

Dowling Associates, Inc.

Exhibit A

Base Scope of Work

Dowling and Associates (Dowling) will perform traffic forecasting and traffic operations analysis in support of the environmental impact analysis and design of the new U.S. 50/Silva Valley Parkway interchange between the El Dorado Hills Boulevard and Bass Lake Road interchanges.

All deliverables will be submitted to the contract administrator in accordance with the schedule and in the format as approved by the contract administrator.

Geographic Extent of Analysis:

For design purposes, Dowling will evaluate the existing and future traffic operations in the vicinity of the new U.S. 50/Silva Valley Parkway interchange at the following roadway facilities:

Study Intersections

1. Silva Valley Parkway and U.S. 50 Eastbound Ramp (future)
2. Silva Valley Parkway and U.S. 50 Westbound Ramp (future)
3. Silva Valley Road and Serrano Parkway (signalized)
4. Silva Valley Parkway and Country Club Drive (future)
5. White Rock Road and Jorger Cutoff Road (unsignalized)
6. White Rock Road and Valley View Parkway/Vine Street (signalized)
7. White Rock Road and Latrobe Road (signalized)
8. El Dorado Hills Blvd and U.S. 50 Eastbound Ramp (signalized)
9. El Dorado Hills Blvd and U.S. 50 Westbound Ramp (signalized)
10. Bass Lake Road and U.S. 50 Eastbound Ramp
11. Bass Lake Road and U.S. 50 Westbound Ramp

Basic Freeway Segments

1. U.S. 50 eastbound between northbound El Dorado Hills Blvd on-ramp and Silva Valley Parkway off-ramp.
2. U.S. 50 eastbound between Silva Valley Parkway off-ramp and southbound Silva Valley Parkway on-ramp.
3. U.S. 50 eastbound between southbound Silva Valley Parkway on-ramp and northbound Silva Valley Parkway on-ramp.
4. U.S. 50 eastbound between northbound Silva Valley Parkway on-ramp and Bass Lake Road off-ramp.
5. U.S. 50 westbound between Bass Lake Road on-ramp and Silva Valley Parkway off-ramp.
6. U.S. 50 westbound between Silva Valley Parkway off-ramp and northbound Silva Valley Parkway on-ramp.
7. U.S. 50 westbound between northbound Silva Valley Parkway on-ramp and southbound Silva Valley Parkway on-ramp.
8. U.S. 50 westbound between southbound Silva Valley Parkway on-ramp and El Dorado Hills Boulevard off-ramp.

Freeway Weaving

1. U.S. 50 eastbound between northbound El Dorado Hills Boulevard on-ramp and Silva Valley Parkway off-ramp.

Ramp and Ramp Junctions

1. U.S. 50 eastbound on-ramp from southbound Silva Valley Parkway
2. U.S. 50 eastbound on-ramp from northbound Silva Valley Parkway
3. U.S. 50 westbound off-ramp to Silva Valley Parkway
4. U.S. 50 westbound on-ramp from southbound Silva Valley Parkway
5. U.S. 50 westbound on-ramp from northbound Silva Valley Parkway

Temporal Extent of Analysis

The analysis will produce weekday Average Daily Traffic, AM peak hour volumes, and weekday PM peak hour volumes for Existing Conditions and for the years 2015 (within first 5 years after project opens) and 2030 (over 20 years after project opens).

Phasing Scenarios

The analysis will evaluate three (3) phasing scenarios. Phasing scenario #1 consists of two on-ramps and two off-ramps without an overcrossing, where traffic is routed under U.S. 50 via the existing two lane alignment of Silva Valley Parkway as conceptually depicted in Exhibit A1. Phasing scenario #2 consists of two on-ramps and two off-ramps and the overcrossing on a four lane Silva Valley Parkway as conceptually depicted in Exhibit A2 but excluding the loop ramps. Phasing scenario #3 is as conceptually depicted in Exhibit A2 including loop ramps. The actual quadrants for the loop ramps will be determined based on forecasted traffic volumes and operations. The analysis will evaluate a proposed design consisting of four (4) lanes. Traffic forecasting will be based on a 4-lane design and the traffic study will identify if/when a 4-lane facility would be required to achieve LOS requirements.

Item of Work A: Data Collection

No traffic counts will be collected by Dowling; Dowling will rely upon the Wilbur Smith El Dorado Hills Traffic Volume Development, August 11, 2006 report and new 2005 counts by Fehr & Peers Associates for the Rancho Dorado traffic impact study. Dowling will also utilize El Dorado County's 24-hour count database for study locations.

Item of Work A Deliverable: A memorandum will be prepared summarizing the traffic counts assembled for the study.

Item of Work B: Traffic Forecasts

For the U.S. 50 mainline and ramp year 2030 forecasts, Dowling will use the higher of the SACMET 2027 model or the El Dorado County Model 2025 forecasts extrapolated to 2030.

For 2015 volumes for the U.S. 50 mainline and ramps, Dowling will extrapolate the 2003 count information contained in the Dowling report, US 50 Strategic Corridor Operations Study, March 2006 and more recent ramp/mainline counts to be obtained from Caltrans.

The traffic forecast analysis will be based on 2030 weekday AM and PM peak hour volumes. Two travel models with over-lapping modeling domains in the study area will be utilized for this analysis: 1) the peak period (3-hour peak) 2027 SACMET model; and, 2) the peak hour 2025 El Dorado County DOT Model. Forecasts generated by each of these models will be extrapolated to 2030 based on traffic growth factors from each respective model. The peak period SACMET model results will be adjusted to reflect AM and PM peak hour volumes empirically based on available count data. How each of these models will be applied is described below.

2025 El Dorado DOT Travel Model: For Silva Valley Parkway, Dowling will perform a “new” 2030 analysis year model run using the 2025 El Dorado County DOT model – extrapolating to 2030.

2027 SACMET Travel Model: For the U.S. 50 mainline and ramp year 2030 forecasts, Dowling will use the higher of the SACMET 2027 model or the El Dorado County DOT Model 2025 forecasts extrapolated to 2030.

Consistent with Caltrans Traffic Impact Study guidelines, projects will only be included in the future baseline network if any project phase (e.g., PS&E, environmental, construction, etc.) is currently programmed – i.e., has a formal funding commitment. This includes El Dorado County’s traffic impact fee projects as well as projects earmarked for developer fee funding. The list of 2030 Baseline projects will be reviewed and approved by El Dorado County DOT staff prior to executing the forecast model runs.

For the year 2015 forecasts for Silva Valley Parkway study intersections, Dowling will linearly interpolate between the base year 2006 volumes and 2030 future year volumes.

This same modeling approach is also being developed for the El Dorado Hills Interchange improvement study. Given that these project study areas overlap, one modeling analysis will suffice for both studies. As such, the travel forecasting component for this study will be performed and paid for under the County’s El Dorado Hills Interchange project. If the traffic forecasting is not completed under the El Dorado Hills interchange project, an optional Task Order will be required under this contract to perform the forecasting under this project.

The task of refining the traffic forecasts for input into the traffic operations analyses is specific to each project study. Therefore, this item of work is included in the budget for this contract.

Item of Work B Deliverable: A memorandum will be prepared summarizing the traffic forecasts and will be submitted for review to the contract administrator. The forecasts will be revised to address and/or incorporate any comments from the contract administrator.

Item of Work C: Traffic Operations Analysis

Upon receiving a single set of non-conflicting comments on the Traffic Forecasts, Dowling will compute intersection levels of service according to the Highway Capacity Manual method at the above identified study intersections. Required storage lengths will be computed for turn bays and check for queue overflows between signalized intersections using the Highway Capacity Manual method.

Dowling will recommend signalized intersection turn bay storage lengths and deceleration lengths according to the Caltrans Highway Design Manual.

It is understood that the County's desired level of service standard for this project is Level of Service "D", although the General Plan allows level of service "E" within the "community areas" like El Dorado Hills.

For the phasing scenarios, Dowling will identify the year in which phasing scenario #1 and phasing scenario #2 will operate unsatisfactorily and will identify the quadrants for loop ramps in phasing scenario #3.

For intersections forecasted to operate unsatisfactorily, Dowling will recommend signalization, restriping, additional lanes, longer turn bays, and signal modifications (usually signal timing) to mitigate the conditions as appropriate.

Dowling will conduct the following *Manual on Uniform Traffic Control Devices* (MUTCD) signal warrant studies for the currently unsignalized study intersections identified above.

- Warrant 1, Eight-Hour Vehicular Volume.
- Warrant 2, Four-Hour Vehicular Volume.
- Warrant 3, Peak Hour.

The four-hour and eight-hour warrants will be estimated from the peak hour forecasts report based on assumed volume expansion factors typical for the area.

Dowling will not evaluate the following MUTCD signal warrants: Warrant 4, Pedestrian Volume; Warrant 5, School Crossing; Warrant 6, Coordinated Signal System; Warrant 7, Crash Experience; and Warrant 8, Roadway Network since they are for conditions not expected to be prevalent at the project study area intersections. School age or other pedestrians are not expected to be significant at the unsignalized project study area intersections. Signal coordination is not expected to be a significant issue for the unsignalized intersections along Silva Valley Parkway.

Item of Work C Deliverable: The deliverable for this work item is the traffic operations analysis portion of the draft and final report described under Item of Work D below.

Item of Work D: Draft and Final Reports

Dowling will prepare and submit to the contract administrator, a draft report with graphics for review documenting the traffic impact analysis results (comparing no-project, and project for existing, 2015 and 2030), the traffic operations analysis results (with the project), signal warrant study results, recommended turn bay lengths, recommended mitigation measures and design modifications, and describing the likely impacts of the project on side streets in the area (Jorger Cutoff Road and Realigned Country Club Road).

After receiving one written consolidated set of comments from the contract administrator on the draft report, a final report will be produced and submitted to the contract administrator that will address those comments.

Item of Work D Deliverable: Draft and Final Reports.

Item of Work E: Staff Meetings

Dowling will meet with County staff, Caltrans staff and/or other consultants as directed by the contract administrator up to six (6) times during the course of the project to discuss progress and results.

Item of Work E Deliverables: Dowling attendance at up to six (6) staff meetings.

Item of Work F: Public Hearings

Dowling staff will be made available to attend and discuss the traffic operations analysis report at up to two public hearings if requested by the contract administrator.

Item of Work F Deliverables: Dowling attendance at up to two (2) public hearings.

Schedule

A traffic forecast memo report will be submitted for the contract administrator's review within four weeks after authorization to proceed. A draft report will be submitted for the contract administrator's review within six weeks of receipt of a non-conflicting set of comments from the contract administrator on the traffic forecast. A final report will be produced and submitted to the contract administrator within ten (10) days of receipt of a non-conflicting set of comments from the contract administrator.

This schedule is subject to change in the event County changes any of the assumptions set forth above. Major changes will require an optional Task Order to account for any additional costs incurred that are not anticipated in this Base Scope of Work.