HALFF

September 23, 2019

Collin County
4690 Community Ave., Suite 200
McKinney, TX 75071

RE: Traffic Modeling for Park Boulevard at Parker

Dear Mr. Jeff Durham:

Please see the attached proposal from ATG for providing TxDOT with necessary data and analysis to consider the optional alignment/geometry for Parker and Park intersection. TxDOT has reviewed the scope and has agreed in principal to the data collection and modeling methods proposed by ATG. We have reviewed the fees and think they are reasonable given that there could be substantial interaction with TxDOT. Halff recommends the County approve a supplemental to the current Park Boulevard design contract (#2019-055) for $51,230.00 resulting in a revised total contract amount of $1,751,230.00.

Given the significant County investment in the Park Boulevard extension project, it is critical to confirm the potential turning movements at the Park-Parker intersection and validate more precisely the NCTOG 2045 traffic projections for the Park Boulevard corridor.

Sincerely,

HALFF ASSOCIATES, INC.

Dennis Satre, PE
Vice President

HALFF ASSOCIATES, INC.
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July 30, 2019

Dennis D Satre, P.E.
Vice President
Halff Associates
3803 Parkwood Blvd., Suite 800
Frisco, Texas 75034

Dear Mr. Satre,

Thank you for the opportunity to submit ATG's proposal for providing professional traffic engineering services for the Park Blvd Extension Project. The proposal includes a detailed estimate including labor and direct expenses. The fee estimate is based on the following information:

Project Description

The Park Blvd Extension Project is a proposed four-lane divided arterial in St. Paul, Texas that extends from Parker Road to SH 78. The extension will complete the fourth leg of the intersection at Parker Road and Park Blvd. The extension creates an alternate route for roadway users to access SH 78 which may affect traffic patterns in the area. This traffic engineering study will evaluate the existing traffic patterns in the project area to determine how the extension will affect future traffic patterns. Future traffic will be developed using collected counts and origin-destination (OD) data, in addition to, previously forecasted volumes from the TxDOT Parker Road Expansion Project and the North Central Texas Council of Governments (NCTCOG) Travel Demand Model (TDM). ATG will then analyze operational impacts of the at the intersection of Parker Road and Park Blvd to support the development of the Park Blvd extension schematic.

Scope of Services

Task 1 – Support

This project will require support in addressing discrepancies between volumes submitted for TxDOT's Parker Road Expansion Project and forecast volumes from the North Central Texas Council of Governments (NCTCOG) Travel Demand Model (TDM). ATG will coordinate with the Client, TxDOT, and NCTCOG as needed. An Hourly – Not to exceed budget is included for coordination with NCTCOG to change and/or improve the NCTCOG TDM based off the OD study. In addition, any coordination pertaining to discrepancies between the developed volumes for this study and the previously submitted TxDOT project will be included under this task. Support provided under this task will be tracked and invoiced on an hourly basis in accordance with **Attachment B**.

Task 2 – Park Blvd Extension - Traffic Forecasting Memorandum

To evaluate discrepancies between volumes submitted for TxDOT's Parker Road Expansion Project and forecast volumes from the North Central Texas Council of Governments (NCTCOG) Travel Demand Model (TDM), ATG will conduct an OD study to document existing traffic patterns along Parker Road and Park Blvd. The results from the OD analysis will be used to verify the trip distribution reported by the NCTCOG travel demand model to facilitate forecasts of anticipated OD patterns in the forecast year.

Additionally, ATG will forecast design year volumes using a growth rate developed from available data sources including forecasted traffic volumes from the NCTCOG TDM and historical TxDOT traffic counts within the project area. The growth will be applied to previously collected turning movement counts at Park Blvd and Parker Road to grow the volumes from 2019 to 2050. Amendments and diversions will be made by applying considerations from collected origin-destination data proposed in **Attachment A**, the NCTCOG TDM, and engineering judgement. A final set of Future design year (2050) 24-hour and peak hour (AM and PM) traffic volumes will be submitted for the intersection of Parker Road and Park Blvd intersection for two (2) alternatives.

Deliverables:

- Traffic Forecasting Technical Memorandum, signed and sealed by a professional engineer licensed in the State of Texas, will be prepared documenting the results of the O-D study, including a detailed description of the methodology used to develop the traffic forecast volumes
- Existing (2019) and design year (2050) 24-hour and peak hour (AM and PM) traffic volume line diagrams

Task 3 – Park Blvd Extension - Alternatives Analysis Memorandum

The purpose of this analysis is to evaluate the proposed geometry and traffic operations at the intersection Parker Rd. at Park Blvd. In order to evaluate the two (2) build alternatives as defined by TxDOT's Park Blvd Extension study, a traffic operational analysis shall be performed during the design year (2050) AM and PM peak at the intersection of Parker Road and Park Blvd. The alternatives will be evaluated in Synchro 10 for approach Level-of-Service (LOS) and overall intersection delay based on the Highway Capacity Manual 6th Edition.

Deliverable:

- Alternatives Analysis Technical Memorandum, signed and sealed by a professional engineer licensed in the State of Texas, will be prepared documenting the results of the study, including recommendation(s) regarding the future study intersection configuration

Task 4 – Project Management

ATG will coordinate with the Client and TxDOT as needed. Project files will be maintained throughout all phases of the project including documentation of correspondence including meeting notes, telephone calls, emails, etc. Invoices and progress reports will be submitted on a monthly basis.

Deliverables:

- Meeting Minutes
- Project correspondence (as required)
- Progress Reports and Invoices

Basis of Estimate

The estimate is based on developing a Traffic Forecasting Memorandum for existing year (2019) and design year (2050) traffic volumes and an Alternatives Analysis Memorandum for the analysis of two (2) alternatives for the design year (2050). Prior to authorizing Task 3, the alternatives analysis, ATG will complete Task 2 by confirming traffic volumes included in the Traffic Forecasting Memo with TxDOT. Modifications to these volumes after acceptance from TxDOT will be deemed additional services and will require subsequent authorization from Client.

Additional Services will be provided on an hourly time and material basis in accordance with **Attachment B**.

Exclusions

This scope of services does not include the following:

- Revisions to the Traffic Forecasting Memorandum or Alternative Analysis Memorandum due to changes in land use plans and traffic patterns which were different than the original data provided
- Any addendums to the Traffic Forecasting Memorandum or Alternative Analysis Memorandum after final issuance
- Any additional intersection manual turning movement counts or volume counts that may be required by County or any other jurisdictional entities
- Any additional analysis required for additional counts collected
- Signal or stop warrant studies
- Public involvement or additional meetings beyond those specifically noted in this scope
- Design services beyond those specifically stated in this scope, including revisions to plans after final submittal and approval
- Reimbursable expenses associated with any additional services provided

These services, if required and upon agreement from the Client, will be performed as an additional service.

Data Collection Plan

The list of intersections to be collected has been established based on typical traffic engineering studies of this nature and is outlined in **Attachment A**. A final list of traffic data and locations will be determined during the scoping process.

Project Schedule

ATG will commence work on the project upon receipt of signed authorization from Client. The schedule for completing the draft Traffic Forecasting Memorandum is one (1) month from receipt of the NCTCOG Travel Demand Model and proposed turning movement counts. Client and TxDOT review times are beyond the control of ATG. ATG will respond to any comments from the Client and/or agency in a timely manner after receipt of said comments and prepare documents for re-submittal. Once the Traffic Forecasting Memorandum has been accepted and approved by TxDOT, the schedule to complete the Alternatives Analysis Memorandum is one (1) month.

Compensation

Summary of Cost

The summary of cost for providing services described is shown below. A detailed breakdown of the Fee can be found in **Attachment C**.

Task	Method of Compensation	Amount
Task 1 - Support	Hourly – Not to Exceed	$5,520.00
Task 2 – Traffic Forecast Memo	Lump Sum	$17,150.00
Task 3 – Alternative Analysis Memo	Lump Sum	$14,030.00
Task 4 – Project Administration	Lump Sum	$3,480.00
Direct Expenses	Lump Sum	$11,050.00
Total Lump Sum Cost	**Lump Sum**	**$45,710.00**
Total Estimated Cost	**Lump Sum + Hourly NTE**	**$51,230.00**

Data Collection Services

All data collection services are provided by an outside firm and will be invoiced upon completion. All invoices for data collection are **payable upon receipt**.

Traffic Forecasting Memorandum Submittal

Once the draft Traffic Forecasting Memorandum has been submitted for agency review, the project will be considered 50% complete and invoiced accordingly.

Alternatives Analysis Memorandum Submittal

Once the draft Alternatives Analysis Memorandum has been submitted for agency review, the project will be considered 90% complete and invoiced accordingly.

Final Submittal

Following TxDOT Agency review, ATG will finalize the Alternatives Analysis Memorandum and prepare a final invoice reflecting 100% of the lump sum fees. Upon receipt of final payment ATG will deliver the Alternatives Analysis Memo bearing the signature and seal of a licensed professional engineer.

In closing, we appreciate the opportunity to provide this proposal and are available at your convenience to answer any questions. Feel free to call me at any time at 512.821.2081.

Sincerely,

Alliance Transportation Group, Inc.

Gaby Tassin, P.E.

Assistant Director of Traffic Engineering

Attachments

Attachment A – Data Collection

Attachment B – Hourly Rate Schedule

Attachment C – Fee Schedule

Attachment A

Data Collection Plan

Daily Volume Counts

Conduct 24-hour volume counts at the following locations:

- N/A

Intersection Turning Movement Counts

Conduct two-hour AM (7-9) and PM (4-6) weekday (Tuesday, Wednesday, or Thursday) peak period vehicle turning movement counts at the following intersections:

- Ballard Ave and Brown Street
- Ballard Ave and SH 78
- Brown Street and SH 78

StreetLight Data

Request StreetLight Historical Data for the Project Area. O-D locations will be placed to capture travel patterns along Parker Road and Park Blvd Routes. In addition, up to 50 zones can be designated to further support local traffic patterns observed in the NCTCOG travel demand model.

Attachment B

Alliance Transportation Group

2019 Billing Rate Schedule

Classification	Hourly Rate
Principal	$ 280
Senior Manager/Director	$ 260
Project Engineer	$ 225
Senior Engineer	$ 205
Engineer	$ 165
Engineer-in-Training	$ 120
Engineering Technician	$ 90
Senior Planner	$ 220
Senior Modeler	$ 180
Modeler	$ 135
Planner	$ 120
Junior Planner	$ 95
Transportation Analyst	$ 70
Controller	$ 190
Senior Administrative Support	$ 190
Administrative Support	$ 105
Admin/Clerical	$ 75
Reimbursable	Cost + 12%
Mileage	$ 0.575 / mile

Note: Rates are effective through December 31, 2019

Alliance Transportation Group, Inc.

Task	Labor Category:	Principal	Senior Engineer	Engineer	Engineer in Training	Senior Modeler	Modeler	Admin/Clerical	Subtotal
2019 Billing Rate Schedule		$ 280.00	$ 260.00	$ 165.00	$ 120.00	$ 180.00	$ 135.00	$ 75.00	
Task 1: Support									
Coordnation with NCTCOG and TxDOT					16	20			**36**
Task 2: Traffic Forecast Memo									**0**
Inventory Existing Data Sources					8				**8**
Develope Existing Volumes (2019)					8				**8**
Review NCTCOG Model						8	24		**32**
Develope Growth Rate				2	2		16		**20**
Forecast Design Year Volumes (2050)				4	24		4		**32**
Document Forecasting Methdology				2	4		8		**14**
QA/QC		1	2	2		4			
Task 3: Alternative Analysis Memo									**0**
Synchro Analysis (2050) - Two Alternatives									**0**
Intersection Geometry				4	20				**24**
Counts/PHF				4	8				**12**
Signal Timing Optimization				4	20				**24**
Reporting Results				4	16				**20**
QA/QC		1	2	4	8				**15**
Client Comments				2	8				**10**
Task 4: Project Administration									
Project Management		2	2	4	2				**10**
Expenses				4	2			4	**10**
Invoicing								4	**4**
	Subtotal Hours:	**4**	**6**	**40**	**146**	**32**	**52**	**8**	
	Subtotal:	**$ 1,120.00**	**$ 1,560.00**	**$ 6,600.00**	**$ 17,520.00**	**$ 5,760.00**	**$ 7,020.00**	**$ 600.00**	

Total Labor,OH, Fee:	**$**	**40,180.00**
Count Collection	$	11,050.00
Travel Expenses	$	-
Reporting	$	-
TOTAL:	**$**	**51,230.00**