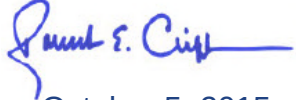


Office of Inspector General
Robert E. Clift, Inspector General


October 5, 2015

Advisory Report No. 15I-9001
Highway Safety Improvement Program

What We Did

The Office of Inspector General (OIG) conducted this review as part of our annual audit plan. The purpose of this engagement was to determine whether the Florida Department of Transportation (department) funded the most appropriate projects under the Highway Safety Improvement Program (HSIP). HSIP is a federally funded program for which the department received \$100,058,271 during state fiscal year end June 30, 2014.

We judgmentally selected and tested a sample of 18 HSIP projects from the 226 projects funded during state fiscal year end June 30, 2014, per the Federal Highway Administration (FHWA) 2014 Annual Report. We then further judgmentally sub selected seven HSIP Push Button¹ projects for invoice reviews (Attachment 1).

What We Found

We determined each of the 18 projects was appropriately selected, in accordance with HSIP emphasis area.

- The department complied with section 148(c)(1), title 23, United States Code (U.S.C.) by developing, implementing, and updating a Strategic Highway Safety Plan (SHSP) that identified and analyzed highway safety problems and opportunities; producing a program of projects or strategies to reduce identified safety problems; and continuing to evaluate the SHSP on a recurring basis.

We determined, although each district develops, submits, and receives approval for projects the same way, each of the department's seven districts have different project priorities based on population and other demographics (e.g., agricultural, rural, suburban, and urban). This data drives the types of projects developed and funded after careful evaluation by the districts.

- The department complied with section 148(a)(4)(A), title 23, U.S.C., by developing "...strategies, activities, and projects on a public road that are

¹ Push Button projects can be completed using multiple contracts that are executed for quick turnaround of task work orders.

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consistent with a State strategic highway safety plan [SHSP] and (i) correct or improve a hazardous road location or feature; or (ii) address a highway safety problem.”

- “Florida’s SHSP is a statewide, data-driven plan that addresses the ‘4 E’s’ of safety – **e**ngineering, **e**ducation, **e**nforcement, and **e**mergency response.”² Pursuant to the department’s SHSP, the Safety Office ensured each emphasis area correlated to at least one of the 4 E’s.

We also determined each of the district’s Push Button project tested was an appropriate use of HSIP funds.

Through effective communication and coordination, the department’s Safety Office provided guidance to the districts for the development and submission of HSIP projects that served to ensure the department’s compliance with applicable program requirements.

² FDOT State of Florida 2015 Highway Safety Plan.

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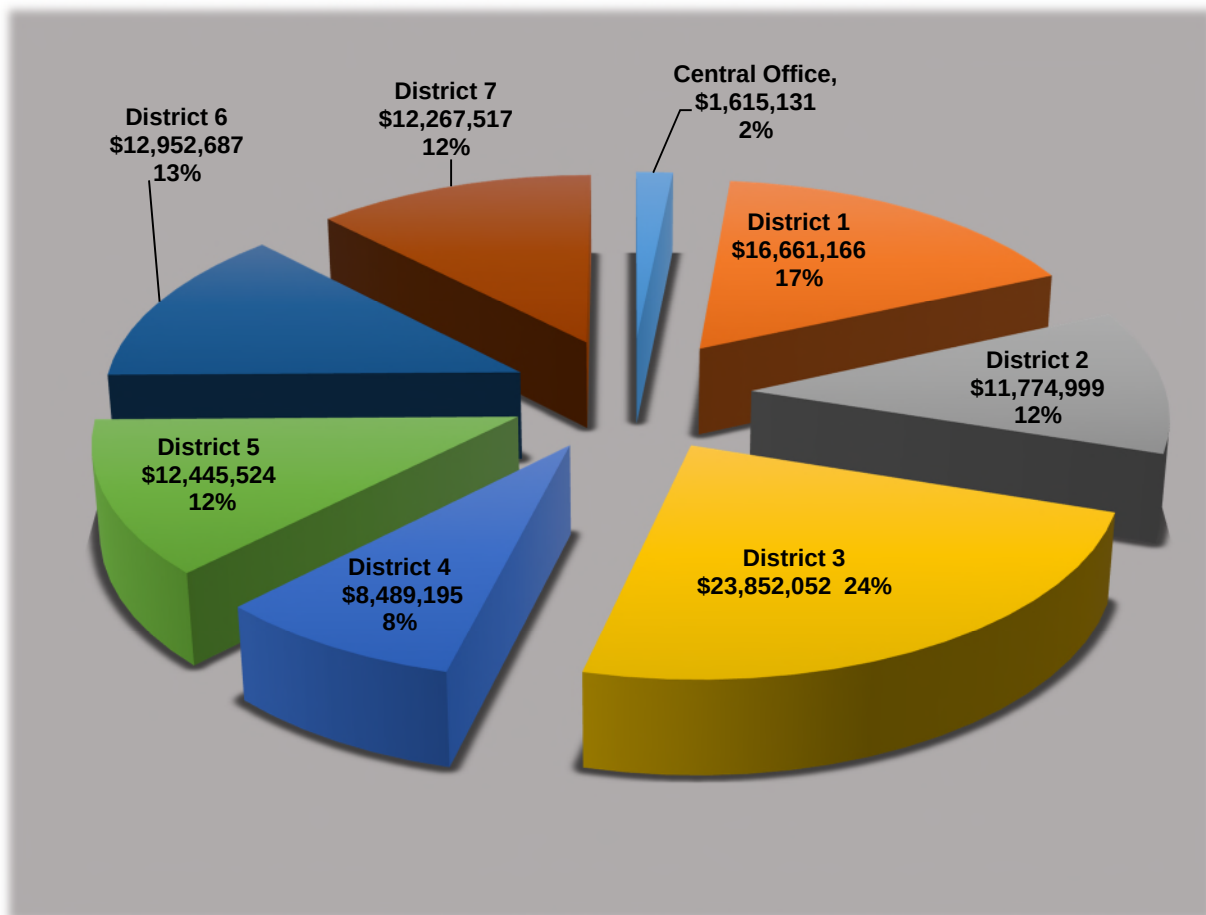
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BACKGROUND AND INTRODUCTION

The Highway Safety Improvement Program (HSIP) is a federally funded program funded by the U.S. Department of Transportation (USDOT) and Federal Highway Administration (FHWA) through Catalog of Federal Domestic Assistance 20.205. The purpose of this program is to achieve significant reductions in traffic fatalities and serious injuries on all public roads through the implementation of infrastructure-related highway safety improvements. During state fiscal year end June 30, 2014, the department received \$100,058,271 in HSIP funding. For the state fiscal year end June 30, 2015, the department received \$120,153,052 in HSIP funding. Funding is distributed to each of the department's seven districts based on federal, state, and programmatic guidance. Figure 1 shows the distribution of funding during fiscal year 2013-14 by district.

Figure 1: HSIP Funding by District for Fiscal Year 2013-2014



Source: Compiled from testing data obtained from HSIP's 2014 Annual Report to FHWA.

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The Code of Federal Regulations (C.F.R.)³ sets “...forth policy for the development, implementation, and evaluation of a comprehensive highway safety improvement program....” The project must be “...consistent with the State strategic highway safety plan (SHSP) that corrects or improves a hazardous road location or feature, or addresses a highway safety problem.”

The United States Code⁴ defines a highway safety improvement project as the “...strategies, activities, and projects on a public road that are consistent with a State strategic highway safety plan and (i) correct or improve a hazardous road location or feature; or (ii) address a highway safety problem.”

Florida Administrative Code (F.A.C.)⁵ also provides guidance for HSIP projects: “Each project proposal must be designated to impact one or more causes of traffic crashes, injuries, and/or fatalities; to evaluate or to identify traffic crash problems in Florida; or to increase public awareness of the state’s crash problem. Each project must be capable of producing measurable results, which will be used to determine the effectiveness of the project.” The Safety Office HSIP staff monitors and reports ongoing results and statistics for all projects to FHWA.

HSIP Process and Funding

Crash data is provided from the Florida Department of Highway Safety and Motor Vehicles to the department’s Crash Analysis Reporting (CAR) system. This information feeds into the Crash Reduction Analysis System Hub (CRASH) database, which has historically served as the basis for Benefit/Cost analyses to prioritize funding for HSIP projects. See Attachment 3 for a flow chart documenting the process from reported incident to project funding and implementation. FHWA’s webpage, HSIP Noteworthy Practice Series, lists the department’s CRASH database as a valuable tool for performing safety project evaluations and prioritizing project funding. Key accomplishments listed on the website are:

- development of an online database of safety improvement projects and state-specific Crash Reduction Factor; and
- automated processes for Benefit/Cost analysis.

Prior to fiscal year 2014-2015, projects were prioritized using a Benefit/Cost ratio methodology.⁶

³ 23 C.F.R. 924.1 and 924.3, Highway Safety Improvement Program

⁴ 23 U.S.C. § 148(a)(4)(A), Highway Safety Improvement Program

⁵ Rule 14-98.003, Highway Traffic Safety Program, F.A.C.

⁶ Benefit/Cost ratio: the benefit gained versus the cost to be incurred. The benefit of funding a HSIP project is the anticipated best estimation of reduction of crashes.

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Beginning in fiscal year 2014-2015, projects are being prioritized using a data-driven Net Present Value methodology.⁷ This is a more rigorous methodology for calculating the value of projects than previously used by the department and better stratifies the HSIP data.

Pursuant to federal, state, agency, and program guidance, the department's HSIP projects are required to be designed to reduce traffic crashes and resulting deaths, injuries, and property damage. Additionally, to receive funding, projects must align with one of the emphasis areas contained in Attachment 2.

Districts are responsible for using the information (i.e., CAR report) from the Safety Office to identify and develop projects that comply with federal guidance and the department's HSIP manual. The projects may address one or more of the emphasis areas and the districts can and do receive guidance from the Safety Office in the development and submission of projects.

Table 1 and Figure 2 below summarize Florida's 2013-2014 HSIP funded projects. Our test sample contained at least one project from each district (Attachment 1).

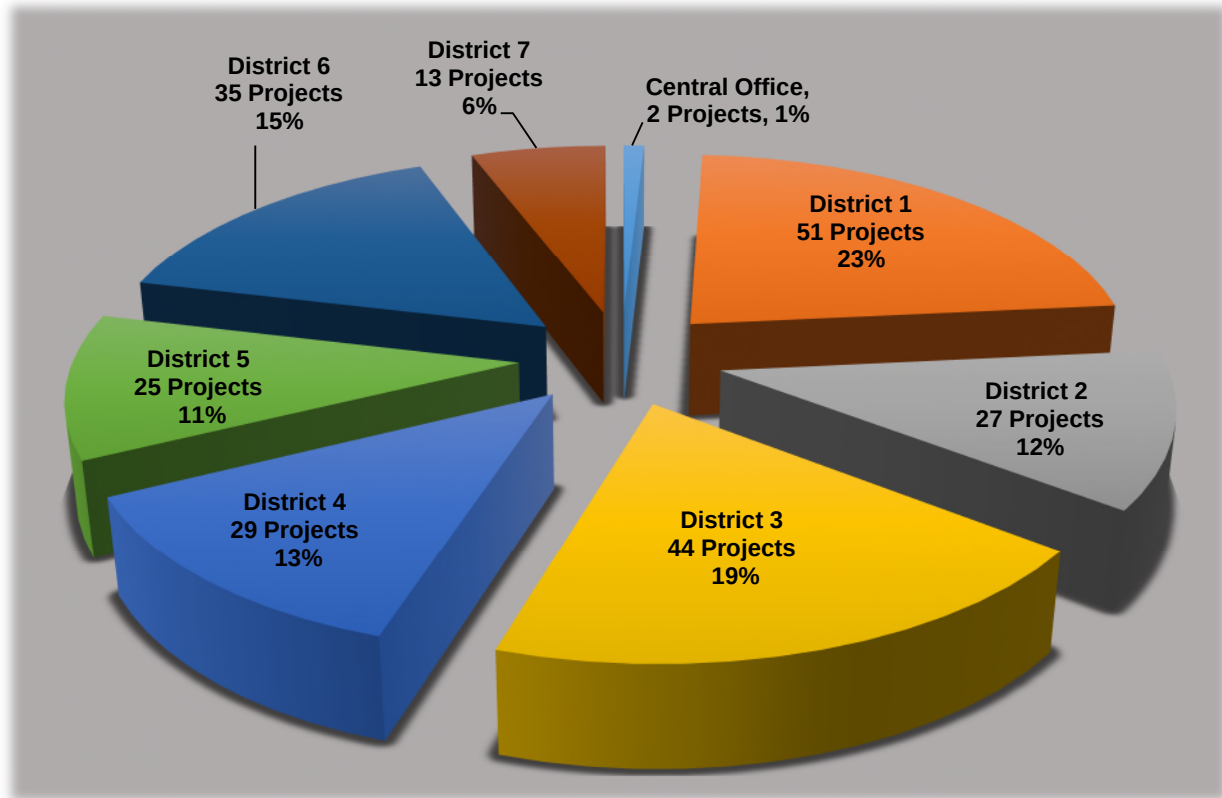
Table 1: HSIP projects and funding by districts and central office for FY 2013-2014

Location	No. of Projects	% of Total	Total Amount	% of Total
Central Office	2	1%	\$ 1,615,131	1.6%
District 1	51	23%	\$ 16,661,166	16.7%
District 2	27	12%	\$ 11,774,999	11.8%
District 3	44	19%	\$ 23,852,052	23.8%
District 4	29	13%	\$ 8,489,195	8.5%
District 5	25	11%	\$ 12,445,524	12.4%
District 6	35	15%	\$ 12,952,687	12.9%
District 7	13	6%	\$ 12,267,517	12.3%
Total	226	100%	\$ 100,058,271	100.0%

Source: Compiled from testing data obtained from HSIP's 2014 Annual Report to FHWA.

⁷ Net Present Value is the present value of projected benefits (PV benefits) minus the present value of project costs (PV costs). The equation determining NPV is PV benefits – PV costs.

Figure 2: Florida's HSIP Projects by District for Fiscal Year 2013-2014



Source: Compiled from testing data obtained from HSIP's 2014 Annual Report to FHWA.

RESULTS OF REVIEW

We judgmentally selected and tested a sample of 18 HSIP projects from the 226 projects funded during state fiscal year end June 30, 2014, per the Federal Highway Administration (FHWA) 2014 Annual Report. We then further judgmentally sub selected seven Push Button projects for invoice reviews.

We determined each of the 18 projects corresponded to a minimum of one HSIP emphasis area (Attachment 2). Some projects addressed multiple emphasis areas, which involved bicycle and pedestrian safety concerns, vehicles, and passengers in Florida.

- The department complied with 23 U.S.C. § 148(c)(1) by developing, implementing, and updating a SHSP that identified and analyzed highway safety problems and opportunities; producing a program of projects or strategies to reduce identified safety problems; and continuing to evaluate the SHSP on a recurring basis.

We determined, although each district develops, submits, and receives approval for projects the same way, each of the department's seven districts have different project

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priorities based on population and other demographics (e.g., agricultural, rural, suburban, and urban). This data drives the types of projects developed and funded after careful evaluation by the districts.

- The department complied with 23 U.S.C. § 148(a)(4)(A) by developing “...strategies, activities, and projects on a public road that are consistent with a State strategic highway safety plan and (i) correct or improve a hazardous road location or feature; or (ii) address a highway safety problem.”
- “Florida’s SHSP is a statewide, data-driven plan that addresses the ‘4 E’s’ of safety – **engineering, education, enforcement, and emergency response.**” Pursuant to the department’s SHSP, the Safety Office ensured each emphasis area correlated to at least one of the 4 E’s.

Though department districts may not create a project for every risk area in the Crash Analysis Reporting (CAR) report, they do review the report to ensure no vulnerable areas are overlooked. Data, sorted by location and type of roadway (e.g., interstate, state/local highway, and local road), is entered nightly into CAR via an automated Department of Highway Safety and Motor Vehicles process.

We determined each of the district’s Push Button projects tested was an appropriate use of HSIP funds. Push Button projects can be completed quickly as compared to other HSIP projects (usually within a year versus three or more years). The department’s districts use pre-approved contractors to complete pre-defined Push Button work action projects quickly such as:

- signal repairs or signal retiming;
- road shoulder repairs or fixes;
- safety and traffic studies;
- road safety audits;
- improved lighting; and/or
- additional pavement markings (e.g., increased or fluorescent striping).

During fiscal year 2013-2014, Push Button projects did not replace funding for normal day-to-day operations such as routine maintenance (e.g., replacing knocked down street signs, replacing light bulbs in street lamps or traffic lights).

District 7’s use of Push Button projects was acknowledged by FHWA in the August 2013 publication “Assessment of Local Road Safety Funding, Training, and Technical Assistance.” Push Button projects are a way for districts to handle small, less costly projects that have a quick turnaround for completion of task work orders.

APPENDIX A – Purpose, Scope, and Methodology

Section 20.055, Florida Statutes, requires the OIG to conduct audits, examinations, investigations, and management reviews related to programs and operations of the department. This advisory was performed as part of the OIG’s mission to promote accountability, integrity, and efficiency for the citizens of Florida by providing objective, and timely audit and investigative services.

The **purpose** of this engagement was to evaluate the criteria used for awarding and funding HSIP projects.

The **scope** of the advisory was the period July 1, 2013, through June 30, 2014, and a judgmentally selected sample of projects and supporting documentation (contracts, contract service agreements, and invoices) from that period.

The **methodology** included interviewing appropriate personnel, and reviewing:

- relevant department, state, and federal procedures, laws, rules, and regulations;
- program guidance from the Safety Office;
- the department’s FHWA HSIP 2014 annual report;
- Benefit/Cost rankings versus Net Present Value rankings;
 - Benefit/Cost usage to rank projects during fiscal year 2013-2014; and
 - Net Present Value (NPV) usage beginning fiscal year 2014-2015, to rank projects;
- 18 judgmentally selected/sampled projects;
- the appropriateness of projects chosen for funding under HSIP; and
- invoices and supporting documentation from seven judgmentally sampled Push Button projects – representing one from each district.

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APPENDIX B – Management Response

On September 28, 2015, Lora Bailey Hollingsworth, P.E., Chief Safety Officer, responded to the draft report by stating:

“Thank you for the opportunity to review the draft report to OIG Assignment 15I-9001, reviewing the Highway Safety Improvement Program which is how we manage the Federal Highway Administration (FHWA) safety funding that flows through our office.

We appreciate the thorough and professional review that was performed by your staff. We especially appreciate the time you spent with district staff to obtain ‘boots on the ground’ feedback on the program, the effectiveness of our Safety Office staff and the delivery of the program. We take these endeavors very serious and are encouraged with your findings – or, in this case, lack of findings. We believe this to be a very sound program because of the partnerships between Central Office, the Districts and FHWA.

Again, thank you for the opportunity to work with you and your staff and for all that you do.”

Regards,
Lora Bailey Hollingsworth, P.E.
Chief Safety Officer

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Florida Department of Transportation**

DISTRIBUTION, PROJECT TEAM, AND STATEMENT OF ACCORDANCE

Distribution:

Jim Boxold, Secretary
Mike Dew, Chief of Staff
Brian Blanchard, P.E., Assistant Secretary for Engineering and Operations
Lora Hollingsworth, P.E., Chief Safety Officer
Melinda Miguel, Chief Inspector General, Executive Office of the Governor

Project Team:

Engagement was conducted by Kimberly Rolfe, Audit Team Leader
Under the supervision of:
Intermodal Audit Manager; and
Kristofer B. Sullivan, Director of Audit
Approved by: Robert E. Clift, Inspector General

Statement of Accordance

*The mission of the department is
to provide a safe transportation system that ensures the mobility of people and goods,
enhances economic prosperity, and preserves the quality of our environment and communities.*

*The mission of the Office of Inspector General is
to promote integrity, accountability, and process improvement in the Department of
Transportation by providing objective fact-based assessments to the DOT team.*

This work product was prepared pursuant to Section 20.055, Florida Statutes, in accordance with the applicable Principles and Standards for Offices of Inspectors General as published by the Association of Inspectors General and the American Institute of Certified Public Accountants and standards contained in Government Auditing Standards issued by the Comptroller General of the United States.

This report is intended for the use of the agency to which it was disseminated and may contain information that is exempt from disclosure under applicable law. Do not release without prior coordination with the Office of Inspector General.

Please address inquiries regarding this report to the department's Office of Inspector General at (850) 410-5800.

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ATTACHMENT 1 – Testing Sample of HSIP projects from 2014 Annual Report

Projects match to emphasis area(s)

No.	Project	District	Improvement Category	HSIP Cost	Relationship to SHSP Emphasis Area
1	211079-2	02	Miscellaneous	\$ 468,419	Intersections
2	211079-3	02	Miscellaneous	\$ 400,000	Intersections
3*	211079-4	02	Miscellaneous	\$ 300,000	Intersections
4	211079-5	02	Miscellaneous	\$ 300,000	Intersections
5	211079-6	02	Miscellaneous	\$ 22,429	Intersections
6*	237995-1	05	Miscellaneous	\$ 450,000	Intersections, Bike, Ped, Lane Departures, Elderly Drivers and Motorcycles
7	254526-1	07	Non-infrastructure - other	\$ 524,994	Intersections
8*	254553-1	07	Miscellaneous	\$ 1,954,885	Pedestrians
9	254646-1	07	Miscellaneous	\$ 753,592	Intersections, Bike, Ped, Lane Departures, Elderly Drivers and Motorcycles
10	254647-1	07	Miscellaneous	\$ 1,805,437	Pedestrians
11*	418439-1	03	Miscellaneous	\$ 299,978	Intersections, Bike, Ped, Lane Departures, Elderly Drivers and Motorcycles
12	423051-1	07	Roadway Pavement surface miscellaneous	\$ 8,563	Bike and Pedestrian
13	424552-1	07	Roadway Pavement surface miscellaneous	\$ 440,550	Lane Departure and Intersections
14	424561-1	07	Roadway Pavement surface miscellaneous	\$ 134	Lane Departure
15	429039-1	05	Railroad grade crossings - other	\$ 51,050	Intersections
16*	429650-1	04	Miscellaneous	\$ 300,000	Intersections, Bike, Ped, Lane Departures, Elderly Drivers and Motorcycles
17*	430852-1	01	Non-infrastructure other	\$ 145,378	Intersections, Bike, Ped, Lane Departures, Elderly Drivers and Motorcycles
18*	431635-1	06	Miscellaneous	\$ 281,211	Intersections
			Total	\$ 8,506,620	

Source: Compiled from testing data obtained from HSIP's 2014 Annual Report to FHWA.

*Push Button projects judgmentally sub-selected for invoice review.

ATTACHMENT 2 – Current Strategic Highway Safety Program Emphasis Areas⁸

1. **Aggressive Driving:** crashes where the driver has committed two or more of the following actions:
 - a. Failure to yield the right of way
 - b. Improper lane change
 - c. Improper passing
 - d. Following too closely
 - e. Disregarded traffic control
 - f. Speeding
2. **Distracted Driving:** crashes involving any mental or physical activity that takes the driver's focus off the task of driving. The Florida crash report allows officers to report driver distraction in the following categories:
 - a. Distracted by electronic communication devices (e.g., talking on cell phone)
 - b. Other electronic devices (e.g., navigation devices and DVD player)
 - c. Other distractions inside the vehicle (e.g., radio, passengers)
 - d. External distractions outside the vehicle
 - e. Texting or general inattentiveness
3. **Lane Departures:** non-intersection crashes which occur after a vehicle crosses an edge line or a centerline, or otherwise leaves the traveled way.
4. **Intersections:** crashes occurring at, or within, 250 feet of a signalized and non-signalized intersection.
5. **At Risk Drivers (Aging Road Users and Teens):** crashes involving drivers over the age of 65 or teen drivers 15 to 19 years old.
6. **Vulnerable Road Users:** crashes involving pedestrians, bicyclists, or motorcyclists.
7. **Impaired Driving:** crashes involving drivers under the influence of alcohol or drugs. It is unlawful for a person under the age of 21 to operate a motor vehicle with a blood-alcohol level or breath-alcohol level of 0.02 or higher (referred to as zero tolerance); 0.08 is the legal limit for drivers 21 and older.
8. **Traffic Data:** advances the accessibility, accuracy, completeness, timeliness, and uniformity of Florida's traffic records systems (crash, driver, vehicle, roadway, citation/adjudication, and EMS/injury surveillance), and provides Florida state agencies with a common basis for moving ahead with traffic records system upgrades, integration, and data analysis required to conduct highway safety analyses in the state.

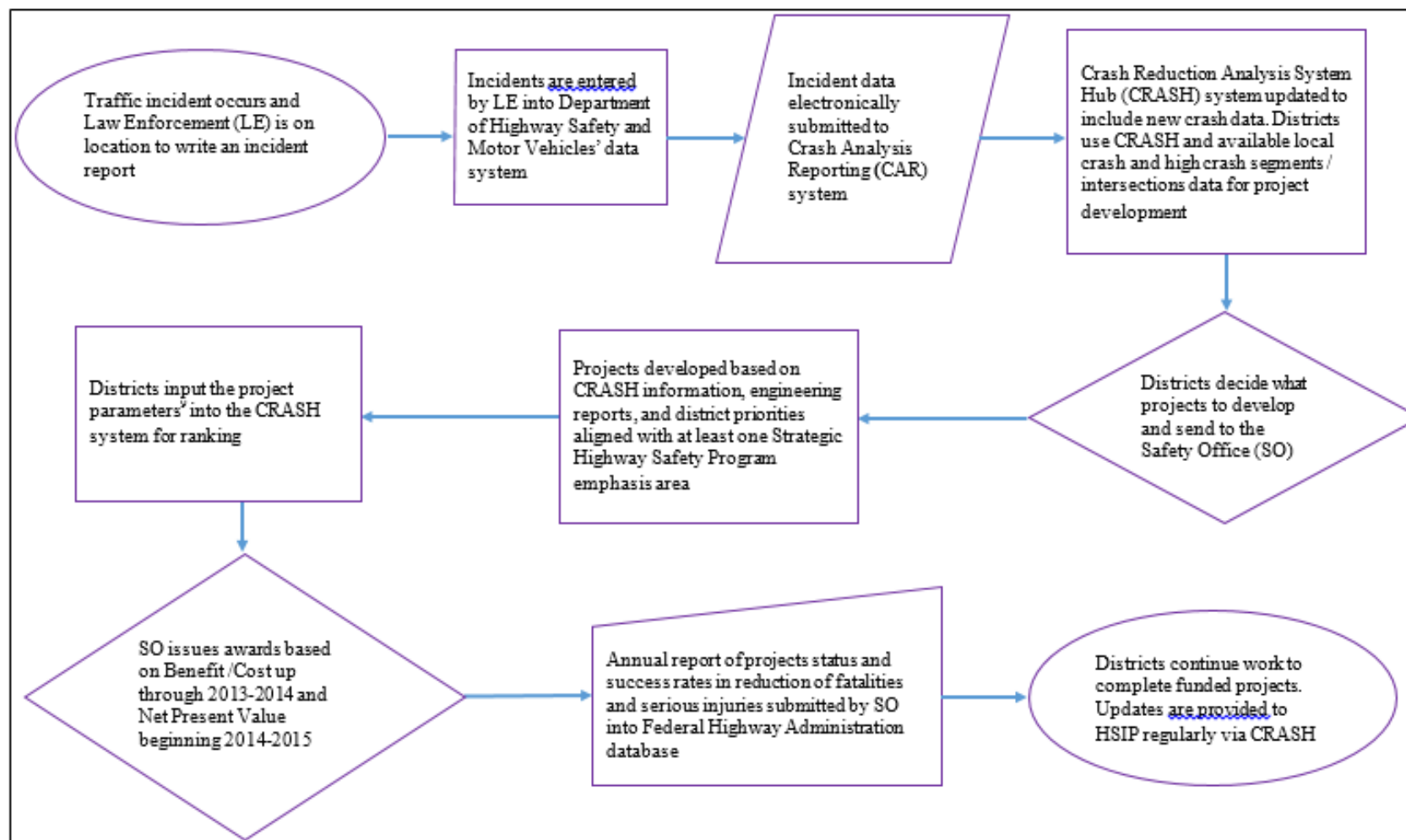
⁸ 23 C.F.R. 924.9(a)(3)(F), Highway Safety Improvement Program; Planning, requires the development and use of emphasis areas.

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In Florida, panels comprised of employees and volunteers from state agencies, law enforcement agencies, cities, universities, law offices, counties, civic organizations, medical organizations, and other business entities with ties to traffic safety and education determine emphasis areas. The more than 100 panel members for Florida's Strategic Highway Safety Plan (SHSP) consider crash and fatality data from around the state, and public survey results as conducted by the Florida Department of Highway Safety and Motor Vehicles to develop emphasis areas.

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ATTACHMENT 3 – HSIP Process Map



Source: Compiled from fieldwork interviews.

⁹ Parameters are elements of projects (e.g., number of lights and length of roadway).