

Appendix A

HSIP Project Application Process and Worksheets

UPDATED JANUARY 2016

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Application Framework

Introduction:

This appendix contains the instructions for submitting requests for ADOT Highway Safety Improvement Program (HSIP) funds. HSIP funds are eligible for work on any public road or publicly owned bicycle or pedestrian pathway or trail, or on tribal lands for general use of tribal members, that improves the safety for its users. On December 4, 2015, the “Fixing America’s Surface Transportation Act” (FAST) was signed into law. The FAST Act retains the highway program structure enacted in the 2012 Moving Ahead for Progress in the 21st Century (MAP-21) surface transportation law with only a few major additions or changes. Within MAP-21 there were twenty-four project categories identified as eligible as listed under 23 U.S.C § 148 (a)(4)B). The FAST Act adds four categories, but limits the categories to the twenty-eight listed. The FAST act also ends the ability of the State to shift funds designated for infrastructure safety projects to behavioral or educational activities. The ADOT HSIP program places additional constraints on the eligibility of individual project categories in order to meet the most critical safety needs on all of Arizona’s public roadways and to help ensure Arizona’s MAP-21 performance targets are met.

This application is to support requests for HSIP eligibility determination for use of SFY17 HSIP funds for projects within local Obligation Authority (OA) and for SFY18 HSIP programming in the State authority as detailed below. Applicants should submit the application to their respective COG/MPO or District Engineer by the designated deadline. Applications received by ADOT TSS after close of business on the due date of **May 1, 2016** will not be accepted. After eligibility has been determined for use of HSIP funds for those projects qualifying for inclusion in the ADOT 2017 – 2020 Five-Year Transportation Facilities Construction Program, the ADOT HSIP Program Manager will rank all potential HSIP projects based on technical merits (weighted score) as outlined in this document and in the HSIP application and will submit the prioritized list to the State Engineer’s Office for final ranking and approval.

In SFY17 and SFY18, ADOT’s plan is to transition from set-aside money for local and state agency programs to one consolidated Arizona HSIP program for all public roadways. In order to accomplish this, certain criteria and procedures will have to be standardized in order to ensure all agencies position themselves to compete effectively in future ADOT statewide, data-driven call-for-projects. In the CY 2015 statewide call-for-projects, ADOT took the first steps to incorporate several of these changes and anticipates that additional changes will be needed to keep the HSIP application process consistent with lessons learned and future calls-for-projects.

The SFY Application is an excel workbook consisting of 17 tabs plus two tabs of Tables. Many of the answer blocks in the application can be filled with the dropdown options. Applicants should make sure to read the entire Application Instructions and review all of the Application Tabs before attempting to prepare and submit the application. Additional guidance and information is included in the tabs. ADOT TSS is available to answer questions, review draft applications, or assist with additional information until the due date. The application is also available on-line at <http://azdot.gov/business/engineering-and-construction/traffic/traffic-safety/arizona-highway-safety-improvement-program>.

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Application submittals at minimum must include:

1. Cover/Transmittal Letter, which must include:
 - a. How the safety issue/problem was identified
 - b. Amount of HSIP funding eligibility approval requested
 - c. Identification of countermeasure(s) being installed/implemented (15% of construction estimate)
 - d. How the countermeasure(s) will correct the safety problem
 - e. Who is performing the work
 - f. If the work is within the agency's ROW
 - g. If utility relocation will be required
 - h. The number of fatal and serious injury crashes that can potentially be reduced by implementation of the countermeasure(s)
 - i. Identify which SHSP emphasis area the project supports
 - j. B/C ratio as calculated in the B/C ratio analysis sheet (≥ 1.5)
 - k. Weighted score as calculated in the SHSP priority spreadsheet
 - l. Source of other funds if cost of project exceeds HSIP eligibility approval or if work that is not HSIP eligible is included in the project – broken out by HSIP eligible, non-HSIP eligible and other funds (if applicable)
 - m. Commitment to maintain countermeasure(s) to standards after installation
 - n. Commitment to post-construction annual “before and after” study for 3 years
 - o. Understanding that HSIP funds can only be used once to upgrade or install a countermeasure(s) on a facility
 - p. Signature of authorized representative
2. Complete application – Incomplete applications or an application with errors will be excluded from the review and selection process. ADOT TSS will work with LPAs, COGs/MPOs and State agencies up until the final submittal date to ensure completeness. No revised applications will be considered after the submittal date of **May 1, 2016**.
3. Cost estimate in ADOT format – Lump sum cost estimates will not be approved. Cost estimates need to be in enough detail for ADOT review and concurrence by ADOT Project Management Group (PMG). If more than one countermeasure is being installed, the cost of each countermeasure must be broken out. Eligibility is only approved for the total estimated cost (design and construction) of a project.
4. Crash Data Spreadsheet – All crashes associated with a given countermeasure must be within the countermeasure's influence area. Only crashes used to calculate the B/C ratio should be in the spreadsheet.
 - a. Most recent 5 years of data from the ADOT crash database and must include “condition influencing driver/pedestrian/bicyclist”. All LPAs competing for State HSIP funds must use the same database to obtain crash data.

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- b. Only fatal and serious injury crashes can be used for B/C ratio analysis or the crash data spreadsheet.
 - c. Only crashes that the proposed countermeasure will correct can be used for B/C ratio analysis or the crash data spreadsheet.
 - d. Severity of each crash must be indicated.
 - e. Manner of the collision must be indicated.
 - f. Driver behavior of Unit 1 from the ADOT Crash Form or Standard Crash Data Report Form must be indicated. Alcohol/drug related crashes cannot be used to support infrastructure related countermeasures (projects).
 - g. Other relevant attributes may be indicated.
 - h. Do not include crashes unreported by law enforcement unless supporting documentation, i.e. crash reports, is provided.
5. B/C Ratio calculation sheet – required for both spot and systemic projects
- a. Annual average of crashes from 4 above.
 - b. Must identify 4 or 5 star countermeasure from ADOT’s list (See Appendix B) or FHWA’s Crash Modification Factors Clearinghouse. This list is limited to the Injury Severity of Fatal, Serious and, in some cases, Minor Injury. No Property Damage Only (PDO) crashes or all inclusive crashes (All) are included. If a CMF is not available in the ADOT list, then the applicant should contact ADOT TSS **prior** to the application being submitted to determine if the proposed CMF and reference can be used. In no case can crash severity less than serious injury be used in the B/C ratio analysis.
 - c. Maximum of 3 countermeasures can be used in a combined crash reduction factor (CCRF).
 - d. If Crash Type, Severity and Area are all the same, then the following formula should be used: $CCRF = 1 - (1-CRF 1) \times (1-CRF 2) \times (1-CRF 3)$
 - e. If Crash Type, Severity or Area are different, then the following formula can be used:
$$CCRF = (CRF 1 \times \text{no. of crashes for countermeasure 1}) / (\text{total crashes})$$
$$+ (CRF 2 \times \text{no. of crashes for countermeasure 2}) / (\text{total crashes})$$
$$+ (CRF 3 \times \text{no. of crashes for countermeasure 3}) / (\text{total crashes})$$
 - f. All calculations for a CCRF must be submitted with the application.
 - g. Total countermeasure costs include design, ROW, construction, and post construction costs. For State projects, ICAP must be included in the estimate.
 - h. Annual maintenance cost must be included.
 - i. Project or Service Life can be obtained from Appendix C and must be included.
 - j. B/C ratio must be ≥ 1.5 (round to nearest tenth).
6. Vicinity Map/Location Map –Application reviewers and FHWA must be able to pinpoint the project’s location in the state and the local agency.

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7. Project Limits Map – An aerial screen capture with the limits of the project outlined is recommended. These limits must concur with those identified in the Cover/Transmittal letter and the crash locations listed in the crash data spreadsheet.
8. Warrant Studies – Required when the project includes an improvement that requires an engineering study to warrant the installation of certain traffic control devices, e.g., traffic signals, pedestrian signals, etc. When applications include traffic control features like these, it is the applicants' responsibility to ensure all requirements of the latest MUTCD are met. Failure to include required warrants will result in the application being disqualified.

HSIP Funding Guidelines:

1. SFY17 HSIP program funded at 80% State and 20% Local remains in place.
2. SFY18 HSIP program funded at 80% State and 20% Local remains in place. However, in SFY18 LPAs may compete for HSIP funds from the State allocation if their project estimated cost exceeds their COG/MPOs local OA and the COG/MPO agrees to return their TOTAL SFY17 HSIP OA to the State. If the project does not qualify for HSIP funding, the COG/MPO will have their local HSIP SFY18 OA reinstated. The SFY17 call-for-project is the call for COG/MPOs to submit these projects.
3. In SFY19, there will be no division of Arizona's HSIP funds. All projects submitted by LPAs, COG/MPOs and State agencies will compete on the same level for funding.
4. Minimum project total cost is \$250,000.00.
5. HSIP funds used for right-of-way purchases are capped at 10 percent of the estimated total construction cost.
6. HSIP funds used for utility relocation or construction are capped at 10% of the estimated total construction cost.
7. Cost of countermeasure(s) must represent at least 15 percent of the total construction cost.
8. If any HSIP eligible project exceeds the original approved amount for HSIP countermeasures, all excess costs will have to be funded through other sources i.e. STP, local, etc. (Although Detailed Engineer's Estimates are not required, accurate anticipated Cost Estimates are critical.)

General Guidelines:

1. Federal Authorization for design must be obtained within the same SFY as HSIP eligibility determination.
2. Design must begin within 6 months of the date of federal authorization for design.
3. Construction must begin within 30 months of the date of federal authorization for design.

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4. If a project is included in the ADOT 2017 – 2020 Five-Year Transportation Facilities Construction Program, then federal authorization for design must be obtained within the first six months of SFY18.
5. Projects that miss design or construction milestones will be flagged and ADOT TSS will not accept applications for HSIP funding from agencies with flagged projects.
6. If an agency fails to submit necessary project documentation, such as a project close-out request letter, ADOT TSS will not accept any additional HSIP applications from that agency until such time the project document is received or closed out.
7. If a submitting agency withdraws a project because it cannot be delivered in the programmed SFY due to funding, it can be resubmitted with a revised HSIP application in the next call-for-projects for the next available funding SFY.

**ADOT FY17 HIGHWAY SAFETY IMPROVEMENT PROGRAM
APPLICATION**

Agency:		Title of Project:	
County:		COG/MPO:	
District:		HSIP Funds:	<input type="checkbox"/> STATE <input type="checkbox"/> LOCAL
Contact:		Phone:	
		E-Mail:	
Type of Safety Improvement:	Spot: <input type="checkbox"/> YES <input type="checkbox"/> NO	Systemic: <input type="checkbox"/> YES <input type="checkbox"/> NO	
Mark all that apply to your project: <input type="checkbox"/> PE <input type="checkbox"/> Const. <input type="checkbox"/> Procurement <input type="checkbox"/> Non-Infrastructure			
Anticipated Total Cost Estimate:		\$0.00	
Anticipated dollar amount of HSIP Funding:		\$0.00	
Anticipated Dollar amount of Local Match (5.7%) (5.66%):		\$0.00	
Anticipated Dollar amount of Other:		\$0.00	
Funding Source: <input type="checkbox"/> 100% HSIP <input type="checkbox"/> 94.3% HSIP <input type="checkbox"/> 94.34% HSIP		Cost Estimate Tab:	
Local Initiated Projects			
Anticipated Design Year (Construction/procurement year cannot be the same): <input type="checkbox"/> FY17 <input type="checkbox"/> FY18 (State)			
If additional ROW is needed, what FY is purchase anticipated?: <input type="checkbox"/> FY18 <input type="checkbox"/> FY19			
Anticipated Construction Year: <input type="checkbox"/> FY17* <input type="checkbox"/> FY18 <input type="checkbox"/> FY19			
Administration of Project:	Agency: <input type="checkbox"/> YES <input type="checkbox"/> NO	ADOT: <input type="checkbox"/> YES <input type="checkbox"/> NO	
If competing for State Funds, COG/MPO agrees to transfer TOTAL local HSIP OA to State.			<input type="checkbox"/> YES
Name and Title of COG/MPO Representative:			
State Initiated Projects			
Anticipated Design Year (Construction/procurement year cannot be the same): <input type="checkbox"/> FY18			
If additional ROW is needed, what FY is purchase anticipated?: <input type="checkbox"/> FY18 <input type="checkbox"/> FY19			
Anticipated Construction Year: <input type="checkbox"/> FY18* <input type="checkbox"/> FY19 <input type="checkbox"/> FY20			
Basic Project Information			
1.	Have lower cost countermeasures been considered or implemented?		<input type="checkbox"/> YES <input type="checkbox"/> NO
1a.	If "Yes", describe: If "No", explain why not:		
2.	Which 23 USC 148 highway safety improvement project category does this project come under?		
2a.			
3.	Describe your safety improvement project in detail: (50 words or less)		

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**ADOT FY17 HIGHWAY SAFETY IMPROVEMENT PROGRAM
APPLICATION**

Agency:		Title of Project:	
County:		COG/MPO:	
District:		HSIP Funds:	<input type="checkbox"/> STATE <input type="checkbox"/> LOCAL
3a.			
4.	Describe the location of this safety project:		
4a.			
5.	What crash data screening method was used to identify this project?		
5a.			
6.	What is the safety justification for the proposed project?		
6a.			
7.	Will there be ground disturbing activities?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
8.	Is project within applicants permanent ROW?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
8a.	If NO please explain:		
9.	Will any temporary right-of-way acquisitions be required?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
10.	Will there be any utility relocation needed?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
10a.	If YES please explain:		

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APPLICATION**

Agency:		Title of Project:	
County:		COG/MPO:	
District:		HSIP Funds:	<input type="checkbox"/> STATE <input type="checkbox"/> LOCAL
27.	Is a list of locations for systemic projects provided on the attached form?		<input type="checkbox"/> YES <input type="checkbox"/> NO
28.	How are (will) the proposed locations be prioritized for replacement? (explain below)		
28a.			
29.	Are the supporting structures in good condition, meet local standards and have an anticipated service life longer than the countermeasure being installed?		<input type="checkbox"/> YES <input type="checkbox"/> NO
"Spot" Improvement Projects Only			
30.	Completed B/C Ratio Tabulation Sheet Attached (required):		<input type="checkbox"/> YES <input type="checkbox"/> NO
31.	Is the most current 5 Years Crash Data from ADOT ALISS database sorted by year & severity attached and in correct format? (required):		<input type="checkbox"/> YES <input type="checkbox"/> NO
32.	What are the inclusive dates of the crash data?		
	Have all crashes that will not be influenced by this countermeasure been deleted from the crash list? (alcohol/drug related, pedestrian, etc. as applicable)		<input type="checkbox"/> YES <input type="checkbox"/> NO
33.	Have any infrastructure changes occurred within the work limits of this project during the years the crash data covers?		<input type="checkbox"/> YES <input type="checkbox"/> NO
34.	If YES please explain:		
35.	Project vicinity map is provided:		<input type="checkbox"/> YES <input type="checkbox"/> NO
36.	Project work limits map is provided:		<input type="checkbox"/> YES <input type="checkbox"/> NO
SHSP - All Projects			
37.	Which SHSP Emphasis Area (EA) does this project support?:		
37a.	Which EA Strategy does it support?:		
37b.	Does this project support a second SHSP EA? If so, which EA.:		

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Agency:		Title of Project:	
County:		COG/MPO:	
District:		HSIP Funds: <input type="checkbox"/> STATE <input type="checkbox"/> LOCAL	
37c.	Which EA Strategy supports the second EA?		
37d.	Does this project support a third SHSP EA? If so, which EA.:		
37e.	Which EA Strategy supports the third EA?		
38.	Does this project support one of the nine FHWA proven countermeasures?: <input type="checkbox"/> YES <input type="checkbox"/> NO		
38a.	If so, which countermeasure?:		
39.	Does this project support one of the three Arizona Focus Areas?: <input type="checkbox"/> YES <input type="checkbox"/> NO		
39a.	If so, which focus area?:		
40.	Which HSIP Improvement Category does this project support?:		
40a.	Which HSIP Improvement Sub-Category does this project support?:		
41.	Does your COG/MPO have a Strategic Transportation Safety Plan (STSP)?: <input type="checkbox"/> YES <input type="checkbox"/> NO		
41a.	If "YES", does this project support an Emphasis Area in the COG/MPO STSP?: <input type="checkbox"/> YES <input type="checkbox"/> NO		
41b.	List the EA:		
41c.	If your COG/MPO has a STSP and it was Federally Funded and you answered NO in 41a, explain why this project is being submitted over a STSP identified project.		
41d.	Rational		
42.	Are any temporary safety countermeasures needed prior to this permanent solution being installed? <input type="checkbox"/> YES <input type="checkbox"/> NO		
42a.	If yes, please explain:		
B/C Ratio and Weighted Score			
43.	The calculated B/C Ratio is:	0.00	The Weighted Score is: 0.00

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Required for all HSIP Applications					
Agency:		Title of Project:	0		
Benefit / Cost Ratio Tabulation					
Annual Benefit Tabulation					
Severity	Annual Average	Estimated CMF* Reduction	Total Reduction	Unit Cost	Annual Benefit
Fatal	0.00	0%	0.00	\$5,800,000	\$0
Incapacitating Injury	0.00	0%	0.00	\$400,000	\$0
Total Annual Benefits					\$0
Costs					
Total Project Cost					\$0
Project Life (years)					0
Interest Rate (%)					0%
Capital Recovery Factor					0.0000
Annual Construction Cost					\$0
Annual Maintenance Cost					\$0.00
Total Annual Costs					\$0
Benefit / Cost					
Annual Benefit	Annual cost		Benefit / Cost Ratio		
\$0	\$0		0.0		
*REQUIRED: Use 4 and 5 star CMF's from ADOT Lists at Tabs 16 - 18 preferred.					

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The Cost Estimate shown on the next page is just one example of several possibilities for HSIP funding depending on HSIP Funding Share, non-HSIP funds, other funds, etc. However, as a minimum all cost estimates have to be submitted in this format. It is recommended that a detailed Engineer Estimate and cost breakdown also be included since the applicant is responsible for all funds exceeding the original approved HSIP eligibility.

HIGHWAY SAFETY IMPROVEMENT PROGRAM
APPLICATION - COST ESTIMATE

Agency:	Name of Project:	HSIP Project Cost Estimate Worksheet						
	Procurement of Sign Panels - Local Agency Staff Installs							
Project Cost Estimate:	Description:	Quantity:	Cost (Unit):	Total Cost	HSIP:	Local Match:	Other Amt:	TOTAL COST
Planning or Study:		0	\$ -	\$ -	100.00%	0.00%	0.00%	\$ -
Preliminary Engineering:		0	\$ -	\$ -				\$ -
ADOT Admin Costs:		1	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00	\$ -	\$ -	\$ 30,000.00
Sub-Total			\$ 30,000.00	\$ 30,000.00	\$ 30,000.00	\$ -	\$ -	\$ 30,000.00
Materials:		0	\$ 20.00	\$ -				\$ -
Materials:		0	\$ 6.00	\$ -				\$ -
Materials:		0	\$ -	\$ -				\$ -
Materials:		0	\$ -	\$ -				\$ -
Materials:		0	\$ -	\$ -				\$ -
Materials:		0	\$ -	\$ -				\$ -
Materials Sub-Total:			\$ -	\$ -				\$ -
Sales Tax		10.00%	\$ -	\$ -				\$ -
Sub-Total			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Construction Admin :		14.00%	\$ -	\$ -				\$ -
Contingencies :		5.00%	\$ -	\$ -				\$ -
Post Design:		1.00%	\$ -	\$ -				\$ -
		0	\$ -	\$ -				\$ -
		0	\$ -	\$ -				\$ -
		0	\$ -	\$ -				\$ -
		0	\$ -	\$ -				\$ -
		0	\$ -	\$ -				\$ -
		0	\$ -	\$ -				\$ -
Sub-Total			\$ -	\$ -				\$ -
TOTAL REQUEST					\$ 30,000.00	\$ -	\$ -	\$ 30,000.00

Comments: