communities. Inadequate staffing of day calls, a high level of volunteer burn-out and frequent supply and equipment replacement are a few of the stresses on departments.

Changes in transportation systems (which can change social conditions, demographics, economic development and housing) significantly impact emergency response needs, patterns, patient flow patterns, capability and costs. Generally, agencies do not evaluate impact of proposed changes on emergency response prior to implementation nor are such changes considered in environmental impact studies.

In 1997, the Iowa Safety Management System (SMS) Coordination Committee had the insight to recognize the importance of emergency response to highway safety and the need to evaluate the effect of new transportation patterns on local communities’ response capability. The Highway 218 (Avenue of the Saints) expansion project southern corridor was an ideal location for assessment.

In early 1998, the Iowa Department of Transportation agreed to fund a pilot project under the auspices of George Oster and Iowa State University Extension Fire Service (renamed in 2000 to the Fire Service Training Bureau and is now housed with the Iowa Department of Public Safety) that would examine and evaluate the effect of the relocation of highway relocation on emergency response in Washington, Henry and Lee Counties.

I was hired in my capacities as an applied anthropologist to implement the pilot project. My job was to document current fire and emergency service patterns, communication patterns between state and local officials, evaluate positive and negative impacts, and predict or record changed caused by the relocation and expansion of the Highway 218 corridor. They wanted to know the human and social dimensions of the emergency service teams.

We spent time talking to local officials. We studied the demographics of the counties and collected and mapped the fire/EMS districts. We also analyzed the county fire and emergency medical systems along with the number of crashes within each county over the last five years.

During the summer of 1998, informational meetings were held in Washington, Henry and Lee Counties. In attendance at each meeting were representatives from the county emergency medical services, the fire departments along Hwy 218, and the local Sheriff’s offices. We allowed the local officials to decide which fire/EMS departments were needed for the study.



Counties can compare data and generate reports

The groups discussed the general patterns of fire and emergency services in their counties and along Hwy 218. There was also an organized brainstorming session in which the group discussed the impact of the highway expansion project in their areas.

We participated in lengthy tours conducted by local emergency medical officials of each county in order to gain more specific information concerning the impact of the expansion of Highway 218 on the fire and emergency services in the area.

Toward the end of the summer, we facilitated a meeting at the Henry County Health Center in Mt. Pleasant between the local law, fire and medical officials and representatives from Iowa DOT, Fire Service Institute, Iowa SMS Coordination Committee and Iowa State Patrol. Smaller group discussion sessions, during this meeting, allowed individual county officials to discuss their concerns and issues with state officials.

It was clear from this project that road safety must be seen as a collaboration between state and local people. Local officials have their own expert knowledge of the roads in their counties, and that open and consistent communication is the key to making this relationship effective and beneficial to overall road safety in Iowa.

This project was an excellent first step in making Iowa DOT accessible to local officials and for educating all those involved in the importance of a continued dialogue. Hopefully, state officials are beginning to recognize the need to seek out local knowledge and expertise regarding road performance and safety; local emergency response providers are working on strategies to keep state officials informed of local concerns.

In addition, in cooperation with Iowa DOT's Office of Traffic and Safety Data's Geographic Information Systems-Accident Location Analysis System (GIS-ALAS) development projects, we were able to add response boundaries and fire district names to the detailed maps of the townships, cities and transportation systems in the counties. This mapping enhanced both projects and provides us with tools to significantly strengthen future transportation and emergency response planning, environmental impact studies.

To expand the preliminary mapping work completed in the Avenue of the Saints Project and provide the critical link between transportation personnel and emergency response personnel, ERIS was actualized through seed money from the Iowa SMS Coordination Committee. Through the Center For Transportation Research's Geographic Information System, ERIS was created through the layered mapping of emergency response districts and the location of important emergency



ERIS has easily retrieved emergence response data

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For More
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Plans to put ERIS
On the Web!

By December 2001,
ERIS will include data
from following 17 Iowa

counties:

Calhoun

Carroll

Dubuque

Floyd

Guthrie

Harrison

Henry

Ida

Lee

O'Brien

Osceola

Plymouth

Polk

Sioux

Van Buren

Washington

response stations, vehicles and equipment. Through inclusion of attributes such as level of emergency response capability, number and availability of personnel, hospital locations, vehicles, equipment, population and the like, a powerful tool will be available for critical decision making.

ERIS provides information never before available in an easily retrieved system to be used by Iowa DOT planners and operations personnel to communicate with the emergency response services before and during construction as well as during emergency conditions, weather events, temporary road closings and similar incidents. On the local level, ERIS will be an effective assessment and planning tool for local emergency response providers. In addition, ERIS will create an important component in the education of emergency response personnel and their communities in the importance of traffic safety and the benefits of strong ties with the Iowa DOT and Iowa's transportation system.

It is important that the almost 900 fire/EMS response boundaries and districts from the remaining 83 of the 99 counties are added to the Iowa's data systems. For most counties, these boundaries are still being hand-mapped by local officials and are not accessible on a state level. Iowa DOT is one of the few state agencies with the technological resources to conduct a statewide mapping of these fire/EMS districts in Iowa. It is important for future road safety that this mapping project be completed on a statewide basis.

Although fire and emergency medical response services are often taken for granted in Iowa, they represent an essential element of a sustainable community. Emergency response services affect both the quality of life and the economic development potential of every Iowa community. Without clear planning and open communication, highway expansions such as the Avenue of the Saint can have a drastic impact on local emergency response services.

Hopefully, the initiative that the Iowa Safety Management System Coordination Committee and Iowa DOT have shown in funding this innovative pilot project is just a first step in developing the partnership between local and state expertise in regards to road safety. With ERIS in place, it is my hope that future road construction projects in Iowa will only continue to be a minor inconvenience rather than a more serious disruption to local emergency response teams ability to respond to crashes and other incidents.

About Iowa SMS Coordination Committee...

The Iowa SMS Coordination Committee believes that a comprehensive, integrated approach will produce an overall effort that has the strong potential to significantly reduce deaths, injuries, health care costs, and other losses on our highways. To read a copy of their strategic plan, go to http://www.iowasms.org/strategic_highway_safety_plan_updated.htm.

