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DEPARTMENT OF TRANSPORTATION

[4910-22-P]

Federal Highway Administration

23 CFR Part 924

[Docket No. FHWA-2013-0019]

RIN 2125-AF56

Highway Safety Improvement Program

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Final rule.

SUMMARY: The purpose of this final rule is to incorporate changes to the Highway Safety Improvement Program (HSIP) regulations to address provisions in the Moving Ahead for Progress in the 21st Century Act (MAP-21) as well as to incorporate clarifications to better explain existing regulatory language. The DOT also considered the HSIP provisions in the Fixing America's Surface Transportation Act (FAST Act) in the development of the HSIP final rule. Specifically, this rule removes the requirement for States to prepare a Transparency Report that describes not less than 5 percent of locations that exhibit the most severe safety needs, removes the High Risk Rural Roads (HRRR) set-aside, and removes the 10 percent flexibility provision for States to use safety funding in accordance with Federal law. This rule also establishes a subset of roadway data elements, and creates procedures to ensure that States adopt and use the subset. Finally, this rule adds State Strategic Highway Safety Plan update requirements and requires States to report HSIP performance targets.

DATES: This final rule is effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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SUPPLEMENTARY INFORMATION:

Electronic Access and Filing

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Executive Summary

I. Purpose of the Regulatory Action

The Moving Ahead for Progress in the 21st Century Act (MAP-21) (Pub. L. 112-141) and the Fixing America's Surface Transportation Act (FAST Act) (Pub. L. 114-94) continue the Highway Safety Improvement Program (HSIP) under section 148, title 23 of the United States Code (U.S.C.) as a core Federal-aid program with the purpose to achieve a significant reduction in fatalities and serious injuries on all public roads. The

MAP-21 amended the HSIP by requiring the DOT to establish several new requirements and removes several provisions that were introduced under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). A revision to 23 CFR part 924 is necessary to align with the MAP-21 and FAST provisions and clarify existing program requirements. A key component of this rule is the requirement for States to collect and use a set of roadway data elements for all public roadways, including local roads. Data elements include elements to classify and delineate roadway segments (e.g., beginning and end point descriptors), elements to identify roadway physical characteristics (e.g., median type and ramp length), and elements to identify traffic volume. The purpose of this requirement, in addition to satisfying a statutory requirement, is to improve States' ability to estimate expected number of crashes at roadway locations, with the ultimate goal to improve States' allocation of safety resources.

II. Summary of the Major Provisions of the Regulatory Action in Question

This final rule retains most of the major NPRM provisions without change, with the exception of the Model Inventory of Roadway Elements (MIRE) fundamental data elements (FDE). The MAP-21 requires DOT to establish a subset of model roadway elements (a.k.a. MIRE) FDE (23 U.S.C. 148(e)(2)(A)). Based on the review and analysis of comments received in response to the NPRM, FHWA revised the required MIRE FDE in this final rule to clarify where the data elements shall be collected (i.e. based on functional classification, rather than volume). The MIRE FDE are the minimum roadway data elements an agency would need to conduct system-wide network screening and can

be divided into the following categories: (1) MIRE FDE that define roadway segments, intersections and interchanges/ramps, (2) MIRE FDE that delineate basic information needed to characterize the roadway type and exposure, and (3) MIRE FDE that identify governmental ownership and functional classification consistent with the HSIP reporting requirements. The FHWA believes that the roadway data elements are the fundamental set of data elements that an agency would need in order to conduct enhanced safety analyses to improve safety investment decisionmaking through the HSIP. The MIRE FDE also has the potential to support other safety and infrastructure programs in addition to the HSIP.

The MAP-21 also requires the DOT to establish the update cycle for Strategic Highway Safety Plans (SHSP) (23 U.S.C. 148(d)(1)(A)) and the content and schedule for the HSIP report (23 U.S.C. 148(h)(2)). An SHSP is a statewide-coordinated safety plan that identifies a State's key safety needs and guides investment decisions toward strategies and countermeasures with the most potential to save lives and prevent injuries. This final rule establishes an SHSP update cycle of at least every 5 years, consistent with the NPRM and current practice in most States. For example, 45 States updated their SHSP or had an SHSP update underway within a 5-year timeframe. A number of those States are on the third version of their SHSP. Of those States that have not delivered an SHSP update, they have an update planned or well underway. The final rule also maintains the requirement that States submit their HSIP reports on an annual basis, by August 31 each year. In addition to existing reporting requirements, DOT requires that State DOTs document their safety performance targets required under 23 U.S.C. 150(d)

and the basis on which those targets were established in their annual HSIP report, and describe progress to achieve those safety performance targets in future HSIP reports. The DOT also requires States to use the HSIP online reporting tool to submit their annual HSIP reports, consistent with the NPRM and the Office of the Inspector General's recommendations in the 2013 HSIP Audit.¹ Currently, a majority of States use the HSIP online reporting tool to submit their annual HSIP reports. All HSIP reports are publicly available on the FHWA Web site.²

While the MAP-21 allowed HSIP funds to be eligible for any type of highway safety improvement project (i.e., infrastructure or non-infrastructure); the FAST Act limits this flexibility. In response to the FAST Act provisions and comments received on the NPRM, FHWA removes the provision that required FHWA to assess the extent to which other eligible funding programs are programmed for non-infrastructure projects prior to using HSIP funds for these purposes in this final rule. The DOT also adopts language throughout the final rule to be consistent with the performance management requirements under 23 U.S.C. 150.

Lastly, as described in the NPRM, this final rule removes all existing references to the HRRR Program, 10 percent flexibility provisions, and transparency reports since MAP-21 eliminated these provisions.

¹ Office of the Inspector General, *Audit Report: FHWA Provides Sufficient Guidance and Assistance to Implement the Highway Safety Improvement Program but Could Do More to Assess Program Results*, Report Number: MH-2013-055, March 26, 2013, is available at the following Internet Web site: <https://www.oig.dot.gov/sites/default/files/FHWA's%20Highway%20Safety%20Improvement%20Program%5E3-26-13.pdf>.

² HSIP reports can be found at the following Internet Web site: <http://safety.fhwa.dot.gov/hsip/reports>

III. Costs and Benefits

Of the three requirements mandated by MAP-21 and addressed in this rule (MIRE FDE, SHSP update cycle, and HSIP Report Content and Schedule), FHWA believes that only the requirement regarding the MIRE FDE would result in additional costs. The SAFETEA-LU and the existing regulation already require States to update their SHSP on a regular basis; the final rule establishes a cycle of at least every 5 years for States to update their SHSP. The final rule does not change the existing schedule for the HSIP report. The MAP-21 results in only minimal proposed changes to the HSIP report content related to reporting safety performance targets required under 23 U.S.C. 150(d); however, additional costs as a result of this new content are negligible and the removal of the transparency report requirements reduces existing reporting costs. The costs to establish the safety performance targets required under 23 U.S.C. 150(d) are considered under the concurrent rulemaking for safety performances measures (Docket number FHWA-2013-020). There were no comments to the docket indicating that any of the changes listed above, other than those relating to MIRE FDE, would result in increased costs to the States. Therefore, FHWA bases its cost-benefit analysis on the MIRE FDE component only and uses the “MIRE Fundamental Data Elements Cost-Benefit Estimation” Report³ for this purpose.

Table 1 displays the estimated total net present value cost of the requirements for States to collect, maintain, and use the proposed MIRE FDE for all public roadways.

³ “MIRE Fundamental Data Element Cost-Benefit Estimation,” dated May 13, 2015, is available on the docket for this rulemaking.

Total costs are estimated to be \$659.1 million undiscounted, \$508.0 million discounted at 3 percent, and \$378.7 million discounted at 7 percent. Although not a specific requirement of this final rule, the cost estimate also includes an estimate of the cost for States to extend their statewide linear referencing system (LRS) to all public roads, since an all-public-roads LRS is a prerequisite to realizing the full benefits from collecting and using the MIRE FDE. This cost is estimated to be \$32,897,622 nationally (discounted at 7 percent). The cost estimates reflect the additional costs that a State would incur based on what is not being collected through the Highway Performance Monitoring System (HPMS) or not already being collected through other efforts. In order for the rule to have net safety benefits, States would need to analyze the collected data, use it to identify locations with road safety improvement potential, shift project funding to those locations, and those projects would need to have more safety benefits than the projects invested in using current methods which do not incorporate the proposed MIRE FDE. Additional costs for data quality control, local agency coordination, and data analysis are also included in the MIRE FDE Cost-Benefit Estimation Report.

Table 1: Total Estimated Net Present Value National Costs for MIRE FDE (2015-2035 Analysis Period)

Cost Components	Total National Costs (Net Present Value)		
	Undiscounted	3%	7%
Cost of Section 924.17			
Linear Referencing System (LRS)	\$34,010,102	\$33,514,809	\$32,897,622
Initial Data Collection	\$113,395,680	\$96,253,460	\$78,854,599
Roadway Segments	\$68,879,288	\$57,899,768	\$46,795,474
Intersections	\$2,161,256	\$1,816,747	\$1,468,323
Interchange/Ramp locations	\$1,057,984	\$889,339	\$718,777
Volume Collection	\$41,297,152	\$35,657,606	\$29,872,025

Maintenance of data system	\$65,683,740	\$45,319,305	\$28,907,829
Management & administration	\$6,410,685	\$5,388,807	\$4,355,316
Miscellaneous	\$499,585,598	\$327,522,078	\$233,726,851
Total Cost	\$659,085,805	\$508,008,459	\$378,742,217

The cost for developing a statewide LRS would equate to on average \$645,051 for each State and the District of Columbia. The cost for data collection for an average State is estimated to be \$1,546,169 for the initial data collection and \$85,398 for management and administration costs,⁴ \$566,820 for maintenance costs⁵ and \$4,582,879 for miscellaneous costs⁶ over the analysis period of 2015–2035 (2014 U.S. dollars).⁷ These estimates are net present value average costs on a per average State basis discounted at 7 percent. As such, across the 50 States and the District of Columbia, it is possible that the aggregate cost for the initial data collection would be approximately \$79 million over 10 years and the total maintenance, management, and administration and miscellaneous costs would approach \$267 million over the 20 year analysis period.⁸

The MIRE FDE are beneficial because collecting this roadway and traffic data and integrating those data into the safety analysis process would improve an agency’s ability to locate problem areas and apply appropriate countermeasures, hence improving

⁴ DOT defines management and administration costs as the costs to administer contracts for data collection. The analysis estimates management and administration costs at 5 percent of the estimated initial MIRE FDE collection costs. The analysis assumes management and administration costs would not exceed \$260,000 per State.

⁵ DOT defines maintenance costs as the costs to update the data as conditions change. The analysis assumes that 2 percent of roadway mileage would need to be updated annually.

⁶ DOT defines miscellaneous costs include the one-time cost of developing an implementation plan and cost of data collection mobilization and annual ongoing costs of local agency partner liaison, formatting and analyzing enhanced data and desktop and web application.

⁷ “MIRE Fundamental Data Element Cost-Benefit Estimation,” dated May 13, 2015 is available on the docket for this rulemaking.

⁸ Ibid.

safety. The FHWA did not estimate the benefits of this rule. Instead, FHWA has conducted a breakeven analysis. There were no comments to the docket indicating that a different type of analysis should be performed, except that the cost-benefit analysis should also consider a benefit/cost ratio of 10:1 since this is the average benefit/cost ratio for a typical highway safety improvement project. Table 2 shows the reduction in fatalities and injuries due to improvements in safety investment decisionmaking with the use of the MIRE FDE that would be needed for the costs of the data collection to equal the benefits and for the benefits to exceed the cost 10 times.

Table 2: Estimated Benefits Needed to Achieve Cost-Benefit Ratios of 1:1 and 10:1
(2015-2035 Analysis Period)

Benefits	Number of Lives Saved/Injuries Avoided Nationally	
	Benefit/Cost Ratio of 1:1	Benefit/Cost Ratio of 10:1
# of lives saved (fatalities)	76	763
# of injuries avoided	5,020	50,201

Using the 2014 comprehensive cost of a fatality of \$9,300,000 and \$109,800 for an average injury⁹, results in an estimated reduction of one fatality and 98 injuries per average State over the 2015–2035 analysis period would be needed to result in a benefit-cost ratio greater than 1:1.¹⁰ To achieve a benefit/cost ratio of 10:1, each State would need to reduce fatalities by 15 and injuries by 984 over the same analysis period.¹¹ The

⁹ “Guidance on Treatment of the Economic Value of a Statistical Life (VSL) in U.S. Department of Transportation Analyses, 2014 Update. www.dot.gov/regulations/economic-values-used-in-analysis.

¹⁰ Ibid.

¹¹ Ibid.

FHWA believes this is possible because the MIRE FDE, in combination with crash data, will support more cost-effective safety investment decisions and ultimately yield greater reductions in fatalities and serious injuries per dollar invested. Further, the experiences to date in States that are already collecting and using roadway data comparable to the MIRE FDE suggests there is a very high likelihood that the benefits of collecting and using the proposed MIRE FDE will outweigh the costs.

Background

On March 28, 2014, at 79 FR 17464, the FHWA published a NPRM proposing to revise the regulations in 23 CFR part 924 Highway Safety Improvement Program. The HSIP is a core Federal-aid program with the purpose to achieve a significant reduction in fatalities and serious injuries on all public roads. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. The NPRM was published to incorporate the new statutory requirements of MAP-21 and the FAST Act, as well as general updates to provide consistency with 23 U.S.C. 148 and to provide State and local safety partners with clarity on the purpose, definitions, policy, program structure, planning, implementation, evaluation, and reporting of the HSIP. Specifically, MAP-21 removed the requirement for States to prepare a Transparency Report, removed the HRRR set-aside, and removed the 10 percent flexibility provision for States to use safety funding in accordance with 23 U.S.C. 148(e) [as it existed under SAFETEA-LU]. The MAP-21 also adds data system and improvement requirements, State SHSP update requirements, and requirements for States to develop HSIP performance targets. The DOT is addressing specific requirements

related to HSIP performance target requirements through a separate, but concurrent, rulemaking effort (FHWA-2013-0020).

Stakeholder Outreach

As discussed above, the MAP-21 required the Secretary of Transportation to establish a subset of the model inventory of roadway elements, or the MIRE FDE, that are useful for the inventory of roadway safety. The U. S. Government Accountability Office (GAO) supported collection of FDEs on the progress made toward accomplishing the HSIP goals in a November 2008, report entitled “Highway Safety Improvement Program: Further Efforts Needed to Address Data Limitations and Better Align Funding with States’ Top Safety Priorities.” As discussed in the NPRM, the GAO report recommended that the Secretary of Transportation direct the FHWA Administrator to take specific actions and FHWA published, “Guidance Memorandum on Fundamental Roadway and Traffic Data Elements to Improve the Highway Safety Improvement Program.”¹² As part of addressing GAO’s recommendations, FHWA engaged in efforts to obtain public input. The FHWA hosted a peer exchange at the 2009 Asset Management Conference, two Webinars in December 2009, and one listening session at the January 2010 Transportation Research Board meeting to obtain input on possible approaches to address the GAO’s recommendations. During the Webinars and the listening session, FHWA listened carefully to the comments and concerns expressed by

¹² Guidance Memorandum on Fundamental Roadway and Traffic Data Elements to Improve the Highway Safety Improvement Program, issued August 1, 2011 can be viewed at the following Internet Web site: http://safety.fhwa.dot.gov/tools/data_tools/memohsip072911/.

the stakeholders and used that information when developing the August 1, 2011, Guidance Memorandum. The August 1 Guidance Memorandum formed the basis for the State Safety Data System guidance published on December 27, 2012.

Summary of Comments

The FHWA received 62 letters submitted to the docket containing approximately 425 individual comments. Comments were received from 41 State departments of transportation (State DOT), 4 local government agencies, 10 associations (e.g. the American Association of State Highway and Transportation Officials (AASHTO), American Transportation Safety Services Association (ATSSA), and Geospatial Transportation Mapping Association (GTMA)), and 7 private citizens. The FHWA has reviewed and analyzed all the comments received. The FHWA has also reviewed and considered the implications of the FAST Act on the HSIP Final Rule. The significant issues raised in the comments and summaries of the FHWA's analyses and determinations are discussed below.

Section 924.1 Purpose

The FHWA did not receive any substantive comments regarding the proposed change to clarify that the purpose of this regulation is to prescribe requirements for the HSIP, rather than to set forth policy and therefore revises the regulation as proposed.

Section 924.3 Definitions

As proposed in the NPRM, FHWA removes the following definitions because they are no longer used in the regulation: “integrated interoperable emergency communication equipment,” “interoperable emergency communications system,”

“operational improvements,” “safety projects under any other section,” “State,” and “transparency report.” There were no substantive comments to the docket regarding the proposed removal of these definitions; therefore FHWA removes them in this final rule.

In the NPRM, FHWA also proposed to remove the definition of “high risk rural road” (HRRR) because this term is no longer used in the regulation. The Delaware DOT supported the removal of the term. However, ATSSA and the American Highway Users Alliance suggested retaining the definition of the term “high risk rural road” because there is still a special rule that links to HRRRs in MAP-21. The Arizona DOT suggested that, if an HRRR is considered a public road, it should be treated like any other public road, rather than as part of a special rule, and HSIP funds should be used to target locations of high frequency of fatalities or serious injuries. As a result, Arizona DOT suggested that a consistent definition for HRRR should be established that applies to all States. Under 23 U.S.C. 148(a)(1), States have the flexibility to define high risk rural road in accordance with their updated SHSP. Because the definitions portion of the regulation is meant to define specific terms used in the regulation, the FHWA deletes the definition in the final rule, since the term is not used in the regulation.

In the NPRM, the FHWA proposed to remove the definition of “highway-rail grade crossing protective devices” from the regulation. The ATSSA, the Railway Supply Institute, and the American Highway Users Alliance all opposed the removal of the definition. The Railway Supply Institute and the American Highway Users Alliance cited the provisions in 23 U.S.C. 130 that allow funds to be available for the installation of protective devices at railway-highway crossings. The commenters suggested that

given that statutory requirement, it is important to provide a clear definition of the type of devices eligible for funding under this section of law, and that the existing definition of protective devices in 23 CFR 924.3 does that and should be retained. In addition, commenters noted that a version of this term was retained in 23 CFR 924.11. The FHWA agrees and retains the definition in the final rule with a slight modification to the term, revising it to “railway-highway crossing protective device.” The FHWA uses the term “railway” rather than railroad throughout the regulation for consistency with the program title under 23 U.S.C. 130.

Although FHWA did not propose a change to the term “hazard index formula” the FHWA received a comment from Washington State DOT suggesting the term implies an unsafe condition. The AASHTO and Georgia DOT commented that the term “hazard,” which is used throughout the regulation, implies an unsafe condition on a roadway. The commenters suggested that the use of the term “hazard” creates a liability for many State DOTs since it implies that an unsafe condition does exist when it does not. The commenters requested that the term “risk” or “relative risk” be used, because it would be more accurate and not inadvertently create potential liability for State DOTs, and would be more in keeping with the state of the practice. Because “hazard index formula” is an industry standard term and changing it would cause confusion, FHWA retains the existing term. The FHWA agrees with the commenter that the hazard index formula is used for determining the relative risks at a railway-highway crossing and therefore revised the definition to refer to “relative risk.” Because the term “hazard” is used

throughout the legislation, FHWA retains the term for consistency between the legislation and the regulation.

In the NPRM, FHWA proposed to revise the definition for the term “highway” to clarify the definition of 23 U.S.C. 101(a) and the provision that HSIP funds can be used for highway safety improvement projects on any facility that serves pedestrians and bicyclists pursuant to 23 U.S.C. 148(a)(4)(B)(v) and (e)(1)(A). The GTMA suggested that, given the role of roadway pavement markings in supporting advanced lane detection vehicle technologies, the term “markings” be included as one of the associated elements of a road, street, or parkway in the definition of the term “highway.” The FHWA agrees and includes “markings” in the definition of the term “highway.”

The FHWA proposed to revise the definition of “highway safety improvement program” in the NPRM by adding the acronym “HSIP” to indicate that when the acronym HSIP is used in the regulation it is referring to the program carried out under 23 U.S.C. 130 and 148, and not the program of highway safety improvement projects. The FHWA proposed to include a listing of the HSIP components—Strategic Highway Safety Plan (SHSP), Railway-Highway Crossings program, and program of highway safety improvement projects—in the definition. The GTMA suggested that the definition indicate that the program is designed to significantly reduce traffic fatalities and serious injuries on all public roads through the implementation of the provisions in 23 U.S.C. 130 and 148. The FHWA agrees and revises the definition to indicate that the purpose of the HSIP is to reduce fatalities and serious injuries on all public roads through the implementation of the provisions of 23 U.S.C. 130, 148, and 150. The FHWA adds a

reference to 23 U.S.C. 150 in the final rule to be inclusive of all applicable legislation.

The FHWA also adds the term “data-driven,” as suggested by the Rhode Island DOT, to describe the SHSP and to clarify that it is developed from a data-driven approach.

In the NPRM, FHWA proposed to revise the definition of “highway safety improvement project” to specify that it includes strategies, activities, and projects and that such projects can include both infrastructure and non-infrastructure projects under 23 U.S.C. 148(a)(4)(A) and (c)(2)(C)(i). The ATSSA disagreed with the expansion of the definition to include both infrastructure and non-infrastructure projects, stating that the HSIP was created to focus on safety infrastructure investments. The FAST Act limits HSIP eligibility to the inclusions list in 23 U.S.C. 148(a)(4)(B). Therefore, FHWA removes the general reference to non-infrastructure projects as proposed in the NPRM. The ATSSA also disagreed with the removal of the listing of example projects from the regulation. The ATSSA reasoned that the list was created for a reason to serve as a guidepost and to direct States in their investment decisions, and that while it is not an exhaustive list, it does reiterate the types of infrastructure projects that funds should be focused on in the States. Because it is not an exhaustive list, FHWA believes it is best to refer readers to 23 U.S.C. 148(a) for the most current list of example projects.

The FHWA replaces the term “public grade crossing” with “public railway-highway crossing” because the term public grade crossing is no longer used in the regulation. It was replaced with public railway highway crossing in section 924.9 in the NPRM. In addition, consistent with the NPRM, FHWA revises the definition of this term to clarify that associated sidewalks, pathways, and shared use paths are also elements of a

public grade crossing pursuant to 23 U.S.C. 130(l)(4)(A)(i) and (ii). There were no substantive comments regarding this change.

The ATSSA, GTMA, and Maine DOT supported the proposed addition to the definition of “public road” that non-State-owned public roads and roads on tribal lands are considered public roads pursuant to 23 U.S.C. 148(a)(12)(D), (b)(2), (c)(2)(A)(i), (c)(2)(D)(ii), and (d)(1)(B)(viii) in the NPRM. Virginia DOT suggested clarification regarding Federal roadways as well as alleys and service roads maintained by a public agency. The FHWA reiterates that Federal roadways are included in the definition of public road, unless otherwise noted, and that a public road is any road open to public travel, which includes alleys and service roads. The purpose of the HSIP is to reduce fatalities and serious injuries on all public roads. Therefore, FHWA encourages State DOTs to coordinate with all relevant stakeholders to meet the requirements of the program. Comments from Alaska and Arizona DOTs regarding data collection on public roads and roads open to public travel are addressed in section 924.17.

Although FHWA did not propose changes to the term “road safety audit” in the NPRM, ATSSA suggested that FHWA clarify that the purpose of the “road safety audit” is to improve road safety for all users. The FHWA agrees and makes this change in the final rule.

The FHWA removes “vehicle data” from the listing of safety data components in the definition of “safety data” to be consistent with MAP-21, 23 U.S.C. 148(a)(9)(A), as proposed in the NPRM. As suggested by the GTMA, FHWA adds the term

“characteristics” to reinforce that “roadway” refers to the physical attributes of the road segment.

In the NPRM, FHWA proposed to expand the definition of “safety stakeholder” to include a list of stakeholders. Although the list is not exhaustive, FHWA proposed including this list to ensure that States are aware of the range of stakeholders that are, at a minimum, required to be involved in SHSP development and implementation efforts. While the Mid-America Regional Council (the Metropolitan Planning Organization (MPO) for the bi-state Kansas City region) supported the inclusion of MPOs in the list of safety stakeholders, the GTMA suggested that FHWA add State and local emergency medical response officials and private sector representatives involved with roadway safety and data collection because they could provide valuable perspectives on the impacts of crashes. The FHWA agrees that these entities could provide meaningful information and States are encouraged to include such entities, as well as others that are not listed, in their safety planning efforts. The FHWA retains the definition as proposed in the NPRM to be consistent with MAP-21.

Although FHWA proposed to revise the definition of “serious injury” in the NPRM, FHWA deletes the definition of “serious injury” in the final rule due to the concurrent rulemaking for safety performance measures (FHWA-2013-0020 at 79 FR 13846). A specific definition of serious injury is not necessary for this regulation. States have effectively managed the HSIP using their own definition for serious injury since the inception of the HSIP. The MAP-21 or FAST did not make any changes to how the HSIP is managed or administered regarding serious injury. Not including a serious injury

definition in this regulation gives States the flexibility to consider their own definition of serious injuries for problem identification. However, since it is necessary for all States to use the same definition of “serious injury” for safety performance measures, the term will be defined exclusively in 23 CFR part 490.

In the NPRM, FHWA proposed to revise the definition of “strategic highway safety plan” to indicate that the SHSP is a multidisciplinary plan, rather than a data-driven one to be consistent with MAP-21. Wisconsin DOT supported the concept that the SHSP is a multidisciplinary plan and that the multidisciplinary component is an important part of the plan. The Rhode Island DOT indicated that they view the SHSP as a multidisciplinary plan that is developed from a data-driven approach, and therefore felt that removing data-driven requirement from SHSP seems to contradict with the objective of HSIP. Delaware DOT and ATSSA also disagreed with removing the term “data-driven” and suggested it be retained due to the importance of linking investments of HSIP funds to data in MAP-21. The FHWA agrees that the SHSP should be developed based on data and revises the definition in the final rule to reflect that the SHSP is a comprehensive, data-driven plan consistent with the definition in 23 U.S.C. 148. The term comprehensive as used here means multidisciplinary. Additional clarification will be provided in guidance.

In the NPRM, FHWA proposed to add definitions for “spot safety improvement” and “systemic safety improvement” to clarify the difference between these types of improvements. The Minnesota DOT suggested further clarification to the definition of “systemic safety improvement,” since it goes beyond a countermeasure that is being

widely installed. Minnesota DOT suggested further definition is needed so States can confidently deploy systemic safety projects in small quantities when needed, and prohibit large quantity deployments of unproven countermeasures under the guise of a systemic safety project. The FHWA agrees and revises the definition in the final rule to indicate that systemic safety improvements are proven safety countermeasures. The FHWA adopts the definition for “spot safety improvement” as proposed in the NPRM.

As proposed in the NPRM, FHWA adds two definitions of terms used in the regulation: “Model Inventory of Roadway Elements (MIRE) Fundamental Data Elements” and “reporting year.” There were no significant comments to the docket regarding these definitions; however, FHWA incorporates minor editorial changes to the definition of “Model Inventory of Roadway Elements (MIRE) Fundamental Data Elements” in the final rule.

Section 924.5 Policy

As proposed in the NPRM, FHWA incorporates minor editorial modifications in paragraph (a) to explicitly state that the HSIP’s objective is to significantly reduce fatalities and serious injuries, rather than “the occurrence of and potential for fatalities and serious injuries” as written in the existing regulation.

In the NPRM, FHWA proposed to delete from paragraph (b) the provisions related to 10 percent flex funds, due to the removal of the flex fund provisions in MAP-21. The AASHTO and Georgia DOT supported the elimination of the 10 percent flex funds provision in exchange for being able to use the funds to maximize the potential safety benefit of HSIP expenditures. The FHWA also proposed to add language that

funding shall be used for highway safety improvement projects that maximize opportunities to advance safety consistent with the State's SHSP and have the greatest potential to reduce the State's fatalities and serious injuries. The AASHTO and Minnesota DOT suggested that the language, as proposed, appeared to be unduly detailed or prescriptive and would not allow a State the flexibility and ability to program safety projects that might act to curtail State programming flexibility beyond any statutory requirement. Georgia DOT also expressed concern that the proposed language implies that all projects can be compared side-by-side to one another, which is not possible or practicable. Montana DOT expressed similar concerns. As a result, the FHWA revises the language in the final rule to state that HSIP funds shall be used for highway safety improvement projects that are consistent with the State's SHSP, and that HSIP funds should be used to maximize the opportunities to advance highway safety improvement projects that have the greatest potential to reduce the State's roadway fatalities and serious injuries.

In the NPRM, FHWA further proposed to clarify that prior to using HSIP funds for non-infrastructure related safety projects, other Federal funds provided to the State for non-infrastructure safety programs (including but not limited to those administered by the National Highway Traffic Safety Administration (NHTSA) and Federal Motor Carrier Safety Administration (FMCSA)) should be fully programmed. The FHWA's intent in the NPRM was for States to use all available resources to support their highway safety needs and make progress toward a significant reduction in fatalities and serious injuries on all public roads. The NPRM further stated that in the case of non-infrastructure

projects involving NHTSA grant funds, State DOTs should consult State Highway Safety Offices about the project eligibility under 23 U.S.C. 402.

The AASHTO expressed concern that a lack of flexibility by the Federal agencies will impact any opportunities that States may have to be innovative in using such funds to address non-infrastructure types of safety projects. The AASHTO, virtually all of the States that commented on this provision, California Walks, and a private citizen supported the ability to use HSIP funds for non-infrastructure projects, but expressed concern that the added requirement of “all other eligible funding for non-infrastructure projects must be used prior to using HSIP funds” may be limiting and a detriment. Michigan DOT stated that non-HSIP funding for non-infrastructure based safety solutions may not be under the direction of the State DOT and, therefore, the flexibility of State DOTs in the use of HSIP funding should not be restricted by the decisions made on how non-HSIP funds are used by other entities. The AASHTO stated that if a non-infrastructure project/program meets the HSIP approved criteria, the State DOT should be able to utilize the funds as needed. The Michigan DOT also suggested that the Federal-aid highway program is a State-administered, federally funded program, and the proposed language appears to exceed the boundaries of the Federal role in project selection. The ATSSA expressed disagreement with the use of HSIP funds for non-infrastructure projects. The GTMA expressed support for the use of HSIP funds to integrate FMCSA and NHTSA crash data into a basemap designed to develop a more comprehensive and strategic approach to safety, including training and other data initiatives to assist in using basemap data to assist in the enforcement of behavioral and FMCSA-related laws. They

also expressed their support for the use of HSIP funds for the collection of mobile imaging, LiDAR, retroreflectivity, friction and 3D pavement and bridge deck imaging data. Understanding the need to strike a balance, GTMA encouraged FHWA to put in place strong accounting measures to ensure that any funds transferred from HSIP to other safety or non-safety programs be traceable and that a justification be provided prior to approval. The GTMA strongly supported the proposed provision to require other eligible funding to be used for non-infrastructure projects in order to help maintain programmatic integrity and transparency among the various safety programs. Georgia, Kentucky, Idaho, Montana, North Dakota, South Dakota, and Wyoming DOTs suggested there be a stronger tie to fund projects and programs that are supported by the SHSP. The FAST Act limits HSIP eligibility to the inclusions list in 23 U.S.C. 148(a)(4)(B); accordingly, the FHWA removes this provision in the final rule.

As proposed in the NPRM, FHWA removes the first sentence of existing paragraph (c) regarding the use of other Federal-aid funds, since this information is repeated in § 924.11 (Implementation) and is better suited for that section. The FHWA also incorporates minor edits to the paragraph to provide more accurate references to the National Highway Performance Program (NHPP) and the Surface Transportation Program (STP) Federal-aid programs, and removes references to the Interstate Maintenance (IM), National Highway System (NHS), and Equity Bonus funding sources, since these funding programs have been consolidated into other program areas. The California State Association of Counties (CSAC) expressed concerns with the policy that safety improvements that are provided as part of a broader Federal-aid project should be

funded from the same source as the broader project. The CSAC expressed support for the principle that safety should be considered in all Federal-aid projects, yet cautioned that there may be circumstances when a smaller agency would need to use HSIP funding in addition to other funding sources in order to deliver a complete project. Alaska DOT suggested that the proposed changes are less clear and limit flexibility by limiting funding to one type of Federal-aid per project.

The FHWA's intent is not to limit flexibility, rather to promote the use of all available funding sources to implement safety improvements. In general, it is FHWA's policy that safety improvements/features should be funded with the same source of funds as the primary project. However, FHWA realizes there are some exceptions that may occur on a limited basis, such as when a programmed highway safety improvement project(s) overlaps with a standard road project, or for a designated period of time when a State wishes to advance implementation of an innovative safety countermeasure. The FHWA reiterates that the intent of this provision remains unchanged from the existing HSIP regulation and retains the proposed language.

Section 924.7 Program Structure

In paragraph (a), FHWA clarifies the structure of the HSIP, as proposed in the NPRM, by specifying that the HSIP is to include a SHSP, a Railway-Highway Crossings Program, and a program of highway safety improvement projects. As discussed in the NPRM, FHWA believes that listing the three main components will help States better understand the program structure. The GTMA expressed support for this change.

In the NPRM, FHWA proposed to clarify in paragraph (b) that the HSIP shall include a separate process for planning, implementation, and evaluation of the HSIP components described in § 924.7(a) for all public roads in the State. The North Carolina DOT suggested that the language needed to be clarified if the intent of the revision is to require the HSIP process to cover all public roads versus develop different processes for State maintained and non-State maintained public roads. As a result, FHWA revises the final rule to clarify that the HSIP process shall address all public roads in the State. The FHWA also incorporates minor revisions, as proposed in the NPRM, to require that the processes be developed in cooperation (rather than consultation) with the FHWA Division Administrator and be developed in consultation (rather than cooperatively) with officials of the various units of local and tribal governments; it further adds that other safety stakeholders shall also be consulted, as appropriate. In addition, FHWA clarifies that the processes developed are in accordance with the requirements of 23 U.S.C. 148. Finally, FHWA removes the existing last sentence of the regulation that references what the processes may include, since that language is more appropriate for guidance documents, rather than regulation.

The GTMA supported the revisions in this section with the suggestion that additional stakeholders be included in the definition of “safety stakeholder” in § 924.3.

Section 924.9 Planning

As discussed in the NPRM, FHWA reorganizes and revises paragraph (a) so that it reflects the sequence of actions that States should take in the HSIP planning process. As a result of this reorganization, the HSIP planning process now includes six distinct

elements, including a separate element for updates to the SHSP, which currently exists under the safety data analysis process. The FHWA also removes existing paragraph (a)(3)(iii) regarding the HRRR program to reflect the change in statute. While there were no public comments regarding the proposed reorganization of paragraph (a), there were comments related to several individual items, which are included in the discussion below along with key revisions to each element of § 924.9(a).

The FHWA revises paragraph (a)(1) to group data as “safety data,” rather than specifying individual data components and specifies that roadway data shall include MIRE FDE as defined in § 924.17 and railway-highway crossing data shall include all fields from the DOT National Highway-Rail Crossing Inventory. As discussed in the NPRM, MIRE FDE are a basic set of elements an agency would need to conduct enhanced safety analyses regardless of the specific analysis tools used or methods applied and they have the potential to support other safety and infrastructure programs in addition to the HSIP. While Washington State DOT supported including safety data on all public roads, the Wyoming, South Dakota, North Dakota, Indiana, Vermont, Massachusetts, Utah, Montana, Oklahoma, Illinois, Kentucky, Arizona, North Carolina, California, and Virginia DOTs all expressed concern with collecting MIRE FDE on all public roads. These DOTs expressed concerns related to collecting data on low volume, unpaved, and tribal lands roads where there are not significant numbers of crashes or safety concerns compared to other roads. The commenters suggested that the time required to collect such data, as well as the associated costs, creates extra burden and resource investments. The GTMA supported the efforts to create a nationwide base map of all public roads and

suggested that the MIRE FDE are in line with MAP-21 requirements. The FHWA retains the language for paragraph (a)(1) as proposed in the NPRM, but incorporates substantial changes to the MIRE FDE as discussed below in § 924.17 to address comments expressing concern for the increased cost and burden for collecting data on all public roads.

As proposed in the NPRM, FHWA revises paragraph (a)(2) to clarify that safety data includes all public roads. The FHWA retains the language for paragraph (a)(2) as proposed in the NPRM, with minor editorial changes.

As proposed in the NPRM, FHWA reorders and combines some of the items formerly in paragraph (a)(3)(ii) to reflect the sequence of actions States should take in HSIP planning. The revisions highlight the importance of the SHSP in the HSIP planning process and that it is a separate element. Key revisions, as well as those for which there were significant comments, are discussed herein. The MAP-21 requires FHWA to establish a SHSP update cycle, so FHWA proposed a maximum 5-year update cycle in paragraph (a)(3)(i) to reflect current practice in some States. The FHWA received support for the 5-year update cycle from most of the State DOTs who commented about the update cycle. Washington State DOT supported the 5-year update cycle, but also suggested that some States may desire a shorter update cycle. Therefore, Washington State DOT suggested FHWA provide flexibility to allow States to update their SHSP more frequently. Missouri DOT updates their SHSPs every 4 years and requested similar flexibility in the update requirement. The GTMA suggested that States be required to submit their first SHSP 7 years from the date of enactment of MAP-21 and

that subsequent plans be updated every 5 years. The MAP-21 requires States to update their SHSP by August 1st of the fiscal year following the establishment of the update requirements. The FHWA retains the language as proposed in the NPRM noting that the regulation also states, “A SHSP update shall be completed no later than five years from the previous date.” This language allows States to update their SHSPs more frequently than every 5 years, providing flexibility for States who choose more frequent updates.

Paragraph (a)(3)(iii) proposed the FHWA Division Administrator to approve the update process. Virginia DOT suggested that the requirement for a “process” description and approval should be clarified and recommended that language be added to specify when documentation must be submitted to FHWA for review and approval of a State’s SHSP update process. The GTMA suggested that any process review be conducted by the FHWA Administrator’s office, not the Division Administrator. Their recommendation is that FHWA Division Administrators should provide guidance in the SHSP development process, and since they are involved in the development then someone else should have responsibility for providing approval. The FHWA retains the language as proposed because the FHWA Division Administrators have been delegated the authority to act on behalf of the Administrator. Further, since the Divisions are involved in the update process, they are in the best position to determine if that process is consistent with MAP-21 requirements.

To address comments from AASHTO, Idaho, Montana, North Dakota, South Dakota, Wyoming, and Georgia DOTs, as well as GTMA, FHWA revises paragraph (a)(3)(vii) to reflect that the SHSP update shall identify key emphasis areas and strategies

that have the greatest potential to reduce highway fatalities and serious injuries and focus resources on areas of greatest need. The FHWA removes the phrase “greatest potential for a rate of return on safety investments,” to address comments suggesting that such language implies preparing project-level cost benefit analyses which are not appropriate at the planning level. The use of the term “rate of return” was not intended to reference a statistical methodology. The GTMA suggested changing the phrase “key features when determining SHSP strategies” in paragraph (a)(3)(vii) to mirror the legislation to read “key factors...” The FHWA retains the phrase “key features,” as proposed in the NPRM, because FHWA feels this language to be consistent with the level of detail appropriate for the SHSP.

To respond to a comment from GTMA requesting clarification on the process and potential resources for implementing strategies in the emphasis areas described in paragraph (a)(3)(xi), FHWA reiterates that this item serves as a basic, high-level description of the process covered in paragraph (a)(4) and does not require a validation process for each project at this level of SHSP planning. For example, some States (such as Louisiana, Maryland and Pennsylvania) include in their SHSP a section that explains how they plan to successfully implement the SHSP. They describe the process for ongoing communication and feedback from SHSP partners, which action items have been identified for each partner, and how the plan will be tracked and monitored. Other States (such as Virginia and Rhode Island) have also included emphasis area plans in their SHSPs, which outline the strategies, related action steps, and the agency responsible for implementing the strategies/steps. States can also discuss potential funding sources to

implement the SHSP, such as the HSIP, NHTSA's Section 402 funds, etc. There were no comments regarding the remaining paragraphs within paragraph (a)(3), therefore they are revised as proposed in the NPRM.

The FHWA revises this item, as proposed in the NPRM, incorporating a suggestion from Kentucky DOT to phrase paragraph (a)(4)(i) to reflect that the purpose of HSIP is to "reduce fatalities and serious injuries" to provide consistent language throughout the regulation. To correspond with changes made in § 924.3, FHWA incorporates minor editorial edits in paragraph (a)(4)(ii) to remove the term "hazard," replacing it with the term "risk" and deleting the word "grade" from "railway-highway crossings."

As stated in the NPRM, paragraph (a)(5) contains no substantial edits.

The FHWA incorporates minor edits in the final rule to reflect comments from Virginia DOT suggesting that the process for establishing priorities for implementing highway safety improvement projects "considers" (rather than "includes") the sub-items listed. The FHWA believes this revision will provide States with more flexibility in establishing their processes. Given this flexibility, it is important that States conduct a periodic review of their HSIP practices and procedures to identify noteworthy practices and opportunities to advance HSIP implementation efforts.

As proposed in the NPRM, FHWA revises paragraph (b) by changing, adding, and removing references to various legislation for consistency with other sections in this regulation. The FHWA revises the language proposed in the NPRM that clarifies the use of these funding categories is subject to the individual program's eligibility criteria and

the allocation of costs based on the benefit to each funding category, to be consistent with Office of Management and Budget's (OMB) revised administrative requirements and cost principles under 2 CFR part 200.

In paragraph (c), as proposed in the NPRM, FHWA clarifies that HSIP-funded non-infrastructure safety projects (e.g. transportation safety planning; collection, analysis, and improvement of safety data) shall also be carried out as part of the Statewide and Metropolitan Transportation Improvement Planning (STIP) processes consistent with the requirements of 23 U.S.C. 134 and 135 and 23 CFR part 450. In the NPRM, the FHWA also proposed to add a requirement that States distinguish between infrastructure and non-infrastructure projects in the STIP in order to assist in formalizing the required tracking of the funds programmed on infrastructure and non-infrastructure projects for State and FHWA reporting purposes. Similar to the comments regarding the use of funds for non-infrastructure projects in § 924.5, ATSSA expressed disagreement with the use of HSIP funds for non-infrastructure projects, as did GTMA. The FAST Act limits HSIP eligibility to the inclusions list in 23 U.S.C. 148(a)(4)(B); accordingly, FHWA removes the proposed language requiring States to distinguish between infrastructure and non-infrastructure projects in the STIP.

Section 924.11 Implementation

As proposed in the NPRM, FHWA removes former paragraph (b) describing the 10 percent flex funds and former paragraph (c) describing funding set asides for improvements on high risk rural roads to reflect changes associated with MAP-21.

In the NPRM, FHWA proposed adding new paragraph (b) to require States to incorporate an implementation plan by July 1, 2015, for collecting MIRE FDE in their State's Traffic Records Strategic Plan and that they shall complete collection of the MIRE FDE on all public roads by September 30, 2020. The preamble for the NPRM also stated that due to the uncertainty in time periods for publishing rulemakings, it is possible that the dates will be changed to reflect a specific time period based upon the effective date of a final rule for this NPRM. While the Missouri DOT acknowledged that it could have an implementation plan in place by July 1, 2015, many State DOTs and the Association of Monterey Bay Area Governments stated that the both the July 2015 deadline for an implementation plan and the 5-year deadline for complete collection of MIRE FDE were too aggressive. The AASHTO and California, Maine, Massachusetts, and Missouri DOTs suggested that the proposed September 2020 timeframe for collecting data on all public roads was aggressive and likely not achievable; however, Delaware DOT indicated that they could meet the deadline. The AASHTO, Georgia, Oklahoma, South Dakota, and Vermont DOTs suggested a 10-year timeframe for collecting data would be more appropriate. The GTMA suggested that FHWA amend the language to require complete collection of MIRE FDE on all NHS routes by September 30, 2018, and all public roads by September 30, 2022. The AASHTO suggested that the regulation be modified to allow States to develop an implementation plan that prioritizes the collection of MIRE FDE as resources are made available. Georgia DOT submitted a similar comment.

The FHWA understands concerns expressed by the commenters. As a result, FHWA revises the final rule language to require States to incorporate specific quantifiable and measureable anticipated improvements for the collection of MIRE FDE into their Traffic Records Strategic Plan by July 1, 2017. The additional 2 years provided in this final rule will give States additional time to coordinate with all relevant entities, including local and tribal agencies, to identify and prioritize MIRE FDE collection efforts. The FHWA also revises the final rule to specify that States shall have access to a complete collection of the MIRE FDE on all public roads by September 30, 2026. This change clarifies that States only need to have access to data, rather than to actually collect the data themselves. It also extends the deadline for complete collection of the MIRE FDE on all public roads by 6 years from what was proposed in the NPRM. Based on the NPRM comments described above, FHWA believes that 10 years is adequate to complete collection of the MIRE FDE as revised in this final rule in section 924.17.

As proposed in the NPRM, FHWA adopts new paragraph (c) requiring the SHSP to include actions that address how the SHSP emphasis area strategies will be implemented.

In paragraph (d), FHWA removes language regarding specific use of 23 U.S.C. 130(f) funds for railway-highway crossings, because reference to 23 U.S.C. 130 as a whole is more appropriate than specifying just section (f). The FHWA retains language about the Special Rule under 23 U.S.C. 130(e)(2) authorizing use of funds made available under 23 U.S.C. 130 for HSIP purposes if a State demonstrates it has met its needs for installation of railway-highway crossing protective devices to the satisfaction of the

FHWA Division Administrator, in order to ensure that all States are aware of this provision.

As proposed in the NPRM, FHWA revises paragraph (g) [formerly paragraph (h)] regarding the Federal share of the cost of a highway safety improvement project carried out with funds apportioned to a State under section 23 U.S.C. 104(b)(3) to reflect 23 U.S.C. 148(j). The GTMA expressed support for allowing 23 U.S.C. 120 and 130 reimbursement exceptions to be made available for the HSIP. The FHWA removes existing paragraphs (g) and (i) because the regulations are covered elsewhere and therefore do not need to be in this regulation. In particular, existing paragraph (g) is addressed in 23 CFR 450.216, which documents the requirements for the development and content of the STIP, including accounting for safety projects. In addition, existing paragraph (i) regarding implementation of safety projects in accordance with 23 CFR part 630, subpart A, applies to all Federal-aid projects, not just HSIP, and is therefore not necessary in the HSIP regulation.

The FHWA retains existing paragraphs (a), (e), and (f) with minimal editorial changes. The ATSSA expressed support for paragraph (e) that highway safety improvement projects be implemented with other funds and suggested that care should be taken to ensure that highway safety improvement projects funded with other programs are in addition to projects funded by the HSIP, not instead of. The ATSSA disagreed with the existing provision in paragraph (f) that again allows HSIP funds to be used for non-highway construction projects. These are existing provisions for which FHWA does not

adopt any changes, except revisions to be consistent with OMB's revised administrative requirements and cost principles under 2 CFR part 200.

Section 924.13 Evaluation

The FHWA incorporates the following changes to paragraph (a) regarding the evaluation of the HSIP and SHSP:

The FHWA proposed to revise paragraph (a)(1) to clarify that the process is to analyze and assess the results achieved by highway safety improvement projects and the Railway-Highway Crossing Program, and not the HSIP as stated in the existing regulation. As stated in the NPRM, this change is consistent with the clarifications to Program Structure, as described in § 924.7. The Delaware and Virginia DOTs and GTMA expressed concern that the evaluation of individual projects could be time intensive without achieving the goal of understanding the overall impact of safety programs. The FHWA revises paragraph (a)(1) to reference the program of highway safety improvement projects, rather than individual projects. Texas DOT requested further details regarding the evaluation process. The FHWA will provide further clarification in guidance, but in general States are required to develop evaluation processes to best meet their individual program needs. Evaluation processes might include an inventory of previously implemented HSIP projects to support safety performance evaluations of individual projects, countermeasures, and the program as a whole. These processes might also specify specific methodologies and available resources to support evaluation. As stated in the NPRM, States currently evaluate highway safety improvement projects to support the evaluation of the HSIP; therefore

this clarification does not require States to change their evaluation practices or the way they report their evaluations to FHWA. The FHWA also proposed to revise the outcome of this process to align with the performance targets established under 23 U.S.C. 150 as a requirement in section 1203 of MAP-21, which is the subject of a concurrent rulemaking for safety performance measures (FHWA-2013-0020 at 79 FR 13846). The FHWA revises the language in the final rule to reflect that contributions to improved safety outcomes are important, as well as attaining performance targets, based on a comment from AASHTO and several State DOTs to emphasize long-term, outcome-oriented focus as well as short-term targets. The process for evaluating achievement toward performance targets is described in more detail in the concurrent rulemaking for safety performance measures (FHWA-2013-0020 at 79 FR 13846).

The FHWA revises paragraph (a)(2), as proposed in the NPRM, to clarify that the evaluation of the SHSP is part of the regularly recurring update process that is already required under the current regulations. As part of this change, FHWA removes existing paragraph (a)(2)(i) because ensuring the accuracy and currency of the safety data is part of regular monitoring and tracking efforts. The FHWA revises new paragraph (a)(2)(i) [formerly paragraph (a)(2)(ii)] to reflect that evaluation of the SHSP includes confirming the validity of the emphasis areas and strategies based on analysis of current safety data.

Finally, in new paragraph (a)(2)(ii) [formerly paragraph (a)(2)(iii)] FHWA clarifies that the SHSP evaluation must identify issues related to the SHSP's implementation and progress that should be considered during each subsequent SHSP update. Subsequent SHSP updates will need to take into consideration the issues

experienced in implementing the previous plan and identify methods to overcome those issues. Washington DOT commented that while it recognizes the value in reporting the lessons learned from implementation, it was unsure what was meant in the NPRM preamble by “issues experienced” and “steps taken to overcome,” and suggested that examples would provide greater clarity to what is meant by “issues.” The FHWA will provide further clarification in guidance, but an example of an “issue experienced” could be not meeting a SHSP goal or objective. For instance, if a SHSP emphasis area objective is not met, this may suggest a strategy is ineffective, or in some cases, the strategy may not have been implemented as planned. The State should try to identify why the objective was not met and consider alternatives in their SHSP update.

As proposed in the NPRM, FHWA incorporates a minor revision to paragraph (b)(1) to specify that safety data used in the planning process is to be updated based on the results of the evaluation under § 924.13(a)(1).

Finally, FHWA incorporates minor revisions to paragraph (c) to remove references to the STP and NHS [now NHPP], as well as 23 U.S.C. 402 since this is not the primary intent of these programs; removed the reference to 23 U.S.C. 105 since this program was repealed under MAP-21; and replaces the reference to 23 U.S.C. 104(f) with 104(d) to reflect the change in legislation numbering. There were no substantial comments to these revisions in the NPRM.

The FHWA revises the language in the final rule that clarifies that the use of these funding categories is subject to the individual program’s eligibility criteria and the

allocation of costs based on the benefit to each funding category to be consistent with OMB's revised administrative requirements and cost principles under 2 CFR part 200.

Section 924.15 Reporting

The FHWA removes the requirements for reporting on the HRRR program and the transparency report, as proposed in the NPRM, because MAP-21 removes these reporting requirements.

The FHWA revises the HSIP report requirements to specify what should be contained in these reports. In paragraph (a), FHWA requires that the report be submitted via the HSIP online reporting tool. The AASHTO, Arizona, Delaware, Georgia, Indiana, Michigan, New York, Oklahoma, Rhode Island, Utah, and Texas DOTs all suggested that improvements be made to the online reporting tool. While many supported the principle of submitting reports online, several State DOTs expressed concern with the current functionality of the online reporting tool and suggested that it be improved before use of the tool was mandatory. The State DOTs indicated that there are usability issues with the current tool making it cumbersome to use. Some expressed concern that the tool is error-prone. In addition, States suggested that the security features be improved so that all reviewers and contributors could obtain access.

The FHWA understands that there have been difficulties with the online reporting tool and will continue to host user group discussions to identify and prioritize future enhancements. The FHWA will also continue training and technical assistance activities to support States HSIP reporting efforts. To respond to comments regarding access to and security of the online report tool, FHWA issued a Memorandum of User Profile and

Access Control System (UPACS) Credentials on October 4, 2009,¹³ to provide States with information regarding FHWA's implementation of e-Authentication as a part of the e-Government initiative to enable trust and confidence in e-Government transactions. In this memorandum, FHWA indicated that, in adherence to the DOT Information Assurance guidance, all State DOT users and MPO users accessing FHWA web-based applications would be required to obtain a Level-2 credential by April 1, 2010. The intent for submitting online reports is to ensure consistent reporting across all States and support national HSIP evaluation efforts. Forty-seven States currently use the HSIP online reporting tool to support the HSIP reporting efforts.

As proposed in the NPRM, FHWA replaces paragraphs (a)(1)(i) and (ii) in their entirety. In paragraph (a)(1)(i), FHWA indicates that the report needs to describe the structure of the HSIP, including how HSIP funds are administered in the State, and a summary of the methodology used to develop the programs and projects being implemented under the HSIP on all public roads. In paragraph (a)(1)(ii), FHWA requires that the report describe the process in implementing the highway safety improvement projects and compare the funds programmed in the State transportation improvement program for highway safety improvement projects with those obligated during the reporting year. The FHWA also requires that the report include a list of highway safety improvement projects (and how each relates to the State SHSP) that were obligated during the reporting year, including non-infrastructure projects. There were no

¹³ The Memorandum of User Profile and Access Control System (UPACS) Credentials, issued October 4, 2009 can be viewed on the docket for this rulemaking.

substantive comments regarding these changes. The FHWA retains the reference to non-infrastructure projects here since States would still be required to report on HSIP expenditures for those non-infrastructure activities that remain on the inclusions list in 23 U.S.C. 148(a)(4)(B) (e.g. transportation safety planning; collection, analysis, and improvement of safety data).

The FHWA reorganizes new paragraph (a)(1)(iii) to emphasize the importance of long-term safety outcomes and to clarify safety performance target documentation requirements, consistent with comments received on the NPRM. The AASHTO, Vermont, and Arkansas DOTs suggested that FHWA emphasize the long-term outcome-oriented focus, in addition to annual targets. Virginia DOT commented that the language and requirements of regulations 23 CFR parts 490, 924, and 1200 should be consistent with respect to SHSP and HSIP/HSP target setting. The ATSSA suggested that it might be helpful to clarify the details expected related to safety performance targets. As a result, FHWA separates paragraph (a)(1)(iii) into three parts in the final rule. Paragraph (a)(1)(iii)(A) focuses on long-term safety outcomes and requires States to describe general highway safety trends. The FHWA moves all language regarding safety trends to paragraph (a)(1)(iii)(A) of the final rule in order to group similar information together. In addition, FHWA adds a requirement in paragraph (a)(1)(iii)(A) that general highway safety trends for the total number of fatalities and serious injuries for non-motorized users shall be provided in order to reflect the importance of safety for this user group. Paragraph (a)(1)(iii)(B) focuses on documenting the safety performance targets and clarifies that documentation of the safety performance targets shall include a discussion

of the basis for each established target, how the established target supports the long-term goals in the SHSP, and for future HSIP reports, any reasons for differences in the actual outcomes and targets. As proposed in the NPRM for paragraph (a)(1)(iii), the safety performance targets required by 23 U.S.C. 150(d) shall be presented for all public roads by calendar year. Paragraph (a)(1)(iii)(C) focuses on the applicability of the special rules and does not change from the NPRM.

As proposed in the NPRM, paragraph (a)(1)(iv) requires that the report assess improvements accomplished by describing the effectiveness of highway safety improvement projects implemented under the HSIP. Virginia DOT suggested that this item describe the evaluation and reporting of individual projects and their type grouping based on outcome frequencies because, for example, intersection crash rates are calculated differently from road crash rates. The FHWA does not specify how the States assess or report on the effectiveness of highway safety improvements. States are required to have an evaluation process under 23 CFR 924.13, but have the flexibility to develop that process to best meet their needs.

Finally, as proposed in the NPRM, FHWA adds a new paragraph (a)(1)(v) to require that the HSIP report be compatible with the requirements of 29 U.S.C. 794(d) (Section 508 of the Rehabilitation Act) whereas previously only the transparency report was required to be compatible. Washington State DOT expressed concern that some States and local agencies may have difficulty in complying with 29 U.S.C. 794(d), Section 508, and that the burden of meeting this requirement may shift to the reporting agency. As a result, they suggested that FHWA consider providing examples of Section

508 compliant reports on the Web site. The HSIP reports are currently available on FHWA's Web site¹⁴ and are 508 compliant. The HSIP MAP-21 Reporting Guidance¹⁵ describes in detail the DOT Web site requirements. Also, reporting into the HSIP Online Reporting Tool meets all report requirements and DOT Web site requirements.

There are no changes to the existing regulation regarding the report describing progress to implement railway-highway crossing improvements.

Section 924.17 MIRE Fundamental Data Elements

In the NPRM, FHWA proposed to add a new § 924.17 containing the MIRE FDE for the collection of roadway data. The proposed section consisted of two tables of MIRE FDE listing the MIRE name and number for roadway segments, intersections, and interchanges or ramps as appropriate. The tables differentiated the required MIRE FDE for roads with Average Annual Daily Traffic (AADT) greater than or equal to 400 vehicles per day (Table 1) and roads with AADT less than 400 vehicles per day (Table 2). The FHWA received a significant number of comments regarding the MIRE Fundamental Data Requirements, particularly related to the cost and burden of collecting the data, the required data elements, the requirement to collect data on low-volume roads, and the implementation timeline. Comments related to the implementation timeline are discussed in § 924.11 and comments regarding costs to collect and maintain the data, including comments on FHWA's cost assumptions, are discussed in the Regulatory Analysis section. The following paragraphs describe the remaining docket comments

¹⁴ HSIP reports can be found at the following weblink: <http://safety.fhwa.dot.gov/hsip/reports>

¹⁵ HSIP MAP-21 Reporting Guidance can be found at the following weblink: <http://www.fhwa.dot.gov/map21/guidance/guidehsipreport.cfm>

regarding the MIRE FDE. Following the discussion of the docket comments is a description of the changes FHWA adopted in this final rule to address the comments where appropriate.

Required Data Elements: North Dakota suggested that States should be allowed to determine what data is appropriate for their analysis and how it should be collected. Massachusetts DOT indicated that they had previously attempted a program to define and identify distinct intersections and interchanges and found it to be significantly more challenging than anticipated. Ohio DOT supported the data elements to classify and delineate roadway segments, elements to identify roadway physical characteristics, and elements to identify traffic volume, indicating that these requirements will ensure that States have the necessary data to better target roadway investments with the greatest potential to reduce crashes. Delaware DOT and Delaware Valley Regional Planning Commission also supported the required data elements. Arizona, New York, and Texas DOTs, as well as GTMA, suggested additional data elements may be useful such as median/shoulder width, horizontal curve data, speed limit, roadway paved width, median barrier type, shoulder texturing, and centerline texturing, while the League of American Bicyclists and California Walks and Massachusetts DOT suggested that bicycle and pedestrian count information or elements along roadways (bike lanes) or intersections (pedestrian accommodations) be included to help States address crashes associated with non-motorized users. The Virginia DOT echoed those comments, stating that presence/type of bicycle facility (40) and sidewalk presence (51) should be included as data elements that must be collected for urban roadways, stating that this is critical as

non-motorized fatalities represent more than 10 percent of all traffic fatalities in Virginia and this information will be important to help analyze and identify safety needs of non-motorized users of the transportation system.

Local, low volume, and unpaved, gravel, and dirt roads: AASHTO, Arizona, Delaware, Montana, Texas, Utah, and Washington State DOTs expressed concern with the requirement to collect data on all public roads, particularly as it related to local, low volume, and unpaved, gravel, and dirt roads. Arizona DOT and GTMA expressed support for exempting unpaved, gravel, or dirt roads from MIRE FDE requirements. The Idaho, Montana, North Dakota, South Dakota, and Wyoming DOTs stated that there is not sufficient justification for rules that would require expenditure of considerable funds on data collection, particularly data regarding dirt and gravel roads and other low volume rural roads. They commented that scarce funds would be better directed to actual safety projects. Those DOTs suggested that it is unlikely that data elements related to unpaved roads are “critical” to overall safety management; therefore, FHWA should exclude them from the MIRE requirements. Arizona and Georgia DOTs and the Kansas Association of Counties suggested that States be allowed to develop their own methodologies to estimate AADT on local roads.

As discussed in the NPRM, FHWA includes this section on MIRE FDE to comply with section 1112 of MAP-21 that amends 23 U.S.C. 148 to require model inventory of roadway elements as part of data improvement. As mandated under 23 U.S.C. 148(f)(2), the Secretary of Transportation shall (1) establish a subset of the model inventory of roadway elements that are useful for the inventory of roadway safety; and (2) ensure that

States adopt and use the subset to improve data collection. Considering this requirement in conjunction with the other requirements in 23 U.S.C. 148, FHWA cannot exempt certain roads entirely from the MIRE FDE requirements. Section 148(f)(1) of Title 23 U.S.C. defines a data improvement activity to include a project or activity to develop a basemap of all public roads, as well as safety data collection, including data identified as part of the model inventory of roadway elements, for creating or using on a highway basemap of all public roads in a State. In addition, there is frequent mention of safety data for all public roads throughout section 148 (e.g., 23 U.S.C. 148(a)(2), (a)(9), (c)(2)). If all public roads are to be included in the identification and analysis of highway safety problems and opportunities as required by 23 U.S.C. 148(c)(2), FHWA believes that States should be able to at least locate all crashes on all public roads with an LRS. Lastly, the general purpose of the HSIP program is to achieve a significant reduction in traffic fatalities and serious injuries on *all public roads* (23 U.S.C. 148(b)(2)). Because the collection of these inventory elements ultimately supports implementation of the HSIP, it is important that MIRE FDE be collected for all of the roads eligible under the HSIP. To address comments raised during the rulemaking process, FHWA adds a definition for the term “open to public travel” for the purpose of MIRE FDE; changes the categorization of MIRE FDE from AADT to functional classification and surface type; further reduces the MIRE FDE for unpaved roads; and eliminates intersection data elements for local paved roads in the final rule. A brief description of each of these changes is provided below.

Categorize MIRE FDE requirements for paved roads based on functional classification and surface type, rather than AADT: Several commenters expressed concern about not having AADT (or a good method to estimate AADT) for all public roads, which would make it difficult to determine the applicability of the MIRE FDE requirements using the AADT thresholds proposed in the NPRM. Based on data from a sample of 3 States, FHWA estimates that roughly 72 percent (or 2,941,375 miles) of all public roads have an AADT of less than 400 and would therefore be subject to the FDE requirements proposed in Table 2 of the NPRM. In general, the roads with less than 400 AADT are lower functionally classified roads. According to FHWA *Highway Statistics*, there were 2,821,867 million miles of roads functionally classified as local roads in the United States in 2011 and 2012. This estimate equates very closely with the estimated miles of roadways subject to the NPRM Table 2 requirements, which were based on AADT estimates. Given the relatively low frequency that actual AADT counts are collected on low volume roads, FHWA changes the criteria for determining if a road is subject to MIRE FDE requirements to the functional classification of the roadway. Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of traffic service that they are intended to provide. There are three major highway functional classifications: arterial, collector, and local roads. Non-local paved roads (e.g., arterials and collectors) would be subject to Table 1 in this final rule; whereas, local functionally classified roads would be subject to the Table 2 MIRE FDE requirements. As illustrated in the Table 3 below, this maintains the approximate proportion of roads that would fall into each category as compared to

using a threshold of 400 AADT and will address nearly the same amount of fatalities. As an added advantage, this should be easier for the States to administer. The Table 1 and Table 2 MIRE FDE tables are suggested only for use on paved roads.

Table 3 – Comparison of Mileage and % Total Fatalities on <400 AADT Roads and Roads Classified as Local Roads

Roadway Classification	Mileage	% Total Fatalities
<400 AADT*	72%	17.7%
Local Road Functional Classification	69%	19.7%

*Estimates are based on data from a sample of three States

Create an Unpaved Roads Category: Several commenters expressed concerns with collecting the reduced set of the FDEs proposed in Table 2 of the NPRM on unpaved roads. Their concerns centered around the relative lack of a safety problem on these roads and the difficulty in collecting the information. The AASHTO and many State DOTs suggested that FHWA create a third roadway category for MIRE FDE data collection on unpaved roads. Based on 2011 and 2012 data, unpaved roads accounted for an average of 34.7 percent of U.S. roadway miles (1,395,888 miles).¹⁶ Fatality data from the same years indicate that only 2.0 percent of fatalities (655) occurred on these unpaved roads.¹⁷ Therefore, the FHWA creates a separate, reduced set of FDEs in Table 3 of the final rule that would be required for any unpaved public road. Table 3 MIRE FDE for unpaved roads in the final rule will require States to locate and identify these roads within

¹⁶http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/html/table_01_04.html.

¹⁷ <http://www.nhtsa.gov/FARS>.

the State's LRS per HPMS and to provide the functional classification and roadway ownership, which was required in MAP-21. While the FAST Act includes a provision that would allow States to elect not to collect fundamental data elements for the model inventory of roadway elements on public roads that are gravel roads or otherwise unpaved, the MIRE FDE as defined in this regulation are the minimum subset of the roadway and traffic data elements from FHWA's MIRE that are used to support a State's data-driven safety program. States will still be expected to geospatially locate crashes and the reduced FDEs to these unpaved roadway segments to monitor their safety if they intend to use HSIP funds on these roads.

Eliminate Intersection FDEs for Local Roads: Some commenters suggested that the burden to collect local road intersection data was greater than the benefit, since they would likely not use the predictive analysis methods for these facilities. From 2011 - 2012 there was an average of 1,117 intersection or intersection-related fatalities on roads functionally classified as "local."¹⁸ This constitutes approximately 3.4 percent of the annual average total (32,739) for all fatalities during this time period. Network screening for these low traffic volume roads can be performed using system-wide or corridor level analyses that combine (but do not distinguish) roadway segment, intersection, and ramp crashes. Corridor-level network screening would identify "intersection" hot spots, as well, and then an agency could collect specific roadway data relative to that location as needed. Therefore, given the ability to identify intersection problems through corridor-

¹⁸<http://www.nhtsa.gov/FARS>.

level analysis, FHWA eliminates the MIRE FDE requirement for local intersections, reducing the number of required data elements in Table 2 of the final rule from 14 to 9.

The proposed changes discussed above will significantly reduce the data collection burden on States as summarized in Table 4 below. The number of miles of non-local roads for which Table 1 in the final rule applies is approximately 8,000 miles less than proposed in the NPRM. Table 2 of the final rule applies to nearly 1.5 million fewer miles of roads and the number of data elements for those roadway miles is reduced from 14 elements to 9 elements. Table 3, which was not included in the NPRM, includes approximately 1.4 million miles of unpaved roads with only 5 data elements, comprised of name, classification, ownership and length, which does not require additional collection of data. As a result, the final rule includes three tables: Table 1 - MIRE FDE for Non-Local (based on functional classification) Paved Roads, Table 2 - MIRE FDE for Local (based on functional classification) Paved Roads, and Table 3 - MIRE FDE for Unpaved Roads. The FHWA incorporates these changes to address comments regarding the need to reduce the burden on States while maintaining the minimum roadway data needed to make better safety investment decisions.

Table 4 – Comparison of NPRM and Final Rule: Required MIRE FDE and Roadway Mileage

Variable	Rulemaking Phase	Table 1	Table 2	Table 3
Table Categorization	NPRM	>400 AADT	<400 AADT	N/A
	Final Rule	Non-local Paved Roads	Local Paved Roads	Unpaved Roads
MIRE FDE elements	NRPM	37	14	N/A
	Final Rule	37	9	5
Roadway Mileage	NPRM	1,143,868	2,941,375	N/A
	Final Rule	1,135,751	1,553,604	1,395,888

		Changed categorization from >400 AADT to Non-Local Paved Roads	Changed categorization from <400 AADT to local paved roads and eliminated intersection elements	Created a separate category of MIRE FDE for unpaved roads

To address the comments suggesting additional data elements, FHWA suggests that the MIRE FDE included in this final rule are the minimum roadway elements required to conduct system-wide network screening. States may choose to collect additional elements as needed to support system-wide or site-specific analysis. In addition, FHWA does not require a specific method for traffic volume data collection. Agencies may use a methodology that best meets the needs of the State.

Rulemaking Analysis and Notices

The FHWA considered all comments received before the close of business on the comment closing date indicated above, and the comments are available for examination in the docket (FHWA-2013-0019) at Regulations.gov. The FHWA also considered comments received after the comment closing date and filed in the docket prior to the publication of this final rule. The FHWA also considered the HSIP provisions of the FAST Act in the development of this final rule. The FHWA finds good cause under 5 U.S.C. 553(b)(3)(B) to incorporate the provisions of the FAST Act without the need for further notice and comment. The FHWA believes additional public comment would be unnecessary as the FAST Act provisions are not discretionary and update the regulation

to reflect current law. Specifically, FHWA removes the provision that required FHWA to assess the extent to which other eligible funding programs are programmed for non-infrastructure projects prior to using HSIP funds for these purposes in this final rule since FAST limited eligibility to those items specifically listed in 23 U.S.C. 148(a)(4)(B).

Executive Order 12866 (Regulatory Planning and Review), Executive Order 13563 (Improving Regulation and Regulatory Review), and DOT Regulatory Policies and Procedures

The FHWA has determined that this proposed action is a significant regulatory action within the meaning of Executive Order 12866 and within the meaning of DOT regulatory policies and procedures due to the significant public interest in regulations related to traffic safety. It is anticipated that the economic impact of this rulemaking will not be economically significant within the meaning of Executive Order 12866 as discussed below. This action complies with Executive Orders 12866 and 13563 to improve regulation.

While MAP-21 resulted in requiring the Secretary to establish three requirements (i.e., MIRE FDE, SHSP update cycle and HSIP report content and schedule), FHWA based the economic analysis in the NPRM on the costs associated with the MIRE FDE only. Because States are already required to update their SHSP on a regular basis, and the proposal for States to update their SHSP at least every 5 years is consistent with current practice, FHWA expects any costs associated with updating the SHSP will be minimal. Alaska, Delaware, Indiana, Maine, North Carolina, and Washington State DOTs agreed that at least a 5-year SHSP update cycle is appropriate and will not create an undue financial burden on the State. Therefore, this assumption remains valid. The

FHWA did not propose any changes to the report schedule or frequency in the NPRM. There were only minor changes to the report content related to safety performance targets required under 23 U.S.C. 150(d) and FHWA believed that any associated costs would be offset by the elimination of the transparency report requirements. Further, the actual cost to establish the safety performance target is accounted for in the concurrent rulemaking for safety performance measures (Docket number FHWA-13-0020). There were no comments related to the HSIP report content or associated costs. Since the SHSP update schedule and report content and schedule requirements do not change from the NPRM to the final rule and the comments did not suggest otherwise, the economic analysis for the final rule is based on the MIRE FDE costs only.

The MIRE FDE costs in the NPRM were based on the “MIRE Fundamental Data Elements Cost Estimation Report” dated March 2013.¹⁹ The cost estimates developed as part of that report reflected the additional costs that a State would incur based on what is not being collected through HPMS or not already being collected for other purposes. The cost estimate used in the NRPM did not include the cost of analyzing the MIRE FDE and performance measure data. The FHWA received comments from AASHTO, California, Georgia, Idaho, Maine, Massachusetts, Michigan, Missouri, Montana, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Dakota, Texas, Washington State, and Wyoming DOTs as well as the CSAC, Shasta (California) Regional Transportation Agency, and the Mid-America Regional Council MPO suggesting that the costs for

¹⁹ “MIRE Fundamental Data Element Cost-Benefit Estimation,” FHWA Report number: FHWA-SA-13-018, published March 2013 is available on the docket for this rulemaking and at the following Internet Web site: http://safety.fhwa.fhwa.dot.gov/rsdp/downloads/mire_fde_%20cbe_finalreport_032913.pdf.

collecting the required data would place a burden on their agencies. While many of the commenters expressed general support for the need for data to enhance safety programs, Massachusetts, Montana, and Washington State DOT, commented that the expenditures in collecting this data at the statewide level for all public roads would not be offset by the benefits and would divert funding away from other critical elements of their programs. Arizona DOT suggested that there is potentially more benefit by implementing systemic safety measures on many of the low volume public roads than in MIRE FDE data collection. Arizona, California, Illinois, Indiana, Kentucky, Maine, Massachusetts, Michigan, New York, Rhode Island, Vermont, and Wyoming DOTs all suggested that the costs to collect MIRE FDE would be extensive and likely exceed the cost estimated by FHWA. However, only Washington State DOT provided actual cost information. The cost information the commenters provided was used as additional input to the revised “MIRE Fundamental Data Elements Cost-Benefit Estimation Report” dated March 2015.²⁰

Based on the comments received in the NPRM, FHWA updated the cost-benefit estimation to reflect: 1) the revisions to the category of roadways and the respective MIRE FDEs to be collected on those roadways, 2) a greater period of time for States to collect the information on those three categories of roadway, and 3) additional cost considerations (e.g., formatting and analyzing MIRE FDE data). The “MIRE

²⁰ “MIRE Fundamental Data Element Cost-Benefit Estimation,” dated May 13, 2015, is available on the docket for this rulemaking.

Fundamental Data Elements Cost-Benefit Estimation” report dated March 2015,²¹ reflects these updates and estimates the potential cost to States in developing a statewide LRS and collecting the MIRE FDE for the purposes of implementing the HSIP on all public roadways. The cost estimates developed as part of this report reflect the additional costs that a State would incur based on what is not being collected through the HPMS or not already being collected through other efforts. The MIRE FDE Cost-Benefit Estimation Report reflects the total cost for States to collect the MIRE FDE on all public roads, including unpaved roads. While the FAST Act includes a provision that would allow States to elect not to collect fundamental data elements for the model inventory of roadway elements on public roads that are gravel roads or otherwise unpaved, this report includes the cost to collect the MIRE FDE on unpaved roads because they would still be required to meet the full needs of the States’ HSIP.

With the passage of MAP-21, States are required to collect data on all public roads, including non-Federal-aid roads. To initiate this process, States need to develop a common statewide relational LRS on all public roads that is linkable with crash data, as required by 23 CFR 1.5 and described in recent FHWA guidance²² issued on August 7, 2012. Based on this criterion, the report estimated that the cost of developing a statewide LRS beginning in June 2015 and concluding in June 2016 would be \$32,897,622 nationally over this time period. This would equate to a cost of approximately \$645,051 for each State and the District of Columbia to develop a relational LRS over the 12-

²¹ Ibid.

²² Guidance Memorandum on Geospatial Network for all Public Roads, issued August 7, 2012, can be viewed at the following Internet Web site: <http://www.fhwa.dot.gov/policyinformation/hpms/arnold.pdf>

month period. The data collection for an average State is \$1,546,169 for the initial collection and \$5,235,097 for the management, administration, maintenance and miscellaneous costs over the analysis period of 2015 – 2035 (in 2014 U.S. dollars). These are average costs on a per State basis discounted at 7 percent. As such, across the 50 States and the District of Columbia, it is possible that the aggregate cost for initial data collection would be approximately \$79 million over 10 years and the total maintenance, management, administration and miscellaneous costs would approach \$267 million over the 20-year analysis period.

Table 5 displays the comparison of estimated total national costs between the estimates provided in the NPRM and updated based on the revised analysis for the final rule. The analysis period for the NPRM assumed a 16-year analysis period (2013 – 2029). Based on the comments received, FHWA revised the data collection time period and extended the analysis over a 20-year period (2015 – 2035). Even though States are required to collect fewer data elements as compared to those proposed in the NPRM, the MIRE FDE costs for the final rule are higher than the NPRM, as illustrated in Table 5 below. Based on the comments received, FHWA revised the LRS cost to include a sliding scale based on roadway mileage, revised the baseline data collection assumptions to reflect the most recent HPMS data, added costs to develop a model to estimate traffic volumes, added costs for data quality assurance and control, and added costs for other miscellaneous activities including developing an implementation plan, using a local partner liaison, formatting and analyzing data, and supporting desktop and Web applications. In addition, baseline costs were inflated to 2014 dollars and the analysis

period was extended from 16 to 20 years to accommodate the extended timeframe for data collection. The FHWA believes that this is a more accurate representation of the costs States can expect to incur to successfully collect and use the MIRE FDE.

Table 5: Comparison of NPRM and Final Rule Total Estimated National Costs for MIRE FDE (2014 Dollars)

Cost Components	Total National Costs (2014 Dollars)	
	NRPM* Undiscounted	Final Rule** Undiscounted
Cost of Section 924.17		
Linear Referencing System (LRS)	\$17,614,763	\$34,010,102
Initial Data Collection	\$54,330,783	\$113,395,680
Roadway Segments	\$38,767,525	\$68,879,288
Intersections	\$8,465,017	\$2,161,256
Interchange/Ramp locations	\$850,872	\$1,057,984
Volume Collection	\$6,247,369	\$41,297,152
Maintenance of data system	\$158,320,508	\$65,683,740
Management & administration of data system	\$3,524,952	\$6,410,685
Miscellaneous Costs	N/A	\$439,585,598
Total Cost	\$233,791,005	\$659,085,805

* NRPM analysis period – 2013 through 2029

** Final rule analysis period – 2015 through 2035

The MAP-21 and FAST provides States the framework to achieve significant reductions in traffic fatalities and serious injuries on all public roads. Furthermore, MAP-21 required States to report on their safety performance in relation to the national safety performance measures in 23 U.S.C. 150(e). The collection of the MIRE FDE information will enhance States ability to:

- Develop quantifiable annual performance targets

- Develop a strategy for identifying and programming projects and activities that allow the State to meet the performance targets
- Conduct data analyses supporting the identification and evaluation of proposed countermeasures.

The benefits of this rulemaking can have a significant impact on improving safety on our Nation's roads, because collecting this roadway and traffic data and integrating those data into the safety analysis process will improve an agency's ability to locate problem areas and apply appropriate countermeasures, hence improving safety. More effective safety investments yield more lives saved and injuries avoided per dollar invested.

The benefits of this rule would be the monetized value of the crashes, fatalities, serious injuries, and property damage avoided by the projects identified and implemented using the proposed MIRE FDE minus the forgone monetized value of the crashes, fatalities, serious injuries, and property damage avoided by the projects identified and implemented using the current data and methods used by the States to allocate safety resources. The FHWA did not endeavor to estimate the benefits in this way for the NPRM, and did not receive any comments on how such benefits could be estimated. Therefore, FHWA continued use of a break-even analysis for the final rule cost estimate.

The "MIRE Fundamental Data Elements Cost-Benefit Estimation"²³ dated May 13, 2013, report calculated the benefits by estimating the reduction in fatalities and

²³ "MIRE Fundamental Data Elements Cost-Benefit Estimation," dated May 13, 2015, is available on the docket for this rulemaking.

injuries needed to exceed a 1:1 ratio and a 10:1 ratio of benefits to costs. The 10:1 ratio was added following the NPRM since North Carolina DOT commented that the break-even analysis using a 1:1 or 2:1 ratio was too low to show the benefits of the added data collection efforts. Table 6 summarizes these needed benefits. The report used the 2014 comprehensive cost of a fatality of \$9,300,000 and \$109,800 for an injury, based on the value of a statistical life.²⁴ The injury costs used in the report reflects the average injury costs based on the national distribution of injuries in the General Estimate System (GES) using a Maximum Abbreviated Injury Scale.

Table 6: Estimated Benefits Needed to Achieve Cost-Benefit Ratios of 1:1 and 10:1
(2015-2035 Analysis Period, discounted at 7%)

Benefits	Number of Lives Saved/Injuries Avoided Nationally	
	Benefit/Cost Ratio of 1:1	Benefit/Cost Ratio of 10:1
# of lives saved (fatalities)	76	763
# of injuries avoided	5,020	50,201

The report estimates that a reduction of 1 fatality and 98 injuries by each State over the 2015-2035 analysis period would be needed to result in a benefit/cost ratio of 1:1. To achieve a benefit/cost ratio of 10:1, each State would need to reduce fatalities by 15 and injuries by 984 over the same analysis period. The experiences to date in States that are already collecting and using roadway data comparable to the MIRE FDE

²⁴ “Guidance on Treatment of the Economic Value of a Statistical Life (VSL) in U.S. Department of Transportation Analyses, 2014 Update.
http://www.dot.gov/sites/dot.gov/files/docs/VSL_Guidance_2014.pdf

suggests there is a very high likelihood that the benefits of collecting and using the proposed MIRE FDE will outweigh the costs.

For example, one study on the effectiveness of the HSIP found:²⁵

The magnitude of States' fatal crash reduction was highly associated with the years of available crash data, prioritizing method, and use of roadway inventory data. Moreover, States that prioritized hazardous sites by using more detailed roadway inventory data and the empirical Bayes method had the greatest reductions; all of those States relied heavily on the quality of crash data system.”

For example, this study cites Colorado's safety improvements, noting “Deployment of advanced methods on all projects and acquisition of high-quality data may explain why Colorado outperformed the rest of the country in reduction of fatal crashes.”²⁶ Illinois was also high on this study's list of States with the highest percentage reduction in fatalities. In a case study of Illinois' use of AASHTO Highway Safety Manual methods, an Illinois DOT official noted that use of these methods “requires additional roadway data, but has improved the sophistication of safety analyses in Illinois resulting in better decisions to allocate limited safety resources.”²⁷ Another case study of Ohio's adoption of a tool to apply the roadway safety management methods described in the AASHTO Highway Safety Manual concluded, “In Ohio, one of the benefits of

²⁵ Wu, K.-F., Himes, S.C., and Pietrucha, M.T., “Evaluation of Effectiveness of the Federal Highway Safety Improvement Program,” *Transportation Research Record*, Vol. 2318, pp. 23-34, 2013.

²⁶ *Ibid.*

²⁷ Highway Safety Manual Case Study 4: Development of Safety Performance Functions for Network Screening in Illinois. http://safety.fhwa.dot.gov/hsm/casestudies/il_cstd.cfm.

applying various HSM screening methods was identifying ways to overcome some of the limitations of existing practices. For example, the previous mainframe methodology typically over-emphasized urban “sites of promise”—locations identified for further investigation and potential countermeasure implementation. These locations were usually in the largest urban areas, often with a high frequency of crashes that were low in severity. Now, several screening methods can be used in the network screening process resulting in greater identification of rural corridors and projects. This identification enables Ohio's safety program to address more factors contributing to fatal and injury crashes across the State, instead of being limited to high-crash locations in urban areas, where crashes often result in minor or no injuries.”²⁸ Another document quantified these benefits, indicating that the number of fatalities per identified mile is 67 percent higher, the number of serious injuries per mile is 151 percent higher, and the number of total crashes is 105 percent higher with these new methods than with their former methods.²⁹ In summary, all three States experienced benefits to the effectiveness of safety investment decisionmaking through the use of methods that included roadway data akin to the MIRE FDE and crash data in their highway safety analyses.

²⁸ Highway Safety Manual Case Study 2: Implementing a New Roadway Safety Management Process with SafetyAnalyst in Ohio. http://safety.fhwa.dot.gov/hsm/casestudies/oh_cstd.cfm_

²⁹ Hughes, J. and Council, F.M., “How Good Data Lead to Better Safety Decisions,” *ITE Journal*, April 2012.

Between 2008 and 2012, on average 35,157 people died in motor vehicle traffic crashes in the United States, and an estimated 2.23 million people were injured.^{30,31} The decrease in fatalities needed to achieve a 1:1 cost-benefit ratio would represent a 0.2 percent reduction of annual fatalities using the average 2008-2012 statistics. These statistics and the experiences to date in States already collecting and using roadway data comparable to MIRE FDE as cited above suggest that the benefits of collecting and using the MIRE will far outweigh the costs. For example, if each State and the District of Columbia reduced fatalities by two each because of improved decisionmaking due to enhanced data capabilities, the economic impact (savings) would approach \$938,400,000. The FHWA believes that the MIRE FDE, in combination with crash data, will support more cost-effective safety investment decisions and ultimately yield greater reductions in fatalities and serious injuries per dollar invested.

Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (RFA) (Pub. L. 96-354, 5 U.S.C. 601-612), FHWA has evaluated the effects of these changes on small entities and anticipates that this action will not have a significant economic impact on a substantial number of small entities. The final rule addresses the HSIP. As such, it affects only States, and States are not included in the definition of small entity set forth in 5 U.S.C.

³⁰ National Highway Traffic Safety Administration - Fatality Analysis Reporting System: can be accessed at the following Internet Web site: <http://www.nhtsa.gov/FARS>.

³¹ National Highway Traffic Safety Administration – National Automotive Sampling System (NASS) General Estimates System (GES): can be accessed at the following Internet Web site: <http://www.nhtsa.gov/NASS>.

601. Therefore, the RFA does not apply, and I hereby certify that this action would not have a significant economic impact on a substantial number of small entities.

Unfunded Mandates Reform Act of 1995

The FHWA has evaluated this final rule for unfunded mandates as defined by the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4, 109 Stat. 48, March 22, 1995). As part of this evaluation, FHWA has determined that this action will not result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of greater than \$128.1 million or more in any one year (2 U.S.C. 1532). The FHWA bases their analysis on the “MIRE Fundamental Data Elements Cost-Benefit Estimation” report.³² The objective of this report was to estimate the potential cost to States in developing a statewide LRS and collecting the MIRE FDE for the purposes of implementing the HSIP on all public roadways. The cost estimates developed as part of this report reflect the additional costs that a State would incur based on what is not being collected through the HPMS, or not already being collected through other efforts. The funds used to establish a data collection system, collect initial data, and maintain annual data collection are reimbursable to the States through the HSIP program.

Further, the definition of “Federal Mandate” in the Unfunded Mandate Reform Act excludes financial assistance of the type in which State, local, or tribal governments have authority to adjust their participation in the program in accordance with changes

³² “MIRE Fundamental Data Elements Cost-Benefit Estimation,” dated May 13, 2015, is available on the docket for this rulemaking.

made in the program by the Federal Government. The Federal-aid highway program permits this type of flexibility.

Executive Order 13132 (Federalism)

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 dated August 4, 1999. The FHWA has determined that this action would not have sufficient federalism implications to warrant the preparation of a federalism assessment. The FHWA has also determined that this rulemaking would not preempt any State law or State regulation or affect the States' ability to discharge traditional State governmental functions.

Executive Order 13175 (Tribal Consultation)

The FHWA has analyzed this action under Executive Order 13175, dated November 6, 2000, and believes that it would not have substantial direct effects on one or more Indian tribes; would not impose substantial direct compliance costs on Indian tribal governments; and would not preempt tribal law. Therefore, a tribal summary impact statement is not required.

Executive Order 13211 (Energy Effects)

The FHWA has analyzed this action under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. The FHWA has determined that it is not a significant energy action under that order because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Therefore, a Statement of Energy Effects under Executive Order 13211 is not required.

Executive Order 12372 (Intergovernmental Review) Catalog of Federal Domestic Assistance program Number 20.205, Highway Planning and Construction.

The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.

Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501, *et seq.*), Federal agencies must obtain approval from the OMB prior to conducting or sponsoring a “collection of information.” The FHWA has OMB approval under “Highway Safety Improvement Programs” (OMB Control No: 2125-0025) to collect the information required by State’s annual HSIP reports. The FHWA recently received an extension to the Information Collection Request, with a new expiration date of May 31, 2017,³³ in order to reflect the MAP-21 requirements reflected in this final rule.

Executive Order 12988 (Civil Justice Reform)

This action meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Executive Order 13045 (Protection of Children)

The FHWA has analyzed this action under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. The FHWA certifies that

³³ The Information Collection Request can be viewed at the following weblink: http://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201308-2125-002

this action would not concern an environmental risk to health or safety that might disproportionately affect children.

Executive Order 12630 (Taking of Private Property)

The FHWA does not anticipate that this action would affect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

National Environmental Policy Act

The agency has analyzed this action for the purpose of the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4347) and has determined that it would not have any effect on the quality of the environment and meets the criteria for the categorical exclusion at 23 CFR 771.117(c)(20).

Executive Order 12898 (Environmental Justice)

Executive Order 12898 requires that each Federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations. The FHWA has determined that this rule does not raise and environmental justice issues.

Regulation Identifier Number

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN

contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

List of Subjects in 23 CFR Part 924

Highway safety, Highways and roads, Motor Vehicles, Railroads, Railroad safety, Safety, Transportation.

Issued on: March 2, 2016.

Gregory G. Nadeau,
Acting Administrator,
Federal Highway Administration.

In consideration of the foregoing, the FHWA revises title 23, Code of Federal Regulations, part 924 to read as follows:

PART 924—HIGHWAY SAFETY IMPROVEMENT PROGRAM

Sec.

- 924.1 Purpose.
- 924.3 Definitions.
- 924.5 Policy.
- 924.7 Program structure.
- 924.9 Planning.
- 924.11 Implementation.
- 924.13 Evaluation.
- 924.15 Reporting.
- 924.17 MIRE fundamental data elements

Authority: 23 U.S.C. 104(b)(3), 130, 148, 150, and 315; 49 CFR 1.85.

§ 924.1 Purpose.

The purpose of this regulation is to prescribe requirements for the development, implementation, and evaluation of a highway safety improvement program (HSIP) in each State.

§ 924.3 Definitions.

Unless otherwise specified in this part, the definitions in 23 U.S.C. 101(a) are applicable to this part. In addition, the following definitions apply:

Hazard index formula means any safety or crash prediction formula used for determining the relative risk at railway-highway crossings, taking into consideration weighted factors, and severity of crashes.

Highway means:

- (1) A road, street, or parkway and all associated elements such as a right-of-way, bridge, railway-highway crossing, tunnel, drainage structure, sign, markings, guardrail, protective structure, etc.;
- (2) A roadway facility as may be required by the United States Customs and Immigration Services in connection with the operation of an international bridge or tunnel; and
- (3) A facility that serves pedestrians and bicyclists pursuant to 23 U.S.C. 148(e)(1)(A).

Highway Safety Improvement Program (HSIP) means a State safety program with the purpose to reduce fatalities and serious injuries on all public roads through the implementation of the provisions of 23 U.S.C. 130, 148, and 150, including the development of a data-driven Strategic Highway Safety Plan (SHSP), Railway-

Highway Crossings Program, and program of highway safety improvement projects.

Highway safety improvement project means strategies, activities, or projects on a public road that are consistent with a State SHSP and that either correct or improve a hazardous road segment, location, or feature, or addresses a highway safety problem. Examples of projects are described in 23 U.S.C. 148(a).

MIRE Fundamental data elements mean the minimum subset of the roadway and traffic data elements from the FHWA's Model Inventory of Roadway Elements (MIRE) that are used to support a State's data-driven safety program.

Public railway-highway crossing means a railway-highway crossing where the roadway (including associated sidewalks, pathways, and shared use paths) is under the jurisdiction of and maintained by a public authority and open to public travel, including non-motorized users. All roadway approaches must be under the jurisdiction of a public roadway authority, and no roadway approach may be on private property.

Public road means any highway, road, or street under the jurisdiction of and maintained by a public authority and open to public travel, including non-State-owned public roads and roads on tribal land.

Reporting year means a 1-year period defined by the State, unless noted otherwise in this section. It may be the Federal fiscal year, State fiscal year, or calendar year.

Railway-highway crossing protective devices means those traffic control devices in the Manual on Uniform Traffic Control Devices (MUTCD) specified for use at such crossings; and system components associated with such traffic control devices, such as track circuit improvements and interconnections with highway traffic signals.

Road safety audit means a formal safety performance examination of an existing or future road or intersection by an independent multidisciplinary audit team for improving road safety for all users.

Safety data includes, but are not limited to, crash, roadway characteristics, and traffic data on all public roads. For railway-highway crossings, safety data also includes the characteristics of highway and train traffic, licensing, and vehicle data.

Safety stakeholder means, but is not limited to:

- (1) A highway safety representative of the Governor of the State;
- (2) Regional transportation planning organizations and metropolitan planning organizations, if any;
- (3) Representatives of major modes of transportation;
- (4) State and local traffic enforcement officials;
- (5) A highway-rail grade crossing safety representative of the Governor of the State;
- (6) Representatives conducting a motor carrier safety program under section 31102, 31106, or 31309 of title 49, U.S.C.;

- (7) Motor vehicle administration agencies;
- (8) County transportation officials;
- (9) State representatives of non-motorized users; and
- (10) Other Federal, State, tribal, and local safety stakeholders.

Spot safety improvement means an improvement or set of improvements that is implemented at a specific location on the basis of location-specific crash experience or other data-driven means.

Strategic highway safety plan (SHSP) means a comprehensive, multiyear, data-driven plan developed by a State department of transportation (DOT) in accordance with 23 U.S.C. 148.

Systemic safety improvement means a proven safety countermeasure(s) that is widely implemented based on high-risk roadway features that are correlated with particular severe crash types.

§ 924.5 Policy.

(a) Each State shall develop, implement, and evaluate on an annual basis a HSIP that has the objective to significantly reduce fatalities and serious injuries resulting from crashes on all public roads.

(b) HSIP funds shall be used for highway safety improvement projects that are consistent with the State's SHSP. HSIP funds should be used to maximize opportunities to advance highway safety improvement projects that have the greatest potential to reduce the State's roadway fatalities and serious injuries.

(c) Safety improvements should also be incorporated into projects funded by other Federal-aid programs, such as the National Highway Performance Program (NHPP) and the Surface Transportation Program (STP). Safety improvements that are provided as part of a broader Federal-aid project should be funded from the same source as the broader project.

(d) Eligibility for Federal funding of projects for traffic control devices under this part is subject to a State or local/tribal jurisdiction's substantial conformance with the National MUTCD or FHWA-approved State MUTCDs and supplements in accordance with part 655, subpart F, of this chapter.

§ 924.7 Program structure.

(a) The HSIP shall include:

- (1) A SHSP;
- (2) A Railway-Highway Crossing Program; and
- (3) A program of highway safety improvement projects.

(b) The HSIP shall address all public roads in the State and include separate processes for the planning, implementation, and evaluation of the HSIP components described in paragraph (a) of this section. These processes shall be developed by the States in cooperation with the FHWA Division Administrator in accordance with this section and the requirements of 23 U.S.C. 148. Where appropriate, the processes shall be developed in consultation with other safety stakeholders and officials of the various units of local and Tribal governments.

§ 924.9 Planning.

(a) The HSIP planning process shall incorporate:

(1) A process for collecting and maintaining safety data on all public roads.

Roadway data shall include, at a minimum, the MIRE Fundamental Data Elements as established in § 924.17. Railway-highway crossing data shall include all fields from the U.S. DOT National Highway-Rail Crossing Inventory.

(2) A process for advancing the State's capabilities for safety data collection and analysis by improving the timeliness, accuracy, completeness, uniformity, integration, and accessibility of their safety data on all public roads.

(3) A process for updating the SHSP that identifies and analyzes highway safety problems and opportunities in accordance with 23 U.S.C.148. A SHSP update shall:

(i) Be completed no later than 5 years from the date of the previous approved version;

(ii) Be developed by the State DOT in consultation with safety stakeholders;

(iii) Provide a detailed description of the update process. The update process must be approved by the FHWA Division Administrator;

(iv) Be approved by the Governor of the State or a responsible State agency official that is delegated by the Governor;

(v) Adopt performance-based goals that:

(A) Are consistent with safety performance measures established by FHWA in accordance with 23 U.S.C. 150; and

(B) Are coordinated with other State highway safety programs;

- (vi) Analyze and make effective use of safety data to address safety problems and opportunities on all public roads and for all road users;
 - (vii) Identify key emphasis areas and strategies that have the greatest potential to reduce highway fatalities and serious injuries and focus resources on areas of greatest need;
 - (viii) Address engineering, management, operations, education, enforcement, and emergency services elements of highway safety as key features when determining SHSP strategies;
 - (ix) Consider the results of State, regional, local, and tribal transportation and highway safety planning processes and demonstrate mutual consultation among partners in the development of transportation safety plans;
 - (x) Provide strategic direction for other State and local/tribal transportation plans, such as the HSIP, the Highway Safety Plan, and the Commercial Vehicle Safety Plan; and
 - (xi) Describe the process and potential resources for implementing strategies in the emphasis areas.
- (4) A process for analyzing safety data to:
- (i) Develop a program of highway safety improvement projects, in accordance with 23 U.S.C. 148(c)(2), to reduce fatalities and serious injuries on all public roads through the implementation of a comprehensive program of systemic and spot safety improvement projects.
 - (ii) Develop a Railway-Highway Crossings program that:

(A) Considers the relative risk of public railway-highway crossings based on a hazard index formula;

(B) Includes onsite inspection of public railway-highway crossings; and

(C) Results in a program of highway safety improvement projects at railway-highway crossings giving special emphasis to the statutory requirement that all public crossings be provided with standard signing and markings.

(5) A process for conducting engineering studies (such as road safety audits and other safety assessments or reviews) to develop highway safety improvement projects.

(6) A process for establishing priorities for implementing highway safety improvement projects that considers:

(i) The potential reduction in fatalities and serious injuries;

(ii) The cost effectiveness of the projects and the resources available; and

(iii) The priorities in the SHSP.

(b) The planning process of the HSIP may be financed with funds made available through 23 U.S.C. 104(b)(3) and 505, and, where applicable in metropolitan planning areas, 23 U.S.C. 104(d). The eligible use of the program funding categories listed for HSIP planning efforts is subject to that program's eligibility requirements and cost allocation procedures as per 2 CFR part 200.

(c) Highway safety improvement projects, including non-infrastructure safety projects, to be funded under 23 U.S.C. 104(b)(3) shall be carried out as part of the Statewide and

Metropolitan Transportation Planning Process consistent with the requirements of 23 U.S.C. 134 and 135 and 23 CFR part 450.

§ 924.11 Implementation.

(a) The HSIP shall be implemented in accordance with the requirements of § 924.9.

(b) States shall incorporate specific quantifiable and measurable anticipated improvements for the collection of MIRE fundamental data elements into their Traffic Records Strategic Plan by July 1, 2017. States shall have access to a complete collection of the MIRE fundamental data elements on all public roads by September 30, 2026.

(c) The SHSP shall include or be accompanied by actions that address how the SHSP emphasis area strategies will be implemented.

(d) Funds set-aside for the Railway-Highway Crossings Program under 23 U.S.C. 130 shall be used to implement railway-highway crossing safety projects on any public road. If a State demonstrates that it has met its needs for the installation of railway-highway crossing protective devices to the satisfaction of the FHWA Division Administrator, the State may use funds made available under 23 U.S.C. 130 for other types of highway safety improvement projects pursuant to the special rule in 23 U.S.C. 130(e)(2).

(e) Highway safety improvement projects may also be implemented with other funds apportioned under 23 U.S.C. 104(b) subject to the eligibility requirements applicable to each program.

(f) Award of contracts for highway safety improvement projects shall be in accordance with 23 CFR parts 635 and 636, where applicable, for highway construction projects, 23

CFR part 172 for engineering and design services contracts related to highway construction projects, or 2 CFR part 200 for non-highway construction projects.

(g) Except as provided in 23 U.S.C. 120 and 130, the Federal share of the cost of a highway safety improvement project carried out with funds apportioned to a State under 23 U.S.C. 104(b)(3) shall be 90 percent.

§ 924.13 Evaluation.

(a) The HSIP evaluation process shall include:

(1) A process to analyze and assess the results achieved by the program of highway safety improvement projects in terms of contributions to improved safety outcomes and the attainment of safety performance targets established as per 23 U.S.C. 150.

(2) An evaluation of the SHSP as part of the regularly recurring update process to:

(i) Confirm the validity of the emphasis areas and strategies based on analysis of current safety data; and

(ii) Identify issues related to the SHSP's process, implementation, and progress that should be considered during each subsequent SHSP update.

(b) The information resulting from paragraph (a)(1) of this section shall be used:

(1) To update safety data used in the planning process in accordance with § 924.9;

(2) For setting priorities for highway safety improvement projects;

(3) For assessing the overall effectiveness of the HSIP; and

(4) For reporting required by § 924.15.

(c) The evaluation process may be financed with funds made available under 23 U.S.C. 104(b)(3) and 505, and, for metropolitan planning areas, 23 U.S.C. 104(d). The eligible use of the program funding categories listed for HSIP evaluation efforts is subject to that program's eligibility requirements and cost allocation procedures as per 2 CFR Part 200.

§ 924.15 Reporting.

(a) For the period of the previous reporting year, each State shall submit, via FHWA's HSIP online reporting tool, to the FHWA Division Administrator no later than August 31 of each year, the following reports related to the HSIP in accordance with 23 U.S.C. 148(h) and 130(g):

(1) A report describing the progress being made to implement the HSIP that:

(i) Describes the structure of the HSIP. This section shall:

(A) Describe how HSIP funds are administered in the State; and

(B) Provide a summary of the methodology used to develop the programs and projects being implemented under the HSIP on all public roads.

(ii) Describes the progress in implementing highway safety improvement projects. This section shall:

(A) Compare the funds programmed in the STIP for highway safety improvement projects and those obligated during the reporting year; and

(B) Provide a list of highway safety improvement projects that were obligated during the reporting year, including non-

infrastructure projects. Each project listed shall identify how it relates to the State SHSP.

(iii) Describes the progress in achieving safety outcomes and performance targets. This section shall:

- (A) Provide an overview of general highway safety trends. General highway safety trends shall be presented by number and rate of fatalities and serious injuries on all public roads by calendar year, and to the maximum extent practicable, shall also be presented by functional classification and roadway ownership. General highway safety trends shall also be presented for the total number of fatalities and serious injuries for non-motorized users;
- (B) Document the safety performance targets established in accordance with 23 U.S.C. 150 for the following calendar year. Documentation shall also include a discussion of the basis for each established target, and how the established target supports SHSP goals. In future years, documentation shall also include a discussion of any reasons for differences in the actual outcomes and targets; and
- (C) Present information related to the applicability of the special rules defined in 23 U.S.C. 148(g).

(iv) Assesses the effectiveness of the improvements. This section shall describe the effectiveness of groupings or similar types of highway safety improvement projects previously implemented under the HSIP.

(v) Is compatible with the requirements of 29 U.S.C. 794(d), Section 508 of the Rehabilitation Act.

(2) A report describing progress being made to implement railway-highway crossing improvements in accordance with 23 U.S.C. 130(g) and the effectiveness of these improvements.

(b) The preparation of the State’s annual reports may be financed with funds made available through 23 U.S.C. 104(b)(3).

§ 924.17 MIRE fundamental data elements.

The MIRE fundamental data elements shall be collected on all public roads, as listed in Tables 1, 2, and 3 of this section. For the purpose of MIRE fundamental data elements applicability, the term open to public travel is consistent with 23 CFR 460.2(c).

Table 1 – MIRE Fundamental Data Elements for Non-Local (based on functional classification) Paved Roads

MIRE Name (MIRE Number)¹	
Roadway Segment	Intersection
Segment Identifier (12)	Unique Junction Identifier (120)
Route Number (8) ²	Location Identifier for Road 1 Crossing Point (122)
Route/street Name (9) ²	Location Identifier for Road 2 Crossing Point (123)
Federal Aid/ Route Type (21) ²	Intersection/Junction Geometry (126)

Rural/Urban Designation (20) ²	Intersection/Junction Traffic Control (131)
Surface Type (23) ²	AADT (79) [for Each Intersecting Road]
Begin Point Segment Descriptor (10) ²	AADT Year (80) [for Each Intersecting Road]
End Point Segment Descriptor (11) ²	
Segment Length (13) ²	
Direction of Inventory (18)	Unique Approach Identifier (139)
Functional Class (19) ²	
Median Type (54)	
Access Control (22) ²	
One/Two-Way Operations (91) ²	Interchange/Ramp
Number of Through Lanes (31) ²	Unique Interchange Identifier (178)
Average Annual Daily Traffic (79) ²	Location Identifier for Roadway at Beginning Ramp Terminal (197)
AADT Year (80) ²	Location Identifier for Roadway at Ending Ramp Terminal (201)
Type of Governmental Ownership (4) ²	Ramp Length (187)
	Roadway Type at Beginning Ramp Terminal (195)
	Roadway Type at Ending Ramp Terminal (199)
	Interchange Type (182)
	Ramp AADT (191) ²
	Year of Ramp AADT (192) ²
	Functional Class (19) ²
	Type of Governmental Ownership (4) ²

¹*Model Inventory of Roadway Elements—MIRE, Version 1.0*, Report No. FHWA-SA-10-018, October 2010, http://safety.fhwa.dot.gov/tools/data_tools/mirereport/mirereport.pdf.

²Highway Performance Monitoring System full extent elements are required on all Federal-aid highways and ramps located within grade-separated interchanges, i.e., National Highway System (NHS) and all functional systems excluding rural minor collectors and locals.

Table 2– MIRE Fundamental Data Elements for Local (based on functional classification) Paved Roads

MIRE Name (MIRE Number)¹
Roadway Segment
Segment Identifier (12)
Functional Class (19) ²
Surface Type (23) ²
Type of Governmental Ownership (4) ²
Number of Through Lanes (31) ²
Average Annual Daily Traffic (79) ²
Begin Point Segment Descriptor (10) ²
End Point Segment Descriptor (11) ²
Rural/Urban Designation (20) ²

¹*Model Inventory of Roadway Elements—MIRE, Version 1.0*, Report No. FHWA-SA-10-018, October 2010, http://safety.fhwa.dot.gov/tools/data_tools/mirereport/mirereport.pdf.

²Highway Performance Monitoring System full extent elements are required on all Federal-aid highways and ramps located within grade-separated interchanges, i.e., National Highway System (NHS) and all functional systems excluding rural minor collectors and locals.

Table 3 – MIRE Fundamental Data Elements for Unpaved Roads

MIRE Name (MIRE Number)¹
Roadway Segment
Segment Identifier (12)

Functional Class (19) ²
Type of Governmental Ownership (4) ²
Begin Point Segment Descriptor (10) ²
End Point Segment Descriptor (11) ²

¹*Model Inventory of Roadway Elements—MIRE, Version 1.0*, Report No. FHWA-SA-10-018, October 2010, http://safety.fhwa.dot.gov/tools/data_tools/mirereport/mirereport.pdf.

²Highway Performance Monitoring System full extent elements are required on all Federal-aid highways and ramps located within grade-separated interchanges, i.e., National Highway System (NHS) and all functional systems excluding rural minor collectors and locals.

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