

# Alabama Department of Transportation

## HSIP Low Cost Safety Improvements

### Force Account Program

#### Purpose

The purpose of this program is to facilitate the rapid deployment of low-cost safety countermeasures and small-scale safety improvements at various locations on state-maintained routes across the State of Alabama in order to reduce the number of serious injury and fatal crashes by cost effectively applying safety countermeasures to the extent possible using existing resources. The program extends the Department's roadway safety program to include small projects that may be effectively performed by State Forces.

#### Funding

The program will be funded through the Highway Safety Improvement Program by means of a pre-authorized project which will remain in effect for a maximum of two fiscal years. At the end of each two-year cycle, a determination of effectiveness of the program will be made prior to authorization of a new two-year cycle. Funding will initially be set at \$2,000,000.00 with the option of supplementing as needed based on demand.

#### Eligibility

1. Project Locations must be located on state-maintained routes or at intersections which include at least one state-maintained route.
2. The cost of labor, equipment, and materials required shall be eligible for reimbursement under this program, however, the applicants are encouraged when able to cover the cost of labor and equipment in an effort to further the reach and capabilities of the program.
3. Utility relocation expense is not eligible under this program.
4. Right-of-way acquisition is not eligible under this program.
5. The project must be an improvement type identified by the Traffic & Safety Operations Section for implementation through the Program. (See Attachment A)

Note: If a Region encounters a safety issue where a countermeasure seems appropriate, but is not listed on Attachment A, a request for consideration may be present to the Traffic & Safety Operations Engineer.

6. A cost estimate must be prepared and used to demonstrate the project's cost effectiveness using the application form in Attachment B. An automated pdf is also available upon request from the Traffic and Safety Operations Section. The cost estimate must be itemized. An example has been provided in Attachment C.
7. The proposed work must meet the requirements of the [FHWA Policy on Force Account Use \(Order 5060.1\)](#).

## General Project Parameters

1. Project applications should consist of low cost, small-scale projects, or a series of small-scale projects.
2. Project cost should typically range from \$10,000 - \$150,000 per project or group of projects. Larger projects in excess of the previous stated amount may be considered for large scale systemic application of low-cost countermeasures depending on scope of work.
3. Projects should be completed within three (3) months of application approval. Additional time may be granted in the event of procurement delays outside of the control of ALDOT personnel.
4. It must follow ALDOT's work zone specifications and practices.
5. It must qualify for a Programmatic Categorical Exclusion (PCE).
6. It must follow ALDOT's environmental guidance documents.
7. Projects may include a limited amount of work performed through State annual bid contracts, such as guardrail installation and striping. These items of work must be identified by type, scope and dollar amount as part of the application process.
8. Leasing/renting of equipment is discouraged; while the cost of equipment rental is eligible under this program, it is generally expected that the District will normally have the needed equipment to perform the vast majority of the work.

## Application Requirements

1. Alabama HSIP Program Application Spreadsheet or alternative Highway Safety Cost Benefit Analysis calculations as approved by the Traffic & Safety Operations Engineer.
2. Detailed Cost Estimate and cost effectiveness calculations. (Attachment B)
3. Detailed Contractor Cost Estimate. (Attachment D)
4. Vicinity map
5. Sketch or layout of proposed project

## Application Submittal and Review

1. Applications will be submitted by the ALDOT Region Office to the Traffic & Safety Operations Section for Review.
2. The Traffic & Safety Operations Section will review the application on the merit of safety benefit and reject the application or approve the application for HSIP funding and forward it on to the next step as appropriate.
3. If approved for HSIP funding, the application will be reviewed by the ALDOT HSIP Force Account Review Committee.
4. Upon approval by the Review Committee, one of two next steps will be taken based on the project's location:
  - a. For projects located on a NHS route, the application will be forwarded to the FHWA Alabama Division Office for review as required. The Region Office will subsequently be notified of FHWA's ruling on the application.
  - b. For projects not requiring FHWA concurrence, notice of approval will be sent to the Region Office.

## **Project Reporting**

Project award recipients will be required to complete an “ALDOT Highway Safety Improvement Program Force Account Project Reporting Form” upon completion of work. The project reporting form must be accompanied by materials and/or equipment invoices, equipment charges sheets, payroll charge sheets, etc. for all expenses charged to the program.

A copy of the project reporting form can be found in Attachment E.

## **Program Management**

The program will be managed by the Design Bureau, Traffic Engineering Division, Traffic & Safety Operations Section HSIP Manager.

## **Program Evaluation**

At two-year intervals, the force account program will be evaluated for its effectiveness, need for adjustments, need for training and other key factors that indicate whether it is significantly contributing to reductions in crashes, injuries and fatalities on state routes.

## **List of Attachments**

Attachment A - Approved Safety Countermeasures for Force Account Work

Attachment B – HSIP Low-Cost Safety Improvement Force Account Application

Attachment C - HSIP Low-Cost Safety Improvement Force Account Application Example

Attachment D – Example Contract Construction Estimate

Attachment E – ALDOT Highway Safety Improvement Program Force Account Project Reporting Form

<p>This report is prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads; and is therefore exempt from open records, discovery or admission under Alabama law and 23 U.S.C. §§ 148(h)(4), and 409.</p>
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## **Attachment A –Cost-Effective Safety Countermeasures for Force Account Work**

### ***Geometric Countermeasures***

- Modifying intersecting angle (skew)
- Modifying Y-intersection
- Provide/improve intersection channelization
- Improve intersection sight distance
- Provide offset left-turn and right-turn lanes
- Implement treatments to delineate edge lines, curbs, medians, and obstacles
- Improve stop and yield controlled sign conspicuity, i.e., use of splitter islands
- Construction of intersection left- and right-turn lanes
- Intersection illumination
- Access management applications
- Modification of lane transition lengths
- Addition or modification of acceleration/deceleration lanes

### ***Traffic Control Device Countermeasures***

- Provide advance warning signs
- Upgrade or provide enhanced warning or regulatory signage
- One-way/wrong-way signing and use of signing, markings, and active traffic control devices to reduce wrong-way driving
- Upgrade pedestrian crossings
- Addition of back plates along with retro-reflective markings
- Additional signal head indications

### ***Roadside and Roadway Departure Countermeasures***

- Installation of guardrail at currently unshielded sites, including median barriers and crash attenuators (generally only permitted where removing, redesigning, or relocating the obstacles are not physically feasible and/or is cost-prohibitive)
- Installation of edge line and centerline rumble strips and rumble stripes
- Use of high friction surface treatments
- Installation of safety edge
- Mitigation of roadside hazards, e.g., fixed object removal, flattening of slopes, elimination of vertical headwalls and exposed pipe ends, removal of curbs protruding onto shoulders, providing breakaway or bend away sign supports, protection of rock cuts, etc.

Attachment B :  
**HSIP Low-Cost Safety Improvement Force Account Application**

ALDOT Region: \_\_\_\_\_ Area/District: \_\_\_\_\_

County: \_\_\_\_\_ Routes(s): \_\_\_\_\_

Intersection/Segment: \_\_\_\_\_ Project Manager: \_\_\_\_\_

Anticipated Start Date: \_\_\_\_\_ Anticipated Completion Date: \_\_\_\_\_

Location Description: \_\_\_\_\_

\_\_\_\_\_

Description of Work: \_\_\_\_\_

\_\_\_\_\_

**Cost Effectiveness:**

**Work Performed by Contractor: (detailed estimated required).....\$ \_\_\_\_\_**

Work Performed by Force Account Method:

Labor (Includes Labor Additive Rate \_\_\_\_\_) ..... \$ \_\_\_\_\_

Equipment..... \$ \_\_\_\_\_

Materials ..... \$ \_\_\_\_\_

Subtotal (Labor, Equipment, Materials) ..... \$ \_\_\_\_\_

Subcontracted items of work (Quotes Included)..... \$ \_\_\_\_\_

Subtotal..... \$ \_\_\_\_\_

Construction Engineering & Inspection (\_\_\_\_\_) ..... \$ \_\_\_\_\_

Subtotal including CE&I..... \$ \_\_\_\_\_

ALDOT Indirect (\_\_\_\_\_)..... \$ \_\_\_\_\_

**Total.....\$** \_\_\_\_\_

**Difference in Costs .....\$** \_\_\_\_\_

**Percentage Saved by Force Account Method .....\$** \_\_\_\_\_

**By submitting this application, the project applicant affirms the following: the District/Area/Region has the necessary experience and ability to adequately complete the work utilizing State Forces with minimal need for subcontracting or equipment rental; all work shall comply with the MUTCD, ALDOT Standard Specifications, and Standard & Special Drawings; oversight, inspection, and materials acceptance will follow standard ALDOT requirements.**

Attachment C - Example Application  
**HSIP Low-Cost Safety Improvement Force Account Application**

ALDOT Region: North Area/District: Tuscaloosa  
 County: Tuscaloosa Routes(s): US-82/Sam Sutton Rd  
 Intersection/Segment: Intersection Project Manager: John Doe  
 Anticipated Start Date: 01/01/2000 Anticipated Completion Date: 02/28/2000  
 Location Description: Intersection of Sam Sutton Road with US-82(SR-6) at  
Mile Post 40.402, Tuscaloosa County  
 Description of Work: Modify intersection angle (Skew) to improve turning radius

**Cost Effectiveness:**

<b><u>Work Performed by Contractor: (detailed estimated required)</u></b> .....	<b><u>\$ 154,944.44</u></b>
<u>Work Performed by Force Account Method:</u>	
Labor (Includes Labor Additive Rate <u>81.299%</u> ) .....	\$ <u>30,751.81</u>
Equipment.....	\$ <u>15,766.00</u>
Materials .....	\$ <u>19,844.17</u>
Subtotal (Labor, Equipment, Materials) .....	\$ <u>66,361.98</u>
Subcontracted items of work (Quotes Included).....	\$ <u>29,950.00</u>
Subtotal.....	\$ <u>96,311.98</u>
Construction Engineering & Inspection ( <u>15.00%</u> ) .....	\$ <u>14,446.80</u>
Subtotal including CE&I.....	\$ <u>110,758.78</u>
ALDOT Indirect ( <u>13.63%</u> ).....	\$ <u>15,096.42</u>
<b>Total</b> .....	<b><u>\$ 125,855.20</u></b>
<b>Difference in Costs</b> .....	<b><u>\$ 29,089.24</u></b>
<b>Percentage Saved by Force Account Method</b> .....	<b><u>\$ 23.11%</u></b>

**By submitting this application, the project applicant affirms the following: the District/Area/Region has the necessary experience and ability to adequately complete the work utilizing State Forces with minimal need for subcontracting or equipment rental; all work shall comply with the MUTCD, ALDOT Standard Specifications, and Standard & Special Drawings; oversight, inspection, and materials acceptance will follow standard ALDOT requirements.**

## Attachment D – Example Contract Construction Estimate

SAM SUTTON RD ESTIMATE				
QUANTITY	UNIT	ITEM DESCRIPTION	UNIT COST	TOTAL ITEM COST
16	LIN FT	REMOVING PIPE	\$24.51	\$392.16
1	EACH	REMOVING JUNCTION BOXES	\$705.45	\$705.45
6	EACH	REMOVING GUARDRAIL END ANCHORS	\$421.04	\$2,526.24
160	CU YDS	UNCLASSIFIED EXCAVATION	\$55.23	\$8,836.80
130	CU YDS	BORROW EXCAVATION	\$66.37	\$8,628.10
375	SQ YD	CRUSHED AGGREGATE BASE (6" THICK)	\$19.60	\$7,350.00
510	SQ YD	PLANING EXISTING SAM SUTTON (1")	\$3.63	\$1,851.30
29	TONS	ASPHALT RESURFACE EXISTING SAM SUTTON (1")	\$217.86	\$6,317.94
56	TONS	NEW ASPHALT BUILDUP (8" THICK)	\$217.86	\$12,200.16
16	LIN FT	24" RCP	\$200.00	\$3,200.00
1	EACH	JUNCTION BOX	\$6,271.28	\$6,271.28
375	LIN FT	STEEL BEAM GUARDRAIL, CLASS A, TY 2	\$35.60	\$13,350.00
2	EACH	TYPE 10 END ANCHOR	\$3,450.00	\$6,900.00
3	EACH	TYPE 13 END ANCHOR	\$3,100.00	\$9,300.00
308	SQ YD	SOLID SODDING	\$10.50	\$3,234.00
1	LUMP SUM	MOBILIZATION	\$5,991.16	\$5,991.16
1	LUMP SUM	GEOMETRIC CONTROLS	\$2,396.46	\$2,396.46
1	LUMP SUM	CONSTRUCTION FUEL	\$5,991.16	\$5,991.16
716	LIN FT	5" SOLID WHITE TRAFFIC STRIPE, CLASS 2, TYPE A	\$1.00	\$716.00
200	LIN FT	5" SOLID YELLOW TRAFFIC STRIPE, CLASS 2, TYPE A	\$1.00	\$200.00
585	SQ FT	TRAFFIC CONTROL MARKINGS, CLASS 2, TYPE A	\$12.62	\$7,382.70
23	SQ FT	TRAFFIC CONTROL LEGENDS, CLASS 2, TYPE A	\$7.02	\$161.46
40	EACH	TYPE 2-C PAVEMENT MARKERS	\$6.54	\$261.60
5	EACH	TYPE 2-E PAVEMENT MARKERS	\$6.54	\$32.70
1	LUMP SUM	TRAFFIC CONTROL DEVICES	\$5,000.00	\$5,000.00
1	LUMP SUM	EROSION CONTROL DEVICES	\$3,000.00	\$3,000.00
TOTAL ITEMS COST				\$118,572.82
TOTAL E&I COST (15%)				\$17,785.92
SUBTOTAL PROJECT COST				\$136,358.74
TOTAL INDIRECT COST (13.63%)				\$18,585.70
TOTAL PROJECT COST				\$154,944.44

**Attachment E**  
**ALDOT Highway Safety Improvement Program**  
**Force Account Project Reporting Form**

ALDOT Region: \_\_\_\_\_ Area/District: \_\_\_\_\_

County: \_\_\_\_\_ Routes(s): \_\_\_\_\_

Project Manager: \_\_\_\_\_

**Proposed:** (Information provided from force account application)

Anticipated Start Date: \_\_\_\_\_ Anticipated completion Date: \_\_\_\_\_

Projected materials cost: \$ \_\_\_\_\_

Projected equipment cost: \$ \_\_\_\_\_

Projected labor cost: \$ \_\_\_\_\_

Proposed work to be completed: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Actual:** (Attach a copy of invoices/charge sheets for all materials, equipment, and labor charged)

Actual Start Date: \_\_\_\_\_ Actual completion Date: \_\_\_\_\_

Final materials cost: \$ \_\_\_\_\_

Final equipment cost: \$ \_\_\_\_\_

Final labor cost: \$ \_\_\_\_\_

Actual work completed: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Justification for any unexpected changes in scope of work or cost increase:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_