

# Scope of Work

## ON-CALL ROUNDABOUT DESIGN PEER REVIEW

*The following Scope of Work outlines tasks necessary to provide On-Call Roundabout Design Peer Review Services.*

The Consultant will provide on-call roundabout design peer review as directed by task order for various roundabout projects. The consultant may be asked to perform any or all of the tasks below. Consultant acknowledges that there are currently two separate TAMC-sponsored projects that will be prepared by Caltrans and reviewed by TAMC. The Consultant shall work effectively and efficiently with both TAMC and Caltrans staff. The Consultant shall support the project effort by evaluating roundabout concepts and optimizing roundabout designs. Consultant tasks may include independently evaluating the operational analysis with simulations to confirm roundabout geometrics, preparing presentation graphics for public meetings, reviewing plans, specifications, and estimates (PS&E) submittals, and preparing independent estimates of probable costs. It is anticipated that the first two task orders shall include evaluation of roundabouts for the following projects:

### **1) SR 156 / Castroville Boulevard Interchange**

This project has environmental clearance and is currently under design by Caltrans. The project includes two roundabout intersections at the new Castroville Boulevard ramp termini and one roundabout intersection where the new Castroville Boulevard alignment joins the old Castroville Boulevard alignment.

### **2) SR 68 Scenic Corridor**

This project has a completed corridor study with a preferred alternative that replaces nine existing traffic signals along SR 68 with nine roundabouts. The peer review effort will focus on optimizing roundabout geometry to define the area of potential affect for each intersection. If the preferred alternative is selected and approved, then the consultant will support the Caltrans design effort.

As directed by Task Order, the Consultant will independently evaluate each of these potential operational conflict points for each roundabout for the above projects and other roundabouts as determined:

- “Fast Path” adequacy
- Truck turn capability
- Pedestrian and bicycle safety, access and circulation
- Driver, pedestrian and bicycle rider sight triangles
- Entry view angles for decision making and capacity
- Entry and exit path overlaps
- Geometry for high speed approaches
- Lane widths, channelization and lane transitions
- Profiles and cross slopes, signing and striping adequacy

Once a specific project to be performed under this Agreement is identified by TAMC, TAMC’s Project Manager will prepare a draft Task Order less the cost estimate. The draft Task Order will identify the scope of services, expected results, project deliverables, period of performance, project schedule and a TAMC Task Manager. The draft Task Order will be delivered to Consultant for review. Consultant shall return the draft Task Order within ten (10) calendar days, along with a Cost Estimate, including a written estimate of the number of hours and hourly rates per staff person, any anticipated reimbursable expenses, overhead, fee (if any), and a total dollar amount for the Task. After agreement has been reached on the negotiable items and total not to exceed cost, a finalized Task Order with the finalized Task Order Budget shall be signed by both TAMC and Consultant.

The period of performance for Task Orders shall be in accordance with the dates specified in the Task Order. No Task Order will be written which extends beyond the expiration of this Agreement.

### **Task 1: Project Initiation and Project Management**

Task 1.1 Conduct Kick-Off meeting at TAMC offices to define roles, schedule and deliverables.

Task 1.2 Provide Project Management for each project with separate files and invoicing by individual project.

Task 1.3 Review Project Information and Traffic Data.

Task 1.4 Project Development Team (PDT) Meetings focused on development of roundabout geometrics, completion of supporting Step 2 ICE documents, and preparations for public meetings. Attendees will include representatives from TAMC and Caltrans (Highway Operations, Traffic Operations, Safety, Design and Headquarters, as needed) as well as members of the Consultant Team. The PDT meetings will be held on the same day each month for all active projects. Consultant will be in regular coordination with TAMC and Caltrans.

**DELIVERABLES:** Meeting agendas, minutes, project schedules, monthly invoices.

### **Task 2: Roundabout Evaluation and Concept Design Review**

Consultant will assume a lead role with Caltrans during this Task. Up to three (3) in-person PDT meetings will be held during this Task for each active project, as necessary and determined by TAMC.

Task 2.1 Operations Analysis and Preliminary Concept. Perform fatal flaw traffic operations analysis and develop a preliminary concept for each roundabout intersection, optimize inscribed circle diameter, lane requirements, approach angles, splitter island lengths, center island configurations, local access, and exit designs. Prepare an ICE Step 1 Benefit/Cost (B/C) for the SR 156/Castroville Boulevard Interchange roundabouts. Traffic forecasts will be consistent with the previously prepared SR 68 Corridor Study and SR 156 at Castroville Interchange Traffic Operations Report. Surveying and base mapping, including contours and right of way will be provided by others prior to development of conceptual geometrics.

Task 2.2 Optimize Conceptual Design and identify potential design exceptions and other design constraints and bring these to the PDT for discussion and resolution.

Task 2.3 Prepare Design Check exhibits for roundabout geometry including vehicle fast path, entry overlap, high speed entry, truck and bus turning movements, sight distances, view angles, pedestrian accessibility, and bicycle circulation.

Task 2.4 Prepare preliminary signing and pavement delineation to address guide signing for advance lane assignments and driver decision making as part of the refined concept for each roundabout.

Task 2.5 Prepare VISSIM roundabout simulations using optimized roundabout designs for one scenario (assumed to be design year PM peak hour).

Task 2.6 Prepare Step 2 Intersection Control Evaluation (ICE). Prepare a comparison of performance measures for traffic flow and safety. Prepare an 11-page Estimate of Probable Costs with the Final Step 2 ICE.

Task 2.7 Prepare presentation and graphics from 2D drawings for one community meeting, one TAMC Board meeting, and one meeting with Caltrans District 5 in San Luis Obispo. Provide two sets of large-scale presentation layout plans.

**DELIVERABLES:** Evaluation reports, PDT meetings, VISSIM simulations, design optimizations, presentation graphics, participation at two public meetings.

**Task 3: PS&E Review**

Caltrans will assume the lead role during this task and the Consultant will provide Peer Reviews and design input as requested based on task order(s) issued by the TAMC Project Manager. Consultant reviews will focus on roundabout elements that have a significant bearing on the safety and or operations of the roundabouts. When stage construction and traffic plans are available, Consultant will review these to determine if changes to the geometric or design elements could result in efficiencies during construction. Up to two (2) teleconference PDT meetings will be held during this Task, as determined necessary by TAMC.

Task 3.1 Perform a peer review of plans, specifications and estimate for 35%, 65%, 95% and final submittals, including layouts, grading, construction details, signing, pavement markings, profiles and cross slopes, construction staging and traffic handling, lighting, landscaping.

Task 3.2 Perform independent cursory review of 65% and 95% estimates of probable costs including spot checks of quantities and unit prices

**DELIVERABLES:** Design comments, teleconferences, spot check review of estimate of probable costs