



August 27, 2013 National Rural ITS Conference



BEST PRACTICES FOR
EMERGENCY REROUTING



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of Michigan, Inc.



Outline

- Project Overview
- Research Findings
- Signage
- Challenges
- Guidance Document
- Lessons Learned



PROJECT OVERVIEW



Michigan Road Network

- 7 Regions
- MDOT Responsible for Trunkline Routes
 - Direct vs. Contract
- Counties/Municipalities Responsible for their Respective Routes
- Predominately Rural Areas
 - Detroit and Surrounding Suburbs
 - Grand Rapids
 - Lansing



Project Overview

- Research Project
 - 1 year
- Guidance Document
 - *Recommendations for a consistent approach to developing emergency reroutes and signage on those routes*



Assumptions

Manual Intended

- Serve as a reference that summarizes best practices from other states
- Provide information stakeholders should consider when developing emergency reroutes
- Be a guide on how to evaluate the effectiveness of reroutes
- Present recommendations on signage for the developed routes
- Be updated periodically as technology changes, lessons learned are revealed, or other supporting information is identified as beneficial to include

Manual Not Intended

- Describe how to handle incident management
- Provide or document specific emergency rerouting plans
- Specify when and how to implement emergency rerouting plans
- Require specific signage for all reroutes implemented
- Remain a static unchanging document



PROJECT PROCESS

1 Best Practices

Literature Review

- Initial scan of existing public information
- Expert recommendations

Survey States

- Review of literature
- Expert recommendations
- Questions

Interview States

- Review of survey information
- Targeted Questions and Answer

2 Stakeholder Involvement

Workshop

- Stakeholder review
- Operational scenarios
- Understanding gaps
- Determining needs

Conference Call

- Stakeholder review
- Understanding gaps
- Figuring out what works
- Determining needs

3 Manual

Stakeholder identification

Roadway considerations

Regional considerations

Communication

Evaluation methods

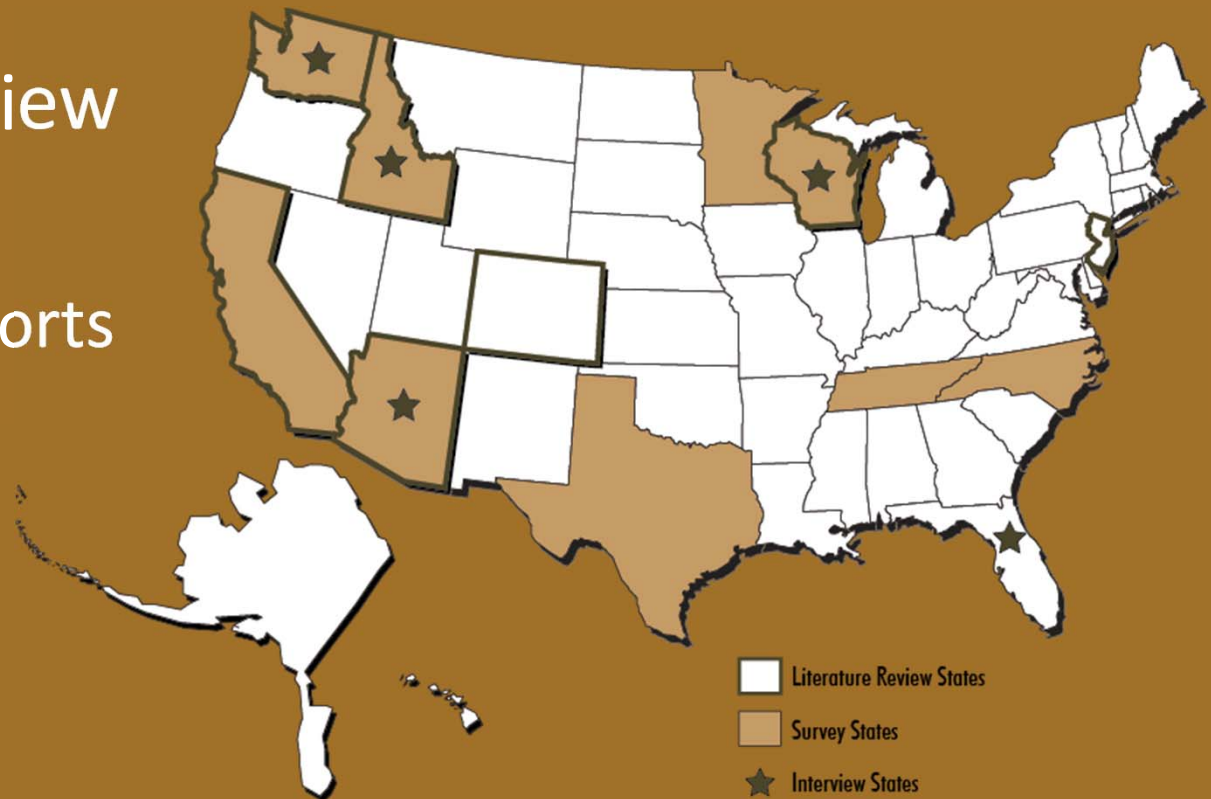
Signage

RESEARCH FINDINGS



Methodology

- Literature Review
 - 7 states
 - 4 Federal reports
- Survey
 - 9 states
- Interview
 - 5 states



Best Practices

- Areas of Commonalities
- Areas of Divergence
- Challenges
- Process Recommendations



Stakeholder Feedback

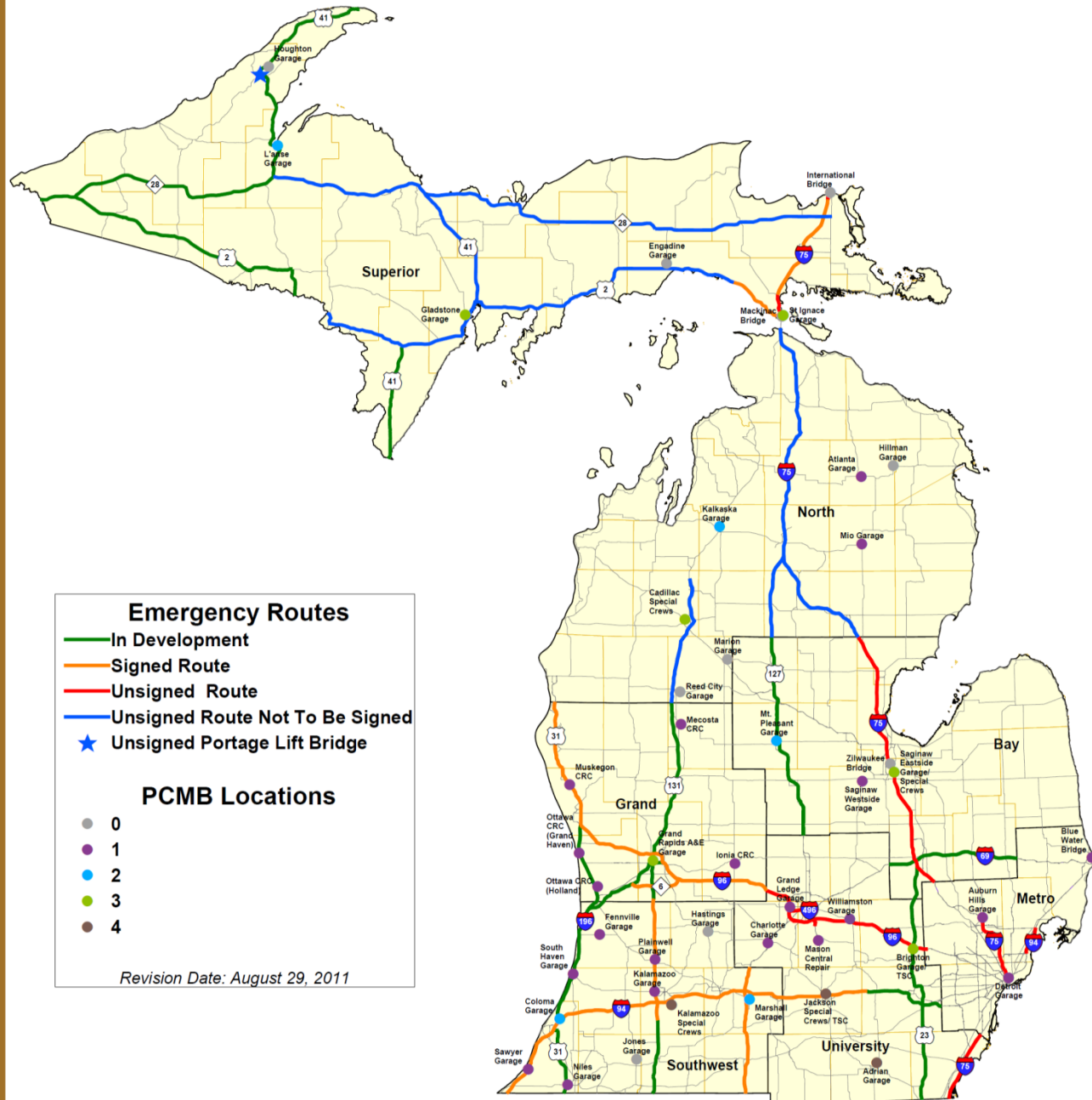
- Half Day Workshops
 - 3 locations
- Break-Out Groups
 - 2 hypothetical locations for emergency rerouting vs. incident management
- Conference Call



Existing Elements

- Existing Reroutes
 - Varies among regions
- Existing Signage
 - Less frequent and not the same
 - MMUTCD





SIGNAGE



Guidance

- Urban/Suburban/Rural
- Placement
- Density



Recommended Sign Design



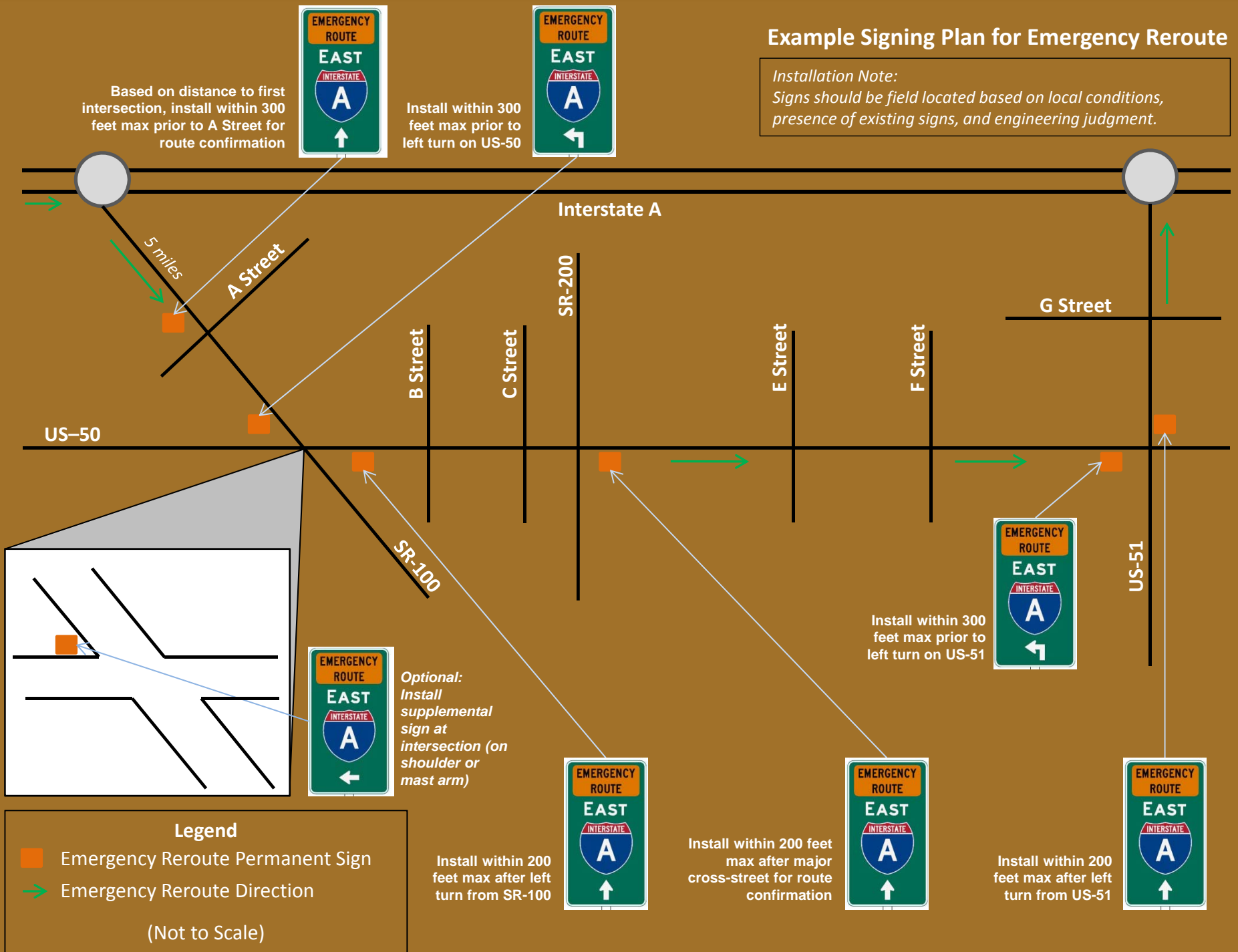
Non-Recommended Sign Design



Example Signing Plan for Emergency Reroute

Installation Note:

Signs should be field located based on local conditions, presence of existing signs, and engineering judgment.



CHALLENGES



Considerations

- Challenging Interagency Relationships
- Regional Stakeholder Relationships
- Local Decisions
- Resources
- Commercial Freight
 - Oversize/Overweight
 - Permits



GUIDANCE DOCUMENT



Guidance Tools

- Tools to Help Guide Stakeholders:
 - Evaluation Methods
 - Letter of Agreement Draft (or Memorandum Of Understanding)
 - Case Study
 - Examples
 - Response Plan
 - Checklists



Guidance Tools

- Checklists Include:
 - Stakeholder Identification
 - Roles and Responsibilities
 - Road Network Considerations
 - Intersection Analysis
 - Regional Considerations (Urban/Rural)
 - Communication
 - Evaluation
 - Signage

3 Manual

Stakeholder identification

Roadway considerations

Regional considerations

Communication

Evaluation methods

Signage



Road Name:		Date:		
Timeframe: During the development of emergency rerouting plans.				
Involvement: State and local transportation agencies.				
<p>Process: Choices for rerouting traffic will depend on the length of the detour, available roadways for the detour and their characteristics, and connections to intersecting roadways along the detour. All potential characteristic should be considered when deciding on potential alternates. It is important for the estimated volume of detoured traffic to be evaluated against the capacity of the identified reroute. It is understood that the roadway likely will be over capacity, but this analysis will assist in planning effective traffic control measures in response to the projected traffic conditions. References for this include: local maps, ADT, weight restriction maps, and/or height restriction maps.</p>				
Checklist: Review the characteristics of the potential alternate routes and determine if they may impact the plans.				
	Characteristics	Alternate Emergency Route 1	Alternate Emergency Route 2	Alternate Emergency Route 3
<input type="checkbox"/>	Identify segment of each alternative route (road name, and end points) *Note: see intersection checklist for specific analysis of intersections.	Segment 1		
		Segment 2		
		Segment 3		
		Segment 4		
		Segment 5		
		Segment 6		
		Segment 7		
		Segment 8		
		Segment 9		
<input type="checkbox"/>	Length of roadway (mainline and alternative route)	Mainline:		
		Alternate:		
<input type="checkbox"/>	Volume thresholds by time of day	Mainline: AM/PM		
		Diversion: AM/PM		
<input type="checkbox"/>	Capacity of roadway	Mainline:		
		Diversion:		
<input type="checkbox"/>	Background V/C levels of diversion roadway(s) by time of day	Mainline: AM/PM		
		Diversion: AM/PM		
<input type="checkbox"/>	Queue length adequacy			
<input type="checkbox"/>	Roadway geometry			
<input type="checkbox"/>	Lane geometry			
<input type="checkbox"/>	Horizontal curvature			
<input type="checkbox"/>	Vertical curvature			

LESSONS LEARNED



Lessons Learned

- I. Stakeholders had a hard time distinguishing between alternate route process and incident management
- II. Several areas unaware of the types of pre-planned routing strategy in place
- III. A regional contact list can help impact the coordination
- IV. Stakeholders wanted an interactive format for the document



QUESTIONS

*Presenters:
Amanda Good
Angie Kremer*

