



U.S. Department
of Transportation
**Federal Highway
Administration**

Pennsylvania Division

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In Reply Refer To:
HTS-PA

Highway Safety Improvement Program
Program Assessment Review (PAR)
Final Report

Mr. George W. McAuley, Jr., P.E.
Deputy Secretary for Highway Administration
Pennsylvania Department of Transportation
Harrisburg, Pennsylvania

Mr. James Ritzman, P.E.
Deputy Secretary for Planning
Pennsylvania Department of Transportation
Harrisburg, Pennsylvania

Dear Mr. McAuley / Mr. Ritzman:

Over the past year, the FHWA Pennsylvania Division, PennDOT Program Center, and the Highway Safety and Traffic Operations Division conducted a Highway Safety Improvement Program (HSIP) Program Assessment Review (PAR). The objectives of the PAR were to:

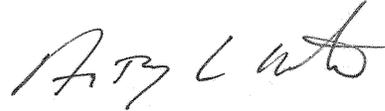
1. Determine the effectiveness of the HSIP in Pennsylvania,
2. Meet the FHWA Strategic Implementation Plan (SIP) requirement to perform an HSIP assessment every five years,
3. Develop additional objective measures of effectiveness for the HSIP moving forward, and
4. Identify specific action items to improve the HSIP.

The team reviewed FHWA policy and guidance and PennDOT's policies and procedures on the HSIP, conducted a survey of PennDOT Engineering Districts and Planning Partners, documented findings, and identified issues.

Enclosed please find the final report of the HSIP PAR. The most important outcome of the PAR was the development of specific action items to improve Pennsylvania's HSIP. You may find the action plan beginning on page 7 of the report.

The action plan contains 12 recommendations and we ask PennDOT to identify the specific action(s) to address the recommendation, owner, and target date to complete each action. FHWA appreciates the cooperation of your staff members in conducting this review, particularly, Gavin Gray, Jason Hershock, and Eugene Heyman. We look forward to collaborating with PennDOT on the implementation of the action plan and ask that you please respond by September 15, 2017 with the completed action plan. If you have any questions, please contact Michael Castellano, P.E., Safety Engineer, at 717-221-4517 or Phillip Bobitz, P.E., Assistant Safety Engineer, at 717-221-4574.

Sincerely,

A handwritten signature in black ink, appearing to read "Anthony Mento". The signature is fluid and cursive, with the first name "Anthony" written in a larger, more prominent script than the last name "Mento".

Anthony Mento
Director of Technical Services

Enc



PY2017
Program Assessment Review
Highway Safety Improvement Program
(HSIP)

FINAL REPORT
July 2017



Reviewers:

Michael Castellano, P.E., Safety Engineer

Phillip Bobitz, P.E., Transportation Engineer/Assistant Safety Engineer

Purpose:

The purpose of this Program Assessment Review (PAR) was to determine the effectiveness of the Highway Safety Improvement Program (HSIP) in Pennsylvania.

Background:

Over \$95 million in HSIP funds was apportioned to Pennsylvania in FY 2017. About two-thirds of these funds are allocated to the planning regions in Pennsylvania and about one-third is retained centrally for competitive distribution statewide. Federal regulations for the HSIP are contained in 23 CFR Part 924. State policies and procedures are found primarily in Publication 638, District Highway Safety Guidance Manual.

FHWA works closely with PennDOT Highway Safety and Traffic Operations Division (HSTOD) and Program Center to oversee and administer the HSIP. These interactions involve discussions primarily on project eligibility and funding. FHWA also communicates with the District Offices and planning partners as necessary.

FHWA requires a statewide assessment of the HSIP once every five years. The last assessment conducted in PA was in 2012 and consisted of a survey that was sent out to chosen individuals from PennDOT, MPOs, and RPOs and those people were invited to a one-day workshop at the PA Division Office in Harrisburg to discuss their individual responses and arrive at a consensus response for PA. The group then identified action items to help improve the HSIP in PA.

Objectives:

This Program Assessment Review (PAR) was conducted to:

1. Determine the effectiveness of the HSIP in Pennsylvania,
2. Meet the PY 2017 FHWA Strategic Implementation Plan (SIP) requirement to perform HSIP assessment every five years,
3. Develop additional objective measures of effectiveness for the HSIP moving forward, and
4. Identify specific action items to improve the HSIP. (see Appendix 1 for the Action Plan)

Scope:

The PAR involved discussions with Central Office, HSTOD and the Program Center, and an online survey of the PennDOT Engineering Districts and Planning Partners to determine areas of strength and areas in which improvement is needed to advance the HSIP in PA. The PAR did not include the Rail-Highway Grade Crossing Program (RHGCP) portion of the HSIP.

Methodology:

The HSIP PAR consisted of the following:

1. *Review FHWA policy and guidance and PennDOT's policies and procedures on the HSIP –*
The FHWA and PennDOT evaluated the current policies and guidance from both FHWA and PennDOT, including Publication 638 (District Highway Safety Guidance Manual), to identify areas where improvements are necessary.
2. *Conduct survey of PennDOT Engineering Districts and Planning Partners –*
The survey consisted of a total of 25 questions in the topic areas of policy, planning, implementation, and evaluation/reporting. Twenty-seven individuals responded to the survey – representing 9 of the 11 PennDOT districts and 8 planning partners. The review team felt this represented a good cross section of both rural and urbanized areas of Pennsylvania. All responses were documented and a sample of them is included in Appendix 2.
3. *Document Findings and Identify Issues –*
The reviewers compiled and documented findings in the areas of Policy, Planning, Implementation, and Evaluation and Reporting. The overall HSIP PAR is documented in this Final Report.

Findings

General Findings:

The findings of HSIP PAR show that Pennsylvania's HSIP is in compliance with federal regulations. The PA Division Safety Engineer has weekly, sometimes daily, contact with PennDOT Safety and Planning officials from Central Office and the District Offices. This contact may involve program- or project-related discussions related to HSIP, but typical day-to-day discussions involve HSIP project eligibility. There is strong oversight both at Central Office and FHWA regarding project eligibility and the most effective use of funds.

During the early part of 2017, PennDOT implemented a SharePoint computer application for the review and approval of HSIP projects. In order to initiate a HSIP project, the requestor is required to input the project into SharePoint and send the project forward through the District and then Central Office for review and approval. FHWA PA Division Office Safety and Planning staff has access to view the approvals in SharePoint. The requestor could be from PennDOT, a planning partner in coordination with their PennDOT District office, or local municipality in coordination with their planning partner. The SharePoint application will continue to be improved and will be a good resource for archiving information related to the HSIP in Pennsylvania.

The following sections identify specific findings in the areas of policy, planning, implementation, and evaluation and reporting. Many of them come from the survey responses sent out to the PennDOT District Offices and planning partners in PA. The findings that require specific follow-up actions are identified in the Action Plan in Appendix 1.

Policy

- Develop measures of the clarity, ease of use, and interpretation of HSIP policies. Refer to question 5 where 73% of respondents indicated that HSIP policies are clear, 81% of respondents indicated that HSIP policies are easy to find, and 77% of respondents indicated that HSIP policies are easy to interpret. The HSIP Assessment Survey can be used to track the responses to these questions over time, and the percentages would be the metric. Respondents noted the following:
 - Safety policies are example of data-rich, information poor, and that they are spread over many publications and documents.
 - Would like the HSIP Policy easier to find from the PennDOT Website.
 - Develop a clearer definition on eligibility – currently, interpretation is broad, while others rely on the SHSP to determine eligibility.
- The District Highway Safety Manual, Publication 638, should be updated to include clear guidance and policies on the HSIP.
- There appears to be a need and desire for training and education on HSIP policies and processes.
 - PennDOT Central Office and FHWA should provide web conference training about the HSIP program in PA including guidance on current eligibility and any upcoming changes.
 - Share more information about HSIP project B/C analysis.
 - Provide details on how to explain evaluations of systemic improvements vs. spot location projects.
 - Remind Districts and MPOs that HSIP cannot be used for behavioral safety due to the FAST act ruling.
 - Focus on HSIP eligibility for local roads. FHWA could explain the Federal Force account procedures used by other states and establish a general contracting method for letting low cost safety improvements projects on local roads.

Planning

- There are issues in project delivery with cost increases. Explore opportunities to prevent Districts from incurring significant increases to the original estimate. Develop a performance measure on cost estimate increases using ECMS or MPMS. Cost increases can potentially be measured by the difference in the Current Contract and the Design Estimate in ECMS.
- There is inconsistent use of planning tools (i.e. HSM, SPFs, CMFs, or other quantitative/predictive methods) used in the planning process. Several responses to Question 11 (*Does the planning process utilize the latest safety planning tools like HSM, SPFs, CMFs, or other quantitative/predictive methods?*) stated that they are starting to use HSM tools and SPFs to choose potential HSIP projects, while others are not using them.

- Track, possibly through SharePoint, the HSM tools utilized for analysis and project selection, and countermeasure selection.
- Question 10 asked how HSIP projects are identified. HSIP projects are predominantly identified through the high crash lists and other crash lists developed by Central Office. Only one respondent indicated that the HSM is used.
- There is a need for more local road data to address local road safety effectively. Volumes on local roads that intersect state roads should be the first priority, and will be captured by an HSIP project to develop county crash lists in fall 2017.

Implementation

- There are schedule delays on some HSIP projects. Sometimes there are last minute changes before letting dates. There needs to be a way to mitigate the impact of factors like ROW, utilities, and environmental issues on the project schedule. Many survey responses show a belief that scope creep is not an issue and is kept in check. However, this is not true for some Districts that are known to consistently have scope changes to many of their HSIP projects.
 - Develop an objective performance measure on let date slippage using ECMS or FMIS. Original let date could be compared to current let date for a given sample of projects and tracked periodically.
 - There appear to be concerns about implementing improvements identified by an RSA.
- The person who manages the safety projects through project development is also inconsistent at the District Offices per the survey responses to question 14.
 - Eight responses indicated that project managers were from design, 7 responses indicated a joint responsibility between design and traffic or design with the input of traffic, and 3 responses indicated that the traffic unit managed the projects.
- Several recommendations regarding the use of SharePoint were revealed through this PAR. These include:
 - Systemic vs. Project Specific Flags for Share Point are necessary to quickly identify the type of project and help in year-end reporting to FHWA
 - Make project amendment approval process easier in Share Point.
 - Could project evaluations be rolled into the SharePoint Site? Perhaps some ownership could be put on the Districts to enter project data following implementation that could be used for evaluation/reporting.
 - Can project information be linked to GIS to map HSIP projects?

Evaluation & Reporting

- Benefit-Cost (B/C) ratios need to be developed for all constructed projects. Currently, a basic analysis is completed by HSTOD for the annual HSIP report. Some MPOs create reports for before and after analysis which may include a B/C comparison.
- Develop a measure of the percentage of projects developed from road safety audits (RSAs) or similar assessments. Refer to question 13 where 85% of respondents indicated that RSAs were used to develop projects. This percentage could be used as a metric or explore a method of tracking this in SharePoint.

- On question 15 in the survey (*Do HSIP projects receive the same level of attention as other highway and bridge projects?*), 69% of the responses indicated that safety projects received the same level of attention.
 - All HSIP projects should be considered projects of significance due to the nature of the funding program and types of improvements, regardless of dollar amounts.
 - HSIP projects have a history of being pushed to a later letting date if the District has met its annual project letting goal.
- Question 23 asked how HSIP results are used to refine policies, practices, and procedures. District responses indicate that they don't have much influence or are not empowered to change or modify the HSIP policies.
 - How can the field/district staff become more engaged? Can a statewide team be developed to review, modify, and implement policy changes? Can this be accomplished through regular District Safety Engineer meetings?
- There seems to be inconsistent ways in which HSIP results are reported to management. Some replies said they don't know. (Question 25)

Appendix 1 – Action Plan

2017 Highway Safety Improvement Program (HSIP) Assessment					
No.	Recommendations	Owner	ACTION	Target Date	Closed?
1	Develop measures of the clarity, ease of use, and interpretation of HSIP policies.				
2	The District Highway Safety Manual, Publication 638, should be updated to include clear guidance and policies on the HSIP.				
3	Provide training and education on HSIP policies and processes.				
4	Develop a performance measure on cost estimate increases using ECMS or MPMS.				
5	Track, possibly through SharePoint, the HSM tools utilized for analysis and project selection, and countermeasure selection.				

2017 Highway Safety Improvement Program (HSIP) Assessment

No.	Recommendations	Owner	ACTION	Target Date	Closed?
6	Promote and increase use of the HSM.				
7	Gather and utilize more local road data to address local road safety effectively.				
8	Develop an objective performance measure on let date slippage using ECMS or FMIS.				
9	Implement SharePoint improvements: <ul style="list-style-type: none"> ○ Add Systemic vs. Project Specific Flags ○ Improve project amendment approval process. ○ Could project evaluations be rolled into the SharePoint Site? Can project information be linked to GIS to map HSIP projects? ○ Track the percentage of projects developed from RSAs 				
10	Improve the implementation of recommendations developed from a Road Safety Audit (RSA).				

2017 Highway Safety Improvement Program (HSIP) Assessment

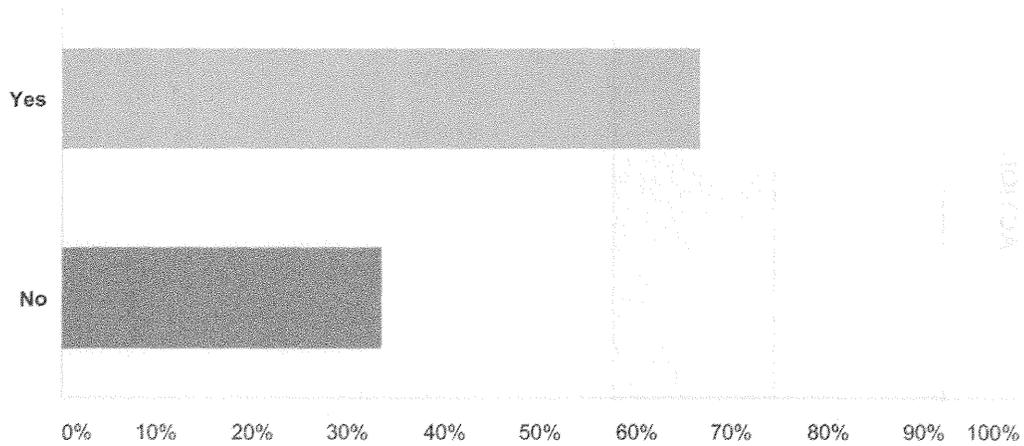
No.	Recommendations	Owner	ACTION	Target Date	Closed?
11	Develop B/C ratios for all constructed projects.				
12	Engage staff in the District Offices in the development of statewide policies and procedures.				

Color key for Action Plan categories

Policy
Planning
Implementation
Evaluation/Reporting

Appendix 2 – HSIP Program Assessment Survey Results

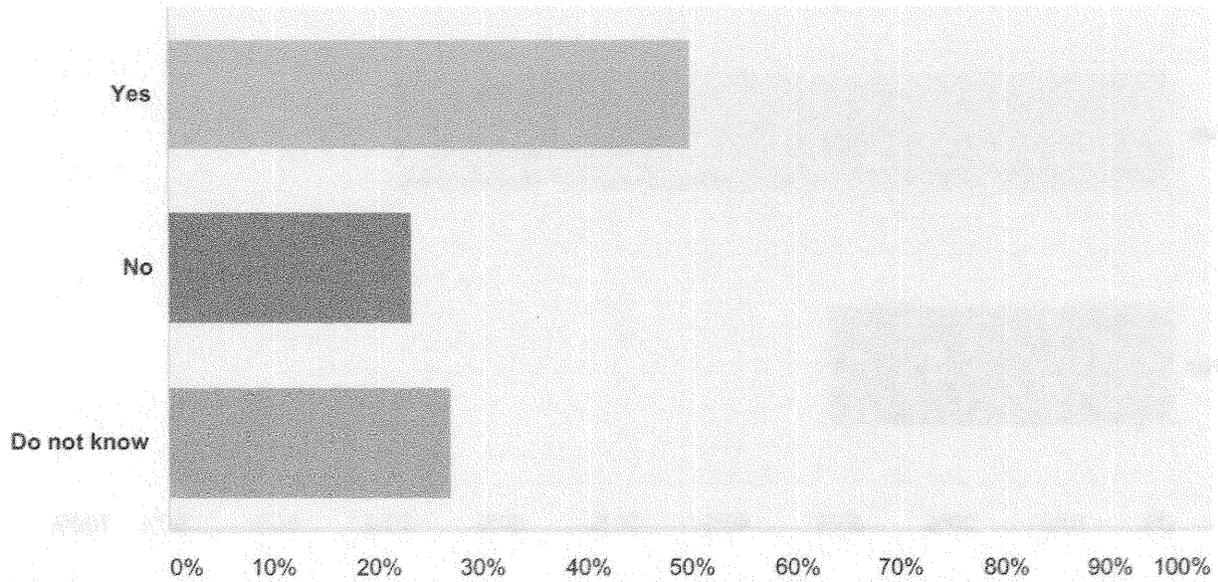
Question 2 - Do the HSIP policies in PA allow for the greatest potential to reduce fatalities and serious injuries? (23 CFR 924.5 (b))



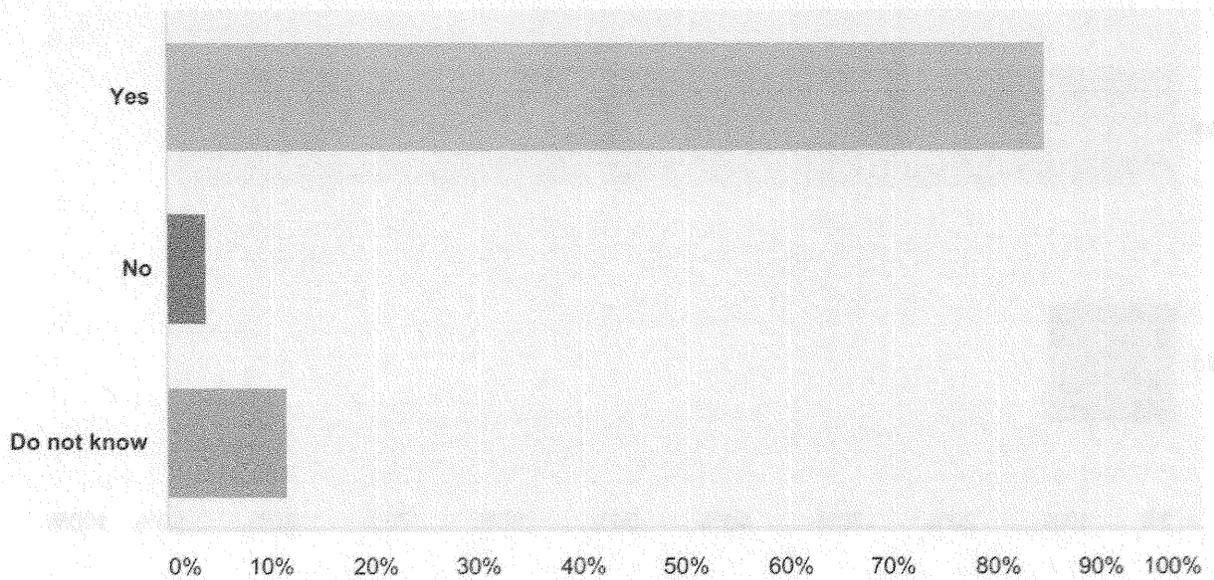
Question 5 - Please indicate your agreement with each of the following:

	Agree	Disagree	Total	Weighted Average
HSIP policies in PA are clear	73.08% 19	26.92% 7	26	3.92
HSIP policies in PA are easy to find	80.77% 21	19.23% 5	26	4.23
HSIP policies in PA are easy to interpret	76.92% 20	23.08% 6	26	4.08

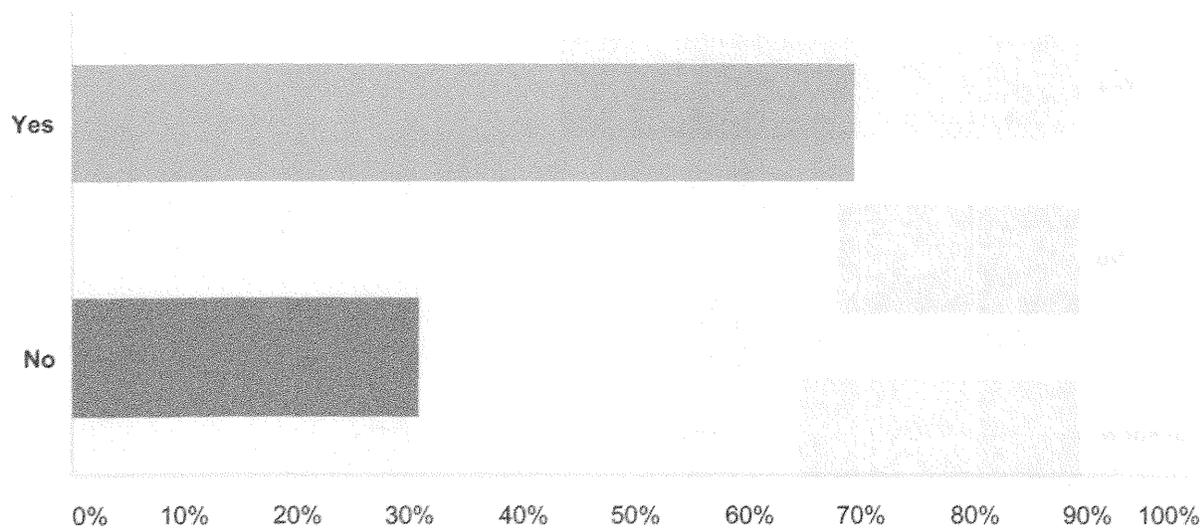
Question 11 - Does the planning process utilize the latest safety planning tools like HSM, SPFs, CMFs, or other quantitative/predictive methods?



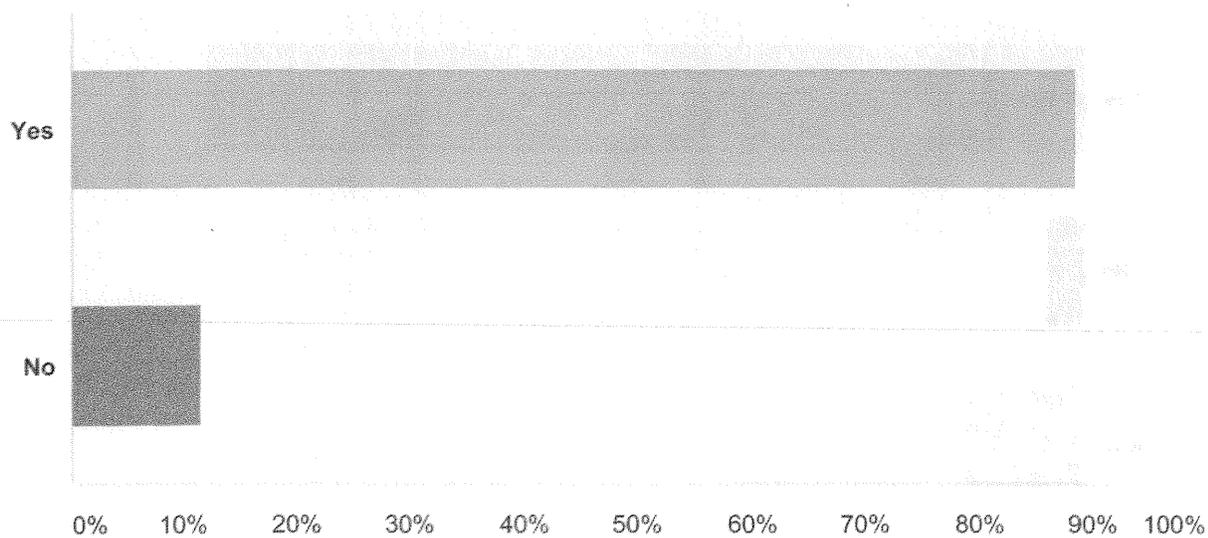
Question 13 - Does the planning process incorporate studies such as RSAs or other assessments/reviews to develop projects? (23 CFR 924.9 (a)(5))



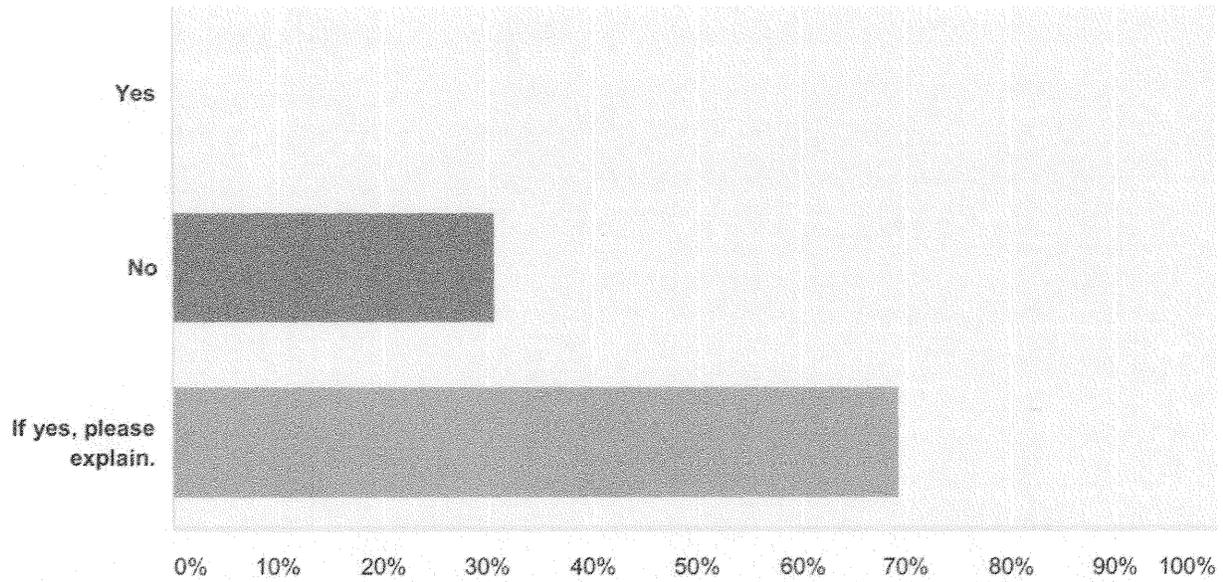
Question 15 – Do HSIP projects receive the same level of attention as other highway and bridge projects?



Question 16 - Are other funding sources leveraged to support the use of HSIP funds on safety projects in your jurisdiction?



Question 21 – Are there any barriers to delivering safety projects?



Question 26 - Are there opportunities to improve the HSIP evaluation process?

