FY 2014

State of Iowa

Highway Safety Improvement Program

Annual Report





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Protection of Data from Discovery & Admission into Evidence

Section 148(g)(4) of 23 USC stipulates that data compiled or collected for the preparation of the HSIP Report "...shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in an action for damages arising from any occurrence at a location identified or addressed in such reports..." This information is also protected by 23 USC 409 (discovery and admission as evidence of certain reports and surveys).

Introduction

This is a report on the Iowa Highway Safety Improvement Program for State Fiscal Year 2014. The time period covered by this report is from July 1, 2013 to June 30, 2014.

The Highway Safety Improvement Program (HSIP) is a Federal Highway Administration (FHWA) core program created under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It is established as section 148 of Title 23, United States Code (23 U.S.C. 148) and regulated under 23 CFR 924. These regulations also created the High Risk Rural Roads Program (HRRRP) as a component of the HSIP, and continued a separate Rail Highway Grade Crossing Program (RHGCP). In 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) directed states to maintain HSIP, update their SHSP, and discontinue HRRRP.

The federal regulations also require strategic plans and annual reports. Here is a list of the documents that lowa maintains in accordance with the regulations:

- Strategic Highway Safety Plan (SHSP) Iowa wrote a Comprehensive Highway Safety Plan (CHSP) in 2006 and completed writing a new SHSP in 2013 that covers 2013-2016.
- Transparency (5%) Report Annually updated until 2012, discontinued in 2013
- HSIP Report Annually updated
- RHGCP Report Annually updated
- SHSP Report Annually updated

Included herein is information regarding the Iowa HSIP, including the final year of HRRRP. In this report, the HSIP is the focus of Parts A, B, and C. Part D is reserved for the HRRRP.

At the Iowa DOT, two offices are responsible for different components of the HSIP. The Office of Local Systems administers the HRRRP, and the Office of Traffic and Safety administers the remainder of the HSIP. Each office has contributed to this report on the basis of their administrative responsibilities.

A. HSIP Program Structure

i. Program Administration

Program Administrators

The Iowa HSIP program is administered by the Iowa DOT Office of Traffic and Safety. It is a centrally-run program.

Funding Allocation

Available HSIP funding is generally allocated to the Primary Road System (state-owned roadways) in Iowa.

Funding for safety initiatives on county- and city-owned roads, the Secondary Road System and Local Road System respectively, has historically come from two different programs.

The HRRRP was used exclusively for projects on the Secondary Road System. However, that

program has been discontinued. In its place, Iowa has established an HSIP-Secondary Roads program. This program allocates \$2 million in HSIP funds each year toward projects on the Secondary Road System. The focus of this program is on the installation of systemic, Iow-cost safety improvements.

The other program is a state based safety program known as the Traffic Safety Improvement Program (TSIP). In 1987, the Iowa Legislature enacted a state law requiring that one-half of one percent of the state's gas tax revenues be used to fund traffic safety projects. The TSIP is administered on a competitive application basis, and all road systems are eligible for funding. Historically, cities and counties receive the greatest portion of these funds. Projects completed with this program are not included in this report.

Project Selection

In Iowa, we aspire to select HSIP projects that emerge from the SHSP and the Safety Improvement Candidate Lists.

In the development of the SHSP, it was revealed that Iowa highway safety issues can be segregated into one of two engineering-based categories: intersections or lane departure.

In preparation of the Safety Improvement Candidate Lists, we look further at the data and the highway systems in Iowa (Primary, Secondary, and Local Road systems). The goal is to identify locations or corridors with a history of crashes. Mapping is the preferred choice to communicate the areas of concern, and the following maps were developed in 2010:

- Intersections
- Lane Departure
- Run off the road right
- Cross Median
- Cross Centerline
- Curves

These maps show locations with the greatest number of crashes in Iowa. Please note the maps **are not** trying to convey that these roads are hazardous, but that these roads experience a greater number of crashes than other like roads in Iowa.

While the maps described above have not been updated recently, lowa is in the process of developing an updated network screening tool to produce new maps. Visual representation will continue to be used in project selection.

ii. Program Methodology

The Iowa HSIP Project Identification Process was established in 2003, and remains current today.

Here are some brief highlights of this process:

- Selected projects are aligned with the SHSP categories: intersections or lane departure.
- Locations identified in the Safety Improvement Candidate Lists are based on the number of fatal and major injury crashes over a ten year period.
- Prioritization of potential HSIP projects is first made on a benefit versus cost basis. By this, we
 are indicating that we try to implement projects and treatments that will provide the greatest

reduction in crashes for a minimal cost.

However, actual project selection is affected by factors such as leveraging other program funding, maximizing statewide impact, and other programmed improvements. It is preferred to complete more small- or moderate-cost projects, in lieu of one or two high-cost projects.

B. HSIP Project Implementation Progress

i. HSIP Funding

The following table shows the total HSIP funding obligated in State Fiscal Year 2014.

HSIP Project Funding Estimates based on anticipated letting costs							
State Fiscal Year:		2014					
Period:		07/01/13 to 06/30/14					
<u>Funding Cate</u>	egory	<u>Obligated</u>	<u>Notes</u>				
HSIP	Section 148	\$51,304,744.77					
HES	Section 152						
Optional Safety							
Penalty Transfer	Section 154 & 164						
Seat Belt Performance	Section 406						
Incentive Grants	Section 157 & 163						
Other Federal-Aid Funds	STP, ARRA						
State and Local Funds		\$10,885,889.23	match to HSIP				
Total \$62,190,634.00							

For State Fiscal Year 2014, these funds were obligated across the following SHSP categories:

Intersections	\$ 2,299,549.00
Lane Departure	
Run off the road right	\$ 52,640,171.00
Cross median	\$ 6,342,122.00
Cross centerline	\$ 908,792.00
Total	\$ 62,190,634.00

ii. General Listing of Projects

				Improvement Category (Source:	Project Estimate at FHWA	Federal Share (Obligation		
Project Number	County	Route	Roadway Description	23 CFR 924)	Authorization	Amount)	Emphasis Area	Strategy
			Des Moines - SW 9th St at	Intersection	\$	\$		
HSIP-1945(789)8X-77	Polk	SW 9th St	Kenyon Ave	Improvement	2,299,549.00	1,722,965.60	Intersection	Crocc
HSIPX-000-S(736)31-00	various	various	various routes in District 3	Installation of Rumple Strins	ې 401 903 00	ې 361 712 70	Lane Departure	centerline
	Various	Various	Various routes in District S	Pavement and Shoulder	\$	\$		Run off road
HSIPX-001-5(103)3L-52	Johnson, Linn	la 1	Solon to US 30	Widening	2,756,380.00	2,459,124.90	Lane Departure	right
			From LIDPP in Mt Vornon to	Payamont and Shouldor	ć	ć		Pup off road
HSIPX-001-6(31)31-57	Linn, Jones	la 1	US 151	Widening	3,286,998,00	2.946.367.80	Lane Departure	right
	Linit, solics	10 1	00101	Widening	3,200,330.00	2,510,507.00		ingin
	Lie an iltera	1- 17	South of S. Jct. of Iowa 175	Pavement and Shoulder	\$ 4 cc2 740 00	\$ 1 007 070 70	Laws Deventure	Run off road
HSIPX-017-3(36)3L-40	Hamilton	la 17	to U.S. 20 In Webster City	widening	4,662,740.00	1,037,072.70	Lane Departure	right
			O'Brien Co Line to N Jct US	Pavement and Shoulder	\$	\$		Run off road
HSIPX-018-2(110)3L-21	Clay	US 18	71	Widening	2,565,558.00	2,309,002.20	Lane Departure	right
			Near ECL of Nichols to W of	Installation of Rumble	\$	\$		Cross
HSIPX-022-4(75)3L-70	Muscatine	IA 22	Muscatine	Strips	143,529.00	129,176.10	Lane Departure	centerline
	Montgomory			Payamont and Shouldor	ć	ć		Pup off road
HSIPX-034-2(57)31-69	Adams, Union	US 34	W of US 71 to Corning	Widening	7.298.372.00	ې 6.005.364.20	Lane Departure	right
				, , , , , , , , , , , , , , , , , , ,	,,,	0,000,0020		
		110.24	ECL Osceola to Lucas	Pavement and Shoulder	\$ 1.001.000.00	\$		Run off road
HSIPX-034-5(24)3L-20	Clarke	05 34	County Line	widening	1,801,800.00	1,617,612.30	Lane Departure	right
			From 2.7 mi W of county					
			line to 2.5 mi E of county	Pavement and Shoulder	\$	\$		Run off road
HSIPX-034-6(84)3L-59	Lucas, Monroe	US 34	line	Widening	1,018,603.00	913,340.70	Lane Departure	right
			Jct Ia 5 to Wapello County	Pavement and Shoulder	\$	\$		Run off road
HSIPX-034-6(85)3L-68	Monroe	US 34	Line	Widening	1,205,352.00	1,081,225.80	Lane Departure	right
				Payamont and Shouldor	ć	ć		Pup off road
HSIPX-034-6(86)31-59	Lucas	US 34	Jct US 65 to Co Rd S-23	Widening	ې 1.095.507.00	ې 981.948.60	Lane Departure	rjøht
	24645				2,000,007,000	552,510.00		
			In Burlington, Mt Pleasant	Pavement and Shoulder	\$	\$		Run off road
HSIPX-034-9(211)3L-29	Des Moines	US 34	St to Main St	widening	4,238,285.00	3,572,945.60	Lane Departure	right
			Near NCL of Wapello to 2	Installation of Rumble	\$	\$		Cross
HSIPX-061-3(75)3L-58	Louisa	US 61	miles S of IA 92	Strips	363,360.00	327,024.00	Lane Departure	centerline

			Muscatine Bypass, la 92 to	Pavement and Shoulder	\$	\$		Run off road
HSIPX-061-4(110)3L-70	Muscatine	US 61	la 38	Widening	2,113,139.00	1,730,553.67	Lane Departure	right
	Page,			Pavement and Shoulder	\$	\$		Run off road
HSIPX-071-1(32)3L-73	Montgomery	US 71	Border to US 34	Widening	3,939,575.00	3,545,617.50	Lane Departure	right
	Montgomery,	110 71	LIC 24 to Atlantic	Pavement and Shoulder	\$	\$	Long Departure	Run off road
HSIPX-071-2(46)3L-69	Cass	0571	US 34 to Atlantic	widening	1,210,036.00	1,089,032.40	Lane Departure	right
HSIPX-071-6(49)31-81	Sac, Buena Vista	LIS 71	SCL Farly to S lct Ia 7	Pavement and Shoulder Widening	\$ 2 070 539 00	ې 1 863 485 10	Lane Departure	Run off road
11511 X-07 1-0(45)51-01	Vista	0371		Widening	2,070,333.00	1,005,405.10		ngin
				Development and Chaulden	Å	ć		Dur off read
HSIPX-071-7(54)31-11	Buena Vista	LIS 71	S lct la 7 to la 3	Pavement and Shoulder Widening	ې 1 626 821 00	ې 1 454 688 90	Lane Departure	Run off road
	Buena vista	0071		Widening	1,020,021.00	1,131,000.50		iigiit
				Davament and Shoulder	ć	ć		Pup off road
HSIPX-141-6(72)3L-25	Dallas. Polk	la 141	Granger to Grimes	Widening	ې 2.454.842.00	ې 2.083.938.20	Lane Departure	right
					, - ,	,		0
	lones			Pavement and Shoulder	¢	¢		Run off road
HSIPX-151-4(125)3L-53	Dubuque	US 151	Monticello to US 61	Widening	4,810,882.00	4,323,934.80	Lane Departure	right
	Decemen							_
	Bremer, Chickasaw			Pavement and Shoulder	¢	Ś		Bup off road
HSIPX-218-8(129)3L-09	Floyd	US 218	Waverly to Charles City	Widening	4,393,248.00	3,949,207.20	Lane Departure	right
								_
					Ś	Ś		Cross
IHSIPX-035-2(404)3308-20	Clarke, Warren	I-35	Osceola to Warren Co Line	Installation of Guardrail	1,888,207.00	1,699,386.30	Lane Departure	median
			Cass Co Line to 1.75 miles		\$	\$		Cross
IHSIPX-080-2(231)7308-01	Adair	I-80	east of Co Rd N-77	Installation of Guardrail	2,095,977.00	1,886,379.30	Lane Departure	median
			1 75 miles east of Co Rd N-					
			77 to 2.25 miles east of Co		\$	\$		Cross
IHSIPX-080-2(232)8308-01	Adair	I-80	Rd P-28	Installation of Guardrail	1,551,164.00	1,396,047.60	Lane Departure	median
	Adair.		2.25 miles east of Co Rd P-					
	Madison,		28 to 0.75 miles east of Co		\$	\$		Cross
IHSIPX-080-2(233)9608-01	Dallas	I-80	Rd P-53	Installation of Guardrail	806,774.00	726,096.60	Lane Departure	median
				Installation of Rumble	\$	\$		Run off road
SBPG-C025(94)6C-25	Dallas	various	various county routes	Strips	91,494.00	91,494.00	Lane Departure	right
					\$	\$		
				Totals:	62,190,634.00	51,304,744.77		

C. HSIP Program Effectiveness

i. Iowa's Highway Safety Trends

The following charts show the recent fatality and major injury trends in Iowa.





The charts show year by year fluctuation in fatalities and major injuries, but the general trend has been downward.





In Iowa, we have seen a slow, steady decline in the fatality rate over a long period of time. We are also seeing a more significant decline in the major injury rate.

ii. Overall HSIP Effectiveness

At the onset of the HSIP program in Iowa, funding was generally targeted towards urban intersections. Over the years, HSIP expenditures have been focused on the emphasis areas defined in the SHSP, in particular lane departure.

As the HSIP program began to focus on lane departure projects, a parallel initiative to change design policies was initiated. This policy change was to address lane departure crashes, and the following table provides a brief summary of the changes.

Paved Shoulder Policy

Originally issued in January 2004, and revised in June 2008. The policy was created to address run off the road crashes.

Original policy highlights

All Interstates are to get full-width paved shoulders.

All NHS routes and non-NHS routes with 3000 or more ADT are to get four-foot paved shoulders. The remaining shoulder width is granular.

Non-NHS routes with less than 3000 ADT can have four-foot paved shoulders if conditional warrants are met.

Policy revision

Added six-foot paved shoulder conditions and additional conditions that merit a full-width paved shoulder.

Milled Rumble Policy

Originally issued in January 2004 as a complement to the Paved Shoulder Policy, and revised in June 2010. The policy was created to address run off the road crashes.

Original policy highlights

Milled rumble strips become the standard with asphalt shoulders. Concrete pavement and shoulders still rely on stamped rumbles.

Policy revision

Added centerline rumbles to the policy. Centerline rumbles are now standard on undivided, rural highways. Shoulder rumbles are standard for asphalt and concrete. Shoulder rumbles are expected on all paved shoulders with exceptions for residential and urban areas.

Safety Edge Policy

Issued in April 2010 and is supplemental to the Paved Shoulder Policy. This policy was created to address run off the road crashes.

Original policy highlights

Safety edge becomes the standard pavement edge treatment when paved shoulders are not included or are less than 4 feet wide. This policy completes a series of treatments to address run off the road crashes.

The effect of these policies is far reaching, and difficult to measure. These policies embed safety features within projects outside the HSIP, and broaden the reach of HSIP safety initiatives. They represent a systemic implementation of safety features, albeit a slow delivery process. Now, even regular capacity and infrastructure projects are incorporating safety features that help reduce crashes.

Included in Appendix A is a simple before/after evaluation of previously completed HSIP projects. For projects old enough, either a 3, 4, or 5 year before/after is provided.

D. High Risk Rural Roads Program Report

This section of the document shall be considered the High Risk Rural Roads Program (HRRRP) report for Federal Fiscal Year 2014.

i. Methodology Used to Identify HRRR Projects

The lowa DOT has traffic data and crash data on all state and local routes. Paved routes classified as rural major collectors, rural minor collectors, and rural local routes with crash rates above the statewide average for fatal and major injury accidents define the eligible routes. Counties are provided maps showing all the eligible high risk rural roads in their respective counties. We utilize both a crash rate per 100M VMT and crashes per mile (crash density) to locate road segments that are in the top 15% of each category. Maps are also provided to counties showing them their top 15% locations. We use this information, along with a Benefit/Cost Ratio to rate county applications for HRRR funding. The lowa DOT also provides detailed crash information free to counties to assist them in analyzing their crash histories.

ii. Program Effectiveness

It is too early in the program to analyze "after" accident data to measure program effectiveness. A 5-year accident history prior to the improvements will be compared to a 5-year accident history following the improvements.

iii. Project Evaluation

The evaluation of individual projects will be accomplished when the 5-year accident history following the improvements is available.

HRRRP Project Funding								
Reporting Period: 10/01/2013 to 09/30/2014								
Funding Category Programmed Obligated								
HRRRP	\$370,000.00	\$323,520.00						
Other Federal-Aid Funds	\$0.00	\$0.00						
State and Local Funds	\$40,000.00	\$35,947.00						
Total	\$410,000.00	\$359,467.00						

iv. HRRRP Funding

v. General Listing of Projects

General Listing of Obligated Projects In FFY 2014

Project	Improvement	Output	Cost	Relationship to SHSP	
	Category			Emphasis Area	Strategy
HRRR-CO33(100)5R-33	10	0.06 miles	\$359,467.00	Roadway Departure	Remove obstacles

General Listing of Obligated Projects In FFY 2013

Project	Improvement	Output	Cost	Relationsh	nip to SHSP
	Category			Emphasis Area	Strategy
HRRR-CO91(88)5R-91	2	2.83 miles	\$293,384.60	Roadway Departure	Paved Shoulders
HRRR-C010(81)5R-10	2	6.71 miles	\$2,230,018.08	Roadway Departure	Paved Shoulders
HRRR-C006(76)5R-06	1	Intersection	\$410,412.00	Intersection crash severity	vertical realignment to alleviate sight distance issues
HRRR-CO77(165)5R-77	1	Intersection	\$25,375.00	Intersection crash severity	oversize stop signs with flashing beacon

General Listing of Obligated Projects In FFY 2012

Project	Improvement	Output	Cost	Relationship to SHSP	
	Category			Emphasis Area	Strategy
HRRR-C010(69)5R-10	1	Intersection	\$631,470.00	Intersection crash severity	Roundabout
HRRR-C091(83)5R-91	2	5.91 miles	\$591,682.00	Roadway Departure	Paved Shoulders
HRRR-C022(67)5R-22	17	0.65 miles	\$150,127.00	Roadway Departure	Guardrail in Curves

General Listing of Obligated Projects In FFY 2011

Project	Improvement	Output	Cost	Relationsh	nip to SHSP
	Category			Emphasis Area	Strategy
					Grade
				Roadway	improvements,
HRRR-C077(159)7W-77	1	Intersection	\$777,042.00	Departure	new bridge
				Roadway	Paved Shoulders,
HRRR-C050(90)5R-50	2	0.2 miles	\$385,999.00	Departure	flatten curves

General Listing of Obligated Projects In FFY 2010

Project	Improvement	Output	Cost	Relationship to SHSP	
	Category			Emphasis Area	Strategy
HRRR-C063(88)5R-63	2	1.65 miles	\$2,191,000.00	Roadway Departure	Widen Shoulders & Realign Curves
HRRR-C010(61)5R-10	2	7 miles	\$1,086,000.00	Roadway Departure	Paved Shoulders
HRRR-C010(69)5R-10	1	intersection	\$91,764.00	Crash Severity	Construct Roundabout

General Listing of Obligated Projects In FFY 2009

Project	Improvement	Output	Cost	Relationship to SHSP	
	Category			Emphasis Area	Strategy
HRRR-C091(77)5R-91	2	3.8 Miles	\$268,217.69	Roadway Departure	Paved Shoulders
HRRR-C057(87)5R-57	1	0.5 Miles	\$298,213.34	Intersections	Improve sight distance
HRRR-C025(73)5R-25	2	3 Miles	\$293,508.91	Roadway Departure	Widen Shoulders and Flatten Foreslopes

Appendix A

Before and After Crash Analysis of Past HSIP Projects

Appendix A Highway Safety Improvement Program Effectiveness Assessment

									3 - 5 Years Before Injury & Crash Data								3 - 5 Years After Injury & Crash Data							
									\$4.250	lowa Injury & Crash Values						Iowa Injury & Crash Values					-			
									34,200	Iniuries Crashes			94,200	Injuries			Crashes		-					
		1			1									7				-	Т	77	1	-	1	Т
Program Year	Project Number	County	Route	Location	Project Description	Functional Class	Improvement Type	Years Analyzed Before / After Cost	Fatalities	Serious Injuries	Minor Injuries	Passible/Unknown Injuries	Total Injuries	Property Damage Only (PDO) Crashes	Fatalilies Total Crashes		Minor Injuny Serious Injuny	Possible Injury	Total injuries	Property Damage Only (PDO) Crashes	Total Crashes	Total Before Injury/Crash Valuation	Total After Injury/Crash Valuation	Evaluation Results (Benefit/Cost Ratio)
FY 2000	No projects identified	±			J													<u> </u>	<u>1</u>	<u> </u>	±	<u> </u>	1	1
FY 2001	HES-000S(88)2H00	T .			Four-Lane to Three-Lane Guidelines		Study	N/A		-	-		-					T -	Τ.	T	· ·	· ·	1 · _	· ·
FY 2001	HES-000S(90)2H00		T		Effectiveness of Roadway Safety Improvements	F_+	Study	N/A	<u> </u>				F				<u>-+-</u>	Ŧ÷	T.	F÷	F.	F	-	T : I
FY 2001	HES-020-3(96)2H-94	Webster	US 20 1	5th Ave. S & S 21st St. (Ft. Dodge)	Add 150-foot left turn lanes and upgrade signals	2	1a, 1b	\$164.157 5	0	4	18	63	85	116	173 U		0 3 7 20	24	27	49	70	\$5,533,400	\$1,397,600	16.50
F1 2001	HES-008-0(11)-211-00	Story	03.05	US 69/Dull AVE & South Your St (Ames)	Relocate existing no to wo relevant lane, and it. remaine	- 1	10, 10, 11	\$104,107 5	v		3.	40	80	31	104 0			20	32	14	100	\$7,001,000	\$4,002,000	10.00
FY 2002	HES-006-4(129)2H-77	Polk	US 6	Beaver Ave & Douglas Ave (Des Moines)	Alignment and turn bays	2	1b, 2g	\$1,700,000 5	0	7	39	83	129	106	189 0		0 8	19	27	59	88	\$8,499,400	\$1,621,600	4.05
FY 2002	HES-006-9(58)2H-82	Scott	US 6	US 6 (Kimberly Rd) & Eastern Ave. (Davenport)	Lengthen turn bays, widen bridge		1b	\$936,100 5	0	4	53	167	224	139	270 0		2 12	59	73	103	154	\$11,618,600	\$4,257,200	7.86
FY 2002	HES-169-6(58)2H-94	Webster	US 169 1	from IA 926/Kenyon Rd/Old US 20/Co Rd D20 to 0.15 miles north of G Ave (Fort Dodge)	Construct turn lanes, bays, access	2	1b, 2h	\$1,003,577 5	1	8	17	26	52	43	73 3		1 3	22	29	31	49	\$9,183,200	\$14,269,400) (5.07)
5V 2002	UPO 11 1046(660) - 9V 77	le.s.		All oil A & Destroiting (Dee Moisse)	Add to feature to good	2	10.15	\$1 064 500 F			20	50	04	22	~ 0		<u> </u>		12	10	20	\$6 604 20i	\$1 500 600	2.62
FT 2003	HES-U-1940(009)0A-11	POIK	<u>, </u>	SW 9th St & Porter Ave (bes momes)	Add left tum lanes	3	18, 10	\$1,904,000 0	v	0	20	00	94	33	88 v		3 3	0	12	19	20	\$0,094,zou	\$1,520,600	2.03
	- I		T	Interstate Shoulder Rumble Strips, IA 3, IA 12, US 18, US 34, IA 48, IA 59, US 75, IA 92, IA		ГТ					1	1	1					—	T	T	1	1	T	T
FY 2004	Various numbers	Various	ŀ	141, US 218	Paved Shoulders / Rumble Strips		2a, 2b	\$1,216,038 N/A	· -	-	-	-	-	-	· ·		· ·	· ·	•	-	•	-	-	-
FY 2005	HES-003-5(69)2H-12	Butler	IA 3	IA 3 from Franklin Co. line E. to W. Jct. IA 14	Widen Pavement and/or shoulder	3	28	\$15,206 4	2	1	3	9	15	11	21 0		1 3	3	7	9	15	\$9,416,400	\$691,600	573.77
FY 2005	HES-006-7(67)2H-52	Johnson	US 6 0	On US 6 at Dasis Koad (1.5 miles west of Muscatine Co. Line) (curves)	Widen Pavement and/or shoulder	2	28	\$106,825 4	0	1	4	2	1	5	12 0		0 0		- 7	17	24	\$692,000	\$259,800	(4.05
FY 2005	HES-012-1(23)2H-97	Woodbury/Plymouth	IA 12	On IA 12 from Stone State Park to N. Jct. IA 3 in Akron	Widen Pavement and/or shoulder	3	28	\$28,301 4	2	5	19	13	39	50	80 1		9 14	- 9	33	55	74	\$12 185 000	\$8,807,000	119.36
FY 2005	HES-018-2(88)2H-21	Clav	US 18	From S. Jct US 71 E. to Palo Alto Co. line	Widen Pavement and/or shoulder	2	28	\$12,500 4	2	2	17	9	30	99	14 3		4 21	16	45	57	85	\$11,302,600	\$16.396.800	(407.54)
FY 2005	HES-018-8(37)2H-33	Fayette	US 18	U.S. 18, 2.2 miles S. of U.S. 52	Widen Pavement and/or shoulder, Install rumbles/chevrons	2	2a, 2b, 2m	\$108,513 4	0	0	1	0	1	3	4 1		0 3	1	5	0	4	\$87,200	\$4,480,000	(40.48)
FY 2005	HES-018-9(84)2H-03	Allamakee	US 18	US 18 MP 279.3 to US 18 MP 279.8	Widen Pavement and/or shoulder, Install chevrons	2	2a, 2m	\$68,988 4	0	0	1	1	2	1	3 0		0 0	0	0	0	0	\$107,400	\$0) 1.56
FY 2005	HES-020-1(107)2H-97	Woodbury	US 20 3	S Curve on US 20 1.5 miles W. of Moville	Widen Pavement and/or shoulder	2	28	\$574,697 4	1	0	3	4	8	7	14 0		0 1	3	4	5	9	\$4,636,800	\$207,000	7.71
FT 2005	HES-034-0(72)2H-09	Montenmon	10.49	WCE of Chariton E. to 2.5 miles E. of IA 97	Widen Pavement and/or shoulder	2	28	\$12,500 4	2	2	0	19	41	22	97 U		0 13	- 10	12	20	20	\$13,600,200	\$4,626,600	733.69
FY 2005	HES-059-6(32)2H-47	Ida	US 59	From W. Jct. US 20 N. to Linden St. in Cherokee	Widen Pavement and/or shoulder	2	28	\$12,500 4	4	7	8	10	30	50	72 0		2 8	10	20	54	70	\$20,515,000	\$1 919 600	1 487 63
FY 2005	HES-065-3(43)2H-91	Warren	US 65	from Indianola (E Hillcrest Ave) to the IA 5 interchange ramps	Widen Pavement and/or shoulder, Construct/modify median, Insta	2	2a, 2f, 3b	\$1,242,246 4	3	10	31	33	91	175	238 0		6 16	38	132	138	225	\$20,465,000	\$5,341,200	12.17
FY 2005	HES-071-6(41)2H-81	Sac	US 71	On US 71 from MP 128.48 to MP 129.04	Widen Pavement and/or shoulder	2	2a	\$266,567 4	1	1	7	6	16	2	12 0		1 2	0	3	2	5	\$5,254,800	\$469,800	17.95
FY 2005	HES-075-1(111)2H-97	Woodbury	US 75	From Sioux City N. to Le Mars bypass	Widen Pavement and/or shoulder	2	2a	\$9,880 4	0	9	22	35	67	86	136 2		8 28	31	70	133	187	\$6,216,400	\$14,989,200	J (887.94)
FY 2005	HES-076-2(26)2H-03	Allamakee	IA 76	On IA 76 from MP 25.5 to MP 26.1	Widen Pavement and/or shoulder, Install chevrons	2	2a, 2m	\$70,580 4	0	0	0	0	0	0	0 0		0 0	0	0	0	0	\$0	\$0	J 0.00
FY 2005	HES-092-9(119)2H-92	Washington	IA 92 1	From just E. of Jcl. with US 218 Easterly to Jcl. US 61	Widen Pavement and/or shoulder	3	28	\$31,143 4	2	11	23	2/	65	85	5 1		22 25	24	- 78	1	123	\$15,144,000	\$31,442,200	(523.33)
FT 2005	HES-141-4(27)2H-14 HES-218-9(121)2H-66	Mitchell	US 218	From N of Osage N and W to SCL of St Ansgar	Widen Pavement and/or shoulder	2	28	\$1,091 4	0	2	3	4	4	6	13 0		0 3	5	- 2	11	18	\$104,000	\$4,322,400	(524.34) 1 43.93
FY 2005	IMXHES-080-3(102)10108-25	Dallas	180	At 3 Locations between US 6 and Co Rd. P58	Widen Pavement and/or shoulder	1	28	\$12,500 4	0	1	6	15	22	50	68 3		4 21	22	53	96	130	\$1,610,000	\$16,895,400	(1,222.83)
FY 2005	IMXHES-080-5(249)17408-50	Jasper	180	180 from 1 mile E. of IA 224 to 2 miles E. of US 63	Widen Pavement and/or shoulder	1	2a	\$12,500 4	2	12	31	37	83	136	188 2		11 30	43	87	177	243	\$16,716,400	\$16,839,800	J (9.87)
		- In .	110.00									1 -											1	
FY 2006	HES-020-8(42)2H-28	Dubuque	US 20 0	On US 20 1.0 mile west of IA 136 at /th St SW in Dyersville	Expressway Intersection Enhancements	2	10	\$94,638 5	2	0	0	0	2	5	5 3		0 4	- /	- 14	- 6	14	\$8,537,000	\$13,299,400	(50.32)
FT 2006	HES-020-9(177)2H-08	Boone/Story	US 20 0	On US 20 2.0 miles east of IA 136 at Worker Rd	Expressway Intersection Enhancements	2	10, 11 29.3h	\$2 250 455 5	6	22	54	86	173	258	379 4		19 28	70	132	289	387	\$100,000	\$391,800	1.01
FY 2006	HES-030-4(12)-2H-88	Union	US 34	On US 34 from Cedar St. in Creston east to Thaver	Two Lane Paved Shoulders	2	1b. 2a. 2b. 2l. 3b	\$5.237.647 5	4	5	14	24	48	45	74 3		5 6	20	34	30	54	\$20,708,000	\$15.687.000	0.96
FY 2006	HES-058-1(81)2H-07	Black Hawk	IA 58	From the US 20 interchange north to the University Ave interchange	Expressway Paved Shoulders and Median Cable Barrier	2	2a ,2b, 3b	\$1,668,542 5	7	9	31	56	112	168	242 2		8 34	86	141	195	285	\$37,893,200	\$17,763,000	J 12.06
FY 2006	HES-069-5(84)2H-85	Story	US 69	Riverside Rd. and 190th St. Intersections with US 69 north of Ames	Curve	2	1b, 2a	\$171,354 5	0	2	13	18	37	52	77 1		0 1	3	5	37	42	\$2,509,800	\$4,693,800	J (12.75)
FY 2006	HES-141-7(35)2H-77	Polk	IA 141	intersection with NW 121st Street/Co Rd F4R (NW of Johnston)	Expressway Intersection Enhancements	2	1b	\$169,535 5	0	0	8	9	17	14	25 0		0 8	1	9	21	30	\$938,600	\$710,400	J 1.35
FY 2006	HES-218-3(71)2H-92	Johnson	US 218 1	from IA 22 to I-80 (Riverside to Coralville)	Expressway Paved Shoulders	2	2a, 3b	\$4,531,658 5	4	23	84	124	240	405	561 3		11 51			312	420	\$37,272,000	\$24,643,800	1 2.79
FT 2000	HES-218-9(124)2H-34	Floyd	US 218	Intersection of US 218 and US 18/IA 27	Expressway Intersection Enhancements	2	1b	\$91.095 5	0	4	5	5	14	7	17 0		1 8	- 8	17	9	17	\$1,851,800	\$1,083,000	7.25
FY 2006	NHSN-018-9(83)3H-22	Clayton	US 18	from Postville (MP 281.73) to MP 300.75 (west of Marquette)	Two Lane Paved Shoulders	2	2a, 3b	\$750,000 5	4	8	34	26	72	90	134 0		6 26	28	61	80	114	\$23,386,000	\$5,212,000	24.23
FY 2007	HES-006-3(66)2H-25	Dallas	US 6	Intersection of US 6 and Co. Rd. R-16 NE of Adel	Expressway Intersection Enhancements	3	1b	\$106,617 5	0	1	0	2	3	1	4 0	_	1 0	0	1	1	2	\$402,400	\$332,400	0.66
FY 2007	HES-020-1(108)2H-97	Woodbury	US 20 J	Intersection of US 20 and Co Rd K42 W of Lawton	Expressway Intersection Enhancements	2	1b	\$102,576 5	0	0	0	2	2	3	4 0		1 1	3	5	3	7	\$92,200	\$517,200	J (4.14)
FY 2007	HES-020-2(76)2H-47	Ida	US 20 1	W Jct of US 20 and US 59 near Holstein	Expressway Intersection Enhancements	2	10	\$143,835 5	1	0	0	1	2	1	3 0		0 1	- 1	2	3	5	\$4,292,400	\$122,200	(28.99
FY 2007	HES-030-1(125)2H-43	Harrison	US 30	On US 30 from Missouri Valley to Logan	Two Lane Paved Shoulders	2	2a 2h 3h	\$797.333 5	1	2	16	28	52	151	188 3		3 15	37	63	164	207	\$8 037 400	\$17,208,600	(11.50)
FY 2007	HES-030-4(77)2H-08	Story	US 30	From two miles east of IA 17 Interchange east to the 19th St Interchange in Nevada	Expressway Paved Shoulders	2	2a, 2b, 3b	\$1,666,410 5	5	23	80	149	265	446	332 5		30 63	111	212	471	628	\$42,440,400	\$42,465,400	(0.02) ر
FY 2007	HES-034-1(78)2H-65	Mills	US 34	US 34 at Ingrum Ave (Old IA 949) E. of Glenwood	Expressway Intersection Enhancements	2	1b	\$127,002 4	0	0	0	0	0	0	0 0		0 0	0	0	2	2	\$0	\$14,800	J (0.12)
FY 2007	HES-034-4(43)2H-88	Union	US 34 J	From the Intersection of US 34 and IA 25 Adams/Union County Line to Creston	Two Lane Paved Shoulders	2	2a, 2b	\$618,514 5	5	10	8	17	40	20	44 0		5 8	9	22	7	18	\$25,763,000	\$2,511,800	37.59
FY 2007	HES-061-1(152)2H-56	Lee	US 61 i	Intersection with Ortho Rd (Fort Madison)	Intersection Improvements	2	1b, 1i	\$712,000 4	0	2	2	2	6	8	12 0		2 2	12	- 7	10	16	\$909,200	\$959,000	(0.07)
FY 2007	HES-182-1(5)-21-76	Lvon	14 182	intersection with Co.Rd 426/180th St (Meet Lyon School)	Turn Lones	2	1b	\$692.010 5	0	2	0	2	22	30	2 1		0 3	- 12	- 4	3	6	\$0,022,000	\$145,300	(6 34)
FY 2007	HES-218-2(131)2H-44	Henry	US 218	intersection with IA 78	Expressway Intersection Enhancements	2	1b, 1f	\$109,849 5	0	3	1	1	5	3	5 0		5 5	4	14	5	10	\$1,097,200	\$2,127,000	3 (9.37)
FY 2007	HES-218-3(74)2H-92	Washington	US 218	From just north of Jct with IA 92 to the English River Bridge	Expressway Paved Shoulders	2	2a, 2b, 3b	\$2,331,375 5	0	13	30	31	75	108	156 0		8 13	12	34	60	84	\$8,059,200	\$4,309,000	J 1.61
FY 2007	HES-218-8(115)2H-09	Bremer	US 218	From 1 mile south of Co Rd C50 to end of Waverly By-Pass	Expressway Paved Shoulders	2	2a, 2b	\$1,031,713 5	3	2	27	32	64	96	133 0		7 15	34	58	99	137	\$16,985,400	\$5,172,600	11.45
FY 2007	HES-415-1(41)2H-77	Polk	IA 415 1	from I-35/80 to IA 160	Expressway Paved Shoulders	1	1b, 2a, 2b	\$772,424 5	0	11	36	53	103	154	219 3		5 33	73	116	194	272	\$8,909,600	\$20,510,600	J (15.02)
FT 2007	RSIP-005-6(53)2H-17	Marian	10.5 65 1	From NLL wills eity limits parth to IAE/A 02 latershoppe	Two Lone Paved Shoulders	3	28,20	\$314,004 5	0	4	14	12	51	31	121 0		11 15	10	52		44	\$2,859,400	\$5,249,000	(4.04)
FY 2007	STPN-210-3(27)2J-85	Story	IA 210	From East Corp. Line of Maxwell east to US 65	Install Rumbles	-	2b	\$400,000 5	0	1	0	3	4	12	15 0		0 1	0	1	5	6	\$518.800	\$102.000	1.04

Railway-Highway Crossings Project Metrics 23 USC 130 STATE OF IOWA Projects Completed July 1, 2010 thru June 30, 2014

					Crossing Protection	Creasing Type (upbide		Total Design Cost		Before Crash Data (3 years)	fter Crash Data (3 years) (see Note)	
Project Number	Location (County/Municipality, Highway)	USDOT Crossing Number	Classification	Project Type and Description	Improvement (active, passive)	pedestrian, etc.)	Completion Year	(see Notes *)	Funding Type	atal. atous Mher njury DO	ana. njury Mher njury oDO	Effectiveness (see Note)
RRP-RRPS(08)8A-00 RRP-SF00(83)8A-07	Cities/Counties (STATEWIDE) CEDAR FALLS	911786J	Urban Minor Arterial	Crossing Warning Signs Active Grade Crossing Equipment Installation/Upgrade	Passive Active	Vehicle Vehicle	2010	\$72,804.28 \$41,277.00	Section 130 Section 130			** Systems Approach (Statewide) ** Improve vehicle movement and driver behavior
RRP-RR07(146)8A-00 RRP-RR01(145)8A-00 RRP-RR17(146)8A-00	WORTH CERRO GORDO CERRO GORDO	195996W 380019N 876200E	Rural Local Rural Major Collector Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Passive Passive	Vehicle Vehicle Vehicle	2011 2011 2011	\$166,014.90 \$141,930.90 \$258,227,10	Section 130 Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR04(146)8A-00 RRP-SF00(98)8A-34 DRD SE00(70)-8A-34	SERGEANT BLUFF FLOYD	191309A 308897R	Urban Collector Rural Major Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Active Active	Vehicle Vehicle	2010 2010	\$170,367.27 \$36,201.00	Section 130 Section 130	0 0 0 0		Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-RR02(146)8A-00 RRP-SF00(101)8A-66	WOODBINE	191045G 309012D	Rural Local Rural Major Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Passive Passive	Vehicle Vehicle	2010 2011 2010	\$263,637.90 \$39,971.86	Section 130 Section 130			Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-SF00(104)8A-57 RRP-RR15(146)8A-00 RRP-RR03(150)8A-00	CEDAR RAPIDS D.O.T. BELLEVUE	190499C 875930A 376083F	Urban Local Rural Minor Arterial Rural Local	Surface Repair Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Active Active Passive	Vehicle Vehicle	2010 2011 2011	\$51,384.05 \$158,135.35 \$7,500.00	Section 130 Section 130 Section 130			** Improve vehicle movement and driver behavior Reduction in Predicted Accidents **Removal of Crossing
RRP-RR05(138)8A-00 RRP-RR11(146)8A-00 RRD_RR05(150)_8A_00	STORM LAKE WRIGHT	307510F 196591X	Urban Local Rural Major Collector	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Passive	Vehicle Vehicle	2011 2011	\$174,790.23 \$139,521.63	Section 130 Section 130	0 0 0 0		Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR05(150)8A-00 RRP-RR01(150)8A-00 RRP-RR10(146)8A-00	BELLEVUE FORT DODGE	376080K 196543H	Rural Local Urban Other Principal Arterial	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Active	Vehicle Vehicle	2011 2011 2010	\$7,500.00 \$7,500.00 \$267,490.80	Section 130 Section 130			**Removal of Crossing Reduction in Predicted Accidents
RRP-SF00(92)8A-31 RRP-SF00(55)8A-31 RRP-RR13(146)8A-00	FARLEY DUBUQUE HUMBOLDT	306988P 911776D 875881F	Rural Local Rural Major Collector Rural Major Collector	Surface Repair Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Active Active Active	Vehicle Vehicle	2010 2010 2011	\$58,843.20 \$109,210.20 \$123,250.53	Section 130 Section 130 Section 130	0 0 0 0 0		** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRP-RR00(136)8A-00 RRP-RR09(146)8A-00 RRP-RR18(146)8A-00	MILLS WEBSTER	095276C 196532V 307657E	Rural Local Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Active	Vehicle Vehicle	2010 2010 2011	\$332,324.10 \$154,203.30 \$106,644.34	Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-SF00(62)8A-23 RRP-SF00(67)8A-34	CLINTON CHARLES CITY	376023W 308908B	Urban Local Urban Minor Arterial	Surface Repair Surface Repair	Passive Active	Vehicle Vehicle	2010 2010	\$73,373.40 \$52,817.40	Section 130 Section 130	0 0 0 0		** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-SF00(82)8A-06 RRP-SF00(82)8A-06 RRP-SF00(81)8A-40	VINTON WEBSTER CITY	1904941 607647D 307338M	Urban Local Rural Major Collector Urban Local	Surface Repair Surface Repair Surface Repair	Active Active	Vehicle Vehicle	2010 2010 2010	\$77,542.73 \$59,442.63 \$89,870.75	Section 130 Section 130 Section 130			** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-SF00(74)8A-07 RRP-SF00(95)8A-07 RRP-SF00(69)8A-40	WATERLOO CEDAR FALLS WEBSTER CITY	307950W 308802F 307342C	Urban Local Urban Collector Urban Local	Surface Repair Surface Repair Surface Repair	Passive Active Active	Vehicle Vehicle	2010 2010 2010	\$64,322.86 \$41,277.00 \$75.302.64	Section 130 Section 130 Section 130	0 0 0 1 0 0 0 0 0 0 0		** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-RR07(150)8A-00 RRP-RR02(150)8A-00 RRP-SE00(100)8A-57	BELLEVUE BELLEVUE CEDAR RAPIDS	376094T 376081S	Rural Local Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Passive Active	Vehicle Vehicle	2011 2011 2010	\$7,500.00 \$7,500.00 \$99,520.60	Section 130 Section 130	0 0 0 0		**Removal of Crossing **Removal of Crossing
RRP-RR01(146)8A-00 RRP-RR04(138)8A-00	CLINTON CEDAR FALLS	190394N 307185L	Rural Local Urban Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive	Vehicle Vehicle	2010 2011 2010	\$432,487.88 \$123,367.71	Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR16(146)8A-00 RRP-RR05(146)8A-00 RRP-RR14(146)8A-00	FRANKLIN LAKE MILLS BODE	876163E 195406X 875889K	Rural Major Collector Rural Local Rural Major Collector	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Active Passive Active	Vehicle Vehicle Vehicle	2011 2011 2011	\$327,071.70 \$170,768.70 \$116,881.90	Section 130 Section 130 Section 130	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Reduction in Predicted Accidents Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR12(146)8A-00 RRP-SF00(114)8A-70 RRP-SF00(87)8A-07	DES MOINES MUSCATINE	602484E 606835P 807537T	Urban Local Rural Major Collector Rural Major Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair Surface Repair	Active Active	Vehicle Vehicle	2011 2010 2010	\$338,859.90 \$35,581.77 \$24,873,48	Section 130 Section 130 Section 130			Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-RR08(146)8A-00 RRP-RR00(148)8A-00	FORT DODGE	196271X 376155G	Urban Other Principal Arterial Rural Local	Active Grade Crossing Equipment Installation/Upgrade Crossing Closure	Active Passive	Vehicle Vehicle	2010 2010	\$215,421.30 \$7,500.00	Section 130 Section 130			Reduction in Predicted Accidents **Removal of Crossing
RRP-RR03(146)8A-00 RRP-RR06(146)8A-00 RRP-RR06(150)8A-00	D.O.T. BELLEVUE	1910525 195943X 376091X	Rural Local Rural Other Principal Arterial Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Active Passive	Vehicle Vehicle	2010 2011 2011	\$186,528.91 \$7,500.00	Section 130 Section 130 Section 130	0 0 0 1		Reduction in Predicted Accidents Reduction in Predicted Accidents **Removal of Crossing
RRP-SF12(023)8A-84 RRP-RR00(153)8A-00 RRPSF12(013)8A84	HAWARDEN TIFFIN HAWARDEN	194632T 608012D 381559M	Rural Local Urban Local Rural Local	Surface Repair Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Active Passive Active	Vehicle Vehicle Vehicle	2012 2011 2012	\$41,495.31 \$149,716.58 \$34,678.35	Section 130 Section 130 Section 130	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		** Improve vehicle movement and driver behavior Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-RR03(154)8A-00 RRP-SF00(111)8A-70 RRP-RR03(146)8A-70	MONONA MUSCATINE CLAY	191237Y 607215E 385724.1	Rural Local Urban Local Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Passive Active Passive	Vehicle Vehicle	2011 2011	\$162,000.00 \$111,524.40 \$142,170.30	Section 130 Section 130			Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior Reduction in Predicted Accidente
RRP-RR04(154)8A-00 RRP-RR01(151)8A-00	SALIX SIOUX CITY	191286V 064030U	Rural Local Urban Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Active Passive	Vehicle Vehicle	2011 2011 2012	\$162,374.40 \$222,348.60	Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR00(165)8A-00 RRP-RR00(139)8A-00 RRP-SF00(102)8A-56	FAIRFIELD COUNCIL BLUFFS LEE	063029W 378243Y 078276H	Urban Local Urban Local Rural Local	Crossing Closure Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Active Passive Passive	Vehicle Vehicle	2012 2011 2011	\$7,500.00 \$224,488.55 \$72,999.60	Section 130 Section 130 Section 130			**Removal of Crossing Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-SF00(99)8A-56 RRP-RR01(144)8A-00 RRD-DR02(454)-8A-00	LEE AURELIA	078041X 307539D	Rural Minor Collector Rural Major Collector	Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Passive Active	Vehicle Vehicle	2011 2012	\$38,038.20 \$126,808.65	Section 130 Section 130	0 0 0 0		** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRP-RR12(154)8A-00 RRP-SF00(113)8A-17	CERRO GORDO CERRO GORDO	876196S 385471D	Rural Local Rural Minor Arterial	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Passive Active	Vehicle Vehicle	2011 2011 2011	\$156,655.80 \$157,500.00 \$42,452.40	Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-RR04(161)8A-00 RRP-RR09(154)8A-00 RRP-SF00(105)8A-29	GREENE WAYNE DES MOINES	190727M 604552K 078061J	Rural Local Rural Local Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Passive Passive Passive	Vehicle Vehicle Vehicle	2012 2011 2011	\$146,168.66 \$138,206.94 \$51,116.40	Section 130 Section 130 Section 130		0 0 0 0	Reduction in Predicted Accidents Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-RR07(154)8A-00 RRP-RR02(144)8A-00 RRP-RR00(156)8A-00	GOLDFIELD PLYMOUTH LUVERNE	197025R 307607C 197046J	Rural Major Collector Rural Local Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Crossing Closure	Passive Passive Passive	Vehicle Vehicle Vehicle	2011 2012 2011	\$245,700.00 \$137,788.65 \$7,500.00	Section 130 Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents **Removal of Crossing
RRP-RR01(154)8A-00 RRP-RR02(151)8A-00 RRP-RR02(151)8A-00	HOSPERS SIOUX HARPISON	185978W 097456G 191187Y	Rural Local Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Active Active	Vehicle Vehicle	2011 2012 2012	\$159,948.90 \$215,190.90 \$7,500.00	Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR02(145)8A-00 RRP-RR11(154)8A-00	WINNESHIEK HARDIN	385253W 876096M	Rural Minor Collector Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive	Vehicle Vehicle	2011 2011	\$141,254.10 \$166,500.00	Section 130 Section 130	0 1 0 0		Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR05(154)8A-00 RRP-RR03(144)8A-00 RRP-RR08(154)8A-00	LINN STORY CITY	195403C 307823V 197085A	Rural Local Urban Minor Arterial Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Active Passive	Vehicle Vehicle	2011 2011 2011	\$125,719.65 \$126,176.80	Section 130 Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR00(155)8A-00 RRP-RR10(154)8A-00 RRP-SF00(96)8A-56	NEW HARTFORD STORY LEE	307208R 876090W 078040R	Rural Local Rural Local Rural Minor Collector	Crossing Closure Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Passive Passive Passive	Vehicle Vehicle Vehicle	2012 2011 2011	\$7,500.00 \$207,552.60 \$68,045.40	Section 130 Section 130 Section 130	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	**Removal of Crossing Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-SF00(93)8A-56 RRP-RR06(154)8A-00 RRP-SF00(108)8A-97	LEE LUVERNE SIQUX CITY	078050W 196729W 064026F	Urban Local Rural Major Collector	Surface Repair Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Active Passive Active	Vehicle Vehicle	2011 2011 2012	\$38,651.40 \$162,923.40 \$144,447.60	Section 130 Section 130 Section 130			** Improve vehicle movement and driver behavior Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-RR05(161)8A-00 RRP-RR11(161)8A-00 RRD-RR11(161)8A-00	GREENE CERRO GORDO	190751N 196381H	Rural Local Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Passive	Vehicle Vehicle	2012 2013	\$241,600.50 \$163,151.10	Section 130 Section 130	0 0 0 1		Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR01(157)8A-00 RRP-RR19(161)8A-00	CLARKE WORTH	074073P 876241J	Rural Local Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive	Vehicle Vehicle	2012 2012	\$393,413.40 \$168,079.50	Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-SF11(005)8A-21 RRP-RR12(161)8A-00	SPENCER EAGLE GROVE	385719M 197022V	Urban Collector Rural Local	Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Passive Passive	Vehicle Vehicle	2012 2012 2013	\$53,620.80 \$201,729.60	Section 130 Section 130			** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRP-SF120178A50 RRP-RR06(161)8A-00 RRP-SF11(004)8A-21	HARRISON SPENCER	607979X 191046N 385708A	Urban Minor Arterial Rural Local Urban Minor Arterial	Surface Repair Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Active Passive Passive	Vehicle Vehicle Vehicle	2012 2012 2012	\$77,416.92 \$231,941.45 \$96,747.00	Section 130 Section 130 Section 130	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		** Improve vehicle movement and driver behavior Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-RR07(161)8A-00 RRP-RR16(161)8A-00 RRP-RR08(161)8A-00	MONONA IOWA FALLS MONONA	191239M 876130S 191243C	Rural Minor Collector Rural Minor Collector Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Passive Passive	Vehicle Vehicle Vehicle	2012 2013 2012	\$156,007.80 \$265,358.70 \$99,519,41	Section 130 Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR01(161)8A-00 RRP-SF11(008)8A-71 RRPSE120148A71	PLYMOUTH SHELDON	186003K 385775U 385776B	Rural Local Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair Surface Repair	Passive Active	Vehicle Vehicle	2012 2012 2012	\$108,608.34 \$63,462.33 \$43,186,80	Section 130 Section 130	0 0 0 0		Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-RR02(157)8A-00 RRP-RR14(161)8A-00	HARRISON HARDIN	378184Y 876097U	Rural Minor Collector Rural Major Collector	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Active	Vehicle Vehicle	2013 2013	\$199,670.40 \$201,565.80	Section 130 Section 130	0 0 0 0		Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR13(161)8A-00 RRP-SF00(105)8A-29 RRP-RR10(161)8A-00	DES MOINES MONONA	078061J 191255W	Rural Local Rural Local	Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Passive Passive	Vehicle Vehicle	2012 2012 2012	\$51,116.40 \$103,078.56	Section 130 Section 130	0 0 0 0		** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRPSF120168A82 RRP-RR00(166)8A-00 RRP-RR04(144)8A-00	WALCOTT MARATHON CEDAR RAPIDS	606805X 377583G 307836W	Rural Local Rural Local Urban Minor Arterial	Surface Repair Crossing Closure Active Grade Crossing Equipment Installation/Upgrade	Active Passive Active	Vehicle Vehicle Vehicle	2012 2013 2012	\$86,625.19 \$7,500.00 \$265,120.20	Section 130 Section 130 Section 130	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		** Improve vehicle movement and driver behavior **Removal of Crossing Reduction in Predicted Accidents
RRP-RR03(161)8A-00 RRPSF120208A21 RRP-RR09(161)8A-00	CLINTON SPENCER MONONA	190380F 385712P 191252B	Rural Local Urban Collector Rural Local	Active Grade Crossing Equipment Installation/Upgrade Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Passive Passive Passive	Vehicle Vehicle Vehicle	2013 2013 2012	\$268,029.00 \$57,781.80 \$114,549.34	Section 130 Section 130 Section 130			Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRP-RR02(161)8A-00 RRP-RR00(164)8A-00 RRPSE12(015)8A71	BOONE MERRILL SHELDON	190332R 067348D 385779W	Rural Local Rural Local	Active Grade Crossing Equipment Installation/Upgrade Crossing Closure Surface Repair	Passive Active	Vehicle Vehicle	2012 2012 2012	\$171,602.06 \$7,500.00 \$57,781.80	Section 130 Section 130	0 0 0 0		Reduction in Predicted Accidents **Removal of Crossing **Immore vehicle measurement and driver behavior
RRP-RR15(161)8A-00 RRP-SF00(96)8A-56 RRD-SF00(96)8A-56	HARDIN LEE	876104C 078040R	Rural Local Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Passive Passive	Vehicle Vehicle	2013 2012	\$170,090.10 \$68,045.40	Section 130 Section 130	0 0 0 0		Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-SF11(002)8A-21 RRP-RR01(169)8A-00	SPENCER OBRIEN	385717Y 185862V	Urban Minor Arterial Rural Local	Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Active Passive	Vehicle Vehicle	2012 2012 2014	\$57,022.80 \$170,250.30	Section 130 Section 130			** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRP-SF(109)8A-97 RRP-SF00(112)8A-10 RRPSF13(032)8A19	JESUP CHICKASAW	064029A 307085G 385295H	Rural Major Collector Rural Major Collector	Surface Repair Surface Repair Surface Repair	Active Active Active	Vehicle Vehicle Vehicle	2013 2013 2013	\$169,456.20 \$107,488.80 \$97,935.00	Section 130 Section 130 Section 130			** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior
RRP-SF13(038)8A-21 RRP-RR01(159)8A-00 RRP-RR10(169)8A-00	SPENCER GUTTENBERG CORYDON	385709G 376156N 604459D	Urban Local Rural Major Collector Rural Local	Surface Repair Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Passive Passive	Vehicle Vehicle Vehicle	2013 2014 2014	\$50,589.60 \$194,049.23 \$282.247.20	Section 130 Section 130 Section 130			** Improve vehicle movement and driver behavior Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR02(159)8A-00 RRP-RR00(158)8A-00 RRP-RR00(169)8A-00	WINNESHIEK CHEROKEE WORTH	385230P 307576F 196365V	Rural Minor Collector Rural Local Rural Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Passive Passive	Vehicle Vehicle	2013 2013 2013	\$199,312.16 \$195,196.33 \$241.341.30	Section 130 Section 130	0 0 0 0		Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR06(169)8A-00 RRPSF13(028)8A12	CEDAR CLARKSVILLE	190460Y 607412T	Rural Local Rural Major Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Passive	Vehicle Vehicle	2013 2014 2013	\$750,391.20 \$51,957.44	Section 130 Section 130			Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRPSF13(035)8A34 RRPSF13(034)8A36 RRP-RR05(167)8A-00	FREMONT SIOUX	063445Y 067373L	Rural Major Collector Urban Collector Rural Minor Collector	sunace Repair Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Passive Passive	Vehicle Vehicle	2013 2013 2014	\$50,103.00 \$63,000.00 \$191,062.80	Section 130 Section 130 Section 130			** Improve venicle movement and driver behavior ** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRP-RR00(160)8A-00 RRP-RR12(169)8A-00 RRP-RR03(159)8A-00	SHELL ROCK SHEFFIELD MASON CITY	607391C 876180V 385484E	Rural Major Collector Rural Local Urban Minor Arterial	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade	Active Passive Active	Vehicle Vehicle	2013 2014 2014	\$115,497.00 \$278,974.80 \$237,285.11	Section 130 Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents Reduction in Predicted Accidents
RRP-RR04(167)8A-00 RRP-SF13(036)8A-21 RRP-RR02(152)8A-00	SIOUX SPENCER BUENA VISTA	067368P 385718F 307533M	Rural Local Urban Local Rural Minor Collector	Active Grade Crossing Equipment Installation/Upgrade Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Passive Passive Passive	Vehicle Vehicle Vehicle	2013 2013 2013	\$180,555.30 \$50,103.00 \$153,356.40	Section 130 Section 130 Section 130	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRP-SF12(024)8A-31 RRPSF13(031)8A21 RRP-RR03(160)8A-35	DUBUQUE SPENCER BOONF	376127D 385721N 190326M	Urban Local Urban Local Bural Local	Surface Repair Surface Repair Active Crade Crossing Engineerst Installational In-	Active Passive Passive	Vehicle Vehicle	2013 2013	\$78,178.80 \$46,389.60 \$432,582.04	Section 130 Section 130			** Improve vehicle movement and driver behavior ** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRPSF0188A07 RRP-RR07(169)8A-00	WATERLOO POWESHIEK CEDAB BADDOC	200781L 193082R	Rural Major Collector Rural Minor Collector	Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Active Passive	Vehicle Vehicle	2013 2013 2014	\$46,194.60 \$177,836.40	Section 130 Section 130			** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
KRPSF13(030)8A57 RRP-RR12(167)8A-00 RRPSF13(040)8A12	DEDAR RAPIDS PLYMOUTH BUTLER	697431L 607413A	Uroan Minor Arterial Rural Local Rural Local	Surrace Repair Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Passive Passive	Vehicle Vehicle	2013 2014 2013	\$73,070.90 \$194,472.00 \$47,289.72	Section 130 Section 130 Section 130	0 0 0 0 0 0 0 0 0 0 0 0		Improve vehicle movement and driver behavior Reduction in Predicted Accidents Timprove vehicle movement and driver behavior
RRP-RR11(169)8A-00 RRP-RR01(152)8A-00 RRP-SF11(006)8A-82	WALLINGFORD ALTA RIVERDALE	875984F 307528R 865635T	Rural Major Collector Rural Major Collector Urban Local	Active Grade Crossing Equipment Installation/Upgrade Active Grade Crossing Equipment Installation/Upgrade Surface Repair	Active Active Active	Vehicle Vehicle Vehicle	2014 2013 2013	\$160,891.20 \$155,799.00 \$44.959.20	Section 130 Section 130 Section 130			Reduction in Predicted Accidents Reduction in Predicted Accidents ** Improve vehicle movement and driver behavior
RRP-SF12(012)8A-57 RRP-RR02(169)8A-00 RPDSE12(020)84-24	HIAWATHA SIOUX	307835P 185973M 385735W	Urban Local Rural Local Rural Major Collector	Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Active Passive Active	Vehicle Vehicle	2013 2014	\$42,439.80 \$167,755.50	Section 130 Section 130			** Improve vehicle movement and driver behavior Reduction in Predicted Accidents
RRPSF120198A31 RRP-RR00(168)8A-00	PEOSTA	306971L 385708A	Rural Major Collector Urban Minor Arterial	Surface Repair Active Grade Crossing Equipment Installation/Upgrade	Active Passive	Vehicle Vehicle	2013 2013 2014	\$76,498.20 \$241,383.61	Section 130 Section 130	0 0 0 0		** Improve vehicle movement and driver behavior Reduction in Predicted Accidents

Total Projects = 156

Total \$21,257,409.12

Note: No data entend for projects that have not been completed for three years. *Total Poyeic Cost is final audite project cost of Railtoad estimated cost if final audit is pending. *Safety improvements such as train detection circuity upgrades, crossing surface repairs, removal of site obstructions, crossing illumination and lens size upgrades are safety improvements programmed outside the predicted accident formula.