Iowa DOT “Golden Hour” Project

Recommendations for Reducing the Crash to Care Time

August 3, 2010
Iowa DOT has dual approach to traffic safety:

- Reduce crash rates
- Improve post-crash outcomes
This project focused on improving outcomes by reducing the time between a crash and “definitive” medical care.
Crash to Care – Short History

- First trauma center opened in 1960
- Trauma care times studied extensively during 1960’s
- “Golden Hour” concept emerged stating 1st 60 minutes after trauma is most critical
- 60 minute time eventually discarded, now “faster is better” is the conventional wisdom
• Trauma System Advisory Council (TSAC) – established uniform trauma protocol for Iowa in 1996

• 116 trauma care facilities in Iowa as of 2009
Trauma Care Facility Locations

Reducing Crash to Care Time

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Crash to Care Issues

Much of Iowa is rural

- Rural crashes generally have higher speeds (more severe)
- May be farther from ambulance/trauma facilities
- More difficult to locate the crash site
- Inter-facility facility transfers needed to access specialists

Reducing Crash to Care Time
The Question:

What can the Iowa DOT do to make the time to identify, locate, arrive at, and transfer a crash victim to definitive care as short as possible?
The Approach:

- Start asking questions
  - Attempted to contact 23 doctors, nurses, paramedics and administrators
  - Conducted interviews with 10
  - Visited three locations (Level I, Level II and Level IV facilities)
  - Lots of informal conversations with ER/trauma staff
Four common themes emerged:

1. Improved road condition information
2. Communications infrastructure
3. Availability of volunteers
4. Ambulance/equipment management
Issue 1: Improved Road Condition Information

Most were aware of 511ia.org/511, but:

– Need information at the county/local road level
– Additional information (such as real-time snow maintenance data) is desired
– Some method for relating road conditions to a planned route was needed
– Current interfaces (web and phone) can be too time consuming for use in a response situation
Recommendations

- Expand 511 to include local roadways
- Improve 511 user interface for dispatchers
- Share winter roadway maintenance conditions with dispatchers
- Share rail crossing status with dispatchers

Reducing Crash to Care Time
• Telemedicine is attractive, but early (1990’s) era attempts were hindered by low bandwidth and high costs

• Video surveillance of some key rural intersections (high crash rates) is desired, but data transport can be prohibitive.
Recommendations

- Share communication infrastructure (fiber/wireless) with medical community
Issue 3: Availability of Volunteers

- Level III and IV facilities rely heavily on volunteer drivers and Emergency Medical Technicians (EMTs)
- Many communities are facing declining numbers of volunteers, and those remaining are available on restricted schedules due to job/economic concerns.
- May cause delay in response as an available volunteer is located
Recommendations

• EMT certification program for DOT personnel. Could include:
  – Organizational support in the form of program information supplied to staff
  – Support from supervisors to leave work to perform volunteer duties
  – Reimbursement for training
Issue 4: Ambulance/Equipment Management

- Dedicated garage for storage of ambulances is lacking.
- Can cause issues with equipment condition (gas/tire pressure not monitored).

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Recommendations

• Co-locate emergency vehicles at DOT garages

Other recommendation:
• Add DOT representative to Trauma System Advisory Council

Reducing Crash to Care Time
## Issues Summary

<table>
<thead>
<tr>
<th>Source</th>
<th>Improved Road Condition Information</th>
<th>Communications Infrastructure</th>
<th>Availability of Volunteers</th>
<th>Ambulance/Equipment Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Operations Representation on Trauma Board</td>
<td>Interview</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Expansion of Travel data to Local Jurisdictions</td>
<td>Interview</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved User Interface for Emergency Responders</td>
<td>Interview</td>
<td>●</td>
<td></td>
<td></td>
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<tr>
<td>Sharing of Real-Time Maintenance Data</td>
<td>Interview</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Coordination of Communications Infrastructure</td>
<td>Interview</td>
<td>●</td>
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<td>Certification Program for DOT personnel as EMTs</td>
<td>Interview</td>
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<tr>
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<td>Interview</td>
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<td>Real Time Rail Crossing Status</td>
<td>Iowa DOT Staff</td>
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</tbody>
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**Reducing Crash to Care Time**
Thank You

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