



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #10

Discuss and consider approving a contract with C&M Associates, Inc. for traffic and revenue engineering services

Strategic Plan Relevance:	Stewardship
Department:	Finance
Contact:	José Hernández, Chief Financial Officer
Associated Costs:	Determined annually via work authorizations
Funding Source:	Annual operating or construction fund budgets
Action Requested:	Consider and act on draft resolution.

Project Description/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 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 the retention of 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 Program/Project: 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 May 15, 2024. Three firms submitted responses to the RFQ. On June 26, 2024, 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, Inc., and Stantec.

Financing: Financing 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.

Action requested/Staff Recommendation: Staff recommends approving a contract with C&M Associates, Inc. for traffic and revenue engineering services for a term of five years with a not to exceed payment obligation (including obligation for Consultant's profit) in the amount established for these services in the Authority's annual operating budget. The contract also provides for two optional extensions, each for two years, at the end of the initial five year term

Backup provided: Draft Resolution
Draft Contract

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

RESOLUTION NO. 24-0XX

**APPROVING A CONTRACT WITH C&M ASSOCIATES, 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. 24-030, dated June 26, 2024, the Board of Directors awarded a contract to C&M Associates, Inc. (C&M) for traffic and revenue engineering services and authorized the Executive Director to negotiate a contract with C&M; and

WHEREAS, the Executive Director and C&M have negotiated a proposed contract for traffic and revenue engineering services 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 C&M Associates, Inc. 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 C&M Associates, Inc. for traffic and revenue engineering services; and

BE IT FURTHER RESOLVED that the Executive Director is hereby authorized to execute the contract with C&M Associates, 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 28th day of August 2024.

Submitted and reviewed by:

Approved:

James M. Bass
Executive Director

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 C&M Associates, Inc. (the “Consultant”) to be effective as of the [] day of [] (the “Effective Date”) with respect to traffic and revenue engineering services to be performed by the Consultant, as an independent contractor, for the Authority.

WITNESSETH:

WHEREAS, pursuant to that certain Request for Qualifications dated May 15, 2024 (the “RFQ”), the Authority sought to identify and obtain the services of qualified engineering firm(s) to provide traffic and revenue engineering services for the Authority; and

WHEREAS, three (3) firms submitted responses setting forth their respective qualifications for the work; and

WHEREAS, on June 26, 2024, the CTRMA 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 Authority’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 Authority 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 Article 3 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 annual cumulative payment obligation (including obligation for Consultant's profit) shall not exceed the amount established for these services in the Authority's annual operating budget.
- 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 no earlier than one year from the Effective Date of this Agreement. All adjustments shall be agreed to by the parties in writing 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 3.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 Consultant represents that neither the auditable overhead rate nor the profit percentage used under this Agreement shall exceed the auditable overhead rate or profit percentage utilized by the Consultant in its agreement(s) with, or subcontracts for, traffic and revenue engineering services (or comparable work) for the Texas Department of Transportation, any other regional mobility authority, or any similar transportation authority in the State of Texas.

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 amount specified in a Work Authorization 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 Expense Policy set forth in Chapter 3, Subchapter D of the Authority's Policy Code, 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 \$1,500 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 one (1) copy 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 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: 17304 Preston Road, Ste. 800, Dallas, TX 75252.
- 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 Authority. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Authority. 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 initial term of this Agreement is for a period of five (5) years, commencing on the Effective Date, and concluding [____], subject to the earlier termination of this Agreement pursuant to Articles 5 or 6 below or further extension upon agreement of both parties. The term of this Agreement may be renewed for up to two (2) additional two (2) year periods pursuant to the agreement of the parties and approval of the renewal by the CTRMA Board of Directors. 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 Authority 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 Authority, 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, including remote attendance. 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 the Authority 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, 3300 N Interstate 35 Frontage Rd, Suite 300, Austin, TX 78705, Attention: Executive Director."

**ARTICLE 20
COORDINATION OF CONTRACT DOCUMENTS**

The Statement of Qualifications for Traffic and Revenue Engineering Services and Appendices thereto, dated June 12th, 2024, submitted by C&M Associates, Inc. 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:

C&M Associates, Inc.
17304 Preston Road
Ste. 800
Dallas, TX 75252

Attn: Carlos M. Contreras, President

In the case of the CTRMA:

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

Attn: James Bass, 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

C&M ASSOCIATES, INC.

By: _____

By:  _____

Name: _____

Name: Carlos M. Contreras

Title: _____

Title: President

Date: _____

Date: 8-14-2024

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 for current and future projects as required under the trust agreements governing CTRMA's revenue bond financing.

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, loan documents (including Transportation Infrastructure Finance and Innovation Act credit assistance), financial assistance agreements, development agreements, and other documents related to project financing, 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. Provide and maintain traffic modeling tools pertinent to the CTRMA's projects and potential projects, working closely with the Capital Metropolitan Planning Organization (CAMPO), TxDOT, and other local planning organizations as necessary, to update economic, demographic and land use data.
- D. Perform special studies or reports as requested, including peer review analyses, regarding traffic, toll revenues, mobility, toll collection methods and strategies, managed lane traffic analysis and pricing strategies, and related technology and industry trends.

- E. Present reports and findings to the CTRMA Board of Directors, rating agencies and investors, local interested parties, or otherwise upon request.
- F. Work at the direction and supervision of the Authority's Executive Director and Chief Financial Officer. The firm 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 as well as with CTRMA department directors.
- G. Develop a process that both (1) provides, in a cost-effective manner, assessments of potential future traffic, revenue, and other information for corridors that may be studied for potential turnpike projects, and (2) provides a base for more detailed traffic modeling in the future as potential projects are selected for further advancement.
- H. Prepare evaluations, studies, and opinions as necessary to determine recommended toll rates and periodic toll rate adjustments for the Authority's turnpike projects.

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

Job Classification	2024 Hourly Rate
Principal in Charge	\$130.93
Project Manager	\$89.96
Analysis and T&R Forecast Lead	\$100.31
Operational Analysis Lead	\$96.16
Senior Advisor	\$91.73
Senior Engineer	\$64.86
Operational Analysis Support	\$50.46
Technical Writer/Editor	\$49.10
Travel Demand Modeler II	\$48.14
Socioeconomic Analysis Lead	\$44.38
Travel Demand Modeling Lead	\$43.74
GIS Analysis Support	\$43.27
Travel Demand Modeler I	\$39.42

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 C&M Associates, Inc. ("Consultant"). 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. The attached fee estimate includes the name, title, and hourly rate for each employee performing the Services subject to this Work Authorization. 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.

CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY

By: _____

Name: _____

Title: _____

Date: _____

C&M ASSOCIATES, INC.

By: _____

Name: _____

Title: _____

Date: _____

APPENDIX D
SUBCONSULTANTS

Resource Systems Group, Inc.

*Mark Fowler
55 Railroad Row
Suite 200
White River Junction, VT 05001*

Bomba Consulting, LLC:

*Michael Bomba
3300 N. IH-3
Suite 300
Austin, TX 78705
Ph: (512) 636-4879*

GRAM Traffic Counting, Inc.

*Stacie Bittner
3751 FM 1105
Building A
Georgetown, TX 78626*

Marr Traffic

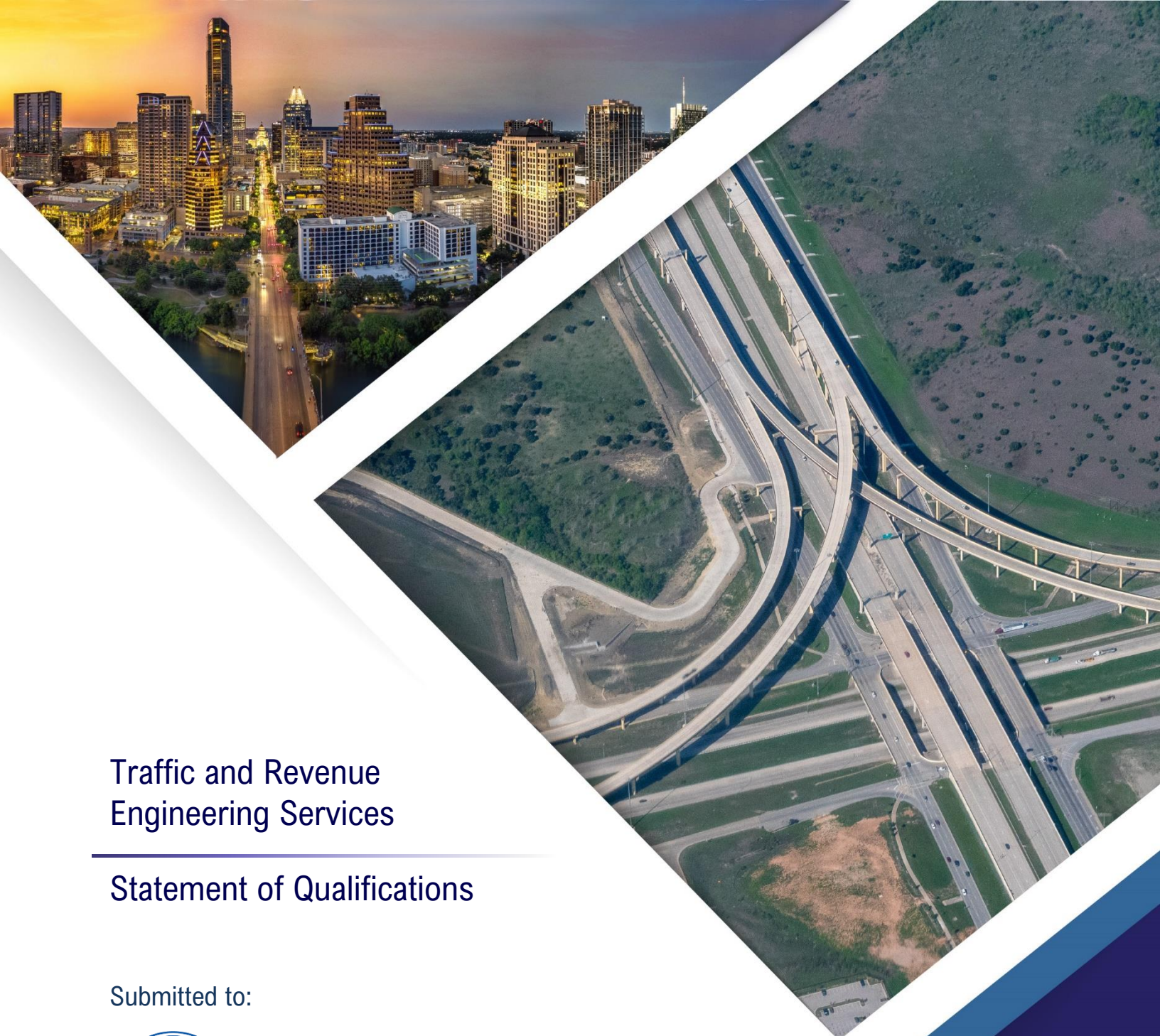
*Nate Prathaftakis
41 Peabody St
Nashville, TN 37210*

APPENDIX E
KEY PERSONNEL

Title	Employee Name
Project Manager	Axel Hermann, MS
Principal in Charge	Carlos M. Contreras, MBA
Senior Advisor QA/QC	Jonathan Pagan, MA
Socioeconomic Analysis Lead	Manuel Sanchez, BS
Travel Demand Modeling Lead	Juan Pablo Zimbron, MS
Analysis and R&R Forecast	Inshu Minocha, AICP
Operational Analysis/Traffic Projection Lead	Griffin Harris, PE, PTOE
Travel Demand Modeling	Fernando Escobar, BS
GIS Analysis Support	Rui Zhang, AICP
Operational Analysis/Traffic Projection Support	Liang Chen, MSCRP

APPENDIX F
CONSULTANT STATEMENT OF QUALIFICATIONS

[Attached]



Traffic and Revenue Engineering Services

Statement of Qualifications

Submitted to:



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

Submitted by:



June 12, 2024

This SOQ has been formatted for double-sided printing.



C&M Associates, Inc.

17304 Preston Road, Suite 800
Dallas, TX 75252
Tel: +1 (214) 245-5300
www.candm-associates.com

Cover Letter

Date: June 12, 2024

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

Attn: Finance Department

Subject: Traffic and Revenue Engineering Services – Statement of Qualifications

C&M Associates, Inc. (C&M) is pleased to submit this Statement of Qualifications (SOQ) in response to the Central Texas Regional Mobility Authority's (CTRMA) Request for Qualifications to provide Traffic and Revenue (T&R) Engineering Services.

C&M is a Texas-based DBE that specializes in T&R studies of toll facilities and has completed nearly 200 T&R studies since 2004, including over 30 Investment Grade T&R studies that have supported \$20 billion in debt plus equity in U.S. and international financial markets.

We have carefully reviewed the RFQ issued on May 15, 2024, and have responded with the assurance that our experience and qualifications fully meet the CTRMA's needs. For your deliberation, our SOQ includes a C&M-led team with broad experience and credentials in the requested scope of work. Our partners include Resource Systems Group, Inc. (RSG), Bomba Consulting, LLC., GRAM Traffic Counting, Inc., and Marr Traffic. In addition to C&M's T&R and traffic engineering experience, our team brings the following experience to the table to support CTRMA:

➤ **Strong Project Management** – Our management team consists of leading experts with extensive experience in similar assignments, including complex projects within Texas. C&M's Axel Herrmann will serve as Project Manager, bringing 19 years of travel demand modeling experience and specialization in T&R studies, including having led numerous intermediate and investment grade T&R studies in Texas.

➤ **Managed Lanes Experience** – C&M has ample experience with managed lane projects in Texas, Virginia, Florida, Colorado, and Georgia, for both private and public entities. Recent managed lane projects include I-580 and I-680 in California, I-25 and I-70 in Colorado, I-285 and SR 400 in Georgia, I-35 and SH 288 in Texas, and I-66, I-95, I-395, and I-495 in Virginia.

➤ **Advanced Modeling Capabilities** – C&M has developed a super-regional travel demand model (TDM) incorporating the extents of three MPO TDMs in Virginia and capable of addressing multiple toll project types and multimodal capabilities. We also have strong capabilities in truck tolling, both in understanding truckers' willingness to pay tolls and how to implement them in forecasting models.

Cover Letter

- **Financial Community Experience** – C&M works closely with different agents involved in the successful placement of bonds or loan syndications. These agents include underwriting institutions, rating agencies, and credit enhancers, among others.
- **Experience Supporting Major Transportation Agencies** – Our staff have advised major agencies throughout the toll industry. Our experience, expertise, and market credentials put us at the top of the field in providing advisory services to entities such as CTRMA; we understand your needs and how to best support you to successfully deliver the required services.
- **Using the Latest Technology** – Just as technology affects CTRMA’s business, so too has it affected T&R forecasting. In recent years, C&M has successfully implemented machine learning techniques involving neural networks to forecast toll road traffic on the Chisholm Trail Parkway and I-580/I-680 Express Lanes. Combined with traditional T&R techniques, machine learning can improve the reliability of short-term forecasts in the budgeting process.
- **Prepared for the Future** – As a young and dynamic firm, C&M is energized by the innovations and changes coming to the toll industry. The advent of autonomous and connected vehicles will change the behavior of CTRMA toll road users. C&M’s proposed Principal in Charge, Carlos Contreras, has engaged with rating agencies on the effect these changes will have on toll road capacity, travel demand, and toll road users’ value of time. C&M’s proposed Project Manager, Axel Herrmann, has considered these changes in previous T&R forecasts and can answer rating agency questions on these impacts.
- **Emphasis on Quality** – Our team is focused on providing high-quality services to CTRMA. Our process starts with developing a scope of work that thoroughly addresses CTRMA’s needs. This work is then implemented with responsible project management and comprehensive QA/QC procedures designed to catch any issues throughout all stages of work. Responsibilities for quality will be communicated to CTRMA clearly and transparently through a Project Management Plan, detailing the process for submitting deliverables on time and within budget while adhering to the highest standards.

We greatly appreciate the opportunity to submit this SOQ. Please feel free to contact me with any questions you may have.

Respectfully,



Carlos M. Contreras
President
214-245-5300, ext. 405
cmcontreras@candm-associates.com

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I. THE FIRM

C&M Associates, Inc. (C&M) is a Texas-based DBE that specializes in advising public agencies in the development of toll projects. Since 2004, C&M has provided traffic and revenue (T&R) forecasting, complex travel demand modeling and microscopic simulation, traffic projections, risk analysis, policy advice, stakeholder engagement, and project financing support over nearly 200 projects, including **over 30 investment grade studies that have supported \$20 billion in debt plus equity in U.S. and international markets.**



C&M has provided T&R analyses to numerous public and private entities and has supported the successful financing of many infrastructure projects. C&M's extensive experience includes executing tasks as delineated by Trust agreements, preparing T&R projections at various levels, studying proposed plans (e.g., toll plans, changes in operational procedures), developing and maintaining travel demand models, interacting with and peer-reviewing other involved agents, and preparing and presenting official reports to financiers and governing bodies.

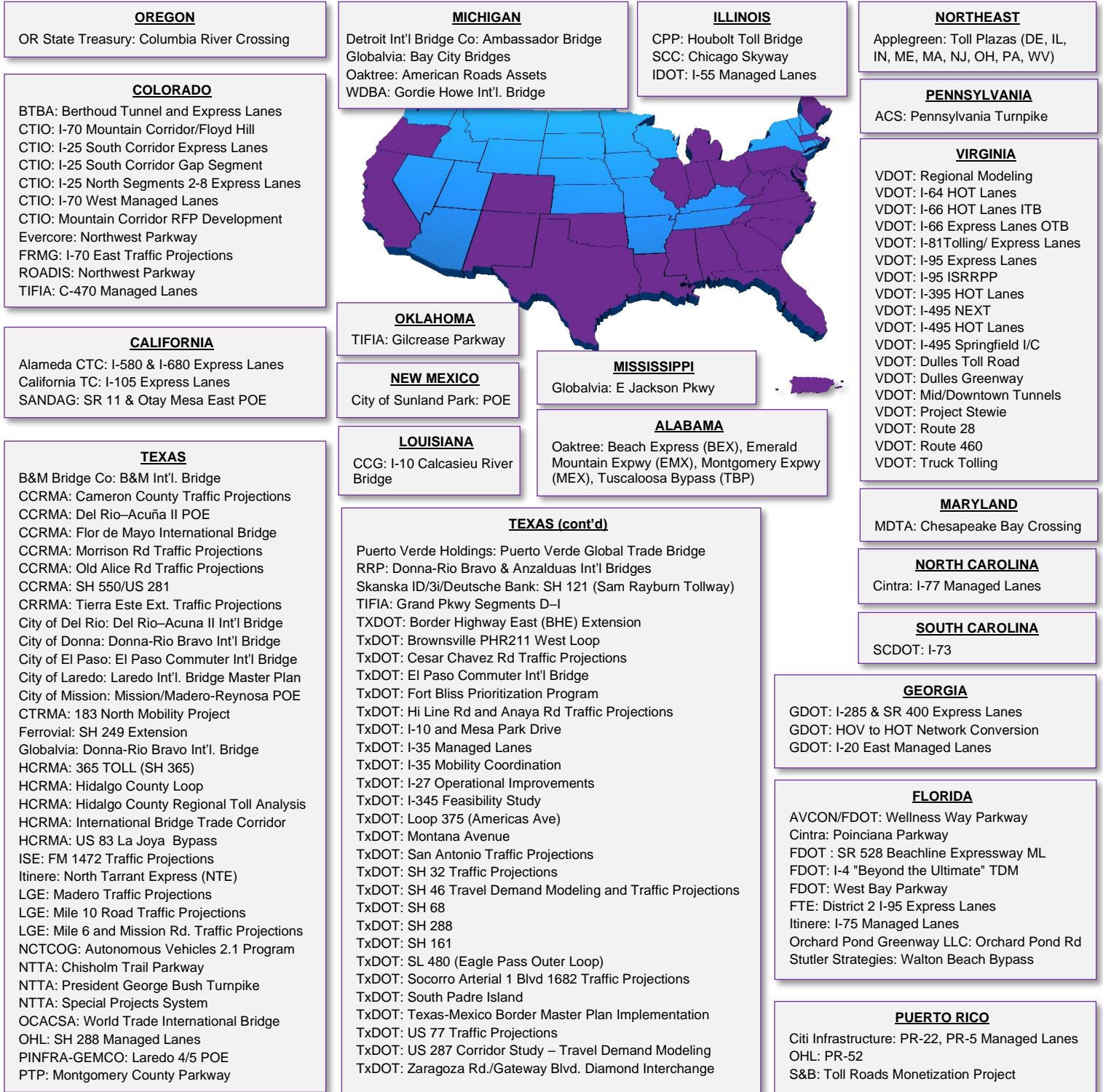
C&M's experience as T&R Engineers includes work on more than 800 miles of tolled roads, tunnels, and bridges, including High Occupancy Toll (HOT) lanes, managed lanes, and projects with fixed, dynamic, or variable pricing with a focus on congestion management and/or revenue maximization.

Throughout its experience performing T&R services, C&M staff has demonstrated its capability to perform every aspect of the T&R Engineering process—from data collection and survey design to traffic modeling, economic forecasting, and the creation, delivery, presentation, and support of its T&R projections at a high level of reliability and quality. C&M has a proven history of providing reliable traffic forecasts for Greenfield and Brownfield projects, for individual toll facilities, and for toll systems, working closely with different agents involved in the successful placement of bonds or loan syndications.

C&M is proud of the relationships it has forged with its clients over the last 20 years, often through multiple projects and renewed contracts. C&M has provided T&R engineering services throughout the United States, as illustrated in Figure 1. C&M's public entity clients include state DOTs, regional mobility authorities, associations of governments, the U.S. Department of Transportation's Federal Highway Administration and

Build America Bureau, and Mexico's Secretariat of Communications and Transportation, among others. Our clients are consistently impressed with the services and support we provide, our ability to meet difficult deadlines on time and within budget, and the overall value added by C&M.

Figure 1. C&M Traffic and Revenue Engineering Experience



"I have worked closely with C&M since 2005 and have found their work to be reflective of a thorough, well thought out approach to traffic and revenue analysis under varied contextual frameworks. In many instances C&M has added value beyond the strict deliverables of the Statement of Work as an extension of staff in evaluating and developing tolled projects."

-FHWA Office of Innovative Program Delivery



A. Office Capabilities and Resources

Although headquartered in Dallas, TX, C&M staff now operate fully remotely throughout the United States, collaborating and applying their expertise as needed to ensure that projects are completed on time and within budget while adhering to the highest industry standards. For a listing of personnel—by discipline and geographic location—who would be assigned to the CTRMA’s work, please refer to Section II. Firm Organization, Staffing and Procedures.

B. Traffic and Revenue Engineering Experience

Complex Modeling and Forecasting Tools

C&M’s proposed modeling Project Manager, **Axel Herrmann**, has ample experience with travel demand models (TDM) in Texas. In addition to the latest version of the Texas Statewide Analysis Model (Texas SAM V.4.1), Axel has worked with almost all TDMs from Texas MPOs, including NCTCOG’s regional TDM, the El Paso MPO’s Regional Mobility Strategy (RMS) TDM, the H-GAC TDM, the AAMPO TDM, the CAMPO TDM, the LRGV TDM, the Laredo MPO TDM, and the Amarillo MPO TDM. With nearly 20 years of experience, Axel has been responsible for the modeling component of a variety of tolling studies, ranging from preliminary feasibility to investment grade level. Recently, Axel led his team in developing four-step TDMs for several T&R studies on behalf of the HCRMA and CCRMA in southern Texas.

*C&M’s staff has expertise in multiple modeling platforms, including **Cube**, **EMME** and **TransCAD**, the Capital Area Metropolitan Planning Organization (**CAMPO**) platform of choice.*

C&M is familiar with the **CAMPO TDM**, a sequential four-step, trip-based model. The CAMPO TDM uses daily generation and distribution of person trips prior to mode choice. However, for the assignment step, the daily trip tables are separated into four time periods—a **welcome feature for estimating managed lane T&R**. An iterative feedback technique is used to resolve travel times within the sequential trip-based model.

C&M has developed a methodology for updating and calibrating/validating TDMs for a specific corridor traffic analysis. Depending on the traffic and transportation planning project objective, C&M determines the weak points of the model and/or the opportunity areas for updating based on the latest information available. C&M reviews the existing TDM and ensures that the roadway network correctly represents existing conditions. No-Build and Build alternatives are developed and the differences between alternatives serve as the basis for the traffic diversion analysis.

C&M also has experience in complex **mesoscopic and microscopic simulations** of transportation projects, which is useful for studying operational efficiency, analyzing traffic impacts, and providing support for stakeholder presentations. C&M has performed studies for **over 30 managed lane projects**, including projects in which tolls vary dynamically, changing as often as every few minutes. To reliably forecast T&R for dynamically tolled projects, C&M's methodology includes mesoscopic modeling tools to dynamically assign traffic and provide a particular level of service (LOS). The methodology considers the time-varying nature of traffic flows and produces more realistic estimates of speeds, queue lengths, delays, and congestion effects. Microscopic simulation can then be applied to verify the facility operates within a particular LOS at specific locations.

Toll Revenue Forecasting

As an internal quality measure, C&M periodically reviews its toll revenue forecasts and compares them to actual outcomes. Specific project examples of C&M's T&R investment grade forecast accuracy are provided below:

- **I-66 Inside the Beltway Investment Grade T&R Study (2017)** – This unique project converted all lanes on I-66 from non-tolled to dynamically tolled. C&M's opening year revenue forecast for the first 12 months of operation was \$24,483,000. The observed revenue during this time was \$25,293,677, surpassing C&M's forecast by 3%. This allowed VDOT and the Northern Virginia Transportation Alliance to meet its \$20 million annual commitment for enhanced transit, park-n-ride lots, ITS, and TDM strategies along the corridor.

- **I-77 Express Investment Grade T&R Study (2015)** – For this greenfield express lane project in Charlotte, NC, C&M produced the investment grade study supporting a bond issuance and a TIFIA loan in 2015. The corridor opened in November 2019. C&M's opening year revenue forecast was \$19,996,000 (in 2020 dollars). In its first full quarter of operations, (Q1 2020), I-77 Express generated \$5.3 million in toll revenue, which translates into annual revenue surpassing C&M's revenue forecast by 6%. According to Fitch ratings, prior to COVID-19, the I-77 Express produced revenues in a range of \$1.4 million and \$2.0 million monthly, between December and February. This performance was well above prior Fitch base and rating case expectations when extrapolated for the year.

- **Ambassador Bridge Investment Grade T&R Study (2013)** – With a 40% market share, the Ambassador Bridge is the single largest port of entry for truck traffic along the US-Canada border. The Detroit International Bridge Company issued debt backed by C&M's investment grade study and rated by DBRS. C&M's first- and second-year revenue forecast was 0.3% above and 1.7% below observed revenue, respectively.

Traffic Projections

C&M has substantial, successful experience in initiating, producing, and receiving approval for traffic projections through the TxDOT Transportation Planning and Programming (TPP) Division. C&M adheres to TPP's Standard Operating Procedures (SOP) for developing traffic projections and is well-versed in producing ADTs for opening year and 20- and 30-year forecast periods, TAHD tabulations for air and noise analysis, and ESAL estimates for flexible and rigid pavement designs. C&M understands the process and the specific requirements and details that TPP looks for when approving traffic projections. C&M has a long working relationship with TPP and recognizes the importance of effective communication with them through TxDOT.

C&M's relevant experience includes successfully developing average daily traffic (ADT) projections for the proposed International Bridge Trade Corridor (IBTC) in southern Hidalgo County, TX—including mainlines, ramps, and frontage roads—for the opening year, horizon year, and pavement design year for pavement design, noise analysis, and environmental clearance. C&M obtained existing and historical traffic counts available through TxDOT's ms2soft interface, TxDOT's planning maps, and the TxDOT/TPP traffic projection package. C&M employed the Lower Rio Grande Travel Demand Model (LRGV TDM 2040) to support the traffic projections.

Traffic and Revenue Evaluations and Opinions

C&M has developed a state-of-the-practice forecast analysis technique to evaluate the expected probability of a project achieving its forecasted T&R. This methodology has incorporated feedback from underwriters, credit enhancers, commercial banks, and rating agencies in the United States, Latin America, and Europe. The methodology has been used by C&M to conduct **risk analysis** of C&M's own forecasts and those of others C&M has peer reviewed.

C&M has the unique experience of both helping clients obtain financing and helping USDOT assess the risk of providing such financing through the **Infrastructure Finance and Innovation Act (TIFIA)**. These have given C&M outside and inside perspectives of TIFIA-related requirements, sensitivity testing, and risk analysis.

Outside Perspective: I-66 express lanes 2016 indicative private rating from Fitch for senior Private Activity Bonds and subordinate TIFIA loan in the hundreds of millions of dollars obtained by VDOT using C&M's T&R forecasts, as well as the I-77 HOT lanes referenced earlier.

Inside Perspective: C-470 express lanes 2016 T&R review and risk analysis, Grand Parkway 2017 T&R review and risk analysis, and Gilcrease Expressway 2018 T&R review and risk analysis conducted on behalf of TIFIA.

C. Trust Indenture and Financial Community Experience

C&M is well-versed in performing duties imposed on transportation engineers under requirements of Trust Indentures for bond financing, including providing opinions related to annual reviews and bond issuances. Specifically, C&M served as T&R Engineer for the NTTA's Special Projects System (SPS), comprising the Chisholm Trail Parkway (CTP) and the President George Bush Turnpike-Western Extension (PGBT-WE). As Prime T&R Consultant for the SPS from 2012 to 2017, C&M monitored the performance of the NTTA System—to ensure consistency with the SPS and understanding of its operations and trends—and conducted the following tasks for the NTTA:

- ✓ **Periodic Update of SPS Gantry Toll Rates**
- ✓ **Quarterly TIGER Grant Performance Report for PGBT-WE**
- ✓ **SPS Annual Budget Estimates**
- ✓ **Quarterly/Monthly/Weekly SPS Performance Reports**
- ✓ **Level 2 T&R Update for the PGBT-WE (2013)**
- ✓ **Level 2 T&R study for the CTP (2013)**
- ✓ **Traffic Impact Study of I-20 & SH 161 on PGBT-WE T&R (2013)**
- ✓ **Investment Grade T&R Study for the CTP (2014)**
- ✓ **NCTCOG 2040 Demographic Forecast Review (2014)**
- ✓ **CTP T&R Alternative Scenario Analysis (2015)**
- ✓ **CTP Toll Discount Analysis (2015)**
- ✓ **Investment Grade T&R Study for the SPS (2016)**
- ✓ **Periodic presentations to the Board and staff**
- ✓ **Opinions and analysis of toll policies and operations**

C&M also has substantial experience working with lenders and credit rating agencies in support of toll revenue obligations. The financing process support includes: **1)** Peer review of C&M's T&R results by the lender's advisor; **2)** Peer review by TIFIA US DOT Consultants; **3)** Presenting results and Q&A sessions with TIFIA; **4)** Modification and excerption of the T&R report for inclusion in an official statement; **5)** Developing a reliance letter; **6)** Q&A and coordination meetings with underwriters; and **7)** Teleconferences, written Q&A sessions, and stress scenario development with ratings agencies. Examples of projects where C&M has worked with lenders and rating agencies include the following:

- ✓ **2023 and ongoing support of GDOT's I-285 Express Lanes**

TIFIA application and rating agency review in Georgia. C&M presented its T&R forecasts and is working with rating agencies to answer questions and perform sensitivities.

- ✓ **2023 support of the City of Donna, Texas financing of the Donna International Bridge improvement program through the issuance of municipal bonds. C&M provided an investment grade T&R forecast and Bring Down Letter, as well as liaised with underwriter Hill Top Securities.**

C&M has worked extensively with all major rating agencies including Moody's, S&P, DBRS, Kroll and Fitch Ratings. The outcomes of these activities have resulted in investment grade ratings, TIFIA loan execution and the successful issuance of Municipal Bonds and Private Activity Bonds.

- ✓ 2023 support of **I-25 North Express Lanes** TIFIA refinancing on behalf of Colorado's Transportation Investment Office (CTIO). C&M presented its T&R forecasts in separate meetings with Kroll and Fitch for its T&R studies for segments 2 and 3 of the project and its subsequent update to include segments 6, 7 and 8.
- ✓ 2022 Support of GDOT's **SR 400 Express Lane** TIFIA application and rating agency review for the project. C&M presented its T&R forecasts and liaised with rating agency Moody's to answer questions and perform sensitivities.

C&M works closely with agents involved in the placement of bonds or loan syndications, as shown below:

- Fitch Ratings has assigned a 'BBB+' rating to the CTIO's \$501 million TIFIA loan. Fitch expects the project's conversion to dynamic tolling in 2024 to improve the level of service by more efficiently maintaining minimum target speeds while maximizing revenues. The financing will be supplemented by Federal, state, and local funding. Segments 2 and 3 are currently operational and will serve as the main pledged revenue sources for the current financing.

- The Official Statement of \$152 million in Series 2022A Senior Lien bonds and \$64 million in Series 2022B Junior Lien bonds was issued by the HCRMA on January 20, 2022. The HCRMA pledged vehicle registration fees and toll revenue from the proposed 365 TOLL facility. The Senior Lien Bonds received ratings of Baa2 from Moody's and BBB- from S&P. The Junior Lien bonds received ratings of Baa3 from Moody's and BB+ from S&P.

- In February 2016, the Virginia DOT (VDOT) obtained an indicative private rating from Fitch for senior private activity bonds and subordinate TIFIA loan in the hundreds of millions of dollars using C&M's T&R forecasts.

- In 2015, C&M completed an investment grade T&R study of the I-77 HOT Lanes project in North Carolina. The Official Statement of the \$100 million in PABS was published on September 20, 2015. The offering was made by the North Carolina DOT (NCDOT), pledging revenue from the I-77 managed lanes. In addition, the financial close included a \$189 million TIFIA loan. The offering was rated BBB- by Fitch and BBB by DBRS.

D. Model Development and Maintenance Experience

In addition to being well-versed in the multitude of available TDMs, **C&M develops TDMs in-house** in TransCAD to serve projects along the U.S.–Mexico border. Axel Hermann leads C&M's in-house development of these Binational TDMs, with clients including border RMAs (CCRMA, HCRMA) and border cities (Laredo, Del Rio, Eagle Pass, Mission, Pharr, McAllen, Donna, Brownsville). If a TDM cannot be provided or does not exist—as was the case in Del Rio and Eagle Pass—C&M develops regional TDMs that are functionality comparable to other border MPO TDMs

Another example of C&M staff modeling capabilities (among the dozens of models they have developed or updated) is the **Northern Virginia Super-Regional TDM (SRM)** developed for the Washington, D.C. area, including all the tolled facilities in Northern Virginia

C&M has a successful track record of developing time-of-day (ToD) four-step binational TDMs. C&M has executed over a dozen international traffic studies with these in-house-developed TDMs to produce traffic forecasts of sufficient quality to assess project feasibility, conduct financial planning, support grant applications, and validate alternative scenarios for planning purposes.

and Maryland and their interaction as a regional system. The model is currently being used to produce **investment grade T&R studies** for multiple express lane corridors, including I-66 Inside the Beltway, 495 Express, and I-395.

E. Disputes

Since January 1, 2019, C&M has not been involved in any regulatory or legal proceedings, protest filings, or early termination of the firm's work or contract for services provided.

F. Professional Fees

C&M charges monthly following this formula: **Invoice = (Direct Labor + Overhead) * (1 + Profit Rate) + Direct Expenses**

- **Direct Labor:** Will be charged based on the established hourly rates for each staff member and subcontractor. Rates are based on dividing annual salaries by 2,080 hours. C&M does not add surcharges to subcontractor fees.
- **Overhead:** C&M's accounting system identifies time and materials expended on a per-project basis. The system tracks and categorizes expenses as overhead allowable and non-allowable accounts under Federal Acquisition Regulations. An external auditor reviews and certifies accounting practices and overhead cost calculations.
- **Profit Rate:** C&M will negotiate with CTRMA regarding the profit rate that will apply to this assignment.
- **Direct Expenses:** C&M charges the actual cost of direct expenses (e.g., travel, field data collection, data purchase).

C&M prepares the budgets for the tasks based on the time estimated to complete them and the approved rates for the professionals involved in the project. Submitted to CTRMA monthly, invoices will document actual time spent on the project by personnel, direct expenses associated with the project, and a progress report of the task. Individual rates for each professional and the number of hours dedicated to each task will be those approved in advance by CTRMA. Overhead rates and profit rates will also be those disclosed and agreed upon during the procurement and negotiation process and will follow Federal Acquisition Regulations (FAR).

G. Conflicts of Interest

C&M is currently part of the GEC team that is advising TxDOT's Austin District on the Mobility 35 program. C&M has no additional contractual or informal business arrangements/agreements, including fee arrangements, consulting agreements, or any other kind of legal representation, with (i) the CTRMA staff and/or any of its Board members., or with (ii) any governmental entity or political subdivision (with the exception of TxDOT as described above) within the geographic area encompassed by CTRMA.

II. FIRM ORGANIZATION, STAFFING AND PROCEDURES

C&M has carefully selected its team members and proposed personnel to successfully address CTRMA's needs and perform the required T&R Engineering services. C&M proposes a team of 36 professionals (3 senior staff, 5 task leaders, 7 dedicated support staff, and 21 additional support staff) with immediate and direct experience in Texas, including the following subconsultants:



Resource Systems Group, Inc. (RSG) is an internationally prominent transportation consulting firm specializing in stated preference (SP) surveys, travel demand

modeling, data analysis, and market research for toll facilities. RSG has a long history of supporting T&R work through SP survey design, behavioral modeling, and travel forecasting. RSG has developed traveler choice models to support new road pricing projects and pricing/operations changes for existing facilities throughout the U.S., Canada, South America, Asia, and Europe. RSG has participated in several pioneering pricing projects such as California's SR-91 Express Lanes, Singapore's Area Pricing program, and Toronto's Hwy 407 all-electronic/video tolling, as well as more recent projects such as express lanes projects for US 36 and I-25 in Colorado, the I-395 and I-495 Express Lanes in northern Virginia, the I-4 Beyond the Ultimate express lanes in Orlando, Miami's 95 Express, and a regional system of express lanes in Dallas, TX.



Bomba Consulting, LLC is a transportation planning and economic research firm based in Austin, Texas. The firm primarily focuses on the needs of public sector clients, providing technical analysis and forecasting services for their transportation planning and public finance initiatives, as well as more general planning services to meet permitting requirements or to pursue local

economic development goals. A key practice area for the firm has been its demographic forecasting services, which prepare socioeconomic data to be used in travel demand models. These projects have supported updates to metropolitan transportation plans (MTPs) and toll road viability studies, as well as to finance toll road projects in the municipal bond market and the TIFIA federal loan program. Since its founding in 2013, Bomba Consulting, LLC has supported the sale of approximately \$3.5 billion of municipal bonds and TIFIA loans and its Managing Member, Dr. Michael Bomba, has supported the sale of \$9.0 billion of municipal bonds and TIFIA loans throughout his career. Dr. Bomba has revised socioeconomic data for more than 50 T&R studies and previously worked with C&M on a study for SH 121 in the North Dallas region. Recent or ongoing toll-related clients of Bomba Consulting, LLC include CTRMA, TxDOT, and the Brazoria County Toll Road Authority (BCTRA).



GRAM Traffic Counting, Inc. (GTC) is a Texas-based DBE and HUB founded in 1998 that specializes in planning and executing projects ranging from small intersections to large-scale, statewide data collection

programs, including automated traffic record counts (ATR), pedestrian counts, turning movement counts (TMC), origin-destination surveys, and video license plate capture. GTC ensures that all TxDOT standards for health and safety are followed for all traffic and data collection efforts. They maintain and demonstrate situational awareness and safety-mindedness in the field and throughout each project.



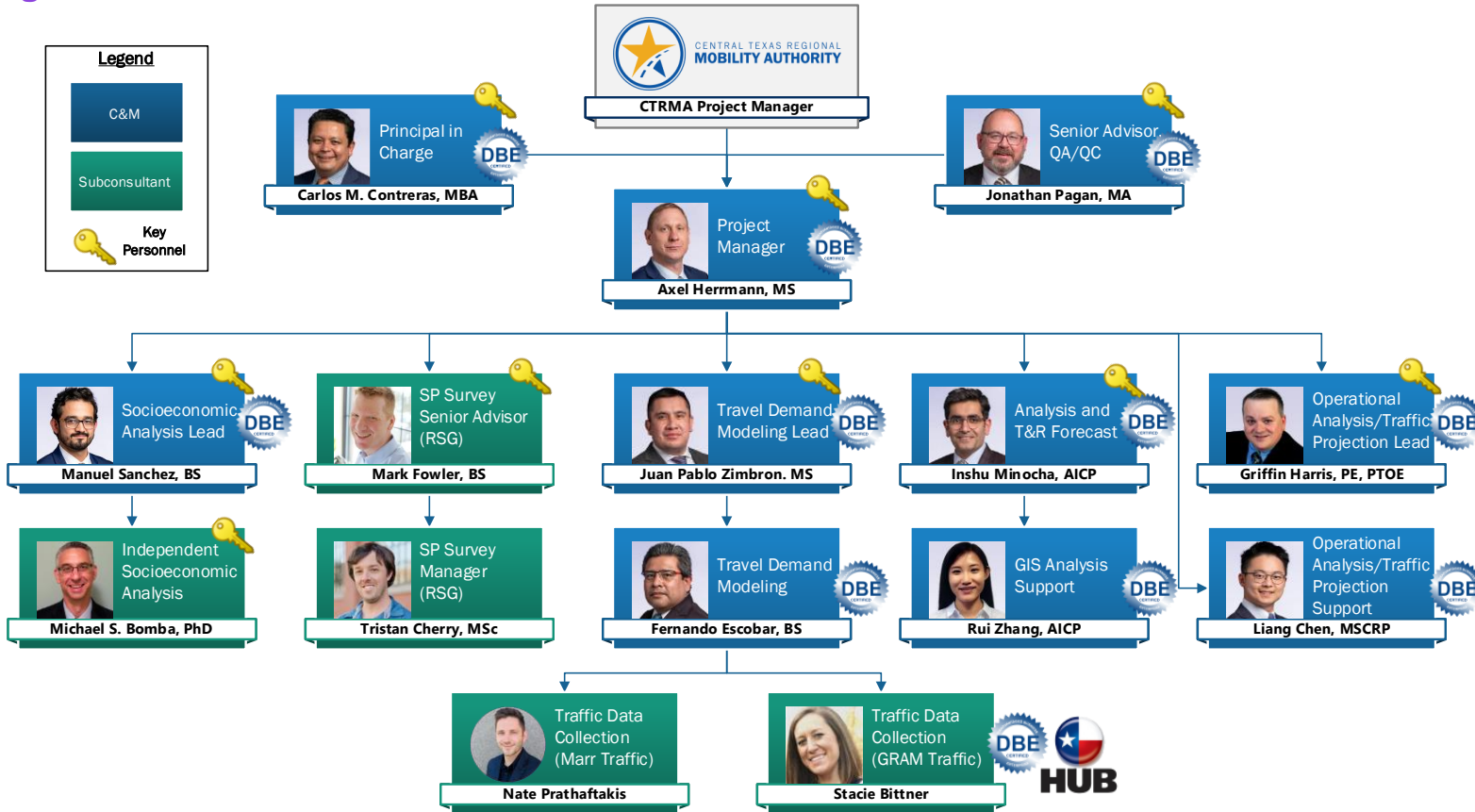
Marr Traffic is a privately owned traffic data collection firm that was established in 2015 and specializes in advanced traffic data collection, focusing on intersection and roundabout safety. Marr has 5 offices

throughout the Southeast and over 40 employees. Over 150 clients across 15 states have trusted Marr Traffic as their traffic data collection partner, and they currently provide traffic data for many counties, municipalities, and DOTs throughout the Southeast.

Staffing Plan

C&M confirms that the proposed personnel presented herein will be the ones performing the work. Any substitution of personnel will not be conducted without prior submitting a written request for substitution with a qualified individual and receiving CTRMA's consent.

A. Organizational Chart



Senior Advisors and Support Personnel	
Ajit Makhija, MS – Senior Transportation System Planner II	Jinjian Liang, PE – Transportation Modeling Manager I
Alireza Soroush, PhD – Vice President, Senior Advisor	Julian Mendoza, MS – Transportation System Modeler II
Ameya Chandrakar, MS – Transportation System Planner I	Mitra Navarro, MBA, PMP – Business Director
Anjulie Hira, MS – Transportation System Modeler I	Peyman Khorsandi, MS – Transportation System Modeler III
Arpit Mathur, MS – Transportation System Modeler	Rajdeep Pal – Assistant Transportation System Modeler
Deeksha Pandi – Assistant Transportation System Modeler	Ricardo Pezo, MS – Senior Transportation Planner
Eric Coholan, MS – Transportation System Modeler II, GIS Analyst	Romina Jahangiri, MS – Transportation System Modeler
Erin McGraw, MA – Technical Writer	Rutuja Jagatap, MS – Assistant Transportation System Modeler
Gabriela Huerta, MS – Transportation System Modeler I	Tao Pan, PE, PTP – Senior Transportation System Modeler
James Liddle, MA – Documentation Manager	Tara Diba, PhD – Transportation System Modeler
Jiji V. Kottommannil, PMP – Transportation Modeling Director	

B. Committed Personnel

Table 1 summarizes the personnel committed for availability to the CTRMA (totaling 19 professionals), including their role, geographic location, expertise relevant to T&R engineering services, and percent commitment for the duration of the contract, understanding that services may extend for a term of 5 years plus two options for 2-year extensions. Professional resumes detailing key personnel qualifications and experience are provided in the Appendix.

Table 1. C&M Team Committed Personnel

C&M Team Committed Personnel				Areas of Expertise												
				Years of Experience	Availability %	Level 1-3 T&R Studies	Travel Demand Modeling	Managed Lanes	Toll Rate Optimization	Equity Analysis	TIFA Experience	Socioeconomic Analysis	Federal Grant Applications	Program-Level Planning	Data Collection/Analysis	
Firm	Name	Role	Location													
C&M Associates	Carlos Contreras	Principal in Charge	Sacramento, CA	30	25%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Axel Herrmann	Project Manager	Dallas, TX	19	50%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Jonathan Pagan	Senior Advisor, QA/QC	Arlington, VA	32	60%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Inshu Minocha, AICP	T&R Analysis and Forecasting	Washington, DC	16	70%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Griffin Harris, PE, PTOE	Operational Analysis / Traffic Projections Lead	Salt Lake City, UT	23	50%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Juan Pablo Zimbron	Travel Demand Modeling Lead	Dallas, TX	10	75%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Fernando Escobar	Travel Demand Modeling	Dallas, TX	16	90%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Manuel Sanchez	Socioeconomic Analysis Lead	Dallas, TX	9	75%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Rui Zhang, AICP	GIS Analysis Support	San Diego, CA	6	60%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Liang Chen, AICP	Operational Analysis / Traffic Projections Support	Dallas, TX	6	60%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Subconsultants	Michael Bomba, PhD	Socioeconomic Analysis (Bomba Consulting, LLC)	Austin, TX	25	50%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mark Fowler	Stated Preference Survey Senior Advisor (RSG)	Burlington, VT	20	25%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Tristan Cherry	Stated Preference Survey Manager (RSG)	Burlington, VT	12	35%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Stacie Bittner	Traffic Data Collection (GRAM Traffic Counting)	Georgetown, TX	8	75%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Nate Prathaftakis	Traffic Data Collection (Marr Traffic)	Norcross, GA	19	30%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

C. Staff Availability

Please refer to Section B. Committed Personnel.

D. DBE/HUB Participation

Based on self-performance and subcontracting, C&M’s HUB/DBE participation is estimated to exceed 80% of the work performed for the CTRMA, far exceeding the 15% participation goal. C&M is a certified DBE by the North Central Texas Regional Certification Agency (expires January 31, 2025). C&M is committed to making its best effort to include DBE and HUB firms as part of this CTRMA contract by subcontracting a significant portion of the work to Texas-certified W/DBE/HUB firm GRAM Traffic Counting, Inc., who has been a subcontractor for C&M-led teams in the past.

III. PROJECT DEVELOPMENT EXPERIENCE

Table 2 summarizes relevant projects for which C&M has provided T&R engineering services since January 1, 2019. The remainder of this section presents a sampling of infrastructure development projects in more detail.

Table 2. C&M T&R Engineering Services, 2019–2024

Year	Project Name, Location	T&R Level	Client
Ongoing	Northern Virginia Super Regional Travel Demand Model Maintenance	N/A	VDOT P3 Office
2024	I-95/I-395 Express Lanes Truck Tolling Analysis	2	VDOT P3 Office
2024	US 287 Corridor Study – Travel Demand Modeling	N/A	TxDOT
2024	SR 37 Level 2 T&R Study, CA	2	Ernst & Young
2023	Laredo International Bridge 4/5 Investment Grade T&R Study	3	Southwebb Bridge Co.
2023	Berthoud Tunnel and Express Lanes Level 1 T&R Study Update	1	BTBA
2023	Border Highway East (BHE) Extension Traffic Engineering, TX	N/A	TxDOT
2023	Puerto Verde Global Trade Bridge Intermediate T&R Study, TX	2	Puerto Verde Holdings
2023	I-81 Corridor Sketch-Level T&R Study and Scenario/Sensitivity Analyses, VA	1	VDOT P3 Office
2023	I-95 Express Lane Alternatives Level 2 T&R Study, VA	VA	VDOT P3 Office
2023	Gordie Howe Int’l. Bridge Investment Grade T&R and Price Elasticity Study, Windsor, Ontario and Detroit, MI	3	WDBA
2022	I-66 Inside the Beltway Level 2 T&R Study, VA	2	VDOT P3 Office
2022	Texas-Mexico Border Transportation Master Plan T&R Engineering, TX	N/A	TxDOT
2022	I-70 Floyd Hill Investment Grade T&R Study, CO	3	CDOT CTIO
2022	I-580 and I-680 Express Lanes T&R Study Update, CA	2	Alameda CTC
2022	Del Rio-Acuna II International Bridge Investment Grade T&R Study, TX	3	City of Del Rio
2022	Dulles Greenway and Dulles Toll Road Level 2 T&R Studies, VA	2	VDOT P3 Office
2022	I-25 North Segments 2-8 Level 2 T&R Study, CO	2	CDOT CTIO

Year	Project Name, Location	T&R Level	Client
2022	I-395 Level 2 T&R Study, VA	2	VDOT P3 Office
2022	Truck Tolling Level 2 T&R Analysis, VA	2	VDOT P3 Office
2021	Northern Virginia Super Regional Travel Demand Model Development, VA	N/A	VDOT P3 Office
2021	I-10 Calcasieu River Bridge Investment Grade T&R Study, LA	3	Private Consortium
2021	365 TOLL Bring Down Letter and Value Engineering Scenario	3	HCRMA
2021	SR 400 Express Lanes Intermediate Traffic and Revenue Study, GA	2	GDOT
2021	I-285 Express Lanes Intermediate Traffic and Revenue Study, GA	2	GDOT
2021	Donna-Rio Bravo Investment Grade T&R Update Study, TX	3	City of Donna
2021	I-25 North Segment 2-3 Intermediate T&R Study, CO	2	CDOT CTIO
2021	B&M International Bridge T&R Study, TX	2	B&M Bridge Co.
2020	I-35 Mobility Coordination Traffic Engineering, TX	N/A	TxDOT Austin District
2020	City of Laredo International Bridge Master Plan Traffic Analysis, TX	N/A	City of Laredo
2020	I-70 Mountain Corridor Floyd Hill Funding Gap Study, CO	2	CDOT CTIO
2020	365 TOLL Investment Grade T&R Study, TX	3	HCRMA
2020	Dulles Regional Modeling and Investment Grade T&R Study, VA	3	VDOT P3 Office
2020	I-495 Investment Grade T&R Study, VA	3	VDOT P3 Office
2020	Project Charles Investment Grade T&R Study, VA	3	VDOT P3 Office
2020	Donna-Rio Bravo International Bridge Investment Grade T&R Study, TX	3	City of Donna
2020	I-25 North Segment 2 Level 2 T&R Study, CO	2	CDOT CTIO
2020	I-66 Inside the Beltway Level 2 T&R Study, VA	3	VDOT P3 Office
2020	I-580 and I-680 Express Lanes Level 2 T&R Study, CA	2	Alameda CTC
2019	Midtown Tunnel/Downtown Tunnel/MLK Extension T&R Study, VA	3	VDOT P3 Office
2019	I-10 Mobile River Bridge and Bayway Traffic and Revenue Peer Review, AL	PR	Cintra
2019	I-105 Express Lane Traffic & Revenue Peer Review, CA	PR	CTC
2019	I-55 T&R Peer Review, IL	PR	IDOT
2019	Camino Real de Tierra Adentro POE Presidential Permit Support Study, NM	2	City of Sunland Park
2019	I-66 Inside the Beltway Level 2 T&R Update Study, VA	2	VDOT P3 Office
2019	Bay City Bridges T&R Analysis, MI	1	Globalvia
2019	495 NEXT Level 2 T&R Study, VA	2	VDOT P3 Office
2019	183 North Mobility Project T&R Peer Review	PR	CTRMA
2019	Gilcrease Expressway-West Segment T&R Peer Review and Risk Assessment	PR	USDOT TIFIA

I-580 and I-680 Express Lanes Level 2 T&R Analysis Update (2022)

On behalf of the Alameda CTC, C&M conducted a Level 2 T&R study update regarding express lanes on I-580 and I-680, providing 20-year T&R forecasts to support Alameda CTC's expenditure plans. In addition to adopting the latest version of the Alameda Countywide TDM and calibrating a subarea model, C&M developed a microscopic simulation model for the I-580 and I-680 corridors in the VISSIM

- **Location:** Alameda County, CA
- **Contact:** Liz Rutman, Alameda CTC - 1111 Broadway, Suite 800, Oakland, CA 94607; (510) 208-7483
- **Official Statement Date:** N/A
- **Forecasted First Year Revenue:**
I-580: \$15,421,000
I-680: \$7,542,000
- **Observed Opening Year Revenue:** N/A

platform to evaluate potential operational issues with the forecasted trip tables from the TDM. Additionally, C&M developed a machine learning model to validate the short-term traffic demand forecasts for the project corridors.

365 TOLL Investment Grade Traffic and Revenue Study (2020–2022)

The Hidalgo County RMA engaged C&M to prepare an Investment Grade T&R study for the proposed 365 TOLL facility. The aim of the study was to update C&M's 2016 Investment Grade T&R forecast for the project, with results expressed in annual toll transactions and toll revenue over a 40-year period beginning in 2025, the first year in which the facility will be tolled.

- **Location:** Hidalgo County, TX
- **Contact:** Pilar Rodriguez, HCRMA – 203 W Newcombe Ave, Pharr, TX 78577; (956) 402-4762
- **Official Statement Date:** N/A
- **Forecasted Opening Year Revenue:** \$2.44 million (2020 dollars)
- **Observed Opening Year Revenue:** N/A

Project Outcome: C&M's study was reviewed by TxDOT and served as the basis for HCRMA's application and approval of a \$42 million State Infrastructure Bank loan. C&M's study and Bring Down Letter supported the January 20, 2022 Official Statement of \$152 million in Series 2022A Senior Lien bonds and \$64 million in Series 2022B Junior Lien bonds issued by the HCRMA, pledging vehicle registration fees and toll revenue from 365 TOLL. The Senior Lien Bonds received ratings of Baa2 from Moody's and BBB- from S&P. The Junior Lien bonds received ratings of Baa3 from Moody's and BB+ from S&P.

183 North Mobility Project Traffic and Revenue Peer Review (2019)

Traffic congestion along US 183 between SH 45 North and the MoPac Expressway is a major issue, especially during peak rush hour periods. CTRMA proposed development along this segment of US 183 to add two express lanes from SH 45 to the MoPac Expressway ramp, as well as a non-tolled lane to expand US 183

- **Location:** Austin, TX
- **Contact:** Bill Chapman, CTRMA – 3300 N IH-35 Suite 300, Austin, TX 78705; (512) 450-6284
- **Official Statement Date:** N/A
- **Forecasted Opening Year Revenue:** N/A
- **Observed Opening Year Revenue:** N/A

from three to four lanes. C&M reviewed the project's forecasted T&R as presented in a study by Stantec to determine whether it follows industry-accepted methodologies, incorporates reasonable assumptions, is consistent with the project's design and objectives, and is supported by the existing and forecasted socioeconomic and traffic conditions within the study area.

APPENDIX

The appendix to this SOQ includes the following information:

- Completed Forms
 - Conflict of Interest Identification
 - HUB/DBE Participation
- C&M Preprinted Brochure Material
- Key Personnel Resumes

APPENDIX E
CONFLICT OF INTEREST DISCLOSURE STATEMENT

This Disclosure Statement identifies potential conflicts of interest that may exist because of a previous (within the last 12 months) or current business relationship (a “business relationship”) between:

- (1) the undersigned Respondent (including each individual, firm, or other business entity that is a member of a Respondent team) to the proposal for a contract to provide general engineering consultant (GEC) services, and
- (2) a person or firm listed on “Key Personnel and Firms” of the Mobility Authority, available at the Mobility Authority website (<https://www.mobilityauthority.com/about/policy-disclaimers/keyfirms>)

Section I of this Disclosure Statement Form describes a business relationship which could result in a conflict of interest. Section II of this Disclosure Statement Form describes the undersigned’s proposed management plan for dealing with any potential conflict of interest identified by Section I of this form. Additional pages may be attached to this form if needed to complete Sections I and II.

This Disclosure Statement is submitted to comply with the Central Texas Regional Mobility Authority’s Conflict of Interest Policy for Consultants. The undersigned acknowledges that approval of the proposed management plan is within the sole discretion of the Central Texas Regional Mobility Authority.

SECTION I. Description of Potential Conflicts of Interest.

For each business relationship state: (A) the Respondent (and if the Respondent is a team, the name of any individual, firm, or business entity that is a part of Respondent’s team) and the person or firm listed as “Key Personnel and Firms” of the Mobility Authority with whom there is a business relationship; and (B) the nature of that business relationship; its current status; and the date of termination or expected termination of the business relationship.

SECTION II. Management Plan for Dealing with Potential Conflicts of Interest.

For each potential conflict of interest listed in Section I, please propose a management plan to address any potential conflict of interest.

SIGNED:  _____ DATE: June 10, 2024 _____

NAME AND TITLE: Carlos M. Contreras, President _____

REPRESENTING: C&M Associates, Inc. _____

APPROVED BY THE CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY:

SIGNED: _____ DATE: _____

NAME AND TITLE: _____

DISCLOSURE STATEMENT FORM

This Disclosure Statement outlines potential conflicts of interest as a result of a previous or current business relationship between the undersigned individual (and/or firm the firm for which the individual works) and an individual or firm submitting a proposal or otherwise under consideration for a contract associated with Traffic and Revenue Engineering Services.

Section I of this Disclosure Statement Form describes the potential conflicts of interest. Section II of this Disclosure Statement Form describes the proposer's management plan for dealing with the potential conflicts of interest as described in Section I of this form. This Disclosure Statement is being submitted in compliance with the Central Texas Regional Mobility Authority's Conflict of Interest Policy for Consultant's. The undersigned acknowledges that approval of the proposed management plan in within sole discretion of the Central Texas Regional Mobility Authority.

SECTION I. Description of Potential Conflicts of Interests.

N/A

SECTION II. Management Plan for Dealing with Potential Conflicts of Interest.

N/A

SIGNED: _____ DATE: June 10, 2024

NAME AND TITLE: Carlos M. Contreras, President

REPRESENTING: C&M Associates, Inc.

APPROVED BY THE CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY:

SIGNED: _____ DATE: _____

NAME AND TITLE: _____

**APPENDIX C
HISTORICALLY UNDERUTILIZED BUSINESS (HUB) /
DISADVANTAGED BUSINESS ENTERPRISE (DBE) CERTIFICATION**

HUB/DBE REQUIREMENTS

The goals for participation by HUB/DBEs has been established by the Mobility Authority for future projects to be assigned:

Project	Professional Services HUB or DBE Goal
Project to be assigned	15%

DBE Certification

By signing the SOQ, the Proposer certifies that the above HUB/DBE goal will be met in the Agreement by obtaining commitments equal to or exceeding the HUB/DBE percentage or that the Proposer will provide a good faith effort to substantiate the attempt to meet the goal.


 Carlos M. Contreras

 Name

President

 Title

C&M Associates, Inc.

 Company

June 10, 2024

 Date



Texas Traffic Engineering and Planning

- ✓ Recognized adherence to TxDOT/TPP methodology/SOP
- ✓ ADT for opening year and 20- & 30-year forecast periods
- ✓ TAHD tabulations for air and noise analysis
- ✓ ESAL estimates for flexible and rigid pavement designs
- ✓ Travel Demand Modeling (TransCAD & Cube) to capture effects of: Network improvements, land development, socioeconomic growth
- ✓ Corridor studies, scenario analysis, project prioritization, impact analysis and grant submission

TxDOT Pre-Certifications:

- 1.3.1 Subarea/Corridor Planning
- 1.7.1 Traffic Demand Modeling
- 3.2.1 Route Studies and Schematic Design
- 3.7.1 Traffic Operational Analysis
- 4.2.1 Roadway Design
- 7.1.1 Traffic Engineering Studies
- 7.3.1 Traffic Signal Timing
- 7.5.1 Intelligent Transportation Systems
- 8.1.1 Signage, Pavement Marking, and Channelization
- 8.3.1 Signalization
- 23.4.1 Debt and Equity Based T&R Studies (Engineering)
- 23.4.2 Debt and Equity Based T&R Studies (Planning)
- 23.4.3 Debt and Equity Based T&R Studies (Modeling/Forecast)
- 23.4.4 Traffic Projections
- 23.4.5 Debt and Equity Based T&R Studies (Management)
- 23.7.1 Project Finance Support
- 24.9.1 Toll Traffic Impacts – Engineering Analysis
- 24.9.2 Toll Traffic Impacts – Planning Analysis
- 24.10.1 Toll Facility Traffic Operational Analysis

Recent Projects

- **Border Highway East (BHE) Extension Traffic Analysis, El Paso**
- **I-35 Capital Express GEC, Austin (Reviews of IAJR, Safety Analysis, VISSIM models, design exceptions, cluster analysis; CAMPO TDM scenarios for CapEx North, Central and South for Alt1, Alt2, Alt3, community alternatives ReThink and Reconnect, transit scenarios and update)**
- **Arterial 1/Tiwa Blvd Ext. Traffic Projections, Socorro**
- **NCTCOG AV2.1 Program (AV/CV Scenario Modeling), North Central TX**
- **SH 48 Master Plan Traffic/Safety Analysis and Microsimulation, Cameron County**
- **I-10 & Mesa Park Drive Traffic Projections and IAJR, El Paso**
- **Fort Bliss Project Prioritization Study, Traffic Projections & Analysis, El Paso**
- **Cameron County Traffic Projections (FM 509, Whipple Rd., West Blvd., SH 32 East Loop, Morris Rd., Old Alice Rd. CCRMA Outer Loop Overweight Trucks)**
- **Hidalgo County Traffic Projections (Anzalduas POE Truck Access Road, Cesar Chavez Rd., Mile 6, Mile 10, Inspiration Rd., Military Rd., Los Ebanos Loop, FM 1423, Trenton Rd.)**
- **El Paso Traffic Projections (Tierra Este Rd., Nuevo Hueco Tanks Rd., Loop 375/Americas Ave.)**
- **Zaragoza Rd. & Gateway Blvd. Diverging Diamond Interchange Feasibility Study, El Paso**
- **Loop 375–SPUR 601 Diverging Diamond Interchange Analysis, El Paso**
- **El Paso Commuter International Bridge Feasibility Study, El Paso**
- **SH 46 Traffic Projections and Alternative Analysis, Boerne**
- **Hi Line Road & Anaya Road Traffic Projections, Pharr**
- **I-27 Operational Improvements Study, Amarillo**
- **Montana Ave. Traffic Analysis, El Paso**
- **SH 32 Traffic Projections, Brownsville**
- **SH 249 Extension Study, Austin**
- **FM 1472 Traffic Projections, Webb County**
- **US 77 Traffic Projections, Lee County**
- **I-345 Traffic Projections, Dallas**
- **Madero Traffic Projections, Mission**

Headquarters:

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Contact:

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Principal Traffic Engineer: Griffin J. Harris, PE, PTOE
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Principal Transportation Planner: Axel Herrmann
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Mr. Contreras has been involved in the transportation industry in the United States and Latin America since 1994. As President of C&M Associates, Inc. since 2004, he is responsible for strategic advice, policy analysis and project quality. He has overseen over 200 traffic and revenue (T&R) studies since C&M's establishment, including over 30 investment grade studies. Carlos works closely with Project Managers to provide contractual negotiations and execution, production oversight and allocation of company resources, support and quality control of traffic modeling and forecasts, and meetings and presentations with client teams, elected officials, and project stakeholders.

Mr. Contreras has provided advice to numerous toll authorities and the DOTs of Colorado, Texas, Virginia, Georgia, South Carolina, Maryland, and Washington State, as well as leading Toll Road Concessionaires, for the development of Travel Demand Modeling, Toll Project Feasibility, Congestion Pricing, Toll Rate and Collection Policy Setting, and T&R Forecasting. Internationally, he has overseen studies in the Middle East, promoted transportation infrastructure projects in Mexico and Peru, and he has led a consortium of international players in the pursuit of transportation projects.

Professional Career

- President, C&M Associates, Inc. (2004–Present)
- President, Contreras International, LLC (2003–2004)
- Vice President, International Markets Blackboard, Inc. (1999–2003)
- Business Development Director, CICSА, SA de CV (1994–1999)
- Finance and Project Evaluation Professor, ITAM and UP Universities (1994–1996)

Education

- M.B.A., Harvard University
- B.S., Industrial Engineering, Universidad Panamericana, Mexico

Continuing Education

- Public-Private Partnership Financial Modeling and Legal Analysis, Vair Training LLC, Toronto, Canada
- Model Validation and Reasonableness Checking, FHWA, Washington, D.C.
- Activity- and Tour-Based Modeling, FHWA, Washington, D.C.

Areas of Expertise

- Traffic and Revenue Forecasting
- Public-Private Partnerships
- Project Evaluation
- Financial Community Interaction
- Business Strategy
- Market Analysis

Professional Experience

Bay Area Metropolitan Transportation Commission (MTC): SR 37 Travel Demand Study, CA (Ongoing) – Principal in Charge for a planning level T&R study to further advance the TIFIA credit process and support an analysis of equity and toll policy considerations for the SR 37 project. The study involves calibration of the MTC travel demand model (TDM) at the corridor level and testing scenarios that are included in the project's financial analysis. Toll scenarios will assist in policy decision making and include objectives such as occupancy eligibility, clean air vehicle eligibility, maximum throughput, and maintaining a certain Level of Service. SR 37 is one of the North Bay's most heavily used highways, running East-West and Solano counties.

TxDOT: Texas Border Master Plan (Ongoing) – Principal in Charge responsible for travel demand modeling within the TxDOT project team. C&M collected existing data related to the border flows within the four TxDOT border districts at the Mexico border to evaluate existing travel conditions for all travel modes crossing the border, including pedestrian, personal vehicles, commercial vehicles, buses, and trains. C&M is updating and using the Texas Statewide Analysis Travel Demand Model (Texas SAM) to evaluate existing and forecasted traffic conditions and assess the infrastructure needs of the Texas border region.

Windsor–Detroit Bridge Authority: Gordie Howe International Bridge Investment Grade T&R and Price Elasticity Study, Ontario, Canada (Ongoing) – Principal in Charge for conducting an investment grade T&R and toll elasticity study for this high-profile planned international bridge. This study aims to inform the WDBA's toll rate setting.

Virginia DOT (VDOT): Northern Virginia Super Regional Modeling and Investment Grade Traffic and Revenue Studies, VA (Ongoing) – Principal in Charge for developing a regional model that includes integrated tolled facilities within the region and conducting a tolling strategy scenario analysis and a Level 3 T&R study of the Dulles Toll Road, Dulles Airport Access Highway, and Dulles Greenway (collectively, the Dulles Roadways) and segments of I-95, I-395, and I-495 on behalf of the VDOT P3 Office.

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Principal in Charge

Professional Experience, cont'd.

City of Del Rio: Del Rio/Acuña International Bridge II Investment Grade T&R Study, TX (2022) – Principal in Charge for developing an investment grade T&R forecast for the proposed Del Rio/ Acuña International Bridge II at the U.S./Mexico border to support the City of Del Rio in their effort to finance the Project and to be able to redirect commercial vehicle traffic out of the city centers of the cities of Del Rio and Acuña.

Colorado Transportation Investment Office (CTIO): I-70 Mountain Corridor Floyd Hill T&R Analysis, CO (2022) – Principal in Charge of T&R feasibility analysis and subsequent Level 2 T&R analysis considering the improvement alternatives addressed in the I-70 Mountain Corridor Record of Decision, including adding capacity for westbound I-70 from Floyd Hill to the Veterans Memorial Tunnels; a multimodal trail and frontage road between US 6 and Idaho Springs; and improvements to four interchanges. The T&R analysis aims to assist the CTIO in evaluating tolling schemes (short of all tolled lane scenarios) that could fill in the current funding gap for implementing the required improvements to the corridor.

City of Laredo: Laredo International Bridge System Border Master Plan, TX (2021) – Principal in Charge for the traffic team involved in developing the City of Laredo's Border Master Plan to aid in planning the work required to streamline the four existing bridges with possible expansions, conversions, and/or upgrades to maximize crossings, with the ultimate goal of reducing wait times.

Alameda CTC: I-580 and I-680 Express Lanes Level 2 T&R Study, CA (2022) – Principal in Charge for developing a Level 2 T&R study and 20-year forecasts of the existing I-580 Express Lanes, the existing I-680 Sunol South Sunol Express Lanes, and the proposed I-680 Sunol North Express Lanes. The analysis included dynamic as well as an intermediate time-of-day variable toll schedule depending on the facility and considered toll-free or discounted tolls for HOV2, HOV3+, and Clean Air vehicles. The study also considered toll equity scenarios for these projects due to the rising equity concerns for managed lane users, especially in the San Francisco Bay Area.

CTIO: I-25 North Express Lanes Segment 3, Level 2+ T&R Study, CO (2021) – Principal in Charge for a Level 2+ T&R study to extend and revise C&M's prior analysis of I-25 North Segment 2 to a new analysis of Segment 2 and Segment 3. The study will be used to support financing of the I-25N project, including a restructuring of existing debt and a TIFIA application. The study also considers the short and long-term impacts of the COVID-19 pandemic.

Berthoud Tunnel Building Authority: Berthoud Tunnel and Express Lanes Preliminary T&R Study, CO (2020–2021) – Principal in Charge of a sketch-level T&R study to examine the preliminary feasibility of a long-proposed tunnel providing safe and fast access to the Winter Park Resort. The study reviewed the socioeconomic growth for the region including special generators and willingness to pay tolls on both the tunnel bypassing the Berthoud Pass as well as the express lanes between I-70 and the tunnel.

Hidalgo County RMA (HCRMA): 365 TOLL Investment Grade T&R Study, TX (2020–2021) – Principal in Charge for developing a Level 3 T&R study of the proposed 365 TOLL facility to support HCRMA financing of the project. Liaised with Moody's and S&P obtaining Baa2, Baa3 and BBB-, BB+ ratings for senior and junior bonds totaling \$216 million.

Alameda CTC: I-580 and I-680 Express Lanes Level 2 T&R Studies, CA (2020) – Principal in Charge of intermediate (Level 2) T&R studies prepared on behalf of the Alameda CTC regarding express lanes along I-580 and I-680. Developed 20-year T&R forecasts complemented by machine learning based short-term T&R forecasts to support Alameda CTC's expenditure plans.

VDOT: I-66 Inside the Capital Beltway Level 2 T&R Study, VA (2020) – Principal in Charge for a Level 2 T&R study to assist VDOT in its development of the project.

CTIO: I-25 North Segment 2 Level 2 T&R Study, CO (2020) – Principal in Charge for a T&R analysis considering the construction of one additional general purpose lane on I-25 North Segment 2 (between US 36 and 120th Ave.) in each direction and evaluating the effect of this expansion on the forecasted revenue of Segment 2 express lanes.

City of Donna: Donna-Rio Bravo International Bridge Investment Grade T&R Study, TX (2020) – Principal in Charge of developing a Level 3 T&R study of proposed extensions to accommodate northbound commercial vehicles on the Donna–Rio Bravo International Bridge. This study aimed to support the city of Donna in their effort to finance the project by providing a 40-year T&R forecast.

TxDOT: I-27 Operational Improvements Study, TX (2019) – Principal in Charge for traffic projections, traffic analysis, accident analysis, predictive crash analysis, and an Interstate Access Justification Report in support of evaluating the operational improvements along the I-27 corridor in Amarillo, TX. The study includes the utilization of the MPO travel demand model results.

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Principal in Charge

Professional Experience, cont'd.

California Transportation Commission: I-105 Express Lanes T&R Peer Review, CA (2019) – Principal in Charge for evaluating the feasibility of T&R forecasts submitted by the Los Angeles County Metropolitan Transportation Authority to the California Transportation Commission as part of their Toll Facility Application regarding the I-105 Express Lanes Project.

Illinois DOT: I-55 Express Toll Lanes T&R Peer Review, IL (2019) – Senior Advisor for reviewing the I-55 managed lanes Term Sheet from a T&R standpoint and conducting a peer review of the project's T&R study as part of C&M's 2019 Innovative Project Delivery Contract with the Illinois DOT. Results were distilled into a comment/ response matrix for IDOT's review and discussion.

VDOT: I-81 Pass-Through Trip Tolling Level 2 T&R Study, VA (2019) – Principal in Charge for conducting a level 2 T&R study on behalf of VDOT to evaluate a tolling scenario on I-81 in Virginia.

TxDOT: SH 288 Express Lanes T&R Support, TX (2019) – Principal in Charge for supporting TxDOT in their T&R scenario analysis to evaluate change orders to the SH 288 corridor. Tasked with producing a T&R forecast to support TxDOT in analyzing and comparing toll revenue and traffic on SH 288 before/after project implementation.

Central Texas RMA (CTRMA): 183 North Mobility Project T&R Peer Review, TX (2019) – Principal in Charge for the analysis. The review consisted of identifying key inputs, comparing data with other projects, evaluating the methodology, and assessing consistency with industry practices and the reasonableness of the forecast.

VDOT: Midtown Tunnel/Downtown Tunnel/MLK Extension Investment Grade T&R Study, VA (2019) – Principal in Charge for a level 3 T&R study on behalf of VDOT to evaluate travel behavior, T&R projections, and potential tolling strategies on Elizabeth River crossings in Hampton Roads.

VDOT: I-495 North Extension Level 2 T&R Study Update, VA (2019) – Principal in Charge for a level 2 T&R study to assist VDOT in its assessment of the effects of the Maryland Traffic Relief Plan— including I-495 and I-270 Express Lanes—on the I-495 North Extension project. The project is a 1.7-mile extension to the existing I-495 express lanes, adding two HOT lanes per direction to the corridor under an existing dynamic pricing policy.

CTIO: I-25 South Managed Lanes Intermediate T&R Study, CO (2019) – Principal in Charge for developing T&R forecasts on behalf of the Colorado DOT's High-Performance Transportation Enterprise (HPTE) for the

possible implementation of managed lanes and other transportation improvements on the I-25 South corridor.

USDOT, TIFIA: Gilcrease Expressway–West Segment T&R Peer Review and Risk Assessment, OK (2019) – Principal in Charge for the review identifying key inputs, comparing data with other projects, evaluating the methodology, assessing consistency with industry practices and the reasonableness of the forecast, and conducting a risk analysis to determine the probability of various revenue scenarios.

GEMCO: Southwebb Port of Entry / Laredo Bridge 4/5 T&R Study, TX (2018) – Principal in Charge for developing a T&R forecast of a new land port of entry along the U.S. Mexico border to support the project's financing and Presidential Permit application process.

USDOT, TIFIA: Grand Parkway Segments D through I T&R Peer Review and Risk Assessment and Update, TX (2017, 2018) – Principal in Charge for the analysis. The review consisted of identifying key inputs, comparing data with other projects, evaluating the methodology, assessing consistency with industry practices and the reasonableness of the forecast, and conducting a risk analysis to determine the probability of various revenue scenarios. Based on its review, C&M developed a TIFIA Base Case that included adjustments to leakage rates and other inputs.

TxDOT: I-35 Managed Lanes Study, TX (2017) – Principal in Charge for the analysis. C&M conducted a T&R analysis for five scenarios related to I-35 managed lanes in San Antonio, TX. Using an existing model, C&M adopted and replicated the results, performed a toll sensitivity analysis, and estimated the number of transactions and revenue for each scenario.

TxDOT: Montana Avenue Traffic Projections and Alternatives Analysis, TX (2017) – Principal in Charge for developing peak-hour traffic projections for Montana Avenue between Global Reach Drive and Zaragoza for No-Build and Build scenarios in years 2020 and 2040 (Option C). Included developing a microscopic simulation model in VISSIM for No-Build and Build scenarios. Extensively utilized the El Paso MPO's travel demand model.

VDOT: I-66 HOT Lanes Inside the Beltway GEC Contract, VA (2016) – Principal in Charge providing strategic advice and high level stakeholder outreach as part of an Environmental Analysis for the NoVA District on the impact of various scenarios including lane configuration and tolling strategies by vehicle class and on travel demand and T&R projections. The project involved meetings and coordination with VDOT leadership and the GEC team on project scope, configuration and policies.

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Mr. Herrmann has 19 years of public and private consulting engineering experience in the fields of travel demand modeling, traffic and revenue (T&R) analysis of toll facilities, T&R forecast development, and transportation planning for projects in the United States, Europe, and Latin America. His role at C&M as project manager includes the supervision of modeling activities, ranging from the development and analysis of travel demand models to estimating final project T&R. He has extensive experience managing international border crossing projects, having served as Project Manager for nearly all C&M border-crossing projects. He is currently serving as PM for an investment grade T&R study of the proposed Gordie Howe International Bridge.

He is an expert in the use of several travel demand modeling software packages, the design and implementation of traffic data collection programs, traffic forecasting, statistical data analysis, and presenting findings to the financial community, including rating agencies, investor road shows, and local government commissioners/ supervisors.

Professional Career

- Principal Transportation Planner, C&M Associates, Inc., Dallas, TX (2019–Present)
- Senior Transportation System Modeler, C&M Associates, Inc., Dallas, TX (2007–19)
- Project Manager, Ayesa Infrastructure, Seville, Spain (2006–07)
- Research Assistant, Technische Universität Braunschweig, Germany (2005–06)

Qualifications

- Master of Civil Engineering, Diplom-Ingenieur, Technische Universität Braunschweig, Germany
- IBTTA Leadership Academy Graduate

Areas of Expertise

- Traffic and Revenue Studies
 - Toll Roads
 - Toll Bridges
 - Managed/HOT Lanes
 - Border Ports of Entry
- Travel Demand Modeling
- Traffic Projections
 - TxDOT TPP Methodology
- Traffic Engineering Studies
- Expert in modeling software
 - CUBE (Citilabs)
 - TransCAD (Caliper)
 - VISSIM (PTV)
- Advanced user in modeling software
 - EMME (Inro)
 - TransModeler (Caliper)

Professional Experience

Bay Area Metropolitan Transportation Commission (MTC): SR 37 Travel Demand Study, CA (Ongoing) – Project Manager responsible for leading a planning-level travel demand forecasting study to advance the TIFIA credit process and support an analysis of equity and toll policy considerations for the State Road 37 (SR 37) project. Supervising the calibration of the MTC TDM at the corridor level and testing of scenarios that are included in the project's financial analysis. Toll scenarios will assist in policy decision making and include objectives such as occupancy eligibility, clean air vehicle eligibility, maximum throughput, and maintaining a certain Level of Service. SR 37 is one of the North Bay's most heavily used highways, running East-West and Solano counties.

TxDOT: Texas Border Master Plan (Ongoing) – Project Manager responsible for travel demand modeling within the TxDOT project team. Overseeing the existing data collection related to the border flows within the four TxDOT border districts at the Mexico border to evaluate existing travel conditions for all travel modes crossing the border, including pedestrian, personal vehicles, commercial vehicles, buses, and trains. Overseeing the update and use of the Texas Statewide Analysis Travel Demand Model (Texas SAM) to evaluate existing and forecasted traffic conditions and assess the infrastructure needs of the Texas border region.

Windsor–Detroit Bridge Authority: Gordie Howe International Bridge Investment Grade T&R and Price Elasticity Study, Ontario, Canada (Ongoing) – Project Manager responsible to conduct the GHIB L3 and toll elasticity study for the proposed Gordie Howe International Bridge (GHIB; the Project). This study is intended to support the WDBA in their effort to determine the toll rate of the GHIB by providing an investment grade T&R forecast.

City of Del Rio: Del Rio/Acuña International Bridge II Investment Grade T&R Study, Tx (2022) – Project Manager responsible for developing an Investment Grade T&R forecast for the proposed Del Rio/ Acuña International Bridge II at the U.S./ Mexico border to support the City of Del Rio in their effort to finance the Project and to be able to redirect commercial vehicle traffic out of the city centers of the cities of Del Rio and Acuña. Supervised the update of C&M's binational travel demand model. Designed and administered several surveys at the border, including origin and destination and company stated preference surveys to estimate the VOT for passenger and commercial vehicles. Supervised the risk analysis in this study.

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Professional Experience, cont'd.

Alameda CTC: I-580 and I-680 Express Lanes Level 2 T&R Study, CA (2022) – Project Manager responsible for developing a Level 2 T&R study and 20-year forecasts of the existing I-580 Express Lanes, the existing I-680 Sunol South Sunol Express Lanes, and the proposed I-680 Sunol North Express Lanes. The analysis included dynamic as well as an intermediate time-of-day variable toll schedule depending on the facility and considered toll-free or discounted tolls for HOV2, HOV3+, and Clean Air vehicles. The study also considered toll equity scenarios for these projects due to the rising equity concerns for managed lane users, especially in the San Francisco Bay Area.

Colorado Transportation Investment Office (CTIO): I-70 Mountain Corridor Floyd Hill Funding Gap Study, CO (2021–2022) – Senior Modeling Advisor leading the modeling team providing daily transaction numbers for T&R forecasts in the consideration of express lanes on the I-70 Mountain Corridor.

Hidalgo County RMA (HCRMA): 365 TOLL Investment Grade T&R Study, TX (2021) – Project Manager for a Level 3 T&R study of the proposed 365 TOLL facility to support the HCRMA in financing the project by providing an investment grade T&R forecast and support with rating agencies. The 365 TOLL project letting date for the construction was in early spring 2022.

CTIO: I-25 North Express Lanes Segment 2–3, Level 2+ T&R Study, CO (2021) – Senior Modeling Advisor for a Level 2+ T&R study to extend and revise C&M's prior analysis of I-25 North Segment 2 to a new analysis of Segment 2 and Segment 3. Led the modeling team, incorporated CTIO's dynamic tolling algorithm in the modeling efforts, and provided T&R forecasts to support project financing, including a restructuring of existing debt and a TIFIA application. The study also considered the short- and long-term impacts of the COVID-19 pandemic.

B&M Bridge Company: Brownsville and Matamoros International Bridge Feasibility Study, TX (2021) – Project Manager responsible for developing a binational travel demand model to forecast border crossing demand and support the B&M International Bridge in its aim to accommodate expected additional crossing volumes within the footprint of the existing facility by utilizing the existing POE components and optimizing border crossings waiting times. The study includes all existing border crossing types (passenger vehicles, pedestrians, and bicycles).

City of Laredo: Laredo International Bridge System Border Master Plan, TX (2021) – Project Manager of the traffic team aiding in the development of the City of Laredo's

Border Master Plan, which will aid in planning the work required to streamline the four existing bridges with possible expansions, conversions, and/or upgrades to maximize crossings, with the ultimate goal of reducing wait times. Responsibilities include supporting the City of Laredo to optimize each bridge, propose upgrades/conversions/expansions and evaluate traffic diversion between bridges to improve the Laredo International Bridge System.

City of Donna: Donna-Rio Bravo International Bridge Investment Grade T&R Study, TX (2020) – Project Manager responsible for developing an Investment Grade T&R forecast for the commercial expansion of the Rio-Bravo International Bridge at the U.S./ Mexico border to support the City of Donna in their effort to finance the Project. Supervised the development of a binational travel demand model. Designed and administered several surveys at the border, including origin and destination and company stated preference surveys to estimate the VOT for commercial vehicles. Together with city staff, led several public outreaches and stakeholder interviews.

TxDOT: SH 288 Express Lanes T&R Support, TX (2019) – Project Manager responsible for supporting TxDOT in their T&R scenario analysis to evaluate change orders to the SH 288 corridor and producing a T&R forecast to support TxDOT in their analysis and comparison of toll revenue and traffic on SH 288 before and after project implementation.

CTIO: I-25 South Managed Lanes Intermediate T&R Study, CO (2019) – Task Leader responsible for data collection and socioeconomic analysis for the possible implementation of managed lanes and other transportation improvements on the I-25 South corridor.

USDOT, TIFIA: Gilcrease Expressway–West Segment T&R Peer Review and Risk Assessment, OK (2019) – Technical lead for the analysis. The review consisted of identifying key inputs, comparing data with other projects, evaluating the methodology, assessing consistency with industry practices and the reasonableness of the forecast, and conducting a risk analysis to determine the probability of various revenue scenarios. Based on its review, C&M developed a TIFIA Base Case that adjusted demographic forecasts and other inputs.

Illinois DOT: I-55 Express Toll Lanes T&R Peer Review, IL (2019) – Lead Modeler for reviewing the I-55 managed lanes Term Sheet from a T&R standpoint and conducting a peer review of the project's T&R study as part of C&M's 2019 Innovative Project Delivery Contract with the Illinois DOT. Results were distilled into a comment/ response matrix for IDOT's review and discussion.

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Professional Experience, cont'd.

Cameron County RMA (CCRMA): Flor de Mayo International Bridge Sketch-Level T&R Feasibility Study, TX (2019) – Project Manager responsible to conduct a traffic and revenue feasibility study of the proposed Flor de Mayo International Bridge/Port of Entry in the city of Brownsville, Cameron County, Texas. The results of this study were intended to support plans by the Cameron County Regional Mobility Authority (CCRMA) to accommodate the forecasted southbound passenger vehicle demand, such as determining the specific location of the Project, the number of lanes, the number of inspection booths, and other Project specifications.

City of Sunland Park: Sunland Park Port of Entry Intermediate T&R Study, NM (2018) – Project Manager responsible for developing the T&R forecast of a new land port of entry along the U.S./Mexico border to assist in the Presidential Permit process. Supervised the development of a binational travel demand model, including the development of a multinomial discrete choice model in the software Biogeme and the use of Big-Data (cell phone GPS trajectories) for border crossing the origin and destination survey.

GEMCO: Southwebb Port of Entry and International Bridge (Laredo Bridge 4/5) T&R Study, TX (2018) – Project Manager responsible for developing the traffic and revenue forecast of a new port of entry along the U.S./Mexican border to assist in the presidential permit process. Supervised the development of a binational travel demand model, designed and administered several surveys at the border, including origin and destination and stated preference surveys for passenger and commercial vehicles.

CTIO: I-25 South Gap Segment Intermediate T&R Study, CO (2018) – Task Leader responsible for data collection and socioeconomic analysis on behalf of the Colorado DOT's High-Performance Transportation Enterprise (HPTe) for the possible implementation of managed lanes and other transportation improvements on the 18-mile Gap segment of the I-25 South corridor.

CenterPoint Properties: Houbolt Road Extension Investment Grade T&R Study, IL (2017) – Technical reviewer assisting CenterPoint Properties with T&R advisory services for a proposed toll bridge across the Des Plaines River. The bridge will provide the CenterPoint Intermodal Center (CIC) in Joliet/Elwood, Will County with improved access to I-80 and I-55. C&M utilized a sub-area network extracted from the CMAP regional model.

North Texas Tollway Authority (NTTA): Special Project System (SPS) Annual Budget Forecast, TX (2012–2017)

– Responsible for the annual monthly budget forecast, including monthly T&R estimates for each fiscal year by traffic type. Monitoring transaction and revenue trends of the SPS on a weekly basis. Supervising the C&M NTTA dashboard system and machine learning processes to estimate the short-term annual budget forecast.

HCRMA: SH 365 Investment Grade T&R Analysis, TX (2016) – Managed all technical aspects of this project, including the design and execution of the Bluetooth origin-destination survey and the border stated preference survey, calibrating the four-step binational travel demand model, and forecasting T&R. Assisted with answers to the financial community and managed the peer review process.

Virginia DOT (VDOT): I-66 Express Lanes Outside the Capital Beltway Investment Grade T&R Study, VA (2016) – Responsible for quality assurance and quality control of the travel demand model inputs, including the socioeconomic data forecast and the development of the toll diversion multinomial logit model.

South Carolina DOT: I-73 Intermediate T&R Study, SC (2016) – Leader of modeling group. Used the SCDOT statewide travel demand model and developed an I-73 corridor model to account for the regional tourist peak season. Served as field data collection manager. Assisted in designing and administering an auto and truck OD survey and a stated preference survey.

NTTA: Chisholm Trail Parkway Investment Grade T&R Study, TX (2014) – Leader of modeling group. Supervised the implementation of the North Central Texas Council of Governments (NCTCOG) travel demand model to be used within the T&R forecasting process. Responsible for data collection, travel demand model calibration at the corridor level, documentation, and T&R forecasting.

HCRMA: Regional Toll Analysis, TX (2014) – Leader of the modeling group for the regional toll analysis, following the National Environmental Act. Responsible for defining the environmental justice areas and the environmental justice assessment for the transportation system. Identified the cumulative economic impact to individuals within the study area and potential users of the project in Hidalgo County.

TxDOT: Loop 375 Managed Lanes Project, TX (2014) – Involved in the quality assurance/quality control process regarding the regional toll analysis, to identify the environmental justice areas and potential users of the toll project.

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Mr. Pagan has over 30 years of consulting and management experience in international highway, rail, and airport infrastructure. He is a demand forecasting and traffic and revenue expert specializing in investment grade studies and bond related support. He has managed feasibility studies supporting over \$20 billion in revenue bonds and other financings, has supported over \$5 billion in successful TIFIA applications, and has defended forecasts for auditing by the USDOT Inspector General. He is also highly experienced in presenting findings to the financial community including rating agencies, investor road shows, agency Board of Directors, local government commissioners/supervisors, and expert testimony.

Working almost exclusively in the toll industry for the past 15 years, he is well versed at working closely with tolling operators and within teams of advisors including financing, operations, technical, environmental, operations, and legal.

Mr. Pagan's experience also includes overseas highway appraisal, benefit-cost analysis and traffic advisory roles for public-private partnership (P3) and private sector bids. As a transportation economist, Mr. Pagan has performed original studies, audits, and due diligence for municipal, state, and national governments, multilateral agencies, developers, and investors. Working in more than 15 countries, he is skilled in transportation economics, demand forecasting, and business/investment appraisal.

Professional Career

- Senior Director, C&M Associates, Inc.
– Arlington, VA (2020–Present)
- Associate, Steer (Steer Davies Gleave)
– Alexandria, VA (2015–2020)
- Principal, CDM Smith
– Fairfax, VA (2006–2014)
- Principal Consultant, Jacobs Consultancy/
Leigh Fisher – Chantilly, VA (1999–2006)
- Senior Economist, Halcrow Economics
Group – UK (1998–1999)
- Transport Economist, GIBB Transport
Planning – UK (1990–1998)

Qualifications

- M.A. Transport Economics, Institute for
Transport Studies, University of Leeds, UK
- B.A. Economics (Hons), University of
Durham, UK

Areas of Expertise

- Tolling
- Traffic and Revenue Forecasting
- Investment Grade Studies
- Value of Time and Toll Elasticities
- Highway, Rail, and Airport Infrastructure
- Public-Private Partnerships
- Transportation Economics

Professional Experience

Investment Grade Traffic and Revenue and Price Elasticity Study for the Gordie Howie International Bridge (2023–Present) – Lead for the toll elasticity task responsible for assisting the WDBA with an assessment of price elasticities to inform its toll rate setting.

GDOT I-285 and SR 400 T&R Studies. GA (2021–Present) – Senior Advisor providing input and reviews of T&R assumptions, tolling policies, tolling plans, operations, and providing general support to GDOT and the prime consultant.

I-70 Floyd Hill Investment Grade T&R Study, CO (2022–2024) – Project Manager for prime consultant, leading a team providing investment grade T&R and financial analysis, including support with rating agencies and TIFIA, in the consideration of westbound tolled peak period shoulder lanes in the Mountain Corridor.

I-10 Lake Charles P3, LA (2022) – Lead T&R advisor for a shortlisted bid team for the Calcasieu River Bridge replacement in Louisiana. Sketch level through to investment grade study including a review of HOV policies, local discounts and frequency discounts using data, modeling, and analysis to support bid decisions.

I-25 North Express Lanes Segment 2–8, Level 2+ T&R Study, CO (2022) – Project Manager for a Level 2+ T&R study for the potential financing for a 50+ mile managed lanes project of existing and proposed segments. Critical review of alternative proposal/delivery options.

I-70 Floyd Hill Funding Gap Study, CO (2021/22) – Project Manager for prime consultant, leading a team providing T&R, public outreach, and financial analysis in the consideration of westbound tolled peak period shoulder lanes in the Mountain Corridor. Devised new approaches and methodologies for this managed lane project in a recreational demand corridor setting.

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Professional Experience, cont'd.

I-25 North Express Lanes Segment 2-3, Level 2+ T&R Study, CO (2021) – Project Manager for a Level 2+ T&R study to extend and revise C&M's prior analysis of I-25 North Segment 2 to a new analysis of Segment 2 and Segment 3. The study will be used to support financing of the I-25N project, including a restructuring of existing debt and a TIFIA application. Considered short- and long-term impacts of COVID-19.

365 TOLL Investment Grade T&R Study, TX (2020/21) – Senior Advisor for the 365 TOLL project, a planned 14.9-mile tolled highway in Hidalgo County intended to relieve traffic congestion, facilitate international trade shipments across the U.S./Mexico border, and benefit local travelers by providing a high-speed connection between the Pharr-Reynosa International Bridge, the Anzalduas International Bridge, the McAllen Foreign Trade Zone (FTZ), and industrial areas and warehouses.

Berthoud Tunnel and Express Lanes, Preliminary T&R Study, CO (2020/21) – Led a sketch-level T&R study to examine the preliminary feasibility of a long-proposed tunnel providing safe and fast access to the Winter Park Resort. Managed a team that reviewed the socioeconomic growth for the region including special generators and willingness to pay tolls on both the tunnel bypassing the Berthoud Pass as well as the express lanes between I-70 and the tunnel.

Private Toll Asset Toll Regime Review and Assessment, VA (2020) – Lead Advisor of a tolling study reviewing options to upgrade the tolling regime on a mature toll facility in Virginia, examining major tolling modifications in exchange for revised concession agreement terms such as concession length, system expansions, and other solutions that could satisfy the updated revenue requirements of a revised plan of finance.

I-77 Express Lanes, Preliminary Review, NC (2020) – Project Manager of a preliminary review for an investor partner, of initial performance of the I-77 Express Lanes project that opened to traffic in 2019. Analysis included estimation of the impacts of delays to segment opening and ongoing construction. Thorough review of assumptions, demographics, and inputs previously assumed versus outcomes. Also reviewed COVID recovery analysis and long term COVID impact scenarios.

Private Bidder, Phase 1 Maryland P3 I-495 and I-270 Managed Lanes, MD (2019) – Served as Project Director of T&R forecasting for the potential addition of managed lanes on the Maryland Capital Beltway I-495 (part) and I-270. Responsible for conducting detailed traffic data

collection, growth analysis, and predicting estimates for proposed designs and alternative technical concepts. As a separate contract, project manager of a task to review transit and other mobility concepts to enhance the bid prior to submission of RFP response.

Selected Bidder, I-66 Managed Lanes T&R Study, VA (2016-2019) – Project Manager/Director of traffic and revenue forecasting for the addition of managed lanes to I-66 Outside the Beltway. Provided T&R inputs and bid support including analysis of rail, transit, park and ride. Reviews of alternative technical concepts during final bid stage. Defended forecasts to TIFIA. Additional T&R sensitivities and ATCs following award to Express Mobility Partners.

Illinois DOT I-55 Managed Lanes T&R Study, Chicago, IL (2016-2018) – Served as Project Manager of traffic and revenue forecasting for the potential addition of managed lanes to I-55 outside Chicago. Part of an EY team advising IDOT considering the best approach for developing the project. Network model development, preliminary and updated T&R forecasts. Presentations and discussions with the Illinois Secretary of Transportation. Project closed following election cycle. Dulles Greenway Traffic and Revenue, Sell-side, Virginia (2016-2017) Project Director of a sell-side T&R study for Macquarie looking to sell their 50% share in the Dulles Greenway. Detailed analysis of traffic counts and travel patterns using cell phone data, combo econometric and network model forecasts. Led T&R aspects of management presentations to potential buyers

I-77 Express Lanes Independent Forecast Update, NC (2015) – Project Manager of a T&R study for a potential investor including an independent forecast and reviews of prior forecasts for comparison.

Investment Grade Peer Reviews, Various US Locations (2015-2020) – Responsible for performing peer reviews of investment grade T&R materials prior to submission, on projects for which I was not otherwise involved such as for CBBT, NTE, LBJ and KTC Ohio River Bridges and a project in Puerto Rico. This process required by internal procedures involved reviewing the work performed, reasonableness of assumptions and results, and standard of deliverables. Mix of public and private sector projects.

HCTRA Katy Tollway Dynamic Pricing, TX (2014) – Advisor to Harris County Texas on a switch from time-of-day pricing to original concept of dynamic pricing. Revisit of concept of operations I developed in 2009.

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Professional Experience, cont'd.

DDOT Managed Lanes, D.C. (2013) – Project Manager and Lead T&R Advisor, supporting prime consultant, ATCS, on this preliminary feasibility study for a network of managed lanes in the District. Estimated sketch level traffic and revenue by project, by toll-paid and carpool, and by time of day using MWCOC window model and bespoke spreadsheet model. Analyzed impacts on Potomac River crossings under several scenarios. Provided model outputs for use in the feasibility report including diversion analysis.

Hampton Roads Implementation Plan, Virginia (2014) – Project Manager responsible for developing preliminary traffic and revenue estimates for seven potential toll projects in the Tidewater Region of Virginia as a sub consultant to KPMG for VDOT/OTP3. Most of these projects are being considered as potential managed lanes projects. Directed staff on multiple tasks including data collection and reconnaissance, refinement of the MPO model and development of a spreadsheet model to estimate HOT lane usage. Operational analysis.

Dulles Toll Road/Dulles Metrorail Financing, VA (2007-2014) – Project manager of this high-profile study to determine the financial feasibility of toll rate adjustments for bond finance to construct the \$5bn+ Dulles Metrorail project for almost seven years. Led three investment grade studies and an update study involving data collection, market research, modeling, and forecasting through to Board, rating agency and investor recording and presentations. Provided inputs at key Dulles Corridor Advisory Committee meetings to County and State officials and Public Meetings. Underwent successful USDOT Inspector General Review and TIFIA Application. Member of the Dulles Metrorail finance working team.

Harris County Toll Road Authority, Houston, TX (2006-2014) – Served as the project manager on studies to review future rate setting policies to ensure the revenue sufficiency requirements of HCTRA's updated business plan. High level studies performed include value pricing for Westpark Tollway, and dynamic pricing of managed lanes on IH-10. Project manager for a Systemwide Toll Rate Study, the Beltway 8 NE Investment Grade Study, Grand Parkway Investment Grade T&R Study, Segments E to G and the Tomball Tollway Investment Grade study for Harris and Montgomery counties. Also, led a Systemwide Investment Grade Study for the \$600M+p.a. HCTRA facilities and a revisit of dynamic pricing algorithms.

Tampa-Hillsborough Expressway Authority, Tampa, FL (2006-2013) – Project Manager for this multi-county toll authority in Tampa, Florida. Managed all traffic and revenue forecasting, including annual certification of revenues and preparation of the Authority's annual traffic report. Project Manager for several ongoing planning efforts, including AET conversion. In 2012, completed an investment grade study for THEA, including presentations to the Board and Rating Agencies through to the bond sale.

Fort Bend County Toll Road Authority, Houston, TX (2010-2014) – Project manager for the Westpark Extension T&R Study and for new tolled overpasses on the Fort Bend Grand Parkway Investment Grade T&R Study, Segment D. Also completed a Systemwide T&R Study in early 2014 of a review of 'time of day' pricing on Westpark Tollway.

Chesapeake Bay Bridge-Tunnel Annual Retainer, VA (2008-2014) – Project Manager leading efforts for ongoing CBBT retainer services including annual updates of traffic and revenue forecasts and certifications for this major toll bridge and tunnel facility.

MDTA Existing System T&R Forecast, MD (2009) – As Project Manager, led a team developing econometric models of MDTA toll facilities by market segment to produce 10-year forecasts. Review of T&R data, economic forecast. A more detailed study was undertaken in 2014 including presentations to MDTA Board.

Peer Reviews, Various US Locations (2006-2014) – performed internal peer reviews of T&R deliverables, on projects for which I was not otherwise involved such as for Illinois Tollway, New Jersey Turnpike Authority, TXDOT etc., as required by internal procedures involved reviewing the work performed, reasonableness of assumptions and results, and standard of deliverables.

Northeast Parkway Route Study, TxDOT El Paso District (2005) – As T&R Advisor, provided tolling expertise to review and audit several toll studies for the Super 2 and ultimate configurations. Assisted in developing toll collection strategies and developing toll collection plans.

I-75 HOV/BRT Lanes Value Pricing, Georgia SRTA (2004) – As T&R Advisor, reviewed analysis of stated preference market research for use in modeling traffic and revenue impacts of alternative strategies of the new lanes.

Chicago Skyway Privatization, USA, CINTRA (2004) – Preliminary traffic and revenue forecasts for shortlisted bidder. Developed spreadsheet model to reflect sensitivities to toll levels and to macro- and socio-economic factors.

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Mr. Minocha has nearly 16 years of continuous consulting experience as a Project Manager and Task Leader, predominantly in traffic and revenue (T&R) forecasting—including traffic data analysis and modeling for toll facilities. He has managed a series of large-scale transportation projects in the U.S. and India across different industry sectors. These projects covered a wide range of public and P3 commissions involving market analysis, revenue forecasting, transportation planning, supporting toll agencies in bond financing, and supporting the private sector in conducting traffic and technical due diligence. He has extensive experience working on numerous T&R studies—ranging from Level 1 to Investment Grade—for U.S. public toll agencies, namely GDOT, VDOT, MWA, IL Tollway, HCTRA, FBCTRA, THEA, MDTA, and CBBT. He also has a strong technical background and experience in statistical analysis tools and advanced GIS.

Professional Career

- Transportation Planning Manager I, C&M Associates, Inc. (2023–Present)
- Senior Transportation Specialist, C&M Associates, Inc. (2021–2023)
- Principal Consultant, Steer (2018–2021)
- Transportation Planner, CDM Smith (2007–2018)

Qualifications

- American Institute of Certified Planners (AICP), Certified Planner #026932
- Master of Urban Planning and Policy, specialization in Urban Transportation – University of Illinois at Chicago
- Bachelor of Physical Planning – School of Planning and Architecture, New Delhi, India

Areas of Expertise

- Traffic and Revenue Forecasting
- Transaction Advisory
- Transport Infrastructure Consulting
- Data Analytics
 - R, SPSS, SAS
- Tolling Analysis
- Travel Demand Modeling
 - Cube Voyager, Tranplan, EMME/2, TransCAD
- Transportation Planning
- GIS
 - ArcGIS, AutoCAD

Professional Experience

GDOT: I-285 and SR 400 T&R Studies for the Georgia Department of Transportation (2021–Present) – Task Manager responsible for the ongoing delivery of the T&R services for two major proposed express lanes projects for GDOT. Key contributions include handling all manners of project and tasks management responsibilities, with extensive level of interactions and presentations delivered to the client and all involved stakeholders. Provided key inputs to support decision making on various project policies, including tolling strategy and policy.

VDOT: T&R Services for the Virginia Department of Transportation (2021–Present) – Delivery team member and task manager for various T&R studies for a multi-year T&R services contract with VDOT. Key contributions involve preparing documentation and multiple industry presentations of the modeling effort undertaken by the local team.

T&R Services for Private Sector (2018–2021) – Multiple engagements, in capacity of Project Manager and Project Director, conducting T&R due diligence studies for both international and private investors in the Indian toll road market. Experience of working international investors, namely CPPIB, CDPQ, I Squared Capital, ROADIS, Omers, ACP and AustralianSuper. Worked on a total of 14 T&R studies covering 48 toll road assets. These toll road transactions included a mix of private-to-private and government-to-private deals, with investments up to \$1B for one of the transactions.

T&R Advisory on TOT Projects (2018–2021) – Conducted three separate studies for different private sector clients in assessing their bids for a total of 21 Indian toll roads owned and operated by the government and offered under the toll-operate-transfer (TOT) model to monetize these public-funded highway projects. Compared to a conventional T&R due diligence, the key challenges include analyzing inconsistent datasets from different government sources and forming a robust view on the base position that is reliable enough for the clients to make informed investment decisions.

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T&R Analysis and Forecasting Lead

Professional Experience, cont'd.

Transport Planning Services for Urban Cities in India (2019–2021) – Part of delivery team for the Climate Resilient Cities for Shared Prosperity (CRESP) project funded by FCDO (UK government international development agency) in India. The project aims to deliver £500m in high value urban services and transportation projects across select Indian cities. The team is implementing several intermodal transport hubs in the city of Bangalore located in southern India. Key responsibilities include budget/resource planning, liaising with the local government agencies, and delivering various strands of planning documents at specific stages of the project.

Pune Metro Line Demand Review (2018) – As Project Manager, conducted a peer review and provided alternate demand forecasts for the proposed Line 3 of the Pune City metro system in western India. The study was conducted for Tata Realty and Infrastructure Ltd. (TRIL) Urban Transport and Siemens Project Ventures. Key responsibilities included reviewing a modeling exercise conducted by the primary consultant, conducting an independent review of survey and data inputs, and preparing alternative forecasts under different scenarios based on various risks assessed during the study.

Hyperloop Demand Assessment (2018) – Member of the project team to conduct demand estimation for a Hyperloop corridor between Mumbai and Pune (study conducted for Virgin Hyperloop). Worked as a task lead conducting market assessment, coordinating surveys (focus groups and personal interviews), and preparing demand estimates for the implementation team at the Virgin Hyperloop. Continuously engaged with the Virgin Hyperloop team on their future plans for various corridors in India and provided market understanding inputs for their assessment.

2017-18 Forecast Update, Metropolitan Washington Airports Authority (2016–2018) – As a Project Manager for delivering a T&R update for the Dulles Toll Road project owned by the Metropolitan Washington Airports Authority, Washington D.C. The project involved preparing a baseline forecast based on a collective review of physical and economic variables that have impacted the project over recent years. Key responsibilities included data analysis and review, OD and SP survey data collection, forecasting, documentation, project scoping, budgeting, staffing, and accounting.

Central Tri-State Tollway Corridor Master Plan, Chicago (2015–2018) – As a Task Lead, managed a study for exploring improvement options—including dynamically priced lanes—for the Illinois Tollway on one of its most congested roadways, the Central Tri-State Tollway. Key

responsibilities included task management, data analysis, traffic and revenue estimation, reporting, and coordination with client staff and the corridor design team.

Illinois Tollway T&R Services, Chicago (2011–2018) – Served as Deputy Project Manager for a ~\$3m/year Traffic Engineering Services contract. Planning services included studies of proposed corridor improvements in the Illinois Tollway service area, including the recently opened Elgin-O'Hare Tollway, and several other proposed capital improvements on the Illinois Tollway system. Key tasks included conducting comprehensive traffic and revenue services for bond support, overseeing traffic surveys, extensive traffic data analysis, managing data collection tasks, and other planning services. Key management responsibilities included handling all manner of technical assignments, financial and accounting duties, invoicing, management of staff, and maintaining extensive interaction with the client.

Elgin-O'Hare Western Access Investment Grade T&R Study, Chicago (2014) – Served as an Analyst on an investment grade study for funding \$3.4 billion in construction and upgrades of an existing expressway west of Chicago's O'Hare Airport. Key responsibilities included preparing the tolling scheme analysis database, supervising data collection efforts and analyzing survey data collected from site, leading the traffic and revenue estimation process, and reporting.

Dulles Toll Road Comprehensive T&R Update Study, Washington D.C. (2013) – As a Deputy PM and lead analyst on a comprehensive T&R study for the Dulles Toll Road. This high-profile study was conducted to determine the financial feasibility of the future toll rate changes for bond finance to construct the \$5B+ Dulles Metrorail project. Key responsibilities include leading the modeling effort beginning from planning and coordinating the survey data collection effort to developing final T&R results for several tolling scenarios.

Sam Houston Tollway and Grand Parkway T&R studies, Houston TX (2009–2011) – Served as Deputy Project Manager for a traffic and revenue study of a portion of a proposed 190-mile Grand Parkway toll road around downtown Houston. Prime responsibilities included assisting in resource management across staff located in three offices, project accounting, coordinating survey planning, T&R data analysis, and deliverable preparation for two clients: HCTRA and FBCTRA. Also worked as an analyst and modeling team member for a comprehensive T&R study for HCTRA on the Sam Houston Tollway system in the Houston metropolitan region

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Operational Analysis/Traffic Projections



Mr. Harris is an accomplished Traffic and Transportation Engineer with over 23 years of experience innovating and managing programs, projects, and people over a broad range of civil engineering endeavors. He is experienced in traffic operations, traffic analysis, traffic modeling & forecasting, traffic studies, project & program management, transit modeling, corridor studies, traffic signal design, traffic signal timing, ATMS/ITS design, transportation planning, QC/QA processes, roadway design, and transit design. He is a licensed Professional Engineer (PE) in ten states as well as a certified Professional Traffic Operations Engineer (PTOE). He is an experienced user of Synchro, SimTraffic, VISSIM, and HCS.

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Professional Career

- Principal Traffic Engineer, C&M Associates, Inc. (2022–Present)
- Traffic Group Manager, Michael Baker International (2020–2022)
- Traffic Group Manager, WSP USA (2018–20)
- Senior Project Manager, Wood Environment & Infrastructure Solutions (2016–2018)
- Region 3 Traffic Engineer, Utah Department of Transportation (UDOT) (2007–2016)
- Traffic & Transportation Manager, CDM Smith (2006–2007)
- Project Engineer, JUB Engineers, Inc. (2003–2006)
- Associate Transportation Engineer, PARSONS (2000–2003)

Qualifications

- M.S., Civil Engineering (Traffic and Transportation), Brigham Young University
- P.E. licensed in AL, AZ, CO, FL, GA, HI, TN, TX, UT, and WA
- PTOE

Areas of Expertise

- Traffic Operations
- Traffic Modeling & Forecasting
- Traffic/Corridor Studies
- Transportation Planning
- Signal Design/Timing
- ATMS Design

Professional Experience

C&M Associates (2022–Present) – Principal Traffic Engineer

Texas Department of Transportation (TxDOT): Mobility 35 Capital Express (CapEx) Central (2022-Ongoing) – This TxDOT project is about eight miles in length and includes the removal of the existing I-35 decks, lowering the roadway, and adding two non-tolled high-occupancy vehicle (HOV) managed lanes in each direction along I-35 from US 290 East to US 290 West/State Highway 71. The project will also reconstruct east-west cross-street bridges, add pedestrian and bicycle paths, improve transit accommodations, and make additional safety and mobility improvements within the project limits. Griffin is on the General Engineering Consulting (GEC) team representing TxDOT on the project for traffic engineering. He reviews traffic engineering reports and memos that are submitted to ensure contract requirements are met. He also reviews VISSIM models for adherence to standards and to ensure they meet FHWA and TxDOT criteria for calibration and consistency and helps problem-solve, suggesting changes to improve the models. Griffin reviews project budgets and schedules to ensure reasonable expenses and timely work.

TxDOT: Border Highway East Extension Study (2022-Ongoing) -- This TxDOT study seeks to find a unified vision around improving mobility in the Border Highway East study area and address the lack of connectivity to I-10 and Loop 375. As part of the study, a new transportation corridor is being developed roughly parallel to I-10 between I-10 and the Rio Grande. The study area includes Loop 375 near the Zaragoza International Port of Entry (POE) and extends south to the Tornillo POE (about 20 miles). I-10 and the Rio Grande serve as east and west boundaries. Griffin is task manager for the regional model updates using TransCAD. The model is being used to develop the traffic growth numbers for the area. He is also responsible for reports, budget, and schedule.

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Operational Analysis/Traffic Projections

Professional Experience, cont'd.

US 287 Corridor Study – Travel Demand Modeling (TDM) (2023–Ongoing), 43 Counties within Texas – Managed the TDM work and reviewed modifications and updates to the Statewide Analysis Model (SAM) V4. Reviewed the No-Build and Build model runs and evaluated the model performance along the corridor. Review model outputs produced to support the corridor study.

Trenton Road Operation Improvement Study – Traffic Projection, Option B (2023 - Present), Hidalgo County Texas – Managed the traffic projections for this project. Reviewed the Option B request to TxDOT/TPP for corridor traffic projection development. Reviewed the Traffic Projection Methodology Memorandum and submitted for approval. Reviewed the TDM runs to evaluate traffic pattern changes upon the opening of the proposed SH 68. Reviewed and submitted the Traffic Projection Memorandum to TPP.

El Paso Metropolitan Planning Organization (MPO): Tierra Este Extension (2022–Ongoing) -- As part of the project to extend Tierra Este Road from Cozy Cove Avenue to Pellicano Drive in El Paso County, TX, C&M was contracted to perform a traffic analysis for the project area. The task includes developing Synchro (for level of service analysis) and VISSIM (for 3D presentation and signal timing fine-tuning) models for opening year 2029 and analysis year 2049 for the project corridor. The goal of the analysis is to forecast traffic volumes for the needed years, evaluate the operations of Tierra Este Road Extension intersections with the cross-streets within the project limits, and provide recommendations for intersection types. The intersections of interest are Montwood Drive, Windermere Avenue, Vista Del Sol, and Pellicano Drive. Griffin is project manager for the traffic study and leads the Synchro and VISSIM modeling efforts. He provides QA/QC on the project, is the author of the study report, and manages the budget and schedule.

SH 48 Master Plan – Traffic Analysis Report (2022–2023), Brownsville Texas – Managed the traffic analysis and reviewed the traffic projections efforts for the SH 48 corridor from FM 511 to SH 100. Reviewed the historical safety analysis. Reviewed and helped develop the traffic operations analysis using Synchro and SimTraffic and provided roadway improvement recommendations.

[Michael Baker International \(2020–2022\) – Traffic Group Manager](#)

Utah Department of Transportation (UDOT): I-80 & I-215 Renewed Design Build (DB) Project (2020-22) –

Roadway reconstruction and widening on segments of I-80 and I-215 in SLC. Design lead for all traffic engineering aspects of the project, including traffic forecasts and analysis for interstate ramp length determinations, ATMS (include fiber optic backbones, CCTVs, Traffic Monitoring Stations, RWIS, etc.), traffic signals, signing (overhead sign structures), and lighting. Also oversight and QC responsibilities for MOT design and traffic control plans (including modeling proofs of concept for alternatives).

[WSP USA – Traffic Group Manager \(2018–2020\)](#)

Utah Transit Authority (UTA): 400 S and Main St Half Grand (2018-19) – Analyzed the potential impacts to traffic and identified traffic mitigation strategies for the one-month closure of a roadway intersection to accommodate reconstruction of a TRAX light rail half grand. Served as task lead responsible for traffic modeling and analysis, modeling parameters, and determining detour splits and routing decisions for the Synchro model. The model was used to determine impacts at key intersections and devise mitigation strategies to minimize traffic delays while accommodating pedestrians and bicycles. These strategies included modifying signal timing plans and repurposing lanes at intersections.

UDOT: SR 121, Vernal 1500 W and 2500 W Concept Study (2019) – Studied intersections on SR 121 and identified potential improvements with associated costs. Project Manager responsible for concept development, traffic modeling and forecasts of proposed intersection configurations, design oversight, utility coordination, cost estimating, and authoring of the study report.

[Wood Environment & Infrastructure](#)

[Solutions – Sr. Project Manager \(2016–2018\)](#)

- Helped develop and model several alternative technical concepts (ATC) for the I-15 Tech Corridor pursuit using VISSIM.
- Produced traffic models for various projects using Synchro, SimTraffic, and VISSIM: including creating VISSIM traffic model for UDOT for SR 93/Wildcat Way and the surrounding area. Forecasted future traffic volumes and produced multiple potential alternatives.
- Reviewed and QC'd traffic signal, signing, and striping plans for multiple projects.
- Managed traffic engineering efforts for projects and project development.
- Completed preliminary traffic analyses and provided concept reports.

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Operational Analysis/Traffic Projections

Utah Dept. of Transportation – Region 3

Traffic Engineer (2007–2016)

- Reviewed project plan sets for compliance with UDOT Standards and Specifications for traffic signals, ITS/ATMS features, signing and striping, roadway geometrics, and roadway safety features.
- Reviewed traffic studies and forecasts for developments and state roads to determine efficacy of assumptions and validity of data.
- Reviewed signal warrant studies and signal timing plans for implementation.
- Developed, implemented, and ensured completion of all safety projects for the Region funded through HSIP (\$3.0M/yr) and SSoIP (\$500K/yr) programs.
- Evaluated traffic studies for developments seeking access to state roads and reviewed movement of traffic (MOT) plans for UDOT construction projects.
- Proponent of multi-modal transportation options.
- Strongly advocated for the use of innovative intersections (such as CFIs and roundabouts) and interchanges (such as DDIs) as well as the use of technology (ITS/ATMS) to maximize efficiency in the transportation system.
- Authored traffic sections of the RFPs for the I-15 CORE project and the Access Utah County projects. Was also on the technical advisory committees for selection on these projects.
- Managed the Region Incident Management Team.
- Wrote and executed cooperative agreements with municipalities for jointly funded projects.
- Oversaw and directed the construction of all pedestrian facilities in the Region ensuring compliance with ADA standards.
- Conducted intermediate and final inspections and acceptance on the \$1.7B I-15 CORE Reconstruct project. Represented the Region for design and acceptance of traffic signals, lighting, ITS/ATMS, roadside safety features, signing and striping, ADA requirements and pedestrian facilities, and overhead sign structures.
- Awarded 2011 UDOT Safety Project of the Year for successfully managing US 189; Provo Canyon Median Improvements project.
- Received UDOT Silver Barrel award for work on state road access policy.

CDM Smith – Traffic & Transportation

Manager (2006–2007)

- Produced traffic models for various projects using Synchro, SimTraffic, VISSIM, and HCS software.
- Developed VISSIM traffic simulations covering various Build and future traffic forecast alternatives for UTA's West Valley Light Rail line to account for interactions with vehicle and pedestrian traffic and signal priority implementation.
- Conducted traffic impact analyses for numerous projects ranging from small developments to a tour ship terminal including traffic models in Synchro & Traffix and forecasting future volumes.
- Authored traffic analysis and alternatives reports and presented them to clients.
- Performed a headway and capacity study (using VISSIM) for the UTA main N-S LRT line to determine minimum headways with the addition of a new line.
- Analyzed multiple high-volume intersections in the Boise area for COMPASS and proposed alternatives to implement innovative intersections to address the congestion issues.
- Designed roadways and intersections (using MicroStation) and developed signal timing plans.

JUB Engineers, Inc. – Project Engineer

(2003–2006)

- Authored and updated Transportation Master Plans for municipalities and presented findings to Planning Commissions and City Councils.
- Analyzed traffic impacts and formed trip generation, future traffic forecasts, and trip distribution profiles for various developments. Authored the traffic study reports and presented them to UDOT and municipalities.
- Modeled and simulated traffic and signal operations using Synchro and SimTraffic.
- Designed roadways, intersections (traditional and roundabout), and traffic signals.
- Modeled, simulated, and created a signal timing plan in Synchro/SimTraffic for a 32-intersection traffic signal system in Pocatello, ID.

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Socioeconomic Analysis Lead



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Mr. Sánchez is a specialist in economic analysis with 9 years of professional experience, including 7 years of experience in the evaluation and development of productive projects with a focus on Public-Private Partnerships. For the last 2 years, he has been working as a specialist in inferential statistics, forecasting for road projects with a probabilistic approach, and cost-benefit analysis for public projects.

He has substantial experience in the Denver metropolitan region in reviewing socioeconomic forecasts for I-25N and I-70, including interviews with planners and economists in the cities and towns north of Denver.

Professional Career

- Senior Transportation System Modeler I, C&M Associates, Inc. (2023–Present)
- Consultant, C&M Associates (2019–2023)
- Junior Consultant, Cal y Mayor y Asociados, S.C. (2017–2019)
- Investment Fund Adviser, RESUELVE (2016)
- Investment Project Analyst, Ayiko Energy & Environment (2010–2014)

Qualifications

- B.S., Economics, Universidad de Colima
- Certified in Environmental Sciences, Management and Sustainability, Universidad de Colima

Continuing Education

- Tensorflow 2 & Keras Deep Learning Bootcamp.
- Python for Data Science and Machine Learning Bootcamp Training.
- Evaluation of Infrastructure Public-Private Partnership Certification. Universidad Anahuac, CDMX, Mexico.
- Monte Carlo Simulation Training using Rysk Analysis Training, CDMX, Mexico.

Areas of Expertise

- Transportation Planning
- Traffic Forecasting
- Public-Private Partnerships
- Cost-Benefit Analysis
- Inferential Statistics

Professional Experience

TxDOT: Texas Border Master Plan (Ongoing) – Overseeing the operational management of the team tasked with providing the Texas SAM network assignment with current network and socioeconomic input data. Performing traffic network analysis to precisely identify existing network requirements. Utilizing forecasted traffic data to evaluate future network needs.

WDBA: Gordie Howe International Bridge Investment Grade Traffic and Revenue and Price Elasticity Study, Windsor, ON (Ongoing) – Providing oversight of the socioeconomic analysis for this high-profile planned international bridge. The study aims to support the Windsor–Detroit Bridge Authority (WDBA) in its toll rate setting.

Kiewit Development Company: I-40 Choice Lanes, Knoxville, TN Level 1 T&R (2023) – Provided a traffic and revenue forecast for a managed lanes proposal in the I-40 corridor near Knoxville, TN.

Puerto Verde Holdings: Puerto Verde Global Trade Bridge Level 1 T&R Study (2023) – Forecasted traffic and revenue for a new international bridge project between Texas and Mexico. Developed growth projections for border crossings in the Eagle Pass, TX area, as well as revenue projections for the proposed international bridge.

Confidential: Project Orca, Broomfield, CO (2023) - Socioeconomic estimation and forecast modeler for the trip generation transportation model. Performed traffic analysis based on StreetLight data.

Acciona; SACYR: I-10 Calcasieu River Bridge P3, LA (2023) – Socioeconomic estimation and forecast modeler for the trip generation transportation model.

CTIO: I-25N Segments 2–8 Level 2 T&R Study, CO (2023) – Socioeconomic estimation and forecast modeler. Conducted socioeconomic analysis for the study.

City of Mission: Mission/Madero International Bridge T&R Study, TX (2022) – Advisor for the border crossings forecast estimation and the impacts and recovery of traffic from the COVID-19 pandemic and related border-crossing restrictions. Responsible for the traffic and revenue estimates and the impact scenarios.

B&M Bridge Company: Brownsville and Matamoros International Bridge T&R Study, TX (2021) – Developed border crossing forecasts in the study region, researched and processed border crossing data, performed an economic analysis of the study area, and estimated trip generation and its distribution at the TAZ level.

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Socioeconomic Analysis Lead

Professional Experience, cont'd.

City of Laredo: Laredo International Bridge System Border Master Plan, TX (2021) – Oversaw the estimation of socioeconomic projections used to generate border trips. Performed a socioeconomic analysis of the study area and econometric modeling of the border crossings forecast by vehicle type for the Laredo International Bridge System. Also estimated the impact and recovery of border traffic due to border restrictions related to COVID-19.

HCRMA: 365 TOLL Investment Grade Traffic & Revenue Study, TX (2021) – Developed the border crossing demand forecast of the Hidalgo County International Bridge System for both passenger vehicles and commercial vehicles. Estimated the impact and recovery of border traffic due to border restrictions related to COVID-19. Also estimated border crossing demand growth scenarios using Monte Carlo simulations.

City of Donna: Donna-Rio Bravo International Bridge Investment Grade T&R Study, TX (2020) – Developed border crossing forecasts in the study region, researched and processed border crossing data, performed an economic analysis of the study area, and estimated trip generation and its distribution at the TAZ level.

Confidential: Project Iris Lender's Traffic Advisor (2020) – Audited the results, the methodological approach, the assumptions, the historical information, and the inputs involved in the forecast models of demand growth proposed by the Seller's advisor of 12 highway assets across the Northeast and Midwest. Analyzed historical traffic information and evaluated the possible short-term impacts of COVID-19 along with recovery scenarios in both the short and long term. Finally, performed a traffic projections assessment as a contrast to the audited projections.

Alameda CTC: I-580 & I-680 Express Lanes Level 2 Traffic & Revenue Study, CA (2020) – Collected traffic count information for travel demand model calibration. Analyzed historical traffic growth information and traffic flows along I-580 and I-680 lanes and the express lanes.

City of Donna: Donna-Rio Bravo International Bridge Investment Grade Traffic and Revenue Study (2019) – Performed a socioeconomic analysis of the study region and developed econometric models to estimate border crossing demand growth for passenger/commercial vehicles for the Hidalgo County International Bridge System.

Cal y Mayor y Asociados, S.C. (2017–2019)

Within the area of transportation planning, responsibilities included economic analysis, traffic forecasting for highways and public transit projects, and social cost-benefit assessments for transportation projects. Relevant experience includes the following:

Project Management

- Updated the T&R forecast for the Naucalpan - Ecatepec Bicentenario Toll Highway (2020).
- Toll Optimization project for Maxitunel Interurbano de Acapulco (2019).

Traffic Forecasting

- Updated the T&R forecast for the Saltillo-Monterrey Freeway, the Norponiente Freeway, and the Santa Catarina Viaduct (2019).
- Transportation and traffic study for the freight and passenger train between the provinces of Panama and Chiriqui (2018).
- Studies for an unsolicited proposal for the cableway system in the municipality of Naucalpan, EDOMEX (2018).
- Expert vision estimation for the Sukarne Entronque project located in the La Laguna Bypass (2018).
- T&R Update of the San Luis Potosí Highways - Villa de Arriaga with Branch to San Felipe and San Luis Potosí - Rio Verde (2018).
- Update of the Demand Study for the FARAC MICHOACÁN Package (2018).
- T&R Study of the Armería - Manzanillo Highway (2018).
- T&R Study of the Villaflores Highway - Three peaks (2018).
- T&R Study of Autopista Perote – Nautla (2017).
- T&R Study of the Libramiento of Ciudad Juárez (2017).
- Demand forecast for the La Amistad Dam Road in the stretch of influence of the access junction to the "Amistad Wind Farm" project (2017).

Traffic and Toll Analysis and Price-Demand Elasticity Estimation

- Updated the elasticity of demand with respect to price for the Monterrey - Cadereyta highway (2019).
- Estimated the elasticity of demand with respect to price for the Monterrey - Cadereyta highway (2018).
- Availability of user payment before increase to maximum rate on the Naucalpan - Ecatepec Highway (2017)

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Mr. Zimbron has 11 years of experience in the consultancy sector in the development and analysis of transportation planning and traffic engineering projects. For 5 years, he has been in charge of the processing and development of macroscopic and microscopic travel demand models for roadway projects at national and international levels.

Professional Career

- Senior Transportation System Modeler I, C&M Associates, Inc. (2023–Present)
- Senior Transportation Planner, C&M (2019–23)
- Traffic and Transportation Consultant, Grupo Cal y Mayor (2015–19)
- Project Engineer, Transconsult (2013–15)

Qualifications

- M.Eng., Operation Research, Universidad Nacional Autonoma de Mexico
- Certificate Program in Supply Chain and Logistics Management, Tecnologico de Monterrey
- Certificate Program in Urban Sustainable Mobility, Instituto Politecnico Nacional
- B.S., Transportation Engineering, Instituto Politecnico Nacional

Areas of Expertise

- Transportation Engineering
 - Vissim, Synchro, HCS,
- Travel Demand Modeling
 - Visum, TransCAD
- Simulation
 - Anylogic, SIMIO, Promodel
- Programming
 - Python
 - R

Professional Experience

WDBA: Gordie Howe International Bridge Investment Grade Traffic and Revenue (T&R) and Price Elasticity Study, Ontario, Canada (Ongoing) – Travel Demand Modeling Lead for an investment grade T&R and toll elasticity study of this high-profile planned international bridge. Responsible for developing a project-specific binational travel demand model (TDM); oversight of TDM calibration and model result validation; and production of T&R forecasts. This study aims to inform the Windsor-Detroit Bridge Authority's (WDBA) toll rate setting.

City of Donna: Donna–Rio Bravo International Bridge Benefit-Cost Analysis, TX (2023) – As Transportation System Modeler, developed the benefit-cost analysis, and gathered and analyzed the model outputs for the proposed Donna-Rio Bravo Port of Entry (POE). Developed the spreadsheet calculations and drafted the narrative required for the MPDG application.

Alameda CTC: I-580 and I-680 Express Lanes Level 2 T&R Study Update, CA (2023) – As Transportation System Modeler, adopted and developed a TDM with dynamic tolling for the existing and proposed express lanes on I-580 and I-680. Collected and analyzed traffic counts as well as the existing information available for the modeling process. Analyzed and updated the Alameda CTC TDM and developed a subarea model for the project corridors.

City of Del Rio: Del Rio/Acuña International Bridge II Investment Grade T&R Study, TX (2022) – As Transportation System Modeler, developed a T&R model for the proposed POE and developed a discrete event simulation (DES) model within the toll diversion process.

B&M Bridge Co: Brownsville & Matamoros International Bridge Expansion Project T&R Study, TX (2021) – As Transportation System Modeler, developed a T&R forecast model of the existing POE and developed a DES model within the toll diversion process. Developed a microsimulation of the B&M Bridge and the project road Las Americas depicting traffic operations and B&M queue interaction with nearby roads.

CTIO: I-70 Mountain Corridor Floyd Hill Funding Gap Study, CO (2021) – As Transportation System Modeler, developed a TDM with dynamic tolling for the I-70 Mountain Express Lane (MEXL). Collected and analyzed traffic counts as well as the existing information available for the modeling process. Performed a sensitivity analysis of the model regarding the toll rates, the corridor demand, and the value of time (VOT). Prepared the T&R forecast and documentation.

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Travel Demand Modeling Lead

Professional Experience, cont'd.

HCRMA: 365 TOLL Investment Grade T&R Study, TX (2021) – As Junior Transportation System Modeler, analyzed the stated preference survey and estimated VOT and value of travel time reliability (VOR) in R for use in the toll diversion procedure. Supported all the modeling stages, trip generation/distribution, time-of-day traffic assignment, and toll diversion procedures. Developed a revenue risk analysis using Excel-Crystal Ball.

City of Donna: Donna–Río Bravo International Bridge Investment Grade T&R Study, TX (2021) – As Junior Transportation System Modeler, developed a T&R forecast model of a new POE for commercial vehicles along the Reynosa border. Analyzed the existing information and field work data and developed a binational TDM that includes a multinomial logit model in R. Developed a revenue risk analysis using Excel-Crystal Ball.

City of Laredo: Laredo International Bridge Master Plan Traffic Analysis, TX (2020) – As Junior Transportation System Modeler, developed a DES model of the existing POEs along the Laredo border in R. Analyzed existing information and field work data and contributed to developing a binational TDM that includes a multinomial logit model.

T&R Study for Naucalpan-Ecatepec Freeway and Project Connections with Chamapa-Lecheria and México-Texcoco Freeways (2019) – As Junior Transportation System Modeler, developed a traffic assignment model of the Naucalpan-Ecatepec freeway. Analyzed the existing information and field work data and developed the discrete choice model, specifically a binomial logit model that incorporates stated and revealed preference survey data.

Traffic Demand Study for the Puente de Vigas-Lomas Verde-Chamapa Viaduct Project (2018) – As Junior Transportation System Modeler, updated and developed a traffic assignment model of the new freeway. Analyzed the existing information and field work data and performed a level of service (LOS) analysis on each basic freeway segment of the new road on operation and future years.

Evaluation of the Capacity and Level of Service (LOS) of the Tuxpan-Tula Highway Corridor (2018) – As Transportation Engineer, analyzed the existing traffic and speed data and performed an LOS analysis on each basic freeway segment of the corridor.

T&R Study for the Toluca Metropolitan Area Bypass Project, Zinacantepec Connection (2018) – As Junior Transportation System Modeler, developed a traffic

assignment model of the Zinacantepec Bypass project. Analyzed the existing information and field work data and developed a discrete choice (binomial logit) model using stated preference survey data.

Optimization of Service Time for the La Hortaliza Toll Plaza on the Toluca-Zitacuaro Freeway (2017) – As Junior Transportation System Modeler, developed a DES model of the existing toll booths using Promodel. Contributed to the calibration step and analyzed the main output data obtained from the model. Evaluated alternative solutions to delays during peak periods.

Estimation of LOS for the Saltillo-Monterrey Freeway and Saltillo Bypass (2017) – As Transportation Engineer, analyzed the field work and the existing traffic and speed data. Performed an LOS analysis on each basic freeway segment of the corridor. Evaluated alternative solutions for a passing lane on two-lane road segments.

Study for the International Border Bridge 4 of Nuevo Laredo, Tamaulipas and Bridge 5 of Laredo, TX (2017) – As Transportation Engineer, analyzed existing border crossing traffic and speed data as well as border crossing trip tables developed for the Laredo bridge system.

Expert Analysis of Demand for Palmillas-Atacomulco and Palmillas-San Juan del Rio Freeway Branches (2017) – As Junior Transportation System Modeler, developed a traffic assignment model of the Palmillas-Atacomulco and Palmillas-San Juan del Rio Freeway Branches.

Audit of Demand Study for Monterrey-Nuevo Laredo Stage III (2017) – As Transportation Engineer, reviewed the T&R study, specifically the field work data and the traffic assignment model used.

Evaluation of the Impact of Vehicle Traffic on Saltillo Bypass, Saltillo–Monterrey Freeway, and Santa Catarina Viaduct for Industrial Development (2016) – As Transportation Engineer, analyzed the field work and the existing traffic and speed data. Contributed to developing the traffic assignment model of the Santa Catarina Viaduct project. Performed an LOS analysis on each new basic freeway segment as well as the existing roads.

Updated Demand Study of the Acapulco-Zihuatanejo Freeway (2016) – As Transportation Engineer, updated and analyzed the field work and the existing traffic and speed data. Performed an LOS analysis on each basic freeway segment.

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Michael S. Bomba, Ph.D.

Bomba Consulting, LLC

Professional Experience

- Bomba Consulting, LLC. Managing Member. 2013-Present.
- Research Professor, Department of Logistics & Operations Management, G. Brint Ryan College of Business, 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

BACKGROUND AND EXPERIENCE

Dr. Michael S. Bomba has more than 25 years of professional experience, which has been a blend of practice and research. During his career, he has led or contributed to approximately 165 professional projects and research studies in the areas of regional transportation planning, applied demography, freight transportation, economic development, socioeconomic impacts analysis, and environmental planning.

A significant component of Dr. Bomba's practitioner work has been to assess the reasonableness of metropolitan planning organization's (MPO's) socioeconomic data at the zonal level for various traffic & revenue and toll road planning studies, adjusting the data as necessary. In a support role to the project engineers, he has worked on more than 50 toll road studies over the past 25 years. To date, these inputs have been used to successfully sell or obtain approximately \$9.0 billion of municipal bonds and federal loans (e.g., TIFIA, etc.) for green field projects, major facility upgrades, or to refinance existing municipal bonds. These efforts have included participation 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. The tolled projects financed and constructed using Dr. Bomba's socioeconomic forecasts have been in the Austin, Texas region and include SH 130 (Segments 1 through 4); SH 45 North, Loop 1, US 183-A, US 290 East, US 183 South, SH 45 Southeast, and the US 183 North Managed Lanes (currently under construction).

Select Demographic Updates for Traffic & Revenue Studies

- 2023 Brazoria Expressway Extension Traffic & Revenue Study. 2023. Brazoria County (Texas) Toll Road Authority.
- 2023 Central Texas Regional Mobility Authority Demographic Update. 2023. Central Texas Regional Mobility Authority.
- 2022 Central Texas Turnpike Project Update. 2021-2022. Texas Department of Transportation.
- Calcasieu Parish I-10 Bridge Study. 2022-2023. Louisiana Department of Transportation (under contract with a consortium led by Acciona).
- 2020 Central Texas Regional Mobility Authority Demographic Update. 2019-2020. Central Texas Regional Mobility Authority.
- Loop 1 North/Loop 1 South Managed Lanes. 2018-2019. Central Texas Regional Mobility Authority.
- Cibolo Parkway Project Investment Grade Study. 2017-2019. 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.
- US 290 Direct Connectors Investment Grade Study. 2016. Central Texas Regional Mobility Authority.

Michael S. Bomba, Ph.D.

Bomba Consulting, LLC

Professional Organizations

- North American Competitiveness Working Group, University of California at San Diego, 2023-Present.
- North American Strategy for Competitiveness (NASCO). Board Member, 2018-Present.
- Transportation Research Forum. 2023-Present.
- Transportation Research Board – National Research Council, National Academies of Science, Engineering & Medicine – 1999-Present

Committee Memberships:

- International Trade and Transportation – AT020 (Immediate Past Chair — 6 years)
- Freight Systems Group Executive Committee – AT000 (Member - 6 years)
- Agricultural and Food Transportation - AT030 (Past Member — 3 years)
- Intermodal Freight Terminal Design and Operations – AT050 (Past Member and Secretary – 11 years)
- Ports and Channels – AW010 (Past Member – 9 years)
 - North American Working Group, George W. Bush Institute. Member. 2016-2023.
- American Planning Association – American Institute of Certified Planners (AICP) #24082, 2009-2013

Select Demographic Updates for Traffic & Revenue Studies (continued)

- LBJ East Managed Lanes Study. 2016. Texas Department of Transportation.
- 2016 CTRMA Bond Refinance. 2016. Central Texas Regional Mobility Authority.
- US 183 South Investment Grade Traffic and Revenue Study. 2014. Central Texas Regional Mobility Authority.
- Second South Padre Island Bridge Level 2 Traffic and Revenue Study. 2014. Texas Department of Transportation.
- Loop 1604 Corridor (Bexar County) Level 2 Traffic and Revenue Study. 2014. Texas Department of Transportation.
- 2014 US 281 Toll Road Investment Grade Study. 2014. Bexar County.
- 2014 Central Texas Turnpike Project Update (Bond refinance study). 2014. Texas Department of Transportation.
- Southern Gateway Level 2 Traffic and Revenue Study. 2013-2014. Texas Department of Transportation.
- Regional Demographic Update for the North Texas Tollway Authority's Service Area. 2013. North Texas Tollway Authority.
- US 183-A Toll Road Investment Grade Study Update. 2013. Central Texas Regional Mobility Authority.
- SH 288 Level 2 Traffic and Revenue Study. 2012. Texas Turnpike Authority.
- Loop 1604/US 281 Toll Road Investment Grade Study. 2012. Alamo Regional Mobility Authority.
- 2012 Central Texas Turnpike Project Update (Bond refinance study). 2012. Texas Turnpike Authority.
- SR 125 Toll Road Evaluation Study (Border traffic study). 2011. San Diego Association of Governments.
- 2010 US 301 Toll Road Investment Grade Study Update. 2010. Delaware Department of Transportation.
- 2010 Central Texas Turnpike Project Update (Bond refinance study). 2010. Texas Turnpike Authority.
- SH 130 Truck Toll Study. 2010 (Toll rate adjustment study). Texas Turnpike Authority. Project Manager.
- US 290E Toll Road Investment Grade Study Update. 2010. Central Texas Regional Mobility Authority.
- US 183-A Toll Road Extension Investment Grade Study Update. 2009. Central Texas Regional Mobility Authority.
- 2008 Central Texas Turnpike Project (CTTP) – SH 130, Loop 1, SH 45 – 2012 Review (Bond refinance study). 2008. Central Texas Regional Mobility Authority.
- US 290E Toll Road Investment Grade Study Update. 2008. Central Texas Regional Mobility Authority.
- US 301 Toll Road Investment Grade Study. 2008. Delaware Department of Transportation.



MARK FOWLER

Market Leader

EXPERIENCE | 20 Years

EDUCATION | BS, Physics, Bates College

BIO

Mark Fowler helps clients understand traveler behavior and preferences. Since joining RSG in 2004, Mark has led over 100 major research projects to understand how travelers will respond to the pricing of transportation infrastructure, the introduction of new transportation modes and services in cities across the US, and the introduction of new vehicle powertrains and features into the automotive marketplace. His primary area of focus involves the use of pricing as a congestion management technique, including toll roads and bridges, managed/HOT lanes, area/cordon pricing, congestion pricing, VMT fees, and parking pricing. The results of these studies are used to support investment-grade traffic and revenue forecasts for transportation infrastructure projects across the United States and Canada.

PROJECT EXPERIENCE

Road Pricing Studies

Sacramento Area Council of Governments, Pricing and Incentives Pilot Study, California. Deputy project manager for a study to design a pilot program to evaluate the use of transportation pricing and incentives to influence travel behavior, reduce traffic congestion, and reduce vehicle-miles traveled. The study included a literature review of similar pilot programs, interviews with peer agencies, focus groups with potential pilot participants, the design of the pricing and incentive scheme, and the evaluation of technologies that could be used to support the pilot. (2023-ongoing).

California Department of Transportation, I-5 Managed Lanes, Orange County, CA. Directed a stated preference survey to understand how travelers would respond to proposed express lanes on I-5 in Orange County between Red Hill Avenue and the Orange/Los Angeles County line, a distance of approximately 15 miles. The survey will estimate the distribution of value of time across the population of corridor travelers, and the willingness to pay for travel time reliability of corridor travelers. The results of the survey will be used to support estimates of traffic and revenue for the corridor. (2022-2023)

Los Angeles County Metropolitan Transportation Authority, I-10 Managed Lanes, Los Angeles, CA. Directed a stated preference survey to understand how travelers would respond to a proposed extension of the existing managed lanes on I-10 in Los Angeles County to the San Bernardino County line. The survey will estimate travelers' value of time and propensity to use the proposed managed lanes under various conditions. (2022-2023)

Build America Bureau, SR 400 Express Lanes, Atlanta, GA. Managed a project to review traffic and revenue forecasts for the SR 400 Express Lanes project northeast of Atlanta, GA to support a proposed TIFIA loan. Reviewed the traffic and revenue forecasting approach, the forecasting model inputs and assumptions, the calibration and validation of the forecasting model, and the revenue projections. Conducted quantitative risk analysis and Monte Carlo simulations to estimate revenue outcome probabilities over the term of the loan. (2022-ongoing)

Virginia Department of Transportation, Capital Region Toll Facilities, Northern Virginia. Directed a series of stated preference surveys to estimate willingness to pay for travel time savings and willingness to pay for travel time reliability of travelers who use toll facilities in the National Capital Region of Virginia. The toll facilities include Express Lanes on I-95, I-395, I-495, and I-66 Outside the beltway, as well as the Dulles Greenway, Dulles Toll Road, and HOT Lanes on I-66 Inside the Beltway. The stated preference surveys were conducted in waves over a period of four years from 2019 through 2023, allowing VDOT to understand how willingness to pay evolved over the course of the COVID-19 pandemic. The results supported investment-grade traffic and revenue forecasts for existing and proposed facilities in the region. (2019-2023)

Alabama DOT, I-10 Mobile River Bridge, Mobile, Alabama. Managed a stated preference survey effort for commercial vehicle drivers, dispatchers, and other non-driver routing decision-makers in the greater Gulf Coast area of Alabama. Alabama DOT is evaluating a plan to build a new bridge for I-10 over the Mobile River to relieve traffic congestion in the Wallace Tunnel. The survey was designed to estimate travelers' value of time and propensity to use the new bridge under different travel conditions to support estimates of traffic and revenue for the proposed facility. (2022)

Vermont Agency of Transportation, Vermont Road Usage Charge Feasibility and Implementation Plan, Vermont. Led RSG's work to evaluate public opinion related to a proposed road usage charge for battery-electric, plug-in hybrid electric, and high-efficiency internal combustion engine vehicles in the state of Vermont. Developed and implemented a survey for owners of qualifying vehicles to understand potential barriers to the proposed road usage charge. (2021)

Cavnue, Michigan Ave Connected and Autonomous Vehicle Corridor, Detroit, MI. Project manager to develop sketch level traffic and revenue forecasts and financial feasibility analysis for Cavnue and Michigan DOT's proposed connected and autonomous vehicle (CAV) corridor between Detroit and Ann Arbor, MI. (2021)

Colorado Department of Transportation, I-70 Mountain Corridor, Clear Creek County, CO. Directed a stated preference survey to understand how travelers would respond to proposed managed lanes on

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I-70 in Clear Creek County, CO. The survey estimated travelers' value of time and propensity to use the proposed managed lanes under various conditions. (2021)

Oregon Department of Transportation, I-205 and I-5 Congestion Pricing Study, Portland, OR. Directed a stated preference survey to understand how travelers will respond to proposed congestion pricing on I-205 and I-5 in the greater Portland, OR metropolitan region. The survey will estimate travelers' value of time and toll diversion rates under various conditions. (Ongoing)

Build America Bureau, CTRMA 183A Phase 3, Austin, TX. Managed a project to review traffic and revenue forecasts for the CTRMA system of toll facilities to support a proposed TIFIA loan for the construction of 183A Phase III north of Austin, TX. The work included risk analysis and Monte Carlo simulations to estimate revenue outcome probabilities over the term of the loan. (2020)

Build America Bureau, MDTA Nice Bridge Replacement Project, Maryland. Managed a project to review traffic and revenue forecasts for the MDTA system of toll facilities to support a proposed TIFIA loan for the Nice-Middleton Bridge Replacement Project. The work included developing an econometric traffic and revenue forecasting model using historical transaction, toll rate, and socioeconomic data and conducting risk analysis and Monte Carlo simulations to estimate revenue outcome probabilities over the term of the loan. (2020)

Virginia Department of Transportation, Elizabeth River Tunnels. Directed a stated preference survey to estimate willingness to pay for travel time savings and willingness to pay for travel time reliability of users who travel between Portsmouth and Norfolk, VA using the Downtown and/or Midtown Tunnels. The stated preference survey results supported an investment-grade traffic and revenue forecast for the facilities. (2019)

Maryland Department of Transportation, I-495 & I-270 Express Lanes, Montgomery and Prince George's County, Maryland. Directed a stated preference survey to estimate the value of time of travelers who use I-495 and I-270 in the National Capital Region of Maryland. The estimates of values of time will be used to support forecasts of traffic and revenue for proposed express lanes on the two facilities. (2019)

Virginia Department of Transportation, Hampton Roads Express Lanes, Norfolk, VA – Directed a stated preference survey to understand how travelers would respond to a system of proposed express lanes on I-64 and I-264 in the Hampton Roads Region of Virginia, including the Hampton Roads Bridge Tunnel. The survey estimated travelers' value of time and propensity to use the express lanes under a range of future conditions. Estimates of values of time were used to support forecasts of traffic and revenue for the proposed express lanes. (2018)

Florida's Turnpike Enterprise, Garcon Point Bridge, Pensacola, FL. Directed a joint origin-destination and stated preference survey to estimate the willingness to pay for travel time savings of users who travel to or from the Gulf Breeze Peninsula on the Garcon Point Bridge, the Pensacola Bay Bridge, or State Road 87. The origin-destination data stated preference survey results supported an investment-grade traffic and revenue forecast for the Garcon Point Bridge. (2018)

Florida's Turnpike Enterprise, Central Polk Parkway, Orlando, FL. Directed a stated preference survey to evaluate proposed improvements to provide enhanced mobility options between SR 60, US 17, and the Polk Parkway (SR 570) in Polk County, Florida. The western segment of the proposed Central Polk Parkway would provide a 9-mile connection between these three routes. The results of the survey were used to support estimates of traffic and revenue for the corridor. (2018)

Texas Department of Transportation, Houston Grand Parkway Segments H&I, Houston, TX. Directed a stated preference survey to evaluate proposed segments H&I of the Grand Parkway, a new circumferential highway around the city of Houston, TX. The results of the survey were incorporated into the regional travel forecasting model to support estimates of traffic and revenue in the corridor. (2015)

Texas Department of Transportation, Houston SH 249, Houston, TX. Directed a stated preference survey to evaluate the proposed tolled extension of State Highway 249 Northwest of Houston, TX. The proposed facility would link Montgomery and Grimes Counties to Northwest Harris County, TX. The results of the survey were incorporated into the regional travel forecasting model to support estimates of traffic and revenue in the corridor. (2015)

Northeast Texas RMA, Tyler Toll 49, Tyler, TX. Directed a stated preference survey to evaluate the traffic and revenue potential of Toll 49, a partially completed circumferential highway around the city of Tyler, TX. The results of the survey were incorporated into the regional travel forecasting model to support estimates of traffic and revenue in the corridor. (2015)

Texas Department of Transportation, Dallas/Fort Worth Regional Managed Lanes, Dallas/Fort Worth, TX. Directed a stated preference survey for a proposed system of express lanes in the Dallas/Fort Worth region, including SH 183, SH 114, Loop 12, I-820, and I-35W. Separate values of time were estimated for each corridor by trip purpose and time of day. Estimates of values of time were used to support investment-grade traffic and revenue estimates for the proposed lanes. (2014)

North Texas Tollway Authority, Chisholm Trail Parkway, Fort Worth, TX. Managed a stated preference survey to estimate the value of time of travelers in the Chisholm Trail Parkway corridor in the Fort Worth, TX region. The survey collected data from travelers who currently use the Chisholm Trail Parkway as well as travelers who use competing toll free routes. Estimates of values of time were used to update traffic and revenue forecasts for the newly-opened toll facility. (2014)

Texas Department of Transportation, South Padre Island Second Causeway, South Padre Island, TX. Managed a stated preference survey to estimate the value of time of travelers in Cameron County, TX who make trips between the mainland and South Padre Island. TxDOT is evaluating a proposed second causeway between mainland Cameron County and South Padre Island, as well as a proposed outer beltway that would connect the second causeway to US 77 near Harlingen. Estimates of values of time were used to support forecasts of traffic and revenue for the proposed facilities. (2014)