Traffic Safety Improvement Program

Applications for

Studies, Research, and Public Information Initiatives

FY 2013



Received June 15, 2011

STUDIES, RESEARCH, PUBLIC INFORMATION INITIATIVES FY 2012

Page	Applicant	Title/Subject	\$ \$	5\$
No. Applicant InterSubject		The/Subject	Project	Request
1	IA DOT - Traffic & Safety	Traffic Safety Liaison Program	\$55,000	\$55,000
3	IA DOT - Traffic & Safety	Safety Circuit Rider Support	\$60,000	\$20,000
5	IA DOT - Traffic & Safety	Iowa Traffic Safety Data Service (ITSDS)	\$200,000	\$20,000
7	IA DOT - Traffic & Safety	Crsah Magic Statewide License Renewal	\$16,000	\$16,000
9	IA DOT - Traffic & Safety	Traffic Comprehensive Highway Safety ety Plan Implementation		\$100,000
11	IA DOT - Traffic & Traffic & Safety Forum, Training and & Safety Peer Exchange		\$20,000	\$20,000
13	IA DOT - Traffic & Safety Research into Local Practice		\$35,000	\$35,000
17	IA DOT - Traffic & Safety	Assessment of High Friction Surface Treatments	\$250,000	\$50,000
19	IA DOT - Traffic Website: Profiles Presentation & Safety Materials Automation		\$50,000	\$40,000
21	IA DOT - Traffic Website: Enhancements to Safety & Safety Information and Data		\$15,000	\$15,000
23	IA DOT - Traffic & Safety	IA DOT - Traffic & Safety SAVER: TraCS Local Data Converter		\$40,000
25	IA DOT - Traffic & Safety	ffic Statistical Analysis: Rural Expressways		\$50,000
27	IA DOT - Traffic & Safety	Before/After: Paved Shoulders w/ Rumble Strips	\$50,000	\$50,000
29	IA DOT - Traffic & Safety	Safety Analysis: One-Way Pairs	\$50,000	\$40,000

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STUDIES, RESEARCH, PUBLIC INFORMATION INITIATIVES (Continued)

Page	Applicant	Title/Subject	\$\$\$		
No.	No. Applicant Interoubject		Project	Request	
31	IA DOT - Traffic & Safety	Before/After: Historical TSIP	\$50,000	\$50,000	
33	IA DOT - Traffic & Safety	Before/After: Historical HSIP	\$50,000	\$50,000	
35	IA DOT - Motor Vehicle Division	Data Analysis: Crash Facts	\$20,000	\$20,000	
37	IA DOT - Motor Vehicle Enforcement	CMV/Truck Statewide Crash Causation Analysis	\$50,000	\$40,000	
39	IA DOT - Traffic & Safety	CHSP Statewide Crash Data Analysis	\$40,000	\$40,000	
41	IA DOT - Traffic & Safety	Before/After: Cable Median Barriers	\$50,000	\$50,000	
43	IA DOT - Traffic & Safety	2012 Comprehensive Highway Safety Plan Development	\$135,000	\$35,000	
45	IA DOT - Office of Driver Services	Young Driver Driver Education	\$80,000	\$50,000	
47	IA DOT - Traffic & Safety	Safety Education Collaboration	\$20,000	\$20,000	
49	IA DOT - Traffic & Safety	Traffic Safety Culture - PH II-C: Findings from Research	\$25,000	\$25,000	
51	IA DOT - Traffic & Safety	Evaluation of Iowa's Road Safety Audit	\$20,000	\$20,000	
53	IA DOT - Traffic & Safety	Continuation of Iowa's Road Safety Audit Program	\$20,000	\$20,000	

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STUDIES, RESEARCH, PUBLIC INFORMATION INITIATIVES (Continued)

Page	Applicant	Title/Subject	\$ \$	\$\$\$			
No.	No. Applicant InterSubject		Project	Request			
55	IA DOT - Traffic & Safety	Prioritization of Traffic Safety Fund Projects	\$50,000	\$50,000			
59	IA DOT - Traffic & Safety	Operational Evaluation of Suburban Growth Corridors	\$60,000	\$60,000			
61	IA DOT - Traffic & Safety	Evaluation of Rural Intersection Treatments	\$120,000	\$90,000			
65	IA DOT - Traffic & Safety	Evaluation of Oversized Chevrons	\$45,000	\$45,000			
	Totals	30	\$2,036,000	\$1,216,000			



Location / Ti	tle of Project	Local Roads Safety Liaison Program			
Applicant	lowa DOT - (Office of Traffic and	Safety		
Contact Pers	son <u>Steven Sc</u>	chroder	_ T	itle Transportation Engineer	
Complete Ma	ailing Address	800 Lincoln Way			
		Ames, IA 50010			
Phone (5	515) 239-1623	E-Mail	steve	en.schroder@dot.iowa.gov	
(A	Area Code)				
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Co-Applicant	t(s)				
Contact Pers	son		Title		
Complete Ma					
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Phone		E-Mail			
	(Area Code)				
PLEASE CC	MPLETE THE F		ECT IN	FORMATION:	
Application	Туре	Т	raffic C	Site Specific ontrol Device Safety Study	
Funding Am	nount				
	Total Project Co	st	\$ <u>5</u>	5,000	
	Safety Funds R	equested	\$ <u>5</u>	5,000	

Local Roads Safety Liaison Program Application for 2012-2013

This program commenced in March of 2008 as a new outreach project to local governments (primarily counties) under the TSIP ½ % funded programs of the Iowa Department of Transportation. Although started as a tool to get DOT provided safety program information and assistance to county engineering offices that had not been active in safety, the program has expanded to provide more training coordination and grant program assistance to both cities and counties. This continues to be accomplished for them through: personal on site consultations, assistance with grant awareness and applications, training at fall safety schools, presentations to county engineer groups, league of cities members, multi-disciplinary teams and regional planning organizations. These associations have helped build and strengthen the safety "community" locally and regionally. Budgetary struggles continue for local entities and most do not have the staff and/or time available to permit attending the formal training opportunities, or to perform the necessary analysis to identify traffic safety concerns. The Traffic Safety Liaison program can continue to fill that gap.

Recommendations:

Continuation of previous initiatives, including:

- Work w/ Safety Circuit Rider, ITSDS, state MDST team and DOT safety staff and training personnel to provide appropriate topics, crash maps, contacts, and requested safety analysis.
- Attend meetings of regional MDST groups, RPA's, cities and counties, and DOT staff to keep current with safety related information and issues, as well as current research projects and studies, to provide a knowledge base which can be shared with other safety partners
- Provide specific new safety research information to local agencies ie. safety edge experience, crash rates on low volume unpaved roads are significantly higher on >100 ADT than <100 ADT, etc.
- Provide detailed analysis of traffic related crashes to local agencies when requested, using traffic studies and crash analysis tools, and identify alternate safety improvements to provide mitigation
- Continue to assist counties with road safety audits, where requested

Next Step for FY 2013:

- Continue all program items above with revisions or updates as necessary
- Provide assistance and information to promote and enhance the formation and active participation of area agencies in multidisciplinary groups
- Investigate adopting a Minnesota type program for individual county safety reviews and program development. Assist local agencies in developing an overall traffic safety program

Future Years:

- Continue to provide current and timely information and assistance to those local agencies that rely on this form of presentation to keep the safety message heard

Assistance from a professional engineer, working approximately 65 hours per month, is anticipated to carry out these tasks. Continued coordinated work with DOT and InTrans staff, along with various safety interest groups and trainers could be continued and program growth expanded to areas including cities and RPAs. Developing associations with those officials and other contacts around the state will definitely promote the ongoing development of a safety culture in Iowa.

PIs: Robert Sperry

Estimated cost: \$55,000



Location / Title	of Project	Safety Circuit I	Rider		
Applicant	lowa DOT,	Office of Traffic	and Safe	ety	
Contact Persor	n <u>Steven</u> S	chroder		Title	Transportation Engineer
Complete Maili	ng Address	800 Lincoln Wa	ay		
		Ames, IA 500 ²	10		
Phone (515 (Area	5) 239-1623 a Code)	E	E-Mail <u>s</u>	teven.s	chroder@dot.iowa.gov
If more than o fill in the infor	ne highway mation below	authority is inv w (use additior	volved in nal sheet	this pr s if nec	oject, please indicate and essary).
Co-Applicant(s)				
Contact Persor	ו		Т	itle _	
Complete Mailing Address					
Phone		F	-Mail		
_	(Area Code)	Ľ	<u> </u>		
PLEASE COM	PLETE THE	FOLLOWING P	ROJEC		RMATION:
Application Ty	уре		Traffi	Site c Contr Saf	e Specific ol Device ety Study
Funding Amo	unt				
Тс	otal Project C	ost	\$	60,00	0
Sa	afety Funds	Requested	\$	20,00	0

Cost: \$20,000

Schedule: Funds to be used in 2013

Contact: Steven Schroder, Office of Traffic and Safety, Iowa DOT, (515) 239-1623

Narrative:

The Safety Circuit Rider program was created about 20 years ago as a strategy to bring safety training to local government agency personnel at their own place of work. Often, local governments are short on funds for training and find it difficult to send all personnel in need of specific training long distances. This is especially true for flagging, by far the most popular program the Circuit Rider offers. The Safety Circuit Rider program was established as a part of the Local Transportation Assistance Program residing within the Center for Transportation Research and Education, Iowa State University, Ames.

The Safety Circuit Rider program was established by a coalition including the Iowa DOT, Governor's Traffic Safety Bureau, Federal Highway Administration, and the Center for Transportation Research and Education, Iowa State University. In addition to flagger training, the program also deals with general work zone safety and the annual winter day-long work zone safety training program held at numerous field locations across Iowa. The Circuit Rider assists in planning and executing the DOT's winter work zone training program for city, county, state, contractor, and utility personnel. Crash analysis, Iow cost safety improvements, sign management, inventory, and other miscellaneous topics fill in the comprehensive program.

Since its inception, the program has received \$40,000 annually in Section 402 Highway Safety funds from the Governor's Traffic Safety Bureau. Yet, over time the program has expanded and requires a budget substantially greater than that. The funds being requested from the TSIP will help the program meet the safety training needs of Iowa's roadway workers in the future. Iowa's safety program of outreach to local jurisdictions is nationally recognized, and has been awarded the FHWA / RSA award for local programs.

<u>Budget</u>

For support of the Safety Circuit Rider program based at the Institute for Transportation, Iowa State University during calendar year 2012 (13th consecutive year of TSIP supplemental funding):

\$20,000

PI: Tom McDonald



Location / Title of Project Iowa Traffic Safety Data Service (ITSDS)				
Applicant _ Iowa Departr	nent of Transportation, Office of Traffic and Safety			
Contact Person Michael D	Pawlovich Title Engineer			
Complete Mailing Address	800 Lincoln Way			
	Ames, IA 50010			
Phone (515) 239-1428 (Area Code)	E-Mail Michael.Pawlovich@dot.iowa.gov			
If more than one highway at fill in the information below	uthority is involved in this project, please indicate and (use additional sheets if necessary).			
Co-Applicant(s)				
Contact Person	Title			
Complete Mailing Address				
_				
Phone	E-Mail			
(Area Code)				
PLEASE COMPLETE THE F	OLLOWING PROJECT INFORMATION:			
Application Type	Site Specific Traffic Control Device Safety Study			
Funding Amount				
Total Project Cos	st \$ 194,637.51			
Safety Funds R	equested \$ 20,000			

Iowa Traffic Safety Data Service (ITSDS)

- A. Not applicable.
- B. The Iowa Traffic Safety Data Service (ITSDS) provides timely access to crash analyses and reports from many safety and geographic information systems tools developed by the Iowa Department of Transportation (DOT) and the Center for Transportation Research and Education (InTrans/CTRE) in recent years. The ITSDS facilitates decision-making, effective presentation of information, and education. One major example of ITSDS-related activities is the Office of Traffic and Safety's web-based Profiles website (http://www.iowadot.gov/crashanalysis/index.htm).

The ITSDS originated as a major component of Iowa's Section 411 (federal) program for improving state traffic records systems. It was approved by the Iowa Statewide Traffic Records Advisory Committee (STRAC) as a way of attaining the objectives within the statewide strategic plan for safety data. The Section 411 program has now ended and Section 408 funds currently provide the primary support; however, support from the Traffic Safety Improvement Program (TSIP) remains important as Section 408 funds can be redirected, may end with a new federal transportation bill, and are less flexible.

The services provided by ITSDS are available at no cost to Iowa cities, counties, the DOT, and the Governor's Traffic Safety Bureau (GTSB). It has become a highly valued program by state and local safety entities in need of data analysis or to augment the widely distributed analysis tools, SAVER and CMaT.

C. Amount requested for contract with InTrans /CTRE to support ITSDS: \$20,000

(Supplementary funds typically are supplied via 408 NHTSA/GTSB funds in the amount of \$20,000 for Office of Traffic and Safety-related tasks and \$80,000 for GTSB-related activities.)

D. Time schedule: Nominally starting when fund use is granted and ending one year after placing the funds under contract.



pplicant Iowa Department of Transportation, Office of Traffic and Safety					
Jata					
jov					
e and					
Complete Mailing Address					

- A. Not applicable.
- B. Crash Magic is a proprietary software tool that leads the market for computer automation of schematic diagrams of collisions at intersections. This software is integrated via a COTS solution into Iowa's customized, more robust safety analysis software (SAVER). This integration enables the Crash Magic component to seamlessly function within the SAVER environment for Iowa analysts, greatly simplifying software usage and annual maintenance.

The statewide license held by lowa formerly for Intersection Magic had been converted to Diagram Magic and, very recently, updated to Crash Magic, with many additional graphing, filtering, and other capabilities. lowa DOT is purchasing the new update with past ½% funds. All SAVER users will have access to Crash Magic – state, local, public, and private. Users include lowa DOT District personnel, lowa DOT main office personnel, county and city engineers, county and city enforcement, researchers, and a variety of others – about 150 total. The software has permitted these users to more rapidly construct composite collision/crash diagrams at problem intersections/sites and thus allow more thorough identification and analyses of safety problems.

Normally this software might cost thousands of dollars per site installation. However, through this statewide license, an agreement has been reached to minimize the customer service the vendor must perform, transferring that to personnel within the Office of Traffic and Safety, and thereby reducing the customer responsiveness responsibility for the vendor and associated cost of this responsibility and reducing the annual license fees accordingly.

The software product was developed and is sold and maintained by Pd' Programming, Inc. of Lafayette, CO. The company supports around 200 customers nationally with a variety of products – all in the vein of collision diagramming. They have multiple state DOT customers, a couple states with statewide licenses (Idaho and South Dakota), and many city customers.

This request is for the annual renewal fee (\$15,000) that also entitles lowa users access to upgrades, which are under works per requests related to SAVER redevelopment, as they become available and some miscellaneous distribution expenses within Iowa (\$1,000).

- C. Amount requested: \$16,000 (\$15,000 license renewal, \$1,000 miscellaneous distribution expenses within lowa).
- D. Time schedule: One year annual renewal fee invoiced by vendor within one year timeframe of availability.



Location / Title of Project		Comprehensive Highway Safety Plan Implementation				
Applicant	Iowa DOT, O	ffice of Traffic and Sa	afety			
Contact Person	Mary Stahl	lhut	Title CHSP Pr	ograms Manager		
Complete Mailin	g Address	800 Lincoln Way Ames, IA 50010				
Phone (515) (Area d	-) 239-1169 ^{Code)}	E-Mail	mary.stahlhut@dot	t.iowa.gov		
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Co-Applicant(s)						
Contact Person			Title			
Complete Mailin	g Address _					
Phone(/	Area Code)	E-Mail _				
PLEASE COMP	LETE THE FO	OLLOWING PROJE	CT INFORMATION:	C		
Application Typ	be	Tra	Site Specific affic Control Device Safety Study			
Funding Amou	nt					
Tot	al Project Cos	t	\$ 300,000			
Sat	fety Funds Re	equested	\$ 100,000			

Application for TSIP Funds Project CHSP Implementation (Comprehensive or Strategic Highway Safety Plan)

Background

The State Safety Engineer has identified the need to develop and publish the next highway safety plan for Iowa. Some trategies identified in the plan will need funding for implementation.

Project

This effort will be under the direction of the State Safety Engineer and staff with input from partner leaders involved in the Iowa Traffic Safety Alliance (ITSA) and the Statewide Traffic Records Coordinating Committee (STRCC) and other agencies and entities with a role in Iowa's highway safety.

Following the revision of Iowa's Comprehensive Highway Safety Plan, strategies are expected to require funding for implementation. Every effort is made to fund implementation within existing programs when possible, this proposal is to assist in implementing valuable strategies.

This application is to request funding for safety efforts that may have no funding or inadequate funding available. These projects would be focused on multi-discipline efforts, pilot projects, additional research or other efforts leading to strategy implementation.

The portion of the project funding requested in this application (\$100,000) is to support strategies with the most promise to reduce injuries and deaths.

Estimated cost: 100,000

Completion date: December 30, 2013



Rev. 3/08

Application for TRAFFIC SAFETY FUNDS

Traffic and Safety Engineering Forum, Training and Peer Location / Title of Project Exchange						
Applicant	lowa DOT,	Office of Traffic	c and Sa	afety		
Contact Pers	son Mary Sta	ahlhut		Tit	tle	Safety Programs Manager
Complete M	ailing Address	800 Lincoln W	Vay			
		Ames, IA 500	010			
Phone (515) 239-1169 Area Code)		E-Mail	Mary.	.Sta	hlhut@dot.iowa.gov
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Co-Applican	t(s)					
Contact Pers	son			Title		
Complete Mailing Address						
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PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:						
Application	Туре		Tra	offic Co	Site ontr Saf	e Specific ol Device ety Study
Funding An	nount					
	Total Project C	ost		\$ _20),00	0
	Safety Funds	Requested		\$ <u>20</u>),00	0

Title: Traffic and Safety Engineering Forum, Training and Peer Exchange

Cost: \$20,000

Schedule: Funds to be used in 2012

Contact: Mary Stahlhut, Office of Traffic and Safety, Iowa DOT, (515) 239-1169

Narrative:

<u>Objective</u>

To provide up to date traffic safety resources, tools and training for Iowa's state and local engineers, and to foster sharing of knowledge and best practices among Highway Safety Practitioners.

Background

The Iowa DOT requires District staff to be involved in the traffic/safety duties and selection of the most appropriate improvement alternatives. District engineers have requested that training course be provided to their engineering staff to enhance their traffic/safety capabilities.

<u>Methodology</u>

As new resources are made available from FHWA and other sources, lowa-specific materials are developed to deliver to District staff and occasionally their local partners. As new safety methods are researched, tested and approved, DOT engineers are engaged in the process to receive new practices and policies in a practical peer-to-peer environment. When feasible, lowa traffic/safety engineers will also share best practices with their peers in other states that are experiencing similar engineering challenges...

Estimated Cost

\$20,000



Rev. 3/08

Application for TRAFFIC SAFETY FUNDS

Location / Tit	tle of Project	Integrating Access Mgt Research into Local Practice					
Applicant	Office of Traf	fic & Safety					
Contact Pers	son <u>Eric Wrigh</u>	t		Title P	olicy Adı	ministrator	
Complete Ma	ailing Address	800 Lincoln Way; North Annex					
		Ames, IA 50010					
Phone <u>5</u> (A	15 233-7903 Area Code)	E-Mail	eri	ic.wright(@dot.iow	a.gov	
If more than fill in the inf	one highway at formation below	uthority is involved (use additional she	in t ets	this proj	ect, plea ssary).	se indicate and	
Co-Applicant	t(s)						
Contact Pers	son		Tit	tle			
Complete Mailing Address							
Phone		E-Mail					
	(Area Code)						
PLEASE CO	PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:						
Application	Туре	Tra	affic	Site S Control Safety	Specific Device / Study		
Funding Am	nount						
	Total Project Cos	st	\$	\$35,000	0.00		
	Safety Funds R	equested	\$	\$35,000	0.00		

Integrating Access Management Research into Local Practice

Background

The Iowa Department of Transportation has invested billions of dollars in its primary highway system over the past several decades. This network is the backbone of the state's economy, carrying millions of commuter, traveler, and commercial vehicles each year. The same economic activities that these highways enable also have a tremendous impact on its physical and functional condition.

Systematic management of the primary highway system is essential to its preservation. The Iowa DOT has invested in asset management as a means of preserving the network's physical condition. Preservation of the primary system's functional/operational capacity is equally as critical, especially during times of tighter budgets as the state looks to scale back highway construction and re-construction activity.

Research Objective

The ultimate objective of this research is to more proactively manage access along Iowa's primary highways. This will be accomplished through the following tasks:

Task 1: Synthesize Latest Research in the Economic Impacts of Access Management

This task will investigate the latest research in the area of economic impacts related to access management policies and projects. There has been research done within Iowa on longitudinal assessments of changes in access on community sales. Other research has looked at property values and land uses along a corridor over several years. A better understanding of the benefits and costs of limiting access along state highways on local communities is needed.

The long-term benefits of well-managed corridors on local economic development are often very difficult to convey to local communities. This is especially true given the limited and often rare opportunities for large scale development by these smaller communities.

Task 2: Research Examples of Access Management Practices Nationwide

This task will involve compiling examples of both successful and unsuccessful examples of access management practices, approaches, and partnerships utilized around the United States. These examples will to provide information that could be applied to the current and future access management problem areas identified in Iowa.

These examples will be organized in a case study format that can be applied in a practical way to specific Iowa locations of various population centers and highway characteristics. One important aspect of each case study will be to document design, planning, and policy practices that are key to economic development successes or failures.

Task 3: Access Management Working Session

The research team will meet with the Iowa DOT and other stakeholders to discuss potential strategies in addressing access management. To accomplish this, the research team will:

- 1. Identify current issues and specific potential problematic corridors where access management decisions will be critical over the next 5 to 10 years.
- 2. Meet with central office and district staff to get additional information on corridor issues and challenges
- 3. Facilitate a half-day work session to discuss findings and to develop a road map for the Iowa DOT to move forward on a comprehensive access management plan.
- 4. Research team will develop a draft implementation plan (Phase 2).

Staffing

Zach Hans, Chris Albrecht, Neal Hawkins

Schedule and Budget

The project duration is anticipated to be 12 months with a budget of \$35,000.

15



Location / T	Location / Title of Project Assessment of High Friction Surface Treatments					
Applicant	lowa D	OT, Office of Traffi	c & S	Safety		
Contact Pe	rson <u> </u>	nodynes	_	Title Traffic Safety Engineer		
Complete N	Address	800 Lincoln Way				
		Ames, IA 50010				
Phone	515-239-1349	E-Mai	I <u>T</u>	Tim.Simodynes@dot.iowa.gov		
1	(Area Code)					
If more tha fill in the ir	n one highway au formation below	uthority is involve (use additional sh	d in f neets	n this project, please indicate and ts if necessary).		
Co-Applica	nt(s)					
Contact Pe	rson		Ti	Title		
Complete Mailing Address						
Phone		E-Mail				
Thone	(Area Code)					
PLEASE C	OMPLETE THE F	OLLOWING PROJ	ЕСТ	T INFORMATION:		
Application	п Туре	Т	raffic	Site Specific ic Control Device Safety Study		
Funding A	mount					
	Total Project Cos	st	\$	250,000		
	Safety Funds R	equested	\$	50,000		

Assessment of High Friction Surface to Reduce Rural Lane Departure Crashes

Lane departure crashes are the single largest category of fatal and major injury crashes in Iowa. A total of 52% of fatal crashes are lane departures and that 39% of Iowa's fatal crashes are single-vehicle run-off-road. A number of treatments have been tried in Iowa including curve treatments (such as signs, markings, etc...), paved shoulders, centerline rumble strips, shoulder

rumble strips, and use of the Safety Edge. Another treatment which has shown promise nationally is application of high friction surfacing treatments to provide shorter stopping distances and better traction and control in curves and other critical decision-making areas.

The project proposes to identify several high crash lane departure sites in Iowa on rural roads including state and county systems. The research team will conduct a before and after analysis that includes the following tasks:

- 1. The collection of before data including the following:
 - Speed data
 - Lane position (lane tracking)
 - Friction data
 - Geometry data (curve length, curve radius, grade, cross-slope/super elevation)
 - Crash data
- 2. Apply surface treatment to a select group of sites
- 3. Collect after data including the following:
 - Speed data
 - Lane position (lane tracking)
 - Friction data
 - Geometry data (curve length, curve radius, grade, cross-slope/super elevation)
 - Crash data
- 4. Analysis of data and research findings

Research period: 24 months

Contact person: Neal Hawkins

Funding: \$250,000 (\$50,000 requested from TSIP) This idea was submitted to the Iowa Highway Research Board.



AASHTO's Strategic Highway Safety Plan identifies 22 goals for reducing fatal highway crashes. Two of the goals include keeping vehicles on the roadway and minimizing the consequences of leaving the road. One strategy for keeping vehicles on the roadway and thereby reducing the number of people killed by hitting fixed objects on the roadside is to use skid-resistant pavement surfaces.



Rev. 3/08

Application for TRAFFIC SAFETY FUNDS

Location / Tit	le of Project	Website: Profiles Presentation Materials Automation				
Applicant	lowa Departm	nent of Tra	nsportatio	n, Office c	of Traffic an	d Safety
Contact Pers	on <u>Michael D.</u>	Pawlovich	<u>1</u>	Title	Engineer	ety/Crash Data
Complete Ma	ailing Address	800 Linco	In Way			
	-	Ames, IA	50010			
Phone (5 (A	i15) 239-1428 rea Code)		E-Mail	Michael.	Pawlovich@	dot.iowa.gov
If more than fill in the info	one highway au ormation below	ithority is (use addit	involved tional she	in this pr ets if nec	oject, plea essary).	se indicate and
Co-Applicant	(s)					
Contact Person				Title		
Complete Mailing Address						
Phone			E-Mail			
	(Area Code)					
PLEASE CO	MPLETE THE FO		G PROJE	CT INFOF	RMATION:	
Application	Туре		Tra	Site affic Contr Safe	e Specific ol Device ety Study	
Funding Am	ount					
	Total Project Cos	t		\$ 50,00	0	
	Safety Funds Re	equested		\$_50,00	0	

- A. Not applicable.
- B. For the past several years, Iowa DOT, in collaboration with InTrans' ITSDS, has generated web-based county, city, and Iowa DOT district profiles which provide quick access to maps and basic crash counts. These profiles have included maps (JPGs and PDFs) and counts (HTML, Excel, and PDF) covering 15 primary topics of typical concern. However, generation of the profiles, despite some gradual gains in automation, has remained a time- and labor-intensive effort and thus limits expansion of the topics and jurisdictional divisions (e.g., ISP districts, school districts, MPOs, RPAs, legislative districts, etc.). Recent, further efforts towards full automation have begun on the data generation side, exhibiting the potential for reducing time and labor needs and increasing, quite readily, topical areas and jurisdictional divisions. However, without a complementary gain in automation on the presentation side, these data generation gains will be for naught.

The efforts related to this study will develop an automated method to generation the presentation materials for inclusion on the web-based profiles. It is envisioned that this automation will take the form of an easily expandable software tool that will take the data generation output and generate the maps and other output in user-friendly, quickly useable formats.

- C. Amount requested: \$40,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Applicant Iowa Department of Transportation, Office of Traffic and Safety							
n Data							
.gov							
If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).							
Complete Mailing Address							
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:							
Funding Amount							

- A. Not applicable.
- B. For the past several years, the Iowa DOT Office of Traffic and Safety (TAS) has been steadily increasing its web presence. Recently, the Iowa DOT Web Team has been revamping the entire Iowa DOT website, including that of TAS, and has completed the TAS portion within the past year. That being the case, TAS has now had time to consider how they might build upon these efforts to enhance their web presence with regard to safety information and data. For example, TAS might perhaps provide more information related to safety programs and safety analysis techniques, more links related to TAS-related safety partners and safety information, updated and expanded comparables (statewide averages), and/or several other potential safety-related information or data.

The efforts related to this study will identify deficiencies in the web presence of TAS and, to the extent possible, work towards removing these deficiencies. The study effort will be done in close collaboration with TAS and DOT Web Team personnel.

- C. Amount requested: \$15,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title of Project	SAVER: TraCS Local Data Converter						
Applicant Iowa Department of Transportation, Office of Traffic and Safety							
Contact Person Michael	Traffic Safety/Crash Data D. Pawlovich Title Engineer						
Complete Mailing Address	800 Lincoln Way						
	Ames, IA 50010						
Phone (515) 239-1428 (Area Code)	E-Mail Michael.Pawlovich@dot.iowa.gov						
If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).							
Co-Applicant(s)							
Contact Person	Title						
Complete Mailing Address							
Phone	E-Mail						
(Area Code)							
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:							
Application Type	Site Specific Traffic Control Device Safety Study						
Funding Amount							
Total Project C	ost \$_50,000						
Safety Funds	Requested \$ _50,000						

- A. Not applicable.
- B. Iowa's most comprehensive, robust safety analysis tool, the Safety Analysis, Visualization, and Exploration Resource (SAVER), has for years been designed to allow reasonably simple integration of any mapped data. Once integrated, SAVER capabilities such as querying, reporting, stacking, etc. would be fairly easily enabled as was recently demonstrated with roadway and traffic data. Additionally, the primary past impediment to broader distribution of SAVER namely, cost, will soon be removed due to the redevelopment of SAVER within a MapWindow GIS framework (see note below).

Taking advantage of the current SAVER redevelopment and responding to the recent Iowa Traffic Records Assessment, the study effort will involve developing a converter from Iowa's Traffic and Criminal System (TraCS) data collection (crash, citations, crime incidents, etc.) software to a SAVER-readable format. Once converted, these data will be available to local agencies via SAVER for inclusion in their safety analysis.

(Note: MapWindow GIS is a freely distributable GIS within which development of a combination Crash Mapping Tool (CMaT)/SAVER analysis tool is underway. Once complete, the MW-SAVER tool should mix the positive features of both tools...user-friendliness and ease-of-use combined with expanded functionality.)

- C. Amount requested: \$40,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Rev. 3/08

Application for TRAFFIC SAFETY FUNDS

Location / Title	e of Project	Statistical	Analysis:	Rural Ex	pressways		
Applicant Iowa Department of Transportation, Office of Traffic and Safety							
Contact Perso	n <u>Michael D</u> .	Pawlovich		Title	Traffic Sa Engineer	fety/Crash Data	
Complete Mailing Address		800 Lincol	n Way				
		Ames, IA	50010				
Phone (51 (Are	5) 239-1428 Pa Code)		E-Mail	Michael.	.Pawlovich@	@dot.iowa.gov	
If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).							
Co-Applicant(s	s)						
Contact Perso	n			Title			
Complete Mailing Address							
	_						
Phone			E-Mail				
-	(Area Code)		_				
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:							
Application T	уре		Tra	Sit affic Conti Saf	e Specific rol Device fety Study		
Funding Amount							
т	otal Project Cos	st		\$ 50,00	00		
S	afety Funds Re	equested		\$ 50,00	00		

- A. Not applicable.
- B. Over the past couple decades lowa DOT has expanded the rural, non-freeway expressway network within the state. More recently, concerns have been raised with regard to particular sections and intersections along this expressway network and problem locations have been studied and addressed in a variety of manners. However, no comprehensive safety analysis of the expressway network has been undertaken.

Through efforts related to this study, researchers will develop a statistical-based methodology to quantify potential safety-related issues particular to non-freeway expressways. Using historical records available from Iowa DOT, requisite data will be compiled and pertinent statistical models will be developed.

- C. Amount requested: \$50,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title of Project	Before/After: Paveo	r: Paved Shoulders w/ Rumble Strips					
Applicant Iowa Department of Transportation, Office of Traffic and Safety							
Contact Person Michael D	. Pawlovich	Traffic Safety/Crash Data Title Engineer					
Complete Mailing Address	800 Lincoln Way						
	Ames, IA 50010						
Phone (515) 239-1428 (Area Code)	E-Mail	Michael.Pawlovich@dot.iowa.gov					
If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).							
Co-Applicant(s)							
Contact Person		Title					
Complete Mailing Address							
-							
Phone	E-Mail						
(Area Code)							
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:							
Application Type	Tra	Site Specific affic Control Device Safety Study					
Funding Amount							
Total Project Cos	st	\$ _50,000					
Safety Funds R	equested	\$_50,000					

- A. Not applicable.
- B. lowa has for several years now had a both a paved shoulder and milled strip design policy (sections 3C-4 and 3C-5) and has, during that time, installed many miles of paved shoulders with rumble strips. With the abundance of sites and length of time post-installation, a comprehensive evaluation to quantify the effectiveness within lowa of these treatments should be undertaken.

Through efforts related to this study, researchers will develop a statistical-based methodology to quantify benefits of the paved shoulders with rumble strips. Using historical records available from Iowa DOT, requisite data will be compiled and pertinent statistical models will be developed.

C. Amount requested: \$50,000

D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.


Location / Title	of Project	Safety Analysis: One-Way Pairs							
Applicant Iowa Department of Transportation, Office of Traffic and Safety					nd Safety				
Contact Persor	n <u>Michael D</u> .	Pawlovich		Title	I raffic Sa Engineer	fety/Crash Data			
Complete Maili	ng Address	800 Lincol	n Way						
	-	Ames, IA	50010						
Phone (51) (Area	5) 239-1428 a Code)		E-Mail	Michael.	Pawlovich	@dot.iowa.gov			
If more than o fill in the infor	If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).								
Co-Applicant(s)								
Contact Persor	ו <u> </u>			Title					
Complete Maili	ng Address								
	_								
Phone _			E-Mail						
	(Area Code)								
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:									
Application Ty	уре		Tra	Site affic Contr Saf	e Specific ol Device ety Study				
Funding Amo	unt								
Тс	otal Project Cos	st		\$ 50,00	0				
Sa	afety Funds Re	equested		\$ _50,00	0				

Safety Analysis: One-Way Pairs

- A. Not applicable.
- B. In several communities within Iowa certain, busier routes have been directionally split, often with a city block or two separating the two directions of travel. These directional splits then operate with one-way operations, perhaps with parking and other access to local businesses, hence the name "one-way pairs". Conventional wisdom tends toward the belief that these one-way pairs operate more safely than conventional routes. Prompted primarily by an analysis of a one-way pair in the Mason City area, the conventional wisdom has recently been questioned.

The purpose of this study is to investigate the safety characteristics of one-way pairs and determine if there which particular features contribute to a more or less safe application. Through efforts related to this study, researchers will develop a statistical-based methodology to quantify benefits of the one-way pairs. Using historical records available from Iowa DOT, requisite data will be compiled and pertinent statistical models will be developed.

- C. Amount requested: \$40,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title of Project Before/After: Historical TSIP							
Applicant Iowa Department of Transportation, Office of Traffic and Safety						nd Safety	
Contact Person	Michael D.	Pawlovich		Title	Traffic Sa Engineer	tety/Crash Data	
Complete Mailin	g Address	800 Lincol	n Way				
	-	Ames, IA	50010			_	
Phone (515) (Area o	239-1428 Code)		E-Mail	Michael.	Pawlovich	@dot.iowa.gov	
If more than on fill in the inform	e highway au nation below	uthority is (use addit	involved ional she	in this pr ets if nec	oject, plea essary).	ase indicate and	
Co-Applicant(s)							
Contact Person				Title			
Complete Mailin	g Address						
	—						
Phone			E-Mail				
(A	vrea Code)						
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:							
Application Typ	De		Tra	Site affic Contr Safe	e Specific ol Device ety Study		
Funding Amou	nt						
Tot	al Project Cos	st		\$ 50,00	0		
Saf	ety Funds Re	equested		\$ _50,00	0		

- A. Not applicable.
- B. Iowa has had a fairly unique state-based, traffic safety-oriented funding mechanism, the Traffic Safety Improvement Program (TSIP), for many years now. Through this program, ½% of the state road use tax funds have been set aside for traffic safety-centered projects within three categories: site-specific, traffic control devices, and research, studies, or information initiatives. Funding applications are limited to city and county governments or the Iowa DOT and are subject to evaluation, partially based on a benefit/cost analysis (primarily site specific).

Though little doubt exists as to the benefits of the program, no comprehensive evaluation has been done to assess the effectiveness of those categories most readily quantifiable: the site-specific and traffic control device categories. Both of these categories have funded many roadway and traffic control improvements and plenty of before and after crash and roadway/traffic data exist for analysis.

Through efforts related to this study, researchers will develop a statistical-based methodology to quantify benefits of the TSIP site-specific and traffic control device categories. Using historical records available from the Iowa DOT Office of Traffic and Safety, requisite data will be compiled and pertinent statistical models will be developed.

- C. Amount requested: \$50,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title of Project Before/After: Historical HSIP							
Applicant Iowa Department of Transportation, Office of Traffic and Safety							
Contact Person Michael	D. Pawlovich Title Engineer						
Complete Mailing Address	800 Lincoln Way						
	Ames, IA 50010						
Phone (515) 239-1428 (Area Code)	E-Mail Michael.Pawlovich@dot.iowa.gov						
If more than one highway fill in the information belo	authority is involved in this project, please indicate and v (use additional sheets if necessary).						
Co-Applicant(s)							
Contact Person	Title						
Complete Mailing Address							
Phone	E-Mail						
(Area Code)							
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:							
Application Type	Site Specific Traffic Control Device Safety Study						
Funding Amount							
Total Project C	st \$ 50,000						
Safety Funds	Requested \$ _50,000						

- A. Not applicable.
- B. Iowa has participated for several years in the federal, traffic safety-oriented funding mechanism known as the Highway Safety Improvement Program (HSIP) and, prior to that, the federal, traffic safety-oriented funding mechanism known as the Hazard Elimination Program (HEP). Through this program, federal funds have been allocated to Iowa to address for traffic safety-centered issues. These funds have been primarily utilized for roadway safety improvement projects with recent examples including cable median barriers, paved shoulders with rumble strips, and curve signing.

Though little doubt exists as to the benefits of the program, no comprehensive evaluation has been done to quantify the effectiveness within Iowa. Through efforts related to this study, researchers will develop a statistical-based methodology to quantify benefits of the HSIP. Using historical records available from the Iowa DOT Office of Traffic and Safety, requisite data will be compiled and pertinent statistical models will be developed.

- C. Amount requested: \$50,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title of Project			Data Analysis: Crash Facts					
Applicant Iowa Department of Transportation, Motor Vehicle Division								
Contact Pe	rson	Scott Falb				Title	Statistica	al Analyst
Complete N	Mailing	Address						
			Ankeny, IA	50021				
Phone _	(515) (Area C	237-3154		E-Mail	Sc	ott.Fa	lb@dot.io\	wa.gov
If more tha fill in the ir	an one nforma	highway a ation below	uthority is i (use additi	nvolved onal she	in t ets	his pr if neo	roject, ple cessary).	ase indicate and
Co-Applica	nt(s)	Iowa Depar	tment of Tra	Insportati	on,	Motor	⁻ Vehicle D	Division
Contact Pe	rson	Kathy McLe	ear		Tit	tle _		
Complete N	Mailing	Address						
		-	Ankeny, IA	50021				
Phone	Phone (515) 237-3023 E-Mail Kathy.McLear@dot.iowa.gov							
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:								
Application Type			Tra	affic	Site Contr Saf	e Specific rol Device rety Study		
Funding A	moun	t						
	Tota	I Project Co	st		\$	20,00	00	
	Safe	ety Funds R	equested		\$	20,00	00	

- A. Not applicable.
- B. For a couple decades, the Iowa DOT Office of Driver Services (ODS) has developed a Crash Facts booklet that was printed annually. These Crash Facts booklets were primarily used by ODS and Iowa DOT to respond to common queries quickly. More recently, ODS has updated its web presence and is in the process of converting the Crash Facts book to a web publication, initially focusing on replication of the past Crash Facts booklet. Nearing completion of that effort, ODS is now refocusing on the possibility of enhanced or extended Crash Facts as publication via the internet is less cumbersome.

The purpose of this study is to support the development of presentation materials to support the web-based Crash Facts Manual available on the Iowa DOT ODS website. Output will be generated via internal DOT processes and these funds would support efforts to develop user-friendly templates containing presentation formats that could be utilized annually.

- C. Amount requested: \$20,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title of Project <u>CMV/Truck Statewide C</u>						Causation	Analysis	
Applicant Iowa Department of Transportation, Motor Vehicle Enforcement								
Contact Pers	on Maj. Lance	e Evans			Title	Motor Ve	hicle Commander	
Complete Ma	ailing Address							
	-	Ankeny, IA	50021					
Phone (5 (A	15) 237-3214 rea Code)		E-Mail _	D.I	Evans	@dot.iowa	gov	
If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).								
Co-Applicant	(s)							
Contact Pers	on			Tit	le _			
Complete Ma	ailing Address							
	_							
		_						
Phone	(Area Code)	E	-Mail _					
PLEASE CO	MPLETE THE FO		PROJEC	СТ	INFOF	RMATION:		
Application	Туре		Trat	ffic	Site Contr Saf	e Specific ol Device ety Study		
Funding Am	ount							
	Total Project Cos	st	:	\$_	50,00	0		
:	Safety Funds Re	equested		\$_	50,00	0		

CMV/Truck Statewide Crash Causation Analysis

- A. Not applicable.
- B. Heavy trucks have, on average, been associated with 53 fatal crashes and, resulting from that, 61 fatalities from 2006-2010 and are the primary focus of the Office of Motor Vehicle Enforcement (MVE) within Iowa DOT. Though numerous national studies have been conducted related to heavy truck causation, no rigorous study investigating Iowa heavy truck causation, location, and related factors has been done.

The purpose of this study is to investigate the causes, locations, and other factors related to heavy truckrelated crashes with an intent to support develop effective mitigation strategies. Through efforts related to this study, researchers will develop meaningful results that assist decision-makers in setting direction and priorities for the upcoming years.

Example factors of interest include driver actions/contributing circumstances, equipment failure, time of day/day of week, the possible impact of weather, driver age, roadway characteristics/classifications, and a typology of truck types.

- C. Amount requested: \$40,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Rev. 3/08

Application for TRAFFIC SAFETY FUNDS

Location / T	itle of Project	CHSP Statewide Crash Data Analysis					
Applicant <u>Iowa Department of Transportation, C</u>					Office of	of Traffic and Safety	
Contact Per	son <u>Mary Stah</u>	lhut			Title	Safety Program Manager	
Complete M	lailing Address	800 Lincol	n Way				
		Ames, IA	50010				
Phone (515) 239-1169 Area Code)		E-Mail	Ma	ary.Sta	hlhut@dot.iowa.gov	
If more that fill in the in	n one highway au formation below	uthority is i (use additi	involved ional she	in t ets	his pr if nec	oject, please indicate and essary).	
Co-Applican	nt(s)					_	
Contact Per	son			Tit	le _		
Complete M	lailing Address						
	_						
Phone			E-Mail				
	(Area Code)						
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:							
Application	а Туре		Tra	affic	Site Contr Saf	e Specific ol Device ety Study	
Funding Ar	mount						
	Total Project Cos	st		\$_	40,00	0	
	Safety Funds Ro	equested		\$_	40,00	0	

CHSP Statewide Crash Data Analysis

- A. Not applicable.
- B. By federal requirement, Iowa must develop and update a Comprehensive Highway Safety Plan (CHSP) at regular intervals. Iowa's last CHSP update was several years ago and a current update is underway. Any such CHSP update needs to be data driven. To this end, Iowa DOT seeks to undergo a rigorous data analysis to identify, analyze, and understand key traffic safety-related issues in the state towards mitigation of the issues through collaborative application of the 5Es of safety (i.e., Engineering, Enforcement, Education, Emergency Medical Services, and Everyone else).

The purpose of this study is to investigate the safety characteristics of lowa's roadways with the intent to identify, analyze, and understand key traffic safety-related issues. Through efforts related to this study, researchers will develop meaningful results that assist decision-makers in setting direction and priorities for the upcoming years.

- C. Amount requested: \$40,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title of Pr	roject Before/Aft	er: Cable M	ledian Barriers						
Applicant Iowa Department of Transportation, Office of Traffic and Safety									
Contact Person	Vichael D. Pawlovich	1	Traffic Sa Title Engineer	afety/Crash Data					
Complete Mailing A	ddress <u>800 Linco</u>	In Way							
	Ames, IA	50010							
Phone (515) 23 (Area Code	9-1428)	E-Mail <u>N</u>	lichael.Pawlovich	@dot.iowa.gov					
If more than one h fill in the information	If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).								
Co-Applicant(s)									
Contact Person		т	ītle						
Complete Mailing A	ddress								
Phone		E-Mail							
(Area)	Code)								
PLEASE COMPLE	TE THE FOLLOWIN	G PROJECT		:					
Application Type		Traffi	Site Specific c Control Device Safety Study						
Funding Amount									
Total P	roject Cost	\$	50,000						
Safety	Funds Requested	\$	50,000						

- A. Not applicable.
- B. Iowa has installed many miles of cable median barriers over the past several years with the intent to minimize or eliminate cross median-related crashes on rural interstates. Primarily targeted at locations identified as having high incidences of prior cross median-related crashes per the federal 5% Severe Safety Needs requirements, some of these installations have now been in place for a couple years and many other locations are either being installed or will be within the next couple years. Though the relative recent nature of the installations may mean we have limited data to complete a definitive analysis, it may be time to 1) undergo an initial, explorative analysis of the effectiveness of these barriers and 2) begin preparing the analytical and data framework for a subsequent more in-depth analysis which might be done in-house within the Office of Traffic and Safety at that time.

For the first portion, tasks might include identification of a) prior cross median crashes and b) post installation cable median barrier hits or cross median crashes. As these data are not readily available in the crash dataset, individual potential cases will likely need to be reviewed. Also, cases that may not have been reported as crashes but may have resulted in letters to the DOT could be documented and/or compiled.

For the second portion, through collaboration with the Office of Traffic and Safety, a data framework would be formulated for cable median barrier installation and attribute tracking and for linking to other pertinent datasets (e.g., crash, road) for preparation of an analytical dataset. Given this data framework and analytical dataset, statistical models would be developed to provide an initial assessment but also enable the future in-depth, periodic assessment of the ongoing program.

- C. Amount requested: \$50,000
- D. Time schedule: One year from contract start, anticipated to be initiated when funds are available.



Location / Title o	of Project	2012 Comprehensive Highway Safety Plan Development				
Applicant	lowa DOT, C	Office of Traffic and S	afety			
Contact Person	Mary Stah	nlhut	Title	CHSP Programs Manager		
Complete Mailin	g Address	800 Lincoln Way Ames, IA 50010				
Phone (515) (Area C	239-1169 Code)	E-Mail	mary.sta	ahlhut@dot.iowa.gov		
If more than on fill in the inform	e highway a nation below	uthority is involved (use additional she	in this p ets if neo	roject, please indicate and cessary).		
Co-Applicant(s)						
Contact Person			Title			
Complete Mailing	g Address					
Phone(A	- rea Code)	E-Mail				
PLEASE COMP	LETE THE F	OLLOWING PROJE	CT INFO	RMATION:		
Application Typ	0e	Tra	Site affic Contr Saf	e Specific rol Device fety Study		
Funding Amour	nt					
Tota	al Project Co	st	\$ 135,0	000		
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Application for TSIP Funds Project CHSP Development (Comprehensive or Strategic Highway Safety Plan)

Background

The State Safety Engineer has identified the need to develop and publish the next highway safety plan for lowa. Iowa has a legacy of multi-disciplinary efforts in highway safety, with specific efforts focused on shared planning and goals since federally mandated "Safety Management Systems" in 1995. The 1999 plan followed the AASHTO Strategic Highway Safety Plan model and the 2001 Iowa SMS Toolbox of Highway Safety Strategies further developed the knowledge and strategies shared among stakeholders.

The Iowa Comprehensive Highway Safety Plan was published in 2007, in compliance with the SAFETEA-LU federal funding and is now due for an update.

Project

This project will be under the direction of the State Safety Engineer and staff with input from partner leaders involved in the Iowa Traffic Safety Alliance (ITSA) and the Statewide Traffic Records Coordinating Committee (STRCC) and other agencies and entities with a role in Iowa's highway safety. The process will be facilitated with the assistance of a consultant.

The development and collaboration process usually includes one or two large events such as Safety Summits and a series of expert workshops focused on identifying datadriven strategies with the most promise to move Iowa "toward zero deaths" in motor vehicle crashes.

This application is to request funding , (\$35,000) for the series of events and workshops required to assemble the safety experts and determine the current status in Iowa as well as the most promising strategies to propose, and the steps for implementation

The portion of the project funding requested in this application (\$100,000) is to support strategies with the most promise to reduce injuries and deaths.

Estimated cost: \$35,000

Completion date: December 31, 2013



Rev. 3/08

Application for TRAFFIC SAFETY FUNDS

Location / Title of Project		Young Driver Driver Education - GDL video update				
Applicant	fice of Driver Servic	es				
Contact Person	Kim Snook		Title	Director, Office of Driver Services		
Complete Mailing	Address 6	310 SE Convenier	ice Blvd			
	4	Ankeny, IA 50306-9	9204			
Phone (515) 2	237-3253	E-Mail	kim.snoc	ok@dot.iowa.gov		
(Area Co	ode)					
If more than one fill in the information Co-Applicant(s)	highway aut ation below (u	hority is involved use additional she	in this pr ets if nec	oject, please indicate and cessary).		
Contact Person	Mary Schaer		Title _	Driver Education Program Administrator		
Complete Mailing	Address 6	310 SE Conveniend	ce Blvd			
	A	nkeny, IA 50306-9	204			
Phone (51 (Are	15) 237-3180 ea Code)	E-Mail _	mary.sch	aer@dot.iowa.gov		
PLEASE COMPL	ETE THE FO	LLOWING PROJE	CT INFOR	RMATION:		
Application Type		Tra	Site offic Contro Safe	e Specific ol Device ety Study ⊠		
Funding Amount	E					
Total	Project Cost		\$ 80,00	0		
Safe	ty Funds Req	uested	\$ 50,00	0		

Background

lowa first implemented a Graduated Driver License program for young drivers in 1999. As part of implementing the law and administrative rules, Iowa DOT produced a video to explain the GDL policy to new drivers and their parents. This video has been used extensively for more than a decade and is due for replacement to accommodate changes in young driver regulations and policies.

Enhancing the GDL laws in Iowa is identified in the Iowa Comprehensive Highway Safety Plan as a proven strategy that has potential to save lives. While, the law changes rest with our state legislature, the data behind this strategy can help direct driver education and public awareness efforts to better inform beginning drivers and their families of the highest risk behaviors and conditions for young drivers..

Project

The portion of the project funding requested in this application (\$50,000) is to support development and distribution of a data-driven approach to young driver safety, presented in an upbeat format that will instruct and appeal to the young driver target audience.

This project will be under the direction of the Office of Driver Services with input from partner leaders involved in the Iowa Traffic Safety Alliance (ITSA) Young Driver Team, related research and other agencies and entities with a role in Iowa's highway safety.

Estimated cost: \$50,000

Completion date: June 30, 2013



Location / Title of Project S	afety Education Collaboration
Applicant _ Iowa DOT, Offic	ce of Traffic and Safety
Contact Person Mary Stahlhu	ut Title CHSP Program Manager
80 Complete Mailing Address A	00 Lincoln Way mes, IA 50010
Phone (515) 239-1169 (Area Code)	E-Mail _mary.stahlhut@dot.iowa.gov
If more than one highway auth fill in the information below (u	ority is involved in this project, please indicate and se additional sheets if necessary).
Co-Applicant(s) lowa DOT, Off	fice of Driver Services
Contact Person Mary Schaer	Driver Education Program Title Administrator
Complete Mailing Address 63	10 SE Convenience Blvd
_A	nkeny, IA 50306-9204
Phone (515) 237-3180 (Area Code)	E-Mail _mary.schaer@dot.iowa.gov
PLEASE COMPLETE THE FOL	LOWING PROJECT INFORMATION:
Application Type	Site Specific Traffic Control Device Safety Study
Funding Amount	
Total Project Cost	\$ 20,000

Background

lowa DOT and Iowa Traffic Safety stakeholders involved in the Iowa CHSP development and the Iowa Traffic Safety Alliance have a strong interest in improving driver education and public information for drivers. Safety Education needs were identified throughout the 2007 Iowa Comprehensive Highway Safety Plan as a safety strategy needing improvement

This project would support internal and external collaboration for DOT and its safety partners to develop and implement more intentional alignment of public information and education efforts for the traveling public.

Project

This project will begin with a partnering between the Office of Traffic Safety, the Office of Driver Services, and other DOT entities. The requested funding (\$20,000) may be used for external assistance if needed, or development and implementation of identified education programs.

Estimated cost: \$20,000

Completion date: December 31, 2013





Location / Title of	f Project	Traffic Safety Cultur	re -PH II-	C: Findings from Research
Applicant	Marv Stahlh	ut		
Contact Person	Dan McG	ehee Public Policy Cente	Title	Director, Human Factors and Vehicle Safety Research Division
Complete Mailing	g Address	University of Iowa 205 South Quadran Iowa City, IA 52242	gle -1192	
Phone (319)	335-6819	E-Mail	daniel-n	ncgehee@uiowa.edu
(Area C	ode)			
If more than one fill in the inform Co-Applicant(s)	e highway a ation below Corinne Pe	uthority is involved v (use additional she eek-Asa, Ph.D.,	th this p ets if ne	Director of the University of lowa Injury Prevention
Contact r erson				
Complete Mailing	Address	202 IREH Oakdale F	Research	Campus -
		The University of low	va - Iowa	City, IA 52242
Phone <u>(3</u> (Ar	19) 335-489 ea Code)	95 E-Mail _	corinne-p	beek-asa@uiowa.edu
PLEASE COMPI	ETE THE F	OLLOWING PROJE	CT INFO	RMATION:
Application Typ	e	Tra	Sit affic Cont Sat	e Specific 🔲 rol Device 🔲 fety Study 🔀
Funding Amoun	t			

Application for TSIP Funds Traffic Safety Culture Part C - Findings from Research

Background

The Iowa Comprehensive Highway Safety Plan (CHSP) published in 2007 outlined Iowa's progression of multidisciplinary gains in highway safety over the past decades. Opportunities for further gains and specific strategies for implementation were identified and the concept of a "traffic safety culture" permeated the discussion of driver human behavior as the most challenging aspect of improving traffic safety.

One of the implemented CHSP strategies was a white paper titled "Improving Traffic Safety Culture in Iowa" (Phase I). Key findings in this ISU-InTrans study suggested the need to update an Iowa public opinion survey, and to synthesize related human behavior and sociology research findings among Iowa experts (Phase II). This proposal is Phase II: C.

Phase II Improving Traffic Safety Culture in Iowa

- A. ISU researchers will coordinate Phase II and provide an overall synthesis of key findings from the three Iowa Universities and Iowa Safety Stakeholders.
- B. UNI: In 2001, an "Iowa Strategic Highway Safety Plan Goals and Strategies: Statewide Survey of Adults" revealed underlying beliefs and attitudes of Iowans. A 10-year follow-up survey will be conducted by the University of Northern Iowa in 2011-2012.
- C. U of I: The University Public Policy and Injury Prevention Centers have done extensive research in human factors, driver behavior, and injury prevention behaviors. Some results of these efforts reveal specific human behavior and "safety culture" elements of interest to safety professionals seeking databased strategies that may influence driver behavior and reduce roadway fatalities, injuries, and losses in Iowa. This project will draw "Traffic Safety Culture Findings from Research" elements from a range of University research reports and studies.

Estimated cost: \$25,000

Completion date: December 1, 2012



Location /	Location / Title of Project					
Applicant Iowa DOT, Office of Traffic & Safety						
Contact Pe	erson <u> </u>	modynes		Title	Traffic Safety Engineer	
Complete	Mailing Address	800 Lincoln W	ay			
		Ames, IA 5001	10			
Phone	515-239-1349	E-N	/lail T	īm.Sir	modynes@dot.iowa.gov	
	(Area Code)					
If more th fill in the i	an one highway a information below	uthority is invol / (use additional	ved in t sheets	this pr if neo	roject, please indicate and cessary).	
Co-Applica	ant(s)					
Contact Pe	erson		Ti	tle _		
Complete	Mailing Address					
Phone	(Area Code)	E-M	ail			
	(////200000)					
PLEASE (COMPLETE THE F		OJECT	INFO	RMATION:	
Applicatio	on Type		Traffic	Site Contr Saf	e Specific rol Device rety Study	
Funding A	Amount					
	Total Project Co	st	\$	20,	000	
	Safety Funds R	equested	\$	20,	000	

Evaluating the Effectiveness of Iowa's Road Safety Audit Program

Iowa safety advocates recognized the importance and potential value of road safety audits very early. One of the eight safety program strategies that became a part of the 2006 "Iowa Comprehensive Safety Plan" was the identification of "Safety Corridors". This process uses an audit review process with crash data and field reviews with a multi-disciplinary team to identify countermeasures which could be applied to those segments which when implemented can substantially reduce both fatalities and crashes. All this began shortly after the FHWA released "FHWA Road Safety Audit Guidelines" and training opportunities in 2005.

Seven RSA's have been conducted on Iowa DOT routes, and seven on county road segments during the past four years. In addition, three RSAs examined intersections. All of these reports included recommendations for consideration by the highway jurisdiction(s) involved for addressing identified safety concerns.

This study proposes a thorough review of the results of the road safety audits performed in Iowa, positive, neutral, and even negative. Report recommendations will be reviewed to determine which were actually implemented, and if not, why not? For those implemented improvements that have been in place one year or longer, before and after crash analyses will be conducted. Completon of this evaluation will be invaluable in determining beneficial scope and direction for the Iowa RSA program in the future.

Funds will be used for expenses incurred in conducting the reviews, report writing and editing and publishing reports.

PI's Tom McDonald and Bob Sperry (InTrans)

Estimated Cost: \$20,000



Location /	Title of Project	Continuation of Iowa's Road Safety Audit Program					
Applicant	Iowa	DOT, Office of Traf	fic & S	afety			
Contact P	erson <u> </u>	imodynes		Title Traffic Safety Engineer			
Complete	Mailing Address	800 Lincoln Wa	y				
		Ames, IA 50010)				
Phone	515-239-1349	E-Ma	ail <u>T</u>	im.Simodynes@dot.iowa.gov			
	(Area Code)						
If more th fill in the i	an one highway a information belov	authority is involv v (use additional s	ed in t sheets	his project, please indicate and if necessary).			
Co-Applica	ant(s)						
Contact P	erson			tle			
Complete	Mailing Address						
Phone		E-Ma	il				
	(Area Code)						
PLEASE (COMPLETE THE I	FOLLOWING PRO	JECT	INFORMATION:			
Applicatio	on Type		Traffic	Site Specific Control Device Safety Study			
Funding /	Amount						
	Total Project Co	ost	\$_	20,000			
	Safety Funds F	Requested	\$	20,000			

Continuing Iowa's Road Safety Audit Program

In 2007, Iowa and Missouri cooperated in a synthesis review of established safety corridors in the United States and the final project report was submitted in 2008. With the intent of establishing a safety corridor program, the Iowa DOT requested that several road safety audits be conducted on roadway segments which had exhibited exceptionally high crash histories. Funding available from the synthesis project was utilized by the Institute for Transportation to accomplish those and subsequently several additional audits on both state and local roads. However now those funds have been exhausted.

Over the past several years, involvement in the safety audit process has been good by the DOT and individual counties, but many new opportunities for successful future audits exist. The release of newly updated top 5% crash locations will also provide many new candidates for safety audits which can be accomplished simply by request of the Iowa DOT for state owned routes and by request of the county or city engineer for local segments. Involving additional local agency staff in the audit process gives a sense of "ownership" in a beneficial solution and builds on the importance of a multi-disciplinary approach to problem solving. This incidently supports (and strengthens) efforts in another area, the establishment and support of multidisciplinary teams around the state. Involvement of local agencies on these RSAs provides the opportunity to identify and utilize local safety "champions" with whom to work in the future. However to continue this proven valuable process, additional funding is needed.

This proposal requests funding for a continuation of thorough road safety audits with suggested countermeasures that an agency may choose to implement to improve safety. Funds will be used for expenses incurred in conducting the audits, report writing, editing, and publishing reports.

PI's Tom McDonald and Bob Sperry (InTrans)

Estimated Cost: \$20,000



Location / Title of Project		Prioritization of Traffic Safety Fund Projects						
Applicant	lowa I	DOT, Office of Tra	affic & S	Safety				
Contact P	erson <u> </u>	modynes		Title	Traffic Safety Engineer			
Complete	Mailing Address	800 Lincoln W	'ay					
		Ames, IA 5001	10					
Phone	515-239-1349	E-N	/ail _]	Fim.Sin	nodynes@dot.iowa.gov			
	(Area Code)							
If more th fill in the i	an one highway a information below	uthority is invol v (use additional	ved in sheets	this pr s if nec	oject, please indicate and essary).			
Co-Applica	ant(s)							
Contact P	erson		Ti	tle _				
Complete	Mailing Address							
Phone		E-M	ail					
	(Area Code)							
PLEASE	COMPLETE THE F		OJECT	INFOF	RMATION:			
Applicatio	on Type		Traffic	Site Contro Safe	e Specific ol Device ety Study			
Funding /	Amount							
	Total Project Co	st	\$	50,0	000			
	Safety Funds R	equested	\$	50,0	000			

Proposed traffic safety research:

A Synthesis of the State-of-the Art on Prioritization of Traffic Safety Funds – comparison with Iowa's Safety Programs and B/C spreadsheet model

Principal Investigators (PI): Nadia Gkritza, InTrans Consultant: Reg Souleyrette, University of Kentucky

A. Application Certification or Resolution

N/A

B. Narrative

The research proposed is to investigate the state-of-the-art in the selection procedures of safety projects/programs throughout the United States. This research will include a review of the current safety programs in Iowa, compare these to those in other States, and provide a synthesis of the current practice in the prioritization of traffic safety funds. "Best practices" resources for the review and synthesis also will include Chapter 7 (Economic Appraisal) and Chapter 8 (Prioritize Projects) of the Highway Safety Manual (Volume 1); and Module 3 (Economic Appraisal and Priority Ranking) of FHWA's SafetyAnalyst. Additional insights will be gathered from a survey of state safety engineers on the state-of-the-art on prioritization of safety funds. It is anticipated that this survey will be distributed through the NSEL list serve with the assistance of the Office of Traffic and Safety staff. The PI will design the survey instrument in consultation with the TAC and a graduate student will conduct the analysis of the responses. It is anticipated that the tools and procedures used would differ based on the scope and of the safety program as well as the geographical (corridor, region, state) and temporal (short-run versus long-run) dimensions of the program.

The primary benefit of this research project will be a better understanding the applicability of economic analysis tools (such as B/C, incremental B/C, NPV and other) for developing a list of and selecting candidate traffic safety projects, in terms of appropriate and inappropriate uses, relevant types of projects for analysis, level of effort and resources, as well as provide a framework for establishing priorities across Iowa's safety programs. Furthermore, the recommendations offered to the Office of Traffic and Safety could have a direct implementation on Iowa's current B/C spreadsheet model.

C. Estimated Cost

\$50,000

D. Time Schedule & Tentative Tasks

July 1, 2012-December 31, 2013

	Month																	
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Selection of TAC members																		
2. Review of Iowa's safety programs																		
3. Design and dissemination of state safety engineers' survey																		
4. Analysis of state safety engineers' survey responses																		
5. Synthesis of the state-of-the-art and recommendations																		
6. Implementation/transfer plan																		
7. Report preparation																		



Location /	Title of Project	Operational Evaluation of Suburban Growth Corridors						
Applicant	lowa l	DOT, Office of	Traffic &	Safety	/			
Contact P	Person Tim S	modynes		Title	e Traffic Safety Engineer			
Complete	Mailing Address	800 Lincolr	n Way					
		Ames, IA 5	0010					
Phone	515-239-1349		E-Mail	Tim.S	imodynes@dot.iowa.gov			
	(Area Code)							
lf more th fill in the	nan one highway a information belov	uthority is in / (use additio	volved in nal shee	n this ets if ne	project, please indicate and ecessary).			
Co-Applic	ant(s)							
Contact P	erson			Title				
Complete	Mailing Address							
Phone		E	E-Mail					
	(Area Code)							
PLEASE	COMPLETE THE F	OLLOWING	PROJEC	T INFO	DRMATION:			
Applicati	on Type		Traf	S fic Cor Sa	ite Specific trol Device afety Study			
Funding	Amount							
	Total Project Co	st	9	§ <u>60</u>	,000			
	Safety Funds F	equested		§ <u>60</u>	,000			

<u>Title</u> Operational Evaluation of Urban Growth Corridors

Narrative

This research will analyze recent and current practices for the design, growth and development of highway corridors adjacent to high-growth areas. It will consider operational and safety effects of alternative methods of corridor management.

<u>Applicant</u> Tim Simodynes Office of Traffic & Safety



Location / T	itle of Project	Evaluation of Rural Intersection Treatments						
Applicant	lowa D	OT, Office of Traffic	& S	Safety				
Contact Per	rson <u>Tim Sir</u>	nodynes		Title Traffic Safety Engineer				
Complete M	ailing Address	800 Lincoln Way						
		Ames, IA 50010						
Phone _	515-239-1349	E-Mail	_т	Tim.Simodynes@dot.iowa.gov				
((Area Code)							
If more tha fill in the in	n one highway au formation below	uthority is involved (use additional she	l in t eets	this project, please indicate and s if necessary).				
Co-Applicar	nt(s)							
Contact Per	rson		Tit	ïtle				
Complete Mailing Address								
	_							
Phone		E-Mail						
	(Area Code)							
PLEASE C	OMPLETE THE F	OLLOWING PROJE	СТ	INFORMATION:				
Applicatior	п Туре	Tr	affic	Site Specific c Control Device Safety Study				
Funding A	mount							
	Total Project Cos	st	\$	120,000				
	Safety Funds R	equested	\$	90,000				

Title: Evaluation of Rural Intersection Treatments

Problem: Rural intersection crashes can be very severe due to the high approach speeds present. Crashes at rural intersections are frequently a result of failure to yield. Various intersection treatments, such advance stopline rumble strips or overhead flashing beacons, are used to alert drivers to the presence of an intersection but the effectiveness of the various treatments is not well documented.

Objective: The objective of this research is to evaluate the effectiveness of rural intersection treatments on safety. In particular, the study will focus on which driver behaviors lead to unsafe conditions and evaluate how the treatments affect those behaviors. The study will focus on rural stop or yield control intersections.

Project tasks: A brief list of tasks to complete the research include the following:

- Summarize effectiveness of known intersection treatments: This may include advance stopline rumble strips, overhead flashing beacons, etc. Results will be in the form of a guidebook which can be used by rural agencies in selecting treatments.
- Identify standard and innovative intersection treatments: Standard treatments would only be included if little information is available about their effectiveness. Treatments may include the following:
 - Stop sign beacons
 - In pavement lighting
 - $\circ~$ Flashing stop signs activated by vehicle speed The team will work with agencies that are in the process of implementing innovative
 - treatments and will work with vendors to identify treatments.
- Select 4 to 5 high crash intersections
- Collect before data on driver safety behavior: This may include metrics such as yield rate, speed reduction, etc.
- Apply treatments
- Collect after data
- Analyze data
- Document results

Benefits of Research: The main benefit is additional information for agencies to select treatments for problematic rural intersections.

Amount Requested: The estimated amount to complete the project is \$120,000. A total of \$90,000 is requested from $\frac{1}{2}$ percent. The remaining funds will requested from the Iowa Highway Research Board.

Timeline:

- May 1, 2012: Project start date
- June 1, 2012: Select project sites
- July 1, 2012: Collect before data
- Aug 1, 2012: Install treatments
- Sept1, 2012: Collect 1-month after data

Dec 15, 2012: interim report summarizing treatments Sept 1, 2013: collect 1 year after data November 30, 2013: submit final report


Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project		Evaluation of Oversize Chevrons		
Applicant Iowa DOT, Office of Traffic & Safety				
Contact Person Michael Pa		awlovich	Tit	e Traffic Safety Engineer
Complete Mailing Address		800 Lincoln Way		
		Ames, IA 50010		
Phone 5	515-239-1428	E-Mail	Micha	el.Pawlovich@dot.iowa.gov
(Area Code)			
If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).				
Co-Applicar	nt(s)			
Contact Person			Title	
Complete Mailing Address				
Phone		E-Mail		
	(Area Code)			
PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:				
Application Type		Tra	Site Specific Traffic Control Device Safety Study	
Funding Amount				
	Total Project Cos	st	\$	45,000
	Safety Funds R	equested	\$	45,000

Title: Evaluation of Oversized Chevrons

Problem: Rural lane departure crashes on curves are a serious concern in Iowa. One strategy that has been tested in Iowa and other states is using a larger size chevron than called for in the MUTCD. The larger size is used for greater visibility to alert drivers that they are entering a curve. Although this strategy is low cost has been used in Iowa and other locations, the effectiveness has not been established.

Objective: The objective of this research is to evaluate the effectiveness of large (oversized chevrons) in reducing crashes on rural curves.

Project tasks: A brief list of tasks to complete the research includes the following:

- Summarize effectiveness of chevrons
- Identify sites in Iowa where oversized chevrons have been applied
- Collect site data and crash data
- Conduct statistical analysis of before and after crashes
- Document results

Benefits of Research: The main benefit is additional information for agencies to select treatments for problematic rural curves.

Amount Requested: The estimated amount to complete the project is 45,000. A total of 45,000 is requested from $\frac{1}{2}$ percent.

Timeline:

June 1, 2012: Project start date July 1, 2012: identify locations Aug 1, 2012: Collect crash data/make site visits if necessary Jan 1, 2013: conduct crash analysis June 30, 2013: submit final report