

**ARLINGTON COUNTY, VIRGINIA  
OFFICE OF THE PURCHASING AGENT  
2100 CLARENDON BOULEVARD, SUITE 500  
ARLINGTON, VIRGINIA 22201**

**NOTICE OF CONTRACT AMENDMENT**

<b>TO:</b> STV Incorporated, Inc. dba STV Group Incorporated 2722 Merrilee Drive, Suite 350 Fairfax, VA 22031	<b>DATE ISSUED:</b>	<u>May 29, 2019</u>
	<b>CONTRACT NO:</b>	<u>18-089-9</u>
	<b>CONTRACT TITLE:</b>	<u>Transit Operations, Facilities, Planning, Engineering, Design and Project Management Services on an On-Call, Task Order Basis</u>
	<b>AMENDMENT NO:</b>	<u>2</u>

**THIS IS A NOTICE OF A CONTRACT AMENDMENT AND NOT AN ORDER. NO WORK IS AUTHORIZED UNTIL THE VENDOR RECEIVES A VALID COUNTY PURCHASE ORDER ENCUMBERING CONTRACT FUNDS.**

The contract documents consist of the terms and conditions of AGREEMENT No. 18-089-9 including any attachments or amendments thereto.

**EFFECTIVE DATE:** Immediately

**EXPIRES:** June 10, 2021

**RENEWALS:** Three (3) Renewals Remaining

**COMMODITY CODE(S):** 96258

**LIVING WAGE:** N

**ATTACHMENTS:**

Amendment No. 2

**EMPLOYEES NOT TO BENEFIT:**

**NO COUNTY EMPLOYEE SHALL RECEIVE ANY SHARE OR BENEFIT OF THIS CONTRACT NOT AVAILABLE TO THE GENERAL PUBLIC.**

**VENDOR CONTACT:** Jose Bustamante, P. E. **VENDOR TEL. NO.:** (571) 633-2220

**EMAIL ADDRESS:** [Jose.Bustamante@stvinc.com](mailto:Jose.Bustamante@stvinc.com)

**COUNTY TEL. NO.:** (703) 228-3281

**COUNTY CONTACT:** Tom Scherer, DES-Transit

**COUNTY CONTACT EMAIL:** [Tscherer@arlingtonva.us](mailto:Tscherer@arlingtonva.us)

**PURCHASING DIVISION AUTHORIZATION**

**Tomeka D. Price Title Procurement Officer Date May 6, 2021**

**ARLINGTON COUNTY, VIRGINIA  
AGREEMENT NO. 18-089-9  
AMENDMENT NUMBER 2**

This Amendment Number 2 is made on May 6, 2021, and amends Agreement Number 18-089-9 (“Main Agreement”) dated May 29, 2019, between STV Incorporated, Inc. dba STV Group Incorporated (“Contractor”) and the County Board of Arlington County, Virginia (“County”).

The County and the Contractor agree to amend the main contract called for under the Main Agreement by hereby adding Task Order No. 4, entitled “Transit Signal Priority Corridor Study”, which is attached hereto and made a part hereof, for a **period of sixty (60) consecutive calendar days upon execution of Amendment No. 2.**

1. The Contractor shall provide general project management, geometric data and evaluation, traffic signal timing data and evaluation (including conflicting pedestrian phases), and the preparation of the draft and final technical memorandum with transit signal priority recommendations as described in the attached Statement of Work and in the attached Contractor’s fee proposal letter dated February 23, 2021.
2. Task Order No. 4 Amount **shall be a lump sum amount of \$123,960.93.**
3. **Contract Not-to-Exceed Amount for FY21:**

	<b>\$6,000,000.00</b>
Task Order No. 2:	\$ 218,597.87
Task Order No. 3:	\$ 7,495.92
Task Order No. 4:	<u>\$ 123,960.93</u>
<b>Contract Not-to-Exceed Amount for FY21 after this Task Order:</b>	<b>\$5,649,945.40</b>

**Upon execution of Amendment No. 2 by the County and the Contractor, this Amendment will constitute as the Notice to Proceed.**

All other terms and conditions of the Main Agreement remain in effect.

WITNESS these signatures:

THE COUNTY BOARD OF ARLINGTON  
COUNTY, VIRGINIA

STV INCORPORATED, INC. DBA STV GROUP  
INCORPORATED

AUTHORIZED DocuSigned by:  
SIGNATURE: Sharon Lewis  
89B86B1AD301462...

AUTHORIZED DocuSigned by:  
SIGNATURE: Jose Bustamante  
BC3F0C7D0E1A419...

NAME: DR. SHARON T. LEWIS  
TITLE: PURCHASING AGENT

NAME: Jose Bustamante  
TITLE: Vice President

DATE: 5/17/2021

DATE: 5/14/2021



DEPARTMENT OF ENVIRONMENTAL SERVICES  
Division of Transportation  
2100 Clarendon Boulevard, Suite 900, Arlington, VA 22201  
TEL 703-228-7249 FAX 703-228-7548 [www.arlingtonva.us](http://www.arlingtonva.us)

**February 5, 2021**

**Transit Signal Priority Corridor Study  
Task Order #4 Under Agreement #18-089-9  
Statement of Work**

**I. INTRODUCTION**

The Arlington County Department of Environmental Services, Division of Transportation is seeking consultant services for a Transit Signal Priority (TSP) corridor study. The County is seeking a fee proposal as a task order assignment under the On-Call Transit Operations and Facilities Planning and Engineering, Design and Project Management Services Agreement #18-089-9.

**II. PROJECT SCHEDULE**

The Contractor's services shall be required immediately after the issuance of the task order award and Notice to Proceed (NTP) authorization, which is anticipated in February 2020. The Contractor shall submit a detailed baseline project schedule which is compatible with, and easily incorporated into, the County's Microsoft Project master project schedule. The schedule prepared by the Contractor shall include durations and predecessors to set start and finish dates, with milestones clearly identified. The actual project schedule shall be tracked by the Contractor for comparisons with the baseline project schedule and submitted monthly to the County Project Officer.

Unless otherwise notified in writing by the County Project Officer, the total duration of services from the County's Notice to Proceed (NTP) to completion of Tasks 1 and 2 shall not exceed 60 consecutive calendar days.

**III. GRANT FUNDED PROJECT**

This task is funded in part by grants from the Virginia Department of Rail and Public Transportation (DRPT). The Contractor is responsible for ensuring its compliance with all applicable DRPT requirements including the following:

- A. The Contractor, their agents and employees shall comply with all covenants and provisions of the Virginia Department of Rail and Public Transportation (DRPT) Master Agreement for the Use of Commonwealth Transportation Funds with the County Board of Arlington County VA dated July 1, 2020 and shall be made

expressly a part of any subcontracts executed by the Contractor and shall be binding on all subcontractors, vendors, their agents and employees.

- B. The Contractor shall name the Northern Virginia Transportation Commission (NVTC) and its Bond Trustee, the Commonwealth of Virginia, the Commonwealth Transportation (CTB), DRPT, the Virginia Department of Transportation (VDOT) and their officers, employees and agents as additional insureds on any insurance policy issued for the Work to be performed, and present satisfactory evidence of insurance coverage before commencing with any Work, so that they are protected for losses to the extent caused by the negligence or willful misconduct of such entity or person, from third party claims that are directly related to or arise out of: (a) any failure by the Contractor to comply with, to observe or to perform in any material respect any of the covenants, obligations, agreements, terms or conditions in this Task, or any breach by Contractor of its representations or warranties in this Task; (b) any actual or willful misconduct or negligence of the Contractor, its employees or agents in direct connection with the Work; (c) any actual or alleged patent or copyright infringement or other actual or alleged improper appropriation or use of trade secrets, patents, proprietary information, know-how, trademarked or service-marked materials, equipment devices or processes, copyright rights or inventions by the Contractor in direct connection with the Work; (d) inverse condemnation, trespass, nuisance or similar taking of harm to real property committed or caused by the Contractor, its employees or agents in direct connection with the work; or (e) any assumed liabilities.
- C. The Contractor shall indemnify and hold harmless NVTC and its Bond Trustee, the Commonwealth of Virginia, the CTB, VDOT, DRPT and their officers, employees and agents from the same losses.
- D. The obligations of this Section shall survive the termination or completion of the Contract.

#### **IV. BACKGROUND**

As transit ridership has increased in the past years, it has become apparent that a consistent transit trip time is increasingly desirable. Buses that are behind schedule due to traffic and passenger loads lose additional time while queued at traffic signals. The County would like to increase the reliability of bus schedules along its Primary Transit Network by implementing TSP at strategic signalized intersections. Before proceeding, the County desires to understand the effect implementation of TSP will have on both the transit travel times and traffic operations.

#### **V. SCOPE OF SERVICES**

This scope of services outlines the requirements to evaluate the possible effectiveness of TSP along the County's Primary Transit Networks (PrTN) on a corridor basis. At this time, the four PrTN corridors that shall be studied for this project are:

- Lee Highway – full length within Arlington County
- Glebe Road – between I-66 and Walter Reed Drive
- Washington Boulevard – between I-66 and Arlington Boulevard
- Crystal City – Pentagon City Corridor – Crystal Drive between 33<sup>rd</sup> Street S and 12<sup>th</sup> Street S

The Contractor shall be responsible for the successful execution of the following tasks and deliverables, which are by illustration and are not limited to:

### **Task 1: Project Management and Stakeholder Coordination**

The Contractor shall appoint a Project Manager who will be the primary point of contact with Arlington County's Project Officer. The Contractor Project Manager shall hold bi-weekly progress meetings with the County Project Officer and others, as appropriate. These meetings will ensure constant dialog and communication within the entire project team and stakeholders. The Contractor Project Manager shall coordinate with the Arlington County Project Officer to identify the time(s) meetings to be held at Arlington County offices, and appropriate attendees for each of these meetings. The Contractor shall also provide an agenda and meeting materials and shall prepare and distribute meeting minutes.

In addition to providing a monthly progress report to the County project manager identifying the completed and upcoming tasks and budget status, the Contractor Project Manager shall maintain regular communication with the County project manager to discuss project status and any unanticipated issues, should they arise

The Contractor must prepare and submit monthly progress reports and invoices to the County Project Officer. The monthly progress report shall include the following information: completed and upcoming tasks, important meetings, budget status, schedule adherence, and current issues relating to budget, schedule and other project management issues. The County Project Officer shall approve the format of this report. In addition, the Contractor Project Manager shall maintain regular communication with the County Project Officer to discuss project status and any unanticipated issues, should they arise.

#### **Deliverables:**

- Bi-weekly meeting agendas and meeting minutes
- Monthly progress reports, included with monthly invoices, that include anticipated work plans

### **Task 2: Corridor Survey and Data Collection**

The Contractor shall review the current configuration of each corridor and provide a list and justification for recommended signalized intersections where the implementation of TSP will provide the greatest benefit in reduced transit travel time. For the purpose of this study, the County would like to consider green extension or red truncation to be available to any transit vehicle that is at least 5 minutes behind schedule.

The Contractor shall collect data on transit operations. Specifically, the Contractor shall determine the capacity and level of service by time of day for transit service at major intersections and stops along each corridor. This data should assist in identifying saturated intersections and transit stops, as well as the extent and impact of intersection delay for buses. When applicable, pedestrian movements of transit riders, particularly crossing movements, should also be surveyed. The Contractor should coordinate with the County's Transit Bureau and Traffic Engineering & Operations (TE&O) Bureau to obtain this and additional data determined necessary to conduct the study.

This effort shall include the collection of Washington Metropolitan Area Transit Authority (WMATA) and Arlington Transit (ART) bus on-time performance data for the corridors, review of data generated during the County's Transit Development Plan (TDP) for specific corridors, signal operating parameters such as actuation method, green band, and side street volume and whether the current signal parameters can accommodate TSP, and traffic observations to identify transit choke points.

Deliverables for each corridor:

- List of all signalized intersections in the study corridor.
- Recommendation for intersections to be included in TSP implementation if justified by resulting increase in on time performance.
- Anticipated decrease in travel times and increase in on-time performance based upon recommended intersections.
- Justification for intersection inclusion in the TSP project and confirmation the current signal timings at the intersection can handle TSP.



February 23, 2021

Michelle Chaney  
Contracts Administrator  
Arlington County Division of Transportation  
2100 Clarendon Blvd., Suite 900  
Arlington, VA 22201

**Reference: Transit Signal Priority Corridor Study – Task Order #4 under Agreement #18-089-9**

Dear Ms. Chaney:

Thank you for the opportunity to provide a fee for the scope identified for the Transit Signal Priority Corridor Study – Task Order #4 under Agreement #18-089-9. This task will be led by STV and supported by Foursquare ITP (FITP), in a subconsultant role. STV will be responsible for general project management, geometric data and evaluation, traffic signal timing data and evaluation (including conflicting pedestrian phases), and the preparation of the draft and final technical memorandum with TSP recommendations. FITP will assist in the transit operations analysis, including compiling AVL data for both ART and WMATA service and assessing potential improvements in transit reliability and runtimes. We offer the following specific staff to perform the work.

**Suresh Karre, P.E.** is the proposed Task/Project Manager and will oversee all tasks under this assignment. Suresh brings more than 18 years of experience conducting, reviewing, and managing various transportation operational studies, including transit operations involving bus rapid and light rail modes. He has worked on several roadway, transit, and multimodal projects within the DMV area, including for Arlington County. Currently, as part of the Fairfax County Richmond Highway Bus Rapid Transit (BRT) project, he is evaluating the implementation of Transit Signal Priority (TSP) along Richmond Highway and actively coordinating with FCDOT, VDOT, and other agencies. He is also coordinating with WMATA on other communication system elements for this project. Previously, Suresh completed the traffic study for Pulse BRT project in Richmond, VA that documented the effectiveness of TSP by conducting without and with TSP analysis using VISSIM microsimulation models.

**Jason Mumford, P.E., AICP** will serve as the QA/QC manager to ensure that all the deliverables under this task order meet the established quality standards. Jason brings more than 25 years of experience in planning and design of transit and multimodal projects. Jason recently provided oversight for a WMATA/DDOT collaboration to measure the effectiveness of TSP using fine-grained bus AVL data. He managed the region-wide Bus Transformation Project, which included coordination with Transit Bureau staff and County decision makers. He also managed planning and conceptual design for the Metroway and Columbia Pike transit projects.

**Adam Recchia** will serve as the lead transit analyst for Task 2. Adam has 16 years of experience in transit service planning, data science, and geographic information systems (GIS). He has led a number of data-intensive projects that have evaluated transit priority treatments, analyzed large ridership datasets, or sought to understand regional travel patterns through origin-destination datasets. He specializes in working with large transit datasets that aid in the evaluation of existing networks, service areas, corridors, and individual facilities. As FITP's Data Science Team Manager, Adam oversees the company's development of data tools and leads tasks for projects with complex data analysis components or data research. Adam was the lead transit data analyst on multiple phases of the DDOT and WMATA Transit Signal Priority Evaluation projects, including a task to prioritize the expansion of TSP in the District.

In addition to the above key people, the following subject matter experts are identified to provide relevant input into the concept development and cost estimating tasks.



Task Order #4 under Agreement #18-089-9

February 22, 2021

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Individual	Firm	Discipline	Yrs of Exp
Elisa Prange, PE, PTOE	STV	Traffic Operations/Signals	15
David Miller, PTP	FITP	Bus Priority Planning / QAQC	22
Jessica Klion	FITP	Data Science and Transit Operations	6

The following section identifies a list of assumptions that were taken into consideration in the development of fee.

### General Assumptions

1. It is assumed that each task will not be a stand-alone lump sum fee but that the total fee in its entirety will be allowed to be utilized for all Tasks 1-2. The use of labor categories is provided to show the County how the lump sum fee was developed.
2. The County will be responsible for all grant reporting to other outside agencies.
3. Subconsultants under this contract that are not involved in this task assignment will not be required to revise their insurance requirements as detailed in the scope of work documents.
4. The fee estimate assumes that we will have up to three submissions of the final/technical memorandum summarizing the analysis and recommendations (two draft submissions for comment and one final submission). At each submission, we will address all comments received at one time to streamline resolution.
5. Arlington County will provide a copy of all grant related agreements, including DRPT, NVTC, and others for the consultants' review.
6. We will submit a draft list of prioritized intersection approaches for review and comment by the county and WMATA (if necessary). This review, in addition to checks of data accuracy, will include comments on potential pedestrian conflicts and any additional considerations to ensure a corridor-wide approach to TSP implementation. Following the comment period, our team will make any revisions necessary prior to submitting a final list and accompanying GIS layer.
7. The project timeline of 60 days is contingent on County providing the necessary data immediately, within 1 to 2 days of the Notice to Proceed. Also, any additional coordination with WMATA, unexpected data cleaning and/or the addition of ridership analysis will likely result in a longer project timeline that will be discussed and agreed with the County PM at such time.

### Task 1. Project Management and Stakeholder Coordination

1. Each month, the proposed task manager will provide one (1) invoice and one (1) invoice report that will capture all the activities and efforts for the scope tasks 1 and 2. The invoice will be submitted as a percentage complete for each scope task. The invoice report will include the information detailed in the scope of work under Task 1.
2. Based on the current COVID-19 pandemic situation, we propose to utilize virtual set up (using Teams, Zoom or similar platforms) for all meetings including the kick-off, bi-weekly, and other project team coordination meetings.



Task Order #4 under Agreement #18-089-9

February 22, 2021

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## Task 2 – Corridor Survey and Data Collection

1. The County will provide the following datasets at the beginning of the project.
  - AVL data for ART routes operating on the proposed corridors for October 2019 or another agreed-upon month. October 2019 is recommended as this is pre-pandemic and October is a typical month for transit ridership.
    - i. Data granularity: each record (row) representing a stop or timepoint on an individual trip operated on a single route pattern.
    - ii. Each record will contain, at a minimum, the following:
      1. Date
      2. Route
      3. Direction
      4. Scheduled Trip ID or Trip Start Time
      5. Timepoint or Stop ID
      6. Timepoint or Stop Name
      7. WMATA Stop ID (if a shared stop)
      8. Scheduled Arrival Time
      9. Actual Arrival Time
    - iii. FITP is already in possession of data at this granularity for October 2019 for WMATA routes. If a different month is selected, FITP will obtain new data from WMATA.
  - Ridership, passenger boarding/alighting, and APC data as available.
  - GIS layer of stops or timepoints to correspond with the AVL data. This layer will also have WMATA's stop id's for easy joining.
  - Signal timing plans and Synchro files for every signalized intersection along the study corridors.
  - GIS layer of signalized intersections along the study corridors.
  - Manual creation of the GIS layers above or extensive cleaning of any datasets may result in an extension of the project timeline.
2. We will conduct a detailed transit operations analysis to ensure that TSP is prioritized and deployed at intersections and along transit routes where the most benefit will be achieved.
  - Initial screening will be conducted to identify intersections with poor underlying conditions for TSP success, including those with nearside stops or those with close adjacent signalized intersections (i.e. less than 400 feet).
  - Traffic signal timings will be analyzed to determine the slack time available and rate the intersections by their TSP Potential.
  - Further prioritization of intersections will be based on bus data. While lateness in excess of five minutes is noted in the RFP, runtime variability will also be measured since lateness can be a factor of poor scheduling as opposed to intersection delay. Bus frequency at the intersection will also be considered. Ridership at the intersection in the form of bus person throughput can also be considered but would require APC data at the same granularity as the AVL data provided. **APC data processing would require a slight extension of the project timeline.** Given that the study corridors are all high ridership corridors, the inclusion of this metric likely would not have a significant impact on the prioritization.
  - Other considerations for prioritization will include conflicting pedestrian movements at intersections and how well proposed intersections meet the goal of reducing bus runtime up and down the entire corridor as a whole.
  - We will provide the county with a final list of prioritized intersection approaches for TSP implementation in spreadsheet and GIS form. The list will include the metrics used for prioritization



Task Order #4 under Agreement #18-089-9  
February 22, 2021  
Page 4 of 4

and an estimate for the anticipated decreases in travel time based on previous studies and the variability in runtimes observed.

- All the analysis, findings and recommendations will be documented in a technical memorandum.

Our proposed fee to provide the scope for Task 1 and Task 2 is **\$123,960.93**. We have enclosed our backup spreadsheets in pdf format for your review.

Sincerely,

A handwritten signature in black ink, appearing to read "Jose Bustamante". The signature is fluid and cursive.

Jose Bustamante, P. E.  
Vice President

cc: Lara Hegler (STV)  
Suresh Karre (STV)  
Pierre Holloman (Arlington County)  
Elizabeth Robin McElhenny (Arlington County)  
Tom Scherer (Arlington County)



## ESTIMATE OF PROFESSIONAL SERVICES SUMMARY PAGE

STV Proposal or Job Number: 0070551

Client Job Number: 18-089-9; Task 4

Project Description/Location: Transit Signal Priority Corridor Study


Client: Arlington County

Client Project Manager: TBD

Item	wksht	Hours	Budgeted Costs	Budgeted Effort	Other Dir. Costs	Subconsult.	Grand Total
Task 1: Project Management & Stakeholder Coordination	A	70	\$ 14,601.87	\$ 14,601.87	\$ -	\$ 685.56	\$ 15,287.43
Task 2: Corridor Survey and Data Collection	B	400	56,933.46	56,933.46	-	51,740.04	108,673.50
	C	0	-	-	-	-	-
	D	0	-	-	-	-	-
	E	0	-	-	-	-	-
	F	0	-	-	-	-	-
<b>GRAND TOTALS &gt;</b>		<b>470</b>	<b>\$ 71,535.33</b>	<b>\$ 71,535.33</b>	<b>\$ -</b>	<b>\$ 52,425.60</b>	<b>\$ 123,960.93</b>

NOTES:

STV AMOUNT =	\$ 71,535.33
STV PERCENTAGE =	57.71%
DBE AMOUNT =	\$52,425.60
DBE PERCENTAGE =	42.29%
SUBCONSULTANT AMOUNT =	\$ 52,425.60
SUBCONSULTANT PERCENTAGE =	42.29%
ESTIMATED CONSTRUCTION COST =	
DESIGN AS A PERCENT OF EST. CONSTRUCTION =	

*prepared by STV Incorporated*  
  
 Project Manager, STV Incorporated



# ESTIMATE OF PROFESSIONAL SERVICES

## Task 1: Project Management & Stakeholder Coordination

**STV Proposal or Job Number:** 0070551 **Client Job Number:** 18-089-9; Task 4  
**Project Description/Location:** Transit Signal Priority Corridor Study  
**Client:** Arlington County  
**Design Assumptions:** 60-day project schedule is assumed, contingent upon timely data receipt from County  
 All meetings are assumed to be virtual

**Prepared By/Date:** SKK 2/19/2021  
**Reviewed By/Date:** LEH 2/22/2021

### Manhours by Classification

Direct Labor Estimate:	Sr. PM	Sr. Eng.	Eng. 2	Arch.	Eng. 1	Jr. Eng.	Total
<b>Project Management</b>							-
General Project Management		4					4
Subconsultant Agreements		2					2
Kick-Off Meeting with County (1)	1	2	2				5
Attend Bi-weekly Coord Meetings w/ Cty/WMATA (up to 6)	6	6	6				18
1.2. Prepare Bi-weekly Meeting Agendas & Minutes (up to 6)		3	3				6
1.3. Prepare Monthly Invoice & Progress Report (3)	2	4				4	10
							-
<b>Project Administration</b>							-
Coordination w/ County Project Officer	2	2					4
Subconsultant Coordination		4	4				8
							-
							-
Project Closeout	1	2				2	5
							-
Project QA/QC	8						8
							-
							-
							-
							-
							-
							-
							-
							-
<b>Manhour Totals:</b>	20	29	15	0	0	6	<b>70</b>
<b>Hourly Payroll Rate:</b>	\$ 279.08	\$ 212.26	\$ 157.55	\$ 147.98	\$ 123.13	\$ 83.58	
<b>Budgeted Costs:</b>	\$5,582	\$6,156	\$2,363	\$0	\$0	\$501	

### Other Direct Costs (ODC) Estimate:

	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile	\$ 0.580	\$ -		
Air Fare, per airline ticket	600.00	-	<b>BUDGETED COSTS:</b>	\$ 14,601.87
Ground Transport, per vehicle-trip	14.00	-	<b>EFFORT MULTIPLIER:</b>	1.0000
Meals, per person per day	30.00	-	<b>BUDGETED EFFORT:</b>	\$ 14,601.87
Lodging, per room-night	200.00	-		
Third-Party Photocopies, per copy	0.15	-	<b>ODC:</b>	\$ -
Blackline or Blue-line Prints, per sheet	0.80	-	<b>ODC MULTIPLIER:</b>	1.00
Bond or Vellum Reproductions, per sheet	1.25	-	<b>BUDGETED ODC:</b>	\$ -
Mylar Sepias, per sheet	10.00	-		
Photographs, per roll (including development)	12.00	-		
Overnight Postage, per package	20.00	-		
Parking	14.00	-	<b>SUBCONSULTANTS:</b>	\$ 685.56
OTHER:	-	-	<b>SUB MULTIPLIER:</b>	1.00
			<b>BUDGETED SUBS:</b>	\$ 685.56
<b>SUBTOTAL ODC:</b>	<b>\$</b>	<b>-</b>		
<b>SUBCONSULTANTS:</b>				
		<b>ITEM COST</b>		
Foursquare ITP(See the attached backup for detail)		\$ 685.56	<b>TOTAL:</b>	\$ 15,287.43
NAME / DESCRIPTION		-		
<b>SUBTOTAL SUBS:</b>	<b>\$</b>	<b>685.56</b>		



### Foursquare ITP - Backup Estimate

## ESTIMATE OF PROFESSIONAL SERVICES

### Task 1: Project Management & Stakeholder Coordination

STV Proposal or Job Number: 0070551 18-089-9; Task 4  
 Project Description/Location: Transit Signal Priority Corridor Study  
 Client: Arlington County  
 Design Assumptions:

Prepared By/Date: AR 02/16/21  
 Reviewed By/Date: SK 02/19/21

#### Manhours by Classification

Direct Labor Estimate:	PIC	PM	Sr. Tran Pla III	Trans Pla II	Trans Pla I	Trans Analy	Total
<u>Project Management</u>							-
General Project Management							-
Subconsultant Agreements							-
Kick-Off Meeting with County (1)							-
Attend Bi-weekly Coord Meetings w/ Cty/Wmata (up to 6)							-
1.2. Prepare Bi-weekly Meeting Agendas & Minutes (up to 6)							-
1.3. Prepare Monthly Invoice & Progress Report (4)	2	1					3
							-
							-
<u>Project Administration</u>							
Coordination w/ County Project Officer							-
Subconsultant Coordination							-
Develop Microsoft Project Baseline Schedule (Draft and Final)							
Project Closeout							
Project QA/QC							
							-
							-
							-
							-
							-
							-
							-
							-
<b>Manhour Totals:</b>	2	1	0	0	0	0	3
<b>Hourly Payroll Rate:</b>	\$ 257.41	\$ 170.74	\$ 125.43	\$ 103.17	\$ 100.15	\$ 62.48	
<b>Budgeted Costs:</b>	\$515	\$171	\$0	\$0	\$0	\$0	

#### Other Direct Costs (ODC) Estimate:

	UNITS	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -		
Air Fare, per airline ticket		600.00	-	<b>BUDGETED COSTS:</b> \$	685.56
Ground Transport, per vehicle-trip		14.00	-	<b>EFFORT MULTIPLIER:</b>	1.0000
Meals, per person per day		30.00	-	<b>BUDGETED EFFORT:</b> \$	685.56
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-		
Blackline or Blue-line Prints, per sheet		0.80	-	<b>ODC:</b> \$	-
Bond or Vellum Reproductions, per sheet		1.25	-	<b>ODC MULTIPLIER:</b>	1.00
Mylar Sepias, per sheet		10.00	-	<b>BUDGETED ODC:</b> \$	-
Photographs, per roll (including development)		12.00	-		
Overnight Postage, per package		20.00	-		
Parking		14.00	-	<b>SUBCONSULTANTS:</b> \$	-
OTHER:		-	-	<b>SUB MULTIPLIER:</b>	1.00
				<b>BUDGETED SUBS:</b> \$	-
			<b>SUBTOTAL ODC:</b> \$		
<b>SUBCONSULTANTS:</b>					
			<b>ITEM COST</b>		
NAME / DESCRIPTION			\$ -		
NAME / DESCRIPTION			-	<b>TOTAL:</b> \$	685.56
			<b>SUBTOTAL SUBS:</b> \$		

## Foursquare ITP - Backup Estimate

### ESTIMATE OF PROFESSIONAL SERVICES

#### Task 2: Corridor Survey and Data Collection

STV Proposal or Job Number: 0070551 18-089-9; Task 4  
 Project Description/Location: Transit Signal Priority Corridor Study  
 Client: Arlington County  
 Design Assumptions:

Prepared By/Date: AR 02/16/21  
 Reviewed By/Date: SK 02/19/21

#### Manhours by Classification

Direct Labor Estimate:	PIC	PM	r. Tran Pla	Trans Pla II	Trans Pla I	ans Analy	Total
<b>Corridor Surveys and Data Collection</b>							-
<u>Geometric and Other Field Data</u>							-
Lee Highway - Full Length within Arlington County							-
Glebe Road - b/w I-66 and Walter Reed Drive							-
Washington Boulevard - b/w I-66 and Arlington Boulevard							-
Crystal City - Pentagon City Corridor - Crystal Drive - b/w 33rd Street S and 12th Street S							-
<u>Traffic Data and Signal Timings</u>							-
Lee Highway - Full Length within Arlington County							-
Glebe Road - b/w I-66 and Walter Reed Drive							-
Washington Boulevard - b/w I-66 and Arlington Boulevard							-
Crystal City - Pentagon City Corridor - Crystal Drive - b/w 33rd Street S and 12th Street S							-
<u>Transit Data (WMATA &amp; ART)</u>							-
Lee Highway - Full Length within Arlington County	1	14		34			49
Glebe Road - b/w I-66 and Walter Reed Drive	1	12		30			43
Washington Boulevard - b/w I-66 and Arlington Boulevard	1	14		32			47
Crystal City - Pentagon City Corridor - Crystal Drive - b/w 33rd Street S and 12th Street S	1	12		30			43
							-
<b>TSP Evaluation</b>							-
Lee Highway - Full Length within Arlington County	2	14		28			44
Glebe Road - b/w I-66 and Walter Reed Drive	2	12		26			40
Washington Boulevard - b/w I-66 and Arlington Boulevard	2	14		28			44
Crystal City - Pentagon City Corridor - Crystal Drive - b/w 33rd Street S and 12th Street S	2	12		26			40
							-
<b>Deliverables/Documentation</b>							-
Technical Memorandum (Draft 1)		4		8			12
QA/QC	2						2
Round 1 Comments/Response Coordiantion		2					2
Technical Memorandum (Draft 2)		4		8			12
QA/QC	2						2
Round 2 Comments/Response Coordiantion		2					2
Technical Memorandum (Final)		4		8			12
QA/QC	2						2
							-
							-
							-
							-
<b>Manhour Totals:</b>	18	120	0	258	0	0	396
<b>Hourly Payroll Rate:</b>	\$ 257.41	\$ 170.74	\$ 125.43	\$ 103.17	\$ 100.15	\$ 62.48	
<b>Budgeted Costs:</b>	\$4,633	\$20,489	\$0	\$26,618	\$0	\$0	

**Other Direct Costs (ODC) Estimate:**

	UNITS	UNIT COST	ITEM COST	<b>Summary</b>	
Travel (mileage), per vehicle-mile		\$ 0.580	\$ -		
Air Fare, per airline ticket		600.00	-	<b>BUDGETED COSTS:</b>	\$ 51,740.04
Ground Transport, per vehicle-trip		14.00	-	<b>EFFORT MULTIPLIER:</b>	1.0000
Meals, per person per day		30.00	-	<b>BUDGETED EFFORT:</b>	\$ 51,740.04
Lodging, per room-night		200.00	-		
Third-Party Photocopies, per copy		0.15	-	<b>ODC:</b>	\$ -
Blackline or Blueline Prints, per sheet		0.80	-	<b>ODC MULTIPLIER:</b>	1.00
Bond or Vellum Reproductions, per sheet		1.25	-	<b>BUDGETED ODC:</b>	\$ -
Mylar Sepias, per sheet		10.00	-		
Photographs, per roll (including development)		12.00	-		
Overnight Postage, per package		20.00	-	<b>SUBCONSULTANTS:</b>	\$ -
Parking		14.00	-	<b>SUB MULTIPLIER:</b>	1.00
OTHER:		-	-	<b>BUDGETED SUBS:</b>	\$ -
			<b>SUBTOTAL ODC:</b>		\$ -
<b>SUBCONSULTANTS:</b>					
			<b>ITEM COST</b>		
NAME / DESCRIPTION			\$ -		
NAME / DESCRIPTION			-	<b>TOTAL:</b>	\$ 51,740.04
			<b>SUBTOTAL SUBS:</b>		\$ -