



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

September 30, 2020
AGENDA ITEM #6

Discuss and consider approving a contract with
Stantec Consulting Services, Inc. to perform
traffic and revenue engineering services

Strategic Plan Relevance: Regional Mobility
Department: Finance
Contact: Bill Chapman, Chief Financial Officer
Associated Costs: \$5,000,000 Not to Exceed
Funding Source: Various
Action Requested: Consider and act on draft resolution

Background -The Central Texas Regional Mobility Authority (the Authority) has a continuing need to monitor traffic and revenue (T&R) for its existing toll projects and for new projects. The studies the Authority receives as a result of T&R consulting services contain a variety of elements related to our toll facility's traffic and revenue including corridor travel demands, future growth characteristics, market capture and demand share. The Authority's Debt Indenture also requires T&R services. These services are used throughout the life of projects from planning, feasibility, financing, construction, and monitoring. The resulting studies vary in confidence levels from sketch level to investment grade. Investment grade studies are required for project financing.

Previous Actions/Brief History of the Project/Program - A Request for Qualifications to identify and obtain the services of a qualified engineering firm(s) to provide traffic and revenue engineering services was released on July 21, 2020. Three firms submitted responses to the RFQ. On August 26, 2020 the Board authorized the Executive Director to negotiate separate contracts for traffic and revenue engineering services with all qualified firms that submitted responses to the RFQ: C&M Associates, Inc., CDM Smith, and Stantec.

Staff Recommendation - Staff recommends approving a contract with Stantec for traffic and revenue engineering services for a term of 5 years with a not to exceed cumulative payment obligation of \$5,000,000.

Funding - Funding for the traffic and revenue consulting services will come from a variety of sources including the Operating Budget and Project Funding depending on the purpose of the T&R study.

Backup Provided: Draft Contract
 Draft Resolution

**GENERAL MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

RESOLUTION NO. 20-0XX

**APPROVING A CONTRACT WITH STANTEC CONSULTING SERVICES, INC. FOR
TRAFFIC AND REVENUE ENGINEERING SERVICES**

WHEREAS, the Central Texas Regional Mobility Authority (Mobility Authority) has an ongoing need for traffic and revenue engineering services on its existing toll projects and to develop new toll projects; and

WHEREAS, by Resolution No. 20-051, dated August 29, 2020, the Board of Directors awarded a contract to Stantec Consulting Services, Inc. (Stantec) for traffic and revenue engineering services and authorized the Executive Director to negotiate a contract with Stantec; and

WHEREAS, the Executive Director and Stantec have negotiated a proposed contract for traffic and revenue engineering services in an amount not to exceed \$5,000,000 which is attached hereto as Exhibit A and sets forth the scope of services, compensation and other terms; and

WHEREAS, the Executive Director recommends that the Board approve the contract with Stantec for traffic and revenue engineering services in the form or substantially the same form attached hereto as Exhibit A.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors hereby approves the contract with Stantec Consulting Services, Inc. for traffic and revenue engineering services; and

BE IT FURTHER RESOLVED that the Executive Director is hereby authorized to finalize and execute the contract with Stantec Consulting Services, Inc. on behalf of the Mobility Authority in the form or substantially the same form attached hereto as Exhibit A.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 30th day of September 2020.

Submitted and reviewed by:

Approved:

Geoffrey Petrov, General Counsel

Robert W. Jenkins, Jr.
Chairman, Board of Directors

Exhibit A

CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY
AGREEMENT FOR
TRAFFIC AND REVENUE ENGINEERING SERVICES

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**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY
AGREEMENT FOR
TRAFFIC AND REVENUE ENGINEERING SERVICES**

This Professional Services Agreement (the “Agreement”) is made and entered into by and between the Central Texas Regional Mobility Authority (the “Authority” or “CTRMA”), a regional mobility authority and a political subdivision of the State of Texas, and Stantec Consulting Services (the “Consultant”) to be effective as of the 15th day of September, 2020 (the “Effective Date”) with respect to traffic and revenue engineering services to be performed by the Consultant, as an independent contractor, for the CTRMA.

WITNESSETH:

WHEREAS, pursuant to that certain Request for Qualifications dated July 22, 2020 (the “RFQ”), the CTRMA sought to identify and obtain the services of qualified engineering firm(s) to provide traffic and revenue engineering services for the CTRMA; and WHEREAS, three (3) firms submitted responses setting forth their respective qualifications for the work; and

WHEREAS, on August 26, 2020 the CTMRA Board authorized the Executive Director to negotiate separate contracts for Traffic and Revenue engineering services with each of the three (3) qualified providers; and

WHEREAS, this Agreement has been negotiated and finalized between those parties whereby the services shall be provided by the Consultant to the Authority at a fair and reasonable price;

NOW, THEREFORE, in consideration of payments hereinafter stipulated to be made to the Consultant by the Authority, the parties do hereby agree as follows:

**ARTICLE 1
THE SERVICES**

The Authority agrees to and hereby retains the Consultant, as an independent contractor, and the Consultant agrees to provide services to the Authority upon the terms and conditions provided in this Agreement. The Authority is the sole and exclusive client of the Consultant for the purposes of this Agreement, and this Agreement is exclusively between the Authority and the Consultant. The scope of services (the “Services”), which is described in detail in Appendix A attached hereto and incorporated herein, shall include, but not be limited to, rate/revenue analysis, traffic modeling, technical assistance, problem resolution assistance, project management duties, and duties imposed on the Traffic Consultant by Authority trust agreements. As directed by the Authority by separate Work Authorization, the Consultant shall perform such Services in relation to all CTRMA turnpike projects and potential projects, which may include, but are not limited to (1) the 183-A Turnpike; (2) 290 East Toll; (3) SH 71 Toll; (4) SH 45 Southwest Toll (5) 183 South Toll; and (6) 183 North Toll; (7) MoPac Express; and (8) MoPac South Toll.

The Consultant, as part of the Services, also shall assist the Authority in achieving the goals established in the CTRMA’s Strategic Plan, as adopted pursuant to Texas Transportation Code § 370.261 and as it may be amended from time to time by the CTRMA Board of Directors. For specific aspects of the

Services, to the extent required by any trust agreement, the Consultant shall be expected to operate independently from the Authority and without extensive oversight and direction. The Consultant shall commit the personnel and resources reasonably required to respond promptly and fully to the responsibilities and tasks assigned by the CTRMA throughout the term of the Consultant's performance of the Services described in this Agreement.

By written notice or order, Authority may, from time to time, order work suspension and/or make changes in the general scope of this Agreement, including, but not limited to, the services furnished to Authority by Consultant as described in the Scope of Work contained in the Work Authorization. If any such work suspension or change causes an increase or decrease in the price of said Work Authorization, or in the time required for its performance, Consultant shall promptly notify Authority thereof and assert its claim for adjustment within ten (10) calendar days after the change or work suspension is ordered, and an equitable adjustment shall be negotiated.

ARTICLE 2

“TRAFFIC CONSULTANTS” UNDER TRUST AGREEMENTS

Without limiting the provision of Article 1 above, and subject to a Work Authorization and the Work Authorization requirements found in subsection 3.b. herein, the Consultant shall perform the obligations of the “Traffic Consultants” under the Authority's current Master Trust Indenture, as amended, and, as agreed by the Parties, all supplemental, superceding, or additional trust agreements (collectively the “Trust Agreements”). The Authority has covenanted in Section 714 of the current Trust Agreement that, until the bonds issued in accordance with that Trust Agreement and the interest thereon shall have been paid or provision for such payment shall have been made, it will employ the Traffic Consultants for the purpose of performing and carrying out the duties imposed on it by the Trust Agreement. Those duties are summarized in the Scope of Services and provide a general, but not comprehensive, listing of the types of obligations the Consultant will be requested to perform under the Trust Agreements.

ARTICLE 3

COMPENSATION

Authorization for Consultant to perform the Services, compensation for Consultant's work, and other aspects of the mutual obligations concerning Consultant's work and payment therefore are as follows:

- a) Notwithstanding any provisions of this Agreement to the contrary, AUTHORITY and CONSULTANT mutually agree that AUTHORITY's maximum cumulative payment obligation (including obligation for CONSULTANT's profit) shall be Five Million and No/100 Dollars (\$5,000,000.00) which shall include all amounts payable to CONSULTANT for its subcontracts, leases, materials and costs arising from, or due to termination of this Agreement.
- b) BASIS FOR COMPENSATION. Subject to the terms of a Work Authorization issued pursuant to subsection 3.c. below, the Authority agrees to pay, and the Consultant agrees to accept as full and sufficient compensation and reimbursement for the performance of all Services as set forth in this Agreement, hourly rates for the staff working on the assignment computed as follows:

$$\text{Direct Labor Cost} \times (1.0 + \text{FAR}) \times 1.10$$

where Direct Labor Cost equals salary divided by 2080; FAR equals Consultant's most recent audited overhead rate under 48 C.F.R. Part 31, Federal Acquisition Regulations (FAR 31); and 1.10 reflects a 10 percent (10%) profit. Representative rates computed through this methodology as of the Effective Date of this Agreement are reflected in Appendix B. Rates will be revised annually to reflect adjustments to the Direct Labor Costs and audited FAR rates; no adjustment shall be made to the specified profit percentage. The first adjustment shall be considered in January 2021. All adjustments shall be agreed to by the parties prior to implementation, and the Authority shall have the right to review and/or audit Consultant's Direct Labor Costs and FAR rates upon written request and as provided in subsection (f) hereto. During the term of this Agreement Consultant shall provide to the Authority, prior to requesting any adjustment to rates, a copy of the report establishing a new FAR rate for Consultant.

The payment of the hourly rates and allowed costs shall constitute full payment for all Services, liaisons, products, materials, and equipment required to deliver the Services.

- c) **COMPENSATION FOR WORK AUTHORIZATIONS.** The Services to be performed by the Consultant pursuant to this Agreement shall be assigned by the Executive Director or designee and documented in a manner appropriate for the size and complexity of the specific tasks. Each activity, task, or project shall be performed pursuant to a separate Work Authorization, signed by the Executive Director or designee and the Consultant. Work shall be in accordance with the scope, schedule, and budget set forth in said Work Authorization. The standard form of Work Authorization is attached hereto and incorporated herein as Appendix C, which standard form may be modified during the term of this Agreement upon the reasonable request of the Executive Director or designee and agreement of the Consultant. Upon written directive from the Executive Director or designee (which may occur via electronic mail), the Consultant shall prepare the Work Authorization for the specific task, to be submitted for the Executive Director or designee's approval. No work shall begin on the activity until the Work Authorization is approved and fully executed. The basis for payment on each Work Authorization will be either (i) lump sum or (ii) hourly rate as computed pursuant to subsection 3.b. above, as stipulated in the Work Authorization. In neither case will the maximum be exceeded without prior written approval from the Authority. The costs associated with work performed on any Work Authorization will be tracked and reported to the Authority separately from other work performed by the Consultant. The monthly invoice to the Authority will include a progress summary of the work performed the previous month on each ongoing Work Authorization.
- d) **EXPENSES.** As indicated above, the compensation computed in accordance with subsections 3.b. and 3.c. is anticipated by the Authority and the Consultant to be full and sufficient compensation and reimbursement for the Services. Notwithstanding the foregoing, the Consultant shall be entitled to reimbursement for reasonable out-of-pocket expenses actually incurred by the Consultant that are necessary for the performance of its duties under this Agreement, said expenses being limited to travel costs incurred in conformance with the Authority's travel policy, printing costs, automobile expenses being reimbursed at the federal mileage rates for travel originating from the office of the applicable Consultant employee or subconsultant, application fees, delivery charges, and

other expenses directly approved, in advance, by the Authority. Except for automobile expenses paid at the federal mileage rate and travel paid at state approved rates (if available), all such reimbursement shall be at one-hundred percent (100%) of the actual cost thereof paid by the Consultant to unaffiliated entities; provided, however, that all non-travel related amounts in excess of \$2,000 for which the Consultant intends to seek reimbursement pursuant to this subsection 3.d. must be approved in advance and in writing by the Authority, except when such advance approval is impractical due to a bona fide emergency situation. The Authority shall not reimburse the Consultant for travel, lodging, and similar expenses incurred by the Consultant to bring additional staff to its local office or to otherwise reassign personnel to provide basic engineering and technical support of the Consultant's performance of the Services. The Consultant shall take all reasonable steps to acquire all goods and services subject to reimbursement by the Authority under this Agreement on a tax-free basis pursuant to the Authority's tax-exempt status described in subsection 3.i.

- e) **NON-COMPENSABLE TIME.** Time spent by the Consultant's employees or subconsultants to perform Services or functions capable of being carried out by other, subordinate personnel with a lower hourly rate shall be billed at a rate equivalent to that of the applicable qualified subordinate personnel. Time spent by the Consultant's personnel or subconsultants in an administrative or supervisory capacity not related to the performance of the Services shall not be compensable. Time spent on work that is in excess of what would reasonably be considered appropriate for the performance of such Services shall not be compensable. No compensation shall be made for revisions to the Consultant's or subconsultants' Services or deliverables required due in any way to the error, omission, or fault of the Consultant, its employees, agents, subconsultants, or contractors.

- f) **INVOICES AND RECORDS.** The Consultant shall submit two (2) copies of its monthly invoices certifying the fees charged and expenses incurred in providing the Services under this Agreement during the previous month, and shall also present a reconciliation of monthly invoices and the Work Authorization (and related estimates) to which the work relates. Each invoice shall be in such detail as is required by the Authority and, if the work is eligible for payment through a financial assistance agreement with the Texas Department of Transportation ("TxDOT"), in such detail as required by TxDOT, including a breakdown of Services provided on a project-by-project basis and/or pursuant to specified Work Authorizations, together with other Services requested by the Authority. Upon request of the Authority, the Consultant shall also submit certified time and expense records and copies of invoices that support the invoiced fees and expense figures. All invoices must be consistent with the rates represented in Appendix B, and direct labor costs for employees performing work for the Authority but not shown on Appendix B must be provided with any invoice reflecting such work. Unless waived in writing by the Executive Director or his designee, no invoice may contain, and the Authority will not be required to pay, any charge which is more than three (3) months old at the time of invoicing. All books and records relating to the Consultant's or subconsultants' time, out-of-pocket expenses, materials, or other services or deliverables invoiced to the Authority under this Agreement shall be made available during the Consultant's normal business hours to the Authority and its representatives for review, copying, and auditing throughout the term of this Agreement

and, after completion of the work, for three (3) years, or such period as is required by Texas or Federal law, whichever is longer.

- g) **EFFECT OF PAYMENTS.** No payment by the Authority shall relieve the Consultant of its obligation to deliver timely the Services required under this Agreement. If after approving or paying for any Service, product or other deliverable, the Authority determines that said Service, product or deliverable does not satisfy the requirements of this Agreement, the Authority may reject same and, if the Consultant fails to correct or cure same within a reasonable period of time and at no additional cost to the Authority, the Consultant shall return any compensation received therefore. In addition to all other rights provided in this Agreement, the Authority shall have the right to set off any amounts owed by the Consultant pursuant to the terms of this Agreement upon providing the Consultant prior written notice thereof.
- h) **PLACE OF PAYMENT.** Payments owing under this Agreement will be made by the Authority within thirty (30) days after receipt of the monthly invoice therefore, together with suitable supporting information, provided that if the payment is one eligible for reimbursement to the Authority from TxDOT, payment will be made within fifteen (15) business days of receipt by the Authority of the TxDOT payment. In the event the Authority disputes payment, the Authority will pay the undisputed portion when due. Payment shall be forwarded to the address shown for the Consultant:

Stantec Consulting Services Inc.
13980 Collections Center Drive
Chicago, IL 60693

- i) **TAXES.** All payments to be made by the Authority to the Consultant pursuant to this Agreement are inclusive of federal, state, or other taxes, if any, however designated, levied, or based. The Authority acknowledges and represents that it is a tax-exempt entity under Sections 151.309, et seq., of the Texas Tax Code. Title to any consumable items purchased by the Consultant in performing this Agreement shall be deemed to have passed to the Authority at the time the Consultant takes possession or earlier, and such consumable items shall immediately be marked, labeled, or physically identified as the property of the Authority, to the extent practicable.
- j) **AS-NEEDED BASIS.** As provided for above, the Authority shall request that the Consultant perform specific Services on an as-needed basis and through the issuance of Work Authorizations. No representation or assurance has been made on behalf of the Authority to the Consultant as to the total compensation to be paid to the Consultant under this Agreement.
- k) **COMPENSATION OF SUBCONSULTANTS.** As noted in the Consultant's response to the RFQ, the Consultant will employ subconsultants providing Services under this Agreement. All subconsultants providing Services under this Agreement shall be subject to, and compensated or reimbursed in accordance with, all requirements of this Article 3, provided that each subconsultant shall utilize its own actual hourly rates (computed using

its own multiplier based on actual audited FAR rates or audited overhead rates if FAR rates are not available) provided that no such rates shall exceed the corresponding rates paid by the Consultant for its personnel of comparable grade, category and experience, and further provided that no Subconsultant's FAR rate or audited overhead rate may exceed that of the Consultant without the prior written consent of the Authority. The Consultant agrees to pay its subconsultants for satisfactory performance of their contracts no later than thirty (30) days from its receipt of payment from the CTRMA. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the CTRMA. This clause applies to payments to all subconsultants. Consultant is authorized to use those subconsultants identified in Appendix D attached hereto and incorporated herein, being those subconsultants identified in the response of Consultant to the RFQ. Additional subconsultants may only be utilized with the prior written consent of the Executive Director of the Authority.

- 1) **MOST FAVORED CUSTOMER.** The Consultant shall voluntarily and promptly disclose to the Authority, and immediately provide the Authority with, the benefits of any discounted hourly fees and rates offered by the Consultant to any public entity customer in the State of Texas for comparable traffic and revenue studies. The Consultant hereby represents to the Authority, as of the effective date of this Agreement and throughout the term thereof, that except as previously disclosed in writing it has and will have no contract or arrangement with any public entity customer in the State of Texas for comparable traffic and revenue studies that provides such customer with fees, or rates that are more favorable than those afforded the Authority under this Agreement. The Consultant shall make available to the Authority for review, copying, and auditing throughout the term of this Agreement and for three (3) years or such period as is required by Texas or Federal law, whichever is longer, after the expiration thereof all such books and records as shall be necessary for the Authority or its representatives to determine compliance with this provision.

ARTICLE 4 TIME OF PERFORMANCE

It is understood and agreed that the term of this Agreement shall be a maximum of five (5) years, commencing September 15, 2020, and concluding September 15, 2025, (the "Expiration Date") subject to the earlier termination of this Agreement pursuant to Articles 5 or 6 below or further extension upon agreement of both parties. The initial period of performance is three (3) years commencing on the Effective Date, and there shall be two (2) successive one (1) year renewal terms following the expiration of the initial three (3) year period. In addition to any termination rights set forth in this Agreement, either party may elect not to extend the term of one or both of the renewal years by providing sixty (60) days written notice to the other prior to the end of the initial term of the first renewal term. Absent such notice or termination pursuant to other provisions of this Agreement, the renewal terms will automatically take effect. If at any time during the contract term the Consultant cannot provide the requested Services within the time required by the CTRMA or for any other reason, the Authority reserves the unilateral right to procure the Services from any other source it deems capable of providing those Services.

ARTICLE 5
TERMINATION FOR DEFAULT

Time is of the essence with respect to the performance and completion of all the Services to be furnished by the Consultant pursuant to Work Authorizations issued and which specify an agreed-upon completion or delivery date. Without limiting the foregoing, the Consultant shall furnish all Services in such a manner and at such times as the development schedules of the Projects require so that no delay in the progression of the evaluation, funding, design, or construction of the Projects will be caused by or be in any way attributable to the Consultant. Should the Consultant at any time, in the reasonable opinion of the Authority, not carry out its obligations under this Agreement or not be progressing toward completion of the Services to be rendered hereunder in an expeditious manner, or if the Consultant shall fail in any manner to discharge any other of its obligations under this Agreement, the Authority may, upon providing the Consultant with thirty (30) days prior written notice pursuant to Article 5 hereof and opportunity to cure, terminate this Agreement effective on the date following said 30-day notice and cure period (the "Termination Date"). Such termination shall not constitute a waiver or release by the Authority of any claims for damages, claims for additional costs incurred by the Authority to complete and/or correct the work described in this Agreement, or any other claims or actions arising under this Agreement or available at law or equity which it may have against the Consultant for its failure to perform satisfactorily any obligation hereunder, nor shall such termination pursuant to this Article 5 or Article 6 below abrogate or in any way affect the indemnification obligations of the Consultant set forth in Article 17 hereof.

If the Authority shall terminate this Agreement as, provided either in this Article 5 or Article 6, no fees of any type, other than fees due and payable pursuant to Article 3 hereof for work performed and acceptable to the Authority, as of the Termination Date or Optional Termination Date, as applicable, shall thereafter be paid to the Consultant, and the Authority shall have a right to set off or otherwise recover any damages incurred by reason of the Consultant's breach hereof, together with the right to set off amounts owed to the Consultant pursuant to the indemnity provisions. In determining the amount of any payments owed to the Consultant, the value of the work performed by the Consultant prior to termination shall be no greater than the value that would result by compensating the Consultant in accordance with Article 3 hereof for all Services performed and expenses reimbursable in accordance with this Agreement.

ARTICLE 6
OPTIONAL TERMINATION

In addition to the process for termination described above, this Agreement may also be terminated as follows:

- a. **GENERALLY.** The Authority has the right to terminate this Agreement at its sole option, at any time with or without cause, by providing thirty (30) days written notice of such intention to terminate pursuant to this subsection 6.a. hereof and by stating in said notice the "Optional Termination Date". Upon such termination, the Authority shall enter into a settlement with the Consultant upon an equitable basis as determined by the Authority, which shall fix the value of the work performed by the Consultant prior to the Optional Termination Date. In determining the value of the work performed, the Authority in all events shall compensate the Consultant for any reasonable costs or expenses attributable to the exercise of the Authority's optional termination, including reasonable costs related to developing a transition plan and providing data as provided for in Article 7, provided, however, that no

consideration will be given to anticipated profit which the Consultant might possibly have made on the uncompleted portion of the Services.

- b. **NO FURTHER RIGHTS, ETC.** Termination of this Agreement and payment of an amount in settlement as described in this Article 6 shall extinguish all rights, duties, obligations, and liabilities of the Authority and the Consultant under this Agreement, and this Agreement shall be of no further force and effect, provided, however, such termination shall not act to release the Consultant from liability for any previous default either under this Agreement or under any standard of conduct set by common law or statute. Requirements that survive termination are outlined in Article 35.
- c. **NO FURTHER COMPENSATION.** If the Authority shall terminate this Agreement as provided in this Article 6, no fees of any type, other than fees due and payable as of the Optional Termination Date, shall thereafter be paid to the Consultant, provided that the Authority shall not waive any right to damages incurred by reason of the Consultant's breach thereof. The Consultant shall not receive any compensation for Services performed or expenses incurred by the Consultant after the Optional Termination Date, and any such Services performed or expenses incurred shall be at the sole risk and expense of the Consultant.

ARTICLE 7 TERMINATION, GENERALLY

The Authority's rights and options to terminate this Agreement, as provided in any provision of this Agreement, shall be in addition to, and not in lieu of, any and all rights, actions, options, and privileges otherwise available under law or equity to the Authority by virtue of this Agreement or otherwise. Failure of the Authority to exercise any of its said rights, actions, options, and privileges to terminate this Agreement as provided in any provision of this Agreement or otherwise shall not be deemed a waiver of any of said rights, actions, options, or privileges or of any rights, actions, options, or privileges otherwise available under law or equity with respect to any continuing or subsequent breaches of this Agreement or of any other standard of conduct set by common law or statute.

Upon request by the Executive Director of the Authority, and subject to Article 13 hereto, The Consultant shall develop a transition plan to be implemented upon termination of this Agreement with the Consultant for any reason or upon the release of any subconsultant so as to ensure a smooth, efficient, and uninterrupted transition to any successor Consultant or subconsultant. The plan shall anticipate the steps necessary to transfer documents, computerized data, plans, work tasks, etc. in possession of or to be provided by the Consultant or its subconsultant(s), as the case may be, and include a schedule of events necessary to complete the transition. The plan should include, but not be limited to, a list of original documents/data being held on behalf of the Authority by the Consultant or its subconsultants; the manner and form in which information is being held; accessibility to the information; the Consultant's records retention policy and/or plan; and strategy to minimize disruption of Services in the event of the release of a subconsultant. A copy of the plan shall be given to the Executive Director for review and approval within thirty (30) days of receipt of the Executive Director's request and shall be updated as necessary to reflect any changes in Consultant activity.

ARTICLE 8
SUSPENSION OR MODIFICATION OF SERVICES; DELAYS AND DAMAGES

In addition to the foregoing rights and options to terminate this Agreement, the Authority may elect to suspend any portion of the Services of the Consultant hereunder, but not terminate this Agreement, by providing the Consultant with prior written notice to that effect. Thereafter, the suspended Services may be reinstated and resumed in full force and effect upon receipt from the Authority of thirty (30) days prior written notice requesting same. Similarly, the Authority may expand, limit, or cancel any portion of the Services previously assigned to the Consultant in accordance with this Agreement. The Consultant shall not be entitled to any damages or other compensation of any form in the event that the Authority exercises its rights to suspend or modify the Services pursuant to this Article 8, provided, however, that any time limits established by the parties in any Work Authorization or otherwise for the completion of specific portions of the Services suspended pursuant to this Article 8 shall be extended to allow for said suspension or modifications thereof. Without limiting the foregoing, the Consultant agrees that no claims for damages or other compensation shall be made by the Consultant for any delays or hindrances occurring during the progress of any portion of the Services specified in this Agreement as a result of any suspension or modification of the Services or otherwise. Such delays or hindrances, if any, shall be provided for by an extension of time for such reasonable periods as the Authority may decide. It is acknowledged, however, that permitting the Consultant to proceed to complete any Services or any part of them after the originally specified date for completion, or after the date to which the time for completion may have been extended, shall in no way operate as a waiver on the part of the Authority or any of its rights herein.

ARTICLE 9
PERSONNEL, EQUIPMENT AND MATERIAL, GENERALLY

Consultant shall provide personnel and equipment as follows:

- a. **ADEQUATE PERSONNEL, ETC.** The Consultant shall furnish and maintain, at its own expense, adequate and sufficient personnel (drawn from its own employees or from approved subconsultants) and equipment, in the reasonable opinion of the Authority, to perform the Services with due and reasonable diligence customary of an engineering firm enjoying a favorable national reputation, and in all events without delays attributable to the Consultant which have a reasonable likelihood of adversely affecting the progress of others involved with one or more of the Projects or the progress of the feasibility evaluation, design or construction of any such Project. All persons, whether employees of the Consultant or of an approved subconsultant, providing the Services shall be fully licensed to the extent required by their professional discipline associations' codes or otherwise by law.
- b. **REMOVAL OF PERSONNEL.** All persons providing the Services, whether employees of the Consultant or of an approved subconsultant, shall have such knowledge and experience as will enable them, in the Consultant's reasonable belief, to perform the duties assigned to them. Any such person who, in the opinion of the Authority, is incompetent or by his/her conduct becomes detrimental to the provision of the Services shall, upon request of the Authority, immediately be removed from the Services. The Consultant shall furnish the Authority with a fully qualified candidate for the removed person within ten (10) days thereafter, provided, however, said candidate shall not begin work under this Agreement unless and until approved by the Authority.

- c. CONSULTANT FURNISHES EQUIPMENT, ETC. Except as otherwise specified or agreed to by the CTRMA, the Consultant shall furnish all equipment, transportation, supplies, and materials required for its Services under this Agreement.

ARTICLE 10 KEY PERSONNEL

The Consultant acknowledges and agrees that the individual(s) identified on Appendix E attached hereto and incorporated herein are key and integral to the satisfactory performance of the Consultant under this Agreement. Throughout the term of this agreement, the Consultant agrees that the identified individual(s), whether employee(s) of the Consultant or of an approved subconsultant, will remain in charge of the performance of the Services and shall devote substantial and sufficient time and attention thereto. The death or disability of any such individual, his/her disassociation from the Consultant or the approved subconsultant, or his/her failure or inability to devote sufficient time and attention to the Services shall require the Consultant promptly to replace said individual with a person suitably qualified and otherwise acceptable to the Authority. In no event shall the Consultant remove, transfer, or reassign any individual identified on Appendix E except as instructed by, or with the prior written consent of, the Authority, which consent shall not be reasonably withheld. The Consultant shall use its best efforts to enhance continuity in the key personnel, subconsultants, and other employees regularly performing the Services. Individuals may be added to Appendix E with the mutual consent of the Consultant and the Authority.

ARTICLE 11 BUSINESS OPPORTUNITY PROGRAM AND POLICY COMPLIANCE

It is the policy of the Authority's Board of Directors that disadvantaged and small business have the maximum practicable opportunity to participate in the awarding of Authority contracts and related subcontracts. To do so the Authority has developed a Business Opportunity Program and Policy ("BOPP"), which is incorporated herein by reference for all purposes. The Authority requires contractors to comply with the BOPP. The Consultant acknowledges that certain Services to be performed under this Agreement are subcontractable and will be subcontracted in accordance with the BOPP and as represented in Consultant's proposal in response to the RFQ. Consultant agrees to submit monthly subcontracting reports as part of its monthly invoices.

ARTICLE 12 PLANNING AND PERFORMANCE REVIEWS; INSPECTIONS

As directed by the Authority, key personnel shall meet with the Authority's Executive Director and/or his designee(s) upon request (a) to assess the Consultant's progress under this Agreement and performance of the Services; and (b) to plan staffing levels to be provided by the Consultant to the Authority for the upcoming calendar year. The Consultant shall permit inspections of its Services and work by the Authority or others, when requested by the Authority. Nothing contained in this Agreement shall prevent the Authority from scheduling such other planning and performance reviews with the Consultant or inspections as the Authority determines necessary.

ARTICLE 13
OWNERSHIP OF REPORTS

Ownership of reports and related materials prepared by Consultant (or any subconsultant) at the direction of the Authority shall be as follows:

- a. **GENERALLY.** All of the documents, reports, plans, surveys, estimates, computer records, discs and tapes, proposals, sketches, diagrams, charts, calculations, correspondence, memoranda, survey notes, opinions, maps, photographs, drawings, data, analyses and other data and materials, and any part thereof, created, compiled or to be compiled by or on behalf of the Consultant solely under this Agreement (“work product”), including all information prepared for or posted on the Authority’s website and together with all materials and data furnished to it by the Authority, shall at all times be and remain the property of the Authority and, for a period of three (3) years from completion of the Services or such period as is required by law, whichever is longer, if at any time demand be made by the Authority for any of the above materials, records, and documents, whether after termination of this Agreement or otherwise, such shall be turned over to the Authority without delay. The Authority hereby grants the Consultant a revocable license to retain and utilize the foregoing materials, said license to terminate and expire upon the earlier to occur of (a) the completion of Services described in this Agreement or (b) the termination of this Agreement, at which time the Consultant shall deliver to the Authority all such materials and documents. If the Consultant or a subconsultant desires later to use any of the data generated or obtained by it in connection with the Projects or any other portion of the work product resulting from the Services, it shall secure the prior written approval of the Authority. Notwithstanding anything contained herein to the contrary, the Consultant shall have the right to retain a copy of the above materials, records, and documents for its archives.
- b. **SEPARATE ASSIGNMENT.** If for any reason the agreement of the Authority and the Consultant set forth in subsection 13.a. above regarding the ownership of work product and other materials is determined to be unenforceable, either in whole or in part, the Consultant hereby assigns and agrees to assign to the Authority all right, title, and interest that Consultant may have or at any time acquire in said work product and other materials which are prepared solely for this Agreement, without royalty, fee or other consideration of any sort, and without regard to whether this Agreement has terminated or remains in force. The Authority hereby acknowledges, however, that all documents and other work product provided by the Consultant to the Authority and resulting from the Services performed under this Agreement are intended by the Consultant solely for the use for which they were originally prepared. Notwithstanding anything contained herein to the contrary, the Consultant shall have no liability for the use by the Authority of any work product generated by the Consultant under this Agreement on any project other than for the specific purpose and Project for which the work product was prepared. Any other reuse of such work product without the prior written consent of the Consultant shall be at the sole risk of the Authority.
- c. **USE OF CONSULTANT WORK PRODUCT.** Except for final versions of reports which are prepared in connection with project financings, the Authority will provide Consultant written advance notice prior to releasing Consultant’s work product to any third party. Upon

receipt of notice, Consultant will have a reasonable amount of time to review such disclosure and provide the Authority written notice of the completion of review prior to release.

The Authority acknowledges that the Consultant's work product will be developed using data that is available at the time of the execution of a given work order, and will not constitute any guarantee or other assurance of future events. The Consultant will prepare work product using practices that are standard procedures in the industry.

ARTICLE 14 SUBLETTING

The Consultant shall not sublet, assign, or transfer any part of the work or obligations included in this Agreement without the prior written approval of the Authority, which approval shall not be reasonably withheld. Responsibility for sublet, assigned or transferred work shall remain with the Consultant.

ARTICLE 15 APPEARANCE AS WITNESS AND ATTENDANCE AT MEETINGS

Consultant shall cooperate with the Authority and requests for attendance at meetings and in various types of proceedings as follows:

- a. **WITNESS.** If requested by the Authority or on its behalf, the Consultant shall prepare such traffic engineering, feasibility, or other exhibits as may be requested for all hearings and trials related to any of the Projects, the Services, or the Authority's activities generally and, further, it shall prepare for and appear at conferences at the offices of legal counsel and shall furnish competent expert engineering witnesses to provide such oral testimony and to introduce such demonstrative evidence as may be needed throughout all trials and hearings with reference to any litigation relating to the Projects, the Services, or the Authority's activities.
- b. **MEETINGS.** At the request of the Authority, the Consultant shall provide appropriate personnel for conferences at its offices, or attend meetings and conferences at (a) the various offices of the Authority, (b) at the district headquarters or offices of TxDOT, (c) the offices of the Authority's legal counsel, bond counsel, and/or financial advisors, (d) at the site of any Project, or (e) any reasonably convenient location. Without limiting the foregoing, the Consultant shall provide personnel for periodic meetings with underwriters, rating agencies, and other parties when requested by the Authority.
- c. **WORK AUTHORIZATION.** In the event that services under this section are not covered by an existing Work Authorization, the Authority will issue a Work Authorization, pursuant to Article 3 hereto, to cover such services.

ARTICLE 16 COMPLIANCE WITH LAWS AND AUTHORITY POLICIES

The Consultant shall comply with all applicable federal, state, and local laws, statutes, ordinances, rules, regulations, codes and with the orders and decrees of any courts or administrative bodies or tribunals

in any matter affecting the performance under this Agreement, including, without limitation, workers' compensation laws, antidiscrimination laws, environmental laws, minimum and maximum salary and wage statutes and regulations, health and safety codes, licensing laws and regulations, the Authority's enabling legislation (Chapter 370 of the Texas Transportation Code), and all amendments and modifications to any of the foregoing, if any. The Consultant shall also comply with the Authority's policies and procedures related to operational and administrative matters, such as, but not limited to, security of and access to CTRMA information and facilities. When requested the Consultant shall furnish the Authority with satisfactory proof of compliance with said laws, statutes, ordinances, rules, regulations, codes, orders, and decrees above specified.

ARTICLE 17 AUTHORITY INDEMNIFIED

THE CONSULTANT SHALL INDEMNIFY AND SAVE HARMLESS THE AUTHORITY AND ITS OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS (WHICH, FOR PURPOSES OF THIS AGREEMENT, SHALL INCLUDE THE AUTHORITY'S GENERAL COUNSEL, BOND COUNSEL, AND FINANCIAL ADVISOR (S)), FROM ANY CLAIMS, COSTS OR LIABILITIES OF ANY TYPE OR NATURE AND BY OR TO ANY PERSONS WHOMSOEVER, ARISING FROM THE CONSULTANT'S NEGLIGENT ACTS, ERRORS OR OMISSIONS WITH RESPECT TO THE CONSULTANT'S PERFORMANCE OF THE WORK TO BE ACCOMPLISHED UNDER THIS AGREEMENT, WHETHER SUCH CLAIM OR LIABILITY IS BASED IN CONTRACT, TORT OR STRICT LIABILITY. IN SUCH EVENT, THE CONSULTANT SHALL ALSO INDEMNIFY AND SAVE HARMLESS THE AUTHORITY, ITS OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS (WHICH, FOR PURPOSES OF THIS AGREEMENT, SHALL INCLUDE THE AUTHORITY'S GENERAL COUNSEL, BOND COUNSEL, AND FINANCIAL ADVISOR (S)) FROM ANY AND ALL EXPENSES, INCLUDING REASONABLE ATTORNEYS' FEES, INCURRED BY THE INDEMNIFIED ENTITY (S) IN LITIGATING OR OTHERWISE RESISTING SAID CLAIMS, COSTS OR LIABILITIES. IN THE EVENT THE AUTHORITY, ITS OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS (WHICH, FOR PURPOSES OF THIS AGREEMENT, SHALL INCLUDE THE AUTHORITY'S GENERAL COUNSEL, BOND COUNSEL, AND FINANCIAL ADVISOR (S)) IS/ARE FOUND TO BE PARTIALLY AT FAULT, THE CONSULTANT SHALL, NEVERTHELESS, INDEMNIFY THE INDEMNIFIED ENTITY (S) FROM AND AGAINST THE PERCENTAGE OF NEGLIGENCE ATTRIBUTABLE TO THE CONSULTANT, ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, SUBCONSULTANTS, AND CONTRACTORS OR TO THEIR CONDUCT.

NOTWITHSTANDING THE FOREGOING, THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR (A) CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PROJECT UNLESS DEVELOPMENT OR OVERSIGHT OF SUCH MATTERS IS SPECIFICALLY ASSIGNED TO THE CONSULTANT; (B) THE FAILURE OF ANY CONTRACTOR, SUBCONTRACTOR, VENDOR, OR OTHER PROJECT PARTICIPANT, NOT UNDER CONTRACT TO THE CONSULTANT, TO FULFILL CONTRACTUAL RESPONSIBILITIES TO THE AUTHORITY OR TO COMPLY WITH FEDERAL, STATE OR LOCAL LAWS, REGULATIONS AND CODES; OR (C) PROCURING PERMITS, CERTIFICATES AND LICENSES REQUIRED FOR ANY CONSTRUCTION UNLESS SUCH PROCUREMENT RESPONSIBILITIES ARE SPECIFICALLY ASSIGNED TO THE CONSULTANT IN ACCORDANCE WITH THIS AGREEMENT.

**ARTICLE 18
CONFLICTS OF INTEREST**

The Consultant represents and warrants to the Authority, as of the effective date of this Agreement and throughout the term hereof, that it, its employees and subconsultants (a) have no financial or other beneficial interest in any contractor, engineer, product or service evaluated or recommended by the Consultant, except as expressly disclosed in writing to the Authority, (b) shall discharge their consulting engineering responsibilities under this Agreement professionally, impartially and independently, and after considering all relevant information related thereto, and (c) are under no contractual or other restriction or obligation, the compliance with which is inconsistent with the execution of this Agreement or the performance of their respective obligations hereunder. In the event that a firm (individually or as a member of a consortium) submits a proposal to work for the Authority, Consultant shall comply with the Authority's conflict of interest policies and shall make disclosures as if it were one of the key personnel designated under such policies.

**ARTICLE 19
INSURANCE**

Prior to beginning the Services designated in this Agreement, the Consultant shall obtain and furnish certificates to the Authority for the following minimum amounts of insurance:

- a. **WORKERS' COMPENSATION INSURANCE.** In accordance with the laws of the State of Texas, and employer's liability coverage with a limit of not less than \$500,000. A "Waiver of Subrogation" in favor of the Authority shall be provided.
- b. **COMMERCIAL GENERAL LIABILITY INSURANCE.** With limits not less than \$1,000,000 for bodily injury, including those resulting in death, and property damage on account of any one occurrence, with an aggregate limit of \$1,000,000. A "Waiver of Subrogation" in favor of the Authority shall be provided.
- c. **BUSINESS AUTOMOBILE LIABILITY INSURANCE.** Applying to owned, non-owned, and hired automobiles in an amount not less than \$1,000,000 for bodily injury, including death, to any one person, and for property damage on account of any one occurrence. This policy shall not contain any limitation with respect to a radius of operation for any vehicle covered and shall not exclude from the coverage of the policy any vehicle to be used in connection with the performance of the Consultant's obligations under this Agreement. A "Waiver of Subrogation" in favor of the Authority shall be provided.
- d. **ARCHITECTS AND/OR ENGINEERS PROFESSIONAL LIABILITY INSURANCE.** In the amounts normally carried for its own protection in the practice of providing general consulting services, but in no event less than \$3,000,000 per claim and aggregate. Coverage must be continuously maintained for a period of three (3) years beyond the Consultant's completion of the Services.
- e. **EXCESS UMBRELLA LIABILITY.** With minimum limits of \$1,000,000 per claim and in the aggregate, annually, as applicable excess of the underlying policies required at a.-d.

above. The Umbrella Policy shall contain the provision that it will continue in force as an underlying insurance in the event of exhaustion of underlying aggregate policy limits.

- f. **GENERAL FOR ALL INSURANCE.** The Consultant shall promptly, upon execution of this Agreement, furnish certificates of insurance to the Authority indicating compliance with the above requirements. Certificates shall indicate the name of the insured, the name of the insurance company, the name of the agency/agent, the policy number, the term of coverage, and the limits of coverage.

All policies are to be written through companies (a) registered to do business in the State of Texas; (b) rated: (i), with respect to the companies providing the insurance under subsections 19.a. through d., above, by A. M. Best Company as “A-X” or better (or the equivalent rating by another nationally recognized rating service) and (ii) with respect to the company providing the insurance under subsections 19.d. and e., a rating by A. M. Best Company or similar rating service satisfactory to the Authority and/or its insurance consultant; and (c) otherwise acceptable to the Authority.

All policies are to be written through companies registered to do business in the State of Texas. Such insurance shall be maintained in full force and effect during the life of this Agreement or for a longer term as may be otherwise provided for hereunder. Insurance furnished under subsections 19.b., and c., above, shall name the Authority additional insureds and shall protect the Authority, the Consultant, their officers, employees, directors, agents, and representatives from claims for damages for bodily injury and death and for damages to property arising in any manner from the negligent or willful wrongful acts or failures to act by the Consultant, its officers, employees, directors, agents, and representatives in the performance of the Services rendered under this Agreement. Applicable Certificates shall also indicate that the contractual liability assumed in Article 17, above, is included.

The insurance carrier shall include in each of the insurance policies required under subsections 19.a., b., c., d., and e., the following statement: “This policy will not be canceled or non-renewed during the period of coverage without at least thirty (30) days prior written notice addressed to the Central Texas Regional Mobility Authority, 301 Congress, Suite 650, Austin, TX 78701, Attention: Executive Director.”

ARTICLE 20 COORDINATION OF CONTRACT DOCUMENTS

The Statement of Qualifications for Traffic and Revenue Engineering Services and Appendices thereto, dated August 17, 2020, submitted by Stantec to the Authority (“Statement of Qualification”) is attached hereto and incorporated herein as Appendix F for all purposes, provided, however, that in the event of any conflict between said Statement of Qualifications and any other provision of, appendices or exhibits to this Agreement, the Statement of Qualifications shall be subordinate and the provision, appendices, or exhibits of this Agreement shall control.

ARTICLE 21
RELATIONSHIP BETWEEN THE PARTIES

Notwithstanding the anticipated collaboration between the parties hereto, or any other circumstances, the relationship between the Authority and the Consultant shall be one of an independent contractor. The Consultant acknowledges and agrees that neither it nor any of its employees, subconsultants, or subcontractors shall be considered an employee of the Authority for any purpose. The Consultant shall have no authority to enter into any contract binding upon the Authority, or to create any obligation on behalf of the Authority. As an independent contractor, neither the Consultant nor its employees shall be entitled to any insurance, pension, or other benefits customarily afforded to employees of the Authority. Under no circumstances shall the Consultant, or its employees, subconsultants, or subcontractors, represent to suppliers, contractors or any other parties that it is employed by the Authority or serves the Authority in any capacity other than as an independent contractor. The Consultant shall clearly inform all suppliers, contractors and others that it has no authority to bind the Authority. Nothing contained in this Agreement shall be deemed or construed to create a partnership or joint venture, to create the relationship of employee-employer or principal-agent, or to otherwise create any liability for the Authority whatsoever with respect to the liabilities, obligations or acts of the Consultant, its employees, subconsultants, or subcontractors, or any other person.

ARTICLE 22
DELIVERY OF NOTICES, ETC.

In each instance under this Agreement in which one party is required or permitted to give notice to the other, such notice shall be deemed given either (a) when delivered by hand; (b) one (1) business day after being deposited with a reputable overnight air courier service; or (c) three (3) business days after being mailed by United States mail, registered or certified mail, return receipt requested, and postage prepaid. Any notices provided under this Agreement must be sent or delivered to:

In the case of the Consultant:

Stantec Consulting Services Inc.
475 Fifth Avenue

12th Floor
New York, NY 10017
Attn: Rick Gobeille, Senior Principal

In the case of the CTRMA:

Central Texas Regional Mobility Authority
3300 N. IH 35
Suite 300
Austin, TX 78705

Attn: Mike Heiligenstein, Executive Director

Either party hereto may from time to time change its address for notification purposes by giving the other party prior written notice of the new address and the date upon which it will become effective.

ARTICLE 23
REPORTS OF ACCIDENTS, ETC.

Within twenty-four (24) hours after occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (including an employee or subconsultant or employee of a subconsultant of the Consultant) which results from or involves any action or failure to act of the Consultant or any employee, subconsultant, employee of a subconsultant, or agent of the Consultant or which arises in any manner from the performance of this Agreement, the Consultant shall send a written report of such accident or other event to the Authority, setting forth a full and concise statement of the facts pertaining thereto. The Consultant also shall immediately send the Authority a copy of any summons, subpoena, notice, or other documents served upon the Consultant, its agents, employees, subconsultants, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Consultant's performance of the Services under this Agreement.

ARTICLE 24
AUTHORITY'S ACTS

Anything to be done under this Agreement by the Authority may be done by such persons, corporations, firms, or other entities as the Authority may designate.

ARTICLE 25
LIMITATIONS

Notwithstanding anything herein to the contrary, all covenants and obligations of the Authority under this Agreement shall be deemed to be valid covenants and obligations only to the extent authorized by Chapter 370 of the Texas Transportation Code and permitted by the laws and the Constitution of the State of Texas, and no officer, director, or employee of the Authority shall have any personal obligations or liability thereunder.

The Consultant is obligated to comply with applicable standards of professional care in the performance of the Services. The Consultant makes no other representation or warranty, whether express or implied, and no warranty or guarantee is included or intended in this Agreement or in any "work product" or otherwise.

The Consultant shall be entitled to rely, without requirement of further investigation, on all information supplied to the Consultant by the Authority, together with any other materials, such as prior reports or analyses prepared by or on behalf of or for the benefit of Authority.

Neither Authority nor the Consultant shall in any event be liable for any consequential, incidental, indirect, punitive, exemplary or special damages including, without limitation; loss of profits, business or goodwill of any kind from any causes of action (whether arising in contract, tort or otherwise) unless caused by their willful misconduct, negligent act or omission, or other wrongful conduct. Each party to this Agreement is obligated to take commercially reasonable steps to mitigate any damages that it may incur. Nothing herein shall constitute a waiver of any other defenses that either party may have at law or in equity.

ARTICLE 26
CAPTIONS NOT A PART HEREOF

The captions or subtitles of the several articles, subsections, and divisions of this Agreement are inserted only as a matter of convenience and for reference, and in no way define, limit or describe the scope of this Agreement or the scope or content of any of its articles, subsections, divisions, or other provisions.

ARTICLE 27
CONTROLLING LAW, VENUE

This Agreement shall be governed and construed in accordance with the laws of the State of Texas. The parties hereto acknowledge that venue is proper in Travis County, Texas, for all disputes arising hereunder and waive the right to sue and be sued elsewhere.

ARTICLE 28
COMPLETE AGREEMENT

This Agreement sets forth the complete agreement between the parties with respect to the Services and, except as provided for in Article 20 above, expressly supersedes all other agreements (oral or written) with respect thereto. Any changes in the character, agreement, terms and/or responsibilities of the parties hereto must be enacted through a written amendment. No amendment to this Agreement shall be of any effect unless in writing and executed by the Authority and the Consultant. This Agreement may not be orally canceled, changed, modified or amended, and no cancellation, change, modification or amendment shall be effective or binding, unless in writing and signed by the parties to this Agreement. This provision cannot be waived orally by either party.

ARTICLE 29
TIME OF ESSENCE

As set forth in Article 5, with respect to any specific delivery or performance date or other deadline provided hereunder, time is of the essence in the performance of the provisions of this Agreement. The Consultant acknowledges the importance to the Authority of the project schedule and will perform its obligations under this Agreement with all due and reasonable care and in compliance with that schedule.

ARTICLE 30
SEVERABILITY

If any provision of this Agreement, or the application thereof to any person or circumstance, is rendered or declared illegal for any reason and shall be invalid or unenforceable, the remainder of this Agreement and the application of such provision to other persons or circumstances shall not be affected thereby but shall be enforced to the greatest extent permitted by applicable law.

ARTICLE 31
AUTHORIZATION

Each party to this Agreement represents to the other that it is fully authorized to enter into this Agreement and to perform its obligations hereunder, and that no waiver, consent, approval, or authorization

from any third party is required to be obtained or made in connection with the execution, delivery, or performance of this Agreement.

**ARTICLE 32
SUCCESSORS**

This Agreement shall be binding upon and inure to the benefit of the Authority, the Consultant, and their respective heirs, executors, administrators, successors, and permitted assigns.

**ARTICLE 33
INTERPRETATION**

No provision of this Agreement shall be construed against or interpreted to the disadvantage of any party by any court, other governmental or judicial authority, or arbiter by reason of such party having or being deemed to have drafted, prepared, structured, or dictated such provision.

**ARTICLE 34
BENEFITS INURED**

This Agreement is solely for the benefit of the parties hereto and their permitted successors and assigns. Nothing contained in this Agreement is intended to, nor shall be deemed or construed to, create or confer any rights, remedies, or causes of action in or to any other persons or entities, including the public in general.

**ARTICLE 35
SURVIVAL**

The parties hereby agree that each of the provisions in the Agreement are important and material and significantly affect the successful conduct of the business of the Authority, as well as its reputation and goodwill. Any breach of the terms of this Agreement, including but not limited to the provisions of Articles 13 and 18, is a material breach of this Agreement, from which the Consultant may be enjoined and for which the Consultant also shall pay to the Authority all damages which arise from said breach. The Consultant understands and acknowledges that the Consultant's responsibilities under Articles 13, 17, 18, and all other obligations of this Agreement related to maintaining records outlined in Article 3 shall continue in full force and effect after the Consultant's contractual relationship with the Authority ends for any reason.

**ARTICLE 36
FORCE MAJEURE**

Either party shall be excused from performing its obligations under this Agreement during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incidence of fire, flood; acts of God; commandeering of material, products, plants or facilities by the federal, state or local government; national fuel shortage; or a material act or omission by the other party; when satisfactory evidence of such cause is presented to the other party, and provided further that such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

IN WITNESS WHEREOF, the parties have executed this Agreement effective on the date and year first written above.

CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

Stantec Consulting Services Inc.

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

APPENDIX A

SCOPE OF SERVICES

I. Purpose

The Consultant shall be expected to support the Authority in its communications and interactions with the Authority's accountants, rating agencies, bond insurers and underwriters, governmental entities, and the public in accordance with the highest professional standards.

The Consultant shall provide qualified technical and professional personnel to perform the duties and responsibilities assigned under the terms of this Agreement. The Authority, at its option, may elect to expand, reduce, or delete the extent of each work element described in this Scope of Services document, provided such action does not alter the intent of this Agreement.

The Authority shall request Services on an as-needed basis. There is no guarantee that any or all of the Services described in this Agreement will be assigned during the term of this Agreement. Further, the Consultant is providing these Services on a nonexclusive basis. The Authority, at its option, may elect to have any of the Services set forth herein performed by other consultants or by the Authority's staff.

II. Services

The Consultant shall be responsible for conducting complex traffic modeling and forecasting, including forecasting of revenues for bond-financed toll projects, and rendering opinions and other analyses concerning traffic and revenue projections as required under the trust agreements governing CTRMA's revenue bond financing for current and future projects.

The Scope of Services to be provided by the Consultant may include, but not be limited to, the following:

- A. Perform all duties imposed on the Traffic Consultant by the Authority's current Trust Agreement, as amended, and all supplemental, superseding, or additional trust agreements, including providing certificates and opinions related to annual reviews, proposed changes in toll rate schedules or toll classifications, and periodic bond issuances.
- B. Develop traffic and revenue projections for the existing CTRMA projects annually and for proposed new projects as requested.
- C. Monitor traffic and toll revenue performance of all facilities open to traffic and respond to questions and inquiries from the Authority; develop pro forma models which would enable the estimation of traffic and toll revenue levels on these facilities on a plaza-by-plaza or gantry-by-gantry basis.
- D. Prepare evaluations, studies, and opinions as necessary to determine recommended toll rates and periodic toll rate adjustments for the Authority's turnpike projects.

- E. Provide and maintain traffic modeling tools pertinent to the CTRMA's projects and potential projects, working closely with the Capital Metropolitan Planning Organization ("CAMPO"), the Texas Department of Transportation ("TxDOT"), and other local planning organizations as necessary, to update economic, demographic, and land use data.
- F. Perform special studies or reports as requested, including peer review analyses, regarding traffic, toll revenues, mobility, toll collection methods, and strategies and related technology and industry trends.
- G. Monitor major economic and other activities which would have an effect of the Authority's traffic and toll revenue estimates; major resources that are consulted on a daily basis include local news, Internet websites, rating agency reports, and economic reports.
- H. Present reports and findings to the CTRMA Board of Directors, rating agencies and investors, local interested parties, or otherwise upon request.
- I. Work at the direction and supervision of the authority's Executive Director, Deputy Executive Director, Chief Financial Officer, and Director of Engineering. The Consultant will also be required to work cooperatively and collaboratively with other firms serving the Authority, including but not limited to the authority's General Engineering Consultant), General Counsel, financial advisors, and Bond Counsel.

III. Subcontracting

Services assigned to subconsultants must be approved in advance by the Authority. Notwithstanding said approval, all responsibility for subcontracted work shall remain strictly with the Consultant. The subconsultants must be qualified by the Authority to perform all work assigned to them.

In the event services of a subconsultant are authorized, the Consultant shall obtain a schedule of rate, and the Authority shall review and must approve, in its discretion, any rates, including overhead, to be paid to the subconsultant.

The Consultant shall be responsible for submitting monthly reports regarding its subcontracting activity including required BOPP reporting.

**APPENDIX B
RATE SCHEDULE**

Title	Employee Name	Base Hourly Wage Rate (A)	Overhead, G & A (B) 158.566%	Profit (C) 10%	Fully Burdened Hourly Labor Rate (Columns A+B+C)
Principal in Charge	Rick Gobeille	\$134.16	\$212.73	\$34.69	\$381.58
Project Director	William Ihlo	\$103.81	\$164.61	\$26.84	\$295.26
Project Manager	Tiffany Cummings	\$53.25	\$84.44	\$13.77	\$151.46
QA/QC Director	Pamela Bailey-Campbell	\$120.00	\$190.28	\$31.03	\$341.31
Technical Advisor	Joe Sobleskie	\$100.00	\$158.57	\$25.86	\$284.42
Principal Modeler	Jun Yao	\$65.01	\$103.08	\$16.81	\$184.90
Investment Grade Advisor	Phil Eshelman	\$89.14	\$141.35	\$23.05	\$253.53
Task Manager/Demographics	Haley Collins	\$47.00	\$74.53	\$12.15	\$133.68
Modeler	Telin Kim	\$36.06	\$57.18	\$9.32	\$102.56
Task Manager/Managed Lanes & Simulation Modeling	Sheldon Mar	\$78.63	\$124.68	\$20.33	\$223.64
Traffic Engineer/Modeler	Sanaz Zehtabi	\$48.50	\$76.90	\$12.54	\$137.94
Traffic Engineer/Modeler	Najmeh Jami	\$53.25	\$84.44	\$13.77	\$151.46
Traffic Engineer	Emily Valentino	\$56.70	\$89.91	\$14.66	\$161.27
Traffic Engineer	Daniel Specter	\$47.90	\$75.95	\$12.39	\$136.24
Task Manager/Data Analytics	Sumeet Kishnani	\$103.00	\$163.32	\$26.63	\$292.96
Task Manager/Toll Systems and Technology	Sean Tihal	\$103.50	\$164.12	\$26.76	\$294.38
<u>Subconsultants</u>					Unit Cost
Bomba Consulting, LLC	Michael Bomba	-	-	-	\$186.43/hr
Cox McLain Environmental Consulting, Inc.	Ashley McLain	-	-	-	\$186.43/hr
CJ Hensch & Associates, Inc.	Mainline Counts	-	-	-	\$150/lane/day
	Arterial Counts	-	-	-	\$100/day
Ally General Solutions	Mainline Counts	-	-	-	\$350/day
	Arterial Counts	-	-	-	\$160/day
Alliance Transportation Group		-	-	-	Lump sum by task
Larson Consulting Associates, LLC		-	-	-	Lump sum by task

APPENDIX C

WORK AUTHORIZATION (WORK AUTHORIZATION NO. _____)

This Work Authorization is made as of this _____ day of _____, _____, under the terms and conditions established in the AGREEMENT FOR TRAFFIC AND REVENUE ENGINEERING SERVICES, dated as of _____, _____ (the "Agreement"), between the Central Texas Regional Mobility Authority ("Authority"), represented by the Executive Director or designee, and _____ ("Consultants"). This Work Authorization is made for the following purpose, consistent with the services defined in the Agreement:

[Brief description of the Project elements to which this Work Authorization applies]

Section A. – Scope of Services

A.1. Consultant shall perform the following Services:

Refer to attached scope letter.

A.2. The following Services are not included in this Work Authorization, but shall be provided as Additional Services if authorized or confirmed in writing by the Executive Director or designee.

A.3. In conjunction with the performance of the foregoing Services, Consultant shall provide the following submittals/deliverables (Documents) to the Executive Director or designee: To be determined.

Section B. – Schedule

Consultant shall perform the Services and deliver the related Documents (if any) according to the following schedule: To be determined.

Section C. – Compensation

C.1. In return for the performance of the foregoing obligations, the Authority shall pay to Consultant the amount not to exceed \$_____ based on the attached fee estimate. Compensation shall be in accordance with the Agreement.

C.2. Compensation for Additional Services (if any) shall be paid by the Authority to Consultant according to the terms of a future Contract Amendment.

Section D. – Authority's Responsibilities

The Authority shall perform and/or provide the following in a timely manner so as not to delay the Services of the Consultant. Unless otherwise provided in this Work Authorization, the Authority shall bear all costs incident to compliance with the following:

Section E. – Other Provisions

The parties agree to the following provisions with respect to this specific Work Authorization:

Except to the extent expressly modified herein, all terms and conditions of the Agreement shall continue in full force and effect.

AUTHORITY:

CONSULTANT:

CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

Stantec Consulting Services Inc.

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

APPENDIX D

SUBCONSULTANTS

Alliance Transportation Group

Mike Heath
(512) 821-2081
mheath@emailatg.com

Bomba Consulting, LLC

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catherine@larson.consulting

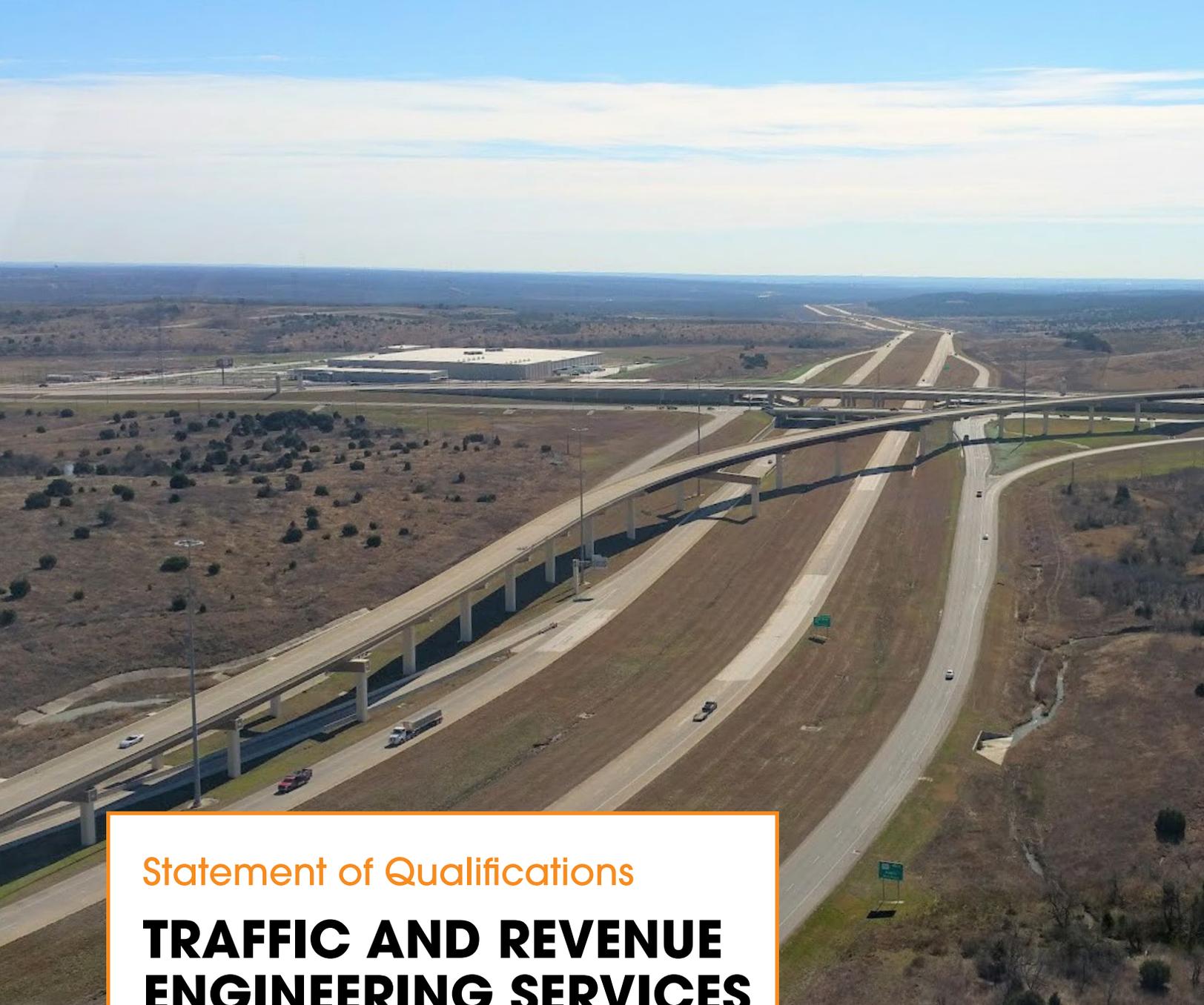
APPENDIX E

KEY PERSONNEL

Title	Employee Name
Principal in Charge	Rick Gobeille
Project Director	William Ihlo
Project Manager	Tiffany Cummings
QA/QC Director	Pamela Bailey-Campbell
Technical Advisor	Joe Sobleskie
Principal Modeler	Jun Yao
Investment Grade Advisor	Phil Eshelman

APPENDIX F

CONSULTANT STATEMENT OF QUALIFICATION



Statement of Qualifications

TRAFFIC AND REVENUE ENGINEERING SERVICES

PREPARED FOR:
Central Texas Regional Mobility Authority



August 17, 2020



August 17, 2020

Attention: William Chapman

Central Texas Regional Mobility Authority

3300 N IH 35 Suite 300

Austin, Texas 78705

Reference: Traffic and Revenue Engineering Services Request for Qualifications

Dear Mr. Chapman,

The Stantec Team is pleased to submit our qualifications to provide Traffic and Revenue Engineering On-Call Services to the Central Texas Regional Mobility Authority (CTRMA/Mobility Authority) as it moves forward with various toll facility projects now in operation or in the planning stages.

Stantec, a leader in Traffic and Revenue (T&R) analyses, has over 45 years of T&R experience, with 175 successful toll revenue bond financings totaling over \$55 billion. Stantec remains at the forefront of the toll road and express lanes industry, not only in the Austin area on your facilities, but also for toll facilities around the country including California, Washington, New York, Massachusetts, New Hampshire, Ohio, Virginia, North Carolina, South Carolina, Illinois, Georgia, and Florida. Since 2005, Stantec has worked directly with the Mobility Authority, successfully preparing reports and bring-down letters for over \$1.9 billion of toll revenue bond financing (and refinancing) for your toll facilities and performing all duties imposed by the Authority's Master Trust Indenture Agreement. We are proud to have been involved with the growth of your System since the Authority's inception to the opening of 183A in 2007 and to the current System of five toll roads and one express lane facility, developing T&R projections for all facilities in some capacity. Over the past 15+ years, Stantec has been adaptable to meet the Mobility Authority's traffic and revenue needs and would continue to be nimble in our approach to provide traffic and revenue services. We are all in the midst of an unprecedented time with regards to the COVID-19 pandemic; however we are and would continue be able to provide on-going traffic and revenue support, including any specialized studies to the Mobility Authority as conditions fluctuate or project priorities shift.

Our team is prepared to continue providing all of the services that you have listed in the scope of services, including toll rate evaluations and opinions for the Mobility Authority's current and future projects, maintenance of effective traffic modeling tools by using the latest transportation plans, and updating the demographic data. We are ready to provide collaborative coordination with the Mobility Authority's staff, finance team and general engineering consultants, and cost-efficient assessments of future traffic and revenues for the Mobility Authority to determine the feasibility of a potential project.

Our knowledge of your facilities and the breadth of our experience enables us to hit the ground running and to develop effective project approaches in a meaningful manner. Bill Ihlo, PE, would continue as Project Director and Tiffany Cummings, PE, would be your Project Manager. Together they would ensure that the appropriate staff will continue to be committed to your projects, assuring that the work is conducted efficiently and cost effectively. Bill and Tiffany are backed by a team of technical advisors and experts including Rick Gobeille, PE, who currently leads Stantec's Transportation and Toll Roads Group and would be the Principal-in-Charge. Bill, Tiffany and Rick are all passionate and dedicated to continuing to provide you with our high-quality work. Together they will provide you with the same meaningful, efficient and pragmatic approach you have become familiar with. This team brings over 70 years of combined experience in traffic and revenue forecasting.

Our team is strengthened further with the inclusion of Michael Bomba, Ph.D., who has developed SED forecasts which have been equaled or exceeded by actual conditions for all Austin region toll road projects over the last 20 years. Larson Consulting Associates, led by Catherine Larson, would lead any needed customer surveys and support on presentations for various audiences. Alliance Transportation Group would provide transportation plan support services, and CJ Hensch & Associates and AGS Engineering & Construction would provide data collection services. Our team provides a full set of skills and resources to help meet the needs of the Mobility Authority. All of the key personnel included in this proposal are well versed in Austin-area toll facility studies, have worked together in the past, and understand how to deliver successful projects for the Mobility Authority.

The Stantec Team is thrilled for the opportunity to support you in your future programs. Bill Ihlo, based in our principal New York City office, will serve as the primary contact for Stantec and has the authority to negotiate and execute the contractual terms. His contact information can be found at the end of this letter.

We look forward to the next step in your selection process, and to the potential of continuing to work with you. Please do contact us if you have any questions or require additional information.

Regards,

STANTEC CONSULTING SERVICES INC.

A handwritten signature in cursive script that reads "Richard J. Gobeille".

Rick Gobeille, PE
Senior Principal
475 Fifth Avenue, 12th Floor
New York, NY 10017
(212) 366-5625
rick.gobeille@stantec.com

A handwritten signature in cursive script that reads "William Ihlo".

William Ihlo, PE
Principal
475 Fifth Avenue, 12th Floor
New York, NY 10017
(203) 417-6780
william.ihlo@stantec.com

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Cover Letter

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Appendix

I. The Firm

A. CAPABILITIES & RESOURCES OF PRINCIPLE OFFICE RESPONSIBLE FOR PERFORMING THIS WORK, REGIONAL TEXAS OFFICES & LISTING OF TEXAS OFFICE RESIDENT PERSONNEL BY DISCIPLINE WHO WOULD BE ASSIGNED TO THE CTRMA'S WORK

The Stantec community unites approximately 22,000 employees working in over 350 locations. We collaborate across disciplines and industries to bring infrastructure, buildings, and energy and resource projects to life.

Our work—professional consulting in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics—begins at the intersection of community, creativity, and client relationships.

Stantec will be the prime consultant, providing traffic modeling, toll revenue forecasting, feasibility assessment, and overall project management with over 40 employees included in its transportation planning and toll roads group. The principle office for performing this work is located in New York City with Bill Ihlo, PE (Project Director), Tiffany Cummings, PE (Project Manager), and Rick Gobeille, PE (Principal-in-Charge) based in that office supported by over 20 tolling staff. Traffic modeling efforts will be conducted primarily in our Plymouth Meeting, PA, office, home to 8 of our modeling experts. The remaining Stantec tolling staff are located in offices around the United States with four located in Texas: Marcelle Jones, JD (Strategic Planning) and Haley Collins, AICP (Demographics) based in the Dallas office, Sumeet Kishnani, PE, PTOE, LEED AP (Data Analytics) based in the Plano office, and Phil Eshelman (Managed Lanes) based in the Austin office. Haley, Sumeet and Phil have extensive experience working on Austin area projects, many of which were for CTRMA.

Joining our team is local Austinite Michael Bomba, Ph.D., of Bomba Consulting, LLC who will develop socioeconomic and land-use forecasts as he has for prior CTRMA studies. Michael will utilize support from Cox | McClain Environmental Consulting Inc. (Cox | McClain) which also has a local office in Austin. Larson Consulting Associates, LLC (LCA) will support with any Stated Preference Survey development and can support the development of presentations for various audiences.

Located in Seattle, WA, LCA specializes in policy and planning, program management, operations implementation and oversight, marketing and communications, best practices, and process improvement. LCA's founder and owner, Catherine Larson, previously worked for TxDOT and served as the liaison to various Regional Mobility Authorities. Alliance Transportation Group, Inc. (ATG), has a local office in Austin and will support Stantec with transportation plan reviews. Both data collection firms on our team, CJ Hensch & Associates, Inc. (CJH) and Ally General Solutions, LLC dba AGS Engineering & Construction (AGS), are based in Texas as well. Stantec has worked with Michael Bomba, ATG, CJH, and AGS on prior CTRMA and TxDOT studies, while LCA has worked with Stantec on tolling studies for other clients. Our entire team understands the projects, the Authority's needs, and each team member's needs. A table summarizing our team's staffing levels by location and discipline is on page 7.

B. FIRM'S EXPERIENCE PROVIDING COMPLEX TRAFFIC MODELING AND FORECASTING TOOLS, DEMONSTRATED SUCCESS IN FORECASTING TOLL REVENUE FOR BOND-FINANCED TRANSPORTATION PROJECTS, & EXPERIENCE IN RENDERING OPINIONS & OTHER ANALYSES CONCERNING T&R PROJECTIONS

Stantec has an over 45 year history of providing traffic and revenue (T&R) services on a variety of high profile, successful tolling projects throughout the United States. Stantec is a nationally recognized leader in T&R analyses and traffic operations for toll facilities. Our reports have been the basis for over 175 bond sales totaling over \$55 billion. Since 2014 alone, we have completed 50 bond sales for over \$18 billion for new, expanded or existing toll facilities. Our work has spanned 38 states, Canada and Mexico. We are the on-call T&R consultant for multiple toll authorities, including but not limited to the Washington State DOT, the North Carolina Turnpike Authority, the State Road and Tollway Authority in Georgia, the Riverside County Transportation Commission, the New York State Thruway Authority, and the Texas DOT.

Working in the best interest of our public and private clients, the communities surrounding the roadways, and the wider regions, we bring our extensive knowledge of toll roads and systems to the challenge of developing credible toll facility feasibility studies. Our clients return

to us repeatedly with requests to produce quick feasibility studies that answer the initial question “Does this project make sense?” as well as Investment Grade Studies that aid in their effort to obtain financing for their projects. Level I studies make clear whether more analysis—and more money—should be expended on the project. This is enormously helpful to clients and communities as we assess the impact to the entire regional network of tolling an existing roadway, building a new toll facility, or changing toll structures.

In addition to these early toll feasibility assessments, we also develop screening criteria for potential toll facilities, conduct traffic and revenue analyses, develop financing plans, analyze appropriate toll structures, and determine the extent to which a proposed toll facility could provide financing for itself and/or other highway projects. Our specialized Level 2 and Level 3 Investment Grade Studies provide detailed forecasts to our clients on facilities that are either under serious consideration or require bond financing and access to an investment grade rating. Whether we are working for public, quasi-public or private agencies, we work with our clients to identify the appropriate level of traffic and revenue study.

Stantec is uniquely qualified for these Traffic and Revenue Consulting Services. There is a long history and a synergy between the key tolling staff at Stantec and the CTRMA. The Stantec Team has a deep background in studying Austin’s toll facilities. We have acquired knowledge and expertise from our work on CTRMA’s existing and future toll facilities. We’ve studied US 183 as far north as Liberty Hill with our on-going work for the 183A Phase III Project, and as far south as the Austin-Bergstrom International Airport with 183 South. We recognize the challenges surrounding the 183N Express Lanes Project, particularly during this period of uncertainty with managed lanes, but are prepared to assist CTRMA navigate through it. We know the 290E toll road inside and out and know that the next phase, extending the road to the east, is critical for Manor’s mobility. We know the regional significance of 183S as a bypass around the increasingly congested IH-35. We even know the importance of small but key facilities like 71E and 45SW that provide fast and reliable connectivity to the region. Our team examines traffic from both a macro-level, analyzing how land use and regional transport policies impact traffic, and a micro-level, recognizing how line of sight,

horizontal and vertical curvature of the roadway, and signage can impact driver behavior. We do not rest on our laurels—our team is pushing boundaries. For example, our staff have studied how connected and autonomous vehicles might impact traffic and revenue. We leverage the power of big data to understand traffic better and we commit funds to R&D to make our modeling tools better.

The following table presents the 29 bond sales totaling over \$11 billion that Stantec’s T&R principals have supported since 2017:

Amount	Date	Authority
\$628,930,000	7/1/2017	Orange County Transportation Authority
\$87,495,000	7/9/2017	Greater New Orleans Expressway Commission
\$152,200,000	7/20/2017	Riverside County Transportation Commission
\$194,140,000	8/11/2017	San Diego Association of Governments
\$400,000,000	9/27/2017	Triborough Bridge and Tunnel Authority
\$720,990,000	11/9/2017	Triborough Bridge and Tunnel Authority
\$122,635,000	1/19/2018	Triborough Bridge and Tunnel Authority
\$190,300,000	1/19/2018	Triborough Bridge and Tunnel Authority
\$351,930,000	2/1/2018	Triborough Bridge and Tunnel Authority
\$107,275,000	6/21/2018	Triborough Bridge and Tunnel Authority
\$190,300,000	6/21/2018	Triborough Bridge and Tunnel Authority
\$270,090,000	8/1/2018	Triborough Bridge and Tunnel Authority
\$159,280,000	8/24/2018	Triborough Bridge and Tunnel Authority
\$107,280,000	9/21/2018	Triborough Bridge and Tunnel Authority
\$125,000,000	9/24/2018	Triborough Bridge and Tunnel Authority
\$162,995,000	10/30/2018	Triborough Bridge and Tunnel Authority
\$90,365,000	10/30/2018	Central Texas Regional Mobility Authority
\$82,500,000	11/20/2018	Triborough Bridge and Tunnel Authority
\$148,470,000	12/10/2018	Triborough Bridge and Tunnel Authority
\$700,505,000	12/14/2018	Delaware River Port Authority
\$1,587,210,000	4/30/2019	New York State Thruway Authority
\$150,000,000	5/15/2019	Triborough Bridge and Tunnel Authority
\$137,135,000	9/10/2019	Delaware Transportation Authority
\$464,650,000	10/2/2019	MassDOT Metropolitan Highway System
\$857,625,000	10/18/2019	New York State Thruway Authority
\$1,693,245,000	10/18/2019	New York State Thruway Authority
\$40,840,000	10/31/2019	New Hampshire DOT
\$48,805,000	11/20/2019	Rhode Island Turnpike and Bridge Authority
\$50,265,000	12/17/2019	Central Texas Regional Mobility Authority
\$683,780,000	2/20/2020	Texas Transportation Commission
\$450,000,000	2/20/2020	New York State Thruway Authority

For each project, we developed the appropriate modeling tools to forecast T&R as well as defend the estimates to rating agencies, investors, underwriters, TIFIA, Trustees, and other stakeholders. For

each of these sales, the required bond sale certificates were developed, trust and bond indentures followed, and appropriate level of support provided to complete a successful issue.

C. EXPERIENCE PERFORMING DUTIES IMPOSED ON TRAFFIC ENGINEERS UNDER REQUIREMENTS OF TRUST INDENTURES FOR PRIVATE BOND FINANCING, INCLUDING PROVIDING CERTIFICATES & OPINIONS RELATED TO ANNUAL REVIEWS & PERIODIC BOND ISSUANCES

Stantec can provide the CTRMA with expertise in all of the duties imposed on traffic engineers under the requirements of trust indentures for private bond financing of toll facilities. We understand these duties well from our experience on over \$50 billion of financings on toll roads and express lanes throughout the country. Our experience includes municipalities that had never run a toll facility before, to authorities that have been operating a mature system of roadways for decades, such as the New York State Thruway Authority for whom we have been working for 20 years. For each financing, the required bond sale certificates were developed, trust and bond indentures followed, and appropriate level of support provided to complete a successful issue. Our T&R staff work with our clients' financial advisors, lawyers and bankers to ensure a successful bond sale. We have successfully performed these duties for the CTRMA on several bond sales, the most recent in late 2019. We are also currently working with the Authority on a refunding study and a 183A Phase III investment grade study. Our experience with CTRMA's staff and the financial team leading the sales will be invaluable to the CTRMA's future financings. Beyond supporting the sales of these bonds, Stantec's T&R Team regularly makes annual assessments and reviews the actuals, forecasts and coverage requirements within the terms of the trust indentures.

D. EXPERIENCE PROVIDING AND MAINTAINING TRAFFIC MODELING TOOLS, INCLUDING DEVELOPMENT OF T&R PROJECTIONS FOR EXISTING AND PROPOSED TURNPIKE PROJECTS

Stantec regularly develops and maintains sophisticated traffic modeling tools for T&R studies, transportation planning studies, and environmental/air quality & noise studies throughout the country. Some clients we have done this work for include the Washington State DOT, the New Jersey DOT, and State Road and Tollway Authority. Stantec

uses a variety of modeling platforms for our traffic and revenue projects. Our basic travel demand modeling platform for the Central Texas Region uses a combined Capital Area Metropolitan Planning Organization (CAMPO) - Alamo Area Metropolitan Planning Organization (AAMPO) model. We have developed a process to weave these models together to provide more reliable estimates for travel in the region. The purpose of a joint model is to accurately represent long-distance trips in the Central Texas region (e.g. on IH-35 and SH 130 between Austin and San Antonio). This in turn allows us to better understand traffic on the CTRMA System. We start with the base MPO models and make adjustments to reflect the latest traffic activity for the base year.

These models are converted to a CUBE travel demand model that is then calibrated to existing conditions. The calibration process involves modifying the basic model inputs to approximate speed and volume at hundreds of key locations in and around the Project or System corridors. The calibrated models are used as the basis for future projections. Adjustments are made to the model parameters to reflect the latest available forecasts for demographic growth and the timing and scope of infrastructure improvements in the region. These future conditions models are then used to determine future traffic and revenue projections.

The travel demand model is useful for estimating regional flows and link assignments, but when there are operational constraints (e.g. in extremely congested areas or on managed lane projects where traffic moves between a managed lane facility, general purpose lanes and a frontage road), we also develop VISSIM microsimulation models. These models allow for the visualization and analysis of merge and weave areas, direct connectors, ramps, and other complicated flow conditions. Simulation models are used to check, for example, if the forecasted managed lane demand can actually enter and exit the facilities without creating local weaving or queuing constraints. This, in turn, may lead to adjustments to travel demand model parameters, and additional simulation model runs, in an iterative fashion, until there is general agreement between both sets of models.

E. EXPERIENCE PREPARING EVALUATIONS, STUDIES AND OPINIONS AS NECESSARY TO DETERMINE RECOMMENDED TOLL RATES AND PERIODIC TOLL RATE ADJUSTMENTS FOR TURNPIKE PROJECTS

Stantec has extensive experience advising our clients on recommended toll rates for their toll facilities. This includes reviews for the Transportation Corridor Agencies' Toll Roads and the OCTA and RCTC's 91 Express Lanes, all in Southern California, the New York State Thruway Authority, the NY MTA's Bridges and Tunnels, amongst many others. Stantec has helped prepare opinions for the Mobility Authority and other entities on toll escalation policies, veterans discounts, paypoint toll adjustments, new additions to the System, development of non-tolled roads parallel to the System, and phased openings. These evaluations were documented in written opinions presented to the Board of Directors and shared with the investment community

F. HOW THE FIRM CHARGES PROFESSIONAL FEES

Stantec charges for our efforts based on a number of factors—the direct technical labor costs, an overhead multiplier rate, and a percent fee. Costs for subconsultants and direct expenses are billed at cost, with no markup. This is consistent with the fee schedule we use for our traffic and revenue projects for TxDOT. The overhead multiplier is audited by the State of Texas annually. The current audited rate as of August 2020 is 158.566%, and our fee is 10%. The following shows the fee accrual for an employee who spends 2 hours working on a project with an hourly rate of \$20:

$$2 \text{ hours} \times \$20/\text{hour} \times (100\% + 158.566\%) \times (100\% + 10\%) = \$ 113.76$$

G. CONFLICTS OR POTENTIAL CONFLICTS OF INTEREST

Stantec confirms that it is not aware of any conflict of interest that may exist and be required to be reported at this time. Stantec shall endeavor not to enter into contracts with third parties or engage itself in any activities which may cause conflicts of interest. If a conflict of interest arises impacting the services, Stantec shall provide notification, and work to resolve or mitigate it as required.

Stantec's multi-disciplinary team includes a Community Development practice in the Central Texas region. On some of our land development projects, we have engaged with entities in which some of the Board Members may have an interest. These efforts are independent of our

traffic and revenue practice, and are typically done by Stantec staff who are not engaged in our traffic and revenue studies.

Stantec provides transportation planning, traffic engineering, and traffic and revenue forecasting services for other entities in the Austin area.

Where a conflict may exist, we will review our anticipated scope of work with the Mobility Authority prior to entering into any new engagements with other entities, such as TxDOT, County or municipal agencies.

II. Firm Organization, Staffing and Procedures

A. ORGANIZATIONAL CHART & IDENTIFIED PERSONNEL'S TRAFFIC ENGINEERING AND REVENUE ENGINEERING FOR BOND-FINANCED TURNPIKE PROJECTS EXPERIENCE

Our organizational chart can be found on the following page. Team resumes are located in the Appendix.

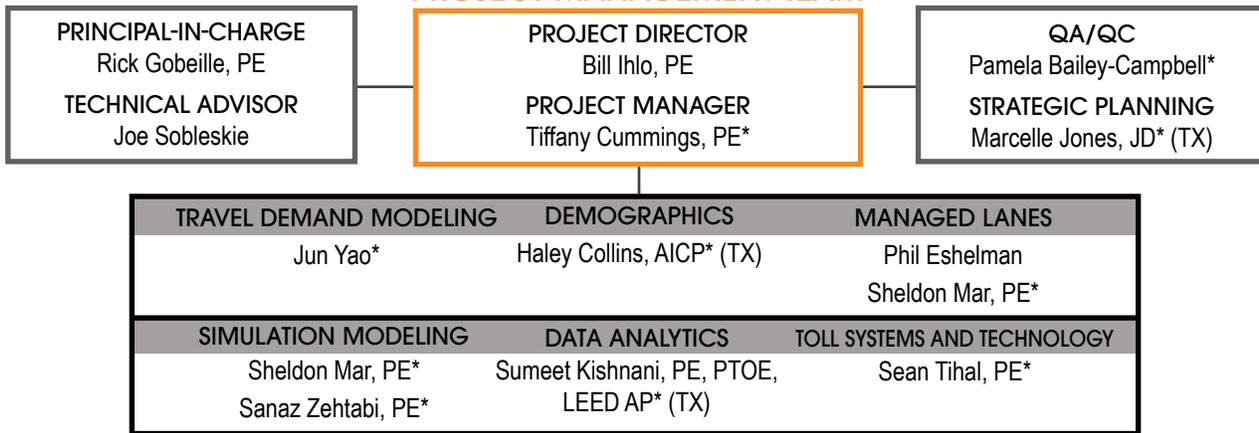
Bill Ihlo, PE, Project Director: Bill has been working on T&R projects for over 30 years. He has helped support over \$10B in infrastructure financing projects, and is a trusted resource for his clients, with a strong understanding of the players in the Central Texas region. He has worked on toll facilities for clients throughout the country, but a substantial part of his career has been devoted to T&R studies in Texas. Bill was involved with the Texas Turnpike Authority doing initial roadside OD surveys for the first Austin toll roads starting in 1998. He has been working on projects for the CTRMA since 2002 and has helped develop forecasts for all of the current CTRMA system elements. Bill has accompanied Mobility Authority staff in meetings with TIFIA, the rating agencies, and the investment community. He will be the principal officer on this contract.

Bill has also participated in the team's coordination efforts with other stakeholders in the Austin region, including discussions with TxDOT on the SH 130/290 Project and 183 North. In his time working with the Mobility Authority, Bill has worked closely with the Executive Director, Deputy Executive Director, Chief Financial Officer, Comptroller, Director of Engineering, and other key staff, in addition to the Authority's General Engineering Consultants, General Counsel, Financial Advisors, Bond Counsel, and Toll Operations Division.

Organizational Chart



PROJECT MANAGEMENT TEAM



SUBCONSULTANTS

TRANSPORTATION PLAN REVIEW ALLIANCE TRANSPORTATION GROUP, INC. ** Mike Heath (TX)	DEMOGRAPHIC FORECASTS BOMBA CONSULTING, LLC Michael Bomba, PhD (TX) COX MCCLAIN ENVIRONMENTAL CONSULTING INC.** Ashley McLain, AICP* (TX)	DATA COLLECTION CJ HENSCH & ASSOCIATES, INC.** Dennis Cox (TX) AGS ENGINEERING & CONSTRUCTION** Rolando Castañeda, PE* (TX)	SURVEYS LARSON CONSULTING ASSOCIATES, LLC Catherine Larson*
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PRINCIPAL OFFICE & OFFICER
475 Fifth Avenue, 12th Floor, New York, NY 10017
Bill Ihlo, PE, Project Director

*Women or Minority Staff
**Texas HUB Firm

Tiffany Cummings, PE, Project Manager: As the Project Manager the Mobility Authority's studies have been and will continue to be Tiffany's first priority. She has spent the majority of her 10-year career working on T&R forecasting studies for toll facilities in the Austin area for both the Mobility Authority and TxDOT. Because of her experience in the region, she is an expert in the traffic patterns, land development patterns, and rapidly developing highway network of the Austin region. Tiffany has an acute understanding of the CTRMA toll facilities through her daily and monthly monitoring of nearly every facility since their opening.

She recently served as Project Manager for the CTRMA System 2019 T&R Study, an investment-grade study to refinance the CTRMA System after 45 SW was added to the System. At the same time, Tiffany also prepared investment-grade forecasts for the 183A Phase III project, to support a TIFIA loan application, which is currently underway, and for the 183N Express Lane project. For the 2019 T&R study, as well as the 2018 investment-grade T&R study for the 290E Phase III Project and the 2015 investment-grade T&R study for the 183 South Project, Tiffany

developed the data collection program, analyzed traffic data within the study area, oversaw the calibration of the travel demand model and microsimulation model, prepared the traffic and revenue forecasts, and conducted sensitivity tests. Tiffany has regularly prepared traffic and revenue reports or memos that were included in Official Statements and bringdown letters during her work on the 2015, 2016, 2018, and 2019 CTRMA bond financings and refundings as well as the 2015 Central Texas Turnpike System (CTTS) bond financing for TxDOT.

Rick Gobeille, PE, Principal-in-Charge: Rick is a nationally recognized leader in toll systems technology, development and implementation, traffic and revenue forecasting, operating cost estimates, and toll facility operations. Over the course of his 25 year career, he has prepared reports and studies, and made more than 100 presentations to ratings agencies, underwriters, and investors, in support of more than \$19B of Toll Revenue Bond Sales and Trust Agreement requirements. He has also prepared studies for the adoption of new technologies, starting with E-ZPass testing in the early 1990s. Rick provides access to approaches

and solutions considered and adopted by other tolling agencies that may bring value to the Authority.

Joe Sobleskie, Technical Advisor: Joe is a recognized leader in the T&R forecasting industry. He has served as project manager for more than \$7B in successful toll facility financing bond sales. His practical experience tying together financial and economic analyses with his transportation planning/engineering background has resulted in traffic and revenue programs for numerous toll authorities.

Pamela Bailey-Campbell, QA/QC: Pamela is a nationally recognized leader with more than 25 years of hands-on success in resolving the full range of challenging issues that arise in moving multifaceted transportation projects from concept to reality. She has directed numerous high-profile projects and advised a broad range of clients on the full life cycle of project issues. Her work has encompassed the full spectrum of program management, strategic and executive advisory services.

Marcelle Jones, JD, Strategic Planning: Marcelle has worked with more than 17 state and regional transportation agencies to prepare for and manage technology implementations. Marcelle served as a project manager for the TxDOT design-build program where she managed an 11-member team to support TxDOT with the development of procurement documents and process for regionally significant projects. Marcelle has also led transportation agencies in policy development, risk assessment, procurement options, and long term and strategic planning for electronic tolling technology; these capabilities became a precursor to on-board road user charging, app payments, variable pricing for roadway usage and a congestion management tool.

Jun Yao, Travel Demand Modeling Lead: Jun has more than 15 years of experience preparing investment grade T&R forecasts. He has led the modeling efforts and developed T&R forecasts for conventional toll roads and managed lane facilities across the nation. Within Texas, the majority of his experience has been with toll roads in the Austin area including all of the CTRMA facilities and the Central Texas Turnpike System operated by TxDOT. For several managed lane facilities, Jun has also performed microsimulation analysis to evaluate the operational characteristics of the managed lanes at key access points. He has also

performed extensive sensitivity analysis and risk analysis for rating agency presentations.

Haley Collins, AICP, Demographics Lead: Haley has 8 years of experience, which includes 3 years of experience working on T&R studies for bond-financed CTRMA turnpike projects. Her primary role in these projects is to research, analyze, and review the socioeconomic and network assumptions in the travel demand model and make changes as necessary to reflect a reasonable outlook of future growth. Through her work with CTRMA as well as on other toll roads and non-tolled corridors in Central Texas, Haley has developed an intimate knowledge of transportation and development plans in the region, and established connections with many local planning entities that provide valuable input used in model development. Prior to her role at Stantec, Haley worked with ATG, one of our subs, on projects in the Austin area. She worked primarily with cities, counties and MPOs to develop long range transportation plans. She worked extensively with the Laredo Urban Transportation Study to prepare the MPO for its first certification review by FHWA and FTA as a newly designated transportation management area.

Phil Eshelman, Managed Lanes Lead: Phil brings over 15 years of experience managing complex transportation planning programs focused on the delivery of traffic and revenue services for traditional toll roads and managed lane facilities to public toll agencies. These include all levels of analysis from sketch-level to investment grade with his studies supporting the sale of billions of dollars in toll revenue bonds. He is adept at all aspects of traffic and revenue analysis including data collection, data analysis, market research, stated and revealed preference analysis, travel demand modeling, toll diversion modeling, risk analysis, sensitivity testing, and presentations to Boards, rating agencies and investors.

Sheldon Mar, PE, Simulation Modeling Lead: Sheldon has over 15 years of experience in simulation modeling, and T&R forecasting. Sheldon regularly serves as a technical advisor on simulation modeling studies, including Stantec's recent work in the RM 620 corridor and our study of the 183N Express Lanes modeling. Sheldon regularly serves as

the project manager or technical advisor on Stantec's Managed Lanes T&R forecasts. Sheldon advised on the CTRMA's 183N Express Lanes T&R forecast, a confidential Managed Lanes forecast for TxDOT, and recently served as Stantec's Project Manager for the SR 91 Express Lanes Investment Grade Study refresh, and the I-15 Express Lanes Investment Grade Traffic and Revenue Study.

Sumeet Kishnani, PE, Data Analytics Lead: Sumeet is a licensed Texas Professional Engineer with 19 years of experience and works out of our office in Plano, Texas. He has extensive experience in the Central Texas area, including significant roles on traffic and revenue studies for 183 South, 290E Phase 3, the Central Texas Turnpike System refinancing, and Project Manager or Assistant Project Manager roles on other projects such as the SH 130 Capital Improvement Plan, RM 620 Corridor Study, and SH 45 Feasibility Study. His data analytics background brings a unique ability to refine our forecast models, especially for managed lane facilities, and to evaluate the efficiency of pricing models.

Sean Tihal, PE, Toll Systems and Technology: With over 19 years of transportation consulting experience, Sean is well versed in roadside and back office toll systems and operations, toll strategic planning, toll feasibility studies, toll operations analyses and traffic & toll revenue forecasting. He has also served as a Project Manager/Engineer on complex toll projects that included traffic and revenue analyses for the potential sale of investment bonds. He has conducted numerous studies related to capital and operating costs (CAPEX and OPEX), electronic tolling market share analyses, toll policy, tolling configurations, toll pricing and toll payment alternatives, and toll planning studies for over 28 transportation agencies across the US and Canada. As part of his toll strategic planning and system implementation work, Sean has supported his clients to assess and implement state of the practice and emerging technologies for roadside and back office electronic tolling applications including but not limited to vehicle identification and classification, payment methods, trip building, customer communications, customer account management, unpaid toll processing and invoicing, as well as networking, security and PCI compliance.

Staff Experience by Office Location

Office	Staff	T&R Forecasting	Transportation Planning	Traffic Engineering	Travel Demand Modeling	Simulation Modeling	Economic Modeling	Data Analytics	Traffic Data Collection	Demographic Forecasting	Toll Systems
New York, NY	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Plymouth Meeting, PA	8	✓	✓	✓	✓	✓			✓	✓	
Dallas, TX	7	✓	✓	✓		✓	✓	✓	✓	✓	
Austin, TX	4	✓	✓				✓		✓		
Atlanta, GA	1	✓	✓	✓							
Chicago, IL	1	✓	✓	✓							✓
Portland, OR	1	✓	✓		✓	✓	✓		✓		
Denver, CO	1	✓	✓				✓				
Louisville, KY	1										✓
Charlotte, NC	1	✓	✓	✓			✓				✓
Stantec Staff for Traffic and Revenue Studies	48										
Alliance Transportation Group - Austin, TX	5		✓								
Bomba Consulting, LLC - Austin, TX	2									✓	
Cox McClain Environmental Consulting, Inc. - Austin, TX	3									✓	
CJ Hensch & Associates, Inc. - Irving, TX & Pasadena, TX	3							✓			
Ally General Solutions - Houston, TX	2							✓			
Larson Consulting Associates, LLC - Tacoma, WA	1							✓			
Subconsultant Support Staff	16										

Mike Heath, Transportation Plan Review (ATG): Mike has worked closely with Stantec on traffic and revenue studies in the Central Texas Region starting in 1998. He has helped review transportation plans and defined the timing and scope of infrastructure improvements in the CAMPO and AAMPO areas. Mike has directly contributed to the successful implementation of TIFIA projects in Central Texas supported by sale of over \$2.5B of commercial bonds for new toll road construction.

Michael Bomba, PhD, Demographic Forecasts (Bomba Consulting): Michael has more than 20 years of experience contributing to T&R studies in the Austin and San Antonio regions. He has assessed the reasonableness of the CAMPO and AAMPO's population and employment estimates and forecasts at the zonal level, adjusting them as necessary for T&R purposes. Michael has completed almost 50 studies and these model inputs have been used to successfully sell approximately \$8B of municipal bonds for green field projects, major facility upgrades, building connecting ramps, and refinancing existing municipal bonds. Toll road projects in the Austin region that have been financed and constructed using these studies include: SH 130 (Segments 1 through 4), SH 45, Loop 1 North, US 183-A, US 290 East, SH 45 South-west, and US 183 South. His efforts have included participating in presentations to rating agencies in New York City and presentations to major institutional investors (e.g. BlackRock, PIMCO, Vanguard, etc.) in New York City, Philadelphia and Boston.

Ashley McLain, AICP, Demographic Forecasts (Cox | McClain): Ashley has been a consultant assessing the environmental impacts of public and private development projects since 1997. She is an experienced NEPA practitioner with a focus on socioeconomic and Environmental Justice issues and extensive experience with linear transportation and transit projects. She is very familiar with the challenges associated with project development in Texas. Ashley's role on this Team is to support Michael Bomba in updating demographic forecasts.

Dennis Cox, Data Collection (CJH): Dennis has 15 years of experience in the field of Traffic Data Collection. He has completed and directed projects in all areas of data collection and has installed multiple

types of counting equipment such as traffic pneumatic hose counters, video camera counters, and manual turning movement collection.

Rolando Castañeda, Data Collection (AGS): With over 19 years of experience in engineering projects throughout Texas, Rolando's role on this Team is to support data collection efforts.

Catherine Larson, Surveys (LCA): Catherine Larson is the founder and CEO of Larson Consulting Associates. Catherine has extensive program management experience in toll and transit program strategy, development and implementation. Earlier in her career, Catherine worked for TxDOT, where she served as the liaison to the RMAs. Her recent experience has focused on implementing start-up toll programs, but Catherine has spent her career building and growing transportation programs. Catherine will be responsible for developing stated preference surveys and will advise on presentations and trainings for various audiences. LCA is a Federal Disadvantaged Business Enterprise (DBE), and a certified DBE in several states.

B. FULL TIME KEY PERSONNEL EMPLOYEES WHO WOULD BE ASSIGNED PERMANENTLY TO CURRENT AND POTENTIAL CTRMA PROJECTS IN TEXAS & SUBCONSULTANT OFFICES

Bill Ihlo and Tiffany Cummings would be permanently assigned to the project and would not be substituted with other personnel without the Authority's prior approval. As a team, they have been supporting the CTRMA for nearly 20 years. They would be supported by key staff in the Texas area including Sumeet Kishnani in our Plano office, Haley Collins in our Dallas office, Phil Eshelman in our Austin office, and additionally by our subconsultants Mike Heath, Michael Bomba and Ashley McLain who are all based in Austin. Rick Gobeille will be the Principal-in-Charge with over 25 years of experience for toll road agencies.

C. NUMBER OF STAFF COMMITTED FOR CTRMA PROJECTS THAT MAY EXTEND FOR A TERM OF FIVE (5) YEARS PLUS 2 OPTIONS FOR 2 YEAR ADDITIONAL EXTENSIONS

Stantec's T&R Team consists of over 40 full-time transportation professionals throughout the US. We leverage their individual skills, from T&R forecasting, transportation planning, traffic engineering, travel demand modeling, simulation modeling, economic modeling, data analytics, traffic data collection, demographic forecasting, and toll

systems, based on the mix of available projects. Our core T&R Team is supported by over 50 other professionals who have expertise in one or more of the above-mentioned areas. This provides Stantec and our clients with a deep roster of qualified professionals who can be utilized for multiple concurrent projects. As needed we will collaborate with specialty consultants such as SkyComp, Streetlight Data and Airsage.

III. Experience

A-D. RELEVANT INFRASTRUCTURE DEVELOPMENT

PROJECTS SINCE JANUARY 1, 2017

CTRMA On-Call T&R Services | Texas | CTRMA System bond sale for 290E Phase III Project on 10/30/18 for \$90.4 million, CTRMA System bond sale on 12/17/19 for \$50.3 million

Stantec has been providing T&R consulting services for the Mobility Authority since its inception in 2003. Our T&R forecasts have been the basis for CTRMA's numerous successful toll revenue bond and TIFIA financings of \$1.8 billion. Recently completed or ongoing projects include analyses of Pay-by-Mail policy changes, qualified Veterans Toll Discount program, numerous 183A toll alternatives, and sketch level T&R studies of potential changes to the System. We regularly conduct assignments in connection with the Master Trust Indenture requirements; these include studies such as cash flow/coverage analyses, monitoring transactions and revenues, providing annual updates for budgeting purposes, assessing changes in toll policies, reviewing and preparing sections of bond documents, issuing certificates as required, and providing input for TIFIA's annual status

reports. In 2018, System T&R forecasts were used to finance the 290E Phase III Project and in 2019, System T&R forecasts were used to refinance System debt with the recently added 45SW toll road. Recently, we've studied the impacts of COVID-19 on CTRMA's T&R and prepared updated System forecasts for CTRMA's upcoming bond refunding in August 2020. We are also currently developing the forecast for the 183A Phase III financing.

Date of CTRMA OS	10/30/2018	12/17/2019
2019 Estimated System Revenue (in \$000s)	\$100,284	\$98,479
2019 Actual System Revenue (in \$000s)	\$99,904	\$99,904
% Difference from Estimated	-0.4%	1.4%

William Chapman, CFO | 3300 N IH 35, Suite 300, Austin, Texas 78705 | (512) 450-6284

TxDOT On-Call T&R | Texas | Texas Transportation Commission bond sale on 2/20/20 for \$683.8 million

Stantec has been providing TxDOT forecasting services through a series of on-call T&R assignments since 1998. We have prepared all levels of T&R studies, ranging from Level 1 preliminary feasibility studies to Level 3 investment-grade studies that support financing. Stantec has provided T&R services for hundreds of toll feasibility studies made during the early planning stages for the growth and improvement of the greater Austin transportation roadway network. Following on those studies, we have prepared six investment-grade T&R forecasts for toll facilities that led to more than \$5 billion in revenue bond financing. We have worked directly with several divisions within TxDOT on these studies, including the Toll Operations Division, Strategic Project Division, Debt

Recent Stantec Experience on Traffic and Revenue Projects

System	Fiscal Year	Projected Revenue (in \$000s)	Actual Revenue (in \$000s)	% Difference
CTRMA	2019	\$98,479	\$99,904	+1.4%
TxDOT	2018	\$207,500	\$219,600	+5.8%
NYSTA	2019	\$739,600	\$739,900	0%
MTA TBTA	2019	\$2,097,000	\$2,071,000	-1.2%
DelDOT	2019	\$187,762	\$187,639	+0.1%
DRPA	2018	\$335,600	\$334,000	-0.5%
GNOEC	2018	\$25,004	\$24,024	-3.9%
MassDOT	2020	\$210,800	\$169,400 (COVID-19 affected)	-19.6%
NH Turnpike	2020	\$133,400	\$118,700 (COVID-19 affected)	-11%
RITBA	2020	\$21,700	\$19,300 (COVID-19 affected)	-11%

Management Office, General Counsel, and Transportation Planning and Programming, as well as several district offices.

Representative T&R projects include several investment grade studies for the Central Texas Turnpike System (CTTS), and Level 2 Forecasts for Managed Lane projects on IH-35 and IH-10 in San Antonio, and SH 71 East in Austin. Stantec has also performed numerous Level 1 studies in Dallas, Austin, San Antonio, Laredo, El Paso, Sherman/Denison and Beaumont. We have also performed operational analyses and simulation studies for the CTTS facilities in support of ongoing expansions and planning studies.

Date of TxDOT OS	8/29/2018
2019 Estimated System Revenue (in \$000s)	\$207,500
2019 Actual System Revenue (in \$000s)	\$219,600
% Difference from Estimated	+5.8%

Marcy Saenz, Toll Operations Division | 12719 Burnet Road Austin, Texas 78727 | (512) 874-9708

New York State Thruway Authority Finance & Operation On-Call | New York | 4 NYSTA bond sales since 2017 for a total of \$4.6 billion, most recent on 2/20/20 for \$450 million

The 570-mile New York State Thruway is the longest toll facility in the US and Stantec has been the Thruway Authority's consulting engineer for more than 20 years. In this role, we periodically prepare revenue forecasts, analyze toll rates, work with the bond counsel and financial consultants on pending matters, prepare engineer's certificates for the trustee, recommend measures to relieve traffic congestion, and address other related issues as requested by the Authority's staff and board members. Notable recent work has included preparing T&R and fee revenue estimates for portions of the Thruway system that are planned to be converted to AET. Another aspect analyzed during this study included developing and revising existing policies and legislation that would support AET for consistency with existing state and federal laws and the Authority's bond resolutions. We also studied the financial implications of AET conversion in terms of net revenue changes and analysis of different toll schedules to establish revenue neutrality. We reviewed state and federal laws as they pertained to video tolling and the methods available for enforcing and collecting those tolls. Most

recently, we have been tracking COVID-related impacts on traffic and revenue on a daily basis and periodically producing a range of future estimates of T&R. We are also in the process of completing an Environmental Assessment for the proposed toll modification.

Date of Thruway OS	4/30/2019	10/18/2019
2019 Estimated System Revenue (in \$000s)	\$738,100	\$739,600
2019 Actual System Revenue (in \$000s)	\$738,900	\$739,900
% Difference from Estimated	0.1%	0.0%

Matt Howard, CFO, Finance and Accounts | 200 Southern Blvd. PO Box 189 Albany, New York 12201 | (518) 436-2820

MTA Independent Engineer for Triborough Bridge and Tunnel Authority (TBTA) Bond Issues | New York | 16 bond sales since 2017 for \$4.5 billion, most recent on 5/15/19 for \$150 million

Since 2012, Stantec has been the Independent Engineer to MTA's TBTA and has been responsible for preparing annual reports which project traffic, toll revenues and expenses for TBTA's seven toll bridge and two tunnel facilities. The report is one of several documents that are referenced as part of MTA's Continued Disclosure Filings. The MTA uses the report on an ongoing basis to assist with issuing debt securities through public credit markets and financing capital needs.

To complete each of the annual reports, we coordinated with TBTA to obtain current and historical traffic and revenue information for each of their facilities. This information was supplemented with current and historical traffic volume data for nearby non-tolled facilities along the East River, nearby non-tolled corridors, and nearby toll facilities such as the Port Authority of New York and New Jersey. Toll rates, toll revenues, and changes in toll schedules at the Port Authority facilities were also analyzed. We developed a proprietary spreadsheet model to house all the current and historical traffic and revenue data and used that model as a basis for detailed traffic and revenue forecasting.

In addition to preparing annual reports, Stantec continuously monitors T&R at each of the TBTA facilities and prepares Bringdown letters and Certification letters and interim report updates (as necessary) to assist the MTA with their bond transactions and other obligations with bondholders. We've also supported MTA through participation in Due Diligence calls for bond transactions and responding to requests for

additional information from public credit markets upon their review of the annual report or certification and bringdown letters.

Date of MTA TBTA OS	5/15/2019
2019 Estimated System Revenue (in \$000s)	\$2,097,000
2019 Actual System Revenue (in \$000s)	\$2,071,000
% Difference from Estimated	-1.2%

Patrick McCoy, Director of Finance | 2 Broadway, New York, New York 10004 | (212) 878-7183

Orange County Transportation Authority (OCTA) | California | \$628.9 million financing (TIFIA) on 7/1/17

Stantec has been the OCTA's On-Call traffic and revenue consultant since the early 2000's and has helped them develop their toll policy, evaluate toll policy changes, and forecast traffic and revenue for their first of its kind SR 91 Express Lanes. When the OCTA decided to build express lanes in the I-405 corridor, they retained Stantec to develop their toll policy and forecast the project's traffic and revenue. The I-405 project will improve 16 miles of I-405 between the SR-73 freeway in Costa Mesa and I-605 near the L.A. County line. The I-405 freeway in Southern California is infamous for its congestion. Motorists regularly experience extensive congestion in the corridor, traveling only 15 miles in an hour. The I-405 project aims to improve mobility by widening the general purpose lanes while also adding the 405 Express Lanes. Our study consisted of an extensive traffic data collection program, regional modeling, and toll policy development. We brought our experience with the 91 Express Lanes to this project by incorporating a custom T&R forecasting model that we built based on the revealed preference of Express Lanes users. The study culminated with the OCTA being able to procure a \$629 million TIFIA loan. The project is under construction and expected to open in 2023.

OCTA OS - Project not open yet

Kirk Avila, Manager of Express Lane Programs | 550 South Main Street, PO Box 14184, Orange, California 92863 | (714) 560-5674

Delaware Transportation Authority | Delaware | Bond sale on 9/10/19 for \$137.1 million

The Delaware Department of Transportation (DelDOT) retained Stantec to forecast the Delaware Turnpike and Route 1 Toll Road's traffic and

revenue. The 11-mile Delaware Turnpike is a key link in the Northeast Corridor's I-95 route from New England, New York, Philadelphia and Wilmington to Baltimore, Washington and the South. The SR 1 Corridor extends 100 miles, nearly the full length of the state, from the I-95/ Delaware Turnpike southward to the Maryland state line on the approach to Ocean City. Stantec analyzed the toll facilities' actual traffic and earnings record from its opening in 1963 and studied traffic patterns and revenue trends over the course of the Turnpike's years of operation from 1963 through 2019. SR 1 Toll Road estimates are based on its actual traffic and revenue record since the opening of the first section of the project in December 1993; its staged completion through May 2003; and, as with the Turnpike, the results through June 2016.

Date of DelDOT OS	9/10/2019
2019 Estimated System Revenue (in \$000s)	\$187,639
2019 Actual System Revenue (in \$000s)	\$187,762
% Difference from Estimated	+0.1%

Brian Motyl, Assistant Director and Finance | 800 Bay Road / Route 113, Dover, Delaware 19903 | (302) 760-2080

Delaware River Port Authority | Delaware | Bond sale on 12/14/18 for \$700.5 million

The Delaware River Port Authority (the Authority) is responsible for four toll bridges that span between New Jersey and Pennsylvania: the Betsy Ross, Benjamin Franklin, Walt Whitman, and Commodore Barry Bridges. Stantec has completed multiple Traffic and Revenue studies for the Authority over the years. In 2013, 2015, and again in 2018, Stantec developed 10-year projections of traffic and toll revenues for the four toll bridges suitable for supporting bond financing of a portion of the Authority's 5-Year Capital Program.

Our studies reviewed the current and historical conditions of DRPA infrastructure, toll structure, and traffic volumes; effects of a commuter discount program; economic, population, employment, and other demographic forecasts in the Philadelphia/Camden metropolitan area; the greater roadway network and travel behavior in the region, and current and planned construction activities that might impact the DRPA bridges or regional roadway network.

In the most recent 2018 DRPA T&R study dated November 5, 2018,

Stantec was responsible for reviewing and preparing sections of bond documents and issuing certificates as required. As a result, the Authority successfully sold \$700,505,000 in revenue bonds.

Date of DRPA OS	12/7/2018
2018 Estimated System Revenue (in \$000s)	\$335,600
2018 Actual System Revenue (in \$000s)	\$334,000
% Difference from Estimated	-0.5%

James White, Chief Financial Officer/Treasurer | One Port Center, 2 Riverside Drive, PO Box 1949, Camden, NJ 08101 | (856) 968-2000

Greater New Orleans Expressway Commission | Louisiana | Bond sale on 7/9/17 for \$87.5 million financing

The Greater New Orleans Expressway Commissions (GNOEC) retained Stantec to study how a proposed toll increase on the Lake Pontchartrain Causeway in Louisiana would impact its traffic and revenue. As part of this project, Stantec used the New Orleans Regional Planning Commission's (NORPC) TransCAD-based Travel Demand Model and Stantec's Toll Diversion Model developed in Cube. This project involved a significant amount of data collection, compilation, and processing. To establish future year growth assumptions, Stantec used economic data from Woods and Poole and Census data to review socioeconomic (SED) trends in the study area and compared this trend to the SED provided by the NORPC in their regional model. Stantec also reviewed how traffic responded to past toll increases and used these data to inform our view of toll elasticity of the facility's users. Future network improvement projects from the NORPC long range plan were also evaluated for inclusion in the background network. A T&R stream for 45 years, from 2015 to 2059, was prepared for base case and other sensitivity scenarios. The results of the analysis were used as the foundation for a subsequent project financing.

Date of GNOEC OS	7/9/2017
2018 Estimated System Revenue (in \$000s)	\$25,004
2018 Actual System Revenue (in \$000s)	\$24,024
% Difference from Estimated	-3.9%

Melissa Philpott, Director of Finance | P.O. Box 7656, Maitairie, Louisiana 70010 | (504) 835-3118

COVID-Affected Forecasts

We have completed studies and associated financing for three clients

in the recent past. Traffic and revenue for these facilities was prepared pre COVID-19, like all other toll facilities, have been negatively impacted by the COVID-19 pandemic and as a result actual results are below forecast. We are actively working with our clients to help them understand the nature of the T&R impacts, and what they should expect going forward.

Massachusetts Department of Transportation (MassDOT) Toll Consulting Support Services and T&R Forecasting Services | Massachusetts | MassDOT Metropolitan Highway System bond sale on 10/2/19 for \$464.7 million

Stantec is the T&R consultant for MassDOT. The recent task order contract requires Stantec to perform comprehensive, investment grade T&R studies to support potential bonding/ financing initiatives. Previous work by Stantec staff included a study to develop toll rates for all Turnpike System facilities as they were converted from conventional tolling to AET. This included the Western Turnpike, a ticket system replaced by mainline AET gantries. The study included analysis of revenue and toll collection cost implications of the conversion, which involved relocation of every tolling point, changes to the vehicle classification system, differential tolls for pay-by-plate and in-state versus out-of-state E-ZPass, and setting billing fees to cover collection costs. In October 2019 we completed a traffic and revenue study for a bond refunding for the Massachusetts Turnpike (MHS) in the amount of \$465 million. Current work includes analysis of COVID-19 impacts on toll and fee revenues.

Date of MassDOT OS	10/2/2019
2020 Estimated System Revenue (in \$000s)	\$210,800
2020 Est. Actual System Revenue (in \$000s)	\$169,400 (COVID-AFFECTED)
% Difference from Estimated	-19.6%

Steve Collins, Director of Tolling | 10 Park Plaza, Boston, Massachusetts 02116 | (617) 504-0124

New Hampshire Department of Transportation (NH DOT) | New Hampshire | \$40.8 million bond sale on 10/31/2019

For nearly 20 years, Stantec and/or Stantec staff have worked on a series of on-call contracts to provide toll-related services and support, including T&R forecasting. We have developed forecasting models and prepared the investment grade T&R reports to support five revenue bond

financing sales by the NHDOT in 2009, 2011, 2012, 2015, and 2019 totaling over \$882 million. Other project tasks have included a vehicle reclassification analysis, AET feasibility, analysis of potential frequency discount plans, and effects of moving or removing certain toll locations.

Date of NH DOT OS	10/31/2019
2020 Estimated System Revenue (in \$000s)	\$133,400
2020 Est. Actual System Revenue (in \$000s)	\$118,700 (COVID-AFFECTED)
% Difference from Estimated	-11.0%

John Corcoran, Administrator, Bureau of Turnpikes | 7 Hazen Drive, Concord, New Hampshire 03302 | (603) 485-3806

Rhode Island Turnpike and Bridge Authority (RITBA) | Rhode Island | \$48.8 million bond sale on 11/20/2019

Stantec is RITBA's T&R Consultant. In addition, since 2009, Stantec staff have provided On-Call Toll Consulting Services to RITBA while previously working at another firm. Most recently, we developed for the Newport Pell Bridge forecasting models that test various toll schedules and incorporate all-electronic tolling (AET). In addition, we studied the toll plaza's staffing and technology and suggested changes to reduce collection costs while considering revenue risk. Our most recent work included estimating revenues considering COVID impacts for budgeting.

Date of RITBA OS	11/20/2019
2020 Estimated System Revenue (in \$000s)	\$21,700
2020 Est. Actual System Revenue (in \$000s)	\$19,300 (COVID-AFFECTED)
% Difference from Estimated	-11.0%

Maggie Baker, CFO | RI-138, Jamestown, Rhode Island 02835 | (401)423-0800

Subconsultant Experience

Alliance Transportation Group, Inc. | LADOTD Public Private Partnership Feasibility Study | Louisiana: ATG performed a series of traffic and revenue analyses to assess the viability of six of the mega projects identified in the Louisiana Statewide Transportation Plan for implementation as tolled facilities. ATG used the respective travel demand models in each metropolitan area to evaluate the projects. ATG developed traffic and revenue forecasts for each project that, combined with capital and operating cost estimates, were used to assess the feasibility of the projects.

Connie Porter, Project Scoping Engineer | 1201 Capitol Access Road, Baton Rouge, Louisiana 70802 | (225) 379-1297

Bomba Consulting LLC | 2020 CTRMA Demographic Update | Texas:

Investment grade traffic and revenue study for existing and proposed managed lanes along Loop 1. The study required assessing the reasonableness of the Capital Area Metropolitan Planning Organization's (CAMPO) population and employment estimates and forecasts at the zonal level for the regional travel demand model, adjusting the data as necessary. The study also included interviews with local planning officials and comprehensive field surveys along multiple CTRMA roadway corridors in Travis County and western Williamson County.

Bill Chapman, Chief Financial Officer | 3300 N IH-35, Suite 300, Austin, Texas 78705 | (512) 450-6284

Cox | McLain Environmental Consulting Inc. | 2017 Central

Texas Turnpike System Update for TxDOT | Texas: Assessed the reasonableness of CAMPO's and AAMPO's travel demand model's population and employment estimates and forecasts at the zonal level for a Level 2 traffic and revenue study. The project study area incorporated six counties in Central Texas and was over 1,000 square miles in size. The effort also included interviews with local planning officials and extensive field surveys along the toll road corridors. Cox | McLain's role included using digital aerial photography to identify and quantify new population and employment growth in the project study area to assist with developing revised baseline population and employment estimates.

Marcy Saenz, Toll Operations Division | 12719 Burnet Road Austin, Texas 78727 | (512) 874-9708

CJ Hensch & Associates, Inc. | MoPac North and 183 North Traffic Data Collection | Texas:

Conducted traffic counts and travel time runs in the MoPac North and 183 corridors, in support of Stantec's traffic and revenue studies in these corridors for the Mobility Authority. Perform spot speed studies along IH 35W Toll at 22 locations, 14 locations along US 380, and 50 locations along US 67.

Dhruva Lohan, Kimberly-Horn & Associates | 13455 Noel Road, Two Galleria Office Tower, #700, Dallas, Texas 75240 | (972) 770-1305

AGS Environmental & Construction | TxDOT SH 35 – Bay City

Signals (2 Total) | Yoakum, Texas: AGS has helped Stantec conduct field observations in the Austin area for Central Texas Turnpike System projects. This included a mix of traffic counts, speed runs, and an origin-destination study.

Colby W. Wright, Jones Carter | 6330 West Loop South, Suite 150, Bellaire, Texas 77401 | (713) 353-7236

Larson Consulting Associates, LCC | Los Angeles County

Metropolitan Transportation Authority, ExpressLanes Program |

California: Larson Consulting provided program management and toll expertise for policy development, program evaluation, surveys and research, marketing and branding, and toll operations support for the ExpressLanes program. Larson Consulting was responsible for the development of the ExpressLanes toll program policies including the phased approach to address demand on the highly congested ExpressLanes. Catherine developed and managed the agency's FasTrak declarable transponder rebranding project. Additionally, she facilitated a complete update of the program's business rules. Furthermore Catherine oversaw the development of the ExpressLanes collections program, including the solicitation of a new collections vendor.

Silva Mardrussian | 1 Gateway Plaza, Los Angeles, California 90012 | (213) 922-4425

E. A SUMMARY OF ALL REGULATORY AND LEGAL PROCEEDINGS INITIATED SINCE JANUARY 1, 2017

There are no unsatisfied judgments or arbitration awards outstanding against Stantec. Stantec does have some legal proceedings, lawsuits, or claims pending. These are a normal part of professional services industries. All have been reported to Stantec's insurers who are in the process of adjusting/managing them. None will have a material effect on the financial position of the company or its ability to undertake this assignment. Perhaps of greater comfort to our clients is the fact that Stantec seeks to deal with client concerns and claims promptly and fairly through its Risk Management group. As a public company, Stantec has substantial assets and maintains a high professional liability insurance

limit. Stantec's claims history has resulted in relatively low insurance premiums when compared with firms of similar size and character.

IV. Historically Underutilized (“HUB”) And Disadvantage Business Enterprise (“DBE”) Participation

A. PROVISION FOR HUB AND/OR DBE PARTICIPATION

Stantec makes a good faith effort to comply with our client's guidelines for HUB utilization guidelines. As described below, our Team has a roster of several certified HUB firms that can provide a range of services to the Mobility Authority. The exact mix of firms will depend on the nature of task orders and associated opportunities.

B. WOMEN/MINORITY EMPLOYEES PROPOSED TO BE ASSIGNED TO THE CTRMA PROJECT AND THEIR LEVEL OF ENDEAVOR AND RESPONSIBILITY

The below chart shows women and minority staff on the Stantec team.

Stantec Key Staff Name	Woman	Minority
Tiffany Cummings, Project Manager	✓	
Marcelle Jones, Strategic Advisor	✓	✓
Jun Yao, Travel Demand Modeling Lead		✓
Sumeet Kishnani, Data Analytics Lead		✓
Haley Collins, Demographics Lead	✓	
Sheldon Mar, Simulation Modeling Lead		✓
Sanaz Zehtabi, Simulation Modeling	✓	✓
Sean Tihal, Toll Systems and Technology		✓

The women and minority staff from our subconsultant firms listed in the following section are shown in the below chart.

Subconsultant Key Staff Name	Woman	Minority
Ashley McLain, Demographic Forecasts	✓	
Rolando Castañeda, Data Collection		✓
Catherine Larson, Surveys	✓	

C. NAME OF SUBCONTRACTED HUB OR DBE FIRMS, THEIR PRINCIPALS, A SUMMARY OF THE WORK TO BE PERFORMED & THE PERCENTAGE OF THE TOTAL CONTRACT

The Stantec Team consists of a diverse mix of professionals that have experience working on projects in the Austin area and for the Mobility Authority or other toll road agencies for several years. These firms

will be utilized to perform the services described below as needed throughout the on-call contract duration. We would work with the Mobility Authority to include these subconsultants to meet specified HUB and DBE participation goals. This includes the following categories:

- **Alliance Transportation Group, Inc.**, has helped with the review of municipal and regional transportation plans for traffic and revenue studies in the Central Texas region for nearly 10 years. They bring a strong understanding of development patterns and plans, and are a certified Disadvantaged Business Enterprise (DBE), Women-Owned Business Enterprise (WBE), and Historically Underutilized Business (HUB) in the State of Texas.
CEO - Gayle Heath; President - Mike Heath
- **Cox | McLain Environmental Consulting Inc.** is a certified DBE/WBE/HUB in the State of Texas. They have previously worked on environmental studies for the Mobility Authority. They are on our team to support with demographic analyses.
Principals - Ashley McClain; Larry Cox
- **CJ Hensch & Associates, Inc.** is a certified DBE/WBE/HUB in the State of Texas. They have worked with Stantec on data collection and summarization, and field reconnaissance tasks in the Central Texas region.
President - Carol Hensch
- **AGS Engineering & Construction** is a certified HUB and DBE in the State of Texas. AGS has also worked with Stantec on extensive data collection efforts in the Central Texas region. They bring additional depth for large field data collection programs.
President - Rolando Castañeda
- **Larson Consulting Associates, LLC** is a woman-owned business that has helped provide survey services for Stantec on traffic and revenue projects in several states. The firm is a state-certified DBE in some states and is eligible to apply for this in Texas. LCA also has Federal DBE certification.
President - Catherine Larson

D. OTHER PERTINENT INFORMATION OF WOMEN/MINORITY PARTICIPATION WITHIN OTHER SUBCONTRACTING FIRMS

The above sections identify leading Team roles for women and/or minorities. Stantec and our subconsultant team have women and/or minority support staff that regularly work on our studies.

E. DESCRIBE THE AFFIRMATIVE ACTION PLAN OF YOUR FIRM

Stantec is an Equal Employment Opportunity employer. Our policy is to provide equal opportunity to all employees and applicants and to prohibit any discrimination because of race, color, religion, sex, national origin, age, marital status, genetic information, disability, pregnancy, protected veteran status, sexual orientation or gender identity and expression. Employees will be treated based on their job-related qualifications, ability, and performance. Discrimination and harassment, including sexual harassment, is against the law, against Stantec policy, and will not be tolerated. Stantec will provide reasonable accommodations for employees and applicants with disabilities. The foundation of these policies is our commitment to treat everyone fairly and equitably and to have an unbiased work environment.

Stantec is an Affirmative Action employer, promoting equal opportunities among races, genders, religions, sexual orientations, individuals with disabilities and veterans. Stantec annually creates and implements an affirmative action plan for each of its locations in the US.

At Stantec, we create opportunity by inviting, embracing, and celebrating differences. This goal remains at the heart of our efforts to champion diversity and inclusion throughout our organization. Over the years, we've made some incredible progress in supporting this area, but as we continue to evolve, so does our understanding of how we need to shift our approach to take our work to the next level. Our overarching goal is to ensure that in all we do, we foster ongoing solidarity with our BIPOC (Black, Indigenous, and People of Color) communities. We are committed to supporting volunteerism, STEM education, mentorship, and scholarship opportunities to support BIPOC students and future leaders in our industry.

F. STATEMENT OF CONFORMITY WITH THE REQUIREMENTS OF CTRMA'S POLICY ON THE PARTICIPATION OF HUBS IN CTRMA PROFESSIONAL SERVICES AND CONTRACTING OPPORTUNITIES

Stantec will be able to conform with such requirements if and when required.



Bill Ihlo PE Project Director

REGISTRATIONS
Professional Engineer
#17437, CT

Professional Engineer
#072882, NY

EDUCATION
Master of Urban Planning,
New York University, 1979

Master of Science,
Transportation Planning
and Engineering,
Polytechnic Institute of
New York, 1979

Bachelor of Science,
Management, Rensselaer
Polytechnic Institute, 1971

MEMBERSHIPS
Member, International
Bridge, Tunnel and
Turnpike Association

As a traffic engineer for over 40 years, Mr. Ihlo's duties have encompassed all phases of transportation studies, including a particular focus on traffic and revenue feasibility studies. These studies range from preliminary Phase I to investment grade projects. Mr. Ihlo is a Principal with the firm.

Select Project Experience

CTRMA Studies | Williamson County, Texas

Mr. Ihlo has been Project Manager for over 15 years, responsible for conducting a wide variety of studies in support of a long term role as the Authority's traffic consultant. Studies include preliminary feasibility, investment grade leading to financing, monitoring traffic and revenue performance, assessing changes in toll policy, preparing sections of bond documents, issuing certificates as required by trust indentures and providing input for annual reports to TIFIA. Major projects include the 11-mile 183A Turnpike now open for traffic, the 6-mile 290E Project, and the 8-mile 183S project now under construction.

Central Texas Turnpike System (CTTS) Traffic and Revenue Studies | Austin, Texas

Project Manager or Project Director in charge of conducting an investment grade level traffic and revenue study of proposed 70-miles of turnpike (SH45, Loop 1 and SH130) serving the rapidly growing suburbs of Austin. The original study was done in 2002 and resulted in a \$2.2B financing. These facilities opened for traffic in stages during 2006 and 2007 with significantly more traffic usage than expected. Updated investment grade studies were prepared in 2005, 2008, 2010, 2012, 2014, 2018, and most recently in 2019. The 2012 study was prepared in connection with expansion of the system and changes to the toll collection system including a toll increase, a cashless conversion and discounts for disabled veterans.

183A Turnpike | Austin, Texas

Project Manager responsible for conducting numerous intermediate level and investment grade traffic and revenue feasibility studies for a proposed 11-mile turnpike project serving the rapidly growing north suburbs of Austin. Phase 1 of this project opened in 2007 with significantly more traffic usage than forecasted. Phase 2 opened in 2012, some 5 years ahead of schedule and Phase 3 of this project is currently being studied for a northerly extension.

Transportation Corridor Agencies and Traffic & Revenue Study | Orange County, California

Project Manager or Technical Advisor on a long term assignment for the Transportation Corridor Agencies' (TCA) toll roads which include the San Joaquin Hills (SJH) and the Foothill /Eastern (F/E) corridors. This 51-mile toll system was built in stages between 1993 and 1999 and processes over 300,000 average weekday toll transactions. The toll facilities serve major employment and shopping centers, provide congestion relief alternatives, and provide access to future development areas. Significant traffic and revenue studies were conducted in 2003, 2008 and 2012, with extensive changes to the travel demand model including recalibration to reflect changes in land use development trends, travel patterns and network infrastructure. Other assignments include annual forecasts for budget process, analysis of toll elasticity and rate adjustments, impact of conversion to cashless operations and routine monitoring of traffic, revenue and AVI usage.

Cashless Toll Studies | Texas and California

Project Manager or Technical Advisor for several toll feasibility studies to assess the impacts of eliminating cash payments on existing toll facilities. Projects include the 183A Turnpike in Austin, TX, the CTTS roadways in Austin, TX and the TCA roadways in Orange County, CA. The 183A Turnpike successfully eliminated cash in 2008, the CTTS roadways (SH 130, SH 45N & Loop 1) converted to cashless in January 2013 and the TCA system converted in the Fall of 2013.

Managed Lane Studies | Various Locations

Project Manager or Technical Advisor for several preliminary toll feasibility studies to assess the revenue potential of constructing express lanes alongside general purpose lanes. Corridors include I-35W in Denton, TX, Tappan Zee Bridge in Rockland County, NY, I-25 in Denver, CO, I-26 in South Carolina, Loop 1 (N & S) in Austin, TX, Route 28 in Virginia, and 183N in Austin, TX.



Tiffany Cummings PE

Project Manager

REGISTRATIONS

Professional Engineer
#132525, TX

Professional Engineer
#096707, NY

EDUCATION

Bachelor of Science, Civil
Engineering, Clemson
University, 2011

MEMBERSHIPS

Chair of the WTS Greater
New York Chapter's Young
Professionals Committee,
Women's Transportation
Seminar

Ms. Cummings is a Transportation Engineer with a Bachelor of Science degree in civil engineering. She has experience in a variety of transportation engineering and planning projects, as well as site and land development projects. Specifically, she has extensive experience in transportation planning for toll roads with expertise in traffic and revenue forecasting, strategic toll rate analyses, toll facility monitoring, and travel demand model development. Ms. Cummings also has transportation operations experience for major sports stadiums.

Select Project Experience

CTRMA System (183A, 290E, 71E, SH 45 SW, 183S, and 183N Express Lanes) 2019 T&R Study | Austin, Texas

Ms. Cummings served as a Transportation Engineer and Assistant Project Manager for this investment-grade study to refinance the CTRMA System. Responsible for designing the data collection program, summarizing and analyzing existing traffic data within the study area, overseeing the calibration of the travel demand model and microsimulation model, and preparing the traffic and revenue forecasts for the System. The investment grade forecasts were used to finance the 183A Phase III and 183N Express Lane projects through a TIFIA loan application (still underway), as well as through the sale of bonds. She also authored the traffic and revenue report for inclusion in the Official Statement and TIFIA Letter of Intent. These efforts led to a 12/2019 bond sale of \$50.2B.

CTRMA System (183A, 290E, and 183S) 2018 Refinancing | Austin, Texas

Ms. Cummings served as a Transportation Engineer and Assistant Project Manager for this investment-grade study to finance the construction of 290E Phase III direct connectors. She was responsible for designing the data collection program, summarizing and analyzing existing traffic data within the study area, overseeing the calibration of the travel demand model, and preparing the traffic and revenue forecasts for the System. The investment grade forecasts were used to finance the project through a TIFIA loan application, as well as through the sale of bonds. She also helped author the traffic and revenue report for inclusion in the Official Statement and prepared presentations for rating agency meetings and investor roadshows, and also conducted numerous sensitivity tests as a part of this financing effort. These efforts led to an 10/2018 bond sale of \$90.3M.

183A Toll Road, Phase III Extension Feasibility Study | Austin, Texas

Ms. Cummings was a Transportation Designer responsible for preparing Level I traffic and revenue forecasts for the proposed five-mile northerly extension of the existing 183A toll road. She revised the background networks of the travel demand model to include the proposed project and analyzed the results of the regional travel demand model to produce the forecasts.

290E / SH 130 Direct Connector Feasibility Study | Austin, Texas

Ms. Cummings was a Transportation Engineer responsible for preparing Level I traffic and revenue forecasts for various configurations of direct connectors between the existing 290E (Manor Expressway) and SH 130 toll roads. She modified the background networks of the travel demand model for each configuration and tolling scenario. She summarized and analyzed the results of the regional travel demand model to produce forecasts for each scenario and assess the impacts of the improvements to the 290E and SH 130 toll roads.

183 South Truck Toll Discount Feasibility Study | Austin, Texas

Ms. Cummings was a Transportation Engineer responsible for conducting sensitivity tests for various truck toll discounts on the future 183S toll road. She modified the background networks of the travel demand model for each tolling scenario, and summarized and analyzed the results of the regional travel demand model to produce 183S T&R forecasts for each scenario and assess the impacts of the toll discounts to truck traffic on IH-35 and SH 130 toll road.

CTRMA System (183A, 290E, and 183S) 2015 Refinancing | Austin, Texas

Ms. Cummings served as a Transportation Engineer who was responsible for designing a data collection program, summarizing and analyzing existing traffic data within the study area, overseeing the calibration of the travel demand model, and preparing the traffic and revenue forecasts for the System.



Rick Gobeille PE

Principal-in-Charge

REGISTRATIONS

Professional Engineer
#PE050984E, PA

Professional Engineer
#21944, MD

Professional Engineer
#24GE03964100, NJ

Professional Engineer
#063235, NY

EDUCATION

Master of Engineering,
Mechanical Engineering,
Stevens Institute of
Technology, 1983

Bachelor of Engineering,
Civil Engineering, Stevens
Institute of Technology,
1980

Mr. Gobeille is a nationally recognized leader in toll systems technology, development and implementation, traffic and revenue forecasting, operating cost estimates, and toll facility operations. He has more than 25 years of experience and has led several toll collection initiatives in the industry's transformation from attended toll booth concepts to electronic toll collection (ETC), Open Road Tolling (ORT), All Electronic Tolling (AET), and Managed Lanes. Over the course of his career, he has prepared reports and studies, and made more than 100 presentations to ratings agencies, underwriters, and investors, in support of more than \$19 billion of Toll Revenue Bond Sales and Trust Agreement requirements. Of particular note, he was the project manager for the original feasibility, implementation studies, and testing for E-ZPass in the early 1990s.

Select Project Experience

MTA Independent Engineer Traffic and Revenue Study 2019 | New York, New York

As Technical Advisor Mr. Gobeille functioned as a technical advisor and independent reviewer of Stantec's 2019 forecast. This involved holding a series of review meetings as the report and forecast progressed and asking technical questions regarding the level of the traffic and revenue forecasted.

TxDOT Procurement Services* | Statewide, Texas

Responsible for leading the Engineer's activities in conjunction with a \$3B Grand Parkway Project. Activities including preparing all O&M, R&R and toll operation costs estimates, opining on the design builders proposed program and schedule, assessing schedule and cost risks and making presentations to the Rating Agencies, Underwriters and TIFIA in support of the project.

MTA Toll System Studies* | Statewide, Massachusetts

Completed several studies with regards to the Turnpike's toll collection system. Efforts included a review of the various approaches to toll collection including ticket, barrier and hybrid systems looking to optimize toll collection costs, plaza congestion and customer convenience. Results of the studies include specific recommendations to improve plaza operations through the development of new dedicated toll locations, a hybrid barrier/ticket system for future consideration. Also completed tasks that specifically studied AET pilot programs for the eastern terminus of the ticket system at I-95 and for the Tobin Bridge and the tunnels.

NYSTA Finance and Operations* | Statewide, New York

Project Director/Project Manager for several on-call traffic and revenue and financial services retainer contracts over the past 20 years that supported a variety of the Authority's projects and studies. He has completed some \$10B in successful NYSTA financing bond sales. Mr. Gobeille made significant contributions to 14 Thruway Revenue Bond Sales (including the most recent Series L), the New York Bridge TIFIA financing, Tappan Zee Bridge AET Implementation, and numerous other certifications and studies for the Authority. Other efforts he has managed under this contract include T&R projections; transportation policy and program development; and system analysis and revenue forecasting.

On-Call Toll Systems and Related Services* | Statewide, New Hampshire | Project Director

Directed on-call, toll-related services and support, including T&R forecasting. Developed the traffic and revenue model and prepared the investment grade T&R report that supported NHDOT's December 2009 \$217 million revenue bond financing sale, and completed an update of the study in August 2012 for the bond sale later this summer. Prepared certificates in support of the Additional Bonds tests that included an analysis of O&M expenses. Other project tasks included estimation of revenue effects of various frequency discount plans, feasibility of all-electronic toll collection (AETC), and revenue effects of changing to a height and axle-based classification system.

Policy Development / Strategic Planning Projects | Various Locations

As Project Manager/Director responsible for assignments that developed policy and strategic plans for toll agencies. Acting as facilitator, Mr. Gobeille led the agency teams through a consensus building process that included the commissioners, directors and executives of numerous agencies and toll authorities. Projects included: Toll System Study (NYS Thruway Authority), E-ZPass Implementation Study (NHDOT), ETTM Implementation Study (NJTA), ORT Policy Development (MDTA), Toll System Strategic Plan (Ohio Turnpike Commission), AVI / ETTM Strategic Plan (I-95 Corridor Coalition).

*denotes projects completed with other firms



Joe Sobleskie

Technical Advisor

EDUCATION

Bachelor of Science, Civil Engineering, Pennsylvania State University, 1989

Mr. Sobleskie is a recognized leader in the traffic and revenue forecasting industry. He has served as project manager for more than \$7B in successful toll facility financing bond sales for public authorities, private clients, public-private partnerships and concessionaires on projects across the US, in Chile and in Mexico. His practical experience tying together financial and economic analyses with his transportation planning/engineering background has resulted in traffic and revenue programs for numerous toll authorities and private concessionaires. Mr. Sobleskie also has notable credentials in the areas of financial forecasting, cost/benefit analysis and due diligence review.

Select Project Experience

State Road and Tollway Authority (SRTA), Northwest Corridor Express Lanes (I-75 / I-575) And I-75 South Metro Express Lanes | Atlanta, Georgia

Stantec prepared investment-grade T&R forecasts for the I-75 South Metro Express Lanes and the Northwest Corridor Express Lanes for SRTA, who obtained private financing for the I-75 South Metro Express lanes and a \$275M TIFIA loan for the Northwest Corridor because of our forecasts. The nearby SRTA-operated I-85 Express Lanes provided invaluable data for these studies, such as value of time, travel time differentials, toll rates, speed flows, and corridor throughput, all of which we analyzed and incorporated into our forecasts. Our forecasting models were subject to extensive calibration processes, providing for reliable and accurate T&R forecasts. After extensive modeling efforts to test varying tolling structures, business policies, and toll rates, we forecasted travel demand with the tolls set to facilitate SRTA's goal of achieving travel time reliability.

Georgia State Road and Tollway Authority I-85 Express Lanes Dynamic Pricing Algorithm and Facility Management (USDOT Congestion Reduction Demonstration)* | Atlanta, Georgia

Project Manager of the independent traffic consultant supporting SRTA's efforts to create the dynamic tolling pricing algorithm, in that the resulting tolling algorithm functions in the way that has been planned by the Project Team for usage on the Project to meet the Project's goal of travel time reliability for the Express Lane. Additionally, Mr. Sobleskie was one of the operators of SRTA's Toll Operations Center (TOC), which monitors and controls the I-85 Express Lanes Facility.

Georgia State Road and Tollway Authority Traffic and Revenue Consulting Services (USDOT Congestion Reduction Demonstration)* | Atlanta, Georgia

Provided overall project management for this on-call toll feasibility and traffic and revenue consulting services contract that will support statewide initiatives that require assessing the viability of toll/user-financed facilities, as well as projects that would require innovative transportation financing. The first initiative included making the investment-grade traffic and revenue study for the I-85 Express Lanes in Atlanta. Project included the investment-grade traffic and revenue study for the \$40M financing in November 2010. A toll feasibility and traffic and revenue analysis was performed to determine the viability and phasing of converting the existing HOV lanes to HOT lanes in the Atlanta region.

New York State Thruway Authority Finance and Operations* | Statewide New York

Managed this on-call traffic and revenue and financial services retainer contract that supports a variety of the Authority's projects and studies. The first task completed for this contract included conducting annual studies to support the Authority's 2012 budgeting. Other efforts under this contract include T&R projections; transportation policy and program development; and system analysis and revenue forecasting.

Orlando-Orange County Expressway Traffic and Earnings Consultant Contract* | Orlando, Florida

Project Manager responsible for the projection of future traffic and revenues on the existing system and for future-planned roadways. These projections were made annually, as a part of the Traffic and Earnings Consultant contract role to the Authority, and at other times, when the Authority sought bond financing. Mr. Sobleskie also provided analyses for frequent-user discounts to the system's electronic toll customers. Results led to over \$2.5B in financing.

New Jersey Turnpike Authority, Traffic Consultant Contract | Statewide New Jersey

Project Manager responsible for the projection of future traffic and revenues on the existing Garden State Parkway system. These projections were made annually, as part of the Traffic Consultant contract's role for the Authority, and at other times, when the Authority sought bond financing.

*denotes projects completed with other firms



Pamela Bailey-Campbell

QA/QC

EDUCATION

Master of Business
Administration, University
of Denver, 1990

Bachelor of Science,
Biology, Missouri Southern
State University, 1977

Ms. Bailey-Campbell is a nationally recognized leader with more than 25 years of hands-on success in resolving the full range of challenging issues that arise in moving multifaceted transportation projects from concept to reality. This extensive experience she provides her clients with unique insights and solutions for the development, procurement and implementation of major projects that involve public-private partnerships (P3s), tolling and complex feasibility solutions. Ms. Bailey-Campbell has directed numerous high-profile projects and advised a broad range of clients on the full life cycle of project issues. Her work has encompassed the full spectrum of program management, strategic and executive advisory services. Ms. Bailey-Campbell has served on the Eno P3 Working Group, Texas Governor's Transportation Advisory Board, Executive Committee and Board of Directors for the National Council of Public-Private Partnerships, was on the Board and held the position of President of the American Road & Transportation Builders Association P3 Division, and is an active participant in International Bridge Tunnel and Turnpike Association where she served as the Chairman for the Finance Summit, and served as the Vice-chair for the Finance Steering Committee and several previous Program Committees.

Select Project Experience

TxDOT Statewide Toll Feasibility/Implementation Projects* | Texas

Assisted the Texas Department of Transportation in the development and implementation of toll facilities throughout the 25 TxDOT Districts. The work included evaluating projects for toll viability and develop implementation plans to move those projects forward. These projects range from enhancements and conversion of existing facilities to the construction of new toll facilities.

TxDOT Management Review and Assessment* | Texas

Project Manager for a comprehensive organizational review and assessment of all aspects of the Texas Department of Transportation under contract with the State Comptroller. Assessed all aspects of the organization including administration, finance, budgets, capital programming, procurement and project delivery. Provided series of detailed white papers on findings and worked with the Department to develop a series of recommendations for value-enhancements in the organization.

E-470 Public Highway Authority, Denver, CO* | Denver, Colorado

Served as Executive Director, Chief Operating Officer, and Chief Financial Officer for the E-470 Public Highway Authority in Colorado. E-470 was a pioneer in using the public-private partnership and design-build models to deliver transportation projects. Responsibilities included the development of procurement documents, evaluation and selection, negotiations and oversight approach. Development one of the first design-build contracts for transportation in the U.S. as well as the first public-private partnership. Her responsibilities included direct oversight of all finance and operations for the Authority including the electronic toll and traffic management systems. On the financial side, directed and coordinated variable-rate financings and \$1.5B in long-term structured revenue bond financings. Also oversaw the start-up and day-to-day toll operations for the organization as well as legislative issues and the Authority's communications with the public and investors.

Northwest Arkansas Regional Mobility Authority (NWARMA) Strategic Advisory Services* | Arkansas

Served as Project Manager for the NWARMA as they selected and implemented projects to help improve transportation infrastructure within Washington and Benton Counties. Strategic advisory services included analyzing funding options, developing a strategic plan for the region as well as assisting with the development of policies pertaining to project assessment and selection, revenue and financing options, operations, and maintenance. Specific tasks performed included policy development, development of guidelines for selecting, evaluating, and prioritizing projects, assessment of potential revenues and implementation strategies and financial analysis of potential projects.

Cities of Chesapeake and Virginia Beach Virginia Infrastructure Improvement Analysis and Financial Assessment* | Virginia

Conducted assessment on the impacts of current land use planning and the financial relationship with planned and potential infrastructure improvements. Worked as a key executive of the team to develop a focused economic development strategy that will optimize tangible benefits to the cities.

*denotes projects completed with other firms



Marcelle Jones JD

Strategic Advisor

EDUCATION

Masters in Science, Urban and Regional Planning, University of Wisconsin, 1993

Juris Doctor, Law, University of Wisconsin, 1992

Bachelor of Arts, Journalism, University of Oklahoma, 1984

MEMBERSHIPS

NCHRP 20-6 Legal Research Committee, Transportation Research Board

Chair of the Standing Committee on General Law, Transportation Research Board

Member, State Bar of Texas

Foundation Member, International Bridge, Tunnel and Turnpike Association

Ms. Jones is well-versed in public sector issues and supporting clients in the evaluation and formulation of policy, procurement and strategic business decisions. Her experience and knowledge of industry practices and trends has helped agency's establish business, operational and organizational frameworks for toll operations and public-private partnerships; assess and minimize risks; and identify essential procurement and contractual provisions in public-public and public-private agreements. She has authored and advised on legislation, statutes, administrative rules, and policies for various public agencies across 17 states.

Ms. Jones served as the General Counsel and the Director of Legal Services to the North Texas Tollway Authority and as an Assistant City Attorney for the City of Arlington for the Planning and Land Development, Office of the Secretary, the Planning Commission and Zoning Board of Adjustment.

Select Project Experience

Texas Department of Transportation* | Texas

As Project Manager, Senior Program and Policy Advisor managed the procurement team assisting the Texas Department of Transportation with procurement document development, policies and procedures, and legislative matters related to their alternative delivery program for public-private partnerships and mega design-build projects delivered. Provided technical support and feasibility analysis on both solicited and unsolicited proposals to support project throughout Texas. As a Senior Program and Policy Advisor provided policy and legislative support including bill analysis, research and reports on federal and state laws and industry activity regarding highway and rail infrastructure and operations. Initiated efforts to streamline and develop programmatic P3 procurement documents. Worked with the Strategic Project Division Director to engage and partner with the Associated General Contractors of Texas and identify and address contractor concerns and develop solutions, including issues related to sureties, alternative technical concepts, disclosures and contractor evaluations. Developed interlocal agreements, project term sheets, policies and procedures for procurements, and Commission minute orders and executive summaries.

Oversaw the procurement activities for SH 99 H&I, development of program policies and procedures, contract reporting compliance audit of operating projects, including LBJ Express, toll operations support, T&R initial project feasibility, O&M assessment, and lessons learned regarding SH 99 best and final offer re-engagement. Also served as part of an integrated team that worked with TxDOT to develop a comprehensive toll program to identify and expedited project delivery solutions from the inception and planning of a toll road project to the customer service interface. Advised on impacts of state, federal and administrative laws to achieve agency goals on such matters as the use of construction-manager-at-risk, design-build, and toll policies. Identified enforcement and collection mechanisms and recommended solutions to support the State's introduction of new technology to enable video tolling/ORT facilities. Issues pertained to license plate lookups, the protection of personal information, and application of debt collection laws. Assisted in evaluating projects for toll viability/feasibility, developing toll collection schemes, procuring a toll collection system provider and providing implementation plans and oversight to move projects forward.

Ohio Turnpike and Infrastructure Commission * | Statewide Ohio

As Strategic Plan and Procurement Advisor worked with client to develop its strategic plan for toll collection systems and customer service center to guide the future deployment and integration of new technologies and innovations. Primarily responsible for evaluating commission toll policies, statutes and master trust agreement and industry lesson learned. Continue to support client with new system procurements, operations, lessons learned, policy and contracting.

Nevada Department of Transportation Pioneer Program* | Statewide Nevada

Legislation and Policy Task Manager guided the Nevada DOT in the development of its first P3 program. Researched, evaluated and drafted PPP legislation, and department policies and rules. Conducted several informational workshops with department staff to assess their knowledge of P3s and DOT's capacity to develop a program which resulted in recommendation for organizational structures to support the program. Develop presentations and advised staff and key stakeholders regarding policy positions and strategies to advance program. Our efforts lead to the development of DOT's first PPP manual that includes guideline for policy issues, project selection criteria guidelines, stakeholder strategies, and alternative project delivery mechanisms. Also drafted grant applications and monitored state bill proposals and federal register notices.

*denotes projects completed with other firms



Jun Yao

Travel Demand Modeling

EDUCATION

Master of Science,
Civil Engineering –
Transportation, University
of Virginia, 2005

Bachelor of Science,
Mathematics and
Statistics, Fudan
University, Shanghai,
China, 2002

Mr. Yao has 15 years of experience, with specialized skills in Cube Voyager, TransCAD, VISUM and VISSIM. He holds a masters degree in civil engineering, with an emphasis in travel demand forecasting and traffic operations. He was the lead analyst of many traffic and revenue (T&R) studies (including Level I, Level II and Investment Grade studies) serving clients in California, Georgia, Texas, North Carolina, and Washington. He was the lead modeler responsible for demand estimation for more than ten Vissim simulation projects. He also leads efforts requiring big data analysis capability by developing customized programs using python, VBA macro and SQL. His hands-on experience also includes regional model development and calibration, special generator model development and calibration, mesoscopic and micro-simulation modeling, traffic operation analyses, risk analysis and GIS applications.

Select Project Experience

CTRMA 183N Express Lanes Investment Grade Study | Austin, Texas

Lead Transportation Modeler responsible for refining and calibrating the model framework that was developed as a part of the Central Texas Turnpike projects. He was also responsible for QA/QC the whole modeling process, including demographic updates, highway network updates, as well as new modeling targets. He led the calibration efforts on both regional and subarea level TDM model, ran future year TDM models, produced Traffic and Revenue forecast and prepared summary tables for the report.

CTRMA 183A T&R Update | Austin, Texas

Transportation Planner responsible for preparing the Toll Diversion Model and the inputs for various model scenarios.

2010, 2012, 2014, 2018 Central Texas Turnpike System (CTTS) Update Project | Austin, Texas

Transportation Modeler responsible for preparing and running two regional models and combining them into one integrated Toll Diversion Model. The two regional models, CAMPO-Austin Model and San Antonio Regional Model were developed within TRANSCAD environment. The integrated model was developed using Cube Voyager software package. His responsibilities included the preparation of the highway network, the transit network and the socioeconomic data; external traffic adjustments; the conversion of the highway network and trip tables between the TransCAD and CUBE formats, base year calibration; preparing and running future year TDM models; producing final Traffic and Revenue forecast and preparing summary tables for a final report.

TXDOT IH 35 Managed Lane Project | Austin, Texas

Lead Modeler responsible for developing estimates of traffic and revenue for the IH 35 Managed-Lanes Level 1 traffic and revenue analysis. The analysis was performed using the 2014 CTTS Update Model Platform. Several scenarios were analyzed to reflect different project views.

IH-10/IH-35 Managed Lanes Level-II Study | San Antonio, Texas

Lead Modeler responsible for running the Alamo MPO Regional TransCAD Model and converting the network and trip tables for a CUBE TDM Model, performing the calibration for the base year condition, and conducting the traffic and revenue analysis for the horizon years.

RCTC I-15 Express Lanes Investment Grade Study; OCTA I-405 Express Lanes Investment Grade Study; TCA 241/91 Express Connector Investment Grade Study | Orange County, California

Lead Modeler responsible for the model calibration and preparation of future year model platform, which was used for T&R forecast and sensitivity analysis. A three-level modeling platform and calibration procedure was implemented to examine different aspects of the analysis. The top level was an integrated model by combining RCTC and SANDAG regional model and converting from TransCAD to Cube format. While maintaining the same framework, the middle and finer level toll diversion model was developed for each study corridors. The calibration and future forecasts were performed with focus on each specific corridor. As part of the data collection program, Python scripts were developed to programmatically collect traffic volume and real-time speed data from public websites.

State Road and Tollway Authority (SRTA) T&R On-Call 2017 Refresh | Atlanta, Georgia

Lead Analyst responsible for the model calibration, future year T&R forecast model platform, and sensitivity analysis.



Haley Collins AICP

Demographics

REGISTRATIONS

Certified Planner,
American Institute of
Certified Planners

EDUCATION

Master of Science,
Community and Regional
Planning, University of
Texas, 2013

Bachelor of Arts,
Sociology, University of
Texas, 2009

MEMBERSHIPS

Member, American
Planning Association

Ms. Collins is a transportation planner with a Master of Science in Community and Regional Planning. She has experience in a variety of transportation planning and engineering projects. Specifically, she has extensive experience in socioeconomic analysis, long-range transportation planning, traffic and revenue forecasting, toll facility monitoring, and travel demand modeling.

Select Project Experience

CTRMA 183A, 290E, 71E, SH 45 SW, 183S 2020 Traffic and Revenue Study | Texas

Ms. Collins is currently overseeing the socioeconomic and network updates to the travel demand model. She interviewed study area stakeholders to understand the short-term and long-term impacts of COVID-19 on development activity and discussed developments in the pipeline, the attractiveness of certain areas for future development, planned growth patterns, and constraints to development. The interviews were summarized and supporting materials were provided to the independent demographer to assist in developing forecasts. Ms. Collins reviewed the independent demographer's methodology for incorporating the short- and long-term impacts of COVID-19 and the resulting growth rates for reasonableness. Ms. Collins performed a detailed comparison of the newly released 2045 CAMPO transportation plan with previous network assumptions and identified changes to be incorporated in the travel demand model.

CTRMA 183A, 290E, 71E, and 183S 2018 Traffic and Revenue Study | Texas

Ms. Collins acted as the lead in reviewing and updating the network assumptions and socioeconomic inputs to the travel demand model. She reviewed various transportation plans in the study area and interviewed area stakeholders to develop a realistic estimation of the transportation projects to be constructed over the modeling forecast years. Ms. Collins also reviewed land use and socioeconomic inputs to the travel demand model and compared them to other sources of projections and past studies in the same area to understand how the forecasts have changed over time and determine the reasonableness. Her review also included Excel and GIS-based analysis of TAZ-level and county-level growth in the current forecast to identify potential outliers for revision and finalize a reasonable estimation of population and employment growth patterns over the forecast period.

Central Texas Turnpike System 2018 Traffic and Revenue Update | Texas

Ms. Collins acted as the lead in reviewing and updating the network assumptions and socioeconomic inputs to the travel demand model. She developed a list of planned improvements in the study area and worked closely with TxDOT to finalize a TxDOT-approved list of network assumptions. Ms. Collins also worked closely with an independent demographer subconsultant, providing quality assurance reviews of baseline and future year population and employment estimates. The reviews included a high-level analysis of the county control totals and growth rates between forecast years, and a more detailed TAZ-level analysis of growth patterns across the region with a focus on TAZs near Central Texas Turnpike System facilities.

RM 620 North Corridor Refinement Study 2020 | Texas

Ms. Collins worked closely with stakeholders and TxDOT to review and understand several sources of population and employment forecasts in the study area and the potential impacts of each on traffic in the corridor. She prepared a memo for review by TxDOT, which included a recommended socioeconomic dataset. Once the baseline socioeconomic dataset had been approved, Ms. Collins incorporated information gathered from stakeholders in the study area to refine the population and employment of select TAZs along the corridor to reflect known planned developments.

Mid-Currituck Bridge Traffic and Revenue Study | North Carolina

To assist in the production of an investment-grade traffic and revenue study, Ms. Collins reviewed land use and socioeconomic inputs to the travel demand model and proposed revisions to these inputs based on other sources of demographic data, including the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, State Data Centers, and Woods & Poole, as well as existing and historical aerial imagery. The revised demographic inputs represented a more conservative approach, less likely to overestimate future traffic and instead, produce a reasonable estimate of toll facility usage. Ms. Collins also assisted in developing written material for the final report and relevant maps, including travel time/speed maps, traffic count maps, origin/destination maps, as well as land use and socioeconomic maps.



Phil Eshelman

Managed Lanes

EDUCATION
Bachelor of Arts,
Economics, University of
Texas, 1998

Mr. Eshelman brings over 15 years of experience managing complex transportation planning programs focused on the delivery of traffic and revenue services to public toll agencies. These include all levels of analysis from sketch to investment grade with his studies supporting the sale of billions of dollars in toll revenue bonds. He is adept at all aspects of traffic and revenue analysis including data collection, data analysis, market research, stated and revealed preference analysis, travel demand modeling, toll diversion modeling, risk analysis, sensitivity testing, and presentations to Boards, rating agencies and investors. He has managed analysis for legacy facilities with long history of transactions and greenfield facilities that are breaking new ground, including managed lane facilities with dynamically priced tolls to managed traffic and/or optimize revenue.

Select Project Experience

Lead T&R Specialist & Project Manager, Multiple Divisions/Agencies | Statewide, Texas

Lead T&R Specialist and Project Manager of various traffic and revenue related analyses for programs across Texas. Worked with the divisions of Project Finance and Debt (PFD), Strategic Contract Management (SCM), TOD and the Austin, Dallas, Houston, Laredo Districts:

- SH 288 Level 2 T&R Study and On-Going Procurement Support: Project Manager developing intermediate level traffic and revenue study to support the full concession procurement in which demand and revenue risk was transferred to the private sector. Developed forecasting models to predict estimated toll revenues from developers, coming within 5 percent of winning bid. Developed toll regulation and toll service agreement language to protect the State over the course of the 52-year concession. Presented T&R study to TIFIA for draft term sheets in advance of financing from the developers. Continued support of TxDOT through construction phases of the project.
- LBJ Express Level 2 T&R Study: Project Manager leading the analysis to develop corridor forecasting model for private developer run section of LBJ Express Lanes. Used detailed existing datasets of traffic, speed and toll rates to calibrate base year model including value of time coefficients by time period and value of reliability as a function of distributions of speeds by time period for a full year. The forecasting model, based in excel, used queuing algorithms to mimic bottlenecks, essentially providing congestion levels as if simulation models were being run.
- Also Project Manager for various sketch level analyses and toll road monitoring

Traffic and Revenue Studies, Maryland Transportation Authority | Statewide, Maryland

Lead T&R Specialist and Project Manager over the course of multiple contracts to deliver all levels and types of traffic and revenue analyses including supporting multiple financing efforts. Critical work included the annual development of T&R forecasts for the legacy facilities and documentation of historical and forecasted T&R in Annual Reports; development and documentation of forecasting models for I-95 Express Toll Lanes (ETLs) including the review of the operational ETLs; and toll schedule analysis with model development to test multiple discount scenarios within one forecasting platform.

State Road and Toll Authority, T&R Advisory Services | Atlanta, Georgia

Project Manager for this multi-year master services agreement to provide traffic and revenue studies for various express lane projects either in operation or in development. The first tasks being completed are six managed lane sketch level traffic and toll revenue studies that form a system of managed lanes in the Atlanta region. The activity-based travel demand model from ARC, the MPO, was updated to include the proposed infrastructure to develop overall corridor demand by project. These data were then used as input into corridor specific managed lane models that were calibrated to both traffic and speeds by hour. The models were adaptable to handle various toll policies and infrastructure changes to optimize the facilities as a function of mobility and financial feasibility.

TxDOT, Strategic Contract Management, Procurement Engineering Contract | Statewide, Texas

Program Manager for this contract that guides alternative delivery procurement as well as serve in the role as technical advisor on all aspects of procurement of major infrastructure across the State of Texas. Specific roles include running this multi-discipline team in the development of procurement documents, providing technical advice regarding the optimization of toll facilities as a function of infrastructure, toll policy, and risk transfer. Additional activities of the team include document control, legislative support, Sharepoint management, and administration of the office lease and operating contracts and costs.



Sheldon Mar PE

Managed Lanes & Simulation Modeling

REGISTRATIONS

Professional Engineer
#087805, NY

EDUCATION

Master of Science,
Transportation Planning &
Engineering, Polytechnic
University, 2011

Bachelor of Science,
Operations Research &
Industrial Engineering,
College of Engineering,
Cornell University, 2004

Mr. Mar has extensive experience in express lane T&R studies, traffic simulation modeling, and traffic impact studies. He has been the lead engineer or project manager for numerous transportation projects including toll road feasibility studies to investment grade studies. Express Lane studies are Mr. Mar's specialty, and he has worked on projects in Southern California, Washington, Texas, Georgia, the Carolinas, Florida, Virginia, and New York, and for various delivery mechanisms, from public options, to P3's. Mr. Mar has been serving in this role for more than 15 years.

Select Project Experience

Central Texas Regional Mobility Authority (CTRMA) System (183A, 290E, 71E, SH 45 SW, 183S, and 183N Express Lanes) 2019 T&R Study | Austin, Texas

Mr. Mar was a technical advisor for the 183N Express Lanes T&R forecast and simulation modeling. He brought to this study his experience and knowledge of express lanes to advise on toll rates, capture rates, and annualization factors. He also advised on the micro-simulation model of the corridor.

Riverside County SR 91 Express Lanes Investment Grade Study | Riverside County, California

Mr. Mar was the Transportation Engineer responsible for forecasting traffic and revenue generated by the proposed extension of the existing SR 91 Express Lanes in Orange County into neighboring Riverside County. As part of this investment grade study, he developed a spreadsheet model that modeled hourly demand in the free lanes and tolled express lanes, toll-free HOV-3+, and the effect of variable toll rates. The model incorporated revealed preference market-share curves, based on the historical relationships between 91 Express Lanes traffic and revenue and corridor congestion. Mr. Mar also developed a micro-simulation model of the 25-mile corridor that was able to independently forecast express lane utilization. Since the project's opening in 2017, Mr. Mar led the effort to optimize corridor operations through a variety of traffic operations analyses, to optimize the 91 Express Lanes toll policy, and to refresh the T&R forecast. The T&R forecast refresh culminated in the project's bonds being upgraded by both Fitch Ratings and S&P Global.

SR 91/241 Express Direct Connector Simulation | Orange, California

Mr. Mar was the lead technical advisor for Stantec's simulation of the 91/241 EDC. Stantec simulated travel conditions on the heavily congested SR 91 and SR 241 between Orange and Riverside County. The VISSIM micro-simulation model we developed was used to assess how building a direct connector from the SR 241 toll road to the Riverside County 91 Express Lanes would impact both Express Lane and general purpose lane operations. Mr. Mar advised Stantec's simulation modelers on how to properly vet and interpret traffic data collected in the corridor. Mr. Mar also advised on the calibration and modeling of future conditions. His extensive experience with VISSIM, and his deep understanding of the 91 and 241 corridors were instrumental to the team's ability to successfully model the corridor.

I-55 Corridor Study | Chicago, Illinois

Mr. Mar oversaw the development of a VISSIM model for twenty-five miles of the congested I-55 Freeway, west of Chicago. He worked closely with the project team's staff members in order to evaluate traffic model inputs, establish calibration benchmarks and develop a methodology to calibrate the simulation model into reality. Mr. Mar contributed his knowledge of freeway operations and VISSIM's car-following model parameters, and the result was a model that could be reliably used to evaluate the impacts of planned improvements to the I-55 Corridor.

I-77 Express Lanes Level 2 Traffic and Revenue Study | Mecklenburg and Iredell Counties, North Carolina

Sheldon was the Deputy Project Manager responsible for assessing the T&R potential of a proposed 25 mile Express Lane along I-77 serving Charlotte, North Carolina. Sheldon designed and managed a significant data collection effort, including traffic counts, occupancy surveys, and travel time surveys. In addition to traffic data, Sheldon led the effort to analyze historical employment, population, and income data for the region, and assessed the reasonableness of projected land use. Sheldon identified a set of optimal toll rates to charge on the Express Lanes, varying by time of day and congestion level. Travel model results were post processed, and annual T&R were forecast for a 50-year period for a variety of build alternatives. The project culminated with the NCTA successfully leasing the rights to build, operate and maintain the I-77 Express Lanes to a concessionaire. The project is open to traffic and improving mobility in the I-77 corridor.



Sanaz Zehtabi PE

Simulation Modeling

EDUCATION

Master of Science,
Transportation Engineering,
George Washington
University, 2015

Bachelor of Science, Civil
Engineering, University of
Tehran, Tehran, Iran, 2012

Ms. Zehtabi is a transportation engineer with Stantec's New York office with a background in civil engineering and transportation design. She has worked on a diverse range of transportation projects from microscopic traffic simulation and transportation modeling and traffic and revenue forecast studies to driver behavior modeling and work zone safety and mobility assessment. Ms. Zehtabi combines technical knowledge and transportation modeling skills in analyzing traffic and transportation issues. She is interested in sustainable and multimodal transport design and studying alternative measures of effectiveness for Complete Streets. Ms. Zehtabi has extensive experience with an array of computer applications including Vissim, Aimsun, Synchro, SimTraffic and is familiar with ArcGIS, Transcad and Cube.

Select Project Experience

183N Express Lanes, Existing and Future Years Capacity and Operations Analyses | Austin, Texas

Stantec is developing a VISSIM microsimulation model to evaluate the future condition and operations along an eight-mile stretch of US 183 in northwest Austin; including the two variably priced express lanes in each direction in the existing median, connections to adjacent roadways and the MoPac express lanes. This model will also supplement the travel demand model used for the investment grade study and traffic and revenue forecast. Ms. Zehtabi has an integral part in designing the data collection program and origin-destination study, summarizing and analyzing the data and developing and calibrating the microsimulation model.

I-405 Express Toll Lanes Traffic and Revenue Study -Existing and Horizon Year Microsimulation Modeling | Bellevue, Washington

As part of the effort to prepare traffic and revenue forecasts for the planned Eastside Corridor Express Toll Lane System that will expand the existing I-405 Express Toll Lanes down through Renton and connect with the SR 167 Toll Lanes, Ms. Zehtabi led the evaluation of the T&R forecast using a complex VISSIM microsimulation model for different scenarios and time periods for existing and horizon years. The multilayer model that was developed over several years provided realistic operational feedback and highlighted the problem areas, which informed the adjustments to the T&R forecasts.

SR 520 Bridge Investment Grade Traffic and Revenue Study | Seattle, Washington

As part of this study, Ms. Zehtabi led the data management and analysis effort supporting the team in calibrating the Cube regional demand model. She also played a key role in generating the T&R forecast using the travel de-mand model outputs.

NYCDOT ESA, Woodhaven Select Bus Service Corridor* | Queens, New York

A detailed conceptual design was developed for a new Select Bus Service (SBS) route along the Woodhaven Boulevard corridor—a transit-poor corridor connecting a number of high-density areas— informed through necessary data collections. Ms. Zehtabi worked on the Woodhaven Synchro models extensively and assisted with traffic analysis for existing and future conditions based on the model outputs from Simtraffic simulation.

Routes 7/15 Interchange | Norwalk, Connecticut

A traffic impact analysis was prepared to determine the potential traffic impacts associated with proposed im-provements to the Route 7/15 Interchange. Ms. Zehtabi worked on the data collection program, data analysis and the microsimulation models used for existing and future conditions traffic analysis.

Sunset Park District Development Traffic Study | Brooklyn, New York

Transportation studies were undertaken in order to evaluate current circulation patterns within and at the entry points at both terminals and determine the potential impact that proposed development may have on circulation within and at terminal entry points. Ms. Zehtabi analyzed the existing and potential future traffic impacts using a Synchro simulation model of the network surrounding BUSH terminal.

Lower Hudson Transit Link* | Westchester/Rockland, New York

As part of an effort to design a user-friendly transit system which includes new bus operations and an integrated I-287 corridor in Rockland and Westchester Counties, Ms. Zehtabi has been an integral part of the modeling team for over a year. She led and assisted with different modeling tasks for a large scale, multilayered Aimsun model and finalizing the calibration and microsimulation analysis. Additionally, she assisted the Integrated Corridor Management (ICM) team in mapping the existing Intelligent Transportation Systems (ITS) technologies along the corridor and generating visual inventories using ArcGIS.

*denotes projects completed with other firms



Sumeet Kishnani PE, PTOE, LEED AP

Data Analytics

REGISTRATIONS

Professional Engineer
#117363, TX

Professional Traffic
Operations Engineer
(PTOE)

LEED Accredited
Professional

EDUCATION

Bachelor of Engineering,
Civil Engineering, City
College of New York, 2000

Master of Engineering,
Civil Engineering, City
College of New York, 2002

MEMBERSHIPS

Member, American
Planning Association

Mr. Kishnani has over 19 years of experience that he has gained while working on a variety of transportation engineering and planning projects. He formerly served as the Transportation Department Head of a well-known New York City area engineering firm, and he also served as the Director of their Stadium and Arena Transportation Solutions Group. He has extensive experience in transportation planning, pedestrian and transit analyses and vehicular traffic capacity analyses. Mr. Kishnani also has specialized skills in planning for major events, which include simulation modeling for both vehicles and pedestrians. His experience has included project management and principal engineering roles during traffic impact studies for large private development projects, master plans and stadium operations plans. During this time, he has produced comprehensive transportation plans for over a dozen professional and collegiate facilities within the US and around the world.

Select Project Experience

TxDOT and CTRMA Toll-Road Feasibility Studies | Austin, Texas

Assistant project manager on T&R studies for TxDOT and CTRMA in the Central Texas region. Stantec has provided feasibility and investment-grade studies for almost all of the publicly-owned toll roads in the Central Texas region. We have developed forecasts for SH 45 North, SH 130 segments 1-4, SH 45 South, Loop 1 North, 183A, the Manor Expressway, and 71 Express Lanes, among projects that are currently operational, and several proposed projects that are in the planning, design, or construction stages. For these types of studies, we calibrated a weaved CAMPO and AAMPO travel demand models to observations of traffic counts, speeds, and origin-destination patterns. It was necessary to develop a joint model of the two MPO areas to account for long-distance trips between the Austin and San Antonio metro areas on IH-35 and SH 130. These models were then used to project future traffic volumes, and a toll-diversion algorithm is used to estimate projected travel demand based on tolled and free facilities on the value of time for different user groups in the region, based on revealed and stated preference, and origin-destination surveys conducted over the past decade. Feasibility studies are used to check for the viability of proposed projects to cover their capital and O&M costs. Investment-grade studies have been used to finance several billion dollars of debt for the CTTS and CTRMA systems. Attended transportation agency, rating agency, and investor meetings to discuss the methodology, forecast results, and potential sensitivities and assumptions.

CTRMA User Travel Patterns Study | Austin, Texas

Worked with the CTRMA to better understand the origins of users of the CTRMA network in Austin, Texas. We utilized Streetlight data to understand local and true, long-distance origin-destination pairs. This was used to identify the percentage of users that originated in each municipality or county, to better help stakeholders in those regions understand the benefit of their system. Streetlight data was also used to identify local origin-destination patterns, which were used to validate and adjust raw travel demand model outputs. Also developed algorithms to determine travel time contours between select origin points and a grid of destinations in the region. This information was used to examine the relative changes in travel times between the existing, future no build, and several future build scenarios.

CTRMA SH 45 Southwest Feasibility Study | Austin, Texas

Assistant project manager responsible for conducting a feasibility study for the SH 45 Southwest project for CTRMA. Evaluated changes in traffic patterns as a result of the proposed improvements, evaluated several short-, medium-, and long-term configurations, developed traffic forecasts, prepared summary memorandum of the base forecast and sensitivities to toll rates.

183 North Investment Grade Study | Austin, Texas

Assistant project manager for the development of an investment-grade study for the 183 North managed lanes project. Developed data collection program, including a combination of data from Google real-time traffic, Inrix, Streetlight, Skycomp helicopter surveys, and AirSage. Calibrated existing conditions travel demand and simulation model to observed operational conditions in the field. Modified toll road market-share curves from other projects, adjusted for regional income and cross-section geometry, to apply to the 183N corridor. Developed time-period and hourly calibration models in CUBE and VISSIM. Developed an iterative process to compare travel demand and simulation model outputs to check the feasibility of projected managed lane volumes.



Sean Tihal PE

Toll Systems and Technology

REGISTRATIONS

Professional Engineer
#084025, NY

EDUCATION

Master of Science,
Civil Engineering
(Transportation), University
of California at Berkeley,
1999

Bachelor of Science,
Civil Engineering, Illinois
Institute of Technology,
1998

MEMBERSHIPS

Member, International
Bridge, Tunnel and
Turnpike Association

CERTIFICATIONS

Young Executive
Development Program,
American Road and
Transportation Builders
Association, 2010

Mr. Tihal has a passion for helping transportation agencies to plan, develop, implement and operate all forms of electronic tolling programs including Open Road Tolling (ORT), All-Electronic Tolling (AET) and Managed Lanes. With over 19 years of transportation consulting experience, he is well versed in roadside and back office toll systems and operations, toll strategic planning, toll feasibility studies, toll operations analyses and traffic & toll revenue forecasting. Mr. Tihal has also served as a Project Manager/Engineer on complex toll projects that included traffic and revenue analyses for the potential sale of investment bonds. He has conducted numerous studies related to capital and operating costs (CAPEX and OPEX), electronic tolling market share analyses, toll policy, tolling configurations, toll pricing and toll payment alternatives, and toll planning studies for over 28 transportation agencies across the United States and Canada. Since 2004 he has represented multiple toll agencies on the E-ZPass Group's Reciprocity Task Force Committee.

Select Project Experience

Ohio Turnpike and Infrastructure Commission New Toll Collection System and E-ZPass Customer Service Center | Statewide, Ohio

Mr. Tihal led the development of Request for Proposals to procure a new electronic Toll Collection System (TCS), Customer Service Center (CSC). Efforts performed included the development of TCS and CSC business rules and the preparation of CSC and CSC functional and technical requirements. These efforts culminated in a final CSC RFP issued in 7/2018, and a final TCS RFP issued in 10/2019. Currently Mr. Tihal is supporting the implementation of the new modernized CSC with Phase 1 slated to go live in 11/2020 as well as the implementation of the modernized TCS which is expected to go live in 3/2023.

Ohio Turnpike and Infrastructure Commission Toll Collection System Modernization | Statewide, Ohio

Mr. Tihal led the preparation of a Strategic Plan for the Ohio Turnpike's next generation TCS and CSC that identified the modification of the TCS to include highway speed Open Road Tolling at the mainline plazas and gateless low speed tolling at the ramp plazas, as well as modifying the CSC to accommodate license plate unpaid toll processing. Efforts performed include an assessment of the existing system, development of potential alternatives, short listing recommended alternatives, operational analyses, risk analyses, cost/benefit analyses, identification of a preferred alternative for implementation, development of toll policies and legislation for handling unpaid tolls, constructability of the preferred alternative, a schedule of major milestones and an assessment of the various procurement options for implementing the Strategic Plan. Currently Mr. Tihal is providing as needed support to the OTIC for the TCS Modernization efforts.

Ohio Turnpike Traffic and Revenue Forecasting and Planning Services* | Statewide, Ohio

Mr. Tihal was responsible for managing a multi-year traffic and toll revenue (T&R) forecasting and planning services contract for the Ohio Turnpike which included the preparation of investment grade T&R and Operations and Maintenance forecasts that supported a \$1.1B bond sale in 2013, a \$126.7M Refunding Bond Sale in 2017 and a \$499.8M Bond Sale in 2018.

Illinois Tollway Back Office Implementation Program Management* | Northeastern Illinois, Illinois

Mr. Tihal managed a team that provided program management, coordination and implementation support services to the Illinois Tollway during the upgrade of their back office electronic tolling system. This involved coordinating all activities between the Tollway and their vendor Accenture, validation and verification of the delivered solution, oversight of formal testing activities including managing the E-ZPass reciprocity testing efforts for the new back office and post go-live system monitoring. Mr. Tihal also supported the Tollway for various other electronic tolling technology upgrades including the deployment of new violation enforcement cameras and the commissioning of new toll plazas.

Kane County DOT Longmeadow Parkway Toll Bridge Operations and Maintenance (O&M) Study* | Kane County, Illinois

Mr. Tihal led the preparation of an O&M Study for Kane County DOT's proposed Longmeadow Parkway Toll Bridge. Efforts performed include the development of goals and policies for the proposed AET TCS and Back Office System (BOS), research on best practices for TCS and BOS AET Systems, development of potential TCS and BOS alternatives, short listing of recommended TCS and BOS alternatives, preparation of cost/benefit analyses, risk analyses, net revenue analyses, and the selection of a preferred TCS alternative and a preferred BOS alternative for implementation.

*denotes projects completed with other firms



Mike is a client-focused consulting professional with more than 30 years of experience. His expertise includes data analysis, modeling, and engineering emphasis on city, state, and federal governmental agencies. He has extensive experience performing preliminary and intermediate toll analyses to determine if toll road projects have the potential for supporting bonds. Mike has directly contributed to the successful implementation of TIFIA projects in Central Texas supported by sale of over \$2.5B of commercial bonds for new toll road construction. His strong grasp of engineering, economic forecasting, and planning practices and methods combined with his proven ability to develop and coordinate complex traffic engineering and feasibility studies results in solutions that improve safety, mobility, and prosperity.

J. MICHAEL HEATH, PE

Transportation Plan Review

Years of Experience

Total: 33

Education

MBA, Business Administration,
Texas A&M University, 1990

BS, Civil Engineering, Texas A&M
University, 1986

Registrations

Professional Engineer:

TX (#78133, 1993)

LA (#38699, 2014)

AR (#15873, 2014)

AZ (#59138, 2014)

Project Experience

- Project Manager | Texas Statewide Planning On-Call Services | TxDOT | Ongoing
- Project Principal | Williamson County | MoKan Corridor Alternatives Evaluation | Williamson County, TX | 2020
- Project Principal | Williamson County | Long Range Transportation Plan (LRTP) Update | Williamson County, TX | 2019
- Project Manager | Capital Area Metropolitan Planning Organization (CAMPO) | CAMPO Travel Demand Model (TDM) Update | Austin, TX | 2019
- Project Principal | Arkansas Statewide Travel Demand Model | Arkansas | 2015
- Task Order Manager | Capital Metro General Planning Consulting Services | Austin, TX | 2011
- Project Manager | HGAC | Freight Mobility Study | Houston, TX | 2012
- Project Principal | Regional Model Update | El Paso, TX | 2013
- Project Principal | Texas Statewide Analysis Model (SAM-V3) | TxDOT | Texas | 2016
- Project Principal | AHTD | Long-Range Intermodal Transportation Plan (LRITP) | Arkansas
- Project Principal | AHTD | I-40 Toll Feasibility Study | Arkansas | 2014
- Project Manager | TxDOT | Mobility35 PEL Study | Austin, TX | 2015

Michael S. Bomba, Ph.D.

DEMOGRAPHIC FORECASTS
Bomba Consulting, LLC

Professional Experience

- Managing Member, Bomba Consulting, LLC, 2013-Present
- Research Associate Professor, Center for Logistics & Supply Chain Management, University of North Texas, 2016-Present
- Research Scientist and Associate Director, Center for Economic Development and Research, University of North Texas, 2013-2016
- Research Associate and Adjunct Professor, Center for Economic Development and Research, University of North Texas, 2008-2013
- Alliance Transportation Group, Inc., Senior Associate, 2007-2013
- Bomba & Associates, Inc., Principal, 2004-2007
- Research Associate, Center for Transportation Research, University of Texas at Austin, 2003-2005.
- Independent Consultant, 1998-2004
- Applied Economics Consulting Group, Inc., Data Analyst, 1999-2000
- Hicks & Company, Environmental Planner, 1994-1998

Education

- Ph.D., University of Texas at Austin, Public Policy
- M.S., University of Texas at Austin, Community and Regional Planning
- B.A., University of Texas at Austin, Economics and Government

Additional Courses

- Training on GTAP computable general equilibrium model, Purdue University, 2017

Professional Organizations

- North American Working Group, George W. Bush Institute. Member. 2016-Present.
- North American Strategy for Competitiveness (NASCO). Board Member, 2018-Present.
- Transportation Research Board – National Research Council, National Academies – 1999-Present Committee Memberships:
 - Agricultural and Food Transportation - AT030 (Past Member - 3 years)
 - International Trade and Transportation – AT020 (Immediate Past Chair - 6 years)
 - Freight Systems Group Executive Committee – AT000 (Member - 6 years)
 - Intermodal Freight Terminal Design and Operations –AT050 (Past Member and Secretary - 11 years)
 - Ports and Channels – AW010 (Past Member - 9 years)
- American Planning Association – 2009-2013, American Institute of Certified Planners (AICP) #24082

BACKGROUND AND EXPERIENCE

Dr. Michael S. Bomba has more than 20 years of professional experience contributing to traffic & revenue studies. In a support role to the project engineers, Dr. Bomba has assessed the reasonableness of metropolitan planning organization's (MPO's) population and employment estimates and forecasts at the zonal level, adjusting them as necessary. To date, he has completed almost 50 studies and these model inputs have been used to successfully sell approximately \$8 billion of municipal bonds for green field projects, major facility upgrades, building connecting ramps, and refinancing existing municipal bonds. Toll road projects in the Austin, Texas region that have been financed and constructed using these studies include: SH 130 (Segments 1 through 4), SH 45, Loop 1 North, US 183-A, US 290 East, SH 45 South-west, and US 183 South. Dr. Bomba's efforts have included participating in presentations to rating agencies (Moody's, S&P, and Fitch) in New York City and presentations to major institutional investors (e.g. BlackRock, PIMCO, Vanguard, etc.) in New York City, Philadelphia, and Boston.

Past projects include:

- 2020 Central Texas Regional Mobility Authority Demographic Update. 2019-2020. Central Texas Regional Mobility Authority.
- MoPac Connector Feasibility Study. 2019. Central Texas Regional Mobility Authority.
- Loop 1 North/Loop 1 South Managed Lanes. 2018-2019. Central Texas Regional Mobility Authority.
- Cibolo Parkway Project. 2018-2019. Cibolo Turnpike LP.
- U.S. 183 North Managed Lanes Investment Grade Study. 2018. Central Texas Regional Mobility Authority.
- 2017 Central Texas Turnpike Project Update (Level II study). 2017. Texas Department of Transportation.
- Cibolo Turnpike Investment Grade Study. 2017. Cibolo Turnpike L.P.
- US 290 Direct Connectors Investment Grade Study. 2016. Central Texas Regional Mobility Authority.
- LBJ East Managed Lanes Study. 2016. Texas Department of Transportation.
- 2016 CTRMA Bond Refinance. 2016. Central Texas Regional Mobility Authority.
- Commercial Truck Toll Rate Study for the Tornillo-Guadalupe Bridge. 2015. El Paso County.
- US 183 South Investment Grade Traffic and Revenue Study. 2014. Central Texas Regional Mobility Authority.



EDUCATION

B.A., American Studies
Stanford University, 1990

M.S., Community and Regional Planning,
University of Texas at Austin, 1997.
Concentration in Environmental and
Natural Resources Planning. Outstanding
Thesis Award.

PROFESSIONAL ACTIVITIES AND CONTINUING EDUCATION

American Institute of Certified Planners,
2000. Member No. 015785. APA, 1997-
present.

Employer of the Year 2009, WTS Heart of
TX Chapter; Woman of the Year 2016.

WTS Heart of Texas Chapter. Committee
Chair: 06-08 Recognitions, 09-10 Prof.
Dev't. Committee Member: 11-13 Prof.
Dev't, 14-15 Advisory Liaison; 15-16 Int'l
Conference. Southwest Region Liaison
'16-'18.

Central Texas Association of
Environmental Professionals, Member.

Guest Speaker on Enviro. Docs, TSU
Aquatic Resources Ph.D. Program, 05-06;
Speaker on Enviro. Justice, Megaregions,
Census Data UTCRP 2010-2015. UT
Enviro. Science Professionals Course –
Guest Panelist 2018, 2019. CM2
presenter.

OSHA 30-hour for Construction.

TxDOT ENV211 ECOS Training, 10/10/19.

TxDOT NEPA Assignment Training –
CTAEP, Austin, TX 7/14; 7/16.

Managing the Environmental Review
Process. NTI/FTA. Ft. Worth, TX 8/13.

Basis of a HUD Part 58 Review – Office of
Environment and Energy HUD-10/12.

FTA Webinar on revisions to Title VI and
Environmental Justice Circulars, 10/11.

TxDOT ENV 114 Advanced Hazardous
Materials Training 2/08.

Consulting Engineers Council Leadership
Forum Class of 2006.

FHWA Title VI/Environmental Justice
Training, Denver CO 5/05.

TxDOT PRECERTIFICATION

Sequence No.: 6863
TxDOT Precertifications: 1.1.1, 1.2.1,
1.3.1, 1.4.1, 1.6.1, 2.5.1, 2.12.1, 2.13.1,
2.14.1

FIELDS OF EXPERIENCE

Ms. McLain is President and Principal at COX|McLAIN Environmental Consulting Inc., a WBE/DBE/HUB firm she and two partners established in September 2007. Ms. McLain was an environmental educator and researcher from 1991 to 1997 and has been a consultant assessing the environmental impacts of public and private development projects since 1997. She is an experienced NEPA practitioner with a focus on socioeconomic and Environmental Justice issues and extensive experience with linear transportation and transit projects. She is accomplished in multi-disciplinary Project Management and is extremely familiar with the challenges associated with project development in Texas, with a constant focus on solving those issues in a timely and proactive manner. Ms. McLain has managed concurrent projects for many years, including Environmental Impact Statements, Environmental Assessments, Community Impact Assessments, Major Investment Studies, Environmental Information Documents, Planning and Environmental Linkage studies, and Categorical Exclusions. Specialties include EJ analysis and indirect and cumulative impact analyses.

EMPLOYMENT HISTORY

Principal, Cox|McLain Environmental Consulting Inc. 2007-Present.

Principal/Senior Environmental Planner, Hicks & Company, Austin, TX, 1997 - 2007.

Consultant, United Nations Environment Program – Industry & Environment Office, Paris, France, 1997.

Coordinator of volunteer water quality monitors, Lower Colorado River Authority (LCRA) – Colorado River Watch Network, Austin, TX, 1995 - 1996.

Researcher/Program Assistant, Natural Resources Defense Council (NRDC) - Forestry Program, San Francisco, CA, 1993-1994.

Researcher/Program Assistant, Natural Resources Defense Council (NRDC) - Coastal Program, New York, NY, 1991 - 1993.

SELECTED RELEVANT PROJECT EXPERIENCE

North Houston Highway Improvements Project (NHHIP) – DEIS and FEIS, Harris County, Texas. CMEC Project Manager. For this approximately 25-mile project along I-45 from US-59/I-69 to Beltway 8 North, including improvements on US-59/I-69 between I-45 and Spur 257 in Harris County, Texas, CMEC supported AECOM and TxDOT Houston District as task leader for indirect impacts analysis presented in the DEIS; peer reviewer for Environmental Justice analysis and Community Impacts Assessment; task leader for the Cumulative Impacts Technical Report; and coordinator of the FEIS. CMEC staff participated in public hearings, conducted archeological survey and prepared an Archeological Survey Report, Biological Services Technical Reports, and Hazardous Materials Technical Report supporting the EIS documents. CMEC compiled the FEIS for the project team and coordinated extensively with TxDOT HOU and ENV. In final legal review July 2020.

Client: AECOM Contact: Patty Matthews Phone: (281) 675-1815

SH 6 Feasibility Study – I 10 to Clay Road – TxDOT Houston District. Project Manager for feasibility study comparing various options for raising SH 6 above the floodplain of Addicks Bayou in an area of increased development and flooding concerns. Project Manager for preparation of a Feasibility Study – environmental considerations and alternatives analysis, including GIS mapping and evaluation matrix with feasibility study report. Managed additional analysis of potential USACE permitting issues should cut and fill considerations be included in future permitting beyond feasibility study phase. 2017.

Client: AECOM (for TxDOT Houston District) Contact: Inas Aweidah, P.E. Phone: (281) 646-2400

I-35 Northeast Expansion (NEX) – EA Reevaluation, From I-410 South to FM 1103 TxDOT San Antonio District Bexar, Comal, and Guadalupe. This project builds on a past PEL study and EA FONSI from 2015 and would construct two 15-mile long bridges (i.e. upper decks) between the I-35 main lanes and frontage roads from I-410 South to FM 3009 for HOV lanes. Bridges would be constructed to connect the new upper decks of I-35 to I-410 South, I-410 North, Loop 1604 West, and Loop 1604 East. project would require approximately 36.5 acres of new right of way. CMEC prepared the Tier 1 Site Assessment and Biological Evaluation Form; Water Resources Tech Report; Historic Resources Project Coordination Request Memorandum; Archeological Background Study; and supported the Documented Reevaluation Checklist. CMEC managed the public involvement process including the Public Hearing for the Garver team. The project was cleared (EA FONSI verification) in September 23, 2019.

Client: Garver Contact: Nandita Kaundinya, P.E.; Wendy Travis, AICP Phone: (214) 619-9060

Dennis Cox
Data Collection
(281) 487-5417
denniscox@cjhensch.com



Education: San Jacinto College, Pasadena, Texas
A.A.S. – Instrumentation
December, 1990

Experience:
1999 - Present

Operations Manager - C J Hensch & Associates, Incorporated, Pasadena, Texas

- Improve the operational systems, processes and policies.
- Manage and increase the effectiveness and efficiency of support staff (administrative and field).
- Purchase materials, plan inventory and ensure efficiency.
- Perform quality controls and monitor production.
- Recruit, train, and supervise administrative and field personnel.
- Cater to clients' or personnel's concerns.

1991 - 1998

Supervisor – Texas Iron and Metal Company – Houston, Texas

- Maintain receiving, warehousing, and distribution operations by initiating, coordinating, and enforcing program, operational, and personnel policies and procedures.
- Comply with federal, state, and local warehousing, material handling, and shipping requirements.
- Safeguard warehouse operations and contents by establishing and monitoring security procedures and protocols.
- Control inventory levels by conducting physical counts; reconciling with data storage system.
- Maintain physical condition of warehouse by planning and implementing new design layouts; inspecting equipment; issuing work orders and requisitions.
- Maintain warehouse staff by recruiting, selecting, orienting, and training employees.

Computer

Proficiencies: MS Office Suite, Windows XP/8/10, Google Earth, Work Etc.

Summary

Dennis Cox - Operations Manager

Education: A.A.S. – Instrumentation

Mr. Cox has 15-years of experience in the field of Transportation Engineering Studies and Traffic Data Collection. During this time, Mr. Cox has completed and directed projects in all areas of data collection and has installed multiple types of counting equipment such as traffic pneumatic hose counters, video camera counters, and manual turning movement collection. Mr. Cox has extensive experience in project management and field personnel coordination and management.

DATA COLLECTION**Responsibilities**

Mr. Castañeda has over 19 years of experience and serves as President for Ally General Solutions (AGS) and is responsible for plan preparation and necessary calculations related to the design of traffic and roadway improvements.

Experience

Project experience includes:

- Traffic Signal Design at the Intersections of Tanner Road at Cunningham Road and at Tanner Road at Brittmore Park Drive, Harris County Precinct 3, Houston, Texas--Project Engineer. Assisted with the design of two new signals on Tanner Road.
- METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included assisting with intersection and traffic signal upgrades for intersections inside the inner loop of Interstate Highway 610. Also provided technical support in the development of Traffic Signal Books.
- METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included field surveying the project area for existing utilities and traffic-related equipment. Other responsibilities were to assist with design of aerial traffic signal interconnect (fiber optic) cable in Northwest and Southwest Houston.
- METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included field verifying existing conditions for approximately 750 intersections and changing graphics for the implementation of ICONS graphic program. Assisted with end-to-end testing of about 300 intersections from TRANSTAR.
- METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included assisting with intersection and traffic signal upgrades for intersections outside the loop of Beltway 8. Other responsibilities included changing and updating signal timings for 17 intersections along Bay Area Boulevard and Briar Forest in Houston.
- Traffic Signal Design at the Intersection of State Highway 6 and Life Time Fitness Entrance, Texas Department of Transportation, Houston, Texas and City of Sugar Land, Texas--Project Engineer. Responsibilities included design of a split-phased intersection in Sugar Land and preparing plans, estimate, and specifications for bid. Other responsibilities included minor roadway design, signal timings, and synchronization along State Highway 6, along with construction management.
- Traffic Signal Improvements at the Intersections of State Highway 6 and Aetna Entrance and Kensington Boulevard, Texas Department of Transportation, Houston, Texas and City of Sugar Land, Texas--Project Engineer. Responsibilities included design and improvements to both intersections along with preparing plans, estimate, and specifications for bid. Other responsibilities included minor roadway design, signal timings, and synchronization along State Highway 6, along with construction management.
- Traffic Signal Design at the Intersection of Town Center Boulevard North and Mall Ring Road (First Colony Mall), City of Sugar Land, Texas--Project Engineer. Responsibilities included the design of "T" intersection with Wi-Fi communication. Also in the design were countdown pedestrian signal heads. Signal design will be used as city of Sugar Land's Standard for Signal Design. Prepared plans, estimate, and specifications for bid. Prepared signal timings for this signal with Sychro. Performed construction management and inspections for the project.

Professional Credentials

Bachelor of Science in Civil Engineering, Texas A&M University-Kingsville, 2001

Registered Professional Engineer: Texas (No. 98276), 2006

Member, American Society of Civil Engineers

Member, Texas Institute of Transportation Engineers

KEY QUALIFICATIONS

Catherine has extensive program management experience specializing in toll and transit program strategy, development and implementation. She is a dedicated, enthusiastic principal consultant, and Lean Six Sigma Blackbelt, with a breadth of experience in team facilitation, research methodology, program planning, project execution and continuous improvement. Catherine is recognized for her ability to provide direction in challenging and dynamic work environments. She is committed to excellence and determined to achieve exceptional results. Competencies include: policy and planning; research, procurement; program management; operations oversight; marketing and communications; best practices and process improvement.

EDUCATION

M.P.A., Public Affairs with an emphasis in Public Policy, Washington State University, 1997
B.S., Organizational Communication, Eastern Washington University, 1993

CERTIFICATIONS

Lean Six Sigma Blackbelt, 2014, Lean Six Sigma Greenbelt, 2013
Caltrans Disadvantaged Business Enterprise Certification No. 44382
City of Orlando Certification No. 20489101
Maryland Disadvantaged Business Enterprise Certification No. 18-457
Federal Disadvantaged Business Enterprise Certification No. D2F0024749
Washington State Disadvantaged Business Enterprise W2F0024749

LEAN SIX SIGMA TRAINING AND PROGRAM DEVELOPMENT

Catherine has provided Lean Six Sigma training and program development for organizations, agencies, consultants, and vendors across the nation. She has provided both Lean Six Sigma White Belt and Green Belt training and was responsible for the introduction and implementation of several Lean Six Sigma programs. In addition, Catherine has facilitated dozens of lean continuous improvement efforts from project identification through the DMAIC.

RESEARCH AND FACILITATION

Riverside County Transportation Commission, Riverside, CA; Facilitator

Catherine managed the online survey work and facilitated a series of focus groups that solicited input from customers on the proposed changes to account types, fees and transponder technology for the 91 Express Lanes.

Mission Support Alliance; Richland, WA; Facilitator

Catherine facilitated decision-making workshops for Mission Support Alliance, a contractor for the Department of Energy, responsible for sitewide services and integrated infrastructure of the Hanford Nuclear Site. One project determined the placement and design of a new fleet maintenance facility, the other was related to the site-wide fire-protection strategy.

Ohio Turnpike and Infrastructure Commission; Berea, OH, Facilitator

As part the Ohio Turnpike and Infrastructure Commission's executive strategic plan development Catherine developed the customer and stakeholder survey instruments and facilitated a series of executive management workshops to evaluate and advance the proposed technical solutions identified to address the agency's toll facility, technology and operational goals.

PROCUREMENT, PROJECT IMPLEMENTATION AND OVERSIGHT

North Carolina Turnpike Authority, NC Quick Pass and NC Ferry Customer Service Operations Procurement; Raleigh, NC; Procurement Lead

Catherine was responsible for the strategic leadership for all phases of the procurement process, from the initial Request for Information through contract negotiations and signing. The procurement process is being hailed as one of the most innovative in the industry and yielded 13 proposal submittals.

Riverside County Transportation Commission, 15 Express Lane and 91 Express Lane Projects; Riverside, CA; Principal Consultant

Catherine was responsible for the coordination of the 91 Express Lane transition from the legacy Title 21 transponder protocol to a new 6C transponder protocol that will take started in early 2020. Activities related to the 6C deployment include policy updates, lane and back office system changes, transponder procurement, research, customer communication and the transponder replacement program. In addition, she provides marketing and communications expertise and oversight for the new I-15 Express Lane project, scheduled to open in late-2020. Catherine is responsible for the development of all customer-facing materials working directly with the back-office system vendor to provide correspondence, website and IVR content.

Los Angeles County Metropolitan Transportation Authority, ExpressLanes Program; Los Angeles, CA; Program Manager

Catherine provided program management and toll expertise for policy development, program evaluation, surveys and research, marketing and branding, and toll operations support for the ExpressLanes program. She was responsible for the development of the ExpressLanes toll program policies including the phased approach to address demand on the highly congested ExpressLanes. She also developed and managed the agency's FasTrak declarable transponder rebranding project. Additionally, she facilitated a complete update of the program's business rules. Furthermore Catherine oversaw the development of the ExpressLanes collections program, including the solicitation of a new collections vendor. Catherine also served as a owner representative in the development and review of procurement solicitation documentation and requirements for the Los Angeles County Metropolitan Transportation Authority Customer Service Center Back Office System (BOS) and the Customer Service Center Operations.

Form of Contract

We have reviewed your proposed RFQ and believe that should we be selected for this assignment, we will be able to conclude a mutually satisfactory contract with you. As the RFQ did not refer to contract terms for engagement, we would propose discussions based on our standard Professional Services Agreement.

COVID-19

As we are all aware, we are working in unprecedented times as a result of the COVID-19 pandemic. The situation is fluid. Our proposal is based on our understanding of performing these services in normal conditions. As the nature and extent of the impacts due to this outbreak cannot be fully identified or quantified at this time, we feel it would be prudent to submit this proposal based on normal conditions, without accounting for impacts due this outbreak, and to discuss with you once we are able to evaluate the impacts and to work collaboratively with you on a path forward. We would be pleased to have a further discussion with you to share our respective plans and efforts to help mitigate the impact of this evolving situation on your proposed project.

Contact Information:

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Design with community in mind