

APPENDIX A SCOPE OF WORK

The CONSULTANT is encouraged to be creative in developing a sound approach which achieves the goals for this project. The CONSULTANT is urged to be as specific as possible when describing the activities that will be performed to support each task. The CONSULTANT is also urged to make maximum use of matrices, tables and drawings in working papers produced for the project to ensure conciseness and clarity to minimize the amount of text required. In preparing a proposal for consideration by YMPO, the CONSULTANT is required to adhere strictly to the following proposed tasks.

This scope of work is divided into different phases. Phase I will focus on the overall functions of the road system performance, goals, vision, performance measures, prioritization of road safety needs, and incorporate safety enhancements in road infrastructure projects. Key emphasis areas include integrating the four E's of highway safety – engineering, education, enforcement and emergency medical services (EMS), focus on the stakeholders – representatives of major modes of transportation; traffic enforcement officials; representatives conducting Operation Lifesaver; other State and local safety stakeholders.

Phase II of the project will have an emphasis on the implementation plan and development of a benefit cost analysis for each proposed project.

PHASE I

Task 1: Develop Work Plan

The first task will be to work with the Yuma Metropolitan Planning Organization's (YMPO) Executive Director to refine and supplement the work plan for the project. The CONSULTANT will coordinate with the various team members to ensure a complete, concise, and achievable work plan is developed for review by the YMPO.

Minor adjustments to the fee estimate may need to be made. A final Scope of Work and fee estimate will be submitted to the YMPO for review and approval.

SubTask: Public Involvement Plan

A key aspect of the project will be public involvement. The public involvement program will be designed, at a minimum, to satisfy the intent of MAP21, Title VI of the Civil Rights Act of 1964, and the Executive Order on Environmental Justice 12898.

As a first step, the CONSULTANT will develop a public involvement/engagement plan. The plan will list the roles and responsibilities of the YMPO, the CONSULTANT, and the Public Involvement

team. It will also identify the number of proposed meetings and outline the schedule for TAC meetings, public meetings, small group meetings, stakeholder outreach, and presentations to elected officials and boards. THE PUBLIC INVOLVEMENT TEAM WILL BE AVAILABLE FOR KICKOFF, TAC, STAKEHOLDER, ELECTED OFFICIAL, AND PUBLIC MEETINGS. This project is expected to have intensive public involvement and training workshops.

Marketing

A well-designed marketing strategy performs several functions, including informing the general public on transportation safety issues, educating key political leaders on their role in saving lives, and encouraging active participation in SHSP implementation activities among safety partners. Marketing to individuals both inside and outside of the transportation community and to nonparticipating partners helps build and maintain support for SHSP implementation. It also broadens the reach of the SHSP to those who may not participate in implementation activities on a regular basis.

Effective SHSP marketing strategies include, among other things, news events, web sites, newsletters, and a branding theme that stakeholders and the public can identify with.

Public Meetings:

The CONSULTANT will conduct three (3) public meetings for the YMPO REGIONAL STRATEGIC TRANSPORTATION SAFETY PLAN (YRSTSP). The first meeting will be held prior to the development of various safety initiatives. The purpose of the first meeting will be to present the study team, outline the Study purpose, state the goals of the project, and present existing conditions and safety deficiencies within the transportation system. The meeting will be held at three different sites over two or three days.

The second meeting will be held after the development and analysis of the safety transportation projects that are initiatives, also at three sites. In this meeting, the CONSULTANT will present the special emphasis areas on the safety plan (key emphasis areas and integrates the four E's of highway safety – engineering, education, enforcement and emergency medical services (EMS), and the benefits of each. Comments received at this meeting will be considered for incorporation into the final draft of the YRSTSP.

The final public meeting will be held to present the final plans of the study. Comments received during the final public meeting may be used when developing the final plans. All meetings will be held in an open house format with the CONSULTANT and Executive Director making a short presentation followed by a question and answer session. The CONSULTANT will provide Spanish translation opportunities at each of the public meetings. For each public meeting the CONSULTANT will provide a Power Point presentation and up to six (6) 24" x 36" display boards, an interpreter, bilingual informational handouts, and bilingual comment sheets.

The YMPO will arrange for the meeting space and provide any necessary meeting locations. The CONSULTANT will be responsible for advertising. The CONSULTANT will be responsible for up to six black/white, with up to four-page newsletters, and one page black/white meeting notices. The meeting notices will be bilingual. The CONSULTANT will be responsible for printing of the newsletters and meeting notices.

The YMPO will be responsible for providing the initial mailing list to the CONSULTANT. The CONSULTANT will supply any update to the mailing list from the public meeting and present it to the YMPO for inclusion in their mailing list database. The CONSULTANT will be responsible for postage and distribution of all project materials sent out by U.S. Postal Service.

The four parts to the Public Involvement Plan include:

1. After each public meeting, the CONSULTANT will prepare notes summarizing the items discussed at the meeting and forward those to the YMPO's Executive Director and the project manager.
2. Presentations to Elected Officials, Boards and Commissions: The CONSULTANT will make up to four (4) presentations to elected officials, boards and/or commissions. The first presentation will be held immediately prior to or following the first public meeting to introduce the CONSULTANT team, explain the methodology and understanding of the project goals, and to solicit ideas from the elected officials and commissions about their specific goals and entertain questions about the process. The second presentation will be held midway through the project and will be used to update the elected officials and commissions on the project progress. The third meeting will be held upon completion of the draft and approval of final plan. A fourth meeting may be held, if necessary.
3. The TAC will be used to gain final comments and input on the draft findings and recommendations. Between these presentations, the CONSULTANT will rely on the TAC members to brief their respective agencies and commissions. The CONSULTANT will provide a Power Point presentation and informational handouts. The YMPO will arrange for the meeting space and invite the appropriate attendees. YMPO will provide a briefing and introductions of the study team and keep the public informed on the YMPO website.
4. Technical Advisory Committee (TAC): As part of the project review process, the CONSULTANT will utilize the TAC to review the work in progress. This project specific TAC should be based on the YMPO's established TAC with potential additional key stakeholders as determined by the YMPO project manager. During the course of the project, the CONSULTANT team will make up to eight (8) presentations to the TAC after their regularly scheduled monthly meetings. The purpose of these presentations will be to review work in progress and to discuss issues that arise during the course of the project.

Products and Meetings:

1. Public Involvement Plan (5 Copies)
2. Up to three (3) Public Information Meetings (with translator)
3. Up to three (3) distinct Power Point Presentations, Bilingual
4. Up to eighteen (18) distinct Display Boards
5. Up to three (3) distinct Black/White (B/W) Public Information Bulletins Bilingual
6. Up to three (3) distinct B/W Public Meeting Notices (Bilingual)
7. Up to three (3) distinct B/W Comment Sheets (Bilingual)
8. Up to three (3) distinct B/W Newsletter (Bilingual)
9. Up to four (4) Elected Officials Presentations
10. Up to eight (8) Technical Advisory Committee Meetings
11. Meeting Minutes/Summaries

Task 2: Road System Performance and Available Resources from a Road Safety Perspective

Subtask 1(a): Review Current State of Road Safety in the YMPO Region

The CONSULTANT will conduct a review of the current state of road safety in the YMPO region and document the results. This Subtask review at a minimum will include the following topics:

- Safety performance of the freeway and arterial street systems.
- Regional trends in crashes that involve fatalities and injuries.
- Fatal and injury crashes involving pedestrians and bicyclists.
- Fatal and injury crashes involving younger drivers.
- Fatal and injury crashes involving older drivers.
- Safety at railroad crossings.
- Availability of Trauma Centers, Emergency Medical Service response to serious crashes.
- Rural Roads crashes identified.
- Surface Friction, IRI, and pavement roughness.
- ITS measures, including inventory of current conditions.

Subtask 1(b): Current Programs and Funding Resources for Road Safety Planning and Implementation

The CONSULTANT will conduct a review of current programs and funding resources available for road safety planning and implementation documenting the results. This Subtask review at a minimum will include the following topics:

- Statewide Highway Safety Improvement Program (HSIP) – federal funds.
- YMPO HSIP sub-allocation – a source of federal funds for low cost safety improvements.

- ADOT – state and local funds.
- City, Town, and County HURF funding.
- Rural Road Safety Initiatives and program.

Task 3: Establish Regional Vision and Goals for Transportation Safety

The CONSULTANT will facilitate a workshop with the Stakeholders Group that will lead to the establishment of a road safety vision statement and road safety goals for the region. Some examples of vision and goal statements are:

Vision: Vision Zero – Achieving Zero Road Deaths OR Eliminating crash risks that leads to death and serious injuries.

Goals: Reduce all fatal and serious injury crashes by 10 percent in 10 years – this need to be compatible with the goals established in the state’s Strategic Highway Safety Plan (10 percent in 10 years reflects the goal in the state’s 2014 SHSP).

Task 4: Emphasis Areas and Performance Measures

The CONSULTANT will identify potential emphasis areas for future regional road safety initiatives and safety performance measures to be tracked at the regional level. These must coordinate with the Arizona Strategic Transportation Safety Plan 2014 emphasis area on reducing fatalities, and serious injuries or incapacitating injury in Arizona.

The November 2015 YRSTSP focuses on the emphasis areas that include: key emphasis areas and integrates the four E's of highway safety – engineering, education, enforcement and emergency medical services (EMS), focus on the stakeholders – representatives of major modes of transportation; traffic enforcement officials; representatives conducting Operation Lifesaver; other State and local safety stakeholders.

1. Roadway Safety.
2. Enforcement/Education/EMS.
3. Pedestrian/Bicyclist/Transit User.
4. Old and Young Drivers.
5. Areas of significance in trends, DUI'S, Safety Belts, etc.

The CONSULTANT will identify emphasis areas for the YMPO region that are based on 10 years of crash history and trends. The period of analysis for crash trend review will be a minimum of 10 years; July 2004 - 2014 safety data.

For each emphasis area:

The CONSULTANT will identify existing regional and local programs and activities, lead agencies.

The CONSULTANT will identify potential opportunities for consolidation or better collaboration that could lead to improved effectiveness.

The CONSULTANT will provide examples for programs and activities within each emphasis area that may be better addressed regionally (identify potential lead agency) or locally.

Task 5: Network Screening Methodologies for Prioritization of Road Safety Needs

The CONSULTANT will conduct a review of the current YMPO network screening methodology for ranking high risk intersections and recommend similar methods for:

- (1) Screening road segments to identify segments with high crash risk; and
- (2) Identifying locations of high crash risk for pedestrians and bicycle riders.
- (3) Identifying Rural Road Safety projects:

Improve safety on local and rural roads using innovative approaches, in which rural communities develop and design local solutions to their roadway safety problems;

Provide best practices and lessons learned on innovative infrastructure safety technologies to assist local and rural road owners and operators in the development and implementation of infrastructure-based rural safety countermeasures that compliment behavioral safety efforts;

Promote national awareness and interest in the local and rural safety issues; and

Promote the use of Intelligent Transportation Systems (ITS) technologies to improve safety on local and rural roads.

- (4) Identify census tracts or business trend areas impacting safety (i.e. young drivers, freight corridors, heavy bicycle area and signing needed, training emphasis target groups, etc.).

The CONSULTANT will review and recommend current methodologies used for spatial analysis of crashes and also methodologies that incorporate land use and socioeconomic variables. The CONSULTANT will recommend Safety Performance Functions (SPF's) for intersection types represented in the top 100 intersections for crash risk.

The CONSULTANT will conduct a workshop on Predictive Road Safety Analysis and the application of SPFs for Network Screening.

Task 6: Incorporating Safety in the Regional Transportation Plan

The CONSULTANT will identify resources needed for improving road safety performance towards achieving the regional road safety Vision and Goals.

The CONSULTANT will develop potential regional transportation policies that could help improve overall road safety performance.

The CONSULTANT will identify methodologies for assessing the impact of future regional transportation infrastructure alternatives on road safety performance – considering distribution of road risk across all modes of transportation in the region.

Task 7: Develop a Strategy to Incorporate Safety Enhancements in Road Infrastructure Projects

Develop a potential approach to encourage future YMPO TIP projects that would incorporate safety features. Facilitate the introduction of Road Safety Assessments during project design review stage.

Task 8: Improving Safety via Traffic Operations and ITS Solutions

The CONSULTANT will review, address, and document at a minimum the following topics:

- Identify opportunities for improving safety through innovative traffic operations.
- Safer mid-block crossings, access management, improved signage, and illumination.
- Sharing the road with bicyclists.
- Safer work zones.
- Driver alerts via future Connected Car applications.
- Dynamic Mobility Applications.
- Applications for the Environment: Real-Time Information Synthesis (AERIS).
- Mode-Specific Research.
- Vehicle to Infrastructure (V2I) Communications for Safety.
- Rural Road Initiatives.

Task 9: Monitoring and Reporting on System Performance and Program Effectiveness

The CONSULTANT will identify any enhancements to the current YMPO practices in reporting on road safety performance and will recommend approaches for monitoring the effectiveness of regional road safety programs and initiatives.

PHASE II

Task 10: Implementation Plan 2016– 2025

The CONSULTANT will prepare an implementation plan that identifies what needs to be done to carry out the recommended Strategic Transportation Safety Plan.

The implementation plan will include at a minimum the following components: Checklist (FHWA)

- Following the recommended steps in the checklist below will help with SHSP implementation and evaluation efforts.
- Develop emphasis area actions plans that:
- Document the measurable objectives and performance measures for each emphasis area;
- Determine the data requirements for each performance measure;
- Identify the required resources and action steps for implementing each countermeasure;
- Identify a process to track countermeasure and action step implementation; and
- Regularly monitor the extent to which emphasis area goals and objectives are being met.
- Integrate the SHSP with other transportation safety plans.
- Market the SHSP through branding, news events, web sites, newsletters, etc.
- Monitor and track regularly the extent to which emphasis area strategies are being implemented.
- Monitor and track regularly the extent to which emphasis area goals and objectives are being met.
- Plan a comprehensive SHSP program evaluation to examine the SHSP's process and performance.

Task 11: Benefit/Cost Ratio

The CONSULTANT will derive a Benefit/Cost Ratio for the top locations and projects of the safety plan. A matrix will be created for YMPO and the local agencies to utilize for quick reference of the B/C Ratio tabulations.

Task 12: Final Report and Presentation

The CONSULTANT will produce a Final Report and Executive Summary which will summarize all findings documented in Task 1-11 reports.

Deliverable Products

Each Task Report should present information in a succinct manner with extensive use of tables, matrices and drawings. The Task Reports ultimately will be consolidated into a final report. An administrative draft of each Task Report will be submitted in electronic format to the YMPO project manager for review. Comments from the YMPO project manager will be incorporated into the Task Report by the CONSULTANT, before it is distributed for external review. Comments received during the external review process will be incorporated into the Task Report by the CONSULTANT, which will then become a chapter in the draft final report.

Task 1 Completed in plan development of work plan and public involvement plan

Task 2 Report Summary of the findings from Subtask 1(a) and Subtask 1(b).

Task 3 Report Vision/Goal Setting Workshop, Task 2 report will summarize the workshop, participants involved and the discussion that resulted in the Vision and Goals.

Task 4 Report Summary of Task 3 work performed and the results.

Task 5 Report Predictive Road Safety Analysis Workshop, Task 4 Report will summarize the workshop work performed and the results.

Task 6 Report Summary of Task 5 work performed and the results.

Task 7 Report Summary of Task 6 work performed and the results.

Task 8 Report Summary of Task 7 work performed and the results.

Task 9 Report Summary of Task 8 work performed and the results.

Task 10 Implementation Plan 2016-2025

Task 11 Benefit/Cost Analysis

Task 12 Final Report, Executive Summary and two PowerPoint presentations.

The CONSULTANT will incorporate the suggestions and produce a final report, delivering Thirty (30) bound, "hard" copies to YMPO and Twenty (20) Executive Summaries, and electronic copies on CD-ROMs. All files should be provided in a Microsoft Office (Word, Excel, and PowerPoint) formats. All maps shall be in a GIS format compatible with ESRI ArcGIS.

Products:

- Thirty (30) hard copies of final report, (20) Executive Summaries, and electronic copies
- All study materials
- PowerPoint presentation aids in electronic and "hard copy" formats.
- In-person presentations by the CONSULTANT.

