Traffic Safety Improvement Program

Studies, Research, Public Information Initiatives Category
FY 2021

4th Street Sioux City 1940's

Applications Received by August 15, 2019

STUDIES, RESEARCH, PUBLIC INFORMATION INITIATIVES

FY 2021

Page No.	Applicant	Title/Subject	$ $ $	
			Project	Request
4	Iowa DOT-Systems Planning	Statewide/ Bicycle Safety Media Campaign	$25,000	$20,000
13	Iowa DOT – Traffic & Safety Bureau	Applications of the Iowa Curve Database (Phase I)	$150,000	$150,000
15	Iowa DOT – Traffic & Safety Bureau	Evaluating Traffic Incident Management Plans using probe Data	$100,000	$100,000
17	Iowa DOT – Traffic & Safety Bureau	Iowa Crash Analysis Tool (ICAT) Training (Phase III)	$70,000	$70,000
19	Iowa DOT – Traffic & Safety Bureau	Statewide Multi-Disciplinary Safety Team (MDST) Facilitator Program	$50,000	$50,000
21	Iowa DOT – Traffic & Safety Bureau	Iowa Roundabout Conference	$50,000	$50,000
23	Iowa DOT – Traffic & Safety Bureau	Safety Improvements Database (Phase I)	$175,000	$175,000
26	Iowa DOT – Traffic & Safety Bureau	Evaluating the Impact of Stop Bars on Stopping Behavior	$60,000	$60,000
28	Iowa DOT – Traffic & Safety Bureau	Inventory of Three-Lane Road Characteristics, Origins, and Impacts	$40,000	$40,000
30	Iowa DOT – Traffic & Safety Bureau	Work Zone Sign Package Program Extension	$60,000	$60,000
32	Iowa Department of Transportation	Work Zone Safety Training	$90,000	$35,000
35	Iowa DOT	Traffic Safety Outreach Videos	$75,000	$50,000
38	Iowa Department of Transportation; Rail Transportation Bureau	Railroad Crossing Safety Education Support	$72,000	$42,000
43	Sam Sturtz	Non-motorized traffic monitoring: Phase 4	$39,664	$39,664
46	Iowa DOT	Purchase the 2020 MUTCD for the DOT, cities and counties	$90,000	$90,000

	Totals	**Projects**	**$1,146,664**	**$1,031,664**

Rev. 6/16

Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project: Statewide/ Bicycle Safety Media Campaign

Applicant: Iowa DOT - Systems Planning

Contact Person: Craig Markley Title: Office Director

Complete Mailing Address: 800 Lincoln Way
Ames, IA 50010

Phone: 515-239-1027 (Area Code) E-Mail: craig.markley@iowadot.us

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): Iowa Bicycle Coalition

Contact Person: Mark Wyatt Title: Executive Director

Complete Mailing Address: P.O. Box 5562
Coralville, IA 52241

Phone: 515-309-2867 (Area Code) E-Mail: mark@iowabicyclecoalition.org

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

- Site Specific ☐
- Traffic Control Device ☐
- Safety Study ☒

Funding Amount

Total Safety Cost	$ 25,000
Total Project Cost	$ 25,000
Safety Funds Requested	$ 20,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?
☒ Yes – Explain Study
☐ No

Rev. 6/16

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the IOWA DOT

Signed: _____ 8-16-2019

Signature Date Signed

CRAIG MARKLEY

Typed Name

Attest: _____

Signature Date Signed

_____

Typed Name

NARRATIVE outlining the proposed concept and the goals or expected results.
Include statewide applicability, and provide adequate transportation safety justification.

Overtaking crashes involving bicycles are a problem in Iowa. Statistics suggest Iowa's average of fatal overtaking crashes is larger than the national average. Efforts need to be expanded to decrease overtaking crashes involving bicycles.

Bicyclists killed by motorists dropped from 11 in 2016 to five in 2017, but four of the five crashes involved younger persons under 16 years old. Nonfatal crashes involving bicyclists under 16 years old dropped at 11% — lesser than the overall percentage. Crashes involving kids under 16 also increased in sidewalk and trail intersections and increased in 25 mph speed zones. Eight bicyclists lost their lives in fatal bicycle crashes in Iowa during 2018.

Recently, the Iowa Attorney General issued a letter of advice to the Iowa DOT on passing bicyclists. The letter of advice stated, "1. A bicycle does constitute a "vehicle" under Iowa Code §321.299; and 2. The rules set forth in that section relating to the overtaking and passing of vehicles also apply to the overtaking and passing of bicycles." The Iowa DOT changed the drivers' manual to reflect this by changing the manual to read, "Give bicycle riders the room they deserve and need for safety. When passing a bicycle rider, pass as if the cyclist were a vehicle and move into the other lane."

Anecdotally, most Iowans understand this when driving. People riding bicycles on streets or highways will have a story of one or two motorists that "buzz" the riders. Operationally, motorists need to treat people riding bicycles as they would any other vehicle and change lanes to pass. An informational campaign will be focused on the change lanes to pass bikes message.

The Iowa Bicycle Coalition recommends an informational awareness campaign on passing bicyclists safely.

Mass Media
Create an intensive local media campaign for radio stations.

15 second spot:
Hey you - behind the wheel – share the road with people on bicycles. Remember to always change lanes when passing cyclists - just like you do with any other vehicle. Remember, cyclists' lives are in your hands.... Get more safety tips at Iowa Bicycle coalition dot org

ESTIMATED COST including a list of the sources and amounts of supplementary funds (itemized if possible).

Item	Quantity	Cost/Unit	Total Cost	TSIP	In-kind
Des Moines Radio Group Marketing Package	1	$12,500	$12,500	$10,000	$2,500
Radio Iowa Learfield/IMG College Marketing Package	1	$12,500	$12,500	$10,000	$2,500
TOTAL			$25,000	$20,000	$5,000

[1] People for Bikes Community Grant

A TIME SCHEDULE for the proposed project with a completion date.

Mass Media

- Des Moines Radio Group
  - Timeframe: July 1, 2020 to August 31, 2020
  - 274 spots across eight (8) stations; 300 air promos promoting a bicycle quiz
  - Duration: 15 second spots
  - Scope is attached.

- Radio Iowa - Learfield/IMG College
  - Timeframe: August 12, 2020 to September 2, 2020
  - 32 paid spots, 8 bonus spots across 71 stations.
  - Duration:30 second spots
  - Scope is attached.

Iowa Bicycle Coalition

July – August 2020

Prepared for Mark Wyatt, Iowa Bicycle Coalition

Presented by Ryan Patrick, Des Moines Radio Group

8/5/2019

The Des Moines Radio Group has had a long history with the Iowa Bicycle Coalition and we are excited to partner once again in 2020 as we continue to increase public awareness of bicyclists, specifically with motorists. We are looking to continue that partnership with a safety campaign in the Summer of 2020. As the number of bicyclists, bike lanes and trails continue to grow in central Iowa, we want to ensure their safety is top of mind with people behind the wheel.

Advertising

Bicycle safety is important to everyone, from 8 to 80. Our portfolio of stations will be able to get your message out across platforms and demographics our stations include:

KSTZ – Star 102.5
KMYR – More 104.1
KAZR – Lazer 103.3
KIOA - HD2 - Hits 99.9
KRNT –AM – 1350 ESPN
KSTZ -HD2 - 97.3 The Outlaw
KAZR -H2 – 104.5 Pure Oldies

We have a variety of different ways that we can package your message at the Des Moines Radio Group. This particular package has:15 spots to maximize your message, while fitting into your budget.

We want to do everything we can to ensure that the public awareness campaign is a success. The Des Moines Radio Group will supply a 25% matching schedule, stretching you advertising dollar further.

The Iowa Bicycle Coalition will receive a minimum of 274 (:15) second spots from July 1st 2018 – September 15, 2020. In addition, you'll be included in 300 on air promos promoting a bicycle safety quiz online at our station websites.

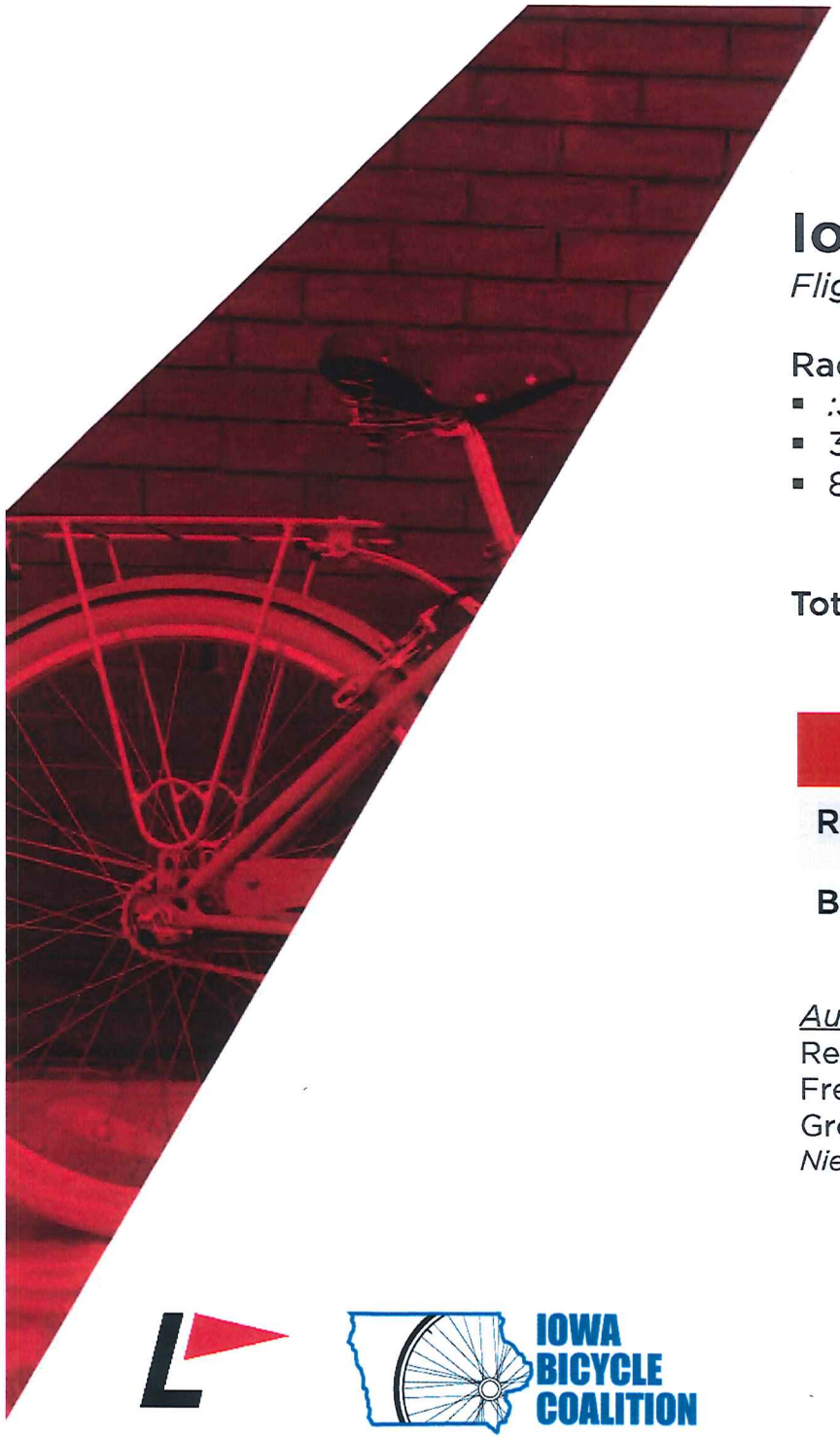
Total cost: **$10,000**

IOWA BICYCLE COALITION

Learfield | IMG College

Sean Manning
Account Executive

M: 612-512-7568
E: smanning@learfield.com



Iowa Bicycle Coalition

Flight: Four Weeks, TBD

Radio Iowa

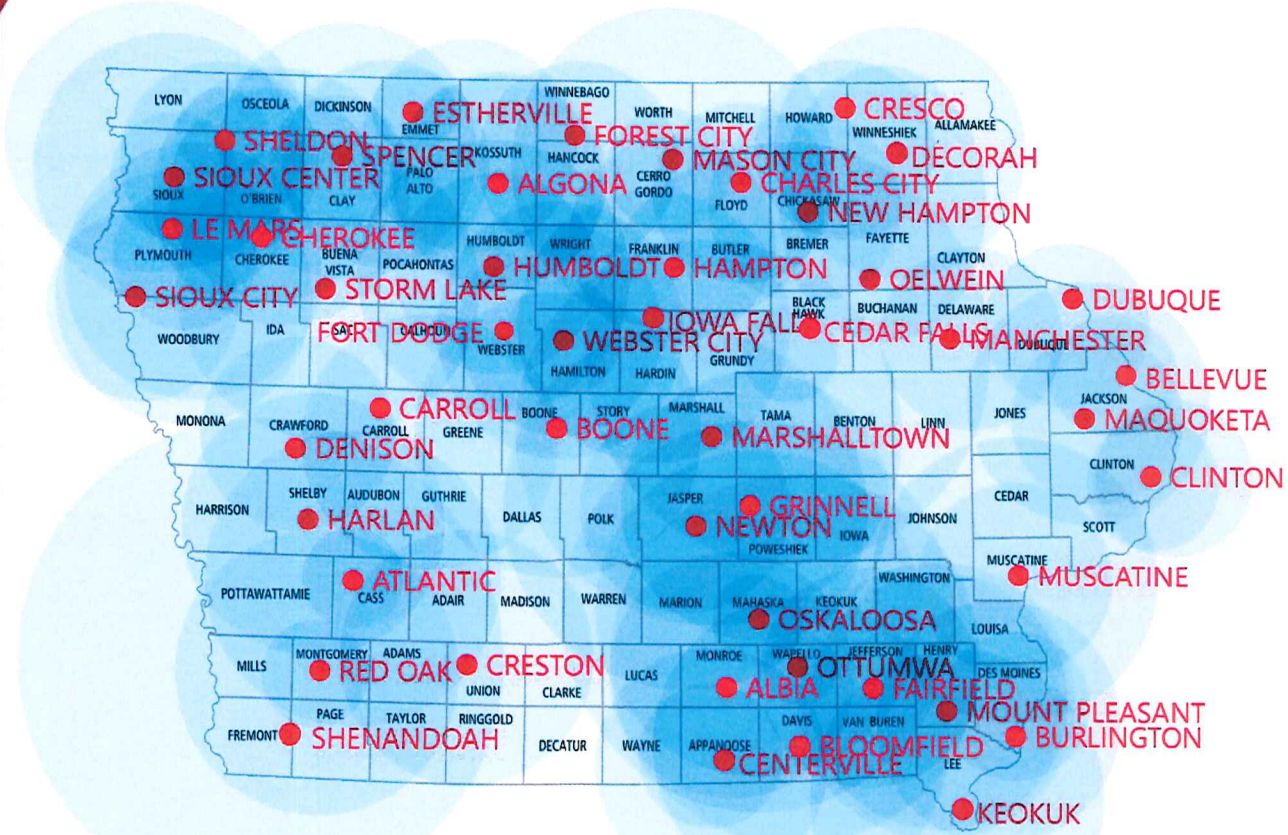
- *:30-second messages*
- 32 paid messages
- 8 bonus messages

Total Investment: $10,000 net

	8/12	8/19	8/26	9/2	TOTAL
Radio Iowa	8	8	8	8	32
Bonus	2	2	2	2	8

Audience Estimates, Persons 18+
Reach: 328,400
Frequency: 2.8
Gross Impressions: 913,600
Nielsen TAPSCAN, NRD, Fall 2018

IOWA BICYCLE COALITION



KIIC-FM	Albia
KLGZ-AM	Algona
KLGZ-F2	Algona
KLGA-FM	Algona
KJAN-AM	Atlantic
KJAN-F2	Atlantic
KMAQ-F2	Bellevue
KUDV-FM	Bloomfield
KWBG-AM	Boone
KBUR-AM	Burlington
KBUR-F2	Burlington
KCIM-AM	Carroll
KCNZ-AM	Cedar Falls
KCNZ-F2	Cedar Falls
KCOG-AM	Centerville
KCOG-F2	Centerville
KCHA-AM	Charles City
KCHE-AM	Cherokee
KCHE-FM	Cherokee
KROS-AM	Clinton
KROS-F2	Clinton
KCZQ-FM	Cresco
KSIB-FM	Creston
KDEC-AM	Decorah
KDSN-AM	Denison
KILR-AM	Estherville
KILR-F2	Estherville
KMCD-AM	Fairfield
KIOW-FM	Forest City
KVFD-AM	Ft. Dodge
KGRN-AM	Grinnell
KLMJ-FM	Hampton
KNOD-FM	Harlan
KHBT-FM	Humboldt
KIFG-FM	Iowa Falls
KOKX-AM	Keokuk
KLEM-AM	Le Mars
KLEM-F2	Le Mars
KMCH-FM	Manchester
KMAQ-AM	Maquoketa
KMAQ-FM	Maquoketa
KFJB-AM	Marshalltown
KRIB-AM	Mason City
KRIB-F2	Mason City
KILJ-AM	Mount Pleasant
KILJ-FM	Mount Pleasant
KWPC-AM	Muscatine
KWPC-F2	Muscatine
KCZE-FM	New Hampton
KCOB-AM	Newton
KCOB-FM	Newton
KOEL-AM	Oelwein
KBOE-FM	Oskaloosa
KMZN-AM	Oskaloosa
KMZN-F2	Oskaloosa
KBIZ-AM	Ottumwa
KBIZ-F2	Ottumwa
KOAK-AM	Red Oak
KOAK-F2	Red Oak
KIWA-AM	Sheldon
KIWA-AM	Sheldon
KCSI-FM	Shenandoah
KSOU-AM	Sioux Center
KSOU-F2	Sioux Center
KSOU-FM	Sioux Center
KSCJ-AM	Sioux City
KSCJ-F2	Sioux City
KICD-AM	Spencer
KICD-F2	Spencer
KAYL-FM	Storm Lake
KZWC-AM	Webster City
KZWC-F2	Webster City
KQWC-FM	Webster City

RADIOIOWA

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Applications of the Iowa Curve Database (Phase I)

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Leilah Armstrong Title Safety Countermeasures Engineer

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone (515) 239-1623 E-Mail leilah.armstrong@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 150,000
Total Project Cost	$ 150,000
Safety Funds Requested	$ 150,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐Yes – Explain _____

X No

Project Title: Applications of the Iowa Curve Database (Phase I)

Problem: According to Iowa DOT's crash database, over the past five years almost 7700 fatal and serious-injury crashes occurred in Iowa, of which more than 20% were run-off-the-road crashes. Many of these casualties occurred at curves, but the relationships between crash prevalence and features such as curve geometry, signage, and the presence of barriers are not entirely clear.

Over the past several years, considerable effort has been devoted to developing a horizontal curve database for primary highways and paved secondary highways in Iowa. Recent work included applying a curve-finding algorithm to GIS centerline data, followed by manual quality assurance to verify the accuracy of the resulting curve data and correct errors. Although some manual verification work is ongoing, the curve database is rapidly reaching the point where it is ready for trial applications.

Objective: The purpose of this project is to explore the capabilities of the curve database as a systemic basis for identifying curve-related safety problems, and to determine whether any further refinements of the database are required. More specifically, the project will probe the interactions between curve crash rates and factors such as the sharpness of the curve, the driving environment (urban/rural), signage, and roadside features such as guard rails, shoulders, and rumble strips. The project will examine factors contributing to curve-related crashes, such as weather conditions, to explore whether countermeasures such as high friction surfacing might be appropriate. The project will also examine intersections on curves to determine whether these sites require special attention. This will require considerable effort to combine and reconcile GIS data from various sources.

Project Tasks: The following tasks are anticipated as a part of this study:

1. **Compute curve crash rates.** A methodology will be developed to compute curve crash rates by combining the curve database with traffic volume data.
2. **Develop curve risk model.** By combining the crash rates computed in the previous task with information about curve geometrics, risk factors, and existing safety treatments, this task will develop a curve risk model calibrated to Iowa conditions.
3. **Identify high-risk curves.** Based on the results of the previous task, high-risk curves will be identified. This will include three separate analyses:
    - Hot Spots: Locations where the actual crash history exceeds the risk predicted based on the curve's physical features
    - Latent Risks: Locations whose physical features indicate a high crash risk, but so far have been relatively free of incidents.
    - Weather Risks: Locations where weather conditions appear to contribute to curve-related crashes.
4. **Prepare Project Report.** A final report will be prepared that identifies the results of these tasks and recommends follow-up actions.

Benefits of Research: By serving as a proof-of-concept for GIS applications to identify and ameliorate high-risk curves, this project will lay the groundwork for future curve safety efforts. It will demonstrate the potential for automated methods to identify candidate curve safety project locations. In the long run, it can be expected to lead to improved methods for prioritizing systemic curve safety improvements, determining the most cost-effective safety treatments, and enhancing guidance for curve design, marking, and signing.

Estimated Cost: $150,000
Proposed Schedule: 24 months

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Evaluating Traffic Incident Management Plans using Probe Data

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Willy Sorenson Title Traffic & Safety Engineer

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone (515) 239-1212 E-Mail willy.sorenson@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 100,000
Total Project Cost	$ 100,000
Safety Funds Requested	$ 100,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

X No

Project Title: Evaluating Traffic Incident Management Plans using Probe Data

Problem: The Iowa DOT has Traffic Incident Management Plans (TIM) across the state which is used by emergency responders, local officials and the DOT to quickly and effectively respond to incidents which occur on the roadway. The DOT works with local and state agencies to develop these plans. The DOT does not have any recommendations or guidance when developing these plans and relies on local knowledge to identify the best alternative routes. In addition, these plans typically are not re-evaluated after an incident has occurred unless significant limitation were identified. These plans will have multiple detour routes including both local and global detours which are prioritized. Responders may be deployed to guide drivers to follow the detour routes or DMS can be used to notify drivers. It is unknown how many drivers will follow the detour as well as what the impacts to traffic were on the detours.

Objective: This research will use probe trajectory data to determine how drivers respond to detours due to traffic incidents. Trajectory data provides AVL data for drivers which can be used to identify which roads they took for the detour and whether they followed the detour established in the TIM Plan.

Project Tasks: The following tasks are proposed as a part of this study:

1. Identifying Events using TIM plans – This tasks will identifying traffic incidents which required the activation of a TIM plan. A variety of TIM plans will be identified across the states as well as the type of incidents requiring a TIM plan (full lane closure vs single lane closure, towing, work zone, etc). The team may also identify locations which detoured traffic but did not have an official TIM plan available.
2. Data Sources – The team will identify the data needs to evaluate the TIM plans which will include procuring trajectory data. Due to the cost of trajectory data, the event in Task 1 will be prioritized to evaluate the most TIM plans as possible.
3. Effectiveness of TIM Plans – The team will use the trajectory data to determine the effectiveness of the TIM Plan including the percentage of traffic following the TIM plans, the impact to traffic along the alternative route, any restrictions along the routes used by the drivers, etc.
4. Develop Guidance for TIM Plan Alternative Routes – Based on the results from Task 3, a guidance document will be developed which can be used to choose the most effective alternative routes for a TIM Plan. This could be used by both the DOT and local agencies during the TIM planning process.
5. Prepare Project Report - A final report will be prepared that summarizes the tasks and outcomes of the study.

Benefits of Research: This research will explore using trajectory data to determine the effectiveness of the DOT's TIM plans. This will provide the DOT with information about how to most effectively deploy the alternative routes within the TIM plan. In addition, a guidance document will be developed which can be used in the TIM planning to provide recommendations based on the effectiveness of existing plans.

Estimated Cost: $100,000
Proposed Schedule: 18 months

Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Iowa Crash Analysis Tool (ICAT) Training (Phase III)

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Angie Poole Title Safety Data Analyst

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone (515) 239-1642 E-Mail angela.poole@iowadot.us
(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-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 Safety Cost $ 70,000

Total Project Cost $ 70,000

Safety Funds Requested $ 70,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?
☐ Yes – Explain _____
☐ No

Background

Over the past several years, considerable effort has been devoted to developing an easy to use software program that provides convenient access to Iowa crash data through a simple Geographical Information System (GIS) online interface. For years, the Iowa DOT has utilized GIS tools for presentation and analysis of crash data. However, existing tools, such as ESRI ArcView Safety Analysis, Visualization, and Evaluation Resource (SAVER) and Crash Mapping and Analysis Tool (CMAT), are beyond their useful life. Under the direction of the Traffic and Safety Bureau, a new modern software has been developed called Iowa Crash Analysis Tool (ICAT) formerly referred to as WEBSAVER. This system was designed with local and state agency input, enabling these agencies and the research community to conduct regional and site-specific analyses of crash, driver, injury and road-related features. The system allows local law enforcement and engineers to use comprehensive state or local data to identify and mitigate highway safety problems.

Project

The Iowa DOT is committed to providing guidance in using this new innovative online software. The goal of this effort is to offer easily accessible streamlined online basic, intermediate and advanced training to a broad base of multidiscipline users, both technically advanced and novice.

This project will be a continuation effort of both the basic and more advanced tutorials developed through the introductory phase and intermediate level training designed for multiple agencies. Further efforts are needed to reach even more users so a seamless transition can be made from existing practices accessing and requesting crash data. Software edits are an ongoing improvement to the website and users will have to have instruction on how to use the updated, newly released tools and functionality changes as well as more advanced options. Online training is essential, in person demonstration presentations, advanced webinars and videos will be offered in addition.

This will achieved in the following manor:

- A review of the introductory and intermediate level use of the website and tutorials. In person demonstrations at conferences, workshops and meetings will be conducted as well as promoting the series of short videos previously developed and available through an Iowa DOT website.

- Training on updated tools (versioning), exploring data and analytics, functionality and demonstrations previously not addressed in the basic and intermediate training. Accurate data queries and a broader perspective and understanding data results. A webinar will be offered and videos developed to compliment both previous levels of training.

- More advanced data exploration tutorials will be created and tailored to specific agencies. The training will cover more in depth understanding of where data originates and how to generate your own data. Exploration of alternative software platforms with data migration, integration and management will also be examined. The User Guide will be updated with the material developed as the project progresses.

Cost

Requested Funding: $70,000
Duration: 12 months

Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Statewide Multi-Disciplinary Safety Team (MDST) Facilitator Program

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Jan Laaser-Webb Title State Safety Engineer

Complete Mailing Address 800 Lincoln Way
Ames, IA 50010

Phone (515) 239-1349 E-Mail jan.laaser-webb@iowadot.us
(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-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 Safety Cost	$ 50,000
Total Project Cost	$ 50,000
Safety Funds Requested	$ 50,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?
☐ Yes – Explain _____
☐ No

Background

Iowa's Statewide Multidisciplinary Safety Team (MDST) Program assists with the facilitation, development and operation of local multi-discipline safety teams to help identify and resolve local crash causes and enhance crash response practices in the state of Iowa. These teams include a wide range of local and state safety participants from various backgrounds. These professionals meet on a regular basis to discuss safety topics, problems, projects, and improvements along local roadways within regional areas of Iowa.

By coordinating communication and collaborating with other stakeholders, participants gain a broader perspective on safety issues and learn best practices from professionals outside their area of expertise. This ultimately leads to the development of solutions that may not have been considered otherwise.

The Statewide MDST program assists with a number of technical services that can help further develop existing safety groups, establish new relationships and foster growth of innovative and effective safety practices within the transportation community.

Project

One of the program's main goals is interagency collaboration and information exchange. This approach will improve communication on technical transportation issues among professionals from local governments, cities, counties, metropolitan planning organizations and regional entities and the DOT statewide. The program also assist MDSTs by providing technical briefs, technical reports, and research documents; technical and safety workshops; outreach and technology services; and traffic safety assessments.

More specifically, the program, organized and applied by the statewide MDST program facilitator, will continue with the following initiatives with existing and new MDSTs: promotion of the ongoing growth of a safety culture in Iowa; work with DOT safety staff, and others to provide appropriate topics, presentations, crash maps, GIS data, workshops, contacts, and requested safety analysis for MDST meetings; attendance and involvement with meetings to keep current on safety related information and issues, as well as current research projects and studies to share with our safety partners and MDSTs; provision of crash summary data; facilitation of multi-disciplinary processes to identify safety issues and improvements; the provision of assistance, information, and support to promote and enhance the formation and active participation of area agencies in MDSTs; the development and/or evolution of MDSTs and the MDST website (to be used as a tool and resource for MDSTs and their members); development of marketing material; and creation of an MDST planning, operation, and management document for local safety groups.

The $50,000 in funding requested will be used over a 12 month period and allow the continuation of the statewide MDST program facilitator.

Cost

Requested Funding: $50,000
Duration: 12 months

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Iowa Roundabout Conference

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Chris Poole Title Safety Programs Engineer

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone 515-239-1267 E-Mail chris.poole@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 50,000
Total Project Cost	$ 50,000
Safety Funds Requested	$ 50,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

X No

Roundabouts have been a proven intersection safety countermeasure for many years. Since the Iowa DOT hosted its first roundabout conference in 2008, significant knowledge has been gained on the planning, design, operations, and impacts of roundabouts. And as more roundabouts have been constructed in Iowa and throughout the United States, numerous lessons have been learned regarding right-sizing and potential cost-saving measures.

A one-day information sharing conference would be of significant value to the transportation professionals of Iowa, and it would advance the adoption of roundabouts within the state. The content at this conference would provide up-to-date knowledge on the planning and design guidance for roundabouts, their operational and safety performance, and the flexibility and applicability of the various roundabout designs that exist.

This project would include tasks related to the conference planning and preparation (before, during and after), pursuit of speakers and their potential expenses, venue selection and costs, and serving on-site conference needs.

Project Budget: $50,000
Duration: 24 months

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Safety Improvements Database (Phase I)

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Angie Poole Title Safety Data Analyst

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone (515) 239-1642 E-Mail angela.poole@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 175,000
Total Project Cost	$ 175,000
Safety Funds Requested	$ 175,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐Yes – Explain _____

X No

Project Title: Safety Improvements Database (Phase I)

Problem: In recent years Iowa transportation agencies have implemented numerous safety improvements on the primary and secondary roadway systems. Tracking the long-term effectiveness of these improvements requires accurate information about their location and timing. Currently it is very difficult to obtain this information.

Tracking the implementation of safety improvements is complex due to the number of agencies and personnel involved, the diversity of implementation methods, and the wide range of improvement strategies. Some improvements are funded as stand-alone safety projects, some are elements of larger highway improvement projects, and some are implemented (perhaps with little fanfare) by local maintenance crews. Moreover, some improvements have a limited duration: for example, centerline rumble strips installed on Highway 5 in Monroe County were backfilled with slurry seal when it became apparent that they were damaging the pavement structure.

Objective: The purpose of this project is to develop a tool that state, county, and municipal engineers and maintenance personnel can use to indicate where and when highway safety improvements have been implemented. Due to the large number of personnel involved, this would probably take the form of a web-based tool that allows users to select a highway segment or spot location, indicate the nature of the safety improvement, and mark the affected directions of travel and time of implementation.

Project Tasks: The following tasks are anticipated as a part of this study:

1. **Determine business process requirements.** To be successful, activity tracking tools need to be compatible with agency business processes. This task will identify the processes and methods that Iowa DOT, counties, and local agencies follow to implement various types of safety improvement projects.
    - For safety improvements implemented through Iowa DOT's five-year program, this task will explore which personnel are best positioned to provide data about safety improvements and how this relates to agency process such as project development and construction oversight. One key question is whether responsibility for providing data about safety improvements should rest solely with the field engineer, or whether it should be generated by the project designer and confirmed by the field engineer at the time of construction. A parallel set of questions will be explored for maintenance projects and projects implemented by county and local agencies.
    - Administrative requirements for data quality assurance and error correction will be explored.
    - Methods for identifying the discontinuation of safety items will be determined. For example, what to do if a speed feedback sign is permanently removed after a knock-down or equipment failure.
    - This task will also explore the anticipated uses of the safety improvement database, their relationships to agency decision-making processes, and the resulting technical requirements.
2. **Develop safety improvement data structure and data dictionary.** This task will determine how safety improvements should be coded in a GIS database. It will explore technical questions about how to encode spot, segment, and area-wide safety improvements, associate these with attributes such as the date of implementation, and relate this information to other existing databases. This task will also determine the types of safety treatments that will be tracked, how to standardize their coding, and the technical requirements for adding new improvement types.

3. **Develop prototype web-based data entry tool.** This task will develop and test a web-based tool for entering and verifying safety improvement location and time-stamping implementations.
4. **Prepare user guide.** This task will provide information about how to apply the data entry tool for various types of safety improvements.
5. **Project Report.** A final report will be prepared that identifies the results of the preceding tasks and recommends follow-up actions.

Benefits of Research: The proposed project will provide Iowa with a state-of-the-art method for tracking safety improvements, potentially leading to greatly enhanced ability to identify the most effective safety treatments.

Estimated Cost: $175,000

Proposed Schedule: 24 months

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Evaluating the Impact of Stop Bars on Stopping Behavior

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Leilah Armstrong Title Safety Countermeasures Engineer

Complete Mailing Address 800 Lincoln Way

Ames, IA 5010

Phone (515) 239-1623 E-Mail leilah.armstrong@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 60,000
Total Project Cost	$ 60,000
Safety Funds Requested	$ 60,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

X No

Title: Evaluating the Impact of Stop Bars on Stopping Behavior

Description: Rural intersections account for 30% of crashes in rural areas and 6% of all fatal crashes, representing a significant but poorly understood safety problem. Inappropriate gap selection and stopping behavior has been found to be a major contributing cause of crashes at rural intersection. Right-angle collisions, the result of selecting a gap that is too short or failing to yield for traffic control, account for between 36 to 50 percent of crashes at intersections on high-speed divided highways, as opposed to 28 percent of crashes at intersections on other types of roads. Drivers failing to stop on the minor approach account for 25% of right angle crashes. Additionally, crashes where drivers failed to stop at stop signs were more likely to result in injuries than crashes where drivers stopped.

A recent study using the SHPR 2 NDS data indicated that presence of stop bars has an impact on driver stopping behavior at rural intersections. However, the study was not able to definitively conclude the exact impact. As a result, the goal of this study is to further investigate how the presence of a stop bar at a rural intersection approach impacts driver stopping behavior. Stop bars are a low cost countermeasure. However, they do require regular maintenance. As a result, conclusive information about their effectiveness would be a valuable resource for agencies to address crashes at rural interactions.

The specific objectives of this study are to:

- Summarize existing information about the effectiveness of stop bars
- Identify both normal and high crash locations for placement of stop bars
- Evaluate stopping behavior before and after installation
- Summarize the effectiveness and make recommendations
- Create a dataset of installation locations and characteristics so that CMFs can be develop in several years as a separate project

Estimated Cost: $60,000, includes the cost of installing stop bars at 15 to 20 intersections and collecting and reducing data

Duration: 18 months

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project: Inventory of Three-Lane Road Characteristics, Origins, and Impacts

Applicant: Iowa DOT – Traffic & Safety Bureau

Contact Person: Chris Poole Title: Safety Programs Engineer

Complete Mailing Address: 800 Lincoln Way
Ames, IA 50010

Phone: 515-239-1267 (Area Code) E-Mail: chris.poole@iowadot.us

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 _____ (Area Code) E-Mail _____

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 40,000
Total Project Cost	$ 40,000
Safety Funds Requested	$ 40,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

X No

The Iowa DOT maintains an inventory of the general characteristics of its roadways, including the number of roadway lanes, pavement widths, and traffic volumes. However, many of the related roadway characteristics that have an impact on the safety and operation of a specific roadway segment are not included. The purpose of this project is to collect some of those related characteristics for existing three-lane roadways throughout the state. Documenting the history and characteristics of these roadways makes it possible to evaluate impacts and to show the similarities that a potential three-lane conversion site may have to existing sites.

Iowa has a long history of converting 2-lane and 4-lane roadways, for safety purposes, to a three-lane cross section. A previous listing found over 75 three-lane roadways of varying lengths in Iowa. The listing included location, volume, length, access density, the existence of traffic signals, and crash rate.

Of interest in this project is updating this listing for all three-lane roadways in the state, and including additional related characteristics. The desired characteristics to collect include, among other things: lane widths; presence of bike lanes, on-street parking, and/or a railroad crossing; speed limit; date of conversion; origin (previously two lanes or four lanes), adjacent land use; and whether the roadway has been studied for its safety impacts. It is proposed that the exploration for this information begin with those three-lane roadways that are longer in length. Any information already available about three lane roadway characteristics will also be used and past research or documents explored.

The collection of this information may also allow the evaluation of the safety impacts connected to the conversion of these roadways. This task will be completed if the information needed is available. The information collected should help better define how to successfully complete a conversion for particular situations and the safety (and possibly other) impacts of these conversions.

Project Budget: $40,000
Duration: 24 months

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** August 15, 2019

Location / Title of Project Work Zone Sign Package Program Extension

Applicant Iowa DOT – Traffic & Safety Bureau

Contact Person Jan Laaser-Webb Title State Safety Engineer

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone 515-239-1349 E-Mail jan.laaser-webb@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 60,000
Total Project Cost	$ 60,000
Safety Funds Requested	$ 60,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

X No

Background

The first year of this program was completed July 31, 2017 and was funded again in FY 2018-2019 and 2019-2020. This request would continue to fund this much needed program. The goal of the program is to help smaller cities make work zones safer for their workers and the traveling public by providing an avenue for the selected cities to receive a basic work zone sign package. In the initial year of the program, 10 cities applied and in the 2018-2019 program, 19 cities applied and 10 cities were selected each year to receive new work zone signs and devices. All awarded signs and devices are in compliance with the most current Manual on Uniform Traffic Control Devices (MUTCD).

Program

This program is directed towards Iowa cities that have populations less than 10,000 residents. These smaller cities often have limited budgets that can result in the usage of work zone signs/devices that are old, out of compliance and/or outdated. Many of these smaller cities lack the most basic temporary traffic control devices. Eligibility for the program includes cities that have attended the Iowa DOT Work Zone Safety Series within the last 3 years or other workshops determined to be acceptable by the Project Team and the Technical Advisory Committee. The cities that are awarded a sign package have demonstrated a need for the devices and a commitment to work zone safety based on the application they submit for the program.

Awarded cities have received work zone sign packages that include:

4 – ROAD WORK AHEAD signs
2 – ONE LANE ROAD AHEAD signs
2 – BE PREPARED TO STOP signs
8 – Portable sign stands
2 – Type III Barricades
16 – 28” Traffic Cones
10 – 42” Channelizer Cones with Bases
6 – ANSI Class 2 Safety Vests

Requested Funding: $60,000
Duration: 24 months

Application for SAFETY STUDY TSIP FUNDS

GENERAL INFORMATION **DATE:** August 12, 2019

Location / Title of Project Work Zone Safety Training

Applicant Iowa Department of Transportation

Contact Person Daniel Sprengeler Title Work Zone Traffic Control Engineer

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone (515) 239-1823 E-Mail dan.sprengeler@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 90,000
Total Project Cost	$ 90,000
Safety Funds Requested	$ 35,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

X No

Work Zone Safety Training

Background

CFR Part 630.1.1. Work Zone Safety and Mobility requires training for persons involved in any aspect of temporary traffic control on roadways open to public traffic. For many years the Iowa Department of Transportation has worked with a large range of partners to offer Work Zone Safety Workshops throughout Iowa. These workshops improve roadway safety and the safety of the workers within work zones. The objectives of these workshops are to

- Introduce the principles and convey the importance of using proper methods for safe and efficient temporary traffic control at work sites;
- Examine specific applications relevant to situations routinely encountered by city, county, contractor, Iowa DOT, and utility crews; and,
- Reduce motor vehicle traffic crashes at road work sites, resulting in greater safety for highway users and workers alike.

Regular attendance at these workshops is recommended for all Iowa workers and their supervisors that have duties on or near roadways for work zone activities. In addition to the general sessions, the workshops include five concurrent tracks that focus on different work zone audiences with training needs. These sessions focus on county employees, city employees, Iowa DOT construction personnel and contractors, Iowa DOT maintenance personnel, and utility workers. These workshop sessions are typically held in six to eight locations a year.

Project

Continue funding the annual Work Zone Safety Workshops to provide basic work zone training for state, local and contractor employees. TSIP funds are used to keep the cost below $100 per person.

Requested funding: $35,000
Proposed by: Dan Sprengeler

APPLICATION CERTIFICATION FOR PUBLIC AGENCY

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating public agency(ies). I understand the attached resolution(s), where applicable, binds the participating public agency(ies) to assume responsibility for any additional funds, if required, to complete the project. In addition, the participating public agency(ies) agrees to maintain any new or improved public streets or roadways for a minimum of five years.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the _____

Signed: _____

Signature Date Signed

_____

Printed Name

Attest: _____

Signature Date Signed

_____

Printed Name

Application for SAFETY STUDY TSIP FUNDS

GENERAL INFORMATION **DATE:** 8-15-2019

Location / Title of Project Traffic Safety Outreach Videos

Applicant Iowa DOT

Contact Person Jan Laaser-Webb Title Safety Engineer

Complete Mailing Address 800 Lincoln Way
Ames, IA 50010

Phone 515-239-1349 (Area Code) E-Mail Jan.laaser-webb@iowadot.us

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 _____ (Area Code) E-Mail _____

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 50,000
Total Project Cost	$ 75,000
Safety Funds Requested	$ 50,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

☒ No

APPLICATION CERTIFICATION FOR PUBLIC AGENCY

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating public agency(ies). I understand the attached resolution(s), where applicable, binds the participating public agency(ies) to assume responsibility for any additional funds, if required, to complete the project. In addition, the participating public agency(ies) agrees to maintain any new or improved public streets or roadways for a minimum of five years.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the IOWA DOT - SAFETY ENGR SECTION

Signed: _____ 8-15-2019
Signature Date Signed

JAN LAASER-WEBB
Printed Name

Attest: _____
Signature Date Signed

_____
Printed Name

Background
The Traffic & Safety Bureau has determined through our engagement conversations we need to provide the public with more information about what we do and why we do it. We propose working with Strategic Communications and the consultant who has developed other videos simply describing DOT processes to create useful messaging for Traffic & Safety.

Topics proposed for video development include "Setting Speed Limits", "Navigating High Speed Work Zones", "Roundabouts: For Safety and Capacity and You (A Love Story)", "Here's Why We Regulate Billboards Along the Highway". Other topics may be considered by the project team.

Production
Strategic Communications will work closely with subject matter experts and the consultant to develop concept, script, storyboarding, and input on the final product. Strategic Communications indicated an important consideration will be to determine the target audience. They also encouraged we consider where/how we plan to distribute the videos. This will help drive considerations like tone, message, language used, length, etc.

Subject matter experts will include Steve Gent for general overview, Willy Sorenson for work zones, Brooks Glasnapp for advertising management, Tim Crouch for traffic engineering, Chris Poole and/or Jan Laaser-Webb for safety engineering. Individual project teams will likely invite other subject matter experts to participate as well as encourage District participation to benefit from their practical experience communicating with the traveling public.

Cost estimate
Costs of production of engaging, educational videos are estimated between $15,000 and $20,000 per video. Iowa DOT has an existing agreement in place with the Location & Environment Bureau to produce informational videos outlining transportation processes. Traffic & Safety proposes to develop five videos.

Other grants
Advertising Management, another section of Traffic & Safety, has committed to spending up to $25,000 for production of educational videos.

Time schedule
Storyboarding: July-August 2020
Production: September-December 2020
Release: January 2021

Application for SAFETY STUDY TSIP FUNDS

GENERAL INFORMATION **DATE:** 8/14/19

Location / Title of Project: Railroad Crossing Safety Education Support

Applicant: Iowa Department of Transportation; Rail Transportation Bureau

Contact Person: Phillip Meraz Title: Regulation and Analysis Project Coordinator

Complete Mailing Address: Iowa Department of Transportation; Rail Transportation Bureau
800 Lincoln Way, Ames, IA 50036

Phone: 515-239-1420 (Area Code) E-Mail: phillip.meraz@iowadot.us

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 _____ (Area Code) E-Mail _____

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 72,000
Total Project Cost	$ 72,000
Safety Funds Requested	$ 42,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☒Yes – Explain _Part of the State of Iowa Highway-Rail Grade Crossing Safety Action Plan_____

☐No

APPLICATION CERTIFICATION FOR PUBLIC AGENCY

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating public agency(ies). I understand the attached resolution(s), where applicable, binds the participating public agency(ies) to assume responsibility for any additional funds, if required, to complete the project. In addition, the participating public agency(ies) agrees to maintain any new or improved public streets or roadways for a minimum of five years.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the Iowa Department of Transportation; Rail Transportation Bureau

Signed: _____ 8/14/19
Signature Date Signed

Phillip Meraz
Printed Name

Attest: _____ 8/14/19
Signature Date Signed

Ed Engle
Printed Name

Railroad Crossing Safety Education Support

A

In 2010, the Federal Railroad Administration (FRA) identified Iowa to be among the top ten states for the number of railroad crossing collisions. Due to this fact, federal legislation 49 CFR part 234 mandated that the state of Iowa research and create a rail crossing safety action plan. The plan prepared by the department's Office of Rail Transportation (now Rail Transportation Bureau) was approved by the FRA in 2012 and can be found at: https://iowadot.gov/iowarail/pdfs/Action%20Plan%20-%20FRA%20rewrite%20submittal.pdf?ver=2017-04-03-112552-217

The partnership with Iowa Operation Lifesaver identified in the plan and its new innovations in larger events has shown to be very successful. The Rail Transportation Bureau is in the process of updating this plan and will again identify the partnership with Iowa Operation Lifesaver and its education programs as a key component.

B

The State of Iowa Highway-Rail Grade Crossing Safety Action Plan recognizes "education" as one of the four action categories. The main component of the department's educational effort is a working partnership with Iowa Operation Lifesaver (OL); a non-profit education and awareness program dedicated to ending tragic collisions, fatalities, and injuries at highway, rail grade crossings and on railroad right-of-way.

Historically, OL has conducted free presentations for small groups such as driver's education classes and civic organizations. These programs, conducted by certified volunteers, are the "public face" for railroad crossing safety and an integral part of the educational efforts in Iowa. However, the majority of the funding is used for presentation materials and handouts leaving inadequate resources for advertising and building the program.

To broaden the reach of their message, the OL board has modified their approach to add a focus for larger venues such as the Iowa State Fair, the Farm Progress Show and the Thresher's Reunion, increasing their previous educational contacts by tens of thousands. They have grown their presence on social media and these more informal educational contacts have also increased the number of formal small group program opportunities. In the upcoming years they would like to add a television commercial spot during in-state rivalry college football games.

Continued development of an initiative using virtual reality has been identified as a goal for the coming year. They are purchasing "VR goggles" and will be using programs provided by the railroads for an interactive experience to demonstrate the need for safe decision-making. In fiscal year 2021 they would like to finalize their own, Iowa-specific information and programs for this new, state-of-the-art media with an anticipated cost of $30,000.

Because of the implementation of other action items, the reduction of deaths that can be attributed to these programs is not easily quantifiable. However, OL is accepted by the FRA as a significant contributing factor for the downward trend in rail crossing collisions over the past 30 years.
Railroad Crossing Safety Education Support

The objective for the use of this requested funding is to better support the department's partnership with OL by:

- Finalizing the development of their first VR interactive program
- Providing introductory and continuing training opportunities for volunteer presenters
- Purchasing needed presentation materials and equipment for dozens of volunteers
- Providing vendor fees for large-scale events
- Increasing their visibility and media campaign
- Funding community "blitzes" in areas that demonstrate high-risk driving behavior or have imminent events near railroad right-of-way

It is anticipated that continuing these educational initiatives will increase the number of Iowans being educated and raise awareness of the safety issues at railroad crossings.

C

As a non-profit organization, the amount of funding currently being used for OL operations changes from year to year. All funding comes from contributions. Last year's funding was approximately:

$30,000	provided by $8/crossing request from the railroads operating in Iowa
$17,500	provided by Iowa DOT TSIP ($10,000 is provided for FY 2018)
$47,500	

These Funds have been used for operations, displays, and materials for presentations by volunteer labor in an organization with one staff member employed one-quarter time. The estimated costs for usage of the requested funds are:

$15,000	presentation materials, equipment, and training opportunities
$30,000	initial computer programming and VR development
$10,000	vendor fees
$5,000	marketing and transportation costs for community blitzes
$12,000	production and on-air time during in-state rivalry football games
$72,000	

With only $30,000 as a base for donations from the railroads, there is a shortfall of $42,000 for the most effective railroad crossing and right-of-way safety education program in the state.

D

These funds will be used throughout a 12-month period beginning July 1, 2020 and ending June 30, 2021

Application for SAFETY STUDY
TSIP FUNDS

GENERAL INFORMATION **DATE:** 6 August 2019

Location / Title of Project Non-motorized traffic monitoring: Phase 4

Applicant Sam Sturtz

Contact Person Sam Sturtz Title Transportation Planner

Complete Mailing Address 800 Lincoln Way

Ames, IA 50010

Phone 515.233.7801 E-Mail Samuel.sturtz@iowadot.us
(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-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

_____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 39,664
Total Project Cost	$ 39,664
Safety Funds Requested	$ 39,664

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐ Yes – Explain _____

☒

B. NARRATIVE

Monitoring of non-motorized traffic (bicycles and pedestrians) is needed for project evaluation (e.g., before/after impact studies) and planning as well as safety evaluation through computation of crash exposure rates, which can then be compared over time and across different travel modes. However, bicycle and pedestrian counts are collected on a very limited basis in Iowa (e.g., project specific or limited 2-3 hr counts), not allowing for estimation of key values such as bicycle and pedestrian miles traveled (BMT and PMT), as is traditionally done with vehicles in the form of VMT. This proposal is to support a fourth phase of a safety project which focuses on the establishment of a non-motorized traffic counting program in Iowa. Specifically, the proposed Phase 4 of this project will use data collected in the first three phases to refine models to predict bicycle and pedestrian traffic. It is not feasible to collect bike/ped traffic counts on all roads in Iowa, but our modeling approach will provide estimates based on a representative sample of Iowa roadways. During Phase 4 we will also create statewide estimates of bicycle and pedestrian miles traveled (BMT and PMT), which will allow for calculation of bike and pedestrian crash, injury, and fatality rates.

This project provides valuable data for tracking bicycle and pedestrian safety (crash, injury, and fatality rates per miles traveled) and monitoring of biking and walking trends over time. This data will serve as tools for evaluating the progress of the Iowa Bicycle and Pedestrian Long Range Plan, Complete Streets Policy, and the Iowa Strategic Highway Safety Plan. The models from this project can also be used for study of the before-after effects of infrastructure changes on bicycle and pedestrian travel and safety performance.

The manual estimation approaches used in Phases 1 part of Phase 2 are useful, but regression modeling, which began in Phase 2 and will be refineed in Phase 3, will allow for input of more adjustment factors and more accurate estimates. For example, regression models will be able to account for the effects of weather and land use on bicycle and pedestrian traffic volumes.

The long-term goal of this project is to provide a basis for the establishment of a statewide non-motorized traffic monitoring program. Specifically, we aim to provide statewide bicycle and pedestrian miles traveled estimates and crash, injury, and fatality rates. We also aim to provide ‘plug and play’ formulas and adjustment factors from the models that can be used by regions/municipalities to more precisely estimate and monitor bike/ped traffic volumes in their area. The goal is to make it easy for a location to collect data at a minimal number of sites and then use output from this project to apply to their region and come up with estimates, with very minimal additional validation on their end.

C. ESTIMATED COST

Item	QTY	Total
Salaries (including fringe)		
Student (conduct validation field work and assist with data management, analysis, and report preparation)	1	11,431
Research Specialists (project management, analysis, report preparation)	2	24,295
Supplies and fees (replacements for expendable counter items—e.g., tape, tubes, etc.)		500
Travel (to counting validation sites, to present results)		500
Indirect Costs (8%)		2,938
Total		39,664

D. TIME SCHEDULE

	2020						2021					
	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Data Collection												
Collect additional rural road data for model refinement	■	■	■									
Collect data from continuous permanent counters	■	■	■	■	■	■	■	■	■	■	■	■
Data Analysis												
Model refinement and validation		■	■	■	■	■	■	■				
Compute statewide estimates					■	■	■	■				
Report preparation									■	■	■	■

Application for SAFETY STUDY TSIP FUNDS

GENERAL INFORMATION **DATE:** 8/8/2019

Location / Title of Project: Purchase the 2020 MUTCD for the DOT, Cities and Counties

Applicant: Iowa DOT

Contact Person: Tim Crouch Title: State Traffic Engineer

Complete Mailing Address: 800 Lincoln Way
Ames, IA 50010

Phone: 515 239-1513 (Area Code) E-Mail: Tim.crouch@iowadot.us

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 _____ (Area Code) E-Mail _____

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Funding Amount

Total Safety Cost	$ 90,000
Total Project Cost	$ 90,000
Safety Funds Requested	$ 90,000

Does this project appear on a Safety Improvement Candidate List or is there a safety study recommendation for this project?

☐Yes – Explain _____
☒No

The Iowa Department of Transportation has purchased the Manual on Uniform Traffic Control Devices (MUTCD) and distributed the MUTCD to every city and county in the state whenever a new version has been adopted by administrative rule. A new version of the MUTCD is anticipated in 2020 and will be adopted as the state signing manual and become effective late in 2020 or early 2021.

In order to provide a copy of the manual to each of the cities (multiple copies to the larger cities) and two copies to each of the counties, as well as providing copies to the offices/districts within the Department, we will order 1600 copies of the manual. Based on the cost of past versions of the manual it will be around $60 per copy plus shipping for 1600 manuals.

APPLICATION CERTIFICATION FOR PUBLIC AGENCY

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating public agency(ies). I understand the attached resolution(s), where applicable, binds the participating public agency(ies) to assume responsibility for any additional funds, if required, to complete the project. In addition, the participating public agency(ies) agrees to maintain any new or improved public streets or roadways for a minimum of five years.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the _____

Signed: _____

Signature Date Signed

_____

Printed Name

Attest: _____

Signature Date Signed

_____

Printed Name