Timothy McLaughlin
Chair

Paul Agnello
FAMPO Administrator

FAMPO RESOLUTION 19-24

APPROVING THE SCOPE AND BUDGET FOR CONSULTANT SERVICES FOR THE PHASE 1 TRANSIT COMPONENT OF THE LAFAYETTE BOULEVARD MULTIMODAL TRANSPORTATION STUDY

WHEREAS, the City of Fredericksburg has requested that FAMPO complete a multimodal study of the Lafayette Boulevard corridor; and

WHEREAS, this work activity is included in the fiscal year FY2019 FAMPO Unified Planning Work Program (UPWP); and

WHEREAS, FAMPO staff applied for and was awarded a $125,000 FY2019 Virginia Department of Rail and Public Transportation (DRPT) Technical Assistance Grant to complete the Phase 1 transit component of the study; and

WHERAS, FAMPO approved the use of FAMPO consultants to complete the Phase 1 transit component of the study in Resolution 19-17 on 12/10/2018; and

WHERAS, FAMPO has consulted with the FAMPO Technical Committee to receive input on the study effort and worked with its consultants Michael Baker International and Foursquare ITP to develop a scope and budget for consultant services to assist staff with the study effort in the amount of $76,809 and perform the remaining $48,191 of work in house using FAMPO staff; 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 $76,809 to assist staff with completing the phase 1 transit component of the Lafayette Boulevard Multimodal Transportation Study.

Adopted by the Policy Committee at its meeting on January 28, 2019.

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Timothy McLaughlin, Chair
Fredericksburg Area Metropolitan Planning Organization
Policy Committee

LAFAYETTE BOULEVARD TRANSIT STUDY

SCOPE OF WORK

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PURPOSE AND NEED

Fredericksburg's Lafayette Boulevard corridor is experiencing residential and commercial development and redevelopment because of its proximity to the downtown area and the AMTRAK/VRE station. Overall, the roadway is the lone remaining major corridor into the city that has not received an overhaul treatment. This study will help answer the question of which package of multimodal improvements will best meet future corridor needs.

At a minimum, there is at least the perception of a commuter parking shortage at the Fredericksburg VRE/AMTRAK station, with some decision-makers calling for a new parking deck with an estimated cost of at least $30 million. There is also some interest towards improving transit services and amenities, and bike and pedestrian facilities along the corridor. Fredericksburg Regional Transit's (FRED) Route F3 currently provides hourly service between 7:30 am and 8:30 pm on weekdays along the corridor and connects to Lee's Hill Center and the FRED terminal on US-1. Potential funding for improvements is available from the State, City, and FAMPO/GWRC; however, it is likely not enough to pay for all of the desired improvements. Therefore, this study will also help to prioritize potential investments.

Overall, this study will help to answer the following questions for the Lafayette Boulevard corridor:

1. Are local transit service improvements needed along Lafayette Boulevard?
2. Is additional FRED feeder bus service needed for Fredericksburg VRE/AMTRAK?
3. Is additional commuter parking needed for Fredericksburg VRE/AMTRAK? Or could some Transit/TDM improvements alleviate the need for this?

Foursquare ITP proposes the following scope of services to conduct this study.

1. PROJECT MANAGEMENT AND COORDINATION MEETINGS

In order to complete a successful project, Foursquare ITP proposes a combination of web meetings, working group meetings, and FAMPO board meetings. The project will begin with an in-person kick-off working group meeting with FAMPO staff and project stakeholders (to be identified by FAMPO staff). The aim of this meeting will be to review the project goals and objectives, tasks and deliverables, schedule, data requests, and to schedule future meetings. Following the kick-off meeting, we propose to schedule 12 web meetings with FAMPO staff to check in on study progress and review deliverables, as needed.

In addition to the project kick-off meeting and the web meetings with FAMPO staff, we will attend four in-person working group meetings. These meetings will include area stakeholders who will be identified by FAMPO staff. The first of these meetings will be to review Tasks 2 and 3 (Existing Conditions Analysis and Market Analysis), the second to review the initial recommendations developed through Task 4 (Transit Recommendations), a third to review the final recommendations for Task 4, and a fourth to review the Final Report created in Task 5.

Finally, in addition to the web meetings and the working group meetings we will also attend two in-person meetings to present findings to the FAMPO board. The first of these meetings will be to present the findings of Tasks 2 and 3, and the second to present the Final deliverable developed in Task 5 (Final Report). The second meeting will be held during the same trip as the final working group meeting.

In this task we will also hold conference calls or web meetings as needed with the FAMPO project manager and submit monthly progress reports covering major items completed. Our project management approach will be centered on regular communication with FAMPO's project manager to facilitate coordination and to keep the project on schedule.

Deliverables:

- 12 web meetings
- 5 in-person working group meetings
- 2 in-person FAMPO board meetings
- Monthly progress reports

2. EXISTING CONDITIONS ANALYSIS

In this task we will inventory transit routes and infrastructure along the study corridor, review planned improvements on the corridor, and summarize previous studies related to transit on the corridor. The study corridor is defined as Lafayette Boulevard, between Caroline Street in Fredericksburg and Falcon Drive in Spotsylvania, Falcon Drive and Spotsylvania Avenue in Spotsylvania, and Market Street (to the proposed Lee's Hill Center Transit Center) in Spotsylvania.

2.1. Transit Inventory

We will begin this task by conducting a full transit inventory on the study corridor that includes the following:

- **Bus routes:**
  - Summarize FRED bus routes and daily ridership
- **Bus stops:**
  - Summarize FRED bus stops and daily ridership
  - Summarize passenger amenities and other infrastructure (such as pull-ins)
- **Fredericksburg Train Station:**
  - Obtain peak parking lot use (updated counts to be performed by FAMPO staff)
  - Summarize latest daily ridership and calculate station to station ridership

2.2. Planned Improvements

We will also briefly summarize planned improvements on the corridor, including the following:

- Lafayette Boulevard/Charles Street/Kenmore Avenue intersection reconstruction into double roundabouts;
- Lee's Hill Transit Center construction on Market Street in Spotsylvania;
- Bus pull-out construction on Lafayette Boulevard east of Charles Street (near the AMTRAK/VRE station); and
- Bus stop improvements, e.g., shelters, benches, and signage

2.3. Previous Studies

Finally, we will identify and summarize relevant recommendations from previous studies related to the Lafayette Boulevard corridor. These will include, but will not be limited to:

- The 2017 FRED Transit Development Plan;
- The I-95 Transit/TDM Study;
- The King George County Transit Plan;
- The 2017 VRE Multimodal Accessibility to VRE Stations Study.

- 2009 Lafayette Boulevard Corridor Study
- 2016 FAMPO Bicycle and Pedestrian Infrastructure Plan and 2018 Fredericksburg Pathways Plan
- 2016 Lafayette Boulevard Traffic Study

Overall, the existing conditions analysis in this task will establish context for Tasks 3 (Market Analysis) and 4 (Transit Recommendations) and form the baseline for recommended improvements in Task 4.

2.4. Travel Demand Model Update

Using the new FAMPO Version 5.15 travel demand model, Michael Baker International (MBI) will develop data reflecting home-based and non home-based travel flow volumes internal to the FAMPO region and flows in and out of the region for years 2015, 2030 and 2050 using the FAMPO 2050 LRTP land use. The flow data will differentiate flows by time-of-day and mode of travel: AM and PM peak periods, as well as daily. The flow data will reflect only those projects currently programmed for any respective year. MBI will provide this information in comma separated value (csv) list format to Foursquare ITP and FAMPO.

MBI will review available documentation describing the FAMPO 5.15 model update and associated performance. The review will include an examination of currently available base and future year model sets reflecting the updates and will execute the model set(s), mechanically verifying the implementation of updates as described.

Deliverables:

- Technical Memo #1: Existing Conditions Analysis
- Travel flow volumes by time-of-day and mode of travel

3. MARKET ANALYSIS

For this task, we will conduct a transit market analysis based upon the most recently updated Census data and the latest FAMPO Travel Demand Model. We will also obtain and analyze VRE's rider survey data, which includes home and final destination locations for riders from 2017.

3.1. Transit Propensity and Travel Flow Analysis

The market analysis will begin with a full transit propensity analysis conducted using Foursquare ITP's transit propensity model. This model creates four indexes of geographic transit need that are constructed using a web-based tool and visualized in GIS maps:

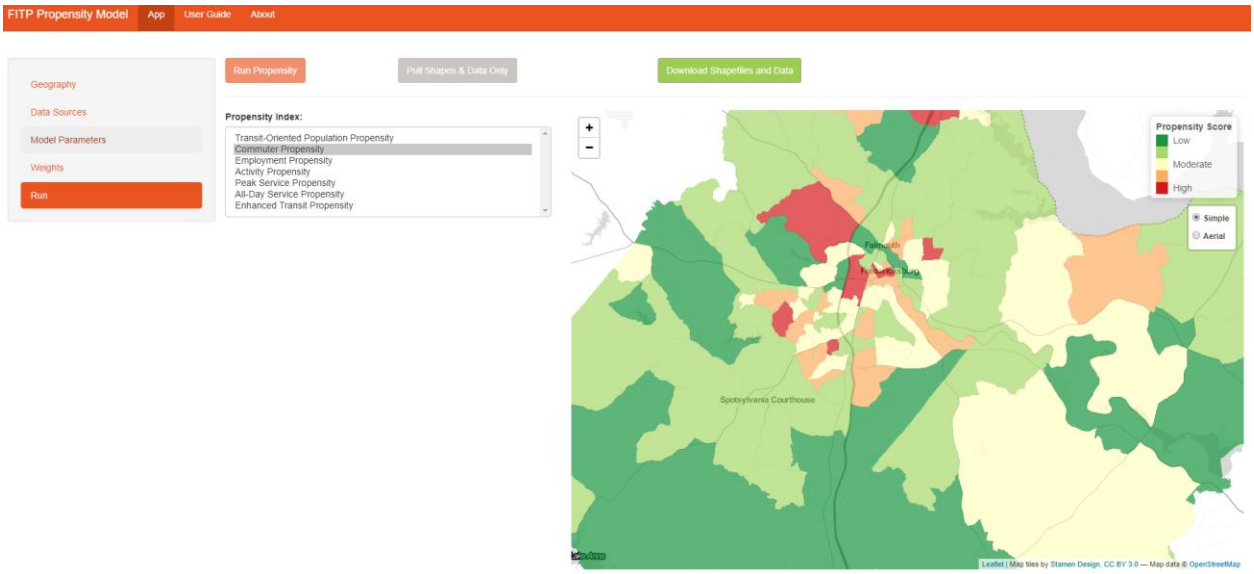
- **Transit-Oriented Populations:** to illustrate where high concentrations of likely transit-dependent people live;
- **Commuters:** to illustrate where high concentrations of traditional "9 to 5" commuters and choice riders live;
- **Workplaces:** to illustrate where high concentrations of jobs are located; and
- **Services:** to illustrate where high concentrations of services such as shopping, medical, and social services are located.

We will create these four indexes for the entire FAMPO region but focus the analysis on the Lafayette Boulevard corridor and its surrounding area. We will then link travel flows for the model base year, 2030, and 2050 by trip purpose from the latest FAMPO travel demand model to the four indexes in order to determine the desired travel patterns in each year.

- The transit-oriented populations index and the services index will be combined with home-based non-work travel flows to provide an indication of what all-day transit services are needed. The maximum potential transit riders on each travel flow will be calculated using the index scores and transit trips from the model.
- The commuters index and the workplaces index will be combined with home-based work travel flows to provide an indication of what peak period services are needed. The maximum potential transit riders on each travel flow will be calculated using the index scores and transit trips from the model.

We will then compare these identified needs to the services that are currently provided along the corridor, which will help to identify any deficiencies or areas for improvement for each model year.

Figure 1: Foursquare ITP Transit Propensity Model Example for the FAMPO/GWRC Region



3.2. VRE Rider Survey

While the analysis outlined in Task 3.1 will help identify transit service needs along the Lafayette Boulevard corridor, an additional analysis will be necessary to determine the market for connecting services to VRE, as most VRE rider destinations are outside of the FAMPO/GWRC region. For this analysis, we propose to summarize VRE's 2017 rider survey data – specifically using the data regarding the home locations of passengers who use Fredericksburg Station. FAMPO staff will create a heatmap of these home locations and then we will evaluate whether the current FRED feeder routes to the station adequately meet demand.

We will also review the commuter lot capacity analysis conducted for the Fredericksburg Station in the I-95 Transit/TDM Study and make modifications to it using the updated FAMPO travel demand model and the latest VRE station ridership data. This will require the following steps and assumptions:

- Obtaining the most up-to-date VRE ridership by station and calculating station to station ridership (see Task 2.1);
- Calculating the growth rate for the station for each future year using the updated FAMPO travel demand model; and
- Calculating the future use of the station commuter lots using the updated future year ridership. This will assume a "worst-case scenario" with the following parameters:
  - The commuter buses recommended in the I-95 Transit/TDM Study are not implemented, and rather the "VRE Only" scenario is implemented; and
  - No new FRED feeder routes will serve the Fredericksburg Station.

The end result will be an approximate maximum number of parking spaces needed for the Fredericksburg Station. If this number is in excess of the current supply (as it was during the I-95 Transit/TDM Study), strategies to address capacity will be developed in Task 4.

Overall, the market analysis will identify any areas for improvement that can be addressed in Task 4.

Deliverables:

- Technical Memo #2: Market Analysis

4. TRANSIT RECOMMENDATIONS

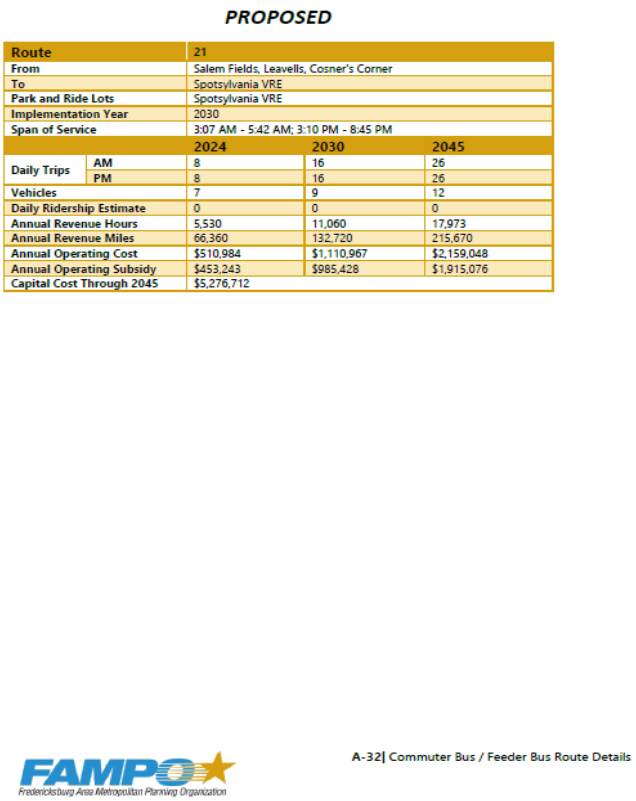
4.1. Development of Recommendations List

Beginning with any areas for improvement identified in Task 3, Foursquare ITP will create recommendations to improve transit service and the passenger experience in the corridor and improve access and capacity at Fredericksburg Station. The improvements will consider planned improvements and recommendations from previous studies. They could include but are not limited to:

- Transit service modifications:
  - Modifications to FRED Route F3, including schedule changes and alignment changes to better match demand;
  - New transit service on the Lafayette Boulevard corridor;
  - Additional FRED feeder bus routes to Fredericksburg Station; and/or
  - New FRED circulator bus serving the various Fredericksburg Station commuter lots.

- Transit amenities and infrastructure:
  - Bus stop improvements, including new locations for shelters and additional signage;
  - Bus pullouts or curb extensions along the corridor;
  - Improvements to Kiss and Ride facilities at Fredericksburg Station (or identification of a new location); and/or
  - Additional parking at Fredericksburg Station.
- Transportation Demand Management (TDM) measures:
  - Marketing strategies to promote new services;
  - First mile/last mile connection strategies; and/or
  - Development of incentive programs for transit use.

Figure 2: Detailed Route Sheet from I-95 Transit/TDM Study



PROPOSED

Route		21		
From		Salem Fields, Leavells, Cosner's Corner		
To		Spotsylvania VRE		
Park and Ride Lots		Spotsylvania VRE		
Implementation Year		2030		
Span of Service		3:07 AM - 5:42 AM; 3:10 PM - 8:45 PM		
		2024	2030	2045
Daily Trips	AM	8	16	26
	PM	8	16	26
Vehicles		7	9	12
Daily Ridership Estimate		0	0	0
Annual Revenue Hours		5,530	11,060	17,973
Annual Revenue Miles		66,360	132,720	215,670
Annual Operating Cost		$510,984	$1,110,967	$2,159,048
Annual Operating Subsidy		$453,243	$985,428	$1,915,076
Capital Cost Through 2045		$5,276,712		

FAMPO Fredericksburg Area Metropolitan Planning Organization

A-32| Commuter Bus / Feeder Bus Route Details

For new or modified transit services, we will create detailed route change sheets that will outline the proposed changes, the justifications for these changes, and the associated operating and capital costs. Recommendations for transit amenities and infrastructure will be described in detail and related planning level cost estimates will be developed based on financial findings from similar projects. Additionally, we will create ridership estimates for all proposed transit service modifications, including new routes. The ridership estimates will be based on service level change elasticities for routes with no alignment changes and the transit propensity/travel flow analysis results for routes with alignment changes and new routes.

4.2. Implementation Plan

In order to help prioritize the recommendations developed in Task 4.1, we will propose a prioritization methodology for service improvements and capital investments. This methodology will incorporate metrics such as impacts to riders, impacts to vulnerable populations, cost, year the recommendation is warranted, and efficiency. The prioritization will be used to make decisions on which timeframe each recommendation should be implemented within. Ultimately, a master list of recommendations will be created which will include the proposed implementation year and estimated costs inflated to the year of implementation.

Deliverables:

- Technical Memo #3: Recommendations and Implementation Plan (first draft)
- Technical Memo #3: Recommendations and Implementation Plan (final draft)

5. FINAL REPORT

In this task, we will compile the individual project deliverables into a final report and make any necessary edits to the report based on a round of feedback from FAMPO staff and the project working group. We will also work

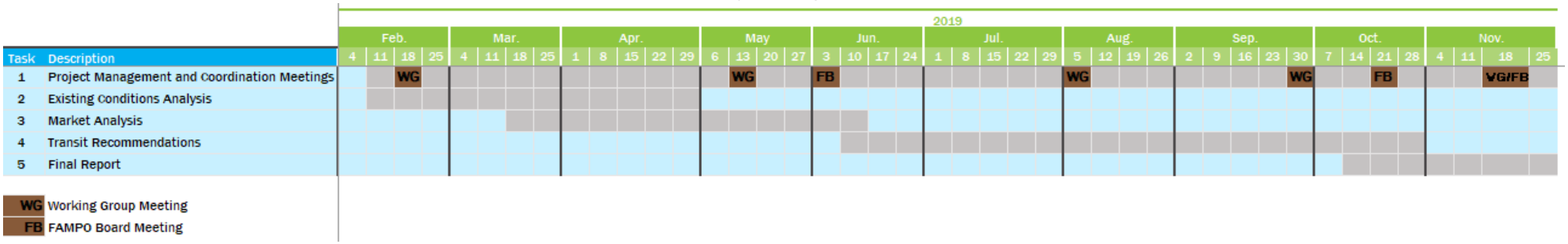
with FAMPO staff to incorporate their additional analysis of bicycle and pedestrian conditions and mapping. A final quality review of the final report will also be made during this task. At this stage we will also hold the final working group meeting and attend the final FAMPO board meeting in a combined trip.

Deliverables:

- Final Report (first draft)
- Final Report (final draft)
- GIS files of recommendations
- Cost spreadsheet of recommendations

6. SCHEDULE

Table 1: Proposed Project Schedule



7. BUDGET

Table 2: Proposed Project Budget

PROJECT TOTALS — Task 21 - Lafayette Transit Study

LABOR

Task No.	Task	Baker	Foursquare	Total Hours	Baker	Foursquare	Total Cost	Work Percentage by Hours
1	Project Management & Coordination Meetings	8	72	80	$ 2,232	$ 7,853	$ 10,085	11.76%
2	Existing Conditions Analysis	84	88	172	$ 14,605	$ 8,160	$ 22,765	25.29%
3	Market Analysis	0	144	144	$ -	$ 13,509	$ 13,509	21.18%
4	Transit Recommendations	0	240	240	$ -	$ 22,672	$ 22,672	35.29%
5	Final Report	0	44	44	$ -	$ 4,132	$ 4,132	6.47%
	TOTALS	**92**	**588**	**680**	**$ 16,838**	**$ 56,327**	**$ 73,165**	**100.00%**

ODC's

		Baker		Foursquare				
Task No.	Task	Reproduction	Travel	Reproduction	Travel	Communication/Postage		TOTAL
1-5	All Tasks	$0.00	$0.00	$0.00	$3,644.00	$0.00		$3,644.00
	TOTALS	$0.00	$0.00	$0.00	$3,644.00	$0.00	$0.00	$3,644.00

GRAND TOTALS

Labor	$73,165
ODC's	$3,644
Total	$76,809