



Timothy McLaughlin
Chair
Paul Agnello
FAMPO Administrator

FAMPO RESOLUTION 19-25

APPROVING SCOPE AND BUDGET FOR CONSULTANT SERVICES FOR GATEWAY BOULEVARD EXTENDED DETAILED TRAFFIC IMPACT ANALYSIS STUDY TASK ORDER

WHEREAS, the City of Fredericksburg has requested that FAMPO complete a new traffic impact analysis (TIA) study for Gateway Boulevard Extended to provide additional detail beyond the analysis done in the previous Bowman TIA study; and

WHEREAS, the City has requested that \$62,500 in FY-2019 RSTP funding for Gateway Boulevard Extended be used to pay for the cost of this TIA study; and

WHEREAS, FAMPO approved the allocation of \$62,500 in FY-2019 RSTP funding for use in this study in Resolution 19-23 approved on 1/28/2019; and

WHEREAS, FAMPO staff have consulted with the City of Fredericksburg and VDOT Fredericksburg District to receive input on the study scope and effort and worked with its consultant Michael Baker International to develop a scope and budget for consultant services in the amount of \$62,500 to complete the new TIA study; and

NOW, THEREFORE, BE IT RESOLVED that the Fredericksburg Area Metropolitan Planning Organization hereby approves the use of FAMPO on-call consultants in the amount of \$62,500 to complete the Gateway Boulevard Extended TIA Study.

Adopted by the Policy Committee at its meeting on February 25, 2019.

Timothy McLaughlin, Chair
Fredericksburg Area Metropolitan Planning Organization
Policy Committee

TASK ORDER REQUEST

Detailed Traffic Impact Analysis

1500 Gateway Boulevard (Hylton Property)

Overview

It has been requested that Michael Baker International (Baker) conduct a detailed Traffic Impact Analysis for the Hylton Property development which will be located along the proposed Gateway Boulevard Extension roadway project. A limited Traffic Impact Study was conducted in March 2018. This task order will expand the study area and conduct the analysis using a more detail-oriented traffic simulation modeling software (VISSIM). Below are the tasks necessary to accomplish the above activity.

Task 1 – Project Management and Coordination

This task consists of time required to administer the project addressing contract matters, internal project coordination, agency coordination (GWRC/FAMPO, the City of Fredericksburg, and VDOT), supervision and general quality control, and project management responsibilities consisting of project organization and scheduling.

Task 2 – Data Collection

There is not expected to be any field data collection for this Traffic Impact Analysis. This task will include the research, compiling, and updating of traffic data in existing documents.

Task 3 – Existing Conditions Operational Analysis

Baker will conduct AM and PM operational analyses for the existing conditions using the traffic volumes developed in Task 2. The study area will include the intersections and I-95 ramp junctions on Route 3, the Gateway Boulevard extension, and the intersection of the Gateway Boulevard extension and Cowan Boulevard. The analysis will be conducted using the VISSIM software to ensure that the simulation accurately reflects the traffic conditions, particularly along Route 3 and the I-95 ramp junctions. The VISSIM model developed for the I-95 study will be used, however it is expected that this model will need to be modified to reflect current conditions. Delay, Level of Service, and queue lengths will be reported for the following locations:

- The intersection of Route 3 with Gateway Boulevard
- The intersection of Route 3 with Mahone Street/Altoona Drive
- The Route 3 eastbound junction with the I-95 southbound loop ramp
- The Route 3 eastbound triple-left turns to northbound I-95
- The Route 3 eastbound junction with the I-95 northbound off-ramp
- The Route 3 westbound junction with the on-ramp to I-95 northbound
- The Route 3 westbound junction with the I-95 northbound loop ramp
- The Route 3 westbound junction with the I-95 southbound loop ramp

Task 4 – 2040 Background Condition Forecast Volumes

Baker will forecast future 2040 AM and PM peak hour traffic volumes for the background condition. This condition will include the proposed Gateway Extension but will not include the proposed development. This is necessary because the construction of the Gateway Boulevard extension will have regional implications on traffic patterns due to the proximity to the I-95/Route 3 interchange.

The FAMPO travel demand model will be used to determine the changes in travel patterns due to the construction of the Gateway Boulevard Extension. Baker will submit the methodology and results of this task for review by the stakeholder agencies.

Task 5 – 2040 Background Condition Operational Analysis

Baker will update the existing conditions VISSIM model to include the Gateway Boulevard extension and the new intersection with Cowan Boulevard. The model will also be updated with the 2040 AM and PM forecast volumes developed in Task 4. Delay, Level of Service, and queue lengths will be reported for the locations presented in Task 3 as well as the intersection of the Gateway Boulevard extension and Cowan Boulevard.

Task 6 – Trip Generation and Trip Distribution

The trip generation volumes will be developed using the latest ITE Trip Generation Manual. Any volume reduction techniques applied to the trip generation volumes will be documented and included in the report. Trip Generation will be conducted for two different land use scenarios; the proposed development shown in the March 2018 Limited Traffic Impact Study and an additional scenario with less intense development. Also, as part of this task, Baker will provide a comparison (for the year 2025) of site trip generation, background growth, forecast volumes, and other traffic volume metrics presented in the March 2018 TIA to the same metrics calculated for this updated TIA task order. The results will be submitted to the review agencies as a memorandum that includes comparison tables and a discussion of the results.

Task 7 – 2040 Build Conditions - Operational Analysis and Recommendations

There will be four total analysis scenarios for the 2040 Build conditions:

Land Use Scenario 1 – 2040 AM

Land Use Scenario 1 – 2040 PM

Land Use Scenario 2 – 2040 AM

Land Use Scenario 2 – 2040 PM

Land Use Scenario 1 (from the March 2018 TIS):

Baker will update the AM and PM 2040 Background condition VISSIM models to include the trip generation volumes for the first land use scenario (from the March 2018 TIS) and the two access points to the proposed development on the Gateway Boulevard Extension.

Recommendations for roadway improvements will be tested and analyzed for this first land use scenario to determine any reduction in land use densities and/or trips generated that is needed to decrease congestion on the surrounding roadways to an acceptable level. The results will be submitted to GWRC for review and to determine the land use to be used in the second analysis scenario.

Land Use Scenario 2:

GWRC will provide a second land use scenario to Baker based on the analysis results from the first land use scenario. Baker will develop trip generation (as part of Task 6) for the second land use scenario and update the AM and PM VISSIM models for the operational analysis.

It is anticipated that recommendations will not be limited to those proposed in the 2018 Limited Traffic Impact Study and may include innovative intersection configurations.

Task 8 – Meetings

It is expected that two WebEx meetings will be conducted with agency stakeholders to address methodologies, results, or any comments/concerns. This task includes preparation and participation for the meetings. This task does not include any formal meetings with the City Council.

Task 9 – Reporting

Baker will package the report in accordance with the VDOT Traffic Impact Analysis Regulations. The report will include conceptual sketches of the recommended improvements. Electronic copies of the report will be submitted to the stakeholder agencies for review. Two hard copies of the final document can be submitted upon request.

Schedule

It is expected that a draft report will be delivered within 18 weeks of Notice to Proceed. A final report will be delivered within two weeks of receiving comments on the draft submission.

Cost

The total labor cost is \$62,484 which is derived from 498 hours at fully burdened rates. Direct expenses are expected to be \$16 for printing. Therefore, the total project cost will be \$62,500.

PROJECT TOTALS

Detailed Traffic Impact Analysis for 1500 Gateway Boulevard (Hylton Property)

LABOR

Task No.	Task	Hours	Total Cost	Work Percentage by Hours
1	Project Management and Coordination	24	\$ 4,292	6.87%
2	Data Collection	10	\$ 1,266	2.03%
3	Existing Conditions Operational Analysis	104	\$ 11,912	19.06%
4	2040 Background Condition Forecast Volumes	60	\$ 7,732	12.37%
5	2040 Background Condition Operational Analysis	98	\$ 11,485	18.38%
6	Trip Generation and Trip Distribution	16	\$ 2,105	3.37%
7	2040 Build Conditions - Operational Analysis and Recommendations	110	\$ 13,297	21.28%
8	Meetings	14	\$ 2,026	3.24%
9	Reporting	62	\$ 8,369	13.39%
TOTALS		498	\$ 62,484	100.00%

ODC's

Task No.	Task	Reproduction	TOTAL
1-9	All Tasks	\$16.00	\$16.00
TOTALS		\$16.00	\$16.00

GRAND TOTALS

Labor	\$62,484
ODC's	\$16
Total	\$62,500

Detailed Traffic Impact Analysis for 1500 Gateway Boulevard (Hylton Property)

MICHAEL BAKER INTERNATIONAL - Labor

		Technical Advisor	Senior Engineer II	Technician/Analyst III	Planner III	Planner II	Clerical			
		Billing Rate								
Task No.	Task	\$279.04	\$173.01	\$128.37	\$123.08	\$106.98	\$84.48	TOTAL		
1	Project Management and Coordination	8	8				8	24	\$4,292.24	6.87%
2	Data Collection		2		4	4		10	\$1,266.26	2.03%
3	Existing Conditions Operational Analysis		8		16	80		104	\$11,911.76	19.06%
4	2040 Background Condition Forecast Volumes		4	40	12	4		60	\$7,731.72	12.37%
5	2040 Background Condition Operational Analysis	2	8		8	80		98	\$11,485.20	18.38%
6	Trip Generation and Trip Distribution		4		8	4		16	\$2,104.60	3.37%
7	2040 Build Conditions - Operational Analysis and Recommendations	2	16		8	84		110	\$13,297.20	21.28%
8	Meetings		8			6		14	\$2,025.96	3.24%
9	Reporting	2	16		32	4	8	62	\$8,368.56	13.39%
								0	\$0.00	0.00%
	TOTALS	14	74	40	88	266	16	498		
		\$3,906.56	\$12,802.74	\$5,134.80	\$10,831.04	\$28,456.68	\$1,351.68	\$62,483.50	\$62,483.50	100.00%

Detailed Traffic Impact Analysis for 1500 Gateway Boulevard (Hylton Property)					
MICHAEL BAKER INTERNATIONAL - Direct Costs					
		Reproduction	Travel	Communication/Postage	
Task No.	Task				TOTAL
1	Project Management and Coordination				\$0.00
2	Data Collection				\$0.00
3	Existing Conditions Operational Analysis				\$0.00
4	2040 Background Condition Forecast Volumes				\$0.00
5	2040 Background Condition Operational Analysis				\$0.00
6	Trip Generation and Trip Distribution				\$0.00
7	2040 Build Conditions - Operational Analysis and Recommendations				\$0.00
8	Meetings				\$0.00
9	Reporting	\$16.00			\$16.00
	TOTALS	\$16.00	\$0.00	\$0.00	\$16.00