



# CITY OF SANTA BARBARA

## COUNCIL AGENDA REPORT

**AGENDA DATE:** October 20, 2015

**TO:** Mayor and Councilmembers

**FROM:** Transportation Division, Public Works Department

**SUBJECT:** Contract For Citywide Traffic Model Update

**RECOMMENDATION:** That Council:

- A. Authorize the Public Works Director to execute a City Professional Services Agreement with Fehr & Peers Transportation Consulting Firm in the amount of \$79,675, for traffic modeling services to update the City's 2008 traffic model with counts, data, and projections for travel patterns based on 2015 land uses, employment, and population growth, as well as the Plan Santa Barbara 2030 horizon year General Plan provisions; and
- B. Approve an increase in appropriations in the Streets Fund by \$79,675, funded from available Streets Fund reserves.

**DISCUSSION:**

The City's traffic model is a critical component of the Land Development review process, as well as a tool to guide recommendations of improvement for the City's transportation circulation system. The purpose of the Traffic Model Update is to test 2015 City traffic patterns and use this information to validate the traffic model's assumptions to more accurately predict future traffic patterns.

The current traffic model was validated with 2008 field traffic counts for the General Plan Update process. With the recession over and traffic growth on the rise, the timing is appropriate for an update. In addition to updating the traffic volumes, the Traffic Model Update will account for the Council-approved General Plan Update non-residential square footage amounts and changes associated with the Highway 101 High Occupancy Vehicle (HOV) Project.

**General Plan Update**

During the Plan Santa Barbara process, the traffic model was used to analyze various land use growth assumptions to help guide the decision making process. The most

conservative land use scenario was used in the Final Environmental Impact Report because it was the most representative of the Council-approved plan. The Traffic Model Update will adjust the land use assumptions to match what was approved by Council in order to be more accurate.

### **Highway 101 HOV Project**

A key component of this work task will be to model the anticipated effects upon City streets of the regional Highway 101 HOV Widening Project. As part of the 2011 General Plan update, the traffic model used 2008 baseline data and excluded the Highway 101 widening project because of costs and the uncertainty of the project. One anticipated outcome of the Highway 101 HOV Widening Project is that as capacity increases on Highway 101, more drivers will choose to take trips (induced demand) and future congestion will create trip diversions off of the “mainline” onto City streets. This update will give the City an estimate of how the widening will affect City circulation.

### **CEQA Traffic Thresholds**

Once complete, the traffic model will show the circulation system intersections anticipated to be impacted by the year 2030. This list of intersections is used for the City's Project Specific Traffic Threshold for CEQA traffic impacts. If the new list changes, staff will return to Council with a separate item to adjust the threshold of impacted intersections.

### **Bicycle Counts**

In July, Councilmembers Hotchkiss and Francisco brought an item to Council to discuss bicycle counts. The outcome of that item was a Council direction to include bicycle counts in the Traffic Model Update. Accordingly, staff has asked the consultant to include bicycle counts at all 52 intersections.

### **FUNDING:**

Staff has received a proposal outlining the work involved and a cost estimate totaling \$79,675 from Fehr & Peers (see Attachment). Fehr & Peers was the firm charged with traffic model analysis during the General Plan update and is currently evaluating travel patterns associated with the Bicycle Master Plan update. Significant cost savings are achieved by updating the existing traffic model rather than creating a new one. Per Council direction, the 52 intersection location counts will also include bicycle counts at a cost of \$3,000.

Two years ago Council established a new land development Traffic Model Update fee to be charged for new square footage and commercial square footage. The fee is intended to fund Traffic Model Updates according to the level of development over time. At the end of Fiscal Year 2015, \$9,213.46 had been received and to date (Fiscal Year 2016), another \$29,807.67 has been received. Although staff is recommending the use of reserves to fund this study, revenues received in Fiscal Year 2016 will be reimburse these reserves at year end to the extent they are received, up to \$79,675.

**ATTACHMENT:** Proposal from Fehr & Peers

**PREPARED BY:** Browning Allen, Transportation Manager/RD/PB/mj

**SUBMITTED BY:** Rebecca J. Bjork, Public Works Director

**APPROVED BY:** City Administrator's Office



September 9, 2015

Rob Dayton  
City of Santa Barbara  
630 Garden Street  
Santa Barbara, CA 93101

***Transportation Services Proposal:***

**TRAFFIC COUNTS & TRAVEL DEMAND MODEL UPDATE FOR THE CITY OF SANTA BARBARA**

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Dear Rob,

Fehr & Peers is pleased to respond to the City's request for a proposal to collect new traffic counts and update the Santa Barbara Travel Demand Model to reflect current travel conditions and the latest planned development and transportation improvements. This proposal outlines the tasks needed to complete this update.

**SCOPE OF WORK**

**1. Traffic Counts**

We will collect traffic counts in Fall 2015 for the facilities studied as part of Plan Santa Barbara as follows:

- 52 intersections during the AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hours (including pedestrian and bike counts at each location)
- 35 roadway segment daily counts (48-hour period)

We will prepare figures showing the intersection turning movement volumes and tables summarizing the roadway segments counts. We will compare the 2015 traffic counts to those collected in 2008 and provide a table summarizing the changes in traffic volumes.

**2. Base Year Travel Demand Forecasting Model Update**

The base year model created for Plan Santa Barbara reflected 2008 land use and travel conditions. We will update the baseline model to reflect Year 2015 conditions as follows:

- Current Land Uses: Development that has occurred between 2008 and 2015 will be provided by the City of Santa Barbara; the data should only include projects that are open/occupied at the time traffic counts are collected in Fall 2015 (projects that are planned/under construction are not yet generating new trips)
- Existing Traffic Volumes: We will recalibrate the travel demand model to match existing travel conditions based on traffic counts collected in Fall 2015

We will document the 2015 travel demand model update and the model calibration and validation results in a technical memorandum.



### **3. Future Year Travel Demand Forecasting Model Update**

The future year (2030) Plan Santa Barbara model will be updated to reflect the following:

- Approved General Plan Land Uses: Land use data will be provided by the City by traffic analysis zone (TAZ) and we will code the land use information into the model
- U.S. 101 Widening: The recently approved widening of U.S. 101 to provide HOV lanes will be incorporated into the Year 2030 model

We will review the forecasts to verify that the U.S. 101 widening project is producing results similar to the detailed operations analysis conducted for the SBCAG EIR. The EIR indicated that more vehicles would be able to enter the City of Santa Barbara during the AM peak hour with the relief of the northbound U.S. 101 bottleneck. Consequently, the widening is expected to increase the number of vehicles on the City's off-ramps and adjacent arterial intersections. We will review the detailed AM peak hour traffic forecasts prepared for the EIR and manually adjust the travel demand model forecasts at specific off-ramp locations, if needed.

During the PM peak hour, the additional capacity on U.S. 101 may relieve existing bottlenecks at the on-ramps caused by mainline congestion; however, the widening may also create new bottlenecks in the City's roadway network. Similar to the process described above for the morning commute period, we will review the PM peak hour forecasts prepared as part of the SBCAG EIR. We will compare the SBCAG forecasts with the U.S. 101 widening in place to the updated City's model and adjust the travel demand forecasts at specific on-ramp locations, if needed.

We will prepare updated Year 2030 traffic forecasts for the study intersections (52) and roadway segments (35) analyzed in the General Plan as noted in Task 1. Figures displaying the AM and PM peak hour intersection forecasts and tables summarizing the daily roadway volumes will be prepared.

### **4. Traffic Operations Analysis**

The 52 study intersections will be analyzed during the AM and PM peak hours under the following scenarios:

- Existing Conditions based on Fall 2015 traffic counts
- Future Year 2030 Conditions based on the traffic forecasts developed in Task 3 that reflect the approved General Plan land uses and U.S. 101 widening project

We will provide tables showing the level of service (LOS) results for the study intersections under the above scenarios. We will highlight any changes in LOS compared to those presented in the Plan Santa Barbara General Plan EIR.

We will also conduct a sensitivity analysis for up to 10 study intersections to compare the LOS with and without the U.S. 101 widening in place during the AM and PM peak hours. The study locations will be selected based on the intersections most impacted by the planned widening.

### **5. Documentation**

We will document the results of Tasks 1-5 in a report for the City of Santa Barbara. One draft and one final report will be submitted.

# FEHR & PEERS

## COST ESTIMATE TRAFFIC COUNTS & TRAVEL DEMAND MODEL UPDATE

Task	Project Manager / Principal	Senior Engineer	Project Engineer	Graphics / Admin Support	Cost Estimate
<i>Hourly Billing Rate:</i>	\$235	\$145	\$130	\$125	
Task 1: Traffic Counts	1	4	10	4	\$2,615
Task 2: Base Model Update	6	40	36	8	\$12,890
Task 3: Future Model Update	8	44	80	6	\$19,410
Task 4: Traffic Operations Analysis	12	38	68	6	\$17,920
Task 5: Documentation	4	16	16	8	\$6,340
<i>Sub-Total</i>					\$59,175
				Traffic Counts	\$17,500
				<i>Total Cost Estimate</i>	\$76,675
				Additional Bicycle Counts	\$3,000
				<i>Total Cost Estimate with Bicycle Counts</i>	\$79,675
<p>Note: The above hourly rates are used for cost estimating purposes. Time will be invoiced based on the attached hourly billing rates per staff classification.</p>					

# FEHR & PEERS

2015-2016

(July 2015 through June 2016)

## Hourly Billing Rates

### Classification Hourly Rate

Principal	\$195.00	-	\$325.00
Senior Associate	\$200.00	-	\$310.00
Associate	\$130.00	-	\$210.00
Senior Engineer/Planner	\$140.00	-	\$190.00
Engineer/Planner	\$110.00	-	\$145.00
Senior Technical Support	\$125.00	-	\$175.00
Senior Administrative Support	\$110.00	-	\$140.00
Administrative Support	\$100.00	-	\$125.00
Technician	\$105.00	-	\$135.00
Intern	\$80.00	-	\$95.00