IOWA'S 5 PERCENT SAFETY REPORT

Background

Section 1401 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amended Section 148 of Title 23 USC to create a new Highway Safety Improvement Program (HSIP) as a "core" Federal Highway Administration program with separate funding**.** The purpose of the HSIP is to reduce traffic fatalities and serious injuries on public roads. As part of the new HSIP**,** states are required to submit an annual report describing not less than 5 percent of their highway locations exhibiting the most severe safety needs. The intent of this provision is to raise the public awareness of the highway safety needs and challenges in the states.

This report must include an assessment of:

- potential remedies to hazardous locations identified;
- estimated costs associated with remedies; and
- impediments to implementation other than cost.

Discussion

Highway crashes are very complex. Contributing factors can include a roadway's design, pavement conditions (e.g. rain, snow and ice), a vehicle's mechanical condition (e.g. tires, brakes, lights), a driver's behavior (e.g. speeding, inattentiveness and seat belt usage), as well as the driver's condition (e.g. alcohol use, age-related conditions, physical impairment). In fact, the driver's behavior and condition factors are the primary cause in an estimated 67 percent of highway crashes and a contributing factor in an estimated 95 percent of all crashes.

As such, highway safety needs go beyond just physical improvements to a specific roadway or intersection, and include changes to driver behavior. These are best addressed with a multi-disciplinary approach using engineering, enforcement, emergency response, and education strategies.

Iowa's most severe safety needs

Based on an analysis of Iowa's 2001–2005 fatal and major injury crashes, Iowa's most severe safety needs are related to crashes involving:

- intersections;
- single vehicles running off the road;
- vehicles crossing the medians on freeways;
- unbelted drivers and passengers;
- impaired drivers; and
- speeding.

The analysis following this discussion identifies the 5 percent of Iowa's most severe safety needs in each of the areas listed above.

Historically the Iowa DOT's intersection "Safety Candidate List" identified the 200 highest ranked intersections relative to crash history. Iowa's 5 percent most severe intersection safety needs are the highest 5 percent of these intersections. There are more than 100,000 miles of public roads in Iowa. Candidate roadway safety projects are the 5,000 miles of roadway with the greatest crash history. Therefore, Iowa's 5 percent most severe corridor safety needs are 5 percent of this 5,000 miles.

Proposed Improvements and Schedules

In establishing engineering, education, enforcement, and emergency response priorities, state agencies consider factors beyond those depicted in this report. For instance, decisions regarding any roadway or intersection improvements are based on detailed engineering studies that consider the strategies most appropriate for site-specific conditions, as well as the cost and anticipated effectiveness of those improvements. Scheduling of these improvements is also contingent upon the availability of highway safety improvement funds.

The following pages detail Iowa's most severe 5 percent safety needs.

Rural two-lane intersection crashes
(Highest 5 percent based on data from 2001-2005)

		Five-year Crash Frequency						Five-year Severity Values								
County	Location	Fatal and Major	Fatal	Major Injury	Minor Injury	Other	Total	Fatalities and Major Injuries	Fatalities	Major Injuries	Minor Injuries	Other	Potential Remedies *	Estimated Costs *	Impediments *	Program Fiscal Year
Johnson	Co Rd F-67 & Co Rd W-38	4	1	3	1	3	8	5	1	4	5	8				
Black Hawk	IOWA 281 & Co Rd V-49	4	1	3	2	3	9	4	1	3	5	2	Roundabout	$1,300,000	None	2008
Sioux	Co Rd K-42 & 410th St	3	0	3	0	1	4	4	0	4	0	0				
Buchanan	Co Rd C-57 & Co Rd V-62	3	2	1	0	8	11	3	2	1	2	8				
Buchanan	Co Rd W-13 & 170th St	3	2	1	0	3	6	3	2	1	0	0				
Buchanan	IOWA 150/JAMESTOWN AVE & IOWA 150/170th St (south curve)	3	1	2	0	2	5	3	1	2	0	1	Paved Shoulders	$200,000	None	Completed

SELECTION CRITERIA:
FIVE PERCENT OF THE 200 RURAL TWO-LANE HIGHWAY INTERSECTIONS WITH THE HIGHEST NUMBER OF FATAL AND MAJOR CRASHES DURING 2001-2005 (MINIMUM OF THREE FATAL AND MAJOR INJURY CRASHES)
TIES WERE RANKED BY NUMBER OF PEOPLE WHO DIED OR RECEIVED A MAJOR INJURY, THEN BY THE NUMBER OF PEOPLE RECEIVING MINOR INJURIES

* Unless noted, a traffic safety study, including alternative analysis and local input, is required before potential remedies, cost estimates and impediments can be determined

Urban intersection crashes
(Highest 5 percent based on data from 2001-2005)

			Five-year Crash Frequency						Five-year Severity Values								
County	City	Location	Fatal and Major	Fatal	Major Injury	Minor Injury	Other	Total	Fatalities and Major Injuries	Fatalities	Major Injuries	Minor Injuries	Other	Potential Remedies *	Estimated Costs *	Impediments *	Program Fiscal Year
Woodbury	Sioux City	I-29 & U.S. 77 (southwest ramp intersection)	7	0	7	10	86	103	11	0	11	20	63				
Scott	Davenport	U.S.61/Harrison St & Locust St	7	1	6	14	61	82	7	1	6	20	29				
Polk	Clive	U.S. 6/Hickman Rd & 128th St	6	0	6	6	27	39	9	0	9	9	11	1			
Polk	Des Moines	Tuttle St & 8th St/SW 8th St	6	0	6	5	21	32	7	0	7	10	13				
Scott	Davenport	U.S. 6/Kimberly Rd & U.S. 61/Welcome Way	5	0	5	8	94	107	7	0	7	14	30				
Black Hawk	Cedar Falls	IA 27/IA 58 & Viking Rd	5	0	5	7	36	48	7	0	7	11	18				
Polk	Des Moines	SW 9th St & Kenyon Ave	5	1	4	3	25	33	7	1	6	3	22				
Scott	Davenport	Utica Ridge Rd & E 53rd St	5	0	5	5	38	48	6	0	6	7	22				
Scott	Davenport	U.S. 61/Welcome Way & 53rd St	5	0	5	9	46	60	5	0	5	17	27				
Polk	Des Moines	U.S. 6/Douglas Ave & 38th St	5	0	5	9	36	50	5	0	5	15	21	2	150,000		2005

SELECTION CRITERIA:
FIVE PERCENT OF THE 200 URBAN INTERSECTIONS WITH THE HIGHEST NUMBER OF FATAL AND MAJOR CRASHES DURING 2001-2005
TIES WERE RANKED BY NUMBER OF PEOPLE WHO DIED OR RECEIVED A MAJOR INJURY, THEN BY THE NUMBER OF PEOPLE RECEIVING MINOR INJURIES

* Unless noted, a traffic safety study, including alternative analysis and local input, is required before potential remedies, cost estimates and impediments can be determined

Footnotes:
(1) Protected left-signal phasing
(2) Traffic signals completed in November 2005

Rural expressway intersection crashes
(Highest 5 percent based on data from 2001-2005)

		Five-year Crash Frequency						Five-year Severity Values								
COUNTY	LOCATION	Fatal and major	Fatal	Major Injury	Minor Injury	Other	Total	Fatalities and Major Injuries	Fatalities	Major Injuries	Minor Injuries	Other	Potential Remedies *	Estimated Costs *	Impediments *	Program Fiscal Year
Scott	U.S. 61 & Co Rd Y-48 (1 mile west of Davenport)	6	0	6	1	18	25	8	0	8	2	13				
Muscatine	U.S. 61 & Hershey Ave (Muscatine)	6	3	3	5	14	25	7	3	4	7	9	Interchange	$5.4 M	None	2007
Floyd	U.S. 18 & Co Rd T-24 (1.5 miles west of Rudd)	5	0	5	3	13	21	9	0	9	5	16				
Black Hawk	U.S. 218 & Co Rd C-57/Cedar-Wapsi Rd W (1.5 miles south of Janesville)	5	1	4	5	22	32	7	1	6	10	15				
Washington	U.S. 218 & Co Rd G-36 (3 miles north of Ainsworth)	4	0	4	2	19	25	5	0	5	4	4				
Linn	U.S. 151/Dubuque Rd & Co Rd X-20 (Springville)	4	1	3	0	13	17	4	1	3	6	7				
Jasper	U.S. 65/IOWA 330 & U.S. 65/IOWA 117	3	2	1	3	5	11	7	2	5	3	4				
Henry	U.S. 34 & 260th St (west access to New London)	3	1	2	1	3	7	7	1	6	3	4				
Washington	U.S. 218 & 305th St (Crawfordsville)	3	0	3	1	1	5	5	0	5	4	0				
Henry	U.S. 34 & Co Rd X-30 (east access to New London)	3	1	2	1	1	5	5	1	4	2	2	Offset Rt. Turn lane			

SELECTION CRITERIA:
FIVE PERCENT OF THE 200 EXPRESSWAY INTERSECTIONS WITH THE HIGHEST NUMBER OF FATAL AND MAJOR INJURY CRASHES DURING 2001-2005
TIES WERE THEN RANKED BY NUMBER OF PEOPLE WHO DIED OR RECEIVED A MAJOR INJURY, THEN BY THE NUMBER OF PEOPLE RECEIVING MINOR INJURIES

* Unless noted, a traffic safety study, including alternative analysis and local input, is required before potential remedies, cost estimates and impediments can be determined

Rural interstate/freeway segments with the highest fatal and major injury crash density for multiple-vehicle, cross-median crashes
(Highest 5 percent based on data from 2001-2005)

COUNTY	ROAD NAME	FROM	TO	LENGTH (MILES)	FATAL AND MAJOR INJURY SINGLE VEHICLE RUN-OFF-ROAD CRASHES	ANNUAL FATAL AND MAJOR INJURY SINGLE VEHICLE RUN-OFF-ROAD CRASH DENSITY (CRASHES/MI/YR)	POTENTIAL REMEDIES (1)	ESTIMATED COSTS	IMPEDIMENTS OTHER THAN COST	PROGRAM FISCAL YEAR
JOHNSON/CEDAR	INTERSTATE 80	MILEPOST 252	~ 0.4 MI WEST OF MILEPOST 257 (DELTA AVE.)	4.64	5	2.025		$700,000	None	
JOHNSON	INTERSTATE 380	MILEPOST 5	MILEPOST 10	5.00	3	1.680		$750,000	None	
CEDAR	INTERSTATE 80	~ 0.4 MI WEST OF MILEPOST 257 (DELTA AVE.)	~ 0.4 MI WEST OF MILEPOST 262	5.00	3	1.359		$750,000	None	
JOHNSON	INTERSTATE 80	MILEPOST 247	MILEPOST 252	5.00	2	1.280		$750,000	None	
CEDAR	INTERSTATE 80	~ 0.4 MI WEST OF MILEPOST 262	IOWA 38 INTERCHANGE (~ MILEPOST 267)	5.00	4	1.279		$750,000	None	
IOWA	INTERSTATE 80	IOWA 149 INTERCHANGE (MILEPOST 220)	U.S. 151 INTERCHANGE (MILEPOST 225)	5.00	2	1.240		$750,000	None	
POLK/STORY	INTERSTATE 35	IOWA 210 INTERCHANGE	~ 0.2 MI NORTH OF MILEPOST 98	4.57	2	1.224		$700,000	None	2008
CEDAR	INTERSTATE 80	IOWA 38 INTERCHANGE (~ MILEPOST 267)	~ 0.6 MI EAST OF MILEPOST 271	5.00	7	1.160		$750,000	None	
JASPER	INTERSTATE 80	MILEPOST 160	MILEPOST 165	5.00	2	1.120		$750,000	None	
JOHNSON	INTERSTATE 380/U.S. 218	~ 0.44 MI SOUTH OF MILEPOST 95 (U.S. 218)	MILEPOST 1 (INTERSTATE 380)	3.47	2	1.096		$525,000	None	
POWESHIEK/IOWA	INTERSTATE 80	~ 0.35 MI WEST OF MILEPOST 205	~ 0.2 MI WEST OF MILEPOST 210	5.14	3	1.050		$775,000	None	
SCOTT	INTERSTATE 80	~ 0.1 MI EAST OF MILEPOST 286	INTERSTATE 280 INTERCHANGE (MILEPOST 290)	4.00	2	1.049		$600,000	None	
JOHNSON	INTERSTATE 80	MILEPOST 230	MILEPOST 235	5.00	3	0.920		$750,000	None	
			Total	61.84						

SITE SELECTION CRITERIA:
FIVE PERCENT OF TOTAL RURAL INTERSTATE/FREEWAY MILEAGE WITH THE HIGHEST CRASH DENSITY OF MULTIPLE-VEHICLE, CROSS-MEDIAN CRASHES/MILE/YEAR DURING 2001-2005
(STATEWIDE AVERAGE = 0.420 CRASHES/MILE/YEAR)

Footnotes:

(1) Median, high-tension cable barrier to be considered for all locations

Rural primary and paved secondary roads with the highest fatal and major injury crash density for single vehicle run-off-the-road crashes
(Highest 5 percent based on data from 2001-2005)

COUNTY	ROUTE	ROAD NAME	FROM	TO	LENGTH (miles)	FATAL AND MAJOR INJURY SINGLE VEHICLE RUN-OFF-ROAD CRASHES	ANNUAL FATAL AND MAJOR INJURY SINGLE VEHICLE RUN-OFF-ROAD CRASH DENSITY (CRASHES/MI/YR)	(1) POTENTIAL REMEDIES	(2) ESTIMATED COSTS	(3) IMPEDIMENTS OTHER THAN COST	PROGRAM FISCAL YEAR
POWESHIEK	F-29	OLD 6 RD	INTERSECTION OF 400TH AVE	WEST CORPORATE BOUNDARY 0F VICTOR	2.29	4	0.350	b		**	
ALLAMAKEE	IOWA 76		IOWA/MINNESOTA STATE LINE	NORTH CORPORATE BOUNDARY OF WAUKON	17.87	4	0.313	c	$1,800,000	None	2007
CERRO GORDO	B-20	300TH ST	INTERSECTION OF U.S. 65	305TH ST	3.01	4	0.266	b		**	
WAPELLO	U.S. 34		EAST CORPORATE BOUNDARY OF OTTUMWA	WEST CORPORATE BOUNDARY OF AGENCY	3.24	4	0.247	c		**	2007
MARION	IOWA 5		~ 0.4 MI WEST OF 60TH AVE	MCKIMBER ST INTERCHANGE	5.24	5	0.191	a	$1,050,000	None	begin 2007
STORY	U.S. 30		INTERSTATE 35	INTERSECTION OF 610TH AVE	4.43	4	0.181	a	$900,000	None	2007
MAHASKA	U.S. 63		SOUTH INTERCHANGE AT OSKALOOSA	N. INTERCHANGE AT EDDYVILLE	6.00	4	0.175	a	$1,200,000	None	
LINN	IOWA 151	DUBUQUE RD	EAST CORPORATE BOUNDARY OF MARION	SOUTH CORPORATE BOUNDARY OF SPRINGVILLE	4.94	4	0.162	a	$1,000,000	None	
JASPER	IOWA 163		WEST CORPORATE BOUNDARY OF PRAIRIE CITY	MONROE BYPASS	7.49	6	0.160	a	$1,500,000	None	
LINN	E-16	SAWYER AND WAGNER RD	WEST CORPORATE BOUNDARY OF CENTRAL CITY	INTERSECTION OF PRAIRIEBURG RD	5.05	4	0.158	b		**	
DUBUQUE	U.S. 20		SUNDOWN RD INTERCHANGE	~ 0.2 MI INSIDE SOUTHWEST CORPORATE BOUNDARY OF DUBUQUE	5.22	4	0.153	a	$1,050,000	None	
BOONE	R-21	NATURE RD	INTERSECTION OF W 22ND ST (NORTH CORPORATE BOUNDARY OF BOONE)	INTERSECTION OF 130TH ST	6.54	5	0.153	b		None	2009
BOONE	U.S. 30		EAST CORPORATE BOUNDARY OF BOONE	X AVE INTERCHANGE	6.65	5	0.150	a	$1,350,000	None	2006
JASPER	U.S. 6		EAST CORPORATE BOUNDARY OF NEWTON	INTERSECTION OF IOWA 224	5.53	4	0.145	a	$550,000	None	
MUSCATINE	U.S. 61		INTERSECTION OF TUCKER RD	~ 0.1 MI EAST OF 153RD RD ST	7.07	5	0.141	a	$1,400,000	None	
JOHNSON	U.S. 6		INTERSECTION OF SIOUX AVE	JOHNSON/MUSCATINE COUNTY LINE	6.84	4	0.117	a	$685,000	None	
WASHINGTON	U.S. 218/IOWA 27		IOWA 22 INTERCHANGE	INTERSECTION OF 240TH ST	12.21	7	0.115	a	$2,450,000	None	2007
MADISON	P-53	PITZER RD	INTERSECTION OF MADISON AVE	INTERSECTION OF 190TH ST	8.87	5	0.113	b		**	
WEBSTER	U.S. 20		QUAIL AVE INTERCHANGE	WEBSTER/HAMILTON COUNTY LINE	9.49	5	0.105	a	$1,900,000	None	
BUTLER	IOWA 57		EAST CORPORATE BOUNDARY OF PARKERSBURG	BUTLER/GRUNDY COUNTY LINE	7.66	4	0.104	a	$765,000	None	
SIOUX	B-30	360TH ST	IOWA/SOUTH DAKOTA STATE LINE	INTERSECTION OF ELMWOOD AVE	7.90	4	0.101	b		**	
CLINTON	U.S. 61		IOWA 136 INTERCHANGE	INTERSECTION OF 212TH ST	10.23	5	0.098	a	$2,050,000	None	2007
BUCHANAN	W-13	FAIRBANK-AMISH BLVD	INTERSECTION OF 100TH ST (BUCHANAN/FAYETTE COUNTY LINE)	INTERSECTION OF RIVER RD BLVD	8.49	4	0.094	b	$800,000	None	
JOHNSON	W-66	SAND RD	INTERSECTION OF SYCAMORE ST	INTERSECTION OF IOWA 22	8.83	4	0.091	a	$885,000	None	
HENRY	X-23	RACINE AVE	SOUTH CORPORATE BOUNDARY OF MOUNT UNION	NORTHWEST CORPORATE BOUNDARY OF NEW LONDON	8.89	4	0.090	b		**	
WINNESHIEK	IOWA 139		IOWA/MINNESOTA STATE LINE	INTERSECTION OF IOWA 9 AND POLE LINE RD	11.15	5	0.090	b		**	
MARION	IOWA 5		IOWA 92 INTERCHANGE	MARION/MONROE COUNTY LINE	13.96	6	0.086	a	$1,400,000	None	
POLK	F-70	SE VANDALIA DR/SE 56 AVE	INTERSECTION OF SE 60 ST	INTERSECTION OF W 140TH ST (POLK/JASPER COUNTY LINE)	11.48	4	0.070	b		**	
ALLAMAKEE	IOWA 76		INTERSECTION OF IOWA 9/BREEZY CORNERS RD	ALLAMAKEE/CLAYTON COUNTY LINE	20.16	4	0.066	a	$2,000,000	None	
POTTAWATTAMIE	U.S. 6		EAST CORPORATE BOUNDARY OF COUNCIL BLUFFS	SOUTH CORPORATE BOUNDARY OF OAKLAND	19.95	6	0.060	a	$2,000,000	None	
				TOTAL	256.67						

SITE SELECTION CRITERIA:
FIVE PERCENT OF THE 5,000 MILES WITH THE HIGHEST AVERAGE ANNUAL FATAL AND MAJOR INJURY SINGLE VEHICLE RUN-OFF-THE-ROAD CRASH DENSITY DURING 2001-2005
(STATEWIDE AVERAGE = 0.014 CRASHES/MILE/YEAR)

Footnotes:
(1) Potential Remedies
(a) Paving a part of the shoulder and installing shoulder rumble strips
(b) Further study of site-specific solutions and benefits/costs
(c) Upgrading roadway by adding lanes, partial paved shoulders or intermittent shoulder rumble strips

(2) For those without a cost entry, cost estimate is unknown until after study is completed.

(3) Impediments:
** Possible impediments are unknown until after a study is completed. There could be environmental or right-of-way impediments if shoulder widening is required.

Rural expressway and two-lane primary roads with the highest fatal and major injury crash density for speed-related crashes
(Highest 5 percent based on data from 2001-2005)

COUNTY	ROUTE	DESCRIPTION	LENGTH (MILES)	SPEED-RELATED* FATAL AND MAJOR INJURY CRASHES	ANNUAL SPEED-RELATED FATAL AND MAJOR INJURY CRASH DENSITY (CRASHES/ MI/YR)	Potential Remedies (1)	Estimated Costs (2)	Impediments Other Than Costs (3)
LINN	U.S. 151	BENTON COUNTY TO JONES COUNTY, EXCLUDING CITIES OF FAIRFAX, CEDAR RAPIDS AND MARION	12.03	10	0.166			
SCOTT	U.S. 61	MUSCATINE COUNTY TO CLINTON COUNTY, EXCLUDING CITIES OF DAVENPORT AND ELDRIDGE	12.17	9	0.148			
MARION	IOWA 163	MAHASKA COUNTY TO JASPER COUNTY	14.32	10	0.140			
MUSCATINE	U.S. 61	LOUISA COUNTY TO SCOTT COUNTY, EXCLUDING CITY OF MUSCATINE	18.21	12	0.132			
WASHINGTON	U.S. 218	HENRY COUNTY TO JOHNSON COUNTY	23.84	15	0.126			
LEE	U.S. 61	CITY OF KEOKUK TO DES MOINES COUNTY, EXCLUDING CITY OF FORT MADISON	21.13	13	0.123			
DALLAS	U.S. 6	CITY OF DE SOTO TO CITY OF WAUKEE, EXCLUDING CITY OF ADEL	10.06	6	0.119			
WINNESHIEK	IOWA 139	HOWARD COUNTY TO MINNESOTA STATE LINE	11.15	6	0.108			
DUBUQUE	U.S. 20	DELAWARE COUNTY TO CITY OF DUBUQUE, EXCLUDING CITY OF DYERSVILLE	19.02	10	0.105			
BOONE	U.S. 30	GREENE COUNTY TO STORY COUNTY, EXCLUDING CITY OF BOONE	21.61	10	0.093			
JOHNSON	U.S. 6	IOWA COUNTY TO MUSCATINE COUNTY, EXCLUDING CITIES OF TIFFIN, CORALVILLE AND IOWA CITY	15.58	7	0.090			
JASPER	IOWA 163	MARION COUNTY TO POLK COUNTY	15.71	7	0.089			
WAPELLO	U.S. 63	DAVIS COUNTY TO MAHASKA COUNTY, EXCLUDING CITY OF OTTUMWA	20.26	9	0.089			
WAPELLO	U.S. 34	MONROE COUNTY TO JEFFERSON COUNTY, EXCLUDING CITY OF OTTUMWA	20.35	9	0.088			
JASPER	U.S. 6	CITY OF NEWTON TO POWESHIEK COUNTY	13.57	6	0.088			
		TOTAL	249.01					

* Driver contributing circumstances: exceeded authorized speed, drove too fast for conditions, lost control, followed too close or over corrected/over steered

SITE SELECTION CRITERIA:
FIVE PERCENT OF THE 5,000 MILES WITH THE HIGHEST AVERAGE ANNUAL FATAL AND MAJOR INJURY CRASH DENSITY FOR SPEED-RELATED CRASHES DURING 2001 - 2005
(STATEWIDE AVERAGE = 0.029 FATAL AND MAJOR INJURY CRASHES/MILE/YEAR)

Footnotes:
(1) Potential remedies include:
public awareness and education;
increased speed enforcement in these corridors; and
improved signing at curves.

(2) The estimated cost is unknown and variable. Identification of these corridors provides an opportunity for state and local agencies to target these corridors for additional speed enforcement and public awareness/education using existing staff and funding resources. Seeking funding for additional enforcement and public awareness/education will be considered.

(3) Competing demands for current enforcement and public awareness/education staff time.

Rural primary roads with highest fatal and major injury crash density of unbelted drivers and passengers
(Highest 5 percent based on data from 2001-2005)

COUNTY	ROUTE	DESCRIPTION	LENGTH (MILES)	FATALITIES AND MAJOR INJURIES INVOLVING AN UNBELTED DRIVER/PASSENGER	ANNUAL UNBELTED FATALITY AND MAJOR INJURY DENSITY (CRASHES/MI/YR)	Potential Remedies (1)	Estimated Costs (2)	Impediments Other Than Cost (3)
CASS	INTERSTATE 80	POTTAWATTAMIE COUNTY TO ADAIR COUNTY	23.28	15	0.129			
MUSCATINE	U.S. 61	LOUISA COUNTY TO SCOTT COUNTY, EXCLUDING CITY OF MUSCATINE	18.21	10	0.110			
DUBUQUE	U.S. 20	DELAWARE COUNTY TO CITY OF DUBUQUE, EXCLUDING CITY OF DYERSVILLE	19.02	10	0.105			
ADAIR	INTERSTATE 80	CASS COUNTY TO MADISON COUNTY	23.56	12	0.102			
CLARKE	INTERSTATE 35	DECATUR COUNTY TO WARREN COUNTY	18.19	9	0.099			
DALLAS	IOWA 141	GUTHRIE COUNTY TO POLK COUNTY, EXCLUDING CITY OF PERRY	24.44	12	0.098			
WASHINGTON	U.S. 218	HENRY COUNTY TO JOHNSON COUNTY	23.84	11	0.092			
DALLAS	INTERSTATE 80	MADISON COUNTY TO CITY OF WEST DES MOINES	20.29	9	0.089			
APPANOOSE	IOWA 5	MISSOURI STATE LINE TO MONROE COUNTY, EXCLUDING CITY OF CENTERVILLE	23.15	10	0.086			
UNION	U.S. 34	ADAMS COUNTY TO CLARKE COUNTY, EXCLUDING CITY OF CRESTON	23.87	10	0.084			
PLYMOUTH	U.S. 75	SIOUX CITY METROPOLITAN AREA (~325TH ST) TO SIOUX COUNTY, EXCLUDING CITY OF LE MARS	21.74	9	0.083			
		TOTAL	239.59					

SITE SELECTION CRITERIA:
FIVE PERCENT OF THE 5,000 MILES WITH THE HIGHEST AVERAGE ANNUAL FATAL AND MAJOR INJURY CRASH DENSITY OF UNBELTED DRIVERS/PASSENGERS DURING 2001 - 2005
(STATEWIDE AVERAGE = 0.023 FATAL AND MAJOR INJURY CRASHES/MILE/YEAR)

Footnotes:

(1) Potential remedies include:
public awareness and education; and
increase seat belt enforcement in these corridors.

(2) The estimated cost is unknown and variable. Identification of these corridors provides an opportunity for state and local agencies to target corridors for additional seat belt use enforcement and education using existing staff and funding resources. Seeking funding for additional enforcement and education efforts will be considered.

(3) Competing demands for current enforcement and public awareness/education staff time.

Rural primary roads with the highest fatal and major injury crash density involving an impaired driver *
(Highest 5 percent based on data from 2001-2005)

COUNTY	ROUTE	DESCRIPTION	LENGTH (MILES)	FATAL AND MAJOR INJURY CRASHES INVOLVING AN IMPAIRED DRIVER*	ANNUAL IMPAIRED DRIVER INVOLVED FATAL AND MAJOR INJURY CRASH DENSITY (CRASHES/ MI/YR)	Potential Remedies (1)	Estimated Costs (2)	Impediments Other than Costs (3)
MUSCATINE	U.S. 61	LOUISA COUNTY TO SCOTT COUNTY, EXCLUDING CITY OF MUSCATINE	18.21	7	0.077			
WINNESHIEK	IOWA 24	CHICKASAW COUNTY TO CITY OF CALMAR	13.51	5	0.074			
DUBUQUE	U.S. 20	DELAWARE COUNTY TO CITY OF DUBUQUE, EXCLUDING CITY OF DYERSVILLE	19.02	6	0.063			
DES MOINES	U.S. 61	LEE COUNTY TO LOUISA COUNTY, EXCLUDING CITY OF BURLINGTON	22.59	6	0.053			
IOWA	INTERSTATE 80	POWESHIEK COUNTY TO JOHNSON COUNTY	23.74	6	0.051			
UNION	U.S. 34	ADAMS COUNTY TO CLARKE COUNTY, EXCLUDING CITY OF CRESTON	23.87	6	0.050			
CLAYTON	U.S. 18	FAYETTE COUNTY TO CLAYTON COUNTY	24.15	6	0.050			
HAMILTON	IOWA 17	BOONE COUNTY TO WRIGHT COUNTY, EXCLUDING CITY OF WEBSTER CITY	23.12	5	0.043			
JOHNSON	IOWA 1	WASHINGTON COUNTY TO LINN COUNTY, EXCLUDING CITY OF IOWA CITY	24.79	5	0.040			
MAHASKA	U.S. 63	WAPELLO COUNTY TO POWESHIEK COUNTY, EXCLUDING CITY OF OSKALOOSA	25.03	5	0.040			
DUBUQUE	U.S. 52	JACKSON COUNTY TO CLAYTON COUNTY, EXCLUDING CITY OF DUBUQUE	28.64	5	0.035			
		Total	246.67					

* blood alcohol content greater than zero, alcohol test refused, drug test positive, drug test refused or driver condition classified as under the influence of alcohol/drugs/medication

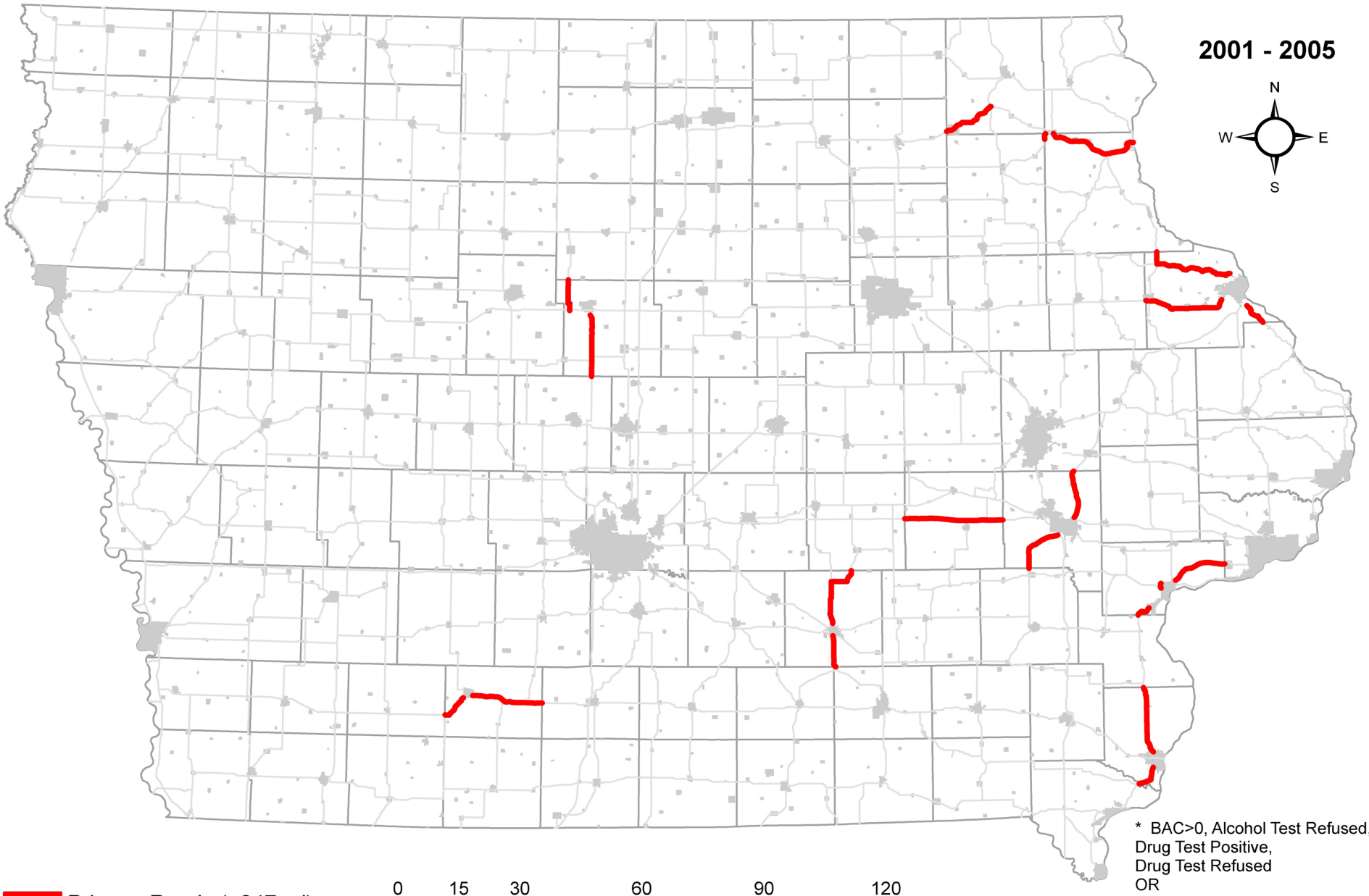
SITE SELECTION CRITERIA:
FIVE PERCENT OF THE 5,000 MILES WITH THE HIGHEST AVERAGE ANNUAL FATAL AND MAJOR INJURY CRASH DENSITY INVOLVING AN IMPAIRED DRIVER DURING 2001 - 2005
(STATEWIDE AVERAGE = 0.011 FATAL AND MAJOR INJURY CRASHES/MILE/YEAR)

Footnotes:
(1) Potential remedies include:
Increased public awareness and education and impaired-driver enforcement in these corridors.

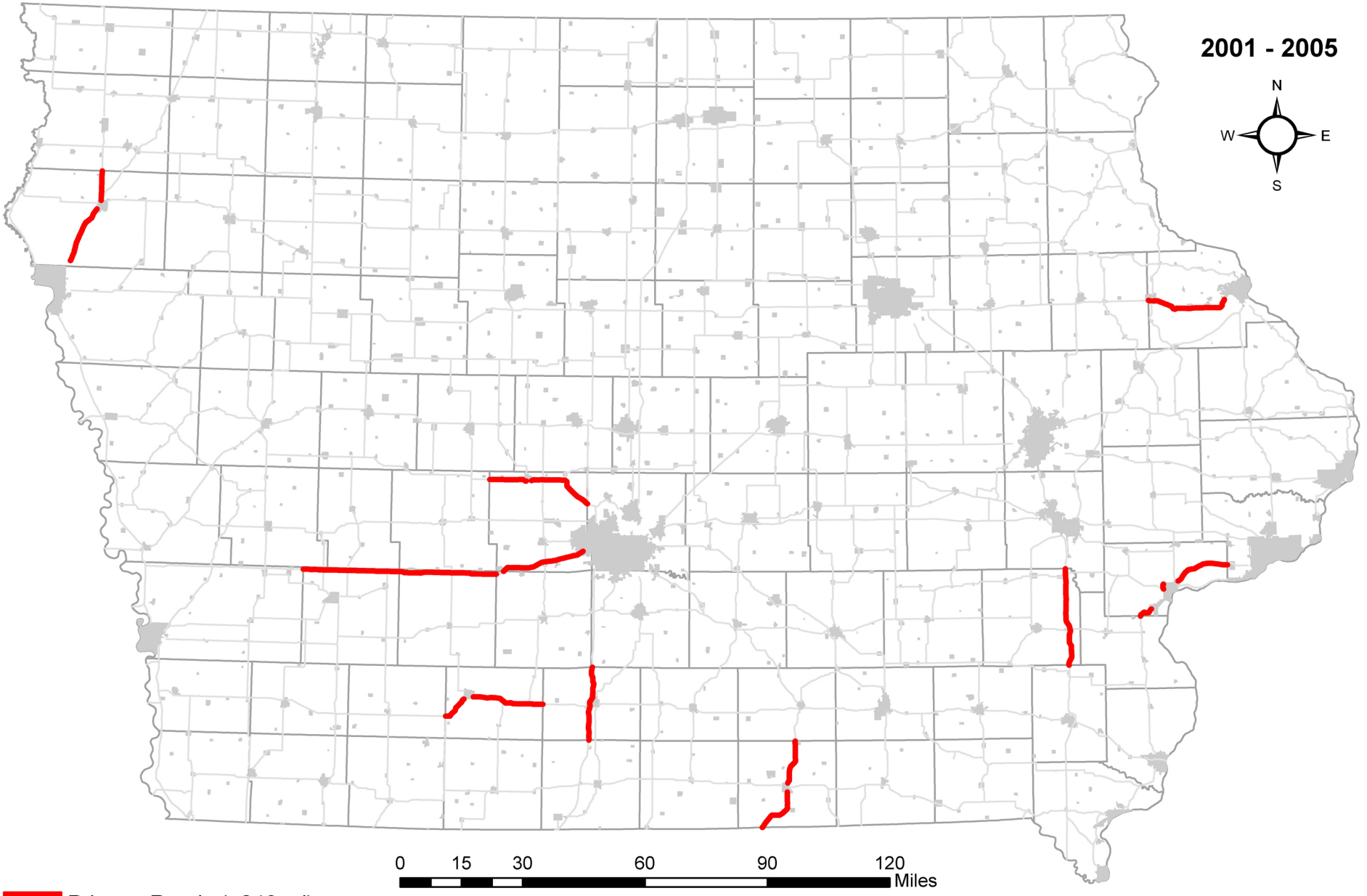
(2) The estimated cost is unknown and variable. Identification of these corridors provides an opportunity for state and local agencies to increase public awareness/education and monitoring of driver behavior within these corridors using existing staff and funding resources. Seeking funding for additional enforcement and public awareness/education will be considered.

(3) Competing demands for current enforcement and public awareness/education staff time.

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

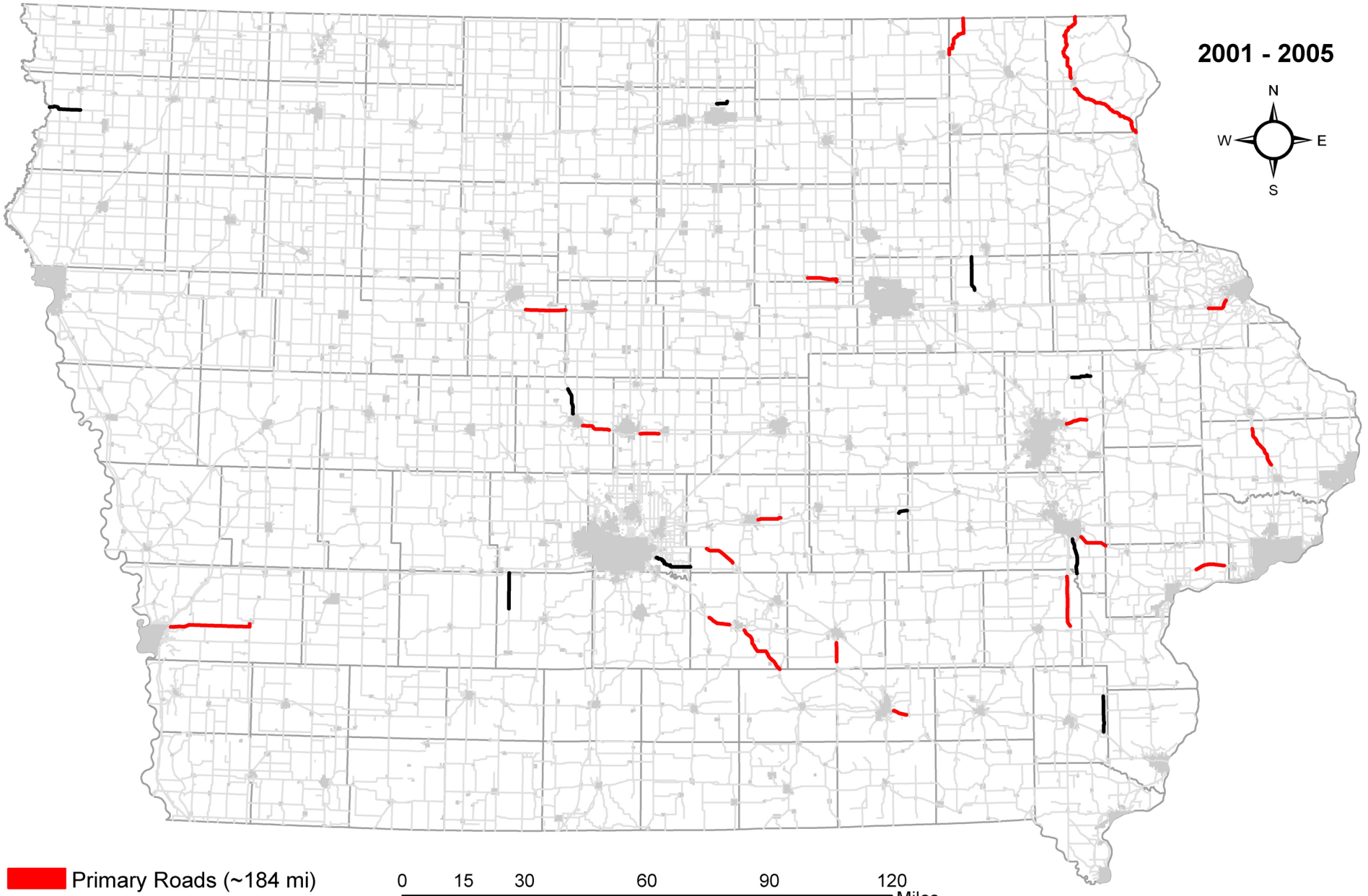


Rural Primary Roads with the Highest Fatal and Major Injury Crash Density of Unbelted Drivers and Passengers*

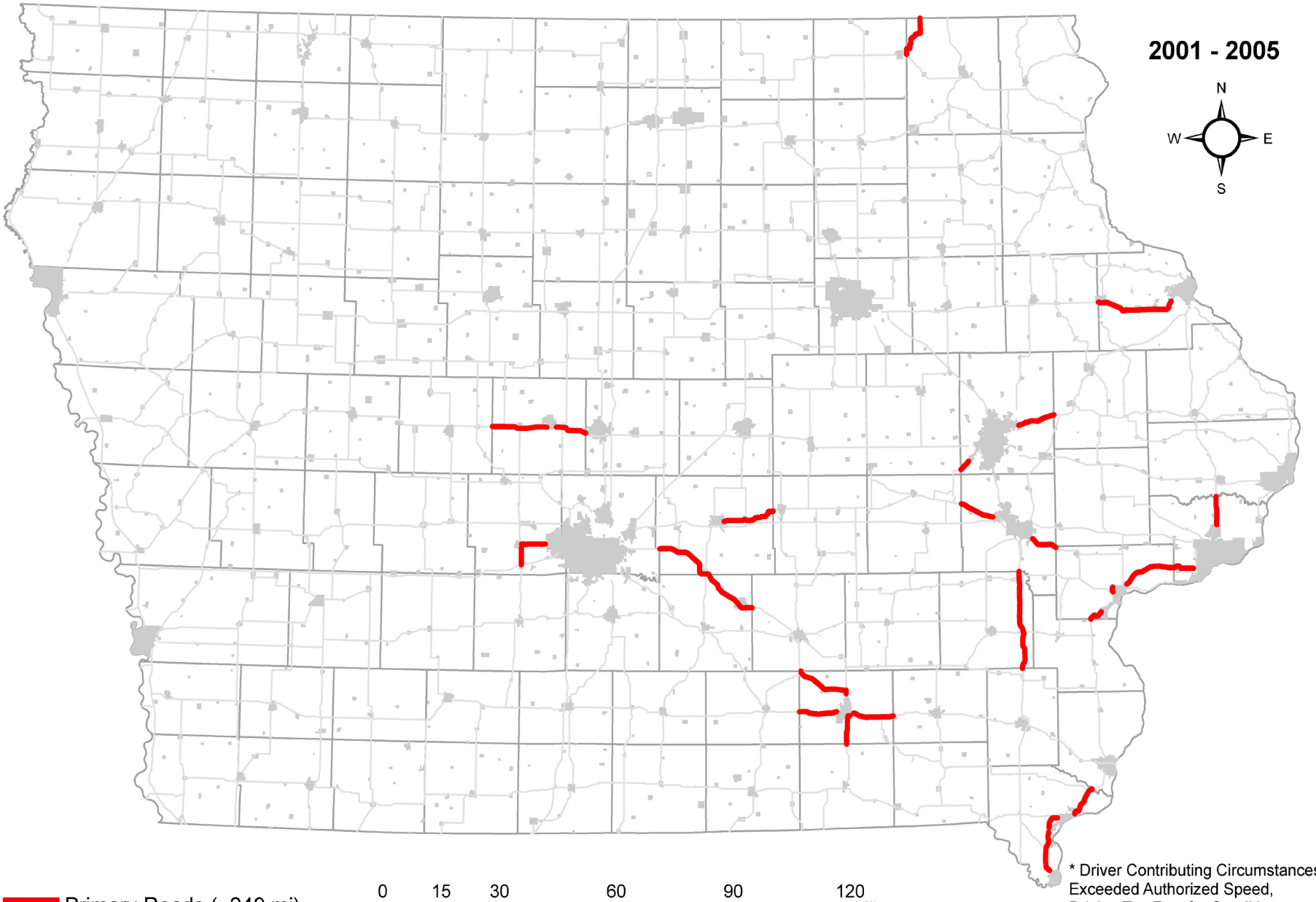
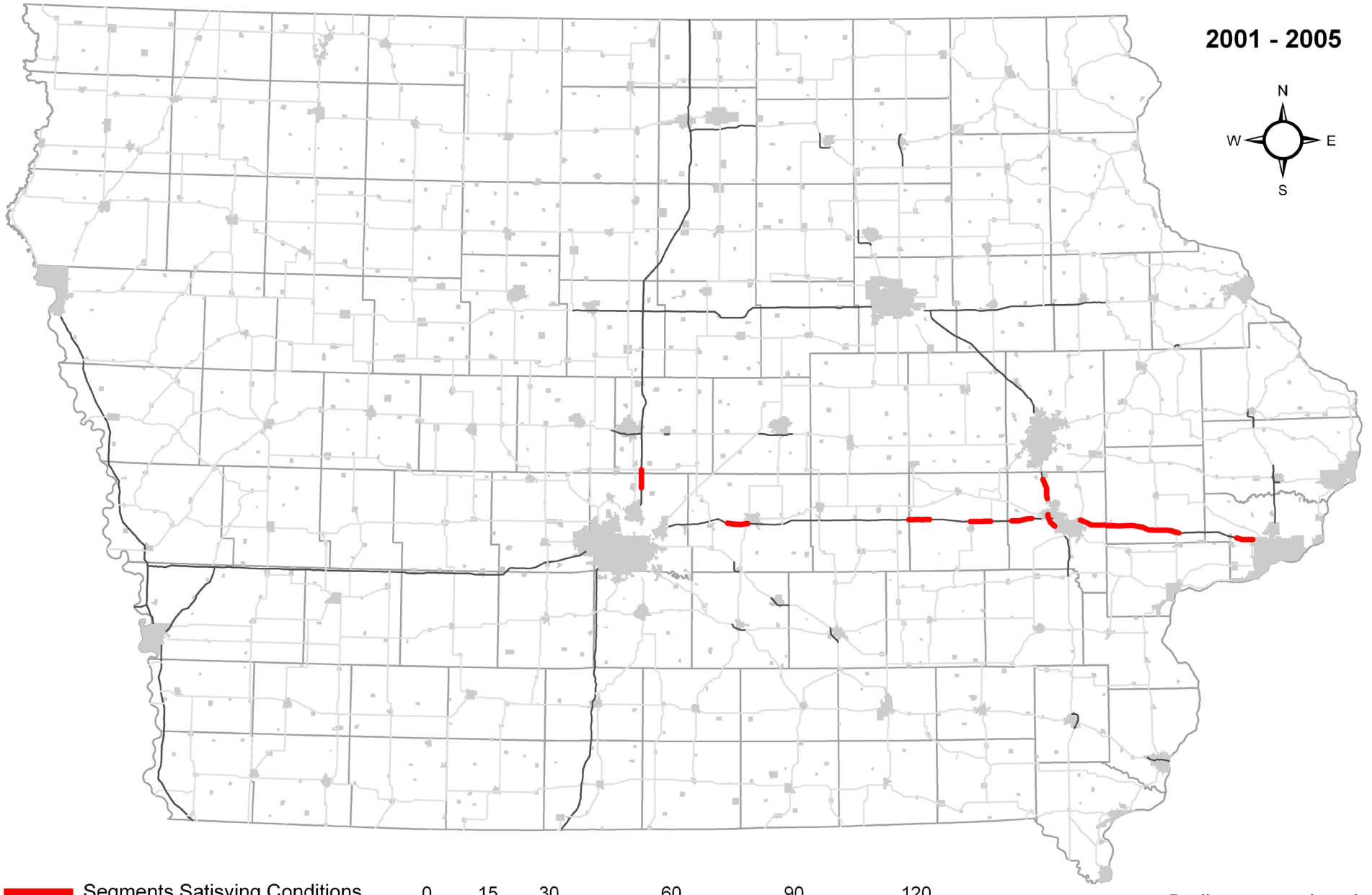


* Non-Motorcyclist

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



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



Rural Interstate/Freeway Segments with the Highest Fatal and Major Injury Crash Density of Multiple-vehicle, Cross-median Crashes