Request for Workplan Approval
Special Experimental Project No. 14 (SEP-14)
Task Order Contracting

A. Introduction

The Massachusetts Department of Transportation (MassDOT), Highway Division, submits this work plan for Task Order contracting under the provisions of Special Experimental Project No. 14 (SEP 14) for the use of innovative contracting practices. MassDOT traditionally employs the design-bid-build method of contracting on federal aid projects. Under this method, contractors prepare bids based on a complete set of plans, specifications and estimate. Under the proposed Task Order contracts, contractors will prepare unit price bids based on the anticipated quantities of work specified in the contract. The actual work locations and site specific designs will be made available subsequent to the contract award. This contracting methodology has been successfully employed for many years on 100% state' funded projects.

The proposed Task Order methodology will serve to implement the Low Cost Stop-Controlled Intersection Countermeasures to ameliorate crashes, serious injuries and fatalities under the HSIP Program. This program was developed in coordination with FHWA Office for Safety as a means to address one of the strategies in the SHSP to *"Identify top intersection crash locations and work at the local and regional levels to develop and implement location-specific strategies to mitigate the safety deficiencies".*

The proposed Task Order contracting method is an effective way of expediting and implementing the low cost fixes (basic set of signs and markings) at stop-controlled intersections. Research presented by the FHWA Office for Safety has shown that this program can reduce the crashes by 40% at locations in where these low cost fixes are implemented.

B. Purpose

Based on experiences with our program to implement low cost fixes at top lane departure locations and from "lessons learned" from other states, by using standard contracting methods, the cost to design the low cost fixes is nearly on par with the cost to implement the low cost fixes. Based on a similar type of program for nearly 70 intersections in City of Newton, the design costs were five times the cost of construction (implementation). This adds cost and time to this type of program. The experimental contracting method is recommended because it is efficient, cost effective and will allow this important work to progress as expeditiously as possible.

C. Scope

MassDOT intends to advertise for construction, a statewide contract for a basic set of markings and signs at stop-controlled intersections in the dollar amount of $1 million for FFY2012 (it is already programmed on the STIP). Based on FHWA Office of Safety's estimate, this should cover approximately 20% of the stop-controlled intersections that meet the FHWA crash thresholds and nearly all of the locations under MassDOT control. Additionally, the contractor will begin to prepare packages for each of the Regional Planning Agencies/MPOs so that, if HSIP money becomes available within the regional targets, the projects will be ready to be advertised. The contract will include all the unit priced items of work necessary to implement the stop-controlled low cost countermeasures. These items of work will include pavement markings and signs,

All Highway Division contracts are bid in accordance with Massachusetts General Laws Chapter 30 § 39M and include the required contract provisions of FHWA 1273. The estimated total value of the contract will be based on the engineers estimate. A contract completion date will be established for the contract.

MassDOT has a specific program that was developed to automatically identify high crash locations. This was used for a workshop with FHWA to identify the eligible stop-controlled intersections that met the crash threshold, based on crash data between 2004 and 2008. This methodology has been refined slightly and could be updated with more recent crash information, if it becomes available in the near future. The full listing of eligible stop-controlled intersections includes approximately 1,0000 intersections (approximately 200 of them

are under State jurisdiction). MassDOT will prioritize the locations, eliminating those in which improvements were recently/are currently constructed (based on feedback from the District offices, RPA/MPOs, and from the municipalities), and will include top ranking locations (based on the crash data,) that can be covered under the contract. MassDOT will develop basic typicals that will be used for field evaluations along with some general notes and provide standard drawings to create some common rules and consistencies for the implementation. It is anticipated that all MassDOT stop-controlled intersections, meeting the threshold, will be improved under the proposed 2012 HSIP project. Specific details for the locally-owned intersections will commence, if HSIP funding becomes available within the regional targets. Each site will be designed by a consultant in-house by MassDOT.

The low cost countermeasures will be applied in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and documents will be prepared in accordance with the Massachusetts Standard Specifications for Highways and Bridges and the 2006 Project Development and Design Guide. This is consistent with the standards used on all federal aid highway projects in Massachusetts.

MassDOT State Traffic Engineer and his staff will be responsible for making task order assignments to the general contractor. The State Traffic Engineer or District Highway Directors and their staff will be responsible for monitoring the performance of the work for consistency with the specifications, preparing estimates for progress payments and providing general oversight of all construction activities. All decisions regarding the quantities of work to be performed will be made by MassDOT engineers through consultation with the contractor.

D. Schedule

$1 Million towards the "Low Cost Stop-Controlled Countermeasures" project is currently programmed on the STIP for FFY2012. However, much work will need to go into this program before it can get advertised. This task order contracting methodology will have the following phases:

PHASE I: Identify intersections to be included in this program (Estimated time: 4 months)

Using the most recent 3 years worth of crash data, the stop-controlled intersections meeting the FHWA-recommended thresholds (both MassDOT- and locally-owned) will be identified. The MassDOT -controlled intersections will be verified by District personnel to ensure they are still viable locations and that no major improvements have been made since the crash data analysis time frame. A similar process will be done through the local communities for the locally-owned intersections.

PHASE II: Preparation of contract bid documents (Estimated time: 2 months)

The principal activities associated with the preparation of the contract bid documents are described in section C above.

PHASE III: Procurement of Construction Contract (Estimated Time: 4 months)

This phase includes the following tasks:

1. Project Advertisement. Bidders are notified through a public solicitation of the project description, approximate project value and the date for submitting bids. Bidders must be prequalified by the Highway Division in the appropriate category of work in order to submit a bid.
2. Bid Opening. A minimum of 21 days after the project advertisement, bids are opened and read at MassDOT's headquarters.
3. Contract Execution. Bids are reviewed by the designer, and engineers within the Highway Division. The contract is then awarded to the lowest eligible and responsible bidder. A construction Notice to Proceed is issued once all Contract forms are fully executed by both parties and the contractor has furnished bond forms and certificate of insurance.

PHASE IV: Project Construction (Estimated Time: 18 months)

This phase includes the actual project construction. During this phase the contractor will be provided typical templates and checklists. The overall contract will have a budget based on the engineer's estimate of quantities and the unit prices submitted by the contractor. The contract completion date will be 18 months after the issuance of the construction Notice to Proceed. All MassDOT-controlled intersections will be constructed under the HSIP Statewide line item for 2012. The locally-controlled locations will be constructed as funding becomes available within the regions HSIP target.

E. Reporting

MassDOT will prepare and submit Initial, First Interim, Second Interim, and Final reports on this project. These reports will consist of the following:

Initial Report: The Initial Report will be submitted approximately 5 months after approval has been granted to use this contracting method. This report will include a listing of all intersections to be included and copies of the templates and checklist to be used in the field work.

First Interim Report: The First Interim Report will be submitted approximately 4 months after the issuance of the construction Notice to Proceed. This report will summarize the activities of the design and procurement process. An analysis of the bid results will be provided.

Second Interim Report: An Interim Report will be submitted approximately one year after the issuance of the construction Notice to Proceed. This report will summarize the design construction activities to date.

Final Report: The Final report will be submitted approximately 3 months after the physical completion of the State-controlled intersections for the 2012 Statewide HSIP. The final report will contain an overall evaluation of the project, the status of the upgrades at the locally controlled intersections, along with any suggestions and recommendations for improving the process.