

# FREDERICKSBURG AREA METROPOLITAN PLANNING ORGANIZATION (FAMPO)

Fredericksburg City  
Spotsylvania County  
Stafford County

Tim McLaughlin  
Chairperson

Paul Agnello  
FAMPO Administrator

## FAMPO RESOLUTION 16-19

### A RESOLUTION OF THE FREDERICKSBURG AREA METROPOLITAN PLANNING ORGANIZATION AUTHORIZING STAFF TO WORK WITH THE MICHAEL BAKER CONSULTING TEAM TO EXECUTE A STUDY OF I-95

**WHEREAS**, in light of new congestion problems on I-95 associated with the extension of the Express Lanes to Exit 143, the FAMPO Policy Committee desires to conduct a Phase I examination of I-95 to analyze new congestion problems on I-95 between mile point 145 and mile point 125 and their possible solutions in time for the next Round of HB2 project applications in the summer of 2016, and

**WHEREAS**, the FAMPO FY16 Unified Planning Work Program (UPWP) has been duly amended to account for this examination, and

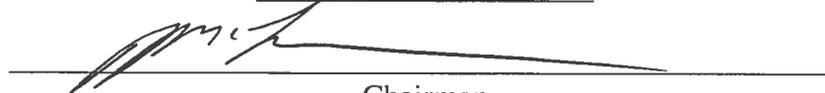
**WHEREAS**, working with Michael Baker Corporation, a FAMPO on-call consultant, staff has completed a defined Task Order for this Phase 1 I-95 study at a cost of \$280,000, to be completed by June 2016 and to be funded with RSTP monies and attached to this Resolution, and

**WHEREAS**, the attached Task Order provides detailed information on the work elements, job assignments, costs and schedule for this work, divided between the Baker team and FAMPO staff.

**NOW THEREFORE BE IT RESOLVED BY THE FREDERICKSBURG AREA METROPOLITAN PLANNING ORGANIZATION THAT STAFF IS DIRECTED TO EXECUTE THE ATTACHED TASK ORDER WITH THE MICHAEL BAKER TEAM AND TO COMPLETE THE WORK DESCRIBED THEREIN.**

Adopted by the FAMPO Policy Committee at its meeting on December 14, 2015.

FAMPO Resolution 16-19



Chairman

Fredericksburg Area Metropolitan Planning Organization

Date: 14 Dec 15

# I-95 Corridor Evaluation – Overview and Phase 1 Scope

## OVERVIEW

The approximately fifty miles of the greater I-95 corridor located in the GWRC Region serves a critical role in regional, Statewide and national transportation, commerce, economic vitality, quality of life and security. This fact is well-understood by all parties at the local, State and national level. What is perhaps less well-understood and agreed to is what specific multimodal changes are needed in different sections of I-95 in the GWRC Region, how these changes can work together, and how these changes can accent multimodal changes made to the greater I-95 corridor north and south of the GWRC Region.

Therefore, a comprehensive and multimodal examination of I-95 in the GWRC Region is warranted. This examination should be funded with a significant investment, and all relevant parties should be partners in it, including local, State, Regional and Federal Agencies, adjoining entities to the north and south, interest groups and others. To anyone's knowledge, there has not been a comprehensive evaluation of this corridor since I-95 was built back in the 1960s, although there have been several reports over the years on various segments of I-95 and on Interchanges. Each of these reports has different data sets. This comprehensive study should provide a comprehensive evaluation that includes a set of traffic volumes that should be considered the "go-to" 2040 volumes.

But at present significant new I-95 congestion issues are occurring on I-95 in the GWRC Region, directly caused by the new Express Lanes terminating at Exit 143. So at the direction of the FAMPO Policy Committee, this comprehensive study must first focus in on a and solution to these new congestion issues on the section of I-95 between Milepost (MP) 145 and MP 125 and must produce a Preferred Alternative in time for the HB2 application cycle in 2016. Therefore the comprehensive study described above will be broken into Phase I and Phase II, with Phase I concerned with the segment between MP 145 and MP 125 and not containing a comprehensive, multi-modal element, but rather focusing on highway and Transportation Demand (TDM) improvements.

With regard to the I-95 segment between MP 145 and 129, there is broad debate on whether the Express Lanes should be extended south from the Garrisonville area to the Massaponax area, whether to add more collector-distributor lanes, whether to add general purpose lanes or some combination of these options.

In order to meet HB2 application deadlines (the next round of applications is due September 30, 2016), Phase 1 will be completed by June of 2016 and will concentrate on the segment of I-95 that is viewed to need the most immediate attention - the section from MP 145 to MP 125. Phase 1 will identify some modifications for the region to submit 2016 HB2 applications for by August, 2016. The Phase 2 study effort will likely begin in FY-17 and include a full evaluation of multimodal travel and a more comprehensive evaluation of the I-95 Corridor in GWRC.

The draft Phase 1 scope, which follows, provides a schematic direction for how this examination can take place, including broadly defined tasks, financial requirements and a work schedule. As policy makers and partners work through how to proceed with this examination, greater detail and specificity will be attached to the scope in the coming weeks, resulting in a December scope, budget and authorization to proceed. Some of the work will be conducted by FAMPO staff (approximately one-third) and some by consultants (approximately two-thirds).

## PHASE I OBJECTIVE

To develop an improvement program to address the needs of the I-95 corridor between MP 125 in Spotsylvania County and MP 145 in Stafford County for the year 2040.

## PHASE I SCOPE OF WORK AND LABOR ESTIMATE

The following conditions have been placed on this Phase 1 study:

- There will be no detailed multimodal element to the study, however there will be some qualitative narrative associated with the proposed expansion to the Park and Ride lot on Rte. 630 near the interchange at MP 140 and discussion of additional Park and Ride lot projects between MP 145 and 125;
- The currently planned Express Lane ramp modifications to be constructed at the Rte. 610 interchange near MP 143 will be assumed to be in place;
- The reconstructed interchange for I-95 @ Exit 140 with additional capacity funded through UPC 13558 will be assumed to be in place;
- The currently proposed southbound Collector-Distributor Road for I-95 between MP 133 and MP 130 will be assumed to be in place, and
- UPC 107715 which will extend some of the ramps for the Exit 130 and 133 interchanges will be assumed to be in place.

Below are brief task descriptions, an estimate of labor hours required, and an estimate of the percent of the total effort for each task.

### Task 1 - Document Review

***168 hours required (40 – Consultant Team, 128 – FAMPO) – 8% of total effort.***

Review existing Transportation Planning Studies, Capital Improvement Plans, Comprehensive Plans, Operating Plans, etc., to gain an understanding of potential solutions within the study area. An annotated bibliography for documents relevant to the study area will be prepared. To the extent possible, VTRANS 2040 will be examined to economize on data collection efforts. FAMPO will develop a white paper for this task that will highlight key assumptions, findings, recommendations noted in other documents that will be pertinent to this study. Consultant Team will review the white paper and determine how the highlighted items in the paper will impact the study.

#### Work Product:

- White paper

### Task 2 - Supplemental Data Collection

***224 hours required (Consultant Team – 56, FAMPO – 168) - 10% of total effort.***

To the extent possible, existing INRIX, VDOT, and VTRANS traffic data will be used to evaluate operating conditions. Additional traffic counts or data will be collected only where absolutely necessary. The effort will also include a major effort to obtain Origin/Destination data from VDOT and commercial sources and analyzed by the study team. FAMPO will collect and organize data into a very presentable GIS format. Consultant Team will serve in a supervisory/strategic capacity overseeing all the work in this task.

Work Product:

- GIS maps illustrating traffic volumes.

### **Task 3 - Identify Corridor Deficiencies**

***270 hours required (230 – Consultant Team, 40 – FAMPO) – 12% of total effort.***

Identify existing I-95 congestion hot spots and/or concentrations from existing travel time data and compare to reported locations of such. Agree on elements of the No-Build alternative to be incorporated into the 2040 model. Some projects currently in the 2040 CLRP may need to be removed and tested as an alternative. Develop 2040 travel time projections and identify congestion hot spots and/or concentrations for the year 2040 on the 2040 base condition. Thresholds of acceptability will be established in order to declare parts of the Study Area deficient. Consultant Team will be identifying the deficiencies and create graphics that depict them for this task. FAMPO will serve in a review role on this task and provide comments on work products.

Work Product:

- GIS maps depicting corridor deficiencies in 2040.

### **Task 4 - Develop Purpose and Need Statement**

***48 hours required (28 – Consultant Team, 20 – FAMPO) - 2% of total effort.***

A Purpose and Need Statement for this section of I-95 will be developed. This statement will be based on existing and projected 2040 deficiencies identified in the study areas and using the same thresholds of acceptability established in Task3. Consultant Team will develop the draft statement and FAMPO will serve in a review role for this task.

Work Product:

- Succinct Purpose and Need Statement (no longer than 4 pages).

### **Task 5 - Identify Potential Alternatives**

***238 hours required (214 – Consultant Team, 24 – FAMPO) - 11% of total effort.***

Create base mapping for the study area with satellite imagery for use in the conceptual design of potential alternatives. Identify potential physical improvements like new access points or additional lanes to evaluate for operating performance and develop to a conceptual level of detail on the base mapping. The concepts will show allowed movements, but not interchange layouts or spatial relationships.

Work Product:

- Plan views of potential alternatives with their features highlighted on base mapping.

### **Task 6 - Evaluate Effectiveness of Potential Alternatives**

***500 hours required (420 - Consultant Team, 80 - FAMPO) – 23% of total effort.***

The Fredericksburg area regional travel demand model will be used to test transportation network changes associated with the physical improvements and transportation policy changes. The resultant volumes will be evaluated to determine their effectiveness based on agreed-upon measures of effectiveness (MOE) comparing 2040 base condition to potential alternatives. Example MOEs would be macroscopic-level volume to capacity ratios (V/C), travel time and speed of links along I-95, Vehicle Hours of Delay (VHD) at a study sub-area level, and others to be determined. As noted above, to the extent possible, results from previous studies will be used to help inform the alternative evaluation process.

Environmental and socio-economic impacts will also be considered and evaluated. Environmental impact assessment will be limited to potential fatal flaws and not include quantification of a range of environmental criteria. Five alternatives will be evaluated and screened to a preferred alternative.

Consultant Team will run the regional model, modifying it as necessary for each alternative. Consultant Team will summarize operating characteristics, traffic impacts and environmental impacts and summarize in a matrix. FAMPO will summarize socio-economic impacts and review the Consultant Team summary matrix.

Work Product:

- Performance matrix depicting characteristics and impacts of each alternative.

**Task 7 - Advisory Committee**

***180 hours required (40 - Consultant Team, 140 - FAMPO) – 8% of total effort.***

Committee to be comprised of representatives from the Fredericksburg Area MPO, George Washington Regional Commission, and any other stakeholders deemed appropriate by FAMPO. Six meetings with the committee will be scheduled during the study:

1. Shortly after study initiation to outline the study process, discuss purpose and need, discuss measures of effectiveness, review of existing and future no build conditions and identify corridor deficiencies.
2. Finalize Measures of Effectiveness, finalize existing and future no build conditions, finalize corridor deficiencies, and develop alternatives.
3. Finalize alternatives, begin documentation review: existing and future no build conditions.
4. Review results from evaluation of five alternatives and narrow to two potential alternatives for further analysis. Continue documentation review: alternatives.
5. Review results of two potential alternatives and choose a preferred alternative.
6. Review and concurrence of Study Results and Documentation

Advisory Committee meetings will include preparation of presentation boards and PowerPoint slides and handouts containing summaries of the technical aspects of the study. Meeting minutes will be prepared and distributed to all participants.

These Advisory Committee meetings are critical to adhering to the project schedule and getting staff-level jurisdictional feedback and buy-in throughout the Phase 1 study as it is progressing, not near the end when there is a recommended alternative. It is envisioned that placing this level of importance on these committee meetings from all participants will help lead to quick adoption of the recommended alternative by the Region and therefore a timely submittal of an HB2 application in 2016.

FAMPO will be the main participant in these meetings. They will provide meeting logistic assistance, as necessary. Consultant Team will serve in a support role and provide meeting materials.

Work Products:

- Meeting presentation materials
- Meeting agendas
- Meeting minutes

**Task 8 - Summary Report of Study Recommendations**

***130 hours required (30 - Consultant Team, 100 - FAMPO) - 6% of total effort.***

A short report highlighting key study recommendations, project benefits and project costs (planning level) will be prepared and serve as a type of Executive Summary. Each study project recommendation should fit on one page. FAMPO will be the principal author of the report. Consultant Team will provide graphics and provide review commentary on draft report.

Work Product:

- Draft Summary Report
- Final Summary Report

**Task 9 - Technical Report**

***214 hours required (174 - Consultant Team, 40 - FAMPO) - 10% of total effort.***

A draft report will be prepared outlining the methodology, findings and recommendations of the study. A meeting to discuss comments on the draft report will be held, and then changes will be incorporated to produce the final report. The report is anticipated to include fold-out graphics of alternatives and analysis results. As part of this technical report, potential follow-up studies will be identified such as NEPA evaluation, IMR, IJR, detailed operational analysis, etc. All technical analysis files (such as model runs and scripts, backup spreadsheets, and calculations) will be delivered to FAMPO, local governments, transit/TDM operators, VDOT, and DRPT.

Consultant Team will be the principal author of the report, provide all graphics to be included, and compile appendices and any other accompanying information. FAMPO will provide review commentary on the draft report and provide input to the report, as requested (expected to be limited).

Work Products:

- Draft Technical Report
- Final Technical Report

**Task 10 - Project Meetings**

***140 hours required (36 - Consultant Team, 104 - FAMPO) - 6% of total effort.***

As a supplement to the Advisory Committee staff work in Task 7, this Task will focus on meetings with policy makers at FAMPO and the local governments. The FAMPO Policy Committee will be briefed on study progress findings and recommendations at its monthly meeting. Local elected officials will be briefed at the project outset, at the time of alternatives development and at the time of selection of a

preferred alternative. As with the Advisory Committee, the goal of this interaction with decision-makers is to obtain a Regional consensus on a preferred alternative in time for the next round of HB2 applications in the summer of 2016.

FAMPO will be the main participants in these meetings and will provide meeting logistic assistance, as necessary. Consultant Team will serve in a support role and provide meeting materials, but will attend a maximum of two meetings.

Work Products:

- Meeting presentation materials
- Meeting agendas
- Meeting minutes

**Task 11 - Final Project Presentations**

***84 hours required (36 - Consultant Team, 48 - FAMPO) – 4% of total effort.***

The consultant team will provide up to three presentations on final study results. One presentation will be given to the FAMPO Policy Committee, and the other two presentation audiences will be determined later.

FAMPO will be the main participants in these presentations. The Consultant Team will serve in a support role and provide meeting materials, but will only attend a maximum of one meeting.

Work Products:

- Meeting presentation materials
- Meeting agenda

**SCHEDULE**

The total project is expected to require six months to complete. This schedule is shown on the following page with a task breakdown.

**COST**

The total labor cost is \$270,000 which is derived from 2,196 hours at fully burdened rates spread across multiple job classifications from the Consultant Team and FAMPO staff. The Consultant Team will be allocated 1,304 hours and FAMPO staff will be allocated 892 hours. Direct expenses are expected to be about \$10,000 for travel to/from meetings and the study area, and printing (all for the Consultant Team). Therefore, the total project cost will be **\$280,000**.

## PROJECT TOTALS

<b>LABOR</b>											
Task No.	Task				Total Hours				Total Cost	Work Percentage by Hours	
		Baker	ATCS	FAMPO		Baker	ATCS	FAMPO			
1	Document Review	32	8	128	168	\$3,777.44	\$2,057.84	\$12,170.24	\$18,005.52	7.65%	8
2	Supplemental Data Collection	40	16	168	224	\$4,595.92	\$2,747.52	\$15,973.44	\$23,316.88	10.20%	10
3	Identify Corridor Deficiencies	188	42	40	270	\$21,147.56	\$7,362.18	\$3,803.20	\$32,312.94	12.30%	12
4	Develop Purpose and Need Statement	2	26	20	48	\$533.70	\$4,543.78	\$1,901.60	\$6,979.08	2.19%	2
5	Identify Potential Alternatives	158	56	24	238	\$19,247.10	\$7,564.08	\$2,281.92	\$29,093.10	10.84%	11
6	Evaluate Effectiveness of Potential Alternatives	258	162	80	500	\$31,239.70	\$21,595.94	\$7,606.40	\$60,442.04	22.77%	23
7	Advisory Committee	16	24	140	180	\$1,636.96	\$6,173.52	\$13,311.20	\$21,121.68	8.20%	8
8	Summary of Study Recommendations	6	24	100	130	\$1,005.88	\$5,362.04	\$9,508.00	\$15,875.92	5.92%	6
9	Technical Report	62	112	40	214	\$8,673.74	\$17,286.16	\$3,803.20	\$29,763.10	9.74%	10
10	Project Meetings	6	30	104	140	\$1,601.10	\$7,716.90	\$9,888.32	\$19,206.32	6.38%	6
11	Final Project Presentations	6	30	48	84	\$1,601.10	\$7,716.90	\$4,563.84	\$13,881.84	3.83%	4
<b>TOTALS</b>		774	530	892	2196	\$95,060.20	\$90,126.86	\$84,811.36	\$269,998.42	100.00%	100

<b>ODC's</b>											
Task No.	Task	Baker			ATCS			FAMPO			TOTAL
		Reproduction	Travel	Traffic Data Collection	Reproduction	Travel	Traffic Data Collection	Reproduction	Travel	Traffic Data Collection	
1	Document Review	\$100.00	\$0.00	\$0.00	\$250.00	\$0.00	\$0.00				\$350.00
2	Supplemental Data Collection	\$100.00	\$0.00	\$4,000.00	\$250.00	\$0.00	\$0.00				\$4,350.00
3	Identify Corridor Deficiencies	\$300.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00				\$300.00
4	Develop Purpose and Need Statement	\$100.00	\$0.00	\$0.00	\$100.00	\$0.00	\$0.00				\$200.00
5	Identify Potential Alternatives	\$500.00	\$100.00	\$0.00	\$0.00	\$100.00	\$0.00				\$700.00
6	Evaluate Effectiveness of Potential Alternatives	\$600.00	\$100.00	\$0.00	\$100.00	\$100.00	\$0.00				\$900.00
7	Advisory Committee	\$50.00	\$100.00	\$0.00	\$0.00	\$300.00	\$0.00				\$450.00
8	Summary of Study Recommendations	\$50.00	\$0.00	\$0.00	\$200.00	\$0.00	\$0.00				\$250.00
9	Technical Report	\$700.00	\$100.00	\$0.00	\$300.00	\$100.00	\$0.00				\$1,200.00
10	Project Meetings	\$50.00	\$100.00	\$0.00	\$200.00	\$300.00	\$0.00				\$650.00
11	Final Project Presentations	\$50.00	\$100.00	\$0.00	\$200.00	\$300.00	\$0.00				\$650.00
<b>TOTALS</b>		\$2,600.00	\$600.00	\$4,000.00	\$1,600.00	\$1,200.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10,000.00

<b>GRAND TOTALS</b>	
Labor	\$269,998.42
ODC's	\$10,000.00
<b>Total</b>	<b>\$279,998.42</b>