

Center for Transportation Research and Education

Safety Corridors in Iowa

Tom McDonald, Co-Principal Investigator



IOWA STATE
UNIVERSITY

Iowa State University's Center for Transportation Research and Education (CTRE) is the umbrella organization for the following centers and programs: Bridge Engineering Center • Center for Weather Impacts on Mobility and Safety • Construction Management & Technology • Iowa Local Technical Assistance Program • Iowa Statewide Urban Design and Specifications • Iowa Traffic Safety Data Service • Midwest Transportation Consortium • National Concrete Pavement Technology Center • Partnership for Geotechnical Advancement • Roadway Infrastructure Management & Operations Systems

Proposed

- Synthesis of Practice Research Study Completed
- Any program in Iowa yet to be approved by the Iowa Department of Transportation and Department of Public Safety
- Possible action in next several months
- Road Safety Audits on two possible routes completed

Safety Corridor for Iowa

- A relatively short segment of roadway (2-20 miles)
- Higher than average severe crash rate
- Multiple years of duration, minimum one year
- Multi-disciplinary in approach

Components

- Engineering improvements, generally low cost
- Enhanced enforcement
 - Focus on issue of interest
 - Speeding
 - Seat belt
 - alcohol
- Public information and education
 - News releases, brochures, media events, etc.
- Special signing

Other States' Practices

- First CSIP in PA in 1988
- FHWA workshop in 1990
 - Voted most promising short term countermeasure for safety
- FHWA guidelines in 1996
- Known programs in at least 12 states

Anticipated Contributors

- State and local law enforcement
- Governor's Traffic Safety Bureau
- Department of Transportation
- County/city agencies
- Local traffic safety committee
- Emergency responders
- Schools
- News media
- Businesses

Advantages for lowans

- Quick reaction to identified crash problem
- Responsive to public demands
- Implementation costs relatively low
- Interim step until more costly improvements can be programmed
- Multi-disciplinary approach is effective
- Flexible in approach
- Excellent record of effectiveness

Possible Strategies

- Dedicated enforcement
- Adjusted speed limits
- Required or suggested headlight use
- Double fines for moving violations
- Larger signs
- Enhanced pavement markings
- Public awareness thru local media
- Education of younger drivers
- Remove objects in clear zone
- Targeted campaigns for seat belts, speed, impaired, etc.
- Distribution of safety materials to public
- Use of multi-disciplinary team
- Paved shoulders, rumble strips
- Add turning lanes
- Automated enforcement
- Other ??

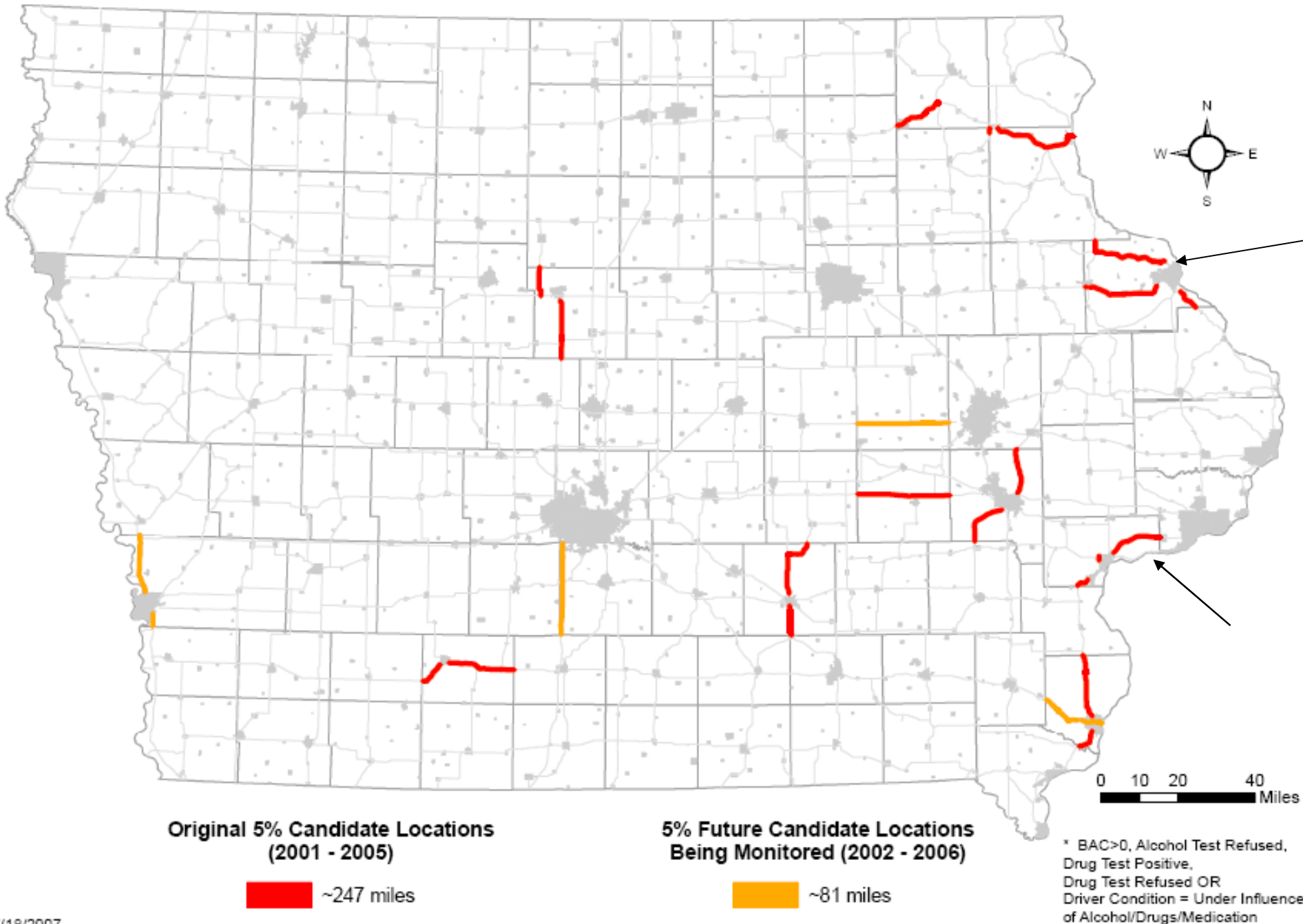
Recommended Steps

- Select corridor(s) with significant crash histories
- Identify and invite a task group
- Identify decision makers
- Select an experienced leader
- Generate public support
- Make data driven recommendations for improvements
- Find funding for improvements
- Evaluate the effectiveness

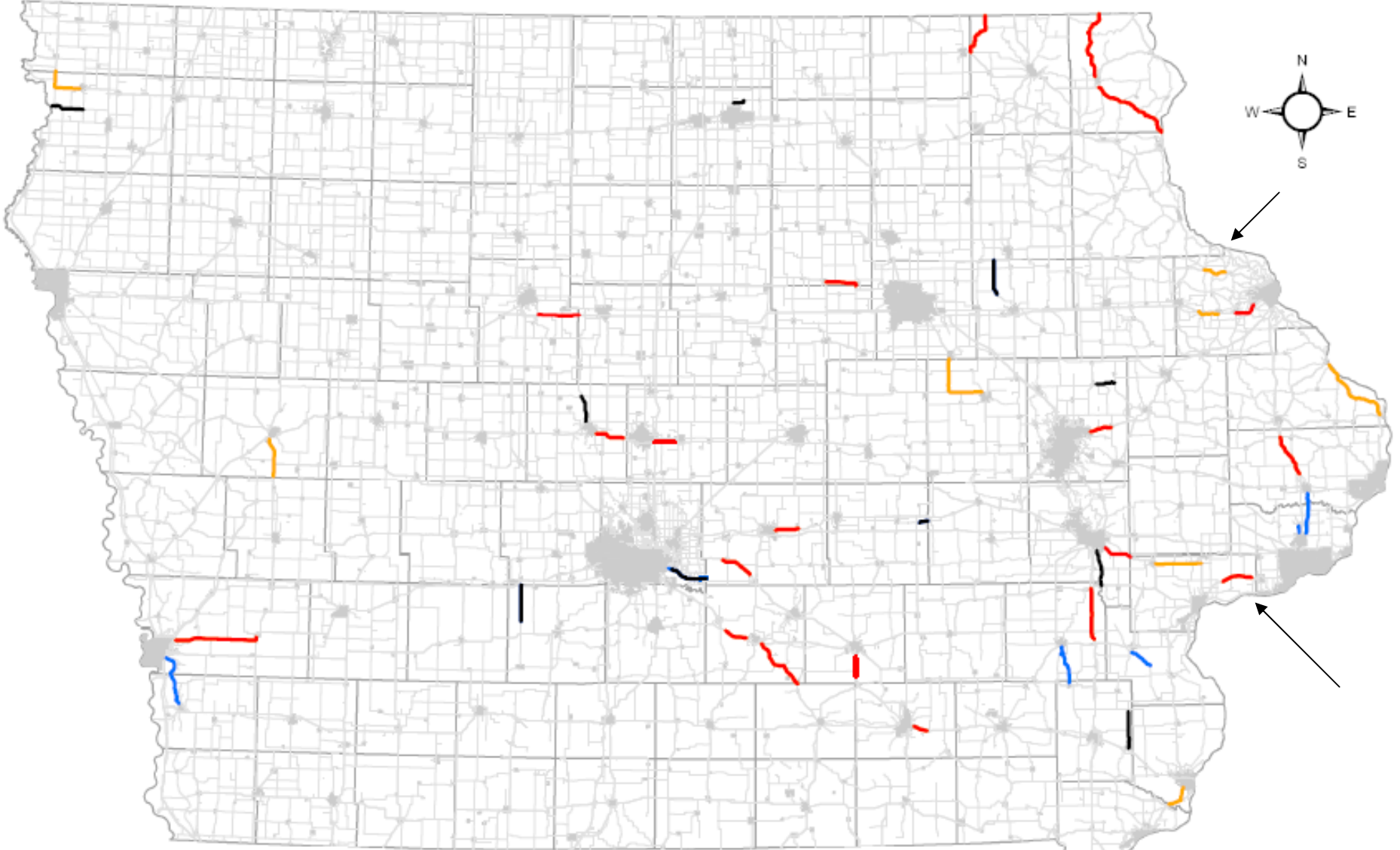
Possible Iowa Corridors

- US 52 from Iowa 136 to Dubuque
- US 61 from Muscatine to Davenport

Rural Primary Roads with the Highest Fatal and Major Injury Crash Density Involving an Impaired Driver*



Corridors with the Highest Fatal and Major Injury Crash Density for Single Vehicle Run-off-the-Road Crashes on Rural Primary and Paved Secondary Roads

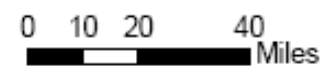


Original 5% Candidate Locations (2001 - 2005)

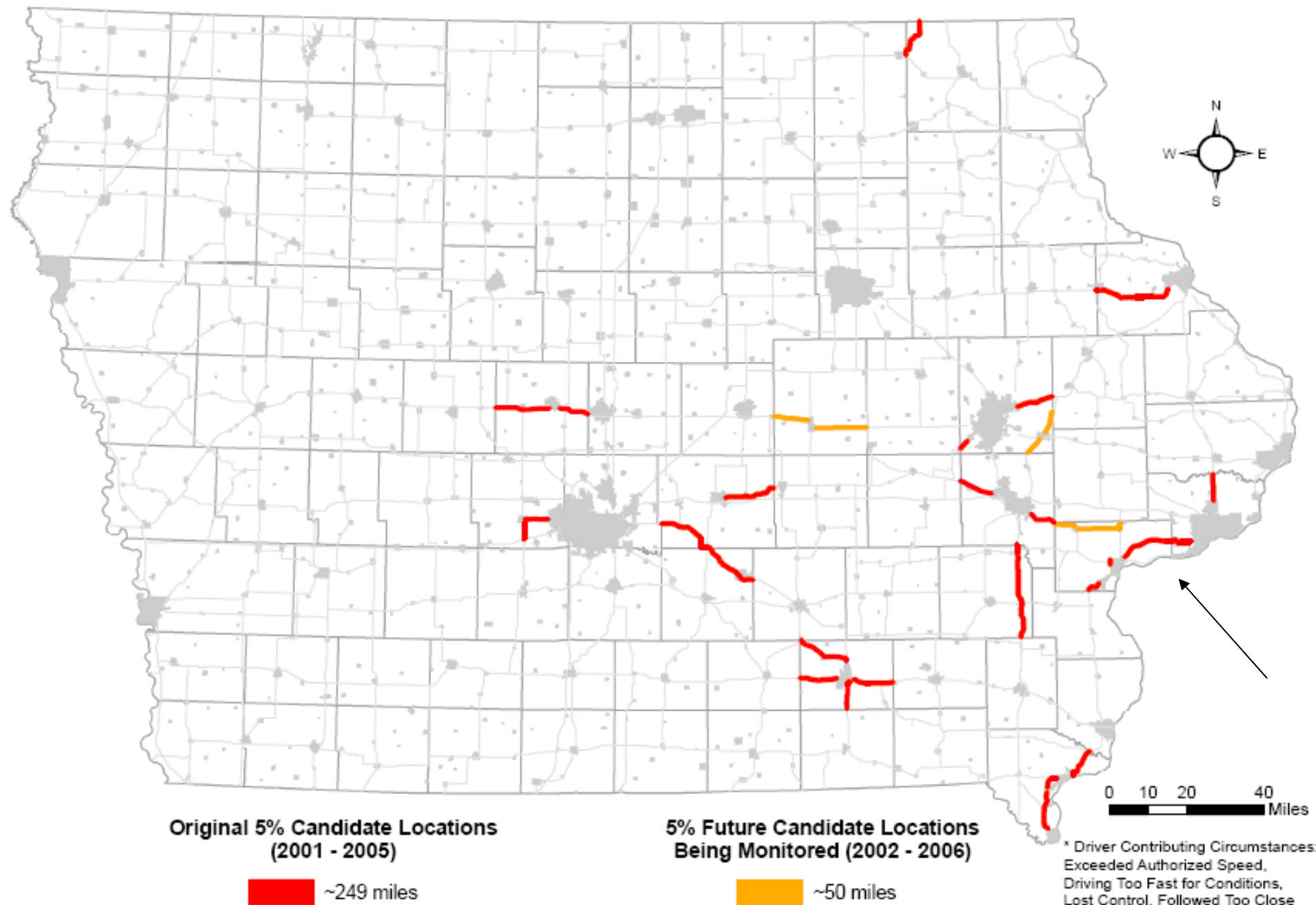
- █ Primary Roads (~184 mi)
- █ Secondary Roads (~71 mi)

5% Future Candidate Locations Being Monitored (2002 - 2006)

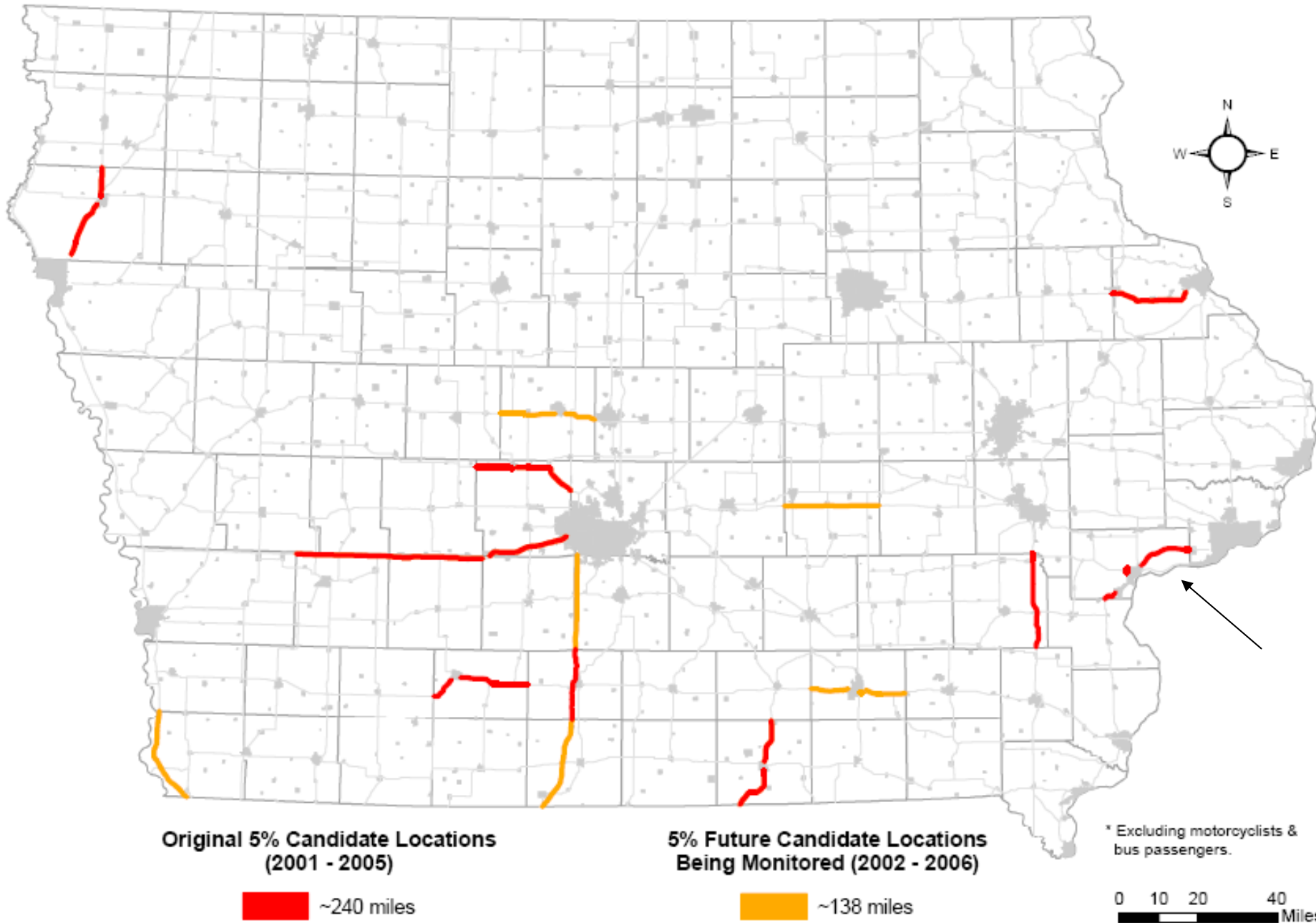
- █ Primary Roads (~82 mi)
- █ Secondary Roads (~40 mi)



Rural Expressway and Two-lane Primary Roads with the Highest Fatal and Major Injury Crash Density for Speed-related* Crashes



Rural Primary Roads with the Highest Fatal and Major Injury Crash Density of Unbelted Drivers and Passengers*



Road Safety Audits

- Initial step before Safety Corridor Program even approved
- Multi-disciplinary approach
- November 28-29 in Dubuque County
- December 5-6 in Muscatine/Scott Counties

Audit team

- Federal Highway Administration
- Governor's Traffic Safety Bureau
- Iowa DOT
- Law enforcement
 - State Patrol
 - County Sheriff
- Consultant
- CTRE
- Others

Local Input

- Information and advice about route
- Suggestions for other team members
 - Sheriffs Department
 - Frequent commuter
- Support for effort

Chronology for an Iowa Pilot Project

- Complete synthesis project
- Using results, formulate proposal for Iowa
- Present to Iowa DPS and DOT
- If accepted, proceed with development

Research Project Tasks

- Summarize Iowa's past safety enhancements
- Invite and assemble an expert advisory panel
- Select corridor(s) for pilot study
- Develop specific data to aid in mitigation
- Select mitigation measures
- Monitor, assess, and modify mitigation steps
- Prepare final report

Questions



Proposed Budget

Effectiveness of Safety Corridors

Budget Estimates

7/1/07 - 6/30/08

Staff Detail

Faculty	Level of effort	# of mos	Total Project Amount	MTC	IaDOT
Tom Maze	1.00%	12	\$1,919		\$1,919
Fringe benefits			\$507	\$0	\$507
Professional & Scientific Staff					
Tom McDonald	13.00%	12	\$8,917	\$0	\$8,917
Fringe benefits			\$2,898		\$2,898
	Hrs	Rate			
Hourly Student (summer)	800	\$12.00	\$9,600	\$6,000	\$3,600
Fringe benefits			\$1,152	\$720	\$432
Total Personnel			\$24,993	\$6,720	\$18,273

Budget Summary by Category

Salaries/Hourly			\$20,436	\$6,000	\$14,436
Payroll Benefits			\$4,557	\$720	\$3,837
Travel-Domestic			\$350	\$350	\$0
Supplies/Materials			\$50	\$15	\$35
Other Direct Costs					\$0
Telecommunication Charges (basic, toll, data)			\$100	\$100	\$0
Printing/Copying			\$100	\$100	\$0
Honoraria/Services: Focused Law Enforcement			\$5,000		\$5,000
Communications Services (editing, web, publications)			\$3,000	\$3,000	\$0
I Services and Meeting Expenses			\$500		\$500
Postage			\$100	\$100	\$0
TOTAL DIRECT COSTS			\$34,193	\$10,385	\$23,808
Indirect Costs	@	44.50% 26.0%	\$10,811	\$4,621	\$6,190
TOTAL ALL COSTS			\$45,004	\$15,006	\$29,998