



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

Regular Meeting of the Board of Directors

9:00 a.m.

Wednesday, August 28, 2024

Lowell H. Lebermann, Jr., Board Room
3300 N. IH-35, Suite 300
Austin, Texas 78705

*A live video stream of this meeting may be viewed on the internet at
www.mobilityauthority.com*

Persons with disabilities. If you plan to attend this meeting and may need auxiliary aids or services, such as an interpreter for those who are deaf or hearing impaired, or if you are a reader of large print or Braille, please contact Laura Bohl at (512) 996-9778 at least two days before the meeting so that appropriate arrangements can be made.

Español. Si desea recibir asistencia gratuita para traducir esta información, llame al (512) 996-9778.

AGENDA

No action on the following:

1. Welcome and opportunity for public comment – See **Notes** at the end of this agenda.

Consent Agenda

*See **Notes** at the end of this agenda.*

2. Approve the minutes from the June 26, 2024 Regular Board Meeting.
3. Prohibit the operation of certain vehicles on Mobility Authority toll facilities pursuant to the Habitual Violator Program.
4. Approve an interlocal agreement with the Texas Department of Transportation to co-locate personnel at TxTag customer service centers.

5. Approve the annual cybersecurity training compliance report for submittal to the Texas Department of Information Resources as required by Texas Government Code §2054.5191.
6. Approve a contract with Nortex Concrete Lift and Stabilization Inc. for concrete slab lifting and stabilization on 290 Toll and 183A Toll.
7. Approve the maximum speed limit on SH 71 Toll and corresponding amendments to Mobility Authority Policy Code §301.015.

Regular Items

Items to discuss, consider, and take appropriate action.

8. Accept the unaudited financial statements for June and July 2024.
9. Discuss and consider approving a contract with CDM Smith Inc. for traffic and revenue engineering services.
10. Discuss and consider approving a contract with C&M Associates, Inc. for traffic and revenue engineering services.
11. Discuss and consider approving a contract with Stantec Consulting Services, Inc. for traffic and revenue engineering services.
12. Discuss and consider approving an interlocal agreement with the Texas Municipal League for cyber liability and data breach response insurance.
13. Discuss and consider amending Mobility Authority Policy Code §101.038 to authorize the Executive Director to negotiate and execute certain settlement agreements for claims by or against the Mobility Authority.
14. Discuss and consider approving an agreement with the North Texas Tollway Authority for TollTag™ marketing, promotional services and account enrollment.
15. Discuss and consider approving an interlocal agreement with Travis County to assist with design and construction of the 2023 Travis County Proposition A Road Projects.

Briefings and Reports

Items for briefing and discussion only. No action will be taken by the Board.

16. Quarterly Updates.

- A. 183A Phase III.
- B. 183 North.

17. Executive Director Report.

- A. Recent agency staff activities.
- B. Agency roadway performance metrics.
- C. Update on efforts to increase pre-paid account penetration.
- D. Barton Skyway Ramp Relief celebration.
- E. 290E Toll Phase IV.

Executive Session

Under Chapter 551 of the Texas Government Code, the Board may recess into a closed meeting (an executive session) to deliberate any item on this agenda if the Chairman announces the item will be deliberated in executive session and identifies the section or sections of Chapter 551 that authorize meeting in executive session. A final action, decision, or vote on a matter deliberated in executive session will be made only after the Board reconvenes in an open meeting.

The Board may deliberate the following items in executive session if announced by the Chairman:

- 18. Discuss acquisition of one or more parcels or interests in real property needed for a Mobility Authority headquarters, including facilities for traffic and incident management and other agency functions, pursuant to §551.071 (Consultation with Attorney) and §551.072 (Deliberation Regarding Real Property; Closed Meeting).
- 19. Discuss legal issues related to claims by or against the Mobility Authority; pending or contemplated litigation and any related settlement offers; or other matters as authorized by §551.071 (Consultation with Attorney).
- 20. Discuss legal issues related to the development of the Mopac South Project, as authorized by §551.071 (Consultation with Attorney).
- 21. Discuss legal issues relating to procurement and financing of Mobility Authority transportation projects and toll system improvements, as authorized by §551.071

(Consultation with Attorney).

22. Discuss personnel matters as authorized by §551.074 (Personnel Matters).

Reconvene in Open Session.

Regular Items

Items to discuss, consider, and take appropriate action.

23. Adjourn meeting.

Notes

Opportunity for Public Comment. At the beginning of the meeting, the Board provides a period of up to one hour for public comment on any matter subject to the Mobility Authority's jurisdiction. Each speaker is allowed a maximum of three minutes. A person who wishes to address the Board must register in advance and provide the speaker's name, address, phone number and email, as well as the agenda item number and whether you wish to speak during the public comment period or during the agenda item. If a speaker's topic is not listed on this agenda, the Board may not deliberate the speaker's topic or question the speaker during the open comment period but may direct staff to investigate the matter or propose that an item be placed on a subsequent agenda for deliberation and possible action by the Board. The Board may not deliberate or act on an item that is not listed on this agenda.

Consent Agenda. The Consent Agenda includes routine or recurring items for Board action with a single vote. The Chairman or any Board Member may defer action on a Consent Agenda item for discussion and consideration by the Board with the other Regular Items.

Public Comment on Agenda Items. A member of the public may offer comments on a specific agenda item in open session if he or she signs the speaker registration sheet for that item before the Board takes up consideration of the item. The Chairman may limit the amount of time allowed for each speaker. Public comment unrelated to a specific agenda item must be offered during the open comment period.

Meeting Procedures. The order and numbering of agenda items is for ease of reference only. After the meeting is convened, the Chairman may rearrange the order in which agenda items are considered, and the Board may consider items on the agenda in any order or at any time during the meeting.

Participation by Telephone Conference Call. One or more members of the Board of Directors may participate in this meeting through a telephone conference call, as authorized by Sec. 370.262, Texas Transportation Code (*see below*). Under that law, each part of the telephone conference call meeting that by law must be open to the public, shall be audible to the public at the meeting location, and will be tape-recorded or documented by written minutes. On conclusion of the meeting, the tape recording or the written minutes of the meeting will be made available to the public.

TEXAS TRANSPORTATION CODE Sec. 370.262. MEETINGS BY TELEPHONE CONFERENCE CALL.

(a) Chapter 551, Government Code, does not prohibit any open or closed meeting of the board, a committee of the board, or the staff, or any combination of the board or staff, from being held by telephone conference call. The board may hold an open or closed meeting by telephone conference call subject to the requirements of Sections 551.125(c)-(f), Government Code, but is not subject to the requirements of Subsection (b) of that section.

(b) A telephone conference call meeting is subject to the notice requirements applicable to other meetings.

(c) Notice of a telephone conference call meeting that by law must be open to the public must specify the location of the meeting. The location must be a conference room of the authority or other facility in a county of the authority that is accessible to the public.

Mobility Authority Board Meeting Agenda
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(d) Each part of the telephone conference call meeting that by law must be open to the public shall be audible to the public at the location specified in the notice and shall be tape-recorded or documented by written minutes. On conclusion of the meeting, the tape recording or the written minutes of the meeting shall be made available to the public.

TEXAS GOVERNMENT CODE Sec. 551.125. OTHER GOVERNMENTAL BODY. (a) Except as otherwise provided by this subchapter, this chapter does not prohibit a governmental body from holding an open or closed meeting by telephone conference call.

~~(b) A meeting held by telephone conference call may be held only if:~~

~~(1) an emergency or public necessity exists within the meaning of Section 551.045 of this chapter; and~~

~~(2) the convening at one location of a quorum of the governmental body is difficult or impossible; or~~

~~(3) the meeting is held by an advisory board.~~

(c) The telephone conference call meeting is subject to the notice requirements applicable to other meetings.

(d) The notice of the telephone conference call meeting must specify as the location of the meeting the location where meetings of the governmental body are usually held.

(e) Each part of the telephone conference call meeting that is required to be open to the public shall be audible to the public at the location specified in the notice of the meeting as the location of the meeting and shall be tape-recorded. The tape recording shall be made available to the public.

(f) The location designated in the notice as the location of the meeting shall provide two-way communication during the entire telephone conference call meeting and the identification of each party to the telephone conference shall be clearly stated prior to speaking.



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #1

Welcome and opportunity for public
comment

Welcome and opportunity for public comment.
No Board action required.



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #2

Approve the minutes from the
June 26, 2024 Regular Board Meeting

Strategic Plan Relevance: Service
Department: Legal
Contact: Geoff Petrov, General Counsel
Associated Costs: N/A
Funding Source: N/A
Action Requested: Consider and act on motion to approve minutes

Description/Background: Approve the attached draft minutes for the June 26, 2024, Regular Board Meeting.

Backup provided: Draft minutes June 26, 2024, Regular Board Meeting.

MINUTES
Regular Meeting of the Board of Directors of the
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY

Wednesday, June 26, 2024
9:00 a.m.

This was an in-person meeting. Notice of the meeting was posted June 21, 2024, online on the website of the Mobility Authority and in the Mobility Authority's office lobby at 3300 N. Interstate 35, #300, Austin, Texas 78705-1849. Chairman Jenkins, Vice Chair Nikelle Meade, Board Members Mike Doss, Ben Thompson, and David Singleton were present and Heather Gaddes* joined remote.

**An archived copy of the live-stream of this
meeting is available at:**

ADD LINK HERE

After noting that a quorum of the Board was present, Chairman Jenkins called the meeting to order at 9:06 a.m. and had each Board Member state their name for the record.

1. Welcome and opportunity for public comment.

No comment was provided.

Consent Agenda

2. Approve the minutes from the May 29, 2024 Regular Board Meeting.
3. Prohibit the operation of certain vehicles on Mobility Authority toll facilities pursuant to the Habitual Violator Program.

ADOPTED AS: RESOLUTION NO. 24-028

MOTION: Approve Item Nos. 2 and 3.

RESULT: Approved (Unanimous); 5-0

MOTION: David Singleton

SECONDED BY: Mike Doss

AYE: Doss, Jenkins, Meade, Singleton, Thompson

NAY: None.

Regular Items

4. Accept the financial statements for May 2024.

Presentation by Jose Hernandez, Chief Financial Officer.

ADOPTED AS: **RESOLUTION NO. 24-029**

MOTION: Accept the financial statements for May 2024
RESULT: Approved (Unanimous); 5-0
MOTION: Mike Doss
SECONDED BY: David Singleton
AYE: Doss, Jenkins, Meade, Singleton, Thompson
NAY: None.

*Heather Gaddes joined the meeting remote at 9:22 a.m.

5. Discuss and consider awarding contracts to firms qualified to perform traffic and revenue engineering services for the Mobility Authority.

Presentation by Jose Hernandez, Chief Financial Officer.

ADOPTED AS: **RESOLUTION NO. 24-030**

MOTION: Award contracts to firms qualified to perform traffic and revenue engineering services for the Mobility Authority
RESULT: Approved (Unanimous); 6-0
MOTION: David Singleton
SECONDED BY: Nikelle Meade
AYE: Doss, Gaddes, Jenkins, Meade, Singleton, Thompson
NAY: None.

6. Discuss and adopting the FY 2025 Five-Year Capital Plan.

Presentation by Jose Hernandez, Chief Financial Officer and James Bass, Executive Director.

ADOPTED AS: **RESOLUTION NO. 24-031**

MOTION: Adopt the FY 2025 Five-Year Capital Plan
RESULT: Approved (Unanimous); 6-0
MOTION: Mike Doss
SECONDED BY: Ben Thompson
AYE: Doss, Gaddes, Jenkins, Meade, Singleton, Thompson

NAY: None.

7. Discuss and adopt the FY 2025 Operating Budget.

Presentation by Jose Hernandez, Chief Financial Officer and James Bass, Executive Director.

ADOPTED AS: **RESOLUTION NO. 24-032**

MOTION: Adopt the FY 2025 Operating Budget
RESULT: Approved (Unanimous); 6-0
MOTION: David Singleton
SECONDED BY: Mike Doss
AYE: Doss, Gaddes, Jenkins, Meade, Singleton, Thompson
NAY: None.

8. Discuss and consider approving an agreement with the Travis County Sheriff's Office for roadside enforcement services in support of the Authority's habitual violator program.

Presentation by Tracie Brown, Director of Operations.

ADOPTED AS: **RESOLUTION NO. 24-033**

MOTION: Approve an agreement with the Travis County Sheriff's Office for roadside enforcement services in support of the Authority's habitual violator program.
RESULT: Approved (Unanimous); 6-0
MOTION: Nikelle Meade
SECONDED BY: Ben Thompson
AYE: Doss, Gaddes, Jenkins, Meade, Singleton, Thompson
NAY: None.

9. Discuss and consider approving an interlocal agreement with the Texas Department of Transportation to co-locate personnel at TxTag customer service centers.

Presentation by Tracie Brown, Director of Operations.

ADOPTED AS: **RESOLUTION NO. 24-034**

MOTION: Approve an interlocal agreement with the Texas Department of Transportation to co-locate personnel at TxTag customer service centers.
RESULT: Approved (Unanimous); 6-0
MOTION: David Singleton

SECONDED BY: Nikelle Meade
AYE: Doss, Gaddes, Jenkins, Meade, Singleton, Thompson
NAY: None.

10. Discuss and consider approving a contract with Carahsoft Technology Corporation for video streaming and related software and services for Mobility Authority Board meetings.

Presentation by Cory Bluhm, Assistant Director of IT & Toll Systems.

ADOPTED AS: **RESOLUTION NO. 24-035**

MOTION: Approve a contract with Carahsoft Technology Corporation for video streaming and related software and services for Mobility Authority Board meetings.

RESULT: Approved (Unanimous); 6-0

MOTION: Mike Doss

SECONDED BY: Ben Thompson

AYE: Doss, Gaddes, Jenkins, Meade, Singleton, Thompson

NAY: None.

Briefings and Reports

11. Project Updates.

Presentation by Mike Sexton, Director of Engineering.

- A. 183A Phase III
- B. 183 North Mobility Project

12. Executive Director Report.

Presentation by James Bass, Executive Director.

- A. Recent agency staff activities.
- B. Agency roadway performance metrics.

Executive Session

Chairman Jenkins announced in open session at 10:38 a.m. that the Board would recess the meeting and reconvene in Executive Session to deliberate the following items:

13. Discuss acquisition of one or more parcels or interests in real property needed for a Mobility Authority headquarters, including facilities for traffic and incident management

and other agency functions, pursuant to §551.071 (Consultation with Attorney) and §551.072 (Deliberation Regarding Real Property; Closed Meeting).

14. Discuss legal issues related to claims by or against the Mobility Authority; pending or contemplated litigation and any related settlement offers; or other matters as authorized by §551.071 (Consultation with Attorney).
15. Discuss legal issues relating to procurement and financing of Mobility Authority transportation projects and toll system improvements, as authorized by §551.071 (Consultation with Attorney).
16. Discuss personnel matters as authorized by §551.074 (Personnel Matters).

*Heather Gaddes did not join the meeting following Executive Session.

Regular Items

17. Discuss and consider authorizing the Executive Director to negotiate and execute a Purchase and Sale Agreement for a new headquarters building and to take other related actions with approval from the CTRMA Executive Committee.

ADOPTED AS: **RESOLUTION NO. 24-036**

MOTION: Authorize the Executive Director to negotiate and execute a Purchase and Sale Agreement for a new headquarters building and to take other related actions with approval from the CTRMA Executive Committee.

RESULT: Approved (Unanimous); 5-0

MOTION: Nikelle Meade

SECONDED BY: Ben Thompson

AYE: Doss, Jenkins, Meade, Singleton, Thompson

NAY: None.

18. Discuss and consider amending the Mobility Policy Code § 101.038 authorizing the Executive Director to negotiate and execute certain settlement claims by or against the Mobility Authority.

ADOPTED AS: **RESOLUTION NO. 24-037**

MOTION: Amend the Mobility Policy Code § 101.038 authorizing the Executive Director to negotiate and execute certain settlement claims by or against the Mobility Authority.

RESULT: Approved (Unanimous); 5-0

MOTION: Ben Thompson

SECONDED BY: Mike Doss
AYE: Doss, Jenkins, Meade, Singleton, Thompson
NAY: None.

19. Adjourn meeting.

After confirming that no member of the public wished to address the Board, Chairman Jenkins declared the meeting adjourned at 11:27 a.m.



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024 AGENDA ITEM #3

Prohibit the operation of certain
vehicles on Mobility Authority toll
facilities pursuant to the Habitual
Violator Program

Strategic Plan Relevance:	Stewardship & Service
Department:	Operations
Contact:	Tracie Brown, Director of Operations
Associated Costs:	N/A
Funding Source:	N/A
Action Requested:	Consider and act on draft resolution

Project Description/Background: The Mobility Authority's habitual violator process prescribes two notices before habitual violator remedies go into effect. A pre-determination letter is sent 60 days before any remedies are enforced advising the customer again of their outstanding balance and providing an opportunity for resolution. Assuming no resolution, a *Notice of Determination* is mailed notifying the customer they've been determined to be a habitual violator and advising of the consequences. The customer is also informed of their right to appeal the decision and the process by which to do so.

If the customer does not contact the Authority to appeal the habitual violator determination or resolve their outstanding balance, a block is placed on the related vehicle's registration preventing renewal. The block remains in effect until all tolls and fees have been paid, a payment plan has been arranged with the Mobility Authority or the customer is determined to no longer be a habitual violator.

Previous Actions & Brief History of the Program/Project: State law provides that persons deemed to be habitual violators may also be prohibited from use of the Mobility Authority's toll facilities by order of the Board of Directors. Habitual violator customers operating a vehicle in violation of a ban are subject to a Class C misdemeanor with a fine up to \$500. A second or subsequent occurrence may result in impoundment of the vehicle. Similar to registration blocks, vehicle bans remain in effect until all

outstanding amounts owed to the Authority have been resolved or the customer is no longer deemed a habitual violator.

Financing: Not applicable.

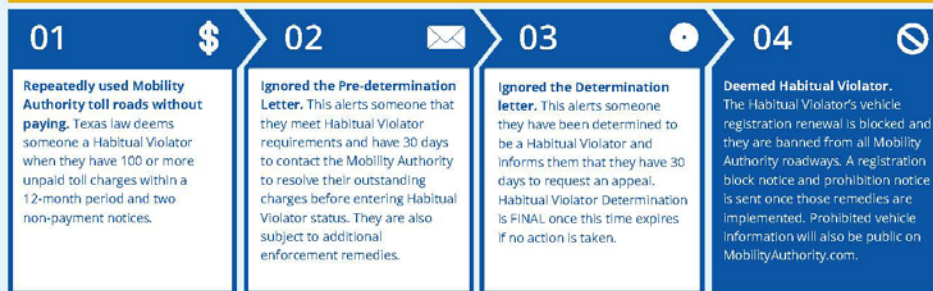
Action requested/Staff Recommendation: Staff affirms that all required steps have been followed and proper notice previously provided to customers determined to be habitual violators. To date, these customers have not appealed this determination or resolved their outstanding balances.

Therefore, staff recommends that the Board of Directors approve the order prohibiting certain vehicles from use of the Authority's toll facilities. Following the Board's approval of this order, a Notice of Prohibition will be mailed by first class mail advising of the ban, consequences if the ban is violated and how the customer may resolve their outstanding balance.

Backup provided: Habitual Violator Vehicle Ban FAQs
Draft Resolution



Habitual Violator Process



Who is a Habitual Violator?

A Habitual Violator is defined in Section 372.106(a) of the Texas Transportation Code as (A) one who was issued at least two written notices of nonpayment that contained in aggregate 100 or more events of nonpayment within a period of one year and, (B) was issued a warning that failure to pay the amounts specified in the notices may result in the toll project entity's exercise of Habitual Violator remedies.

What enforcement remedies is the Mobility Authority implementing for Habitual Violators?

To encourage equitable payment by all customers, legislation allows for enforcement remedies up to and including vehicle registration renewal blocks, prohibiting Habitual Violator's vehicles on Mobility Authority roadways, on-road enforcement of the vehicle ban, as well as posting names to the agency website of those Habitual Violators with banned vehicles. The Mobility Authority will be implementing these remedies beginning November 2019.

How will I know I'm a Habitual Violator subject to enforcement remedies?

Habitual Violators are provided due process protections prior to any enforcement action.

- A registered vehicle owner who the Mobility Authority determines meets the Habitual Violator status is sent a letter advising them that Habitual Violator remedies may be implemented if the customer's outstanding balance is not resolved. This letter is not required by law but is sent as a courtesy to reflect the Mobility Authority's commitment to the customer.
- A registered vehicle owner who the Mobility Authority determines to be a Habitual Violator receives written notice of that determination and an opportunity for a justice of the peace hearing to challenge their Habitual Violator status.
- Habitual Violator Determination is FINAL if no action is taken, prompt in the Mobility Authority to send a Vehicle Registration Block Notice and/or a Vehicle Ban Notice. These notices urge the Habitual Violator yet again to resolve their toll debt with the Mobility Authority.
- Sufficient time is provided to respond to all notifications.

Learn more about the Habitual Violator Enforcement Program at MobilityAuthority.com



How can I resolve my Habitual Violator status and settle my toll bill balance?

You can pay outstanding tolls and administrative fees with cash, money order or credit card (a payment plan may be available) by: calling the Mobility Authority Customer Service Center at 512-410-0562, online at www.paymobilitybill.com, or in person at our walk-up center.

Why is the Mobility Authority pursuing enforcement remedies?

The vehicle registration block and other toll enforcement actions are intended to encourage tollway drivers to pay for services rendered to ensure fairness to the overwhelming majority of drivers who pay for the service, maintenance and safety of the toll roads.

How will a person be notified that he or she is subject to enforcement remedies?

A notification letter announcing that a person has met the criteria of Habitual Violator is sent to the address in the Texas Department of Motor Vehicles (TTC 372.106) database, allowing 30 days to contact to dispute their determination as a Habitual Violator or address the account balance before remedies are applied. If the Habitual Violator does not make arrangements with the Mobility Authority during this period, they will be subject to all enforcement remedies. Additionally, notification of a registration renewal block is mailed.

Can someone dispute a toll bill?

Yes. You may contact the Mobility Authority to review all outstanding tolls and fees, correct any errors and arrange for payment to clear your status as a Habitual Violator and the block on your registration. Habitual Violators are also given an opportunity to request an administrative hearing with a justice of the peace.

How will I know or be notified that I am subject to a vehicle ban?

Habitual violators subject to vehicle ban will receive notification that they have been banned, including when the ban will take effect and instructions for how to remove their status as a Habitual Violator.

Can I dispute my toll bill that subjects me to the vehicle ban?

Yes. You may contact the Mobility Authority to review all outstanding tolls and administrative fees, correct any errors and arrange for payment to clear your status as a Habitual Violator and remove the vehicle ban.

What happens if I am banned, but get caught driving on a Mobility Authority toll road?

A person commits an offense when operating a vehicle in violation of the ban and is subject to a Class C misdemeanor with a fine up to \$500. A second or subsequent occurrence of driving on the tollway in violation of a ban may result in impoundment of the vehicle.

How will the Mobility Authority know if I'm still driving (after being banned)?

Mobility Authority roads are equipped with technology that recognizes vehicle and license plates on our prohibited list. Individuals operating a prohibited vehicle on Mobility Authority roads will be reported to nearby law enforcement patrolling Mobility Authority roads.

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

RESOLUTION NO. 24-0XX

**PROHIBITING THE OPERATION OF CERTAIN MOTOR VEHICLES
ON MOBILITY AUTHORITY TOLL FACILITIES PURSUANT TO
THE HABITUAL VIOLATOR PROGRAM**

WHEREAS, Transportation Code, Chapter 372, Subchapter C, authorizes toll project entities, including the Central Texas Regional Mobility Authority (Mobility Authority), to exercise various remedies against certain motorists with unpaid toll violations; and

WHEREAS, Transportation Code §372.106 provides that a “habitual violator” is a registered owner of a vehicle who a toll project entity determines:

(1) was issued at least two written notices of nonpayment that contained:

(A) in the aggregate, 100 or more events of nonpayment within a period of one year, not including events of nonpayment for which: (i) the registered owner has provided to the toll project entity information establishing that the vehicle was subject to a lease at the time of nonpayment, as provided by applicable toll project entity law; or (ii) a defense of theft at the time of the nonpayment has been established as provided by applicable toll project entity law; and

(B) a warning that the failure to pay the amounts specified in the notices may result in the toll project entity’s exercise of habitual violator remedies; and

(2) has not paid in full the total amount due for tolls and administrative fees under those notices; and

WHEREAS, the Mobility Authority previously determined that the individuals listed in Exhibit A are habitual violators, and these determinations are now considered final in accordance with Transportation Code, Chapter 372, Subchapter C; and

WHEREAS, Transportation Code §372.109 provides that a final determination that a person is a habitual violator remains in effect until (1) the total amount due for the person’s tolls and administrative fees is paid; or (2) the toll project entity, in its sole discretion, determines that the amount has been otherwise addressed; and

WHEREAS, Transportation Code §372.110 provides that a toll project entity, by order of its governing body, may prohibit the operation of a motor vehicle on a toll project of the entity if:

(1) the registered owner of the vehicle has been finally determined to be a habitual violator; and

(2) the toll project entity has provided notice of the prohibition order to the registered owner; and

WHEREAS, the Executive Director recommends that the Board prohibit the operation of the motor vehicles listed in Exhibit A on the Mobility Authority's toll roads, including (1) 183A Toll; (2) 290 Toll; (3) 71 Toll; (4) MoPac Express Lanes; (5) 45SW Toll; and (6) 183 Toll.

NOW THEREFORE, BE IT RESOLVED that the motor vehicles listed in Exhibit A are prohibited from operation on the Mobility Authority's toll roads, effective August 28, 2024; and

BE IT FURTHER RESOLVED that the Mobility Authority shall provide notice of this resolution to the individuals listed in Exhibit A, as required by Transportation Code §372.110; and

BE IT IS FURTHER RESOLVED that the prohibition shall remain in effect for the motor vehicles listed in Exhibit A until the respective habitual violator determinations are terminated, as provided by Transportation Code §372.110.

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

LIST OF PROHIBITED VEHICLES

(To be provided at the Board Meeting)



August 28, 2024
AGENDA ITEM #4

Approve an interlocal agreement
with the Texas Department of
Transportation to co-locate personnel
at TxTag customer service centers

Strategic Plan Relevance:	Collaboration, Stewardship
Department:	Operations
Contact:	Tracie Brown, Director of Operations
Associated Costs:	\$0
Funding Source:	Not applicable
Action Requested:	Consider and act on draft resolution

Project Description/Background: To better serve the public, the Texas Department of Transportation and the Central Texas Regional Mobility Authority co-located staff at the TxTag Customer Service Center (CSC) to provide walk-up services to their respective customers. The services allow customers to resolve TxTag and CTRMA toll payments and inquiries in one location. Customers are also able to sign up for tag accounts at the TxTag CSC. The TxTag CSC is open Monday and Friday from 8:00 a.m. – 7:00 p.m. and Tuesday through Thursday from 8:00 a.m. – 5:00 p.m.

Action requested: The proposed ILA also provides flexibility for the services to extend to TxDOT’s Ridge Point location near 290 and 183. Additional locations may be added if mutually agreed to by both parties. There is no direct cost to the Mobility Authority for these co-location services as the staff and equipment are provided by ViaPlus (formerly Cofiroute) under the Pay By Mail program support services agreement.

The ILA terminates on September 1, 2026. In June 2024 the Board approved a new ILA; however, the wrong forms were provided by TxDOT requiring the Board’s reconsideration of this item. There are no material changes to the ILA.

Previous Actions & Brief History of the Program/Project: The Mobility Authority Board of Directors approved a similar resolution in August 2022 which expires on September 1, 2024. **Financing:** Not applicable.

Staff Recommendation: Staff recommends approving this Interlocal Agreement with the Texas Department of Transportation to co-locate personnel for the purposes of serving the Mobility Authority's Pay By Mail customers.

Backup Provided: Draft resolution
Proposed Interlocal Agreement

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

RESOLUTION NO. 24-0XX

**APPROVING AN INTERLOCAL AGREEMENT WITH
THE TEXAS DEPARTMENT OF TRANSPORTATION TO CO-LOCATE PERSONNEL
AT TxTAG CUSTOMER SERVICE CENTERS**

WHEREAS, since 2016, the Central Texas Regional Mobility Authority (“Mobility Authority”) and the Texas Department of Transportation (“TxDOT”) have co-located staff at the TxTag Customer Service Center (CSC) to provide walk-up services to their respective customers; and

WHEREAS, the interlocal agreement between the Mobility Authority and TxDOT for co-located personnel expires on September 1, 2024 and both agencies wish to continue their co-location arrangement by entering into a new interlocal agreement at no cost to either agency; and

WHEREAS, at the June 26, 2024 Board Meeting a new interlocal agreement was considered and approved by the Board; and

WHEREAS, following the June 26, 2024 Board Meeting, TxDOT informed Mobility Authority staff that an incorrect version of the interlocal agreement had inadvertently been provided to the Board; and

WHEREAS, the Executive Director recommends that the Board reconsider the action taken in June 2024, and approve the corrected version of the interlocal agreement with TxDOT for the co-location of personnel at TxTag Customer Service Centers in the form or substantially same form attached hereto as Exhibit A.

NOW THEREFORE, BE IT RESOLVED that the proposed interlocal agreement is hereby approved, and the Executive Director is authorized and directed to finalize and execute the interlocal agreement on behalf of the Mobility Authority in the form or substantially same form as Exhibit A hereto.

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

THE STATE OF TEXAS §

THE COUNTY OF TRAVIS §

INTERLOCAL AGREEMENT

THIS CONTRACT is entered into by the Contracting Parties under Government Code, Chapter 791.

I. CONTRACTING PARTIES:

The Texas Department of Transportation	TxDOT
Central Texas Regional Mobility Authority	Local Government

II. PURPOSE: To better serve the public, the Texas Department of Transportation desires to share office space with the Local Government at locations managed by TxDOT.

III. STATEMENT OF SERVICES TO BE PERFORMED: TxDOT will undertake and carry out services described in **Attachment A**, Scope of Services.

IV. CONTRACT PAYMENT: The total amount of this contract shall not exceed **\$0.00** and shall conform to the provisions of **Attachment B**, Budget. Payments shall be billed monthly.

V. TERM OF CONTRACT: This contract begins when fully executed by both parties and terminates on **September 01, 2026** or when otherwise terminated as provided in this Agreement.

VI. LEGAL AUTHORITY:

THE PARTIES certify that the services provided under this contract are services that are properly within the legal authority of the Contracting Parties.

The governing body, by resolution or ordinance, dated **August 28, 2024**, has authorized the Local Government to obtain the services described in **Attachment A**.

This contract incorporates the provisions of **Attachment A**, Scope of Services, **Attachment B**, Budget, **Attachment C**, General Terms and Conditions, **Attachment D**, Resolution or Ordinance and **Attachment E**, Location Map Showing Project.

CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY

By _____ Date _____

AUTHORIZED SIGNATURE

James Bass

TYPED OR PRINTED NAME AND TITLE

Title Executive Director

FOR THE STATE OF TEXAS

Executed for the Executive Director and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.

By _____ Date _____

Kenneth Stewart
Director of Contract Services

ATTACHMENT A

Scope of Services

- I. TxDOT will house representatives and equipment of the Local Government at locations managed by TxDOT. The Local Government will provide customer service to local government customers.
- II. Local Government shall respond to Local Government billing issues and any and all inquiries with their own equipment and back-office system.
- III. Local Government shall not operate outside of the hours of operations of TxDOT for all locations.
- IV. TxDOT reserves the right to add or delete locations under this contract. TxDOT will coordinate with the Local Government for locations to be added. TxDOT will provide ten business days written notice to the Local Government for locations to be deleted.
- V. Local Government representative(s) shall not be granted access to or use any TxDOT equipment or back-office system. TxDOT employee(s) will not be granted access to or use any Local Government equipment or Local Government back-office system.

ATTACHMENT B

Budget

No funds shall be exchanged under this agreement.

ATTACHMENT C

General Terms and Conditions

Article 1. Amendments

This contract may only be amended by written agreement executed by both parties before the contract is terminated.

Article 2. Conflicts Between Agreements

If the terms of this contract conflict with the terms of any other contract between the parties, the most recent contract shall prevail.

Article 3. Disputes

TxDOT shall be responsible for the settlement of all contractual and administrative issues arising out of procurements entered in support of contract services.

Article 4. Ownership of Equipment

Except to the extent that a specific provision of this contract states to the contrary, all equipment purchased by TxDOT under this contract shall be owned by TxDOT.

Article 5. Termination

This contract terminates at the end of the contract term, when all services and obligations contained in this contract have been satisfactorily completed, by mutual written agreement, or 30 days after either party gives notice to the other party, whichever occurs first.

Article 6. Gratuities

Any person who is doing business with or who reasonably speaking may do business with TxDOT under this contract may not make any offer of benefits, gifts, or favors to employees of TxDOT.

Article 7. Responsibilities of the Parties

Each party acknowledges that it is not an agent, servant, or employee of the other party. Each party is responsible for its own acts and deeds and for those of its agents, servants, or employees.

Article 8. Compliance with Laws

The parties shall comply with all federal, state, and local laws, statutes, ordinances, rules, and regulations and with the orders and decrees of any courts or administrative bodies or tribunals in any manner affecting the performance of this agreement.

Article 9. State Auditor's Provision

The state auditor may conduct an audit or investigation of any entity receiving funds from TxDOT directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

Article 10. Signatory Warranty

Each signatory warrants that the signatory has necessary authority to execute this agreement on behalf of the entity represented.

Article 11. Notices

All notices to either party shall be delivered personally or sent by certified U.S. mail, postage prepaid, addressed to that party at the following address:

Local Government:	Central Texas Regional Mobility Authority Director of Operations 3300 North Interstate 35, Suite #300 Austin, Texas 78705
TxDOT:	Texas Department of Transportation Director of Contract Services 125 East 11 th Street Austin, Texas 78701

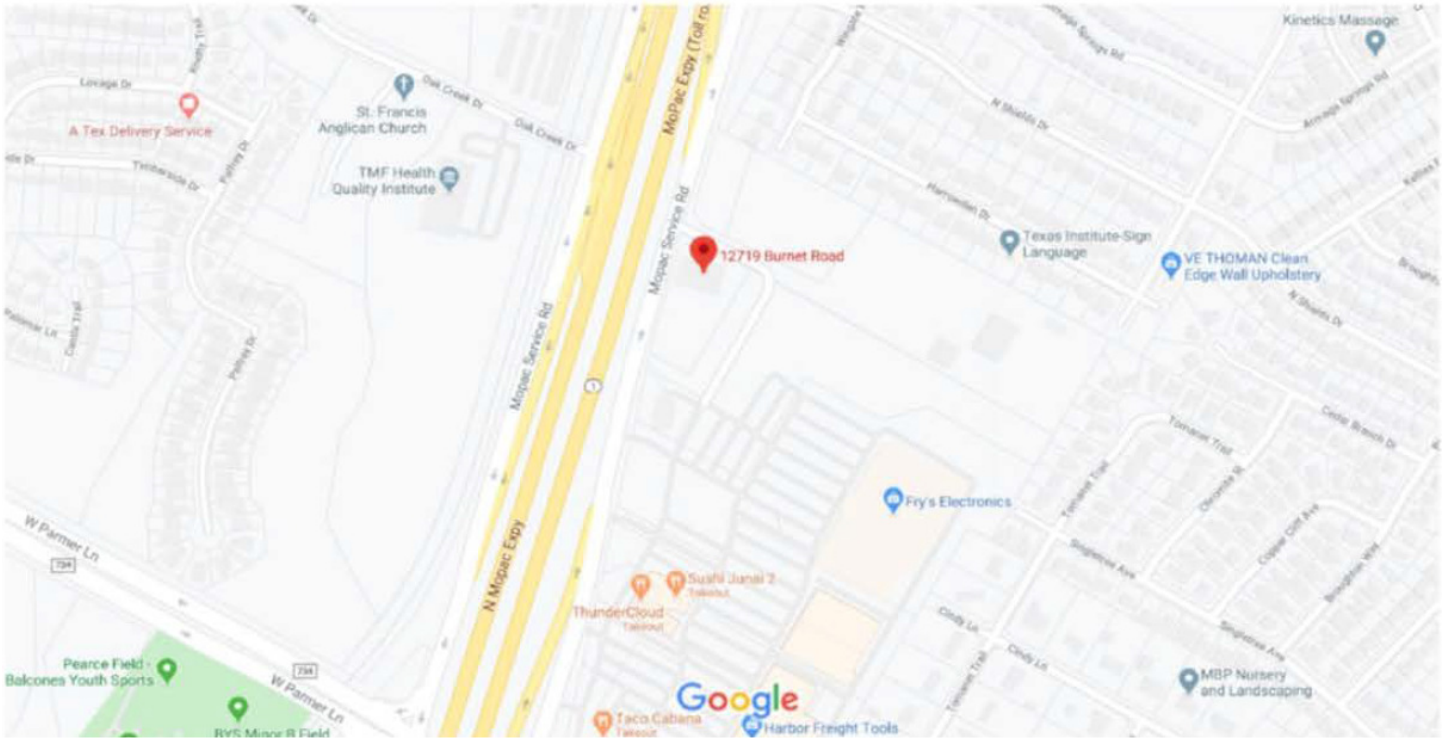
All notices shall be deemed given on the date delivered in person or deposited in the mail. Either party may change the above address by sending written notice of the change to the other party. Either party may request in writing that notices shall be delivered personally or by certified U.S. mail, and that request shall be carried out by the other party.

ATTACHMENT D
Resolution or Ordinance

ATTACHMENT E

Location Maps Showing Project

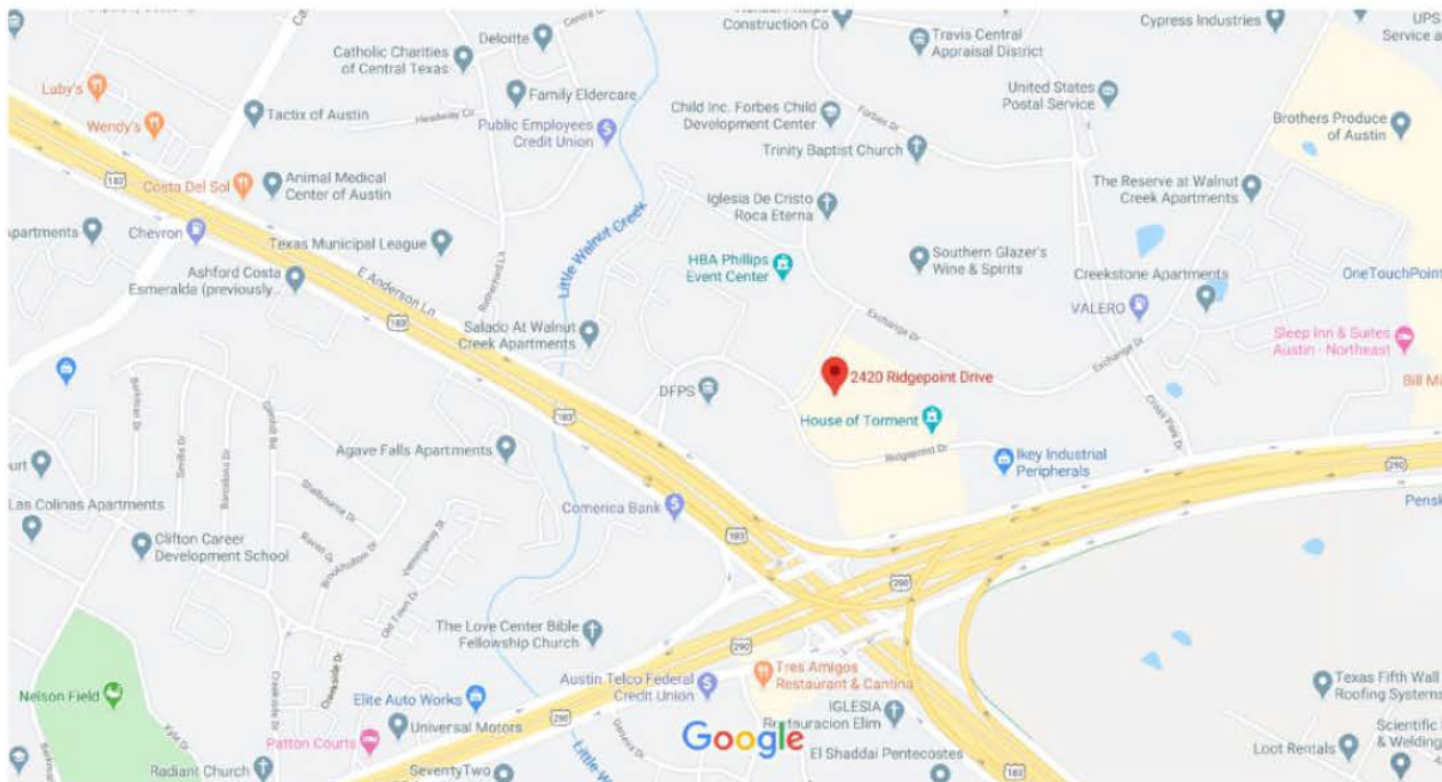
Google Maps 12719 Burnet Rd
TOD-CSC





2420 Ridgepoint Dr

TOD-TOC





CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #5

Approve the annual cyber security training compliance report for submittal to the Texas Department of Information Resources as required by Texas Government Code §2054.5191

Strategic Plan Relevance:	Stewardship
Department:	Information Technology
Contact:	Greg Mack, Director of IT and Toll Systems
Associated Costs:	N/A
Funding Source:	N/A
Action Requested:	Consider and act on draft resolution

Project Description/Background:

The Mobility Authority is required by state statute to complete the Texas Certified Cybersecurity Training Program prior to August 31st each year and certify the completion to the Texas Department of Information Resources (DIR). The Mobility Authority utilizes a certified training program to ensure employees and board members comply with training requirements.

Texas Government Code Section 2054.5191(b) states that a cybersecurity training program must: Focus on forming information security habits and procedures that protect information resources and teach best practices for detecting, assessing, reporting, and addressing information security threats.

Government entities must complete the training requirements every year by August 31st. Additionally per the state statute, the governing board of the entity must certify the completion annually using the DIR [Cybersecurity Training Certification for State and Local Governments](#) portal.

This agenda item is requesting the board certify compliance with the cybersecurity training statutory requirement. Approval of this item would also designate the Executive Director, Chief Financial Officer or Director of Information Technology (IT) as

staff authorized to report cybersecurity training compliance to the appropriate DIR entity.

Financing: N/A

Action requested/Staff Recommendation: Staff recommends board approval for the Executive Director, Chief Financial Officer or Director of IT positions as staff authorized to report required cybersecurity training compliance to the appropriate DIR entity. Staff further recommends the board certify to DIR compliance with the annual cybersecurity required training as prescribed by state statute.

Backup provided: Draft resolution
Cybersecurity Training Completion Report

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

RESOLUTION NO. 24-0XX

**APPROVING THE ANNUAL CYBER SECURITY TRAINING COMPLIANCE REPORT
FOR SUBMITTAL TO THE TEXAS DEPARTMENT OF INFORMATION RESOURCES**

WHEREAS, pursuant to Texas Government Code §2054.5191 (Tex. Gov't §2054.5191) the Central Texas Regional Mobility Authority (Mobility Authority) is required to complete the Texas Certified Cybersecurity Training Program prior to August 31st each year; and

WHEREAS, in addition to completing the Texas Certified Cybersecurity Training, Tex. Gov't §2054.5191 requires the Mobility Authority to certify training completion report prior to filing the Texas Department of Information Resources (DIR); and

WHEREAS, the Executive Director recommends designating the Chief Financial Officer and the Director of Information Technology as staff authorized to report cybersecurity training compliance to the appropriate DIR entity; and

WHEREAS, the Executive Director has prepared a training completion report in the form required by and in compliance with Tex. Gov't §2054.5191 which is attached hereto as Exhibit A; and

WHEREAS, the training completion report must be approved by the Board prior to submission to DIR; and

WHEREAS, the Executive Director certifies to the Board that the information contained in the training completion report attached hereto as Exhibit A is true and correct.

NOW THEREFORE, BE IT RESOLVED, that the Board hereby approves the training completion report in the form attached hereto as Exhibit A and designates the Chief Financial Officer and the Director of Information Technology as staff authorized to report cybersecurity training compliance to the appropriate DIR entity; and

BE IT FURTHER RESOLVED, that the Board directs the Executive Director or designees to perform all actions necessary to submit the training completion report to the Texas Department of Information Resources in accordance with Tex. Gov't §2054.5191.

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

Campaign Content

Texas Cybersecurity Awareness Training from KnowBe4

100% Completed

User Progress

Report Type

Display by Complete Assignments

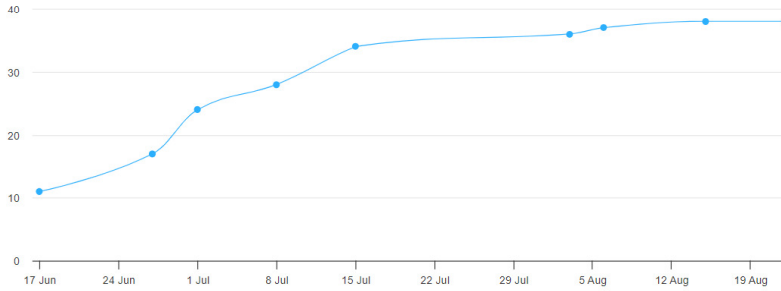
User Status

Active Users



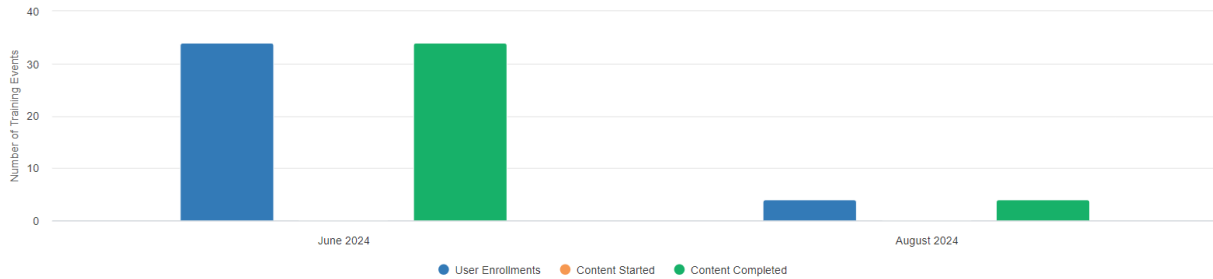
User Activity

Number of Users who have completed their assignments



All Training Activity

This report displays a count of training events, grouped by month.



Campaign Summary



Status	In Progress
Start Date	06/17/2024, 9:00 AM
Relative Duration	1 month
Users	38
Auto-Enroll	No
Scheduled Notifications	<ul style="list-style-type: none"> Remind users 5 days after enrollment and every 5 days thereafter Send completion notification to users Send welcome notification to users on enrollment

Report Details

Date Range: Last 90 Days (05/24/2024 - 08/22/2024)

User Groups: All Users

Exclude User Groups: All Users

Training Campaigns: All Training Campaigns

Training Campaigns Additional Criteria: Campaign Training

Content Types: All Content Types

Training Statuses: All Training Statuses

Training Statuses Additional Criteria: All Training Statuses

User Status: Active

Sort by: Email Ascending

Selections without relevant data will not appear on this report.



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #6

Approve a contract with Nortex
Concrete Lift and Stabilization, Inc.
for concrete slab lifting and
stabilization on 290 Toll and 183A
Toll

Strategic Plan Relevance: Service
Department: Engineering
Contact: Mike Sexton, P.E., Director of Engineering
Associated Costs: \$156,000
Funding Source: FY25 Operating Budget Capital Budget Funds
Action Requested: Consider and act on draft resolution

Project Description/Background: In accordance with the Master Trust Indenture, each year the Mobility Authority inspects the System of operating projects funded with System obligations. The Annual Report of Conditions issued each spring sets forth findings as to the condition of the facilities, as well as recommendations of proper operations and maintenance of the facilities. In the 2022 report of conditions, there was a recommendation to continue to monitor and address ride quality issues identified along the 290E corridor, the 6-mile toll road along US 290 from US 183 to SH 130 in east Austin. As a continuation of this recommendation, locations along 290E and 183A have been identified for ride quality improvements.

Pursuant to Article 15 of the Mobility Authority Policy Code and in accordance with Section 2155.204, Government Code, and Subchapter D, Chapter 271, Local Government Code, the Mobility Authority participates in the cooperative purchasing program established by State Comptroller's Office.

Nortex Concrete Lift and Stabilization, Inc, being the only provider through the TxMAS program in Texas SmartBuy who performs the required services, is the lowest best value provider for the services sought by this action.

Previous Actions & Brief History of the Program/Project: The Central Texas Regional

Mobility Authority approved the Fiscal Year 2025 Operating Budget on June 26, 2024. The approved FY25 maintenance budget had identified funds for addressing ride quality issues on 290 Toll and 183A Toll.

Financing: FY25 Operating Budget Capital Budget Funds

Action requested/Staff Recommendation: Staff recommends approving a contract with Nortex Concrete Lift and Stabilization, Inc in an amount not to exceed \$135,000 through the Texas Multiple Award Schedule (TxMAS) system administered by the State Comptroller's Office. Staff also recommends establishing a contingency amount for this contract of an amount not to exceed \$21,000 for a total contract amount of \$156,000.

Backup provided: Draft Resolution

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

RESOLUTION NO. 24-0XX

**APPROVING A CONTRACT WITH NORTEX CONCRETE LIFT AND STABILIZATION,
INC. FOR CONCRETE SLAB LIFTING AND STABILIZATION ON 290 TOLL AND 183A
TOLL**

WHEREAS, the Mobility Authority performs regular inspections of its toll facilities to ensure their safety and quality are appropriately maintained for the traveling public; and

WHEREAS, in the course of these inspections the Mobility Authority has identified locations along 290 Toll and 183A Toll for ride quality improvements; and

WHEREAS, Nortex Concrete Lift & Stabilization, Inc. participates in the Texas Multiple Award Schedule (“TXMAS”) Program administered by the State Comptroller’s Office as part of Texas SmartBuy Membership Program (formerly known as the “State of Texas CO-OP Purchasing Program”); and

WHEREAS, in accordance with Article 15 of the Mobility Authority Policy Code, purchases made through a cooperative program such as the Texas SmartBuy Membership Program are deemed to have satisfied Mobility Authority procurement requirements; and

WHEREAS, in order to address the ride quality issues on 290 Toll and 183A Toll, the Executive Director has negotiated a contract with Nortex Concrete Lift & Stabilization, Inc. which is attached hereto as Exhibit A; and

WHEREAS, the Executive Director recommends entering into the contract for slab lifting and stabilization services with Nortex Concrete Lift & Stabilization, Inc. through the TXMAS Program in an amount not to exceed \$156,000, including contingency.

NOW THEREFORE, BE IT RESOLVED that the Board hereby approves the contract with Nortex Concrete Lift & Stabilization, Inc. for concrete slab lifting and stabilization services on 290 Toll and 183A Toll which is attached hereto as Exhibit A, and hereby authorizes the Executive Director to enter into the contract through the TXMAS Program and in an amount not to exceed amount of \$156,000, including contingency.

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



201 NW 26th St.
Fort Worth, TX 76164
(817) 831-1240 office
(817) 831-1245 fax

RAISING & UNDERSEALING CONCRETE PAVEMENT SCOPE OF WORK AND QUALITY CONTROL PLAN

Nortex Concrete Lift & Stabilization, Inc. is committed to maintaining an effective Quality Control Plan that reinforces our commitment to deliver a consistent high-quality product and service to our customers.

This plan addresses the following:

- Equipment**
- Work Site Preparations**
- Construction Methods**
- Monitoring Procedures**
- Clean Up Procedures**
- Spill Clean Up Procedures**
- Material Information**
- Warranty Information**

Equipment: A listing of lifting and undersealing equipment, this list is a minimum and shall not preclude the use of additional equipment.

- A. Pneumatic drills and electric drills capable of drilling 5/8-inch diameter holes.
- B. Truck mounted pumping units (Gusmer H20/35 Hydraulic Proportioner Pumps) capable of injecting high-density polyurethane foam between the concrete pavement and the sub-base, and capable of controlling the rate of rise of the pavement.

C. Hilti Self Leveling Laser Level unit and lifting gages to ensure that pavement is lifted to an even plane.

Work Site Preparations: Shall be specified per contract documents and/or general accepted practices and procedures.

- A. The contractor shall review a profile of the pavement and footing provided by the owner to determine where the slab and footing need to be raised or void filled.

Construction Methods:

- A. Drilling: A series of 5/8" holes shall be drilled at four to six foot intervals through the concrete pavement. The contractor will determine the exact location and spacing of holes based on site conditions and scope of work.
- B. Injecting: The injector on the discharge guns shall make a tight seal in the injection hole. The polyurethane foam is two-component mixtures that meet at the discharge gun and is injected beneath the concrete pavement with approximately 1000 psi. The polyurethane foam initially remains in liquid form for approximately 15 – 20 seconds, which allows the material to move laterally beneath the concrete filling all voids in the area. The polyurethane foam then begins to set up and expand into its solid form exerting the necessary lifting force.

Monitoring Procedures:

- A. Controlling rise: The amount of rise shall be controlled using the pumping unit, by regulating the rate of injection of material. Lifting gages and Laser shall be used to monitor the rise and ensure pavement is lifted to an even plane. Mix Ratio's on Gages must be monitored periodically to ensure proper mixture of material being pumped along with monitoring of heat to keep foam somewhere in the vicinity of 80 to 140 degrees Fahrenheit (depending on outside air temperature).
- B. Drain inlets, asphalt shoulders, MSE walls, etc...will be monitored frequently to ensure material below ground has not traveled to an area it is not intended to go.
- C. Supervisor shall be on site during entire operation and be fully trained in mechanical operation of equipment. Supervisor shall be responsible for safety of his crew at all times and responsible for monitoring lifting procedures.

Clean Up Procedures:

- A. All excess polyurethane material will be removed from the job site.
- B. All injection holes will be re-drilled to a depth of 2-3" and then non shrink cementitious grout will be poured into the open hole and struck flush with pavement surface.
- C. Entire work area will be cleaned and cleared to properly restore the operation lane.

Spill Clean Up Procedures:

- A. Entire area of spill to be covered and dispersed evenly with absorbent material kept on hand.
- B. After setting phase absorbent material is cleaned up and disposed of in thick trash bags and tied off for proper disposal.
- C. Process can be repeated until spill is sufficiently cleaned.

Material Information:

- A. All material used is certified for compliance with all state, and local authorities pertaining to the contract documents or special provisions. TXDOT ss3025 is provided along with NCFI Polyurethanes 24-003 material technical data sheet.

Warranty Information:

- A. All locations repaired under this contract stand by an industry standard two-year warranty that if a slab settles more than 1/2" in that period then it will be repaired free of charge. Traffic control and other incidental services would not be covered under the warranty.

**GLENN HEGAR** TEXAS COMPTROLLER OF PUBLIC ACCOUNTS**NOTICE OF AWARD**

Nortex Concrete Lift & Stabilization, Inc.
Attn: Casey DeRosa
201 NW 26th St.
Fort Worth, TX 76164-7110

Re: Contract No. & Description: TXMAS-22-74501 Road and Highway Building
Materials, Asphaltic
Term of Contract: Date of Deputy Comptroller's signature on this Notice of
Award through December 20, 2022

The Comptroller of Public Accounts (CPA) accepts the TXMAS Offer Packet of Nortex Concrete Lift & Stabilization, Inc. (Contractor) and hereby awards Contractor a TXMAS contract (Contract). Contractor's awarded services will be processed through our Statewide Contract Management office (SCM) and will be available for purchase on the Texas SmartBuy online ordering system.

The Contract consists of the documents stated in Section 2 Contract Documents of the TXMAS Terms and Conditions CPA Addendum 1. The attached final catalog consists of services and pricing submitted and agreed upon by CPA and Contractor. The final catalog may exclude any services that CPA has decided not to award. Any excluded services are not permitted to be sold under the Contract and may not be added at any time during the life of the Contract.

To the extent there are conflicts between the Base Contract (between Oklahoma Office of Management & Enterprise Services (OMES) and Contractor, dated 11/18/2021) and the TXMAS Terms and Conditions, the TXMAS Terms and Conditions control, including the following stipulations:

1. TXMAS Terms and Conditions Section 20 Force Majeure controls over the Base Contract Terms and Conditions 23 Force Majeure.
2. TXMAS Terms and Conditions Section 28 Indemnification controls over the Base Contract Terms and Conditions 16. Indemnification.
3. TXMAS Terms and Conditions Section 40 Limitation of Liability controls over the Base Contract Terms and Conditions 16.5 Limitation of Liability.
4. TXMAS Terms and Conditions Section 43 Severability controls over the Base Contract Terms and Conditions 26.10 Severability.

Contractor may advertise the awarded Contract to Texas state agencies and Texas SmartBuy Member entities. Prior to mass advertising, a draft must be submitted to the TXMAS program for approval. Please complete the attached ECSM Submission Checklist and submit it with the draft advertisement to: txmas@cpa.texas.gov

Contractor shall be responsible for the fulfillment of any Purchase Order issued through Texas SmartBuy pursuant to the terms and conditions of the Contract. Contractor shall not ship any products or provide services until receipt of a Purchase Order issued through Texas SmartBuy.

CPA does not guarantee a specific volume to be purchased throughout the term of the Contract. No minimum compensation to the Contractor is guaranteed.

Texas Comptroller of Public Accounts

DocuSigned by:

Handwritten signature of Lisa Craven in blue ink.

Lisa Craven

Deputy Comptroller

Date: 5/26/2022 | 9:02 AM CDT



Contract: TXMAS-22-74501
 Description: Road and Highway Building Materials
 Contract Dates: 12/21/23 – 12/20/2024
 Renewal Options: (1) remaining one-year terms



Contractor:
 Nortex Concrete Lift & Stabilization, Inc.
 201 NW 26th St.
 Fort Worth, TX 76164
 VID: 12002919921

TXMAS-22-74501 – Slab Jacking Price List

Item Number	Description/Measurement	Unit	Price per Unit
	Concrete Pavement Lifting and Stabilization		
1000003294	Polyurethane Injections (200 LBS - 1,000 LBS)	LB	\$4.81
1000002795	Polyurethane Injections (1,001LBS – 5,000 LBS)	LB	\$4.60
1000003269	Polyurethane Injections (5,001 LBS – 10,000 LBS)	LB	\$4.45
1000003346	Polyurethane Injections (10,001 LBS and above)	LB	\$4.30
41114603	Dynamic Cone Penetrometer Testing	Each	\$456.00
	Value Added Section		
VA-1	Concrete Joint Grinding (0 – 1,000 Linear Feet)	LF	\$6.09
VA-2	Concrete Joint Grinding (1,001 & above Linear Feet)	LF	\$4.06
VA-3	Cleaning & Resealing with Joint Sealant	LF	\$25.38
VA-4	Soil Densification (Polyurethane Injections at Depths from 3.0 FT – 10.0 FT)	LB	\$5.06
VA-5	Soil Densification (Polyurethane Injections at Depths 10.1 FT and Above)	LB	\$5.47



NORTEX CONCRETE LIFT & STABILIZATION

201 NW 26th ST
 FORT WORTH, TX 76164
 (817) 831-1240 OFFICE
 (817) 831-1245 FAX

REMIT PAYMENT TO:
 P.O. BOX 4935
 FORT WORTH, TX 76164

QUOTE

TO: Central Texas Regional Mobility Authority (CTRMA)
 3300 N. IH-35, Suite 300
 Austin, TX 78705

ATTN: John Jones
 Asst. Director of Engineering-Maintenance

RE: TXMAS-22-74501 Polyurethane Injection Repairs

DATE: July 03, 2024

#	Location	Std. Injection QUANTITY (LBS)	Deep Injection QUANTITY (LBS)
#1	EB 290 Express @ Walnut Creek (Dip before app slab), 50x22, 1.5" lift	1100	
#2	EB 290 Express @ on-ramp East of Johnny Morris Rd, Dip, 24'x80', 4-5" lift	3000	
#3	EB 290 Express @ Parmer Rd Departure Slab, 36'x55', 2.5" lift	3000	
#4	WB 290 Express @ Parmer Rd Approach Slab, 36'x65', 3" lift	3200	
#5	WB 290 Express @ Parmer Rd Departure Slab, 36'x75', 3" lift	3400	
#6	NB SH-183A @ South Brushy Creek Approach Slab, 68'x50', 2" lift		4200
#7	NB SH-183A @ South Brushy Creek Departure Slab, 68'x65', 3.5" lift		5600
TOTALS:		13700	9800

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENSION
1000003346	Concrete Pavement Lifting (10,001 + LBS)	LB	13700	\$4.30	\$58,910.00
VA-4	Deep Injections with High Density Polyurethane (3'-10' depth)	LB	9800	\$5.06	\$49,588.00

TAX: EXEMPT

TOTAL: \$108,498.00

**All pricing from Texas Smartbuy Contract TXMAS-22-74501.
 You will only be charged for LBS pumped.**

Casey DeRosa
 General Manager
casey@nortexconcretelift.com
 817-845-5097

www.nortexconcretelift.com



201 NW 26th St.
 Fort Worth, TX 76164
 (817) 831-1240 office
 (817) 831-1245 fax

TXMAS-22-74501 Concrete pavement lifting and stabilization with polyurethane injections and value added services

Price sheet per location for traffic control and off duty officers

Item Number	Description/Measurement	Unit	Price per Unit	Quantity	Total
Incidental	Message Board/s: All Project	Night	\$75.00	14	\$1,050.00
Incidental	Off Duty Officer/s: All Project	Hour	\$75.00	81	\$6,075.00
Location #1	EB 290 Express @ Walnut Creek (Dip before app slab), 50x22, 1.5" lift				
Incidental	Single lane closure – Freeway/highway	Night	\$2,500.00	1	\$2,500.00
Location #2	EB 290 Express @ on-ramp East of Johnny Morris Rd, Dip, 24'x80', 4-5" lift				
Incidental	On Ramp Closure w/ TMA	Night	\$2,500.00	1	\$2,500.00
Location #3	EB 290 Express @ Parmer Rd Departure Slab, 36'x55', 2.5" lift				
Incidental	Single lane closure – Freeway/highway	Night	\$2,500.00	1	\$2,500.00
Location #4	WB 290 Express @ Parmer Rd Approach Slab, 36'x65', 3" lift				
Incidental	Single lane closure – Freeway/highway	Night	\$2,500.00	1	\$2,500.00
Location #5	WB 290 Express @ Parmer Rd Departure Slab, 36'x75', 3" lift				
Incidental	Single lane closure – Freeway/highway	Night	\$2,500.00	1	\$2,500.00
Location #6	NB SH-183A @ South Brushy Creek Approach Slab, 68'x50', 2" lift				
Incidental	Double lane closure – Freeway/highway	Night	\$3,400.00	1	\$3,400.00
Location #7	NB SH-183A @ South Brushy Creek Departure Slab, 68'x65', 3.5" lift				
Incidental	Double lane closure – Freeway/highway	Night	\$3,400.00	1	3,400.00
Total Purchase Price =					\$26,425.00

Special Specification 3025

Raising and Undersealing Concrete Slabs with Foam Systems



1. DESCRIPTION

Raise and underseal concrete slabs at locations shown on the plans and as directed.

2. MATERIAL

Furnish a closed cell hydro-insensitive, high-density polyurethane foam system with a minimum free rise density of 3.0 lb./cu. ft., with a minimum compressive strength of 50 psi. Use epoxy material meeting the requirements of DMS-6100, "Epoxies and Adhesives," Type III, Class C.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work. At a minimum, provide the following:

- 3.1. **Drill.** Use a drill capable of drilling holes of the required diameter and depth.
- 3.2. **Pump.** Furnish a pump unit with the appropriate attachments capable of injecting the polyurethane:
 - Under the concrete slab at the depth(s) required in the plans.
 - At a controlled flow rate with a digital reading of the cumulative pounds used.
- 3.3. **Level.** Provide control equipment to indicate when the final grade has been achieved and to monitor slab movement.

4. CONSTRUCTION

- 4.1. **Preparation.** Prepare a profile of each area to determine the extent of the concrete slab that requires adjustment or raising. Ensure that the finished concrete slabs will conform to the grades and cross-section of the slabs as shown in the plans or as directed. Determine the exact locations of the injection holes for each treated area. Obtain approval for the injection hole locations.
- 4.2. **Drilling.** Use drilling operations that do not damage the surrounding concrete. Drill injection holes with diameters less than or equal to 3/4 in. through the concrete as proposed or as directed. When an injection point is through a terminal anchor slab and sleeper slab, provide a tube to insure the polyurethane material does not migrate between the two slabs.
- 4.3. **Injection.** Inject high-density polyurethane formulation directly under the slab. Do not extend the nozzle end below the bottom of the concrete. Cease injection when directed, no improvement is observed, or material extrudes from locations other than slab penetrations. Take precautions to prevent the intrusion of injected material into any drainage facility and other structures. Remove any excessive polyurethane material after the nozzle is removed from the hole. Seal the hole with an approved method and material.
- 4.4. **Grade Control.** Control the final elevations within 1/4 in. of the proposed profile elevations. The Engineer may check the treated area to confirm that the pavement has been aligned properly to facilitate drainage.

- 4.5. **Repairs.** As directed, repair any pavement slab or bridge approach/departure slab that has cracked or did not achieve required grades as a result of the Contractor's operation at no additional cost to the Department.

Fill injection holes with epoxy or approved concrete patching materials.

5. SET TIME

Formulate the high-density polyurethane to set and obtain 90% of its compressive strength within 15 min. after injection. Attain the manufacturer's recommended compressive strength unless otherwise shown on the plans.

6. MEASUREMENT

This Item will be measured by the pound of high-density polyurethane injected and accepted.

7. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Raising and Undersealing Concrete Slab." This price is full compensation for furnishing and injecting polyurethane material, concrete repairs, labor, materials, tools, and incidentals.

TERRATHANE™ Polyurethanes

TerraThane™ Polyurethanes by NCFI are uniquely formulated for a variety of geotechnical applications. Each batch goes through stringent testing and quality assurance standards to ensure reliability in the field.

24-003 APPLICATIONS

- Bridge Approaches and Departures
- Highway and Streets
- Airport Runways and Taxiways
- Concrete Slab Lifting
- Joint Matching
- Void Filling
- Deep Soil Injection

About 24-003

TerraThane™ 24-003 is a hydrophobic/hydro-insensitive, MDI-based polymer formula that is specially designed for exceptional flow or spread under concrete structures when water is present. The 24-003 flowability ensures voidfill and support before lifting. 24-003 is available with an NSF/ANSI 61 Section 5 – 2017 certification.

Reaction Curve at 110°

Cream Time	7 seconds
Gel Time	13 Seconds
Tack Free Time	19 seconds



CERTIFIED TO
NSF/ANSI 61

Physical Properties

Physical Properties	Test Method	Free Rise	Restrained
Density	ASTM D1622	4.0 pcf	5-6 pcf
Compressive Strength	ASTM D1621	68 psi	80-100 psi
Compressive Modulus	ASTM D1621	1900 psi	2400-3200 psi
Tensile Strength	ASTM D1623	79 psi	100-120 psi
Tensile Modulus	ASTM D1623	1446 psi	3100 psi
Water Absorption	ASTM D2842	≤ 0.04 lbs/ft ²	≤ 0.04 lbs/ft ²
Closed Cell Content		>92%	>92%
Max Service Temp		200°F	200°F
Elongation	ASTM D1623	5.1%	
Shear Strength	ASTM C273	52.0 psi	90 psi
Shear Modulus	ASTM C273	602 psi	677 psi
Flexural Strength	ASTM D790	80 psi	387 psi
Flexural Modulus	ASTM D790	1625 psi	13502 psi

TerraThane Geotechnical Division • NCFI Polyurethanes

Div. of Barnhardt Manufacturing Co. • P.O. Box 1528 • Mounty Airy, NC 27030 • 800-346-8229

WWW.TERRATHANE.COM

TERRATHANE™

24-003
Technical Data Sheet

Special Testing/Certifications

NYDOT Hydro-insensitivity test, GTP-9		>96% density retention >93% comp str retention	
Dimensional stability, % volume change, 28 day aging (ASTM D-2126)	Heat age at 158°F	Freezer at -20°F	Humid age at 100% RH & 120°
	-1.5%	-0.1%	-1.0%

Performance

Wet Environments... **Excellent**

Lifting Capacity... **Excellent**

Chemical Resistance

Solvents... **Excellent**

Mold and Mildew... **Excellent**

Component Properties

Component	B-24-003	A2-000
Appearance	Transparent Liquid	Clear Brown Liquid
Brookfield Viscosity @ 20rpm	500 cps at 72°	200 cps at 72°
Specific Gravity	1.07	1.24
Weight per Gallon	8.9 lbs	10.3 lbs
Storage Temperature	50° - 100°F	50° - 110°F

Processing Parameters

ISO Temperature	100° - 120°F
Poly Temperature	100° - 120°F
Mixing Pressure	800 psi static, 600 psi dynamic, 1000/800 preferred

Mix Ratio

By weight... 100 parts poly : 116 parts iso

By volume... 100 parts poly : 100 parts iso

Storage and Handling

Store the poly from 50°F to 90°F. Avoid moisture contamination during storage, handling, and processing. For both components, pad containers and day tanks with either nitrogen or dry air (desiccant cartridge or air dryer @ -40°F dew point). For optimum shelf life, the recommended storage temperature for iso is 50°F to 110°F. **Do not expose iso to lower temperatures – freezing may occur.** Store components at 70°F to 90°F for several days prior to use to minimize components being too viscous at time to take to field. Shelf life is 6 months for factory sealed containers.

Application Cautions

Careful consideration should be given to selection and application of any NCFI Polyurethane foam system where excessive foam mass build-up can occur. Excessive polyurethane foam lift thickness will result in high internal temperatures within the injected foam, which can result in degraded foam properties, or in extreme cases, fire or spontaneous combustion. **Any flammability rating contained in this literature is not intended to reflect hazards presented by this or any other material under actual fire conditions.** Each person, firm or corporation engaged in the application, installation or use of any polyurethane product should carefully determine whether there is a potential fire hazard associated with such product in a specific usage, and utilize all appropriate precautionary and safety measures. Please consult NCFI Polyurethanes for safety considerations, polyurethane system selection and application recommendations.

The Information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained there from. The information is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance. Because of the variation in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the application disclosed. Full-scale testing and end product performance are the sole responsibility of the user. NCFI Polyurethanes shall not be liable for and the customer assumes all risk and liability of any use or handling of any material beyond NCFI's direct control. NCFI MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendations, nor as an inducement to practice any patented invention without permission of the patent owner.

TERRATHANE™

24-003
Technical Data Sheet



ADDITIONAL REMARKS SCHEDULE

AGENCY INSURICA		NAMED INSURED NORTEX Concrete Lift and Stabilization, Inc. 201 NW 26th St. Fort Worth, TX 76164	
POLICY NUMBER SEE PAGE 1			
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
 FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:
 Waiver of Subrogation in favor of: Central Texas Regional Mobility Authority (CTRMA), TxDOT and other parties for the General Liability and Workers Compensation.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

07/10/2024

PRODUCER
 HALEY CARTER STATE FARM
 328 W MAIN ST., STE 1
 AZLE, TX 76020

THIS CERTIFICATE IS ISSUED AS MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.



INSURED
 NORTEX CONCRETE LIFT & STABILIZATION, INC.
 201 NW 26TH ST
 FORT WORTH, TX 76164

INSURERS AFFORDING COVERAGE

NAIC #

INSURER A: State Farm Mutual Auto Insurance Company 25178

INSURER B:

INSURER C:

INSURER D:

INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
		GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				EACH OCCURRENCE	\$
						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
						MED EXP (Any one person)	\$
						PERSONAL & ADV INJURY	\$
						GENERAL AGGREGATE	\$
						PRODUCTS - COMP/OP AGG	\$
A	X	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	96 0737-A01-43	07/01/24	07/01/25	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
						BODILY INJURY (Per person)	\$
						BODILY INJURY (Per accident)	\$
						PROPERTY DAMAGE (Per accident)	\$
		GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT	\$
						OTHER THAN AUTO ONLY	EA ACC \$
						AGG	\$
		EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$				EACH OCCURRENCE	\$
						AGGREGATE	\$
							\$
							\$
							\$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				WC STATU-TORY LIMITS	OTH-ER
						E.L. EACH ACCIDENT	\$
						E.L. DISEASE - EA EMPLOYEE	\$
						E.L. DISEASE - POLICY LIMIT	\$
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS
 CTRMA and TXDOT are listed as additional insured's with waiver of subrogation

CERTIFICATE HOLDER

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

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
 JUDY BUTLER, SSA

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

1 of 1

Complete Nos. 1 - 4 and 6 if there are interested parties.
 Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

**OFFICE USE ONLY
 CERTIFICATION OF FILING**

Certificate Number:
 2024-1185685

Date Filed:
 07/10/2024

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
 Nortex Concrete Lift & Stabilization, Inc.
 Fort Worth, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
 Central Texas Regional Mobility Authority

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
 CTRMA 2024 - Nortex
 Concrete Pavement Lifting with High Density Polyurethane and Soil Densification

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary

5 Check only if there is NO Interested Party.

6 UNSWORN DECLARATION

My name is Casey DeRosa, and my date of birth is 12/26/1983.

My address is 201 NW 26th St., Fort Worth, TX, 76164, USA.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Tarrant County, State of Texas, on the 10 day of July, 2024.
(month) (year)



 Signature of authorized agent of contracting business entity
 (Declarant)



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #7

Approve the maximum speed limit
on SH 71 Toll and corresponding
amendments to Mobility Authority
Policy Code §301.015

Strategic Plan Relevance: Stewardship
Department: Engineering
Contact: Mike Sexton, Director of Engineering
Associated Costs: N/A
Funding Source: N/A
Action Requested: Consider and act on draft resolution

Previous Actions & Brief History of the Program/Project:

Section 301.014 of the Policy Code requires that guidelines established by Texas Department of Transportation Procedures for Establishing Speed Zones, current edition, will be used in conducting Speed Zone Studies and establishing Speed Limits on authority operated toll roads. The data collected during the Speed Zone Studies are analyzed to determine the 85th Percentile Speed. The 85th Percentile Speed is the speed at which 85% of the traffic at a specific test site is traveling at or slower. The 85th Percentile Speed will be the basis for how the posted speed limit is determined.

Currently, the Policy Code does not specify the maximum speed on SH 71 Toll. Staff had a speed zone study performed for the toll lanes which confirmed the existing posted speed limit of 65 miles per hour. Separately staff reviewed Section 301.015 of the Policy Code and determined there is repetitive language for each Mobility Authority facilities that could be streamlined.

Financing: N/A

Action requested/Staff Recommendation:

Staff recommends that the Board designate a maximum speed of 65 miles per hour for SH 71 Toll. Staff further recommends that Section 301.015 of the Policy Code be modified as proposed in the Board backup by consolidating the speed limits for each

facility into a tabular format.

Backup provided:

Draft resolution

Proposed Policy Code revisions for Section 301.015

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

RESOLUTION NO. 24-0XX

**APPROVING MAXIMUM SPEED LIMITS FOR
SH 71 TOLL AND RELATED AMENDMENTS TO
MOBILITY AUTHORITY POLICY CODE SECTION 301.015**

WHEREAS, Chapter 370 of the Transportation Code and other applicable law authorizes the Board to establish speed limits on Mobility Authority roadways; and

WHEREAS, Section 301.014 of the Policy Code provides guidelines for establishing speed limits on Mobility Authority roadways; and

WHEREAS, Section 301.015 of the Mobility Authority Policy Code publishes the speed limits for certain Mobility Authority toll facilities; and

WHEREAS, the Board has reviewed and considered the “SH 71 Toll Speed Limit Study” dated November 15, 2023, prepared by AtkinsRéalis USA, Inc. and on file in the Mobility Authority office; and

WHEREAS, based on the SH 71 Toll Speed Limit Study, the Board finds that a maximum speed limit of 65 miles per hour is a safe and reasonable speed for those who travel on SH 71 Toll, and that it is in the best interest of the Mobility Authority and those who travel on SH 71 Toll to establish a maximum speed limit of 65 miles per hour; and

NOW THEREFORE, BE IT RESOLVED, that the Board accepts the SH 71 Toll Speed Limit Study and hereby approves the recommended maximum speed limit of 65 miles per hour on SH 71 Toll, as set forth in the SH 71 Toll Speed Limit Study; and

BE IT FURTHER RESOLVED, that the Board hereby amends Section 301.015 of the Mobility Authority Policy Code to promulgate a maximum speed limit for the SH 71 Toll and make other clarifying edits to Section 301.015 of the Mobility Authority Policy Code as set forth in Exhibit A hereto.

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

MOBILITY AUTHORITY POLICY CODE

301.015 Speed Limits for Specific Roadways

The maximum and minimum, as applicable, speed limits for motor vehicles is specified in the table below. The limits shown are applicable except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions.

Roadway	Maximum Speed Limit	Minimum Speed Limit
183A Toll	75mph	n/a
183A Frontage Road	60mph	n/a
290 Toll	75mph	n/a
Mopac Express Lane	70mph	55mph
45SW Toll	70mph	n/a
183 Toll	75mph	n/a
SH 71 Toll Lane	65mph	n/a

Notwithstanding the foregoing, a lesser transition maximum speed limit may be displayed to incrementally increase or decrease speeds for a motor vehicle as they enter or exit a main toll lane to an adjacent facility of differing maximum speed limit.

MOBILITY AUTHORITY POLICY CODE

301.015 Speed Limits for Specific Roadways

~~(a) The maximum and minimum, as applicable, speed limits of afor motor vehicles is specified in the table below301.015. on the main tolled lanes of the 183A Turnpike is limited to 75 miles per hourThe limits shown are applicable except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions.~~

<u>Roadway</u>	<u>Maximum Speed Limit</u>	<u>Minimum Speed Limit</u>
<u>183A Toll</u>	<u>75mph</u>	<u>n/a</u>
<u>183A Frontage Road</u>	<u>60mph</u>	<u>n/a</u>
<u>290 Toll</u>	<u>75mph</u>	<u>n/a</u>
<u>Mopac Express Lane</u>	<u>70mph</u>	<u>55mph</u>
<u>45SW Toll</u>	<u>70mph</u>	<u>n/a</u>
<u>183 Toll</u>	<u>75mph</u>	<u>n/a</u>
<u>SH 71 Toll Lane</u>	<u>65mph</u>	<u>n/a</u>

~~Notwithstanding the foregoing, a lesser transition maximum speed limit may be displayed to incrementally increase or decrease speeds for a motor vehicle as they enter or exit a main toll lane to an adjacent facility of differing maximum speed limit.~~

~~(b) The maximum speed of a motor vehicle on the main toll lanes of the 290 Toll is limited to 75 miles per hour except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions. Notwithstanding the foregoing, a lesser transition maximum speed limit for a motor vehicle that is entering or exiting a main toll lane of the 290 Toll is established as identified on the strip map attached~~

MOBILITY AUTHORITY POLICY CODE

~~as Appendix C to the September 8, 2014, Speed Zone Study, on file in the Mobility Authority offices.~~

~~(c) — The maximum speed of a motor vehicle on the MoPac Express Lanes is limited to 70 miles per hour except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions. The minimum speed of a motor vehicle on the MoPac Express Lanes is limited to 55 miles per hour except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions.~~

~~(d) — The maximum speed of a motor vehicle on the on the main toll lanes of the 45SW Toll is limited to 70 miles per hour except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions.~~

~~(e) — The maximum speed of a motor vehicle on the on the main toll lanes of the 183 Toll is limited to 75 miles per hour except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions.~~

~~a: (d) — The maximum speed of a motor vehicle on the on the main toll lanes of the SH 71 Toll is limited to 75 miles per hour except within construction, transitional, or reduced speed zones, or during any period of adverse atmospheric or weather conditions.~~



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #8

Accept the unaudited financial
statements for June and July 2024

Strategic Plan Relevance: Stewardship
Department: Finance
Contact: José Hernández, Chief Financial Officer
Associated Costs: N/A
Funding Source: N/A
Action Requested: Consider and act on draft resolution

Project Description/Background: Presentation and acceptance of the unaudited financial statements for June and July 2024.

Previous Actions & Brief History of the Program/Project: N/A

Financing: N/A

Action requested/Staff Recommendation: Accept the unaudited financial statements for June and July 2024.

Backup provided:
Draft Resolution
Draft unaudited financial statements for June 2024
Draft unaudited financial statements for July 2024

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

RESOLUTION NO. 24-0XX

**ACCEPT THE UNAUDITED FINANCIAL STATEMENTS FOR JUNE 2024
AND JULY 2024**

WHEREAS, the Central Texas Regional Mobility Authority (Mobility Authority) is empowered to procure such goods and services as it deems necessary to assist with its operations and to study and develop potential transportation projects, and is responsible to insure accurate financial records are maintained using sound and acceptable financial practices; and

WHEREAS, close scrutiny of the Mobility Authority's expenditures for goods and services, including those related to project development, as well as close scrutiny of the Mobility Authority's financial condition and records is the responsibility of the Board and its designees through procedures the Board may implement from time to time; and

WHEREAS, the Board has adopted policies and procedures intended to provide strong fiscal oversight and which authorize the Executive Director, working with the Mobility Authority's Chief Financial Officer, to review invoices, approve disbursements, and prepare and maintain accurate financial records and reports; and

WHEREAS, the Executive Director, working with the Chief Financial Officer, has reviewed and authorized the disbursements necessary for the month of June 2024 and has caused financial statements to be prepared and attached to this resolution as Exhibit A; and

WHEREAS, the Executive Director, working with the Chief Financial Officer, has reviewed and authorized the disbursements necessary for the month of July 2024 and has caused financial statements to be prepared and attached to this resolution as Exhibit B; and

NOW THEREFORE, BE IT RESOLVED, that the Board of Directors accepts the unaudited financial statements for June 2024 and July 2024, attached hereto as Exhibit A and Exhibit B, respectively.

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

Unaudited financial statements June 2024

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending June 30, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
REVENUE				
Operating Revenue				
Toll Revenue	153,792,700	162,877,097	105.91%	146,001,192
Video Tolls	64,352,000	62,334,609	96.87%	66,875,538
Fee Revenue	12,962,900	13,363,542	103.09%	12,787,696
Total Operating Revenue	231,107,600	238,575,247	103.23%	225,664,427
Other Revenue				
Interest Income	24,905,700	53,760,324	215.86%	36,384,157
Grant Revenue	945,500	419,630	44.38%	344,737
Misc Revenue	230,000	42,396	18.43%	20,356
Unrealized Gain/Loss	-	(123,484)	-	-
Total Other Revenue	26,081,200	54,098,865	207.42%	36,749,249
TOTAL REVENUE	257,188,800	292,674,113	113.80%	262,413,676
EXPENSES				
Salaries and Benefits				
Salary Expense - Regular	4,871,464	4,754,626	97.60%	3,940,943
Salary Reserve	80,000	-	-	-
TCDRS	1,591,401	1,508,082	94.76%	939,853
FICA	249,197	219,672	88.15%	199,223
FICA MED	70,635	62,247	88.13%	57,077
Health Insurance Expense	584,446	471,836	80.73%	430,109
Life Insurance Expense	3,817	3,211	84.12%	4,037
Auto Allowance Expense	10,200	10,200	100.00%	9,818
Other Benefits	166,290	158,436	95.28%	117,237
Unemployment Taxes	5,760	3,412	59.24%	(1,538)
Total Salaries and Benefits	7,633,210	7,191,722	94.22%	5,696,758
Administrative				
Administrative and Office Expenses				
Accounting	9,500	8,564	90.15%	8,144
Auditing	245,000	161,270	65.82%	182,155
Financial Advisors	162,000	181,800	112.22%	205,200
Human Resources	37,500	1,619	4.32%	50,012
Legal	70,000	19,057	27.22%	33,335
IT Services	365,000	251,731	68.97%	346,842
Internet	150	-	-	-
Software Licenses	1,167,000	1,350,901	115.76%	705,373
Cell Phones	27,800	33,926	122.04%	20,557
Local Telephone Service	2,000	2,350	117.49%	93,815
Overnight Delivery Services	250	-	-	108
Copy Machine	10,000	15,264	152.64%	15,264
Repair & Maintenance-General	10,000	10,339	103.39%	-
Meeting Facilities	2,000	-	-	-
Meeting Expense	13,750	7,583	55.15%	8,828
Toll Tag Expense	3,000	700	23.33%	500
Parking / Local Ride Share	3,550	198	5.59%	580
Mileage Reimbursement	4,350	1,113	25.59%	1,019

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending June 30, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
Insurance Expense	651,000	711,059	109.23%	573,740
Rent Expense	562,540	120,739	21.46%	510,273
Building Parking	3,500	1,803	51.52%	1,441
Total Legal Services	488,000	400,774	82.13%	262,873
Total Administrative and Office Expenses	3,837,890	3,280,790	85.48%	3,020,059
Office Supplies				
Books & Publications	5,090	3,478	68.33%	3,044
Office Supplies	8,250	1,610	19.51%	2,377
Misc Office Equipment	4,500	2,974	66.09%	9,370
Computer Supplies	202,100	87,005	43.05%	264,267
Copy Supplies	1,000	-	-	433
Other Reports - Printing	1,500	43	2.88%	-
Office Supplies - Printed	2,000	2,495	124.73%	1,208
Postage Expense	550	940	170.88%	495
Total Office Supplies	224,990	98,544	43.80%	281,193
Communications and Public Relations				
Print Production	75,000	-	-	-
Website Maintenance	464,000	411,671	88.72%	55,918
Research Services	150,000	-	-	3,600
Communications and Marketing	400,000	79,073	19.77%	49,743
Media Planning and Placement	500,000	1,095,416	219.08%	474,322
Direct Mail Production	40,000	-	-	-
TV and Video Production	160,000	41,470	25.92%	29,097
Photography	25,000	6,485	25.94%	14,090
Radio Production	50,000	-	-	-
Other Public Relations	22,500	5,000	22.22%	1,200
Promotional Items	20,000	11,031	55.15%	29,254
Annual Report printing	1,300	-	-	-
Printing	17,500	949	5.42%	-
Other Communication Expenses	15,000	-	-	(30)
Total Communications and Public Relations	1,940,300	1,651,094	85.09%	657,194
Employee Development				
Subscriptions	750	139	18.53%	2,443
Agency Memberships	88,440	54,616	61.75%	46,788
Continuing Education	14,800	1,190	8.04%	1,949
Professional Development	20,150	7,479	37.12%	7,683
Other Licenses	2,500	268	10.72%	1,223
Seminars and Conferences	104,100	16,317	15.67%	53,037
Travel	110,500	55,413	50.15%	40,991
Total Employee Development	341,240	135,422	39.69%	154,115
Financing and Banking Fees				
Trustee Fees	62,000	56,500	91.13%	56,500
Bank Fee Expense	3,240	6,648	205.19%	1,983
Continuing Disclosure	7,000	9,903	141.46%	11,525
Arbitrage Rebate Calculation	16,300	16,105	98.80%	16,300
Rating Agency Expense	45,000	45,000	100.00%	43,000
Total Financing and Banking Fees	133,540	134,156	100.46%	129,308
Total Administrative	6,477,960	5,300,005	81.82%	4,241,869

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending June 30, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
Operations and Maintenance				
Operations and Maintenance Consulting				
GEC-Trust Indenture Support	1,131,395	527,760	46.65%	521,042
GEC-Financial Planning Support	275,000	282,475	102.72%	291,307
GEC-Toll Ops Support	1,584,000	1,016,210	64.15%	953,331
GEC-Roadway Ops Support	1,605,500	1,468,609	91.47%	847,159
GEC-Technology Support	679,526	712,228	104.81%	580,585
GEC-Public Information Support	200,000	272,993	136.50%	171,725
GEC-General Support	1,631,820	1,098,418	67.31%	837,834
General System Consultant	1,381,000	1,214,039	87.91%	386,399
Traffic Modeling	125,000	-	-	-
Traffic and Revenue Consultant	1,010,000	717,636	71.05%	901,109
Total Operations and Maintenance Consulting	9,623,241	7,310,367	75.97%	5,490,492
Roadway Operations and Maintenance				
Roadway Maintenance	3,431,819	3,170,970	92.40%	768,696
Landscape Maintenance	2,789,256	2,770,782	99.34%	3,022,555
Signal & Illumination Maint	25,000	-	-	-
Maintenance Supplies-Roadway	400,000	48,337	12.08%	107,895
Tools & Equipment Expense	-	216	-	1,741
Gasoline	30,000	17,291	57.64%	17,717
Repair & Maintenance - Vehicles	10,000	1,649	16.49%	(8,830)
Natural Gas	2,500	14,005	560.21%	6,165
Electricity - Roadways	250,000	316,420	126.57%	294,580
Total Roadway Operations and Maintenance	6,938,575	6,339,670	91.37%	4,210,520
Toll Processing and Collection Expense				
Image Processing	3,000,000	3,174,779	105.83%	3,833,360
Tag Collection Fees	11,500,000	11,201,643	97.41%	9,785,102
Court Enforcement Costs	10,000	-	-	-
PBM Incentive	500,000	-	-	-
Total Processing and Collection Expense	15,010,000	14,376,422	95.78%	13,618,462
Toll Operations Expense				
Generator Fuel	3,000	1,072	35.74%	1,252
Fire & Burglar Alarm	500	493	98.69%	493
Refuse	2,360	2,070	87.71%	2,190
Telecommunications	60,000	140,357	233.93%	3,360
Water - Irrigation	7,500	8,003	106.71%	7,929
Electricity	750	674	89.93%	602
ETC Spare Parts Expense	100,000	282,422	282.42%	65,917
Repair & Maintenance Toll Equip	50,000	260,106	520.21%	192,085
Law Enforcement	600,000	460,876	76.81%	415,222
ETC Maintenance Contract	6,450,000	6,759,512	104.80%	7,254,951
Transaction Processing Maintenance Contract	2,000,000	1,897,480	94.87%	248,740
ETC Toll Management Center System Operation	2,885,054	911,774	31.60%	688,436
ETC Development	650,000	289,052	44.47%	274,882
ETC Testing	225,000	-	-	41,922
Total Toll Operations Expense	13,034,164	11,013,893	84.50%	9,197,981
Total Operations and Maintenance	44,605,980	39,040,352	87.52%	32,517,454

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending June 30, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
Other Expenses				
Special Projects and Contingencies				
HERO	200,000	196,641	98.32%	135,510
Special Projects	100,000	-	-	-
71 Express Interest Expense	5,000,000	1,814,724	36.29%	2,862,264
Customer Relations	10,000	6,772	67.72%	-
Technology Initiatives	185,000	-	-	43,784
Other Contractual Svcs	390,000	192,000	49.23%	347,050
Contingency	200,000	-	-	10,000
Total Special Projects and Contingencies	6,085,000	2,210,137	36.32%	3,398,608
TOTAL OPERATING EXPENSE	64,802,150	53,742,216	82.93%	45,854,690
Non Cash Expenses				
Amortization Expense				
Amortization Expense - Intangible Software	-	1,199,918	-	-
Amortization Expense - Software	10,000	8,466	84.66%	1,228,015
Amortization Expense - Right to Use Asset - Leases	350,000	343,168	98.05%	-
Amortization Expense - Refundings	6,400,000	6,363,693	99.43%	6,478,452
Subtotal Amortization Expense	6,760,000	7,915,246	117.09%	7,706,467
Depreciation Expense				
Dep Expense - Furniture & Fixtures	-	-	-	2,178
Dep Expense - Equipment	650,000	-	-	476,653
Dep Expense - Autos & Trucks	31,000	30,410	98.10%	45,399
Dep Expense - Buildng & Toll Fac	180,000	176,748	98.19%	187,058
Dep Expense - Highways & Bridges	55,000,000	51,663,507	93.93%	48,608,788
Dep Expense - Toll Equipment	3,100,000	4,459,292	143.85%	3,917,914
Dep Expense - Signs	1,225,000	1,270,938	103.75%	1,641,174
Dep Expense - Land Improvements	570,000	569,905	99.98%	884,934
Depreciation Expense - Computers	-	-	-	98,507
Undevelopable Projects	-	1,420,674	-	2,148,142
Subtotal Depreciation Expense	60,756,000	59,591,474	98.08%	58,010,747
Total Non Cash Expenses	67,516,000	67,506,720	99.99%	65,717,215
Non Operating Expenses				
Bond Issuance Expense	1,250,000	-	-	3,433,925
Loan Fee Expense	40,000	-	-	32,000
Pension Adjustments Expense	-	3,185,699	-	(661,351)
Interest Expense - Debt Obligations	95,964,098	85,352,282	88.94%	79,325,781
Interest Expense - Right to Use Assets	-	26,465	-	-
CAMPO RIF Payment	6,000,000	6,000,000	100.00%	5,000,000
Community Initiatives	645,000	35,000	5.43%	47,696
Total Non Operating Expenses	103,899,098	94,599,446	91.05%	87,178,050
TOTAL EXPENSES	236,217,248	215,848,382	91.38%	198,749,954
Net Income	20,971,552	76,825,731		63,663,722

Central Texas Regional Mobility Authority
Balance Sheet
as of June 30, 2024

as of 06/30/2024 **as of 06/30/2023**

ASSETS

Current Assets

Cash

Regions Operating Account	131,938	247,231
Cash in TexStar	1,988,484	735,649
Regions Payroll Account	24,667	54,012

Restricted Cash

Goldman Sachs FSGF 465	503,260,671	864,618,238
Restricted Cash - TexSTAR	55,404,756	6,091,780
Treasury SLGS	224,544,858	-

Total Cash and Cash Equivalents	785,355,374	871,746,910
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Accounts Receivables

Accounts Receivable - Net	8,167,796	4,979,871
Due From Other Agencies	278,140	94,886
Due From TTA	1,314,891	746,846
Due From NTTA	1,759,809	1,449,353
Due From HCTRA	2,404,270	2,287,622
Due From TxDOT	15,561,888	12,025,428
Due From Other Funds	1,758,797	-
Interest Receivable	1,079,630	693,342

Total Receivables	32,325,221	22,277,348
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Short Term Investments

Treasuries	21,936,085	118,543,252
Agencies	215,535,146	104,782,222

Total Short Term Investments	237,471,231	223,325,475
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Total Current Assets	1,055,151,825	1,117,349,733
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Construction in Progress

	503,142,962	351,786,027
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Capital Assets (Net of Depreciation and Amortization)

Depreciable Assets

Equipment	-	1,401,088
Autos and Trucks	16,472	46,881
Buildings and Toll Facilities	4,053,213	4,229,961
Highways and Bridges	1,680,930,343	1,724,982,579
Toll Equipment	21,301,776	14,724,408
Signs	11,485,607	11,368,577

Central Texas Regional Mobility Authority
Balance Sheet
as of June 30, 2024

	as of 06/30/2024	as of 06/30/2023
Land Improvements	4,744,430	5,314,335
Right of way	88,149,606	88,149,606
Leasehold Improvements	-	297,427
Intangible Assets		
Intangible Software	5,975,673	-
Right to Use Assets		
Leases	943,713	-
Total Fixed Assets	1,817,600,832	1,850,514,862
Other Assets		
Intangible Assets-Net	162,450,039	168,813,733
Prepaid Insurance	241,428	147,093
Deferred Outflows (pension related)	2,384,338	2,738,023
Pension Asset	-	1,046,634
Total Other Assets	165,075,804	172,745,482
Total Assets	3,540,971,424	3,492,396,104
LIABILITIES		
Current Liabilities		
Accounts Payable	43,324,534	39,457,302
Construction Payable	6,418,786	4,162,392
Overpayments	-	1,570
Interest Payable	43,799,692	40,778,717
Due to other Funds	1,758,797	-
Deferred Compensation Payable	9,897	5,439
TCDRS Payable	110,525	141,877
Due to other Agencies	8,749	3,699
Due to TTA	645,666	658,773
Due to HCTRA	161,435	156,662
Due to Other Entities	99,828	1,674,700
71E TxDOT Obligation - ST	707,657	2,686,575
Total Current Liabilities	97,045,566	89,727,706
Long Term Liabilities		
Compensated Absences	662,277	240,954
Right to Use Obligations - Lease	747,552	1,286,881
Deferred Inflows (pension related)	1,192,688	1,378,935
Pension Liability	1,971,627	-
Long Term Payables	4,574,144	2,906,771

Central Texas Regional Mobility Authority
Balance Sheet
as of June 30, 2024

as of 06/30/2024 as of 06/30/2023

Bonds Payable

Senior Lien Revenue Bonds:

Senior Lien Revenue Bonds 2010	101,694,647	94,385,387
Senior Lien Revenue Bonds 2011	15,537,144	16,202,338
Senior Lien Revenue Bonds 2015	10,000,000	10,000,000
Senior Lien Refunding Revenue Bonds 2016	47,045,000	59,340,000
Senior Lien Revenue Bonds 2018	44,345,000	44,345,000
Senior Lien Revenue Bonds 2020A	50,265,000	50,265,000
Senior Lien Refunding Bonds 2020B	54,305,000	54,970,000
Senior Lien Refunding Bonds 2020C	133,210,000	138,435,000
Senior Lien Revenue Bonds 2020E	167,160,000	167,160,000
Senior Lien Revenue Bonds 2021B	255,075,000	255,075,000
Senior Lien Refunding Bonds 2021D	273,650,000	274,150,000
Senior Lien Refunding Bonds 2021E	329,545,000	332,585,000
Senior Lien Premium 2016 Revenue Bonds	6,140,498	6,797,966
Sn Lien Revenue Bond Premium 2018	2,616,645	2,883,218
Senior Lien Revenue Bond Premium 2020A	10,934,383	11,167,297
Senior Lien Refunding Bond Premium 2020B	10,701,505	11,236,580
Senior Lien Revenue Bonds Premium 2020E	22,425,149	24,140,536
Senior Lien Revenue Bonds Premium 2021B	52,459,723	53,009,971
Senior Lien Refunding Bonds Premium 2021D	43,629,134	44,393,076
Total Senior Lien Revenue Bonds	1,630,738,827	1,650,541,369

Sub Lien Revenue Bonds:

Sub Lien Refunding Bonds 2016	69,055,000	71,435,000
Sub Lien Refunding Bonds 2020D	93,430,000	97,440,000
Subordinated Lien BANs 2020F	110,875,000	110,875,000
Subordinate Lien Refunding Bonds 2020G	61,570,000	61,570,000
Subordinated Lien BANs 2021C	244,185,000	244,185,000
Sub Refunding 2016 Prem/Disc	4,246,321	4,992,572
Subordinated Lien BANs 2020F Premium	2,001,432	6,004,297
Subordinated Lien Refunding Bonds Premium 2020G	6,360,276	6,764,248
Sub Lien BANS 2021C Premium	19,029,193	26,640,871
Total Sub Lien Revenue Bonds	610,752,222	629,906,987

Central Texas Regional Mobility Authority
Balance Sheet
as of June 30, 2024

	as of 06/30/2024	as of 06/30/2023
Other Obligations		
TIFIA Note 2021 - 183S	322,354,437	318,847,509
TIFIA Note 2021 - 290E	41,088,581	40,195,839
71E TxDOT Obligation - LT	49,167,292	51,918,220
Regions 2022 MoPac Loan	23,765,900	24,690,900
Total Other Obligations	436,376,210	435,652,468
Total Long Term Liabilities	2,682,441,403	2,719,007,595
Total Liabilities	2,779,486,970	2,808,735,301
 NET ASSETS		
Contributed Capital	-	121,462,104
Net Assets Beginning	684,658,724	499,532,898
Current Year Operations	76,825,731	63,663,722
Total Net Assets	761,484,455	684,658,724
 Total Liabilities and Net Assets	 3,540,971,424	 3,493,394,025

Central Texas Regional Mobility Authority

Statement of Cash Flow

as of June 2024

Cash flows from operating activities:

Receipts from toll revenues	228,913,662
Receipts from other sources	338,541
Payments to vendors	(50,292,051)
Payments to employees	(6,765,941)
Net cash flows provided by (used in) operating activities	172,194,212

Cash flows from capital and related financing activities:

Payment on Intangible assets	(6,363,693)
Interest Expense	(82,392,772)
Issuance Expense	(3,478,621)
Payments on bonds / loans	(38,233,565)
RIF Contribution	(6,000,000)
Acquisition of capital assets - non project	(11,459,220)
Acquisitions of construction in progress	(145,356,935)
Net cash flows provided by (used in) capital and related financing activities	(293,284,806)

Cash flows from investing activities:

Interest income	54,146,612
Purchase of investments	(9,399,682)
Net cash flows provided by (used in) investing activities	44,746,929

Net increase (decrease) in cash and cash equivalents	(76,343,664)
Cash and cash equivalents at beginning of period	894,024,258
Cash and cash equivalents at end of period	817,680,594

Reconciliation of change in net assets to net cash provided by operating activities:

Operating income	76,825,731
Adjustments to reconcile change in net assets to net cash provided by operating activities:	
Depreciation and amortization	67,506,720
Changes in assets and liabilities:	
Decrease in accounts receivable	(9,661,585)
Increase in prepaid expenses and other assets	(94,335)
Decrease in accrued expenses	5,964,259
Decrease in Interest expense	85,413,747
Increase in interest receivable	(53,760,324)
(Decrease) increase in Pension Asset	
(Increase) in deferred outflows of resources	
(Increase) in deferred inflows of resources	
Total adjustments	95,368,482
Net cash flows provided by (used in) operating activities	\$ 172,194,212

Reconciliation of cash and cash equivalents:

Unrestricted cash and cash equivalents	259,015,168
Restricted cash and cash equivalents	558,665,427
Total	817,680,594

CTRMA INVESTMENT REPORT
Month Ending June 30, 2024

	Balance 6/1/2024	Accrued Interest	Additions	Cash Transfers	Withdrawals	Balance 6/30/2024	Rate June '24
Amount in Trustee TexStar							
2011 Sr Lien Financial Assist Fund	16.74	0.04				16.78	5.31%
2013 Sub Lien Debt Service Reserve General Fund	851,854.37	3,718.52				855,572.89	5.31%
Trustee Operating Fund	34,903,013.90	152,358.42				35,055,372.32	5.31%
Renewal and Replacement	16,842,344.40	63,413.63		(500,000.00)		16,405,758.03	5.31%
TxDOT Grant Fund	8.70					8.70	5.31%
Senior Lien Debt Service Reserve Fund	496,015.51	2,165.20				498,180.71	5.31%
2015B Sr Ln Project	421,584.05	1,840.30				423,424.35	5.31%
2015C Sub TIFIA Project	381,802.79	1,666.64				383,469.43	5.31%
2018 Sr Lien Project	758,511.37	3,311.05				761,822.42	5.31%
	1,016,692.16	4,438.04				1,021,130.20	5.31%
	55,671,843.99	232,911.84	-	(500,000.00)	-	55,404,755.83	

Amount in TexStar Operating Fund	729,038.47	9,445.70		4,500,000.00	3,250,000.00	1,988,484.17	5.31%
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Goldman Sachs

Operating Fund	4,147,433.44	17,894.69	155,506.16	-	3,657.82	4,317,176.47	5.21%
2020A Senior Lien Debt Service	1,059,011.79	4,263.34		193,349.87		1,256,625.00	5.21%
2020B Senior Lien Debt Service	1,401,438.68	5,642.51		253,943.81		1,661,025.00	5.21%
2020C Senior Lien Debt Service	3,726,930.11	15,008.89		664,990.99		4,406,929.99	5.21%
2020D Sub Lien Debt Service	2,651,968.81	10,563.90		822,601.58		3,485,134.29	5.21%
2020D Sub Debt Service Reserve Fund	882,884.74	3,902.05	8,000,000.00			8,886,786.79	5.21%
2020E Sr Lien Project	110,846,621.44	497,906.28			4,376,900.80	106,967,626.92	5.21%
2020E Sr Ln Project Cap Interest	11,927,249.63	52,714.34				11,979,963.97	5.21%
2020F Sub Lien Debt Service	2,322,571.92	9,108.06		580,855.71		2,912,535.69	5.21%
2020G Sub Lien Debt Service	1,014,683.68	4,060.89		257,555.43		1,276,300.00	5.21%
2020G Sub Debt Service Reserve Fund	1,350,375.48	5,968.20	3,000,000.00			4,356,343.68	5.21%
2021A Sub Debt Service Reserve Fund	1,432,032.63	6,329.09	20,000,000.00			21,438,361.72	5.21%
2021A TIFIA Sub Lien Debt Service Acct	3,999,973.03	16,513.13				4,016,486.16	5.21%
2021B Senior Lien Cap I Project Fund	31,544,661.85	139,416.55				31,684,078.40	5.21%
2021B Senior Lien Project	3,071,453.83	13,541.94			12,218.86	3,072,776.91	5.21%
2021B Senior Lien Cap I Debt Service Acct	9,311.78	41.13				9,352.91	5.21%
2021C Sub Lien Cap I Project Fund	1,450.78	6.41				1,457.19	5.21%
2021C Sub Lien Project	4,745,140.61	22,077.56	21,500,000.00		23,111,614.57	3,155,603.60	5.21%
2021C Sub Lien Debt Service	4,806,794.70	19,217.98		1,278,612.32		6,104,625.00	5.21%
2021D Senior Lien Debt Service	4,928,737.68	19,842.45		898,419.87		5,847,000.00	5.21%
2021E Senior Lien Debt Service	5,439,738.65	21,901.94		984,718.62		6,446,359.21	5.21%
2011 Sr Financial Assistance Fund	142.05	0.63				142.68	5.21%
2010 Senior DSF	3,838,356.57	15,472.13		646,171.30		4,500,000.00	5.21%
2011 Senior Lien Debt Service	3,158,373.72	12,722.97		556,403.31		3,727,500.00	5.21%
2013 Senior Lien Debt Service	43,643.60	192.92				43,836.52	5.21%
2013 Sub Debt Service Reserve Fund	133.85	0.59				134.44	5.21%
2013 Subordinate Debt Service	34,348.90	151.83				34,500.73	5.21%
2015A Sr Lien Debt Service	4,798,006.72	20,959.38				4,818,966.10	5.21%
2015B Project	5,349,798.16	24,498.69			129,898.33	5,244,398.52	5.21%
2015C TIFIA Project	111,276.16	491.87	30,819,000.00			30,930,768.03	5.21%
2016 Sr Lien Rev Refunding Debt Service	9,011,127.26	36,619.25		625,147.24		9,672,893.75	5.21%
2016 Sub Lien Rev Refunding Debt Service	2,188,221.80	8,695.62		744,713.83		2,941,631.25	5.21%
2016 Sub Lien Rev Refunding DSR	952,246.08	4,209.18	6,700,000.00			7,656,455.26	5.21%
2018 Sr Lien Debt Service	1,353,457.59	5,447.84		249,719.57		1,608,625.00	5.21%
2018 Sr Lien Project	12,760,770.48	59,084.59			525,906.19	12,293,948.88	5.21%
TxDOT Grant Fund	418,245.07	1,848.75				420,093.82	5.21%
Renewal and Replacement	19.95	173.10		145,100.00	145,278.33	14.72	5.21%
Revenue Fund	9,188,993.66	43,936.67	21,326,277.56	(21,987,495.37)	121,492.65	8,450,219.87	5.21%
General Fund	8,650,511.49	33,075.34	68,361,240.63	7,183,271.51	677,056.22	83,551,042.75	5.21%
Senior Lien Debt Service Reserve Fund	475,728.51	2,102.84	67,169,500.00			67,647,331.35	5.21%
71E Revenue Fund	4,528,942.51	18,578.51	400,615.74	816,005.04	132,890.55	5,631,251.25	5.21%
MoPac Revenue Fund	-	5,098.29	389,898.81	(394,997.10)		-	5.21%
MoPac General Fund	8,195,084.40	31,052.35		910,983.07		9,137,119.82	5.21%
MoPac Operating Fund	2,402,711.40	9,223.95	125,990.00	400,000.00	309,507.46	2,628,417.89	5.21%
MoPac Loan Repayment Fund	1,501,826.44	5,983.87		169,929.40		1,677,739.71	5.21%
	280,272,431.63	1,225,542.49	247,948,028.90	(4,000,000.00)	29,546,421.78	495,899,581.24	

Amount in Fed Agencies and Treasuries

Amortized Principal	433,612,248.16	-	-	-	195,728,918.30	237,883,329.86	
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Certificates of Deposit

Total in Pools - TxStar	56,400,882.46	242,357.54	-	4,000,000.00	3,250,000.00	57,393,240.00	
Total in GS FSGF	280,272,431.63	1,225,542.49	247,948,028.90	(4,000,000.00)	29,546,421.78	495,899,581.24	
Total in Treasury SLGS	245,000,000.00	1,044,858.07	-	-	21,500,000.00	224,544,858.07	
Total in Fed Agencies and Treasuries	433,612,248.16	-	-	-	195,728,918.30	237,883,329.86	
Total Invested	1,015,285,562.25	2,512,758.10	247,948,028.90	-	250,025,340.08	1,015,721,009.17	

All Investments in the portfolio are in compliance with the CTRMA's Investment policy and the relevant provisions of the Public Funds Investment Act Chapter 2256.023

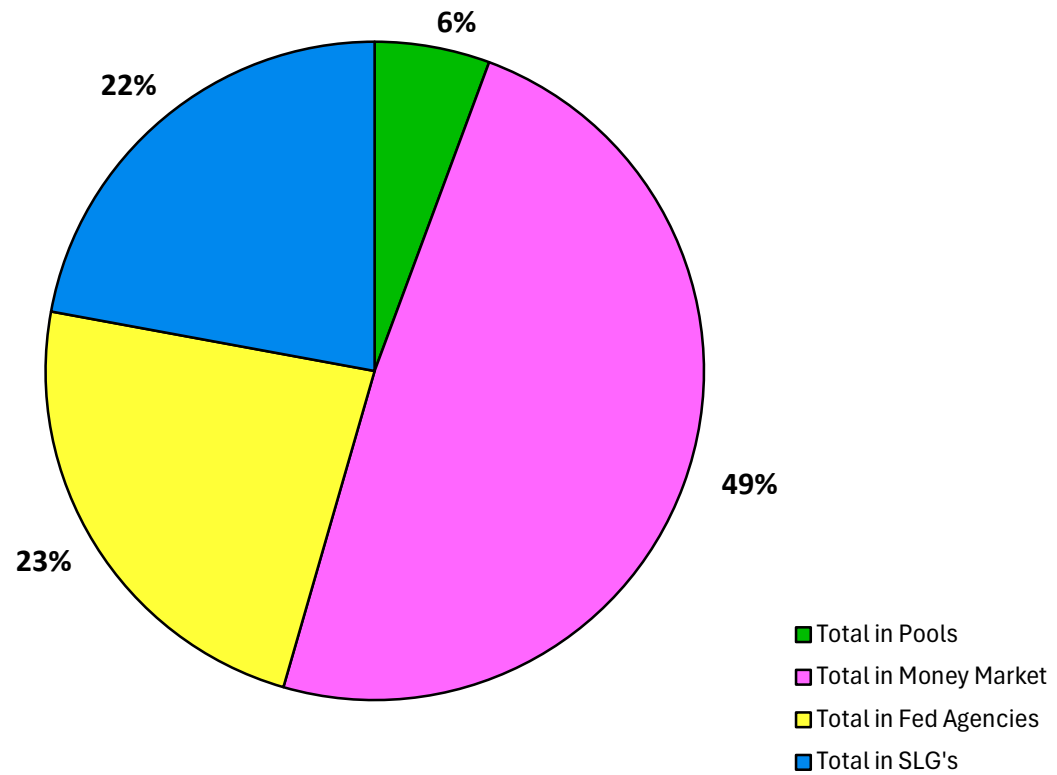
José Hernández, CFO
 Ann Zigmund, Controller

Investments by Fund

Fund	TexSTAR	TexSTAR-Trustee	Goldman Sachs	Agencies / Treasuries / SLGS	Balance
Renewal and Replacement Fund	8.70		14.72		23.42
Grant Fund	498,180.71		420,093.82	10,000,000.00	10,918,274.53
Senior Debt Service Reserve Fund	423,424.35		67,647,331.35	49,673,622.22	117,744,377.92
2010 Senior Lien Debt Service			4,500,000.00		4,500,000.00
2011 Sr Debt Service t			3,727,500.00		3,727,500.00
2013 Sr Debt Service t			43,836.52		43,836.52
2013 Sub Debt Service			34,500.73		34,500.73
2013 Sub Debt Service Reserve Fund	855,572.89		134.44		855,707.33
2015 Sr Debt Service			4,818,966.10		4,818,966.10
2016 Sr Lien Rev Refunding Debt Service			9,672,893.75		9,672,893.75
2016 Sub Lien Rev Refunding Debt Service			2,941,631.25		2,941,631.25
2016 Sub Lien Rev Refunding DSR			7,656,455.26	-	7,656,455.26
Operating Fund	16,405,758.03	1,988,484.17	4,317,176.47		22,711,418.67
Revenue Fund			8,450,219.87		8,450,219.87
General Fund	35,055,372.32		83,551,042.75	93,472,606.77	212,079,021.84
71E Revenue Fund			5,631,251.25	29,737,726.50	35,368,977.75
MoPac Revenue Fund			-		-
MoPac General Fund			9,137,119.82	9,999,374.37	19,136,494.19
MoPac Operating Fund			2,628,417.89		2,628,417.89
MoPac Loan Repayment Fund			1,677,739.71		1,677,739.71
2015B Project	383,469.43		5,244,398.52		5,627,867.95
2015 TIFIA Project	761,822.42		30,930,768.03	10,000,000.00	41,692,590.45
2011 Sr Financial Assistance Fund	16.78		142.68		159.46
2018 Sr Lien Debt Service			1,608,625.00		1,608,625.00
2018 Sr Lien Project Cap I			-		-
2018 Sr Lien Project	1,021,130.20		12,293,948.88		13,315,079.08
2020A Senior Lien Debt Service			1,256,625.00		1,256,625.00
2020B Senior Lien Debt Service			1,661,025.00		1,661,025.00
2020C Senior Lien Debt Service			4,406,929.99		4,406,929.99
2020D Sub Lien Debt Service			3,485,134.29		3,485,134.29
2020D Sub Debt Service Reserve Fund			8,886,786.79	-	8,886,786.79
2020E Senior Lien Project			106,967,626.92		106,967,626.92
2020E Senior Lien Project Cap Interest			11,979,963.97		11,979,963.97
2020F Sub Lien Project			-		-
2020F Sub Lien Deb Service			2,912,535.69		2,912,535.69
2020G Sub Lien Debt Service			1,276,300.00		1,276,300.00
2020G Sub Lien Debt Service Reserve			4,356,343.68	-	4,356,343.68
2021A Sub Lien Debt Service Reserve			21,438,361.72	-	21,438,361.72
2021A Sub Debt Service			4,016,486.16		4,016,486.16
2021B Senior Lien Cap I Project Fund			31,684,078.40		31,684,078.40
2021B Senior Lien Project			3,072,776.91	245,895,592.66	248,968,369.57
2021B Senior Lien Cap I Debt Service Acct			9,352.91		9,352.91
2021C Sub Lien Cap I Project Fund			1,457.19	13,649,265.41	13,650,722.60
2021C Sub Lien Project			3,155,603.60		3,155,603.60
2021C Sub Lien Debt Service			6,104,625.00		6,104,625.00
2021D Senior Lien Debt Service			5,847,000.00		5,847,000.00
2021E Senior Lien Debt Service			6,446,359.21		6,446,359.21
Totals	55,404,755.83	1,988,484.17	495,899,581.24	462,428,187.93	1,015,721,009.17

6/30/2024

Allocation of Funds



Bank	Fund	Cost	Cummulative Amortization	Book Value	Maturity Value	Interest Income		
						Accrued Interest	Amortization	Interest Earned
1001001935	MOPAC GENL	9,999,374.37		9,999,374.37	10,000,000.00			
1001021273	2021BPROJ	35,000,000.00		35,000,000.00	35,000,000.00			-
6146001086	71E REVENU	15,000,000.00		15,000,000.00	15,000,000.00			
6146001086	71E REVENU	14,639,926.50		14,639,926.50	14,670,000.00	97,800.00		
6180000059	SENLINDSR	9,651,400.00		9,651,400.00	10,000,000.00			
6180000059	SENLINDSR	20,000,000.00		20,000,000.00	20,000,000.00	22,222.22		1,022,222.22
6180000059	SENLINDSR	20,000,000.00		20,000,000.00	20,000,000.00			954,000.00
6180000120	GENERAL	9,960,128.90		9,960,128.90	10,000,000.00	27,777.78		527,777.78
6180000120	GENERAL	9,960,128.90		9,960,128.90	10,000,000.00	27,777.78		527,777.78
6180000120	GENERAL	41,501,020.00		41,501,020.00	43,000,000.00			
6180000120	GENERAL	11,882,736.42		11,882,736.42	12,000,000.00	113,036.99		288,340.12
6180000120	GENERAL	20,000,000.00		20,000,000.00	20,000,000.00			954,000.00
6180000157	TXDOTGRANT	10,000,000.00		10,000,000.00	10,000,000.00			
6180005349	2015TIFIAP	10,000,000.00		10,000,000.00	10,000,000.00			
		237,594,715.09	-	237,594,715.09	239,670,000.00	288,614.77	-	4,274,117.90

Goldman Sachs County Road Escrow Funds

	Balance 6/1/2024	Accrued Interest	Additions	Withdrawals	Balance 6/30/2024
Travis County Escrow Fund - Elroy Road	3,099,752.03	13,701.72		3,807.81	3,109,645.94
Travis County Escrow Fund - Ross Road	164,566.73	727.33	182,336.00	1,539.52	346,090.54
Travis County Escrow Fund - Old San Antonio Road	170,089.72	584.20		35,351.78	135,322.14
Travis County Escrow Fund - Old Lockhart Road	297,726.19	805.35		4,970.49	293,561.05
Travis County Escrow Fund - County Line Road	4,007,586.39	17,756.03		1,258,576.19	2,766,766.23
Travis County Escrow Fund - South Pleasant Valley Road	282,838.81	1,250.05		18,917.80	265,171.06
Travis County Escrow Fund - Thaxton Road	217,653.47	546.86		2,218.52	215,981.81
Travis County Escrow Fund - Pearce Lane Road	247,025.52	1,091.77		19,566.50	228,550.79
	8,487,238.86	36,463.31	182,336.00	1,344,948.61	7,361,089.56

State and Local Government Series as of 6/30/24

Bank	Fund	Agency	Arbitrage Yield	CUSIP	Yield	Purchased Date	Purchase Value	Beginning	Accrued Interest	Withdrawals	End Value
1001021281	2021CPROJ	State and Local Government Series (SLGS)	1.831%	99SLA1060	4.18%	4/23/2024	35,000,000.00	35,000,000.00	149,265.41	21,500,000.00	13,649,265.41
1001021273	2021BPROJ	State and Local Government Series (SLGS)	1.831%	99SLA1078	4.18%	4/23/2024	210,000,000.00	210,000,000.00	895,592.66	-	210,895,592.66
											-
											-
											-
							245,000,000.00	245,000,000.00	1,044,858.07	21,500,000.00	224,544,858.07



PERFORMANCE

As of June 30, 2024

Current Invested Balance	\$ 10,696,510,063.51
Weighted Average Maturity (1)	34 Days
Weighted Average Life (2)	69 Days
Net Asset Value	0.999939
Total Number of Participants	1040
Management Fee on Invested Balance	0.06%*
Interest Distributed	\$ 48,799,126.12
Management Fee Collected	\$ 544,370.71
% of Portfolio Invested Beyond 1 Year	5.68%
Standard & Poor's Current Rating	AAAm

June Averages

Average Invested Balance	\$ 11,051,370,784.20
Average Monthly Yield, on a simple basis	5.3126%
Average Weighted Maturity (1)	36 Days
Average Weighted Life (2)	66 Days

Definition of Weighted Average Maturity (1) & (2)

(1) This weighted average maturity calculation uses the SEC Rule 2a-7 definition for stated maturity for any floating rate instrument held in the portfolio to determine the weighted average maturity for the pool. This Rule specifies that a variable rate instruction to be paid in 397 calendar days or less shall be deemed to have a maturity equal to the period remaining until the next readjustment of the interest rate.
 (2) This weighted average maturity calculation uses the final maturity of any floating rate instruments held in the portfolio to calculate the weighted average maturity for the pool.

The maximum management fee authorized for the TexSTAR Cash Reserve Fund is 12 basis points. This fee may be waived in full or in part in the discretion of the TexSTAR co-administrators at any time as provided for in the TexSTAR Information Statement.

Rates reflect historical information and are not an indication of future performance.

NEW PARTICIPANTS

We would like to welcome the following entities who joined the TexSTAR program in June:

* City of Arp * City of Aurora * Dodd City Independent School District

ECONOMIC COMMENTARY

Market review

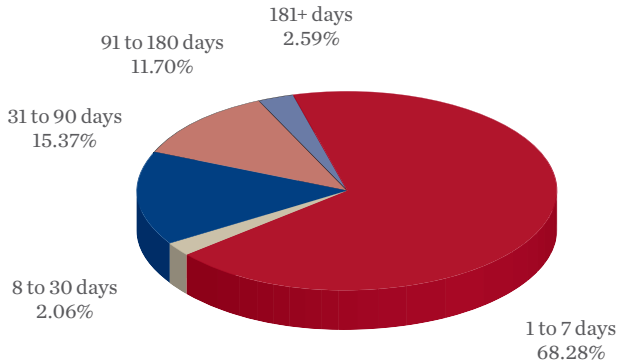
June delivered a blend of signals, showcasing both ongoing resilience and a moderation in the U.S. economy. Following of the first quarter's unexpectedly strong inflation and employment figures, the data in June provided some relief, suggesting that growth is cooling from last year's robust pace. The labor market showed continued strength, albeit with signs of normalization, and inflation data indicated a gradual deceleration. Meanwhile, the Federal Reserve (Fed) maintained its cautious stance, keeping interest rates steady but signaling potential rate cuts in 2024 contingent on further progress toward its inflation target. Recent data portrayed a softer picture on consumption, with spending growth appearing to have moderated. Retail sales increased only 0.1%, below consensus expectations, with March and April estimates revised lower, suggesting inflation might be weighing on consumers. This reduced pace of spending was also accompanied by a slight decline in consumer confidence, as the Conference Board Consumer Confidence Index for June edged lower from 101.3 to 100.4. May housing starts were also weaker than expected, declining 5.5% month-over-month (m/m); and housing permits were down 3.8% m/m. Both numbers are now sitting at their lowest levels since June 2020.

Despite a softening in spending, consumption continued to be supported by a strong, but normalizing labor market. The May Jobs report revealed stronger-than-expected job growth, with nonfarm payrolls increasing 272,000, surpassing the anticipated 180,000, while revisions removed a modest 15,000 jobs from March and April. Similarly, demand for labor also increased. The Job Openings and Labor Turnover Survey revealed a slight increase in job openings, rising to 8.1 million at the end of May from a revised 7.9 million in April. In contrast, the unemployment rate ticked higher to 4.0% as the household survey showed a 408,000 decline in jobs. Elsewhere, wage growth came in slightly hot, rising 0.4% m/m and 4.1% year-over-year (y/y). The May CPI report showed a much-needed easing in inflation, with headline CPI remaining flat on the month, rising 3.3% y/y, while core inflation increased by 0.2% m/m and 3.4% y/y. Energy prices fell 2.0% m/m, driven by a sharp decline in gasoline prices; and core goods prices remained stable. Shelter inflation stayed elevated at 0.4% m/m for the fourth consecutive month, but auto insurance prices fell 0.1% m/m, marking a notable shift from the elevated levels earlier this year. Core PCE, the Fed's favored measure of inflation, increased 0.1% m/m, marking its smallest rise in more than three years. Consequently, the annual rate dropped to 2.6%, indicating that disinflationary trends remain intact after a temporary halt in progress during the first quarter.

(continued page 4)

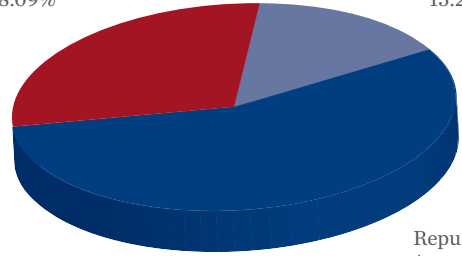
INFORMATION AT A GLANCE

PORTFOLIO BY TYPE OF INVESTMENT AS OF JUNE 30, 2024



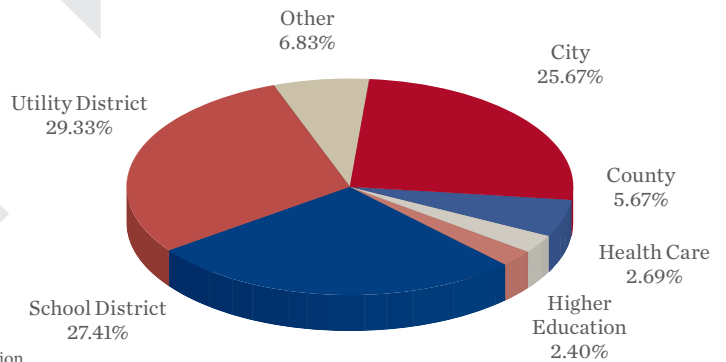
Treasuries
28.09%

Agencies
15.28%



Repurchase
Agreements
56.63%

PORTFOLIO BY MATURITY AS OF JUNE 30, 2024 (1)



DISTRIBUTION OF PARTICIPANTS BY TYPE AS OF JUNE 30, 2024

(1) Portfolio by Maturity is calculated using WAM (1) definition for stated maturity. See page 1 for definition

HISTORICAL PROGRAM INFORMATION

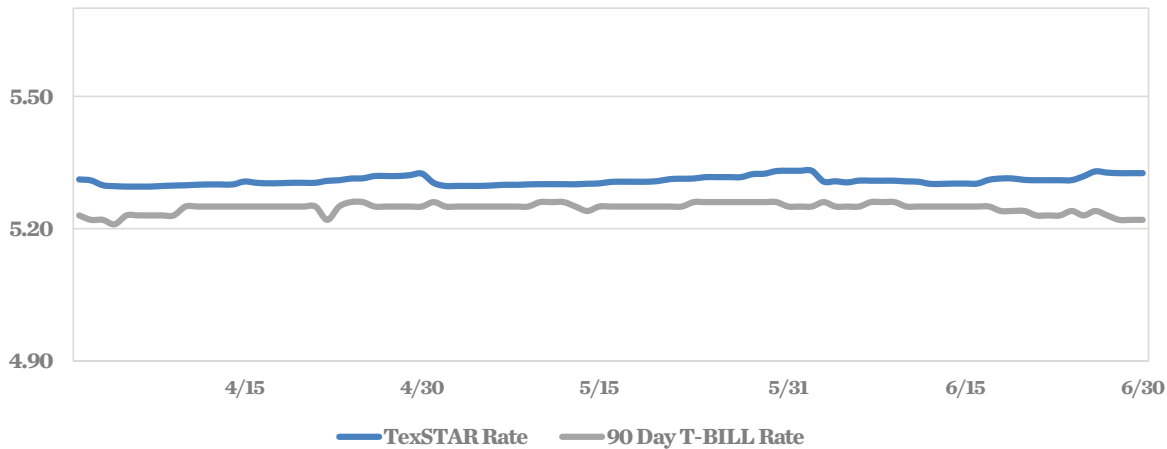
MONTH	AVERAGE RATE	BOOK VALUE	MARKET VALUE	NET ASSET VALUE	WAM (1)	WAL (2)	NUMBER OF PARTICIPANTS
Jun 24	5.3126%	\$10,696,510,063.51	\$10,695,858,054.79	0.999939	36	66	1040
May 24	5.3078%	10,946,135,253.27	10,946,064,280.53	0.999895	37	67	1037
Apr 24	5.3057%	11,388,285,240.44	11,386,977,182.36	0.999885	35	65	1031
Mar 24	5.2986%	11,373,415,394.49	11,372,687,872.41	0.999936	36	68	1025
Feb 24	5.3035%	11,928,691,803.89	11,927,911,436.19	0.999934	36	69	1024
Jan 24	5.3200%	11,483,316,119.03	11,483,741,551.85	1.000037	42	77	1024
Dec 23	5.3378%	10,557,076,424.02	10,557,101,303.24	0.999972	44	85	1037
Nov 23	5.3307%	10,148,883,026.83	10,148,191,305.12	0.999931	33	74	1034
Oct 23	5.3231%	10,017,668,653.01	10,016,121,800.83	0.999845	29	69	1031
Sep 23	5.3105%	9,992,445,950.80	9,990,730,955.61	0.999816	29	56	1028
Aug 23	5.2974%	10,207,693,267.12	10,205,377,223.94	0.999773	26	49	1023
Jul 23	5.1148%	10,852,471,505.08	10,849,665,890.42	0.999741	22	47	1021

PORTFOLIO ASSET SUMMARY AS OF JUNE 30, 2024

	BOOK VALUE	MARKET VALUE
Uninvested Balance	\$ 472.08	\$ 472.08
Accrual of Interest Income	15,305,505.57	15,305,505.57
Interest and Management Fees Payable	(48,804,259.73)	(48,804,259.73)
Payable for Investment Purchased	0.00	0.00
Repurchase Agreement	6,077,568,999.94	6,077,568,999.94
Government Securities	4,652,439,345.65	4,651,787,336.93
TOTAL	\$ 10,696,510,063.51	\$ 10,695,858,054.79

Market value of collateral supporting the Repurchase Agreements is at least 102% of the Book Value. The portfolio is managed by J.P. Morgan Chase & Co. and the assets are safekept in a separate custodial account at the Federal Reserve Bank in the name of TexSTAR. The only source of payment to the Participants are the assets of TexSTAR. There is no secondary source of payment for the pool such as insurance or guarantee. Should you require a copy of the portfolio, please contact TexSTAR Participant Services.

TEXSTAR VERSUS 90-DAY TREASURY BILL



This material is for information purposes only. This information does not represent an offer to buy or sell a security. The above rate information is obtained from sources that are believed to be reliable; however, its accuracy or completeness may be subject to change. The TexSTAR management fee may be waived in full or in part at the discretion of the TexSTAR co-administrators and the TexSTAR rate for the period shown reflects waiver of fees. This table represents historical investment performance/return to the customer, net of fees, and is not an indication of future performance. An investment in the security is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the issuer seeks to preserve the value of an investment of \$1.00 per share, it is possible to lose money by investing in the security. Information about these and other program details are in the fund's Information Statement which should be read carefully before investing. The yield on the 90-Day Treasury Bill ("T-Bill Yield") is shown for comparative purposes only. When comparing the investment returns of the TexSTAR pool to the T-Bill Yield, you should know that the TexSTAR pool consists of allocations of specific diversified securities as detailed in the respective Information Statements. The T-Bill Yield is taken from Bloomberg Finance L.P. and represents the daily closing yield on the then current 90-Day T-Bill. The TexSTAR yield is calculated in accordance with regulations governing the registration of open-end management investment companies under the Investment Company Act of 1940 as promulgated from time to time by the federal Securities and Exchange Commission.

DAILY SUMMARY FOR JUNE 2024

DATE	MNY MKT FUND EQUIV. [SEC Std.]	DAILY ALLOCATION FACTOR	INVESTED BALANCE	MARKET VALUE PER SHARE	WAM DAYS (1)	WAL DAYS (2)
6/1/2024	5.3311%	0.000146058	\$10,946,135,253.27	0.999895	39	69
6/2/2024	5.3311%	0.000146058	\$10,946,135,253.27	0.999895	39	69
6/3/2024	5.3066%	0.000145386	\$11,088,771,275.15	0.999926	38	68
6/4/2024	5.3073%	0.000145406	\$11,081,683,539.28	0.999925	38	69
6/5/2024	5.3048%	0.000145338	\$11,179,139,814.44	0.999938	37	68
6/6/2024	5.3088%	0.000145446	\$11,230,572,251.70	0.999939	37	67
6/7/2024	5.3086%	0.000145442	\$11,129,818,360.01	0.999898	36	66
6/8/2024	5.3086%	0.000145442	\$11,129,818,360.01	0.999898	36	66
6/9/2024	5.3086%	0.000145442	\$11,129,818,360.01	0.999898	36	66
6/10/2024	5.3070%	0.000145396	\$11,113,712,161.10	0.999920	36	66
6/11/2024	5.3063%	0.000145377	\$11,237,080,504.24	0.999922	37	66
6/12/2024	5.3015%	0.000145247	\$11,272,504,054.90	0.999932	37	66
6/13/2024	5.3014%	0.000145244	\$11,202,233,198.99	0.999945	37	66
6/14/2024	5.3021%	0.000145262	\$11,276,796,289.37	0.999949	36	64
6/15/2024	5.3021%	0.000145262	\$11,276,796,289.37	0.999949	36	64
6/16/2024	5.3021%	0.000145262	\$11,276,796,289.37	0.999949	36	64
6/17/2024	5.3107%	0.000145499	\$11,287,661,559.75	0.999941	35	64
6/18/2024	5.3136%	0.000145577	\$11,184,774,416.45	0.999950	35	63
6/19/2024	5.3136%	0.000145577	\$11,184,774,416.45	0.999950	35	63
6/20/2024	5.3104%	0.000145491	\$11,051,288,715.61	0.999951	36	64
6/21/2024	5.3097%	0.000145470	\$10,919,638,104.14	0.999936	35	64
6/22/2024	5.3097%	0.000145470	\$10,919,638,104.14	0.999936	35	64
6/23/2024	5.3097%	0.000145470	\$10,919,638,104.14	0.999936	35	64
6/24/2024	5.3099%	0.000145476	\$10,910,739,062.28	0.999948	34	62
6/25/2024	5.3187%	0.000145718	\$10,916,150,171.13	0.999947	34	63
6/26/2024	5.3297%	0.000146018	\$10,744,487,352.32	0.999938	34	69
6/27/2024	5.3269%	0.000145943	\$10,894,992,074.58	0.999960	34	68
6/28/2024	5.3257%	0.000145909	\$10,696,510,063.51	0.999939	34	69
6/29/2024	5.3257%	0.000145909	\$10,696,510,063.51	0.999939	34	69
6/30/2024	5.3257%	0.000145909	\$10,696,510,063.51	0.999939	34	69
Average	5.3126%	0.000145550	\$11,051,370,784.20		36	66



ECONOMIC COMMENTARY (cont.)

At the June Federal Open Market Committee (FOMC) meeting, the committee voted to keep the federal funds rate unchanged in a target range of 5.25% – 5.50%. The FOMC statement acknowledged “modest further progress” toward their inflation target but noted that inflation remains elevated. In the updated Summary of Economic Projections, the Fed left its growth and employment forecasts for 2024 unchanged, while the headline and core inflation estimates were revised up 0.2% to 2.6% and 2.8%, respectively. On the dot plot, the median member lowered the expected number of 2024 rate cuts from three to one, although one cut was added to the 2025 forecast. The longer-run dot also rose to 2.8%, up from 2.6%. Chair Powell emphasized that the timing of rate cuts would be contingent on greater confidence that inflation is moving sustainably toward 2%, highlighting the Fed’s data-dependent approach.

Treasury yields experienced some volatility over the month but ended slightly lower across the curve. The three- and six-month Treasury bill yields both inched down 5 basis points (bps) to 5.36% and 5.33%, respectively. Longer term Treasury yields also rallied with one- and two-year Treasury yields falling 6 bps and 11 bps to 5.12% and 4.76% respectively.

Outlook

U.S. economic momentum has remained solid so far this year, bolstered by resilient consumer spending. While signs of consumer stress are emerging, steady consumption growth driven by rising real wages and healthy job growth should extend the U.S. economic expansion into next year. That said, with an upcoming U.S. election, higher policy rates and elevated geopolitical tension, risks remain that could knock the U.S. economy off its steady path.

While other major central banks around the globe have begun to ease policy, stubborn inflation in the U.S. will likely keep the Fed on pause through the summer. Stalling progress on disinflation has caused the Fed to reassert its hawkish tone. While it remains biased toward easing policy, the Fed needs more evidence that inflation is sustainably moving back toward its 2% target before taking action. In our view, easing inflationary pressures through the summer and early fall should allow the Fed to cut rates once this year, likely after the presidential election.

This information is an excerpt from an economic report dated June 2024 provided to TexSTAR by JP Morgan Asset Management, Inc., the investment manager of the TexSTAR pool.



ECONOMIC COMMENTARY (cont.)

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Treasury yields experienced some volatility over the month but ended slightly lower across the curve. The three- and six-month Treasury bill yields both inched down 5 basis points (bps) to 5.36% and 5.33%, respectively. Longer term Treasury yields also rallied with one- and two-year Treasury yields falling 6 bps and 11 bps to 5.12% and 4.76% respectively.

Outlook

U.S. economic momentum has remained solid so far this year, bolstered by resilient consumer spending. While signs of consumer stress are emerging, steady consumption growth driven by rising real wages and healthy job growth should extend the U.S. economic expansion into next year. That said, with an upcoming U.S. election, higher policy rates and elevated geopolitical tension, risks remain that could knock the U.S. economy off its steady path.

While other major central banks around the globe have begun to ease policy, stubborn inflation in the U.S. will likely keep the Fed on pause through the summer. Stalling progress on disinflation has caused the Fed to reassert its hawkish tone. While it remains biased toward easing policy, the Fed needs more evidence that inflation is sustainably moving back toward its 2% target before taking action. In our view, easing inflationary pressures through the summer and early fall should allow the Fed to cut rates once this year, likely after the presidential election.

This information is an excerpt from an economic report dated June 2024 provided to TexSTAR by JP Morgan Asset Management, Inc., the investment manager of the TexSTAR pool.

TEXSTAR BOARD MEMBERS

Monte Mercer	North Central TX Council of Government	Governing Board President
David Pate	Richardson ISD	Governing Board Vice President
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Andrew Linton	J.P. Morgan Asset Management	Governing Board Asst. Sec./Treas
Brett Starr	City of Irving	Advisory Board
Sandra Newby	Tarrant Regional Water Dist/Non-Participant	Advisory Board
Ron Whitehead	Qualified Non-Participant	Advisory Board

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Exhibit B

Unaudited financial statements July 2024

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending July 31, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
REVENUE				
Operating Revenue				
Tag Revenue	178,100,000	13,596,654	7.63%	12,408,847
Video Tolls	67,500,000	5,843,280	8.66%	4,313,888
Fee Revenue	13,200,000	1,464,785	11.10%	1,081,073
Total Operating Revenue	258,800,000	20,904,720	8.08%	17,803,808
Other Revenue				
Interest Income	43,025,800	3,634,885	8.45%	4,403,680
Grant Revenue	595,467	-	-	-
Misc Revenue	100,000	5,890	5.89%	3,452
Unrealized Gain/Loss	-	123,484	-	-
Total Other Revenue	43,721,267	3,764,260	8.61%	4,407,132
TOTAL REVENUE	302,521,267	24,668,979	8.15%	22,210,940
EXPENSES				
Salaries and Benefits				
Salary Expense - Regular	4,994,532	234,339	4.69%	227,958
Salary Reserve	80,000	-	-	-
TCDRS	1,142,301	42,288	3.70%	45,078
FICA	257,234	13,093	5.09%	12,824
FICA MED	72,421	3,365	4.65%	3,275
Health Insurance Expense	586,073	38,680	6.60%	36,676
Life Insurance Expense	3,249	157	4.85%	189
Auto Allowance Expense	10,200	595	5.83%	595
Other Benefits	204,671	5,803	2.84%	5,117
Unemployment Taxes	5,760	-	-	-
Total Salaries and Benefits	7,356,441	338,320	4.60%	331,712
Administrative				
Administrative and Office Expenses				
Accounting	9,500	577	6.08%	634
Auditing	270,000	-	-	-
Financial Advisors	200,000	13,500	6.75%	18,000
Human Resources	100,000	84	0.08%	84
Legal	60,000	1,180	1.97%	4,160
IT Services	365,000	21,696	5.94%	11,131
Software Licenses	1,573,150	1,153,601	73.33%	110,071
Cell Phones	34,900	1,680	4.81%	999
Local Telephone Service	2,200	203	9.24%	7,385
Overnight Delivery Services	200	-	-	-
Copy Machine	15,300	1,272	8.31%	1,272

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending July 31, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
Repair & Maintenance-General	10,000	-	-	-
Meeting Facilities	2,500	-	-	-
Meeting Expense	13,750	150	1.09%	349
Toll Tag Expense	3,000	100	3.33%	-
Parking / Local Ride Share	2,500	39	1.56%	27
Mileage Reimbursement	4,600	-	-	-
Insurance Expense	1,301,000	80,476	6.19%	49,031
Rent Expense	992,200	22,785	2.30%	1,195
Building Parking	3,500	67	1.90%	-
Total Legal Services	458,000	-	-	18,793
Total Administrative and Office Expenses	5,421,300	1,297,410	23.93%	223,130
Office Supplies				
Books & Publications	5,250	298	5.68%	320
Office Supplies	5,250	224	4.26%	-
Misc Office Equipment	4,500	-	-	-
Computer Supplies	201,850	5,837	2.89%	3,823
Copy Supplies	750	-	-	-
Other Reports - Printing	500	-	-	-
Office Supplies - Printed	3,500	148	4.22%	70
Postage Expense	900	-	-	128
Total Office Supplies	222,500	6,507	2.92%	4,341
Communications and Public Relations				
Print Production	75,000	-	-	-
Website Maintenance	240,000	7,157	2.98%	39,435
Research Services	210,000	-	-	-
Communications and Marketing	500,000	903	0.18%	435
Media Planning and Placement	1,000,000	-	-	164,199
Direct Mail Production	60,000	-	-	-
TV and Video Production	250,000	-	-	-
Photography	25,000	-	-	-
Radio Production	50,000	-	-	-
Other Public Relations	20,000	-	-	-
Promotional Items	20,000	-	-	-
Printing	80,000	-	-	-
Other Communication Expenses	15,000	-	-	-
Total Communications and Public Relations	2,545,000	8,060	0.32%	204,069

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending July 31, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
Employee Development				
Subscriptions	1,250	-	-	-
Agency Memberships	88,300	35	0.04%	-
Continuing Education	14,800	-	-	-
Professional Development	21,400	1,995	9.32%	-
Other Licenses	2,000	-	-	-
Seminars and Conferences	70,300	-	-	425
Travel	107,000	4,320	4.04%	3,434
Total Employee Development	305,050	6,350	2.08%	3,859
Financing and Banking Fees				
Trustee Fees	75,000	7,000	9.33%	7,000
Bank Fee Expense	6,500	568	8.73%	447
Continuing Disclosure	10,000	-	-	-
Arbitrage Rebate Calculation	16,500	-	-	-
Rating Agency Expense	50,000	-	-	32,500
Total Financing and Banking Fees	158,000	7,568	4.79%	39,947
Total Administrative	8,651,850	1,325,894	15.32%	475,346
Operations and Maintenance				
Operations and Maintenance Consulting				
GEC-Trust Indenture Support	1,568,659	97,146	6.19%	113,780
GEC-Financial Planning Support	300,000	27,446	9.15%	20,577
GEC-Toll Ops Support	1,142,136	103,345	9.05%	57,539
GEC-Roadway Ops Support	1,515,000	81,079	5.35%	33,009
GEC-Technology Support	804,962	28,149	3.50%	72,114
GEC-Public Information Support	200,000	18,143	9.07%	7,761
GEC-General Support	2,226,000	106,188	4.77%	57,537
General System Consultant	2,307,274	91,443	3.96%	27,875
Traffic Modeling	125,000	-	-	-
Traffic and Revenue Consultant	1,200,000	-	-	34,518
Total Operations and Maintenance Consulting	11,389,031	552,939	4.86%	424,711
Roadway Operations and Maintenance				
Roadway Maintenance	4,169,031	236,229	5.67%	262,173
Landscape Maintenance	3,249,260	240,257	7.39%	230,870
Signal & Illumination Maint	25,000	-	-	-
Maintenance Supplies-Roadway	400,000	-	-	-
Tools & Equipment Expense	-	957	-	-
Gasoline	30,000	1,411	4.70%	2,158
Repair & Maintenance - Vehicles	10,000	324	3.24%	-

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending July 31, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
Natural Gas	7,500	694	9.25%	598
Electricity - Roadways	300,000	5,981	1.99%	13,827
Total Roadway Operations and Maintenance	8,190,791	485,854	5.93%	509,626
Toll Processing and Collection Expense				
Image Processing	3,300,000	197,807	5.99%	236,147
Tag Collection Fees	12,675,000	932,031	7.35%	868,297
Court Enforcement Costs	160,000	-	-	-
PBM Incentive	500,000	-	-	-
Total Processing and Collection Expense	16,635,000	1,129,838	6.79%	1,104,444
Toll Operations Expense				
Generator Fuel	3,000	-	-	-
Fire & Burglar Alarm	500	41	8.22%	41
Refuse	2,360	167	7.09%	300
Telecommunications	100,000	6,959	6.96%	-
Water - Irrigation	7,500	285	3.80%	-
Electricity	750	-	-	119
ETC Spare Parts Expense	150,000	11,365	7.58%	-
Repair & Maintenance Toll Equip	100,000	-	-	-
Law Enforcement	725,000	35,513	4.90%	39,118
ETC Maintenance Contract	6,450,000	-	-	499,698
Transaction Processing Maintenance Contract	2,000,000	-	-	-
ETC Toll Management Center System Operation	1,338,822	21,888	1.63%	91,601
ETC Development	456,000	-	-	-
ETC Testing	50,000	-	-	-
Total Toll Operations Expense	11,383,932	76,218	0.67%	630,876
Total Operations and Maintenance	47,598,754	2,244,849	4.72%	2,669,656
Other Expenses				
Special Projects and Contingencies				
HERO	711,621	-	-	12,319
Special Projects	50,000	-	-	-
Disbursement Other Government - Travis County Road	-	5,565	-	-
71 Express Interest Expense	6,750,000	145,281	2.15%	536,265
Customer Relations	10,000	-	-	-
Technology Initiatives	100,000	-	-	-
Other Contractual Svcs	390,000	16,000	4.10%	24,500
Contingency	200,000	-	-	-
Total Special Projects and Contingencies	8,211,621	166,846	2.03%	573,084
TOTAL OPERATING EXPENSE	71,818,666	4,075,909	5.68%	4,049,799

Central Texas Regional Mobility Authority
Income Statement
For the Period Ending July 31, 2024

	Budget Amount FY 2024	Actual Year to Date	Percent of Budget	Actual Prior Year to Date
Non Cash Expenses				
Amortization Expense				
Amortization Expense - Intangible Software	-	119,593	-	-
Amortization Expense - Software	13,000,000	-	-	2,117
Amortization Expense - Right to Use Asset - Leases	515,000	42,896	8.33%	-
Amortization Expense - Refundings	6,600,000	575,164	8.71%	512,118
Subtotal Amortization Expense	20,115,000	737,653	3.67%	514,235
Depreciation Expense				
Dep Expense - Equipment	-	-	-	51,892
Dep Expense - Autos & Trucks	31,000	2,534	8.17%	2,534
Dep Expense - Buildng & Toll Fac	180,000	14,729	8.18%	14,729
Dep Expense - Highways & Bridges	53,500,000	4,376,923	8.18%	4,236,463
Dep Expense - Toll Equipment	13,640,000	282,683	2.07%	253,432
Dep Expense - Signs	1,830,000	112,319	6.14%	100,746
Dep Expense - Land Improvements	545,000	45,194	8.29%	72,776
Subtotal Depreciation Expense	69,726,000	4,834,382	6.93%	4,732,571
Total Non Cash Expenses	89,841,000	5,572,035	6.20%	5,246,806
Non Operating Expenses				
Interest Expense - Debt Obligations	109,112,756	8,269,544	7.58%	6,368,816
CAMPO RIF Payment	10,000,000	-	-	-
Community Initiatives	600,000	-	-	-
Total Non Operating Expenses	119,712,756	8,269,544	6.91%	6,368,816
TOTAL EXPENSES	281,372,422	17,917,487	6.37%	15,665,421
Net Income	21,148,845	6,751,492		6,545,519

Central Texas Regional Mobility Authority
Balance Sheet
as of July 31, 2024

as of 07/31/2024 as of 07/31/2023

ASSETS

Current Assets

Cash

Regions Operating Account	152,505	147,366
Cash in TexStar	3,498,209	340,776
Regions Payroll Account	110,054	107,629

Restricted Cash

Goldman Sachs FSGF 465	298,919,349	714,051,459
Restricted Cash - TexSTAR	24,057,902	13,138,346
Treasury SLGS	217,335,873	-

Total Cash and Cash Equivalents	544,073,892	727,785,575
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Accounts Receivables

Accounts Receivable - Net	8,167,796	4,979,871
Due From Other Agencies	332,801	92,072
Due From TTA	340,335	1,148,195
Due From NTTA	1,750,568	1,383,426
Due From HCTRA	2,429,111	3,662,183
Due From TxDOT	889,178	12,152,543
Due From Other Funds	1,548,763	-
Interest Receivable	1,048,420	693,342

Total Receivables	16,506,972	24,111,632
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Short Term Investments

Treasuries	173,106,124	118,543,252
Agencies	250,712,604	189,758,036

Total Short Term Investments	423,818,728	308,301,288
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Total Current Assets	984,399,592	1,060,198,495
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Construction in Progress

	501,526,854	353,315,959
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Central Texas Regional Mobility Authority
Balance Sheet
as of July 31, 2024

as of 07/31/2024 as of 07/31/2023

Capital Assets (Net of Depreciation and Amortization)

Depreciable Assets

Equipment	-	1,349,196
Autos and Trucks	13,938	44,347
Buildings and Toll Facilities	4,038,484	4,215,232
Highways and Bridges	1,676,604,083	1,720,752,443
Toll Equipment	21,019,292	14,482,024
Signs	11,373,288	11,269,190
Land Improvements	4,699,236	5,241,559
Right of way	88,149,606	88,149,606
Leasehold Improvements	-	297,427

Intangible Assets

Intangible Software	5,856,080	-
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Right to Use Assets

Leases	900,817	-
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	1,812,654,822	1,845,801,023
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Other Assets

Intangible Assets-Net	161,874,875	168,301,614
Prepaid Insurance	160,952	98,062
Deferred Outflows (pension related)	2,384,338	2,738,023
Pension Asset	-	1,046,634

	164,420,164	172,184,333
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	3,463,001,433	3,431,499,810
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LIABILITIES

Current Liabilities

Accounts Payable	5,787,171	7,437,198
Construction Payable	6,418,461	4,159,498
Overpayments	-	1,570
Interest Payable	8,093,071	6,646,947
Due to other Funds	1,548,763	-
TCDRS Payable	84,542	82,537
Due to other Agencies	10,306	3,583
Due to TTA	627,142	(266)
Due to HCTRA	163,073	154,466
Due to Other Entities	-	1,778,535
71E TxDOT Obligation - ST	852,938	3,222,840

	23,585,466	23,486,908
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Central Texas Regional Mobility Authority
Balance Sheet
as of July 31, 2024

	as of 07/31/2024	as of 07/31/2023
Long Term Liabilities		
Compensated Absences	662,277	240,954
Right to Use Obligations - Lease	747,552	1,286,881
Deferred Inflows (pension related)	1,192,688	1,378,935
Pension Liability	1,971,627	-
Long Term Payables	4,574,144	2,906,771
Bonds Payable		
Senior Lien Revenue Bonds:		
Senior Lien Revenue Bonds 2010	103,312,402	94,983,156
Senior Lien Revenue Bonds 2011	15,589,622	16,288,094
Senior Lien Revenue Bonds 2015	10,000,000	10,000,000
Senior Lien Refunding Revenue Bonds 2016	47,045,000	59,340,000
Senior Lien Revenue Bonds 2018	44,345,000	44,345,000
Senior Lien Revenue Bonds 2020A	50,265,000	50,265,000
Senior Lien Refunding Bonds 2020B	54,305,000	54,970,000
Senior Lien Refunding Bonds 2020C	133,210,000	138,435,000
Senior Lien Revenue Bonds 2020E	167,160,000	167,160,000
Senior Lien Revenue Bonds 2021B	255,075,000	255,075,000
Senior Lien Refunding Bonds 2021D	273,650,000	274,150,000
Senior Lien Refunding Bonds 2021E	329,545,000	332,585,000
Senior Lien Premium 2016 Revenue Bonds	6,092,041	6,588,755
Sn Lien Revenue Bond Premium 2018	2,594,430	2,861,003
Senior Lien Revenue Bond Premium 2020A	10,911,548	11,149,029
Senior Lien Refunding Bond Premium 2020B	10,656,915	11,191,991
Senior Lien Revenue Bonds Premium 2020E	22,282,200	23,997,587
Senior Lien Revenue Bonds Premium 2021B	52,391,098	52,950,080
Senior Lien Refunding Bonds Premium 2021D	43,545,875	44,336,000
Total Senior Lien Revenue Bonds	1,631,976,132	1,650,670,694
Sub Lien Revenue Bonds:		
Sub Lien Refunding Bonds 2016	69,055,000	71,435,000
Sub Lien Refunding Bonds 2020D	93,430,000	97,440,000
Subordinated Lien BANs 2020F	110,875,000	110,875,000
Subordinate Lien Refunding Bonds 2020G	61,570,000	61,570,000
Subordinated Lien BANs 2021C	244,185,000	244,185,000
Sub Refunding 2016 Prem/Disc	4,187,031	4,927,486
Subordinated Lien BANs 2020F Premium	1,667,860	5,670,725
Subordinated Lien Refunding Bonds Premium 2020G	6,326,612	6,730,583
Sub Lien BANS 2021C Premium	18,394,887	26,006,564
Total Sub Lien Revenue Bonds	609,691,390	628,840,359

Central Texas Regional Mobility Authority
Balance Sheet
as of July 31, 2024

as of 07/31/2024 as of 07/31/2023

Other Obligations

TIFIA Note 2021 - 183S	322,354,437	318,847,509
TIFIA Note 2021 - 290E	41,088,581	40,195,839
71E TxDOT Obligation - LT	49,167,292	51,918,220
Regions 2022 MoPac Loan	22,490,900	23,765,900

Total Other Obligations	435,101,210	434,727,468
Total Long Term Liabilities	2,681,342,876	2,717,145,292
Total Liabilities	2,704,928,342	2,740,632,200

NET ASSETS

Contributed Capital	-	121,462,104
Net Assets Beginning	751,321,600	563,196,620
Current Year Operations	6,751,492	6,545,519

Total Net Assets	758,073,091	691,204,243
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Total Liabilities and Net Assets	3,463,001,433	3,431,836,443
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Central Texas Regional Mobility Authority

Statement of Cash Flow

as of July 2024

Cash flows from operating activities:

Receipts from toll revenues	36,691,758
Receipts from other sources	129,374
Payments to vendors	(41,551,539)
Payments to employees	(348,217)
Net cash flows provided by (used in) operating activities	(5,078,623)

Cash flows from capital and related financing activities:

Payment on Intangible assets	(575,164)
Interest Expense	(43,976,165)
Issuance Expense	(35,000)
Payments on bonds / loans	(1,098,527)
RIF Contribution	-
Acquisition of capital assets - non project	(50,861)
Acquisitions of construction in progress	(8,395,903)
Net cash flows provided by (used in) capital and related financing activities	(54,131,621)

Cash flows from investing activities:

Interest income	3,603,676
Purchase of investments	(201,493,162)
Net cash flows provided by (used in) investing activities	(197,889,487)

Net increase (decrease) in cash and cash equivalents	(257,099,730)
Cash and cash equivalents at beginning of period	817,680,594
Cash and cash equivalents at end of period	560,580,864

Reconciliation of change in net assets to net cash provided by operating activities:

Operating income	6,751,492
Adjustments to reconcile change in net assets to net cash provided by operating activities:	
Depreciation and amortization	5,572,035
Changes in assets and liabilities:	
Decrease in accounts receivable	15,787,039
Increase in prepaid expenses and other assets	80,476
Decrease in accrued expenses	(37,904,323)
Decrease in Interest expense	8,269,544
Increase in interest receivable	(3,634,885)
(Decrease) increase in Pension Asset	
(Increase) in deferred outflows of resources	
(Increase) in deferred inflows of resources	
Total adjustments	(11,830,115)
Net cash flows provided by (used in) operating activities	\$ (5,078,623)

Reconciliation of cash and cash equivalents:

Unrestricted cash and cash equivalents	237,603,614
Restricted cash and cash equivalents	322,977,251
Total	560,580,864

CTRMA INVESTMENT REPORT
Month Ending July 31, 2024

	Balance 7/1/2024	Accrued Interest	Additions	Cash Transfers	Withdrawals	Balance 7/31/2024	Rate July '24
Amount in Trustee TexStar							
2011 Sr Lien Financial Assist Fund	16.78	0.04				16.82	5.31%
2013 Sub Lien Debt Service Reserve General Fund	855,572.89	3,860.79		(25,000,000.00)		859,433.68	5.31%
Trustee Operating Fund	16,405,758.03	60,917.95		(6,500,000.00)		9,966,675.98	5.31%
Renewal and Replacement	8.70					8.70	5.31%
TxDOT Grant Fund	498,180.71	2,248.03				500,428.74	5.31%
Senior Lien Debt Service Reserve Fund	423,424.35	1,910.71				425,335.06	5.31%
2015B Sr Ln Project	383,469.43	1,730.40				385,199.83	5.31%
2015C Sub TIFIA Project	761,822.42	3,437.73				765,260.15	5.31%
2018 Sr Lien Project	1,021,130.20	4,607.86				1,025,738.06	5.31%
	55,404,755.83	153,146.10	-	(31,500,000.00)	-	24,057,901.93	

Amount in TexStar Operating Fund	1,988,484.17	9,725.14		6,500,000.00	5,000,000.00	3,498,209.31	5.31%
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Goldman Sachs

Operating Fund	4,317,176.47	18,261.79	5,890.40		4,227.54	4,337,101.12	5.20%
2020A Senior Lien Debt Service	1,256,625.00	4,742.59			1,256,625.00	4,742.59	5.20%
2020B Senior Lien Debt Service	1,661,025.00	6,274.17			1,313,525.00	353,774.17	5.20%
2020C Senior Lien Debt Service	4,406,929.99	16,674.95			1,854,429.99	2,569,174.95	5.20%
2020D Sub Lien Debt Service	3,485,134.29	12,214.24			1,442,634.29	2,054,714.24	5.20%
2020D Sub Debt Service Reserve Fund	8,886,786.79	8,336.42			7,800,964.40	1,094,158.81	5.20%
2020E Sr Lien Project	106,967,626.92	465,120.72			9,311,323.09	98,121,424.55	5.20%
2020E Sr Ln Project Cap Interest	11,979,963.97	51,255.20		(3,718,700.00)		8,312,519.17	5.20%
2020E Sr Lien Debt Service	-			3,718,700.00	3,718,700.00	-	5.20%
2020F Sub Lien Debt Service	2,912,535.69	10,557.05			2,771,875.00	151,217.74	5.20%
2020G Sub Lien Debt Service	1,276,300.00	4,616.26			1,276,300.00	4,616.26	5.20%
2020G Sub Debt Service Reserve Fund	4,356,343.68	7,506.39			3,900,482.20	463,367.87	5.20%
2021A Sub Debt Service Reserve Fund	21,438,361.72	17,507.47			19,502,411.01	1,953,458.18	5.20%
2021A TIFIA Sub Lien Debt Service Acct	4,016,486.16	17,184.67			3,510,492.66	523,178.17	5.20%
2021B Senior Lien Cap I Project Fund	31,684,078.40	135,557.48		(5,866,900.00)		25,952,735.88	5.20%
2021B Senior Lien Project	3,072,776.91	13,182.09	35,945,000.00		14,766,249.66	24,264,709.34	5.20%
2021B Senior Lien Cap I Debt Service	-			5,866,900.00	5,866,900.00	-	5.20%
2021B Senior Lien Cap I Debt Service Acct	9,352.91	40.01				9,392.92	5.20%
2021C Sub Lien Cap I Project Fund	1,457.19	6.23				1,463.42	5.20%
2021C Sub Lien Project	3,155,603.60	15,773.12	16,069,218.68		10,729,819.02	8,510,776.38	5.20%
2021C Sub Lien Debt Service	6,104,625.00	21,926.73			6,104,625.00	21,926.73	5.20%
2021D Senior Lien Debt Service	5,847,000.00	22,071.01			5,584,500.00	284,571.01	5.20%
2021E Senior Lien Debt Service	6,446,359.21	24,352.45			4,853,859.21	1,616,852.45	5.20%
2011 Sr Financial Assistance Fund	142.68	0.61				143.29	5.20%
2010 Senior DSF	4,500,000.00	17,137.07				4,517,137.07	5.20%
2011 Senior Lien Debt Service	3,727,500.00	14,125.82				3,741,625.82	5.20%
2013 Senior Lien Debt Service	43,836.52	187.58				44,024.10	5.20%
2013 Sub Debt Service Reserve Fund	134.44	0.58				135.02	5.20%
2013 Subordinate Debt Service	34,500.73	147.63				34,648.36	5.20%
2015A Sr Lien Debt Service	4,818,966.10	20,620.61			250,000.00	4,589,586.71	5.20%
2015B Project	5,244,398.52	22,838.36			320,654.36	4,946,582.52	5.20%
2015C TIFIA Project	30,930,768.03	84,021.70	104,430.56		30,000,000.00	1,119,220.29	5.20%
2016 Sr Lien Rev Refunding Debt Service	9,672,893.75	39,341.51			947,893.75	8,764,341.51	5.20%
2016 Sub Lien Rev Refunding Debt Service	2,941,631.25	10,145.44			1,556,631.25	1,395,145.44	5.20%
2016 Sub Lien Rev Refunding DSR	7,656,455.26	7,920.21			6,825,843.85	838,531.62	5.20%
2018 Sr Lien Debt Service	1,608,625.00	6,063.82			1,108,625.00	506,063.82	5.20%
2018 Sr Lien Project	12,293,948.88	53,571.67			49,117.10	12,298,403.45	5.20%
TxDOT Grant Fund	420,093.82	1,797.60	104,430.56			526,321.98	5.20%
Renewal and Replacement	14.72	32.19		1,018,250.00	1,018,278.62	18.29	5.20%
Revenue Fund	8,450,219.87	64,484.23	20,777,577.94	(1,758,796.65)	99,828.05	27,433,657.34	5.20%
General Fund	83,551,042.75	150,196.96	157,853.74	23,981,750.00	90,064,928.63	17,775,914.82	5.20%
Senior Lien Debt Service Reserve Fund	67,647,331.35	81,175.74			64,399,934.25	3,328,572.84	5.20%
71E Revenue Fund	5,631,251.25	22,626.58	444,826.09	830,504.00	229,086.32	6,700,121.60	5.20%
MoPac Revenue Fund	-	3,050.83	455,112.99	(365,024.19)		93,139.63	5.20%
MoPac General Fund	9,137,119.82	35,977.69		715,724.84	7,357.03	9,881,465.32	5.20%
MoPac Operating Fund	2,628,417.89	10,208.60		400,000.00	558,401.56	2,480,224.93	5.20%
MoPac Loan Repayment Fund	1,677,739.71	6,596.94		177,592.00	1,657,076.47	204,852.18	5.20%
	495,899,581.24	1,525,431.01	74,064,340.96	25,000,000.00	304,663,599.31	291,825,753.90	

Amount in Fed Agencies and Treasuries

Amortized Principal	237,594,715.09		221,224,013.21		35,000,000.00	423,818,728.30	
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Certificates of Deposit

Total in Pools - TxStar	57,393,240.00	162,871.24	-	(25,000,000.00)	5,000,000.00	27,556,111.24	
Total in GS FSGF	495,899,581.24	1,525,431.01	74,064,340.96	25,000,000.00	304,663,599.31	291,825,753.90	
Total in Treasury SLGS	245,000,000.00	1,835,872.99	-	-	29,500,000.00	217,335,872.99	
Total in Fed Agencies and Treasuries	237,594,715.09	-	221,224,013.21	-	35,000,000.00	423,818,728.30	
Total Invested	1,035,887,536.33	3,524,175.24	295,288,354.17	-	374,163,599.31	960,536,466.43	

All Investments in the portfolio are in compliance with the CTRMA's Investment policy and the relevant provisions of the Public Funds Investment Act Chapter 2256.023

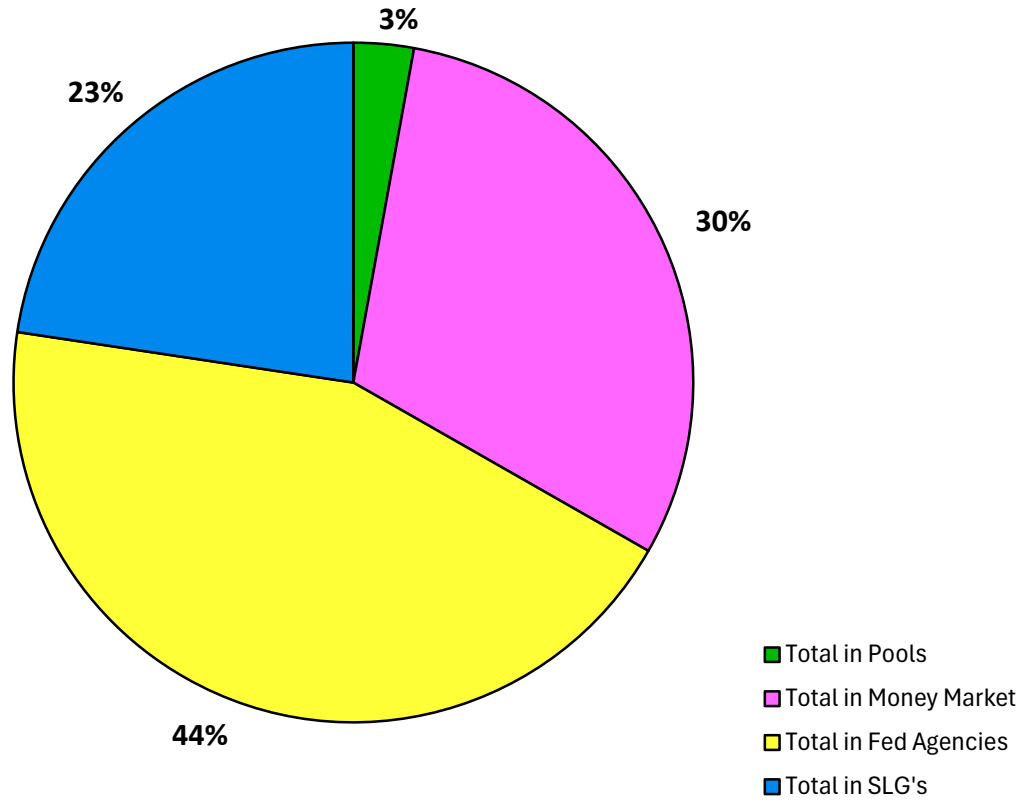
José Hernández, CFO
Ann Zigmund, Controller

Investments by Fund

Fund	TexSTAR	TexSTAR-Trustee	Goldman Sachs	Agencies / Treasuries / SLGS	Balance
Renewal and Replacement Fund	8.70		18.29		26.99
Grant Fund	500,428.74		526,321.98	10,000,000.00	11,026,750.72
Senior Debt Service Reserve Fund	425,335.06		3,328,572.84	114,051,334.25	117,805,242.15
2010 Senior Lien Debt Service			4,517,137.07		4,517,137.07
2011 Sr Debt Service t			3,741,625.82		3,741,625.82
2013 Sr Debt Service t			44,024.10		44,024.10
2013 Sub Debt Service			34,648.36		34,648.36
2013 Sub Debt Service Reserve Fund	859,433.68		135.02		859,568.70
2015 Sr Debt Service			4,589,586.71		4,589,586.71
2016 Sr Lien Rev Refunding Debt Service			8,764,341.51		8,764,341.51
2016 Sub Lien Rev Refunding Debt Service			1,395,145.44		1,395,145.44
2016 Sub Lien Rev Refunding DSR			838,531.62	6,825,843.85	7,664,375.47
Operating Fund	9,966,675.98	3,498,209.31	4,337,101.12		17,801,986.41
Revenue Fund			27,433,657.34		27,433,657.34
General Fund	10,129,804.91		17,775,914.82	182,098,391.72	210,004,111.45
71E Revenue Fund			6,700,121.60	29,639,926.50	36,340,048.10
MoPac Revenue Fund			93,139.63		93,139.63
MoPac General Fund			9,881,465.32	9,999,374.37	19,880,839.69
MoPac Operating Fund			2,480,224.93		2,480,224.93
MoPac Loan Repayment Fund			204,852.18		204,852.18
2015B Project	385,199.83		4,946,582.52		5,331,782.35
2015 TIFIA Project	765,260.15		1,119,220.29	40,000,000.00	41,884,480.44
2011 Sr Financial Assistance Fund	16.82		143.29		160.11
2018 Sr Lien Debt Service			506,063.82		506,063.82
2018 Sr Lien Project Cap I			-		-
2018 Sr Lien Project	1,025,738.06		12,298,403.45		13,324,141.51
2020A Senior Lien Debt Service			4,742.59		4,742.59
2020B Senior Lien Debt Service			353,774.17		353,774.17
2020C Senior Lien Debt Service			2,569,174.95		2,569,174.95
2020D Sub Lien Debt Service			2,054,714.24		2,054,714.24
2020D Sub Debt Service Reserve Fund			1,094,158.81	7,800,964.40	8,895,123.21
2020E Senior Lien Project			98,121,424.55		98,121,424.55
2020E Senior Lien Project Cap Interest			8,312,519.17		8,312,519.17
2020F Sub Lien Project			-		-
2020F Sub Lien Deb Service			151,217.74		151,217.74
2020G Sub Lien Debt Service			4,616.26		4,616.26
2020G Sub Lien Debt Service Reserve			463,367.87	3,900,482.20	4,363,850.07
2021A Sub Lien Debt Service Reserve			1,953,458.18	19,502,411.01	21,455,869.19
2021A Sub Debt Service			523,178.17		523,178.17
2021B Senior Lien Cap I Project Fund			25,952,735.88		25,952,735.88
2021B Senior Lien Project			24,264,709.34	211,604,885.60	235,869,594.94
2021B Senior Lien Cap I Debt Service Acct			9,392.92		9,392.92
2021C Sub Lien Cap I Project Fund			1,463.42	5,730,987.39	5,732,450.81
2021C Sub Lien Project			8,510,776.38		8,510,776.38
2021C Sub Lien Debt Service			21,926.73		21,926.73
2021D Senior Lien Debt Service			284,571.01		284,571.01
2021E Senior Lien Debt Service			1,616,852.45		1,616,852.45
Totals	24,057,901.93	3,498,209.31	291,825,753.90	641,154,601.29	960,536,466.43

7/31/2024

Allocation of Funds



Bank	Fund	Cost	Cummulative Amortization	Book Value	Maturity Value	Interest Income		
						Accrued Interest	Amortization	Interest Earned
1001001935	MOPAC GENL	9,999,374.37		9,999,374.37	10,000,000.00			
6180000120	GENERAL	40,000,000.00		40,000,000.00	40,000,000.00			
6180000120	GENERAL	9,960,128.90		9,960,128.90	10,000,000.00	27,777.78		527,777.78
6180000120	GENERAL	9,960,128.90		9,960,128.90	10,000,000.00	27,777.78		527,777.78
6180000120	GENERAL	41,501,020.00		41,501,020.00	43,000,000.00			
6180000059	SENLIENCSR	9,651,400.00		9,651,400.00	10,000,000.00			
6180000120	GENERAL	48,794,377.50		48,794,377.50	50,000,000.00			
6180006366	2016SUBDSR	6,825,843.85		6,825,843.85	7,000,000.00			
1001017484	2020D DSRF	7,800,964.40		7,800,964.40	8,000,000.00			
1001021540	2020G DSRF	3,900,482.20		3,900,482.20	4,000,000.00			
1001021543	2021A DSRF	19,502,411.01		19,502,411.01	20,000,000.00			
6180000059	SENLIENCSR	30,228,737.05		30,228,737.05	31,000,000.00			
6180000059	SENLIENCSR	34,171,197.20		34,171,197.20	35,000,000.00			
6180000059	SENLIENCSR	20,000,000.00		20,000,000.00	20,000,000.00	22,222.22		1,022,222.22
6146001086	71E REVENU	15,000,000.00		15,000,000.00	15,000,000.00			
6146001086	71E REVENU	14,639,926.50		14,639,926.50	14,670,000.00	97,800.00		
6180000120	GENERAL	11,882,736.42		11,882,736.42	12,000,000.00	113,036.99		288,340.12
6180000120	GENERAL	20,000,000.00		20,000,000.00	20,000,000.00			954,000.00
6180000059	SENLIENCSR	20,000,000.00		20,000,000.00	20,000,000.00			954,000.00
6180005349	2015TIFIAP	10,000,000.00		10,000,000.00	10,000,000.00			104,430.56
6180000157	TXDOTGRANT	10,000,000.00		10,000,000.00	10,000,000.00			104,430.56
6180005349	2015TIFIAP	30,000,000.00		30,000,000.00	30,000,000.00			
		423,818,728.30	-	423,818,728.30	429,670,000.00	288,614.77	-	4,378,548.46

Goldman Sachs County Road Escrow Funds

	Balance 7/1/2024	Accrued Interest	Additions	Withdrawals	Balance 7/31/2024
Travis County Escrow Fund - Elroy Road	3,109,645.94	13,316.61		26,000.01	3,096,962.54
Travis County Escrow Fund - Ross Road	346,090.54	1,381.00		13,104.74	334,366.80
Travis County Escrow Fund - Old San Antonio Road	135,322.14	689.49		22,180.16	113,831.47
Travis County Escrow Fund - Old Lockhart Road	293,561.05	1,273.91		22,876.55	271,958.41
Travis County Escrow Fund - County Line Road	2,766,766.23	13,084.42		168,078.87	2,611,771.78
Travis County Escrow Fund - South Pleasant Valley Road	265,171.06	1,200.84		16,570.74	249,801.16
Travis County Escrow Fund - Thaxton Road	215,981.81	930.24		18,800.68	198,111.37
Travis County Escrow Fund - Pearce Lane Road	228,550.79	1,039.94		12,799.54	216,791.19
	7,361,089.56	32,916.45	-	300,411.29	7,093,594.72

State and Local Government Series as of 7/31/24

Bank	Fund	Agency	Arbitrage Yield	CUSIP	Yield	Purchased Date	Purchase Value	Beginning	Accrued Interest	Withdrawals	End Value
1001021281	2021CPROJ	State and Local Government Series (SLGS)	1.831%	99SLA1060	4.18%	4/23/2024	35,000,000.00	35,000,000.00	230,987.39	29,500,000.00	5,730,987.39
1001021273	2021BPROJ	State and Local Government Series (SLGS)	1.831%	99SLA1078	4.18%	4/23/2024	210,000,000.00	210,000,000.00	1,604,885.60	-	211,604,885.60
											-
											-
											-
							245,000,000.00	245,000,000.00	1,835,872.99	29,500,000.00	217,335,872.99



PERFORMANCE

As of July 31, 2024

Current Invested Balance	\$ 11,614,008,231.39
Weighted Average Maturity (1)	33 Days
Weighted Average Life (2)	62 Days
Net Asset Value	1.000059
Total Number of Participants	1043
Management Fee on Invested Balance	0.06%*
Interest Distributed	\$ 51,932,146.86
Management Fee Collected	\$ 578,565.66
% of Portfolio Invested Beyond 1 Year	3.81%
Standard & Poor's Current Rating	AAAm

July Averages

Average Invested Balance	\$ 11,379,796,631.25
Average Monthly Yield, on a simple basis	5.3131%
Average Weighted Maturity (1)	33 Days
Average Weighted Life (2)	64 Days

Definition of Weighted Average Maturity (1) & (2)

(1) This weighted average maturity calculation uses the SEC Rule 2a-7 definition for stated maturity for any floating rate instrument held in the portfolio to determine the weighted average maturity for the pool. This Rule specifies that a variable rate instruction to be paid in 397 calendar days or less shall be deemed to have a maturity equal to the period remaining until the next readjustment of the interest rate.
 (2) This weighted average maturity calculation uses the final maturity of any floating rate instruments held in the portfolio to calculate the weighted average maturity for the pool.

The maximum management fee authorized for the TexSTAR Cash Reserve Fund is 12 basis points. This fee may be waived in full or in part in the discretion of the TexSTAR co-administrators at any time as provided for in the TexSTAR Information Statement.

Rates reflect historical information and are not an indication of future performance.

NEW PARTICIPANTS

We would like to welcome the following entities who joined the TexSTAR program in July:

- * Gregg County
- * Honey Grove Independent School District
- * Montgomery County Municipal Utility District No. 123

HOLIDAY REMINDER

In observance of **Labor Day, TexSTAR will be closed on Monday, September 2, 2024.** All ACH transactions initiated on Friday, August 30th will settle on Tuesday, September 3rd. Please plan accordingly for your liquidity needs.

ECONOMIC COMMENTARY

Market review

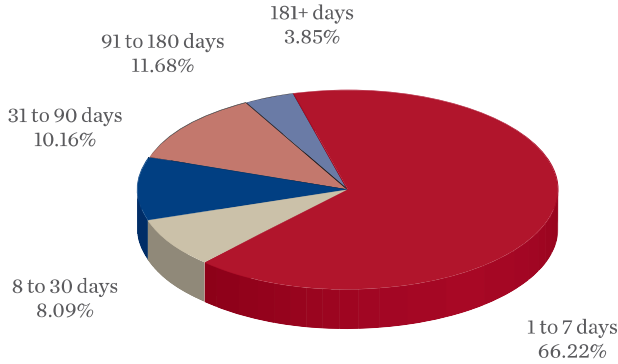
July presented a more balanced economic landscape, albeit with some potential vulnerabilities. GDP growth has been roughly in line with trend growth this year, and inflation has been gradually approaching the Federal Reserve's (Fed's) 2% target. However, higher interest rates have begun to impact the labor market, as evidenced by a slowdown in job growth and an uptick in the unemployment rate. The Fed acknowledged that the economy continues to expand at a solid pace, with job gains moderating and inflation easing, and will consider the broader picture of their dual mandate—stable prices and maximum employment—when determining the timing and pace of rate cuts. Recent data on economic growth remained resilient, with the second quarter's GDP release indicating the economy grew at a robust 2.8% annualized pace. However, while the first-quarter real GDP reading of 1.4% understated economic momentum due to a sharp reduction in inventory growth, the second-quarter number was inflated, as inventory accumulation accelerated. A clearer picture emerges when looking at real final sales, which excludes inventories: real growth was 3.5% for the year ending in fourth quarter of 2023, but it slipped to 1.8% annualized in the first quarter of 2024 and 2.0% in the second quarter. Consumer spending remained robust, growing at a 2.3% annualized rate with gains in both services and goods. This was supported by healthy increases in disposable personal income, which rose 0.3% month-over-month (m/m). However, consumers had to dip into their savings, as the personal savings rate slightly decreased to 3.5%. Overall, the first half of the year saw average GDP growth of 2.1%, which aligns with trend growth.

The June CPI report brought encouraging signs of cooling inflation. Headline CPI fell 0.1% m/m, while core CPI rose just 0.1%, resulting in annual gains of 3.0% and 3.3%, respectively. Energy prices fell 2.0% m/m while lower new and used vehicle prices contributed to a 0.1% m/m decline in core goods prices. In core services, shelter inflation rose just 0.2% m/m, breaking a nearly three-year streak of inflation at or above 0.3%.

(continued page 4)

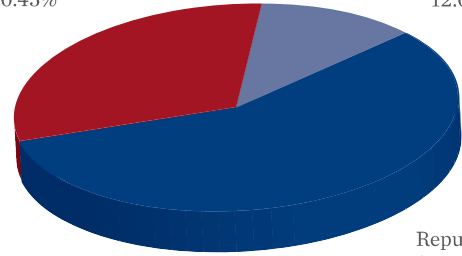
INFORMATION AT A GLANCE

PORTFOLIO BY TYPE OF INVESTMENT AS OF JULY 31, 2024



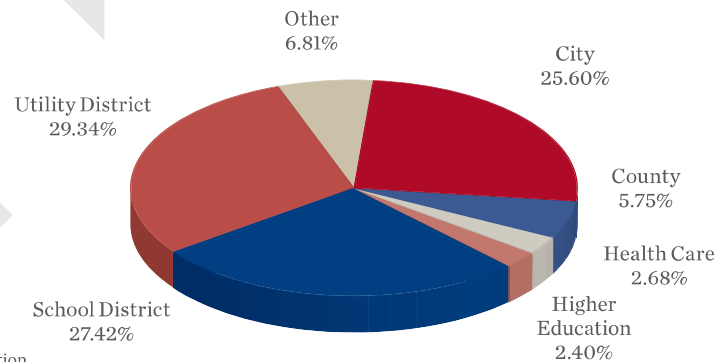
Treasuries
30.45%

Agencies
12.04%



Repurchase
Agreements
57.51%

PORTFOLIO BY MATURITY AS OF JULY 31, 2024 (1)



(1) Portfolio by Maturity is calculated using WAM (1) definition for stated maturity. See page 1 for definition

HISTORICAL PROGRAM INFORMATION

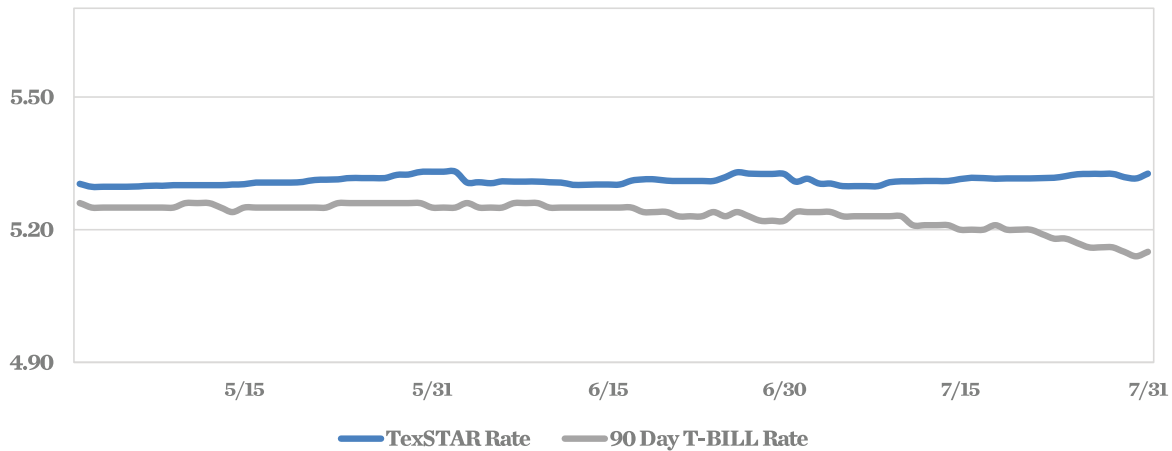
MONTH	AVERAGE RATE	BOOK VALUE	MARKET VALUE	NET ASSET VALUE	WAM (1)	WAL (2)	NUMBER OF PARTICIPANTS
Jul 24	5.3131%	\$11,614,008,231.39	\$11,614,697,399.72	1.000059	33	64	1043
Jun 24	5.3126%	10,696,510,063.51	10,695,858,054.79	0.999939	36	66	1040
May 24	5.3078%	10,946,135,253.27	10,946,064,280.53	0.999895	37	67	1037
Apr 24	5.3057%	11,388,285,240.44	11,386,977,182.36	0.999885	35	65	1031
Mar 24	5.2986%	11,373,415,394.49	11,372,687,872.41	0.999936	36	68	1025
Feb 24	5.3035%	11,928,691,803.89	11,927,911,436.19	0.999934	36	69	1024
Jan 24	5.3200%	11,483,316,119.03	11,483,741,551.85	1.000037	42	77	1024
Dec 23	5.3378%	10,557,076,424.02	10,557,101,303.24	0.999972	44	85	1037
Nov 23	5.3307%	10,148,883,026.83	10,148,191,305.12	0.999931	33	74	1034
Oct 23	5.3231%	10,017,668,653.01	10,016,121,800.83	0.999845	29	69	1031
Sep 23	5.3105%	9,992,445,950.80	9,990,730,955.61	0.999816	29	56	1028
Aug 23	5.2974%	10,207,693,267.12	10,205,377,223.94	0.999773	26	49	1023

PORTFOLIO ASSET SUMMARY AS OF JULY 31, 2024

	BOOK VALUE	MARKET VALUE
Uninvested Balance	\$ 536.64	\$ 536.64
Accrual of Interest Income	7,515,653.46	7,515,653.46
Interest and Management Fees Payable	(51,951,382.34)	(51,951,382.34)
Payable for Investment Purchased	(117,008,374.87)	(117,008,374.87)
Repurchase Agreement	6,774,069,999.96	6,774,069,999.96
Government Securities	5,001,381,798.54	5,002,070,966.87
TOTAL	\$ 11,614,008,231.39	\$ 11,614,697,399.72

Market value of collateral supporting the Repurchase Agreements is at least 102% of the Book Value. The portfolio is managed by J.P. Morgan Chase & Co. and the assets are safekept in a separate custodial account at the Federal Reserve Bank in the name of TexSTAR. The only source of payment to the Participants are the assets of TexSTAR. There is no secondary source of payment for the pool such as insurance or guarantee. Should you require a copy of the portfolio, please contact TexSTAR Participant Services.

TEXSTAR VERSUS 90-DAY TREASURY BILL



This material is for information purposes only. This information does not represent an offer to buy or sell a security. The above rate information is obtained from sources that are believed to be reliable; however, its accuracy or completeness may be subject to change. The TexSTAR management fee may be waived in full or in part at the discretion of the TexSTAR co-administrators and the TexSTAR rate for the period shown reflects waiver of fees. This table represents historical investment performance/return to the customer, net of fees, and is not an indication of future performance. An investment in the security is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the issuer seeks to preserve the value of an investment of \$1.00 per share, it is possible to lose money by investing in the security. Information about these and other program details are in the fund's Information Statement which should be read carefully before investing. The yield on the 90-Day Treasury Bill ("T-Bill Yield") is shown for comparative purposes only. When comparing the investment returns of the TexSTAR pool to the T-Bill Yield, you should know that the TexSTAR pool consists of allocations of specific diversified securities as detailed in the respective Information Statements. The T-Bill Yield is taken from Bloomberg Finance L.P. and represents the daily closing yield on the then current 90-Day T-Bill. The TexSTAR yield is calculated in accordance with regulations governing the registration of open-end management investment companies under the Investment Company Act of 1940 as promulgated from time to time by the federal Securities and Exchange Commission.

DAILY SUMMARY FOR JULY 2024

DATE	MNY MKT FUND EQUIV. [SEC Std.]	DAILY ALLOCATION FACTOR	INVESTED BALANCE	MARKET VALUE PER SHARE	WAM DAYS (1)	WAL DAYS (2)
7/1/2024	5.3084%	0.000145436	\$10,955,819,587.90	0.999981	34	68
7/2/2024	5.3150%	0.000145617	\$10,979,651,688.69	0.999980	34	67
7/3/2024	5.3038%	0.000145309	\$10,994,947,967.30	0.999987	33	66
7/4/2024	5.3038%	0.000145309	\$10,994,947,967.30	0.999987	33	66
7/5/2024	5.2983%	0.000145159	\$10,998,595,564.72	0.999989	32	66
7/6/2024	5.2983%	0.000145159	\$10,998,595,564.72	0.999989	32	66
7/7/2024	5.2983%	0.000145159	\$10,998,595,564.72	0.999989	32	66
7/8/2024	5.2982%	0.000145157	\$10,933,543,702.94	0.999999	32	66
7/9/2024	5.3067%	0.000145388	\$10,989,713,286.83	1.000000	33	66
7/10/2024	5.3091%	0.000145455	\$11,074,954,963.53	0.999996	34	66
7/11/2024	5.3092%	0.000145458	\$11,022,525,574.84	1.000044	34	67
7/12/2024	5.3099%	0.000145477	\$11,094,779,857.06	1.000031	33	65
7/13/2024	5.3099%	0.000145477	\$11,094,779,857.06	1.000031	33	65
7/14/2024	5.3099%	0.000145477	\$11,094,779,857.06	1.000031	33	65
7/15/2024	5.3140%	0.000145590	\$11,029,055,728.61	1.000040	34	66
7/16/2024	5.3171%	0.000145675	\$11,346,067,424.49	1.000038	34	65
7/17/2024	5.3162%	0.000145648	\$11,307,883,696.80	1.000041	33	64
7/18/2024	5.3153%	0.000145626	\$11,868,058,540.92	1.000032	32	62
7/19/2024	5.3157%	0.000145636	\$11,841,733,346.38	1.000007	31	61
7/20/2024	5.3157%	0.000145636	\$11,841,733,346.38	1.000007	31	61
7/21/2024	5.3157%	0.000145636	\$11,841,733,346.38	1.000007	31	61
7/22/2024	5.3166%	0.000145659	\$11,741,745,066.60	1.000020	32	62
7/23/2024	5.3168%	0.000145666	\$11,762,913,497.04	1.000033	32	61
7/24/2024	5.3208%	0.000145776	\$11,763,177,542.21	1.000040	33	61
7/25/2024	5.3250%	0.000145891	\$11,754,072,352.16	1.000037	33	62
7/26/2024	5.3261%	0.000145921	\$11,743,927,057.79	1.000039	32	60
7/27/2024	5.3261%	0.000145921	\$11,743,927,057.79	1.000039	32	60
7/28/2024	5.3261%	0.000145921	\$11,743,927,057.79	1.000039	32	60
7/29/2024	5.3189%	0.000145722	\$11,809,600,570.56	1.000053	33	61
7/30/2024	5.3154%	0.000145628	\$11,793,900,700.77	1.000056	33	61
7/31/2024	5.3264%	0.000145930	\$11,614,008,231.39	1.000059	33	62
Average	5.3131%	0.000145565	\$11,379,796,631.25		33	64



ECONOMIC COMMENTARY (cont.)

Headline PCE increased 0.1% m/m and 2.5% year-over-year (y/y), while core PCE increased 0.2% m/m and 2.6% y/y. The three-month annualized moving average of core PCE moderated to 2.3%, edging closer to the Fed's 2% target. Overall, these reports indicate that disinflationary momentum is regaining strength. At its July 31st meeting, the Federal Open Market Committee (FOMC) voted to leave the federal funds rate unchanged at a target range of 5.25%-5.50%. The statement included a few adjustments from the June statement, noting that job gains have moderated, and the unemployment rate has moved up recently, though it remains low. Additionally, it mentioned that inflation has eased over the past year but remains "somewhat" elevated and noted that there has been "some" progress towards the committee's 2% goal. During the press conference, Chairman Powell acknowledged that if the data continues to progress as expected, it would be appropriate to begin cutting rates at the September meeting. He clarified that "no decisions have been made about future meetings," including the September meeting. The Committee believes the economy is nearing a point where it might be appropriate to reduce the policy rate, but this decision will be data-dependent, considering the totality of data, the evolving outlook, and the balance of risks. Powell emphasized that the decision will not hinge on one or two specific data releases but on a broader assessment of economic conditions, including inflation and the labor market.

Shortly after Powell indicated that the Fed would place greater emphasis on its employment mandate compared to the past two years, the July employment report significantly underperformed expectations. Nonfarm payrolls rose by 114,000, falling short of the consensus of 175,000 and marking the slowest growth in over three years. Additionally, 29,000 jobs were removed from the prior two months, bringing the three-month moving average of payroll gains to 170,000. For the fourth consecutive month, the unemployment rate increased, this time by 0.2% to 4.3%. Average hourly earnings moderated to 3.6% y/y, down from the previous month's 3.9%, in line with the disinflationary narrative. This, along with the softer 0.9% quarter-over-quarter (q/q) increase in the Employment Cost Index in the second quarter, showed that easing wage pressures are well established moving into the third quarter. Despite the Bureau of Labor Statistics (BLS) stating that the hurricane in Texas had no impact on this report, Hurricane Beryl may have had some negative affect, with the number of people not at work due to bad weather jumping to 461k, the second highest print since 2021.

This disappointing data, coupled with other weak economic indicators, reinforced the case for a rate cut in September. Consequently, Treasury yields declined and ended the month significantly lower as the market began to pull forward expectations for Fed rate cuts. Three- and six-month Treasury bill yields fell by 7 basis points (bps) and 24 bps to 5.29% and 5.09%, respectively. Longer-term Treasury yields fell even further, with one- and two-year Treasury yields dropping 37 bps and 50 bps to 4.75% and 4.26%, respectively.

Outlook

For over two years, the Federal Reserve's primary objective has been to bring inflation back to its 2% target. As the disinflationary trend has persisted and economic data has shown signs of moderation, the Fed has indicated that the risks to achieving its dual mandate are becoming more balanced. For the first time in this cycle, the Committee has underscored its focus on both mandates, whereas previous statements primarily highlighted inflation risks. This dovish stance has bolstered market expectations for a September rate cut. Markets began to price even more cuts following the softer July Jobs report.

The July Jobs report casts doubt on the Fed's assumption of a labor market gradually returning to balance. The data appears weak, heightening the risk of a more significant labor market decline. The noticeable rise in the unemployment rate and the downward trend in wages, although broadly in line with the Fed's expectations, suggest that the labor market's impact on future policy may have been underestimated. With various labor market indicators showing softness, the Fed may need to implement rate cuts sooner to maintain a balanced economy. In our view, three rate cuts this year are probable, with the first likely in September. If the August employment report confirms that July's data was not an outlier, a 50-basis point cut in September becomes a distinct possibility, along with a faster and larger cutting cycle.

This information is an excerpt from an economic report dated July 2024 provided to TexSTAR by JP Morgan Asset Management, Inc., the investment manager of the TexSTAR pool.



TEXSTAR BOARD MEMBERS

Monte Mercer	North Central TX Council of Government	Governing Board President
David Pate	Richardson ISD	Governing Board Vice President
David Medanich	Hilltop Securities	Governing Board Secretary
Andrew Linton	J.P. Morgan Asset Management	Governing Board Asst. Sec./Treas
Brett Starr	City of Irving	Advisory Board
Sandra Newby	Tarrant Regional Water Dist/Non-Participant	Advisory Board
Ron Whitehead	Qualified Non-Participant	Advisory Board

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CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024 AGENDA ITEM #9

Discuss and consider approving a contract with CDM Smith 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 and 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 our toll facility's traffic and revenue including corridor travel demands, future growth characteristics, market capture and demand share. The Authority's Debt Indenture also requires 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 CDM Smith, Inc. for traffic and revenue engineering services for a term of five years with a not to exceed cumulative payment obligation (including obligation for Consultant's profit) in the amount provided 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 CDM SMITH, 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 CDM Smith, Inc. (CDM Smith) for traffic and revenue engineering services and authorized the Executive Director to negotiate a contract with CDM Smith; and

WHEREAS, the Executive Director and CDM Smith 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 CDM Smith, 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 CDM Smith, Inc. for traffic and revenue engineering services; and

BE IT FURTHER RESOLVED that the Executive Director is hereby authorized to execute the contract with CDM Smith, 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 CDM Smith, 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 the 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 but not shown on Appendix B must be provided with any invoice reflecting such work. Unless waived in writing by the Executive Director or his designee, no invoice may contain, and the Authority will not be required to pay, any charge which is more than three (3) months old at the time of invoicing. All books and records relating to the Consultant's or subconsultants' time, out-of-pocket expenses, materials, or other services or deliverables invoiced to the Authority under this Agreement shall be made available during the Consultant's normal business hours to the Authority and its representatives for review, copying, and auditing throughout the term of this Agreement and, after completion of the work, for three (3) years, or such period as is required by Texas or Federal law, whichever is longer.
- g) **EFFECT OF PAYMENTS.** No payment by the Authority shall relieve the Consultant of its obligation to deliver timely the Services required under this Agreement. If after

approving or paying for any Service, product or other deliverable, the Authority determines that said Service, product or deliverable does not satisfy the requirements of this Agreement, the Authority may reject same and, if the Consultant fails to correct or cure same within a reasonable period of time and at no additional cost to the Authority, the Consultant shall return any compensation received, therefore. In addition to all other rights provided in this Agreement, the Authority shall have the right to set off any amounts owed by the Consultant pursuant to the terms of this Agreement upon providing the Consultant prior written notice thereof.

- h) **PLACE OF PAYMENT.** Payments owing under this Agreement will be made by the Authority within thirty (30) days after receipt of the monthly invoice therefore, together with suitable supporting information, provided that if the payment is one eligible for reimbursement to the Authority from TxDOT, payment will be made within fifteen (15) business days of receipt by the Authority of the TxDOT payment. In the event the Authority disputes payment, the Authority will pay the undisputed portion when due. Payment shall be forwarded to the address shown for the Consultant: 9430 Research Blvd., Suite 1-200, Austin TX 78759.
- 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 CDM Smith, 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:

CDM Smith, Inc.
9430 Research Blvd.
Suite 1-200
Austin, TX 78759

Attn: Christopher E. Mwalwanda, Vice 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

CDM SMITH, INC.



By: _____ By: _____

Name: _____ Name: Christopher Mwalwanda _____

Title: _____ Title: Vice President/Client Service Leader _____

Date: _____ Date: 08/16/2024 _____

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

PRIME PROVIDER NAME: **CDM Smith Inc.**

Year 1* Average Hourly Wage Rate	Overhead G & A	Profit	Fully Burdened Hourly Labor Rate	
(A)	(B)	(C)	(Columns A+B+C)	
Labor/Staff Classification	154.03%	10%		
Project Principal/Senior Advisor (15+ Yrs)	\$142.00	\$218.72	\$36.07	\$396.79
Technical Leader (15+ Yrs)	\$70.00	\$107.82	\$17.78	\$195.60
Project Manager (15+ Yrs)	\$130.00	\$200.24	\$33.02	\$363.26
Deputy Project Manager (15+Yrs)	\$110.00	\$169.43	\$27.94	\$307.38
Engineer III (15+ Yrs)	\$90.00	\$138.63	\$22.86	\$251.49
Engineer II (8-14 Yrs)	\$70.00	\$107.82	\$17.78	\$195.60
Engineer I (1-7 Yrs)	\$55.00	\$84.72	\$13.97	\$153.69
Senior GIS (15+Yrs)	\$60.00	\$92.42	\$15.24	\$167.66
GIS Analyst II (9-14 Yrs)	\$50.00	\$77.02	\$12.70	\$139.72
GIS Analyst I (0-8 Yrs)	\$37.00	\$56.99	\$9.40	\$103.39
Planner/Modeler III (15 + yrs)	\$100.00	\$154.03	\$25.40	\$279.43
Planner/Modeler II (9 -15 yrs)	\$75.00	\$115.52	\$19.05	\$209.57
Planner/Modeler I (0 - 8 yrs)	\$50.00	\$77.02	\$12.70	\$139.72
Senior Toll System Specialist (> 10 yrs)	\$115.00	\$177.13	\$29.21	\$321.35
Toll System Specialist (< 10 yrs)	\$65.00	\$100.12	\$16.51	\$181.63
Senior Project Controls Specialist (>10 yrs)	\$64.00	\$98.58	\$16.26	\$178.84
Project Controls Specialist (1-10 yrs)	\$48.00	\$73.93	\$12.19	\$134.13
Senior Project Administrator/Contract Manager (>10 yrs)	\$48.00	\$73.93	\$12.19	\$134.13
Project Administrator/Contract Manager (1-10 Yrs)	\$40.00	\$61.61	\$10.16	\$111.77
Admin/Clerical (1-5 Yrs)	\$32.00	\$49.29	\$8.13	\$89.42

*Year 1 is from January 1, 2024, through December 31, 2024.

Negotiated Offsite Year 1 OH Rate: 154.03%
 Negotiated Profit Rate: 10.00%

SUBPROVIDER NAME:

C J Hensch and Associates, Inc.

Labor/Staff Classification	Year 1* Average Hourly Wage Rate (A)	Overhead G & A (B)	Profit (C)	Fully Burdened Hourly Labor Rate (Columns A+B+C)
		120.00%	10.00%	
Support Project Manager (10-20 Yrs)	\$89.00	\$106.80	\$19.58	\$215.38
Senior Traffic Technician (15+ Yrs)	\$27.50	\$33.00	\$6.05	\$66.55
Traffic Technician (5-15 Yrs)	\$22.00	\$26.40	\$4.84	\$53.24
Junior Traffic Technician (0-5 Yrs)	\$19.50	\$23.40	\$4.29	\$47.19
Admin/Clerical	\$28.00	\$33.60	\$6.16	\$67.76

*Year 1 is from January 1, 2024 through December 31, 2024.

Negotiated Offsite Year 1 OH Rate: 120.00%

Negotiated Profit Rate: 10.00%

Traffic and Traffic Signal Timing Unit Costs		
Services To Be Provided	Unit	Average Rates (1)
Turning Movement Counts		
2-hour Turning Movement Count, Major Intersection,	per intersection	\$ 405.00
2-hour Turning Movement Count, Major Intersection,	per intersection	\$ 425.00
2-hour Turning Movement Count, Minor Intersection,	per intersection	\$ 230.00
2-hour Turning Movement Count, Minor Intersection,	per intersection	\$ 250.00
13-hour Turning Movement Count Major Intersection	per intersection	\$ 1,300.00
13-hour Turning Movement Count Minor Intersection	per intersection	\$ 840.00
24-Hour Video System Classification Counts - Major	per intersection	\$ 1,575.00
24-Hour Video System Classification Counts - Minor	per intersection	\$ 1,155.00
Intersection Turning Movement Counts - Minor (additional	per hour	\$ 200.00
Intersection Turning Movement Counts - Major (additional	per hour	\$ 265.00
Intersection Video	per day	\$ 250.00
24-Hour Counts		
24-Hour Automated Tube Counts - Volume	per direction/ per	\$ 210.00
24-Hour Automated Tube Counts - Speed or Class	per direction/ per	\$ 290.00
24-Hour Volume Mainlane Video/Radar Count	per lane/day	\$ 210.00
24-Hour 3 Vehicle Classification Main Lane Count	per lane/day	\$ 265.00
24-Hour 13 Vehicle Classification Main Lane Count	per lane/day	\$ 370.00
Additional Traffic Control (no lane closures/detour)	day	\$ 1,840.00
Additional Traffic Control (lane closures/detour)	day	\$ 2,625.00
Speed Surveys		
Curve Speed Survey	per curve	\$ 500.00
Spot Speed Survey	per location	\$ 210.00
Travel Times		
Travel Time Runs in DMI-Equipped Vehicle	hour	\$ 210.00
Travel Time- MAC Address Capture	per hour/unit	\$ 95.00
Origin Destination		
72-Hour Bluetooth O/D Main Lane	per unit	\$ 1,210.00
72-Hour Bluetooth O/D Arterial	per unit	\$ 630.00

(1) Calendar Year 2024 rates, which will be updated to include annual escalation for subsequent years.

SUBPROVIDER NAME:

GRAM Traffic North Texas, Inc.

Labor/Staff Classification	Year 1*	Overhead G & A (B)	Profit (C)	Fully Burdened Hourly Labor Rate (Columns A+B+C)
	Average Hourly Wage Rate (A)			
		160.00%	10.00%	
Principal	\$35.00	\$56.00	\$9.10	\$100.10
Field Supervisor (10+ Yrs)	\$35.00	\$56.00	\$9.10	\$100.10
Senior Traffic Technician (15+ Yrs)	\$29.00	\$46.40	\$7.54	\$82.94
Traffic Technician (5-15 Yrs)	\$25.00	\$40.00	\$6.50	\$71.50
Junior Traffic Technician (0-5 Yrs)	\$37.00	\$59.20	\$9.62	\$105.82
Admin/Clerical	\$32.00	\$51.20	\$8.32	\$91.52

*Year 1 is from January 1, 2024 through December 31, 2024.

Offsite Year 1 OH Rate: 160.00%

Profit Rate: 10.00%

Traffic and Traffic Signal Timing Unit Costs		
Services To Be Provided	Unit	Average Rates (1)
Turning Movement Counts		
2-hour Turning Movement Count, Major Intersection, Weekday	per intersection	\$ 500.00
2-hour Turning Movement Count, Major Intersection, Weekend	per intersection	\$ 545.00
2-hour Turning Movement Count, Minor Intersection, Weekday	per intersection	\$ 315.00
2-hour Turning Movement Count, Minor Intersection, Weekend	per intersection	\$ 370.00
13-hour Turning Movement Count Major Intersection	per intersection	\$ 1,645.00
13-hour Turning Movement Count Minor Intersection	per intersection	\$ 1,225.00
24-Hour Video System Classification Counts - Major Intersection	per intersection	\$ 2,000.00
24-Hour Video System Classification Counts - Minor Intersection	per intersection	\$ 1,575.00
Intersection Turning Movement Counts - Minor (additional turning movement count hours)	per hour	\$ 275.00
Intersection Turning Movement Counts - Major (additional turning movement count hours)	per hour	\$ 425.00
Intersection Video	per day	\$ 525.00
24-Hour Counts		
24-Hour Automated Tube Counts - Volume	per direction/per counter/day	\$ 270.00
24-Hour Automated Tube Counts - Speed or Class	per direction/per counter/day	\$ 358.00
24-Hour Volume Mainlane Video/Radar Count	per lane/day	\$ 530.00
24-Hour 3 Vehicle Classification Main Lane Count	per lane/day	\$ 430.00
24-Hour 13 Vehicle Classification Main Lane Count	per lane/day	\$ 510.00
Additional Traffic Control (no lane closures/detour)	day	\$ 2,375.00
Additional Traffic Control (lane closures/detour)	day	\$ 3,325.00
Speed Surveys		
Curve Speed Survey	per curve	\$ 510.00
Spot Speed Survey	per location	\$ 285.00
Travel Times		
Travel Time Runs in DMI-Equipped Vehicle (Includes labor and mileage on site; processing labor not included)	hour	\$ 235.00
Travel Time- MAC Address Capture	per hour/unit	\$ 110.00
Origin Destination		
72-Hour Bluetooth O/D Main Lane	per unit	\$ 1,700.00
72-Hour Bluetooth O/D Arterial	per unit	\$ 1,700.00

(1) Calendar Year 2024 rates, which will be updated to include annual escalation for subsequent years.

SUBPROVIDER NAME:

Baez Consulting, LLC

Labor/Staff Classification	Year 1* Average Hourly Wage Rate (A)	Overhead G & A (B)	Profit (C)	Fully Burdened Hourly Labor Rate (Columns A+B+C)
Senior Advisor	\$128.00	\$217.04	\$34.50	\$379.54
Senior Transportation Modeler	\$80.00	\$135.65	\$21.56	\$237.21
Admin/Clerical	\$30.00	\$50.87	\$8.09	\$88.95

*Year 1 is from January 1, 2024 through December 31, 2024.

Negotiated Offsite Year 1 OH Rate: 169.56%

Negotiated Profit Rate: 10.00%

SUBPROVIDER NAME:

Blue Door Strategy and Research

Labor/Staff Classification	Year 1* Average Hourly Wage Rate (A)	Overhead G & A (B)	Profit (C)	Fully Burdened Hourly Labor Rate (Columns A+B+C)
		120.00%	10.00%	
Support Manager	\$107.50	\$129.00	\$23.65	\$260.15
Engineer Technician - Senior	\$103.50	\$124.20	\$22.77	\$250.47
Travel Demand Modeler - Senior	\$134.30	\$161.16	\$29.55	\$325.01
Transportation Planner - Senior	\$107.50	\$129.00	\$23.65	\$260.15
Administrative/Clerical	\$35.00	\$42.00	\$7.70	\$84.70

*Year 1 is from January 1, 2024 through December 31, 2024.

Negotiated Offsite Year 1 OH Rate: 120.00%

Negotiated Profit Rate: 10.00%

SUBPROVIDER NAME:

Bomba Consulting, LLC

Labor/Staff Classification	Year 1*	Overhead G & A (B)	Profit (C)	Fully Burdened Hourly Labor Rate (Columns A+B+C)
	Average Hourly Wage Rate (A)			
		140.00%	10.00%	
Senior Economicst/Demographer	\$86.20	\$120.68	\$20.69	\$227.57
Planner	\$55.11	\$77.15	\$13.23	\$145.49

*Year 1 is from January 1, 2024 through December 31, 2024.

Negotiated Offsite Year 1 OH Rate: 140.00%
Negotiated Profit Rate: 10.00%

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 CDM Smith, 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. 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: _____

CDM SMITH, INC.

By: _____

Name: _____

Title: _____

Date: _____

CDM Smith Employee	Classification	2024 Rate (\$/hr.)
Adams, Lauren M	Admin/Clerical (1-5 Yrs)	\$33.37
Allaire, Scott A	Project Principal/Senior Advisor (15+ Yrs)	\$116.23
Amar, Elizabeth Runey (Liza)	Engineer III (15+ Yrs)	\$99.91
Aron, David	Planner/Modeler II (9 -15 yrs)	\$60.88
Begert, Daniel	Planner/Modeler I (0 - 8 yrs)	\$46.63
Bigos, Evan K	Planner/Modeler II (9 -15 yrs)	\$57.60
Bleau, Jennifer	Toll System Specialist (< 10 yrs)	\$61.99
Boesch, Tim	Planner/Modeler III (15 + yrs)	\$89.82
Cavusoglu, Ozge	Planner/Modeler I (0 - 8 yrs)	\$47.27
Chen, Szu-han	Engineer II (8-14 Yrs)	\$56.51
Dashpute, Aniket S	Engineer I (1-7 Yrs)	\$32.27
Dirks, Abbie C	Engineer I (1-7 Yrs)	\$36.78
Dunn, Travis	Project Principal/Senior Advisor (15+ Yrs)	\$111.03
Gapta, Arti	Project Principal/Senior Advisor (15+ Yrs)	\$115.29
Gardes, Yonnel	Planner/Modeler II (9 -15 yrs)	\$76.43
Gautam, Bikash	Technical Leader (15+ Yrs)	\$66.38
Grzegorzcyk, Tyler	Planner/Modeler II (9 -15 yrs)	\$66.94
Hammond, Todd	Senior Toll System Specialist (> 10 yrs)	\$83.70
Haque, Khademul	Engineer I (1-7 Yrs)	\$48.03
Jadhav, Ajay	GIS Analyst II (9-14 Yrs)	\$39.68
Jarmarwala, Yagnesh	Project Principal/Senior Advisor (15+ Yrs)	\$116.86
Kalakuntla, Sai	Engineer I (1-7 Yrs)	\$45.88
Kamal, Mustafa	Planner/Modeler III (15 + yrs)	\$91.78
Khan, Kamran A	Project Principal/Senior Advisor (15+ Yrs)	\$142.03
Khoury, Lana	Engineer I (1-7 Yrs)	\$47.67
Kudale, Siddhesh R	Engineer I (1-7 Yrs)	\$34.50
Kulakowski, Cissy S	Project Principal/Senior Advisor (15+ Yrs)	\$104.79
Kulkarni, Aakanksha S	Engineer I (1-7 Yrs)	\$37.04
Kwong, Alison N	Project Administrator/Contract Manager (1-10 Yrs)	\$36.49
Lam, Chi Ping	Planner/Modeler II (9 -15 yrs)	\$67.44
Lin, Laurent	Planner/Modeler I (0 - 8 yrs)	\$51.41
Lu, Yandan	Planner/Modeler II (9 -15 yrs)	\$68.42
Marfitano, Steven	Planner/Modeler II (9 -15 yrs)	\$75.04
Matysek, Abril E	Engineer I (1-7 Yrs)	\$46.74
Mokkapati, Naveen	Planner/Modeler II (9 -15 yrs)	\$65.86
Mwalwanda, Christopher E	Project Manager (15+ Yrs)	\$123.34
Ochoa, Ybette	Engineer III (15+ Yrs)	\$83.57
Parks, Meredith R	Project Administrator/Contract Manager (1-10 Yrs)	\$37.07
Patel, Parth	Engineer II (8-14 Yrs)	\$50.88
Sarikonda, Vishal	Engineer I (1-7 Yrs)	\$54.24
Shabaanzaadeh Minaei, Negaar	Engineer I (1-7 Yrs)	\$49.38
Singh, Kunal	Engineer I (1-7 Yrs)	\$47.37
Sirandas, Sai Ram	Planner/Modeler II (9 -15 yrs)	\$81.74
Thomas, Amit	Planner/Modeler III (15 + yrs)	\$101.60
Tidwell, David	Planner/Modeler I (0 - 8 yrs)	\$54.21
Rima, Tarannum	Planner/Modeler II (9 -15 yrs)	\$75.15
Reid, Robert J	Senior GIS (15+Yrs)	\$43.74
Vohra, Zunubia Abbasbhai (Zunubia)	Project Controls Specialist (1-10 yrs)	\$45.37
Winn, Justin	Engineer III (15+ Yrs)	\$93.83
Wang, Xiaoran	Engineer I (1-7 Yrs)	\$46.82
Yohannes, Anteneh	Engineer I (1-7 Yrs)	\$51.40
Zhao, Yong	Deputy Project Manager (15+Yrs)	\$102.25

APPENDIX D
SUBCONSULTANTS

Bomba Consulting, LLC:

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

Bauz Consulting

*Gustavo Baez
706 Nocona Dr
Allen, TX 75013
Ph: (214)864-9619*

CJ Hensch & Associates, Inc.:

*Carlos Sepulveda
11801 Domain Blvd.
Suite 500
Austin, TX 78758
Ph: (512) 340-1108*

Gram Traffic North Texas, Inc.

*Stephanie Swenson
1120 W Lovers Ln
Arlington, TX 76013
Ph: (817)265-8968*

Blue Door Strategy & Research

*Johanna Zmud
4503 Kitty Ave.
Austin, TX 78721
Ph: (202)679-3195*

APPENDIX E
KEY PERSONNEL

Title	Employee Name
Project Principal	Kamran Khan
Project Manager	Christopher Mwalwanda
Senior Technical Advisor	Cissy Kulakowski, PE, PMP
Senior Technical Advisor	Scott Allaire
Technical Leader	Bikash Gautam
Deputy Project Manager	Yong Zhao, PhD, PE, AICP, PMP
Data Collection/Analytics	Parth Patel
Data Collection/Analytics	Yandan Lu, AICP
Demographic/Economic Analysis	Evan Bigos
Demographic/Economic Analysis	Abril Matysek, PE
Traffic and Revenue	Mustafa Kamal
Traffic and Revenue	Xiaoran Wang
Traffic Engineering/Traffic Operations	Ybette Ochoa, PE
Traffic Engineering/Traffic Operations	Anteneh Yohannes, PE
TIFIA Support/Risk Analysis	John Muñoz
TIFIA Support/Risk Analysis	Naveen Mokkaapati, PE
TIFIA Support/Risk Analysis	Laurent Lin
Tolling Technology	Dusty Deitiker
Tolling Technology	Vickie Dewey
Tolling Feasibiliy	Justin Winn, PE
SR/RP Surveys	Dan Begert, AICP
Multimodal Studies	Tim Boesch, AICP
Emerging Technologies	Sai Sirandas

APPENDIX F
CONSULTANT STATEMENT OF QUALIFICATIONS

[Attached]



QUALIFICATIONS

Central Texas Regional Mobility Authority

Traffic and Revenue Engineering Services



JUNE 12, 2024

**CDM
Smith**

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June 12, 2024

Mr. Jose Hernandez
Central Texas Regional Mobility Authority (CTRMA)
3300 N IH 35, Suite 300, Austin, TX 78705

Subject: Traffic and Revenue (T&R) Engineering Services

Dear Mr. Hernandez,

Thank you for the opportunity to submit our response to the RFQ for T&R consulting and traffic engineering services for the CTRMA.

As a toll industry leader, CDM Smith is the best team for the job.

For more than six decades, CDM Smith has been providing our toll agency clients with reliable information and thoughtful solutions.

Our T&R forecasts have **supported more than \$150 billion** in critical transportation improvements worldwide. We provide trust indenture services and routine monitoring and traffic engineering services to many public toll agencies across the U.S. **We have worked closely with CTRMA and the region over the past 15 years, supporting several T&R studies within Central Texas with traffic engineering and T&R monitoring services, dynamic pricing evaluation, express lanes operation analysis, and technical assistance, and we look forward to building upon this successful relationship.**

We understand that fulfillment of your mission necessitates the retention of a nationally recognized T&R engineer for traditional and express lane independent T&R studies and certifications supporting toll revenue bond sales, refundings, and refinancings to finance the agency’s operations, maintenance, and capital programs.

The T&R engineer also plays a critical role in annual budgeting,

financial reporting, traffic operations and safety, and certification of all changes in toll rates. We recognize that the T&R engineer role extends well beyond these responsibilities. As one of your current T&R engineers, we bring many of the warranted attributes and we place a high value in serving as CTRMA’s trusted advisor—providing a link to the world of express lanes, transportation finance and policy, forecasting, planning, and innovations in technology and operations. In this capacity, we provide independent, objective advice with the benefit of national expertise, while being mindful of the local and regional context—we are locally-based and regionally-focused with a national reach.

As an effective T&R engineer, we quickly respond to the rapidly evolving challenges and opportunities presented to CTRMA. This is achieved through being an effective communication partner and source of reliable information primarily for the Finance Department, while supporting the Project Delivery, Communications/Public Affairs, and Maintenance Departments. We bring to you a team of transportation and tolling professionals located near your headquarters with strong working relationships and credibility within the industry. Our local tolling staff in the Austin region have reliable and relevant expertise, and will continue to offer CTRMA the dependable level of service you have come to trust in supporting your program.

LEADERS IN TRANSPORTATION

CDM Smith is a regionally located, global engineering firm with experts who work together—in teams and in partnership with our clients—to solve transportation challenges. Our breadth of services

BENEFITS OF THE CDM SMITH TEAM TO CTRMA



PROVEN T&R SERVICE
Trusted partners with nationwide successes and lessons learned.



INSTITUTIONAL KNOWLEDGE
More than 15 years of dependable regional support.



FINANCIAL CREDIBILITY
Reliable forecast methodologies that instill confidence.



TRUSTED LEADERSHIP
Proven and direct CTRMA experience.



LOCAL RESOURCES
Dedicated to quality and timely delivery.



DELIVERED INNOVATION
Creative tools and processes for T&R services.

CDM Smith’s local, trusted team’s deep understanding of the region, technical expertise, national tolling experience, and thought leadership will help ensure successful delivery of CTRMA programs. We will support you to position CTRMA to meet future challenges and achieve your vision.

enables us to take transportation projects from conceptual ideas to constructed reality.

Our History: In 1947, Camp Dresser & McKee Inc. was formed to serve clients with high-quality engineering services. With a combined 140 years of engineering excellence, we now provide multi-disciplinary consulting, engineering, operations, and construction services with a staff of 6,300 across 125 offices worldwide.

Our Proven Track Record: Since entering the toll industry in the 1950s, we have performed tolling services in 46 states for dozens of transportation clients. As the national leader in T&R forecasting and managed lane projects, we have completed T&R studies for bond issuances representing 60 percent of the industry and supported more than \$150 billion in bond issuances.



Our Staff Capabilities: With more than 85 staff devoted almost exclusively to the U.S. toll industry, our tolling capabilities span the gamut of CTRMA's needs. This includes tra-

ditional and express lane T&R forecasting, economics and finance,

and toll technology and operations planning to develop regional strategies, toll facility planning, and evaluating pricing mechanisms to manage congestion and improve mobility.

PROJECT PLAN, METHODOLOGY, & APPROACH

Most of our services will be provided by our Austin and other Texas-based staff—our local transportation experts encompass transportation finance, toll/express lane forecasting, technology and operations, and traffic engineering. A majority of our staff that assist CTRMA are long-time residents of the area with a deep understanding of transportation issues in Central Texas. Estimation of future travel demand is greatly aided by this knowledge of the local transportation network, economics, land use, and political influences. Our long-term relationships with municipalities and local and regional transportation authorities result in an exceptional understanding of local technical resources and challenges. **Our proposed and local team has supported nearly all the express lanes currently operating in Texas and continues to provide monitoring services for them.** Overall, CDM Smith employs

CDM SMITH HAS SERVED AS CTRMA'S TRUSTED PARTNER FOR MORE THAN 14 YEARS

RESPONSIVE

Whether asked for a traffic impact estimate in just days or a T&R report in months, we produce memos, white papers, and reports with the accuracy and quality that you deserve and expect. This is made possible due to our dedicated local expertise and national industry perspective, allows us to respond quickly and with confidence.

TRUSTWORTHY

We are viewed favorably by toll bond underwriters, rating agencies, and other transportation agencies, meaning that when CTRMA needs a reliable representative, you can trust our independent, expert opinions. Having supported more than half of all U.S. toll revenue bond sales over the last decade, our T&R forecasts continue to be trustworthy in the financial community.

VERSATILE

We provide extensive services outside of the traditional T&R Engineer role, including commercial vehicle usage evaluations, public outreach assistance, and traffic operations analyses. We have a strong track record of fulfilling your specific needs, and we will continue to meet or exceed your expectations for product quality and technical expertise.

INNOVATIVE

We remain at the forefront of technological advances for mobility alternatives and transportation options in the near future. We are part of the national conversation regarding advancements. In addition, we are involved in studying the broader-scale implementation of connected and autonomous vehicles and are building those impacts into our traffic projections and analyses.

ACCURATE

Drawing upon decades of experience in the tolling industry with dozens of agencies, CDM Smith delivers dependable forecasts that build trust with rating agencies and investors. The accuracy of our forecasts provides a strong foundation upon which CTRMA develops budgets and plans for capital programs, which enhances CTRMA's infrastructure and operations.



more than 85 nationally recognized toll industry experts in Texas, Washington, Florida, Illinois, and Connecticut—more toll experts than our competitors combined.

Specific Services—Continuously Delivered

Your RFQ identifies several key areas in which the T&R engineer is expected to support CTRMA. As one of your current T&R engineers, CDM Smith successfully carries out all duties prescribed under the scope of work, while supporting CTRMA's frequent/day-to-day services, periodic/routine services, and long-term/specialized services.

COMMITMENT TO BUSINESS DIVERSITY

We are committed to meeting CTRMA's Disadvantaged Business Enterprise (DBE) commitments. GRAM NTX, Blue Door Strategy and Research, and Baez Consulting are DBE firms on our team. In addition, several key staff on this contract are women- and/or minority-owned businesses.

SUMMARY

As you review the enclosed response, we encourage you to consider the following differentiators that set CDM Smith apart:

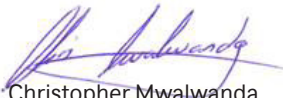
- Local Austin and Texas team with a deep regional understanding and a bench of more than 85 T&R consulting experts dedicated to this unique field.
- Technical excellence and knowledge having supported more than 1,000 tolling studies nationwide, including more than 200 investment grade studies for existing and start-up toll facilities.
- Unparalleled express lane T&R, pricing, and operational analyses support having supported more than half of operating express lane facilities nationwide and nearly all operating express lanes in Texas.

- Financial community credibility having supported approximately 60 percent of all toll revenue bond issues in the U.S. over the last decade.
- A team that supports all the major toll agencies within the state of Texas and has been instrumental in the financing of the majority of toll infrastructure within the state.

CDM Smith has assembled a team of which you will have immediate and unlimited access. These professionals will provide CTRMA with responsive, high-quality advice and services, leveraging lessons learned from previous successes within the region and the state. Our diverse staff, broad scope of service offerings, and teaming partners allow us to adapt quickly as your needs evolve.

We sincerely appreciate the opportunity to submit our qualifications and look forward to assisting CTRMA in continuing to plan and build sustainable transportation infrastructure to help meet anticipated demand, provide economic stability, and benefit future generations. I will serve as the primary contact for this response. Should you have any questions or concerns, please do not hesitate to contact me at mwalwandace@cdmsmith.com or 512.652.5355.

Sincerely,



Christopher Mwalwanda
Vice President
CDM Smith Inc.

Office from which the contract will be managed:

8310-1 N. Capital of Texas Highway, #250, Austin, TX 78731
Phone: 512.346.1100

Statement of Qualifications



SECTION I

The Firm

For 60+ years, CDM Smith has provided consulting engineering services to tolling agencies across the country for planning, design, construction, and operations projects. The depth of our tolling experience – totaling 1,000+ studies – and the successful delivery of comprehensive T&R analyses is unparalleled in the industry.

CDM Smith is an employee-owned corporation providing lasting and integrated solutions in transportation, water, environment, energy, and facilities to public and private clients worldwide. As a full-service consulting, engineering, construction, and operations firm, we deliver exceptional client service, quality results, and value across the entire project life-cycle.

In T&R specifically, we have a strong record of accomplishments spanning more than six decades of toll facility support, totaling more than \$150 billion in bond finance.

We provide independent forecasts and maintain respect and credibility with rating agencies and the financial community. Our T&R expertise involves a range of services covering economics, travel profiles, detailed travel modeling, behavioral research, and much more.

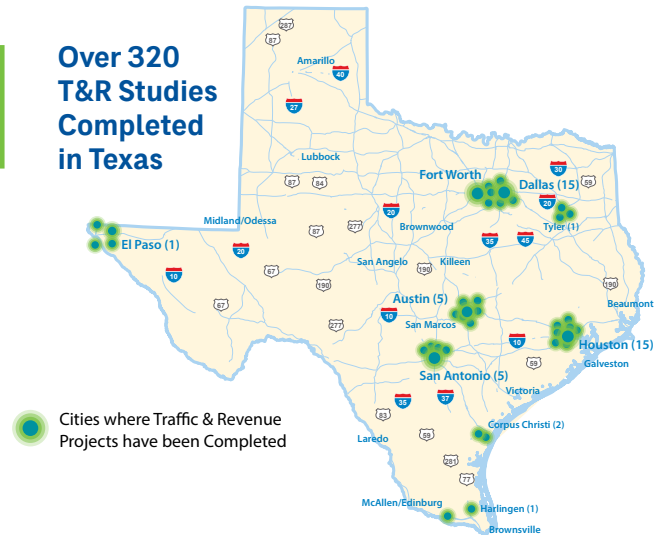
PROVEN T&R SERVICE

CDM SMITH: 60+ Years of Transportation/Tolling Experience

We are the nation's leading T&R expert, serving the country's largest tolling agencies and supporting multi-million-dollar capital budgets. CDM Smith has worked with 50+ tolling agencies for more than 1,000 T&R activities. Our efforts with these clients inform our national perspective for peer toll systems and the industry. We are working in many states to help address transportation funding challenges—we assist DOTs and tolling agencies in developing statewide strategies and toll facility planning and in evaluating

pricing mechanisms to manage congestion and improve mobility. We have staff members who are industry leaders and experts in all modes of transportation. Our proposed team has supported all currently operating express lanes within Texas, many from concept through implementation and monitoring.

Over 320 T&R Studies Completed in Texas



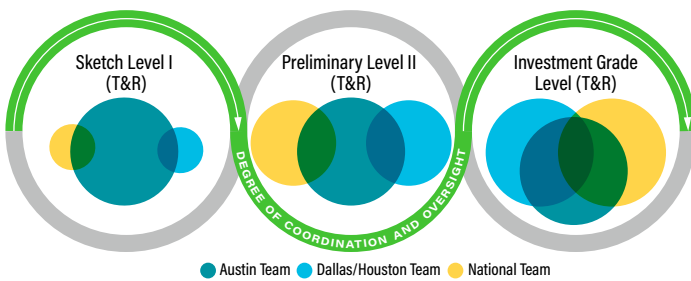
CDM Smith is also considered a leader in toll industry innovations—we supported our clients in pioneering many firsts that include the ETC systems implemented, followed by open road tolling, high-occupancy toll (HOT) lanes, variable pricing, and conversion to cashless toll collections.

In addition, CDM Smith has provided services for the majority of the operational managed lanes in the country. **We have tolling service experience in 46 states, with bonds issued using CDM Smith studies in 25 states. We have evaluated over 320 T&R studies in Texas, with work on a majority of proposed toll road and express lane facilities in Texas.**

A. Capabilities and Resources of Principal Office and Personnel

Our Austin office will serve as the principal office responsible for performing this work. This office consists of over 10 T&R experts and is part of a large nationwide division with more than 85 staff members dedicated to providing specialized services to the toll industry located in Dallas, and Houston in Texas; California/Washington; Hartford, Connecticut; Lisle, Illinois; and Maitland,

Florida. Our T&R staff deal exclusively in T&R analysis and bring a broad range of experience in the areas of complex travel demand modeling, toll revenue estimation, toll sensitivity analyses, toll rate adjustment analyses, congestion pricing assessments, traffic engineering, economic trending, and data collection and analysis that includes speed and delay, traffic counts, origin/destination, and behavioral stated preference surveys. On investment grade studies, where more detailed coordination to meet the quality and expectations of the financial community is needed, staff from various offices will be involved, while sketch and preliminary level analyses are predominately performed by our Austin office.



This represents the level of coordination anticipated between the regional Texas offices and other various CDM Smith offices and the level of oversight that will be implemented for each project as it moves through the toll feasibility levels.

Kamran Khan, the designated project principal/director has more than 34 years of experience in supporting traditional and express lane financings around the nation and has supported **over \$30 billion in T&R bond financing**. He has made numerous presentations to rating agencies, investors roadshows, and to the FHWA's Transportation Infrastructure Finance and Innovation Act program.

Christopher Mwalwanda, the designated project manager in Austin, has a master's degree in traffic modeling with more than 20 years of experience in traffic engineering, complex travel demand modeling, traffic simulation, report writing, public presentations, and creation of innovative tools for toll traffic demand modeling applications and has supported **over \$20 billion in T&R bond financing**. Our deputy project manager **Yong Zhao**, currently serving as PM for the existing CTRMA T&R contract, has a PhD degree in transportation and more than 24 years of experience in leading complex toll road and express lane projects across the nation, supporting **more than \$8 billion in**

toll road financing/refinancing for both public and private agencies for numerous toll projects including the Manor Expressway (US 290E), MoPac North Express Lanes, NTTA System facilities, HCTRA System facilities, BCTRA SH 288 ML, and I-405 and I-5 express lane facilities in California.

The proposed CDM Smith team has also worked on many projects within the state, including the MoPac North and South Express Lanes, CTTS Peer Review, US 183 Express Lanes, US 290 Peer Review, SH 130 Segments 5 & 6, Trans-Texas Corridor 35, RM 2222 and many more within the Central Texas region, the I-35E Express Lanes, LBJ Express Lanes, North Texas Tollway Authority System, and North Tarrant Expressway (NTE) Segments 1&2W, 3A, 3B, 3C, Midtown Express SH 183, Loop 12) in the Dallas region; Toll 49 initial system and Segment 4 projects in Tyler; and the bulk of all major corridors within the Houston region including the Grand Parkway System and the SH 288 express lanes. **An organizational chart and details of key Texas office personnel is provided in Section II.**

B. Experience Providing Complex Traffic Modeling and Forecasting Tools

The firm is currently involved in a similar capacity as being sought by CTRMA with the following major Texas toll authorities: HCTRA, NTTA, NET RMA, and the Texas Department of Transportation (TxDOT). As traffic consultants to these agencies, CDM Smith has performed a wide variety of traffic and revenue related services that include traffic modeling and annual toll revenue forecasting and monitoring, trust indenture reviews and certification, toll rate structure recommendations, toll covenant safeguards, peer review services for Transportation Infrastructure Finance and Innovation Act (TIFIA) applications, local technical coordination, and overall transportation system monitoring. **The support for more than \$150 billion in toll bond finance, including bond issuance for start-up and mature systems, is a testament to CDM Smith's continued success.**

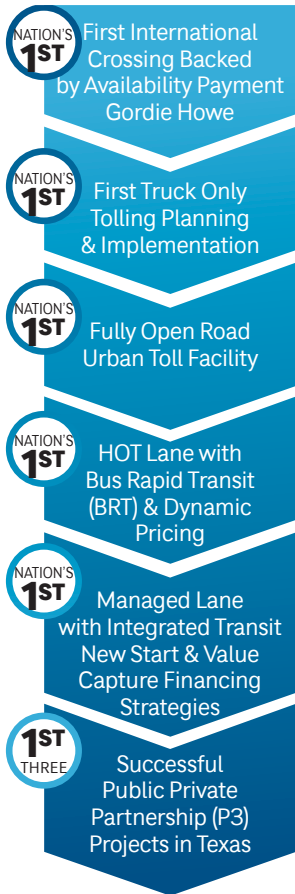
CDM Smith has extensive experience in Texas and other states across the nation in corridor traffic studies, to assist with the environmental assessment and project design support. Our expertise is in modeling

and evaluation of design options for express and general use lane improvements and express lane access, environmental studies of mobile source air toxics, and project and regional environmental justice toll impact assessments.

CDM SMITH BRINGS INNOVATION TO EVERY TASK UNDERTAKEN

The comprehensive CDM Smith tolling experience from planning concepts to final implementation and monitoring nationally, has enabled CDM Smith to develop state-of-the-art techniques, tools,

CDM Smith is committed to continuously advancing the state-of-the-practice to higher levels to better serve the industry as shown by this list of many firsts we have supported.



and databases necessary to support financing of toll facilities and bring innovation and efficiencies into every aspect of CDM Smith's T&R services.

CDM Smith takes pride in being widely recognized as a leader for confronting an ever-changing environment with innovation. Current corporate leadership continue to blaze new trails, particularly in the areas of next generation tolling applications—from all-electronic toll collection conversions to vehicle-miles-traveled tolling research—CDM Smith remains committed to the toll industry and our clients. We have developed and undertaken many special studies and reports to highlight critical and relevant findings of trends within the toll industry

and have presented these in multiple industry forums, including IBTTA, TRB, ARTBA, WTS, and other regional conferences. Our team brings to CTRMA:

- **Comprehensive understanding of regional travel patterns:** The CDM Smith team has undertaken numerous toll studies within the greater Austin region and thus has a solid understanding of

the regional demographics, key movements, and distribution of traffic throughout the region, for example our work on MoPac North/South Express Lanes and US 183A.

- **Unmatched understanding of the toll behavioral**

characteristics: Our current work pertaining to toll market behavioral assessments for other tolled and express lane facilities nationwide and in the region provides some unique perspectives on the value-of-time/value-of-reliability distributions and factors affecting the traveling markets willingness-to-pay characteristics and state-of-the-art procedures in the collection of these.

- **Unique toll diversion, toll setting, and risk analysis**

methodologies: We have pioneered many of the industry standard methodologies being implemented for toll feasibility assessments to bring to CTRMA a state of the practice perspective in the development of the models and tools to assist in effectively informing decision makers. Our toll diversion methodologies are anchored in our observation of many express lane and tolled facilities around the country to lend further credibility to the developed and modeled results. Our dynamic pricing tools assist to improve the operational characteristics and/or to maximize the toll revenue of toll facilities and express lanes projects. Our cutting-edge risk analysis tools, techniques, and processes informed decisions regarding potential new tolling projects using Monte Carlo simulation. Our participation with IBTTA/TRB informs many special reports/white papers discussing all-electronic tolling (AET) conversion waterfall leakage models, impacts related to emerging technology initiatives for interoperability, autonomous /connected vehicles (AV/CV), and scenario planning for other disruptive technologies.

- **New tools for toll express lane operational analysis:** We

have worked with every operational model platform and bring specialized approaches to incorporate these into feedback loops with the overall regional travel demand models. Development of VISSIM, CORSIM, and mesoscopic or alternative queue accumulator operational model to capture and refine the weaving and merging frictional characteristics associated with a project

configuration. These specialized tools assist in the evaluation of operational characteristics of express lane projects and elasticities to toll rates and various project configurations.

■ **Innovative use of data sources and analytics techniques:**

We are constantly exploring new and innovative methods to collect and support our various assessments. This ranges from data sources such as INRIX for speed and delay profiles to StreetLight Data and AirSage data for origin-destination patterns. Our CDM Smith internal stated preference and market research team uses innovative capture techniques to evaluate and identify the key markets and drivers influencing values-of-time and travel characteristics of various user groups such as commuters, recreational travelers, carpoolers, transit riders, and commercial vehicles. We use cutting-edge software platforms to analyze very large datasets and interactive HTML-based dashboard interfaces and use Artificial Intelligence (AI) and machine learning to support monitoring and data processing elements.

■ **Exemplary understanding of key influential drivers:** The levels and approaches to evaluating the diverse and different markets as it pertains to commuter traffic versus long-distance through-trip markets is something that the CDM Smith team has undertaken across the country. We have a unique understanding of the key influential factors that must be evaluated and the source databases that must be referenced in supporting the development and correlations to traffic generation. This understanding provides CTRMA with the confidence that the CDM Smith team will bring a defensible and robust assessment.

■ **Full service thought leaders and pioneers:** The CDM Smith team provides a full cadre of specialized expertise to support

the many needs that may arise in support of the CTRMA's T&R service needs. Our project principal and project manager and key staff members have the unique background and longstanding experience having performed multiple T&R studies within Austin and other metropolitan areas in Texas and the nation. Our team is also skilled in the toll technology implementation process and back office support needed for electronic collection, video billing, pay-by-mail, and other toll payment alternatives.

■ **Paradigm Shifts in T&R Modeling:** To address the uncertainty and quantify potential T&R impacts of paradigm shifts in travel behavior resulting from a myriad of influences such as the work from home trends, autonomous vehicle trends and disruptive technologies and routing apps, CDM Smith developed and applied scenario planning models to assist several toll agencies to assist with budgeting, bond refinancings and discussions with rating agencies/financial community.

C. Experience with Trust Indentures

CDM Smith has supported many toll authorities for trust indentures and has developed procedures and dashboard tools to assist with system monitoring. These tools assist in evaluating various factors that may affect CTRMA's traffic and toll revenues. We have extensive experience in providing annual reviews, short- (monthly/quarterly) and long-term forecasts as required by trust indentures for distribution to the bond holders. CDM Smith has issued T&R certificates in support of the financing or refinancing efforts of more than \$150 billion in bonds, **\$35 billion for tolled facilities within Texas**. As part of an agency's annual budgeting process, the monitoring tools we use support the short-term forecasting of system revenues. They help us understand national, regional, and local transportation

Experience Delivering Scope of Services

The following summarizes and highlights our experience and proofs in delivering the scope of services outlined in the RFQ:

- Traffic Consultant - serving 10+ toll authority clients in Texas/ over 50+ nationwide
- T&R Projections - 200+ projects in Texas/1,000+ nationwide

- Toll Rate Adjustment Support - 50+ in Texas/100+ nationwide
- MPO Models - all major MPO models in Texas/ 30+ nationwide
- Peer Review/Special T&R Studies - 10+ in Texas/30+ nationwide
- Board/Rating Agency Reporting - 100+ in Texas/500+ nationwide
- Executive Director/CFO Coordination - 200+ in Texas/1000+ nationwide
- Future Project Assessments - 50+ in Texas/+400+ nationwide

trends and, more specifically, toll road trends. **Our team brings extensive experience and a deep understanding of how to meet the financial community's expectations, which is invaluable as CTRMA pursues innovative financing delivery mechanisms.** In addition, CDM Smith has supported toll agency clients with TIFIA application process. Appendix table A-1 shows recent representative projects that obtained a TIFIA loan based on CDM Smith T&R estimates. Additional services rendered as part of the trust indenture requirements may include capital improvement plan changes, toll rate policy changes, system connectivity changes, project scope changes or enhancements, and facility widening projects. Our T&R experience ranges from initial screening/conceptual all the way through to investment grade T&R studies - that includes traffic count collection, stated preference surveys, origin-destination surveys, economic land use and socioeconomic tracking, model refinements, T&R estimation, and sensitivity testing and risk analysis. CDM Smith has extensive experience in the use and enhancement of existing planning models to facilitate the evaluation of toll facilities at various levels of feasibility, as illustrated in Appendix table A-2.

The combination of our experience, knowledge, and innovative analysis methods will assist CTRMA in presenting to investors, implementing new projects, and maintaining existing operations.

D. Experience Providing and Maintaining Traffic Modeling Tools

The firm's Texas toll finance professionals are continually refining or developing new and innovative tools to monitor, forecast and analyze T&R projections for existing and proposed toll road projects. These tools have increased our data processing efficiency and helped summarize origin/destination and stated preference survey databases. Additionally, we have been analyzing the managed lane traffic under dynamic pricing scheme to develop the travel time reliability measure, as well as reveal preferences of managed lane choice behaviors and its comparison to SP survey results. We have also developed mechanisms to streamline the interaction between modeling and simulation software packages as well as complete comprehensive evaluations of historical socioeconomic trends. The

CDM Smith team is extremely proficient in advanced technology and complex transportation engineering software programs including Synchro/SimTraffic, CORSIM, VISSIM, VISSUM, TransCAD, and CUBE Voyager.

CDM Smith was involved with the very first express lane system, SR 91 in California, and has performed services on over 50 percent of the nation's express lane systems. Backed by this wealth of experience, we know the kinds of data to be collected, including traffic counts, travel times, economic data, historical growth, etc., as well as how to develop, calibrate, and analyze models to determine the appropriate balance for reduced congestion and revenue potential. CDM Smith's approach to forecasting express lanes usage, toll rates, and revenue is a proven method, with years of experience on real projects. Our express lane approach combines the broader elements of global demand patterns and growth with a more focused corridor model and simulation model that can properly analyze and respond to the unique interactions between the general purpose lanes and the parallel express lanes over a variety of demand levels. We clearly understand the data needed to form a solid foundation from which to calibrate and base our modeling approach on. We also understand the policy trade-offs that can materially affect revenue generation (positively and negatively) for an express lane facility.

The 4-step travel demand modeling expertise our team brings from working with many regional MPO models across Texas will provide the benefit of first-hand experience as key enhancements as CTRMA continues the development of projects such as the MoPac South Express Lanes project.

As new advancements, such as CV/AV and shared mobility, are implemented on a wider scale, they pose new challenges to transportation planners. In anticipation of emerging trends, CDM Smith is developing scenario planning models to assist transportation agencies to better prepare for uncertainties and make smarter investments for future mobility.

E. Disputes

Summary of all regulatory and legal proceedings

Because of its size and volume of business, over the years CDM Smith Inc. has occasionally been involved in legal proceedings.

There are no past or currently outstanding legal proceedings, judgments, or contingent liabilities that could adversely affect the financial position or ability of CDM Smith to perform its contractual commitments.

Summary of any protest filed by the firm related to procurement of services by any other entity

We are not aware of any protests filed by the firm related to the procurement of services by any other entity.

Any early termination of the firm's work or contract for services by any authority or entity

CDM Smith Inc. does not maintain a centralized record of terminated projects unless those issues lead to litigation or other formal dispute resolution. In May 2024, the Gary Indiana Sanitary District, a long-standing client of CDM Smith Inc., terminated a Master Services Agreement for engineering services for convenience. The District had undergone a substantial change in leadership and the termination was not in any way related to the firm's performance. CDM Smith Inc. continues to provide services to other clients throughout Indiana.

F. Summary of Professional Fees

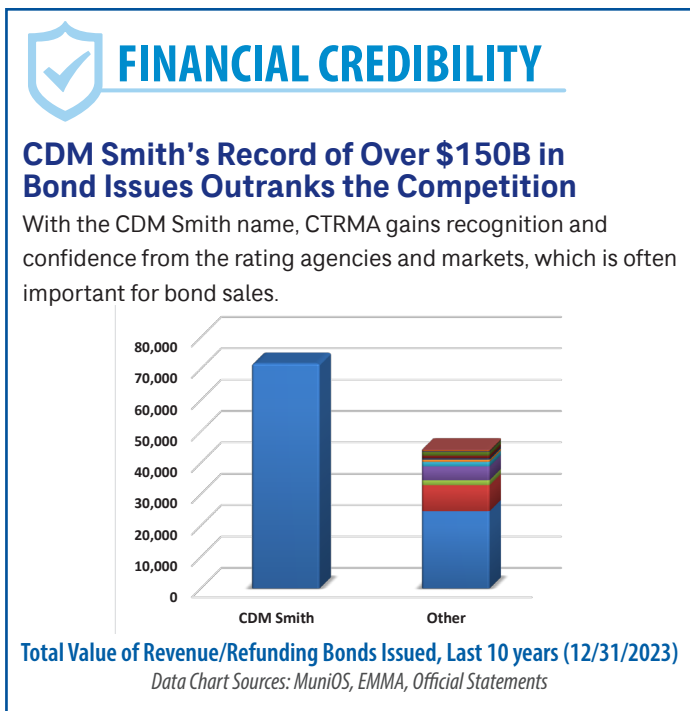
Every aspect of our operation is designed to provide CTRMA with the greatest value through the highest quality products,

the highest level of customer service, and the highest level of responsiveness without any wasted effort or extraneous expenses. Our work authorizations have been and will continue to be based upon actual labor costs multiplied by the firm's audited overhead rate resulting in a loaded labor cost figure. The loaded labor is then multiplied by the agreed upon profit percentage resulting in the total labor fee. We will work closely with CTRMA to develop the scope, schedule, and budget for each new work order that establishes the appropriate level of effort and cost for each new work assignment based on what CTRMA is trying to accomplish and will be subject to final approval by CTRMA before issuance of a formal notice to proceed or before any work commences. We will recommend services and the appropriate level of effort for the proposed assignment and work closely with CTRMA to ensure the fee works within your budgetary constraints under a lump sum for well-defined and scoped requests, cost plus fixed fee for typical complex preliminary or investment grade studies, or specified rates for meeting support and technical services as needed.

A schedule of professional fees will be negotiated and will include an average and a maximum hourly rate for each respective labor classification. Both the average and maximum hourly rates will be subject to annual adjustments accounting for annual salary adjustments. The average hourly rates will be used in the calculation of work authorization fee estimates based upon the anticipated level of effort required for each classification. Staff charged time to a particular project will be invoiced monthly, maintaining the maximum amount agreed upon for each work authorization. Our hourly rate, multiplied by the number of hours worked determines the raw labor cost. The raw labor is then multiplied by the firm's audited overhead rate resulting in a loaded labor cost figure. Direct expenses and outside professionals (subconsultants) costs are then added arriving at the final invoiced amount. CDM Smith typically invoices all active contracts monthly.

G. Conflicts of Interest

On behalf of our entire team, CDM Smith is not aware of any conflicts or potential conflicts of interest.



CTRMA'S CONFLICT OF INTEREST POLICY

CDM Smith has reviewed and will comply with CTRMA's Conflict of Interest disclosures policy adopted by the CTRMA Board.

SECTION II

Firm Organization, Staffing, and Procedures

For more than 15 years, CDM Smith has diligently partnered with CTRMA's staff, board of directors, and customers. Our key personnel have been working for you for nearly 15 years and are committed to continuing to provide you with industry-leading T&R consulting services.

A. Organizational Chart

The proposed organizational structure for the CTRMA contract with key project management, lead personnel, and anticipated subconsultants is illustrated in the organization chart herein. Austin will be designated as the principal office reporting directly to CTRMA and is where the proposed project and deputy managers reside. Christopher, project manager, will be assisted by Yong Zhao who will

serve as deputy project manager and Bikash Gautam and Mustafa Kamal (also residing in Austin), who will serve as technical leaders. Yong, Bikash and Mustafa have extensive experience in managing large and complex toll and express lane projects and bring comprehensive knowledge and expertise regarding T&R services.

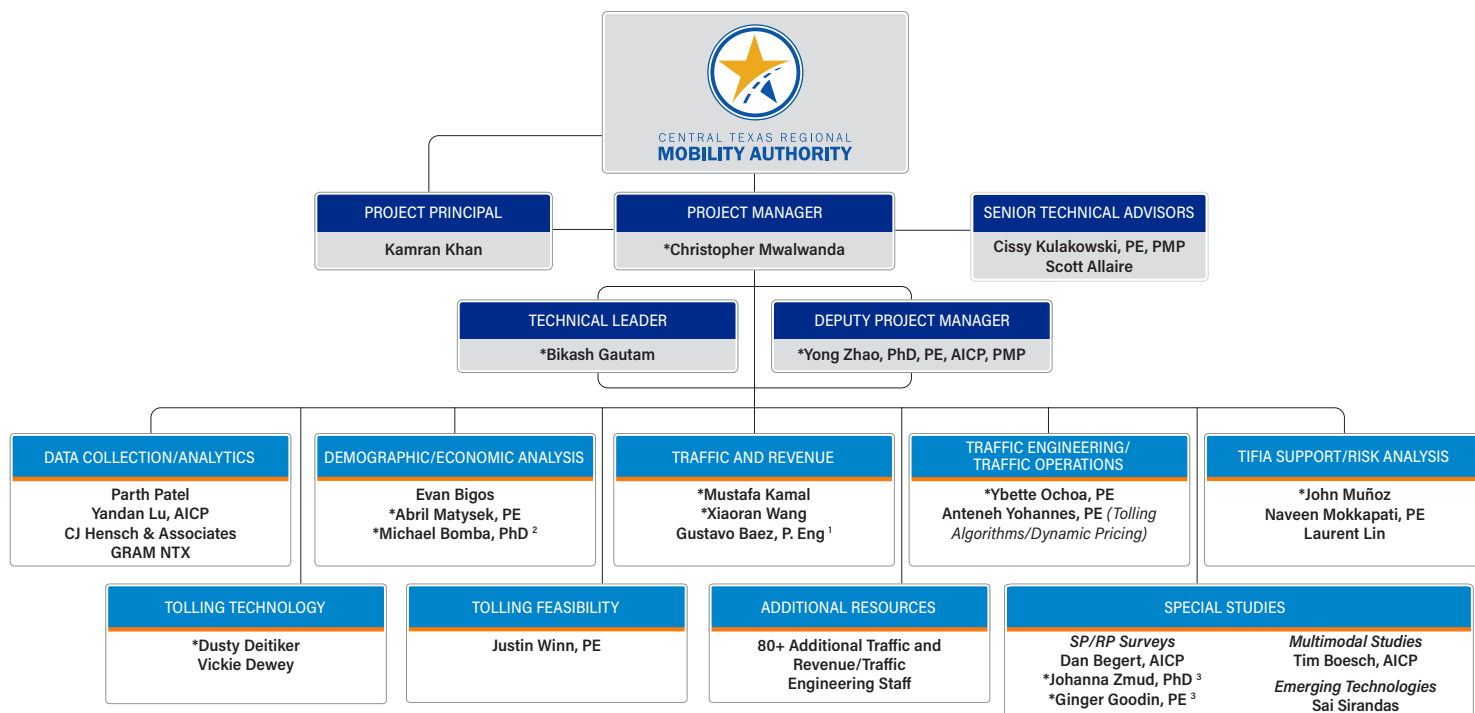
CDM Smith personnel located in our Illinois, California, Florida, Washington, and Connecticut offices will be used as warranted, based upon the scope and the complexity of the individual projects and the schedule requirements of CTRMA. **Christopher Mwalwanda, as a vice president, has full authority to obligate the company contractually and to mobilize and commit resources to assure appropriate staffing levels for all assignments.**

OUR SUBCONSULTANTS WILL LEVERAGE LOCAL AND INSTITUTIONAL KNOWLEDGE TO SUPPORT THIS CONTRACT

We have enlisted the support of the following subconsultants:

BAEZ CONSULTING: 20+ Years of Transportation/Tolling Experience

Baez Consulting, LLC (Baez) specializes in forecasting traffic and toll revenue for transportation projects. Gustavo A. Baez, president, has 21 years of experience in toll feasibility studies, travel demand modeling, congestion pricing, risk analysis, economic growth



LEGEND: Baez Consulting ¹ | Bomba Consulting ² | Blue Door Strategy & Research ³ | * Austin-based Staff

evaluation and traffic simulation. He has participated in more than \$20B in bond financing for toll projects in the USA. Gustavo has managed, directed, and evaluated toll projects for public entities such as NTTA, ArDOT, LaDOTD, CTRMA, Alamo RMA, NET RMA, TxDOT's TTA Division, the Hidalgo County RMA, and OTA.

C J HENSCH & ASSOCIATES: 23 Years of Traffic Data Collection Experience

Established in 1995, C J Hensch & Associates is a Houston-based corporation. The firm specializes in traffic data collection and provides engineering studies for governmental agencies, engineering firms, and developers. C J Hensch has well-qualified staff and modern equipment available to conduct multiple data collection efforts simultaneously.

GRAM TRAFFIC NTX: 15 Years of Transportation Data Collection Experience

GRAM NTX provides traffic data collection services for projects that range from small intersection analyses to large-scale, area-wide data collection programs. Specific services provided include video license plate surveys, ATR counts, turning movement counts, parking surveys, radar speed studies, ball-bank studies, and travel time studies.

BOMBA CONSULTING: 25 Years of Demographic/Economic Analysis Experience

Bomba Consulting prepares transportation planning and economic development studies. The primary focus of the firm is to support T&R studies that assess the feasibility of proposed toll road projects and that fund their construction. Specifically, Bomba Consulting independently reviews and adjusts the socioeconomic data incorporated into travel demand models that predict future traffic and toll revenue on a facility. Recent projects have included supporting a \$1.2B debt refinance for TxDOT for the Central Texas Turnpike System (CTTS) and acquiring roughly \$500M from federal loans and municipal bonds for the CTRMA construction of the US 183 South project. Bomba Consulting's staff have completed socioeconomic reviews for more than 40 T&R studies.

BLUE DOOR STRATEGY AND RESEARCH: 4 Years of Research Methodology Experience

Blue Door is a portal to the collective knowledge and expertise of senior transportation consultants in transportation modeling,

planning, policy, and research. The Blue Door partners have more than 150 years of transportation consulting experience. They deliver consulting services across six key areas of expertise: travel behavior research, travel demand management, policy research, smart mobility markets, support for mobility and delivery technologies, and business strategy. Established in 2022, Blue Door is a certified DBE and HUB.



TRUSTED LEADERSHIP

EXPERIENCE OF KEY PERSONNEL - TRAFFIC AND TOLL REVENUE STUDIES



PROJECT MANAGER: CHRISTOPHER MWALWANDA

Christopher has spent nearly two decades helping public and private clients secure the funds needed to rebuild and maintain their transportation systems, including more than

\$20 billion in toll project financing. He has served as the project director on all T&R studies performed for CTRMA since 2008.

Christopher is a vice president with 25 years of experience in traffic modeling, revenue forecasting, financial feasibility assessments, traffic simulation, public outreach, presentations to rating agencies, strategic privatization and market valuation support, creation of innovative tools for toll traffic demand modeling applications, and peer reviews. Christopher has been providing T&R services for several agencies, including CTRMA, TxDOT, NTTA, HCTRA and NET RMA. He has directly supported over \$20 billion in traditional and express lane/ P3 toll financing for projects such as the greenfield SH 130 Segment 5 and 6 in Austin, SH 99 Grand Parkway, SH 288 Express Lanes in Houston, North Tarrant Express (Segment 1&2W, Segments 3A&3B, and Segment 3C), IH 635 LBJ Express Lanes, IH 35E Express Lanes, Midtown Express (SH 183/SH 114/Loop 12), SH 121, SH 161 in Dallas/Fort Worth, the Gordie Howe International Bridge in Windsor/Detroit, several Oklahoma Turnpike Authority bond issues, and many other multi-billion-dollar mega-projects. Christopher has supported the T&R studies for MoPac North, including the Level 3 T&R Study, and the MoPac South related T&R analyses and traffic analyses for ongoing environmental studies.



**DEPUTY PROJECT MANAGER:
YONG ZHAO, PHD, PE, AICP, PMP**

Yong has more than 24 years of project experience managing preliminary, intermediate, and investment-grade traffic and toll revenue studies, congestion pricing analyses,

travel demand forecasting, risk analysis in travel forecasts, traffic engineering and simulation modeling, and transportation surveys.

Yong has developed more than 90 T&R analyses from sketch level to investment grade for both public and private clients. He directly supported more than \$8 billion bond sale and concession transfer. He has managed various T&R projects for both traditional toll roads and managed lanes and conducted due diligence reviews for T&R studies in Texas and many other states. He was the PM of CTRMA's Manor Expressway (290 Toll) Investment Grade Study and supported the rating agency presentation and bond sale. He also managed the MoPac Express Lane Investment Grade T&R Update Study and tolling algorithm evaluation. Recently, he worked as PM and completed investment grade T&R studies for I-5 and I-405 Express Lane Projects in California. He also finished managed lane T&R studies for I-35E ML, NTE 2E, and MTX in Dallas-Fort Worth area, as well as SH 288 ML in Houston. He managed the DFW managed lane monitoring projects and supported the yearly financial updates.



**TECHNICAL LEADER:
BIKASH GAUTAM**

Bikash has been involved in all CTRMA T&R studies since 2010—he has an intimate knowledge of the background models, assumptions, and T&R trends associated with all the Austin

toll roads and supported the MoPac North and MoPac South express lanes projects.

Bikash has more than 21 years of experience in general civil engineering and more than 17 years of experience in the development of travel demand and revenue forecasting models and T&R analysis, including policy developments and technical support for project financing. His areas of interest include toll diversion modeling and financial analysis, urban, intercity, and statewide regional travel

demand forecasting, urban and statewide emergency mass evacuation modeling, dynamic and static traffic assignment modeling and analysis. He has been providing technical support and task management support for work with several agencies, including CTRMA, TxDOT, NET RMA, Alamo RMA, MCTRA, and OTA. He served as a deputy PM as well as Project Technical Leader on the CTRMA MoPac North Express Lanes T&R studies and T&R data monitoring, MoPac South corridor traffic forecast development for environmental evaluation, Barton Skyway Ramp Relief project, and several technical support tasks including 183/MoPac Express Lanes toll rate analysis.



PROJECT PRINCIPAL: KAMRAN KHAN

Kamran has been providing senior technical oversight to our clients for 34 years and is one of the most experienced and strongest T&R leaders in the industry and our firm.

Kamran is a senior vice president and is currently the National Practice Leader for CDM Smith's national tolling services. He has more than 37 years of professional experience, the last 34 years with CDM Smith, and has an extensive background in toll-related studies. He has made numerous presentations to rating agencies, investors roadshows, and to the FHWA's Transportation Infrastructure Finance and Innovation Act program. Most recently, Kamran has served as senior advisor and project principal for several major toll agencies, including Illinois State Toll Highway Authority, North Texas Tollway, and E-470 Public Highway. In the role of lead senior advisor, Kamran brings not only his many years of experience, but also his national tolling perspective and expertise.



**SENIOR TECHNICAL ADVISOR:
CISSY KULAKOWSKI**

Cissy conducts traffic and revenue studies for toll bridges, toll corridors, express lanes, and regional congestion pricing. Her area of emphasis is in the development and use of

modeling techniques for priced facilities, including all aspects of data collection, model calibration/validation, developing stated preference surveys to estimate drivers' value of time, traffic operations analysis in support of assessing willingness to pay, and presenting

these results to clients, stakeholders, ratings agencies, and TIFIA. She specializes in studies of express lanes facilities around the country, beginning with the first, the 91 Express Lanes in Orange County, CA, and most recently in support of San Bernardino County Transportation Authority’s successful TIFIA application for their I-10 Express Lanes.



**SENIOR TECHNICAL ADVISOR:
SCOTT ALLAIRE**

Scott specializes in toll revenue studies where his major project experience includes all levels, phases, and components of traffic and toll revenue feasibility studies; including data collection, development and use of toll travel demand modeling techniques, managed lane analysis and forecasting, cashless tolling, economics, sensitivity testing and risk analysis, and presentations to rating agencies and TIFIA in support of project financing.

B. Names and Experience Resumes

Members of the CDM Smith team are available to dedicate their time to CTRMA contract work as required. Detailed resumes of the key task members of the CDM Smith team are shown in the Appendix and the following table highlights the experience of the key Texas-based staff.

Table 1. Additional Key Texas Staff

Parth Patel – Data Collection/Analytics

- Experienced with T&R studies for national toll roads and express lanes, travel demand modeling using TransCAD and CUBE, statistical modeling, transportation planning, and traffic forecasting
- Skilled in TDM development, calibration and validation, network development, data collection, analysis, and development of project reports
- Task leader/data analyst for the Grand Parkway T&R studies in Houston, Texas, and Oklahoma DOT T&R studies

Yandan Lu, PhD, AICP – Data Collection/Analytics

- Specializes in travel demand modeling related to toll studies
- Proficient in toll diversion behavior studies at both planning and mesoscopic simulation level, including T&R estimates, demand calibration, scenario analysis, and queue accumulation analysis

Evan Bigos – Demographic/Economic Analysis

- Economist specializing in analyzing transportation, with responsibilities that include developing and applying economic models, conducting economic and financial feasibilities, and identifying fiscal impacts and funding requirements
- Experienced with various economic modeling software, including IMPLAN and REMI, as well as forecasting and feasibility models

Abril Matysek, PE - Development/Economic Analysis

- Experienced in traffic engineering operations, transportation planning and traffic and toll revenue forecasting
- Extensive knowledge in conducting traffic analysis of freeways, tolled facilities and arterial networks and traffic simulation of large networks

Mustafa Kamal – Traffic & Revenue

- 33 years of experience in the development of traffic and toll revenue forecasts for proposed managed lanes and toll roads
- Involved with travel demand modeling and T&R forecasting for various CTRMA projects for over 14 years
- Developed various levels of T&R forecasts for MoPac North, MoPac South, and US 183 express lanes as well as US 290E toll road; developed T&R forecasts to evaluate financial feasibility of the proposed IH 35 managed lanes, Oak Hill Parkway and SH 45 Southeast toll corridors.

Xiaoran Wang – Traffic & Revenue

- 5 years of experience in traffic data analysis, socioeconomic studies, traffic forecasting, and pricing strategy

Gustavo Baez, P.Eng. (Baez) - Traffic & Revenue

- 20+ years of experience in data analytics and dynamic pricing algorithm development for managed lanes, toll feasibility studies, travel demand modeling, congestion pricing, risk analysis, economic growth evaluation, and traffic simulation
- Developed the dynamic pricing algorithms implemented in I35E, I30, Loop 12, SH 183, and SH 114 managed lanes located in the DFW region
- Has participated in more than \$25 billion in bond financing for toll projects in the U.S.
- During his 5-year tenure with the NCTCOG, led several travel demand modeling projects, including the region’s first managed lane project

Ybette Ochoa, PE - Traffic Engineering/Traffic Operations

- 13 years of experience in a variety of transportation planning, traffic operations, and ITS projects, including safety assessments, crash reports, speed limit studies, and development of dynamic message sign prototypes for the Illinois Toll Authority
- Proficient in VISSIM, HCS, Synchro, SimTraffic, ArcGIS, AutoCAD

Anteneh Yohannes, PE – Tolling Algorithms/Dynamic Pricing

- Extensive experience as a traffic engineer, transportation planner, and T&R analyst who has contributed transportation engineering and planning knowledge to interchange studies, managed lanes, and toll roads
- Expertise includes data analytics, T&R analysis, micro- and mesoscopic simulation modeling, and travel demand modeling

Table 1. Additional Key Texas Staff

John Muñoz - TIFIA Support/Risk Analysis

- P3 Practice Leader supporting several clients with P3 contracts with construction values totaling \$14 billion
- 18+ years of P3 experience leading technical, financial, and legal advisors in the completion of P3 procurements
- Assisted with securing five TIFIA loans for a total of \$3.3 billion
- 25 years at TxDOT; led their competitive P3 procurements and development of related credit agreements; successfully developed over \$13 billion in P3 and DB projects and procured multiple alternatively delivery projects using various financing mechanisms

Naveen Mokkalapati, PE - TIFIA Support/Risk Analysis

- 17 years of experience on projects from sketch level T&R studies to highly detailed investment grade T&R studies used for selling bonds

Laurent Lin - TIFIA Support/Risk Analysis

- Experience includes traffic engineering operations, transportation economics, urban planning, and GIS application

Dusty Deitiker - Tolling Technology

- 25 years of diverse experience including toll technology planning, design, implementation, operations, and maintenance
- Project work spans the planning, design, and implementation of all types of tolling collection systems, including conventional tolling and open road tolling/all electronic tolling; also offers experience with variable pricing models, back-office systems, and violation/video enforcement systems

Vickie Dewey - Tolling Technology

- 25+ years of experience working with some of the nation's most progressive agencies to vision and plan, design, and execute new tolling and pricing systems; develop and implement revenue efficiencies; and prepare and improve our transportation systems for the future
- Expertise includes project and program management, system implementation, all-electronic and open road tolling conversions, procurement support, new technology deployments, risk management, stakeholder coordination, as well as new system testing and integration

Justin Winn - Tolling Feasibility

- Experienced with modern methods of toll collection, including automatic vehicle identification, video tolling, cash toll collection, as well as single point and point-to-point collection
- Currently serves as project manager for CDM Smith's current contract with NTTA, as well as for various ongoing toll studies in Texas and Oklahoma
- Has developed an executive dashboard tool facilitating efficient and ongoing review of key toll system and economic parameters

Dan Begert, AICP - SP/RP Surveys

- 10+ years of analytical experience including survey design and stated preference (SP) choice modeling
- Technical aptitude in spatial analysis with ESRI ArcGIS, travel demand modeling with Citilabs Cube, and traffic flow microsimulation in PTV Vissim

Tim Boesch - Multimodal Studies

- 25+ years of experience supporting a wide range of services including downtown circulation/multimodal, transit corridor planning and preliminary design, parking planning, highway corridor analysis, T&R forecasting, development impact review, and policy development

Sai Sirandas - Emerging Technologies

- 12+ years of experience in transportation data analysis, travel behavior forecasting, and traffic operations
- Has built models that capture the effects of Autonomous Vehicles (AVs) and Connected Autonomous Vehicles (CAVs) on travel behavior and traffic flow and has presented on these topics at national conferences

C. Number of Staff by Location

CDM Smith maintains an entire division of 85+ staff members dedicated to providing specialized services to the toll industry. The staff distribution by geographic location and by specialty is shown in Table 2. These toll industry specialists are supported by many additional planners, engineers, and economists throughout the firm.

Table 2: CDM Smith Staff Specialties and Locations

Austin	
Project Manager	Miscellaneous Tasks:
Deputy Project Manager	1 Sr. Technical Advisor
Technical Leader	2 Toll Technologists
T&R, Analytics, Modeling Tasks:	1 Sr. TIFIA Advisor
3 Jr. Engineers/Planners	1 Project Controls Specialist
4 Engineers/Planners	1 Administrative Professionals
3 Sr. Engineers/Planners	
Dallas/Houston	Satellite (IL, CO, FL, WA, CA, GA, CT)
3 Sr. Project Managers	Project Principal
1 T&R Discipline Leader	8 Sr. Toll Tech. Consultants
11 Jr. Engineers/Planners	4 Jr. Engineers/Planners
5 Engineers/Planners	4 Engineers/Planners
1 Sr. Engineer/Planner	11 Sr. Engineers/Planners
	5 Sr. Toll Technology Consultants
	2 Economists

D. Business Opportunity (BOP) and Disadvantaged Business Enterprise (DBE) Participation

COMMITMENT TO DBE PARTICIPATION

We are fully committed to support and comply with CTRMA's proposed 15% DBE goal for this agreement. Our team understands CTRMA's commitment to the development and growth of HUB/DBE

and small businesses through the encouragement of inclusion and opening new opportunities. We have developed a solid business diversity plan designed to, first and foremost, provide CTRMA with superior professional service, and second, support CTRMA's business diversity initiatives of inclusion and building the capacities of HUB/DBE firms. Achieving the program goals is not viewed as merely an obligation, but a true opportunity to expand the capacities of professional firms who desire to serve CTRMA as well as other sophisticated clients in the Central Austin area, across the state of Texas, and to points beyond our state borders. Partnering with small firms, mentoring start-up enterprises, and opening doors ensures a much stronger transportation consulting industry well into the future. We pay long-lasting dividends.

We have a long history of working closely with subcontracting firms that we have proposed to partner in this contract, including Gram NTX (DBE/HUB), Bomba Consulting, and Blue Door Strategy and Research (DBE/HUB). We are excited to add Baez Consulting (DBE/HUB) to the team. We have partnered with Baez Consulting on several other T&R contracts in Texas and have been mentoring this firm as part of NTTA's Relationships and Opportunities Advancing Diversity (ROAD) program.

CONFORMANCE WITH CTRMA'S POLICY ON THE PARTICIPATION OF DBEs/HUBs

CDM Smith will conform with the requirements of CTRMA's Business Opportunity Program and Policy on the participation of HUB/DBE firms and will evaluate opportunities for HUB/DBE participation. CDM Smith is committed to helping CTRMA meet its overall HUB/DBE goals. Previous experience has shown that CDM Smith typically exceeds the HUB/DBE utilization policy guidelines set by public agencies. **Our outreach efforts have yielded the addition of Blue Door Strategy and Research to our team as a DBE.**

Table 3: Commitment to DBE Participation

DBE/HUB Firm	Anticipated Utilization
Baez Consulting	6%
GRAM Traffic North Texas	5%
Blue Door Strategy and Research	5%

SECTION III Project Development Experience

A, B, C, D, E. Relevant Projects Included in Official Statements

It should be noted that there is considerable uncertainty inherent in forecasting T&R for any toll facility. Our techniques and expertise help to identify the key risk elements associated with global economic issues, changing political climate and regional policies that may influence future outcomes. Table 4 presents a representative listing of the recent projects that have been supported by CDM Smith for successful financing/refinancing and bond issuance.

CDM Smith exceeds your minimum requirements – our team members service the majority of toll agencies within Texas and around the nation. The following projects are detailed with relevant items that represent the scope of work identified as minimum requirements in your RFQ.

INSTITUTIONAL KNOWLEDGE CENTRAL TEXAS REGIONAL EXPERIENCE

CDM Smith has extensive T&R experience within the Central Texas region including our work for CTRMA, TxDOT, and other regional agencies, as illustrated below. This established history proves that we are the best team to help you with future regional challenges, such as congestion management, operational needs, capacity improvements system expansions, and alternative tolling solutions. The following outlines some key tasks undertaken as part of planning and pre-operational toll traffic impact analyses for the MoPac North/South project express lanes in Austin between 2010 to present.

- Key planning tasks performed included traffic data collection (traffic counts, vehicle classification and origin-destination patterns), traffic analysis support for highway design, policy analysis for the public involvement process, development of

TABLE 4: COMPARISON OF OFFICIAL STATEMENT (OS) ESTIMATES VS ACTUAL OPENING YEAR REVENUE

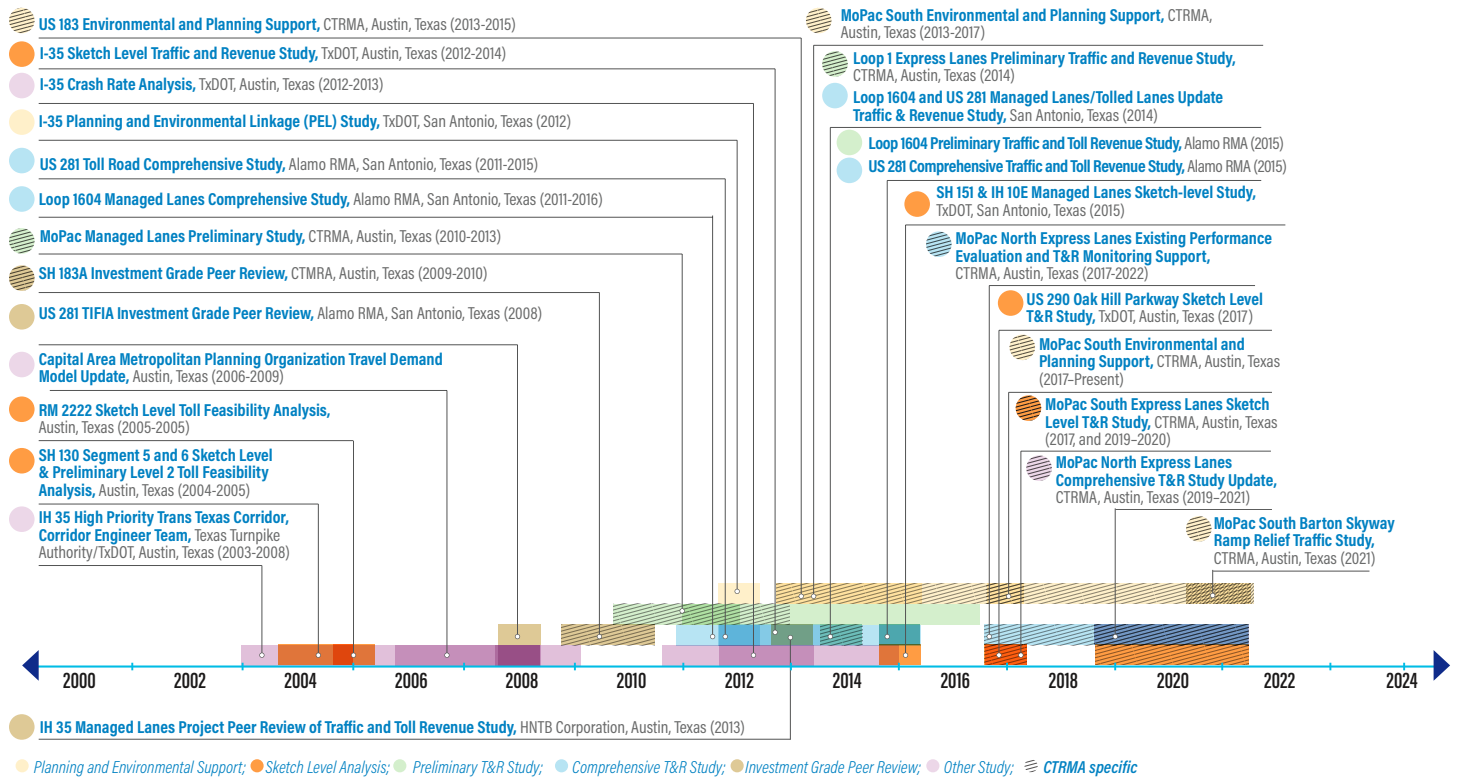
Project Name / Location / Description	OS Date	First/ Opening Year	First/Opening Year Revenue (000s)		Actual vs Est. Revenues	Client Contact
			OS Estimate	Actual		
"North East Texas Regional Mobility Authority (NET RMA) - Toll 49 Comprehensive T&R Study Texas. Comprehensive Study with System T&R Report related to then existing Toll 49 (Segment 1, 2, 3A, 3B and 5) and the Segment 4 Project. *1, A, B, D	5/24/16	2019	\$19,931	\$19,006	-4.6%	Glenn H. Green (NET RMA) 1011 Pruitt Place, Tyler TX 75701 903.630.9102
North Texas Tollway Authority (NTTA) Texas. August 2022 T&R Study involved a detailed evaluation of Mobility 2045 - the new metropolitan transportation plan adopted by the North Central Texas Council of Governments (NCTCOG), and incorporated updated travel demand model networks *2, A, B, C, D	9/14/22	2023	\$1,045,800	\$1,130,944	8.1%	Horatio Porter (NTTA) 5900 West Plano Pkwy, #100, Plano, TX 75093 214.224.2247
Grand Parkway Transportation Cooperation Texas. Grand Parkway System (SH 99) Segments D through I Comprehensive Study (September 2017) and Bringdown Letter (March 2018) prepared to evaluate the T&R potential of Segments D (Harris County), E, F-1, F-2, G, H, I-1, I-2. *3, A, B, D	5/23/18	2019	\$176,428	\$200,599	13.7%	Sara Ulbrich (TxDOT) 125 E. 11th St., Austin, TX 78701 512.334.3827
Central Florida Expressway Authority (CFX) - General Traffic and Earnings Consultants Annual Report Florida. FY 2020 General Traffic and Earnings Consultant's Annual Report: provides 30-year forecasts for seven toll facilities constituting the CFX System *4, A, B, D	7/15/21	2021	\$476,000	\$496,900	4.4%	Lisa Lumbard (CFX) 4974 ORL Tower Road Orlando, FL 32807 407.690.5000
E-470 Public Highway Authority - Bring Down Letter Colorado. 2018 Bring Down Letter to review and update the 2018 Comprehensive T&R Study titled E-470 T&R Study: New Toll Structure *A, B, C, D	2/21/19	2019	\$248,626	\$249,013	0.2%	Ryan Dole (E-470) 22470 East 6th Parkway Aurora, CO 80018 303.537.3519
Maine Turnpike Authority Maine. 2021 Bring Down Letter with updated transaction and toll revenue forecast based on 2020 Comprehensive T&R Study *5, A, B	12/07/21	2021	\$136,593	\$138,772	1.6%	John P. Sirois (MTA) 2360 Congress Street Portland, ME 04102 207.482.8128
North Carolina Turnpike Authority (NCTA) - Triangle Expressway System T&R Study Update North Carolina. Study performed in 2020 as an update to 2019 T&R Study in support of NCTA's financing efforts for the Triangle Expressway and Complete 540 Phase 1 *6, A, B, C, D	10/15/20	2021	\$40,429	\$39,079	-3.3%	David Roy (NCDOT) 1 South Wilmington St. Raleigh, NC 27699-1578 919.707.2729
New Jersey Turnpike Authority (NJTA) - New Jersey Turnpike and Garden State Parkway New Jersey. Provide traffic and toll revenue forecasts for the New Jersey Turnpike and Garden State Parkway of the NJTA *7, A, B, D	11/30/22	2022	\$2,113,591	\$2,126,027	0.6%	Matt Harding (NJTA) P.O. Box 5042 Woodbridge, NJ 07095 732.750.5300 Ext. 8095
South Jersey Transportation Authority (SJTA) New Jersey. SJTA 5 year T&R Forecast 2019-2024 (September 2019); 2019 Estimates of Atlantic City Expressway T&R and Certification of 2019 Debt Coverage/Net Revenue Requirements (September 2019); Atlantic City Expressway 2019-2020 T&R Estimates (September 2019) *8, A, B	10/10/19	2019	\$82,955	\$83,474	0.6%	Karen Davis (SJTA) P.O. Box 351 Hammonton, NJ 08037 609.965.6060

- (1) T&R study was conducted to include Segment 4 which opened November 2018. For comparison, we considered the 2019 full year of operation for the entire Toll 49 System
- (2) Actual revenues from the annual and monthly financial reports available on the NTTA website
- (3) Revenues shown also include estimated collected revenues from Pay by Mail transactions
- (4) Actual revenues from the Annual Comprehensive Financial Report 2021
- (5) Actual revenues from Maine Turnpike Authority's T&R Report

- (6) Actual revenues from the Annual Comprehensive Financial Report 2021
- (7) Actual revenues from Annual Financial Information and Operating Data: Annual Financial Report 2022
- (8) Excluding revenue concessions
- (A) Toll rates/periodic adjustments
- (B) T&R/mobility/toll collection method reports
- (C) Managed lanes
- (D) Technology/industry trends

a corridor calibrated travel demand model for performance measures, traffic simulation analysis, conceptual toll T&R forecasts, development of tolling schemes, evaluation of design options for express and general use lane improvements and express lane access, environmental studies of mobile source air toxics, and both project and regional environmental justice toll impact assessments.

- Key tasks during the pre-operational stage included assessment of managed lane policies (minimum toll rates, incentive discounts, opening toll rates), coordination with the toll integrator to review the dynamic toll pricing algorithm, review of alternative technical concepts provided by the contractors, signage considerations (locations, formats and frequency of change), access point and feeder roadway considerations (signal timing



and traffic redistribution), review of in-corridor express bus/transit utilization and toll rate adjustment considerations, and coordination of before and after studies to quantify observed travel pattern changes and project benefits.

Important considerations that enable successful outcomes include the ability to present complex express lane concepts to stakeholders in a simplified way to facilitate consensus building during the concept development phases and to help them understand the impacts that their decisions have on the facility operations. Our team worked with CTRMA and their extended project staff to support a myriad of operational assessments that included support of the environmental process to determine the preferred concept, project concept refinements involving access points and downtown ramp connections, optimization of toll revenue generation, support of financing and pre-operational activities such as determination of toll plaza locations and toll collection concepts.

The toll operation concept developed as part of the MoPac North planning phase warranted the development of dynamic pricing algorithms that carefully consider zonal based pricing and maintenance of reserve capacity on the single lane facility. The team worked

closely with the CTRMA staff and the toll integrator to develop toll operational models to emulate the dynamic pricing envisioned for the project. The coordination allowed the development of toll pricing procedures that closely reflected the T&R studies used to secure project financing.

Several changes were made to the original MoPac North project concept including the connection to downtown. This required a reassessment of corridor toll operations and revised connections to feeding facilities. The tools and procedures already developed during the planning phase allowed for a seamless assessment of the impacts and streamlined the concept development evaluation process.

We performed a Level 3 T&R Study on the MoPac North express lanes project to assist with a potential refinancing of the debt. In addition, we performed a traffic forecast analysis to assist the environmental evaluation of the MoPac South express lanes project.

T&R Engineering Consultant, North Texas Tollway Authority (1960s-Present)

CDM Smith has solidified its position as the NTTA's trusted tolling partner with 50+ years of planning and operational analysis support



that has grown into a comprehensive partnership, including fulfillment of Trust Agreement requirements;

successful financing/refinancing of over \$15 billion in toll revenue bonds; investment-grade T&R studies; AET conversion assistance; strategic planning support for toll collection, rate changes, and revenue recovery; annual budgeting-related toll revenue estimation; and development of 140+ centerline miles of operational toll roads, two bridges, and one tunnel.

Bonding: We assisted in the completion of investment-grade studies and bring-down letters for each of NTTA's tolling facilities to secure toll revenue bonds. Our long-range, comprehensive T&R estimates have been used in these bond financings.

T&R Studies: Throughout our history with NTTA, CDM Smith has completed T&R studies for long-term transportation planning, bond financing, and demographic forecasting, including five system refinancings from 2018-2023 totaling approximately \$3.8 billion; NTTA System 2017 (supporting the merger of the CTP and PGBT-WE into the NTTA System); Chisholm Trail Parkway (2011); PGBT-EE (2008); and SH 121/Sam Rayburn Tollway (2007).

Comprehensive, Strategic Tolling Initiatives: We have always been dedicated to NTTA's varied needs, supporting more than just T&R studies to ensure the toll roads continue to serve travelers with efficient and safe movement.

Texas Statewide Tolling Program, Texas Department of Transportation (2002-Present)



CDM Smith was retained by TxDOT to support their statewide T&R services that range from conceptual planning to investment grade studies. The support included statewide toll feasibility efforts to

provide a broad range of services for projects that range in size from small network improvements to statewide initiatives. The toll feasibility work undertaken as part of this contract included support of several TxDOT Regional Districts that include Dallas, Fort Worth, Tyler, Houston, Corpus Christi, El Paso and Austin. CDM Smith also served as trusted advisors in regards to public private partnership (P3) concessions projects in the Dallas Fort Worth Region related to the North Tarrant Express (Segments 1 and 2W), North Tarrant Express (Segments 3A&3B), IH 635 LBJ Express Lanes, North Tarrant Express (Segment 3C), the SH 121, and SH 161. More recent examples of project financing being support by CDM Smith T&R services within the DFW region includes the IH35E express lanes and the Midtown Express Lanes (SH183, SH 114, and Loop 12).

T&R Advisor, Harris County Toll Road Authority (1980s-Present)



CDM Smith has served as the T&R advisor for HCTRA since its inception in the early 1980s. Over the past 30+ years, the HCTRA system has expanded to almost 83 miles of toll roads

and operates three AET systems and a managed lane facility. Our work has extended to all levels of T&R services such as toll model development, calibration, operations analysis, and simulation; risk analysis; and bonding support. Our services for HCTRA have included T&R forecasting and updates; toll rate policy setting and studies; congestion management and value pricing; managed lane evaluations; travel demand modeling; and systems advisory services. Throughout our partnership, CDM Smith has delivered annual T&R estimates and impacts of toll rate changes. To determine future toll rate policy, we analyzed pricing strategies such as toll rate adjustments, advised on the potential mechanics of toll policy modifications, and prepared toll policy documents. Specific T&R work has included Comprehensive Systemwide Investment Grade T&R Studies and the Tomball Tollway T&R Study. We also performed a variety of preliminary studies for the Sam Houston Tollway-Northeast segment, which is now open to traffic as an AET facility.

Appendix



Appendix









Table A-1 Recent TIFIA Applications Supported by CDM Smith

In the last 8 years, CDM Smith has supported 21 agencies/issuers from 11 states for 70 issuances representing more than \$26 billion in bonds. The following table highlights the transaction details for some recent studies for which projects were financed using CDM Smith's forecasts including several of our COVID-19 related financings.

Project Name	Agency	Study Type	Project Type	Year Complete	T & R Report	TIFIA	HOT/Managed Lanes/Dynamic Pricing	Stated Preference Surveys	Toll Model Dev/Calibration/ Ops Analysis/ Simulation	T&R Forecast/ Toll Sensitivity Risk Analysis	Rating Agency Presentations
*SH 288 Express Toll Lanes	Brazoria County, Houston, TX	2,3	N	2017/2019	■	■	■	■	■	■	
I-105 Express Lanes	LA County Metropolitan Transportation Authority	3	N	2020	■		■	■	■	■	■
IH 35 Express lanes Comprehensive T&R Study	Texas DOT	1,2,3	N	2016/2019	■	■	■	■	■	■	
I-4 Beyond Ultimate, FL	Florida DOT	1,2	N	2016	■		■	■	■	■	
I-5 North Express Lanes	LA County Metropolitan Transportation Authority	3	N	2016	■		■	■	■	■	
*SH 183/SH 114/Loop 12 Dallas County Express Lanes	Texas DOT	1,2,3	N	2017	■	■	■		■	■	
Tampa Bay Express Lanes	Florida DOT	1,2	N	2017	■	■	■	■	■	■	
I-10/I-15 Express Lanes	SBCTA	2,3	N	2018	■	■	■	■	■	■	■
I-55 Managed Lanes Study (Chicago)	Illinois DOT	2	N	2016	■		■		■	■	
I-395 Managed Lanes Study	Virginia DOT	2	N	2020	■		■		■	■	
MDOT I-495/I-270 Managed Lanes Study	Maryland DOT/MDTA	2,3	N	2020	■		■	■	■	■	
Norfolk Regional HOT Lanes Investment Grade T&R Study	Virginia DOT	2,3	E,N	Ongoing	■		■	■	■	■	■
I-605 Express Lanes	LA County Metropolitan Transportation Authority	2	N	2020	■		■	■	■	■	

* Study Types: 1 = Sketch 2 = Planning 3 = Investment Grade or Equivalent ** Project Types: N = New Facility/Capacity E = Existing Facility

Table A-2

CDM Smith Traffic and Revenue Support Services						
<p>Conceptual Feasibility</p> <ul style="list-style-type: none"> • Conceptual Feasibility Tools • Preliminary Operations Cost Analysis • Financial/Economic Feasibility 	<p>Data Collection/Analysis</p> <ul style="list-style-type: none"> • OD/SP/Traffic Counts (Daily/Weekly/Seasonality Trends) • Market Segmentations (PC/CV/Transit/Freight) • Behavioral Characteristics and Biases (values of time) 	<p>Local Land-Use Analysis</p> <ul style="list-style-type: none"> • Development Review • Sub-corridor Land Use Assessment 	<p>MPO Model Development Refinements</p> <ul style="list-style-type: none"> • Traffic Impacts/Parking Considerations • Mode Choice and Traffic Simulation Modeling • Accessibility, Configuration and Competing Routes 	<p>Traffic and Revenue Analysis</p> <ul style="list-style-type: none"> • Traffic and Revenue Certifications • Time of Day Pricing and Toll Schemes • Alternative Pricing Structures and Escalation • Ramp-up Duration and Key Influential Factors 	<p>Risk Analysis/Sensitivity Testing</p> <ul style="list-style-type: none"> • Alternative Delivery Options • Historical Trends and Risk Profiling • Confidence Interval Determination • Market Trends and Elasticities 	<p>Special Studies/Peer Reviews</p> <ul style="list-style-type: none"> • Value Engineering/Value for Money Support • TIFIA Application Support • Mobility and Revenue Enhancement Studies • Monitoring/Data Mining
						
						
Central Texas Regional Mobility Authority						

The CDM Smith team will work closely with all parties and bring its T&R expertise, tools, and experience to meet CTRMA's needs.

Christopher Mwalwanda, P.Eng.

Project Manager

Mr. Mwalwanda is a vice president and serves as a project director/principal on traffic and revenue consultant contracts for toll agencies and departments of transportation (DOTs) around the nation. He has extensive experience in managing toll feasibility analyses and travel demand modeling projects for both private and public agencies. He has served as project manager and supported the financing of over \$20 billion in traditional and P3 toll projects in the United States. His areas of specialization include toll diversion modeling and financial analysis; urban, intercity, and statewide regional travel demand forecasting; high speed rail modeling and analysis; new mode modeling and analysis; traveler's behavioral theory; discrete choice models; stated preference and revealed preference survey design and implementation; and software interface development. He has more than 21 years of work experience in the development and calibration of multimodal models, and tolling services. He is also active with the IBTTA at a national level, as a presenter, and was part of several IBTTA Event Planning Committee and Platinum Sponsors Council and with the Transportation Research Board (TRB) as a committee member of the travel demand management (formerly congestion pricing) committee. He routinely leads coordination with rating agencies, underwriters, and investors as part of industry exchanges. This allows CDM Smith to prepare studies in accordance with the needs of the financial community. He works with numerous clients nationally serving as a senior advisor/lead practitioner to the Texas Department of Transportation; Oklahoma Turnpike Authority; E-470 Public Highway Authority; CTIO/CDOT, Colorado; Central Texas Regional Mobility Authority; North Texas Tollway Authority; Harris County Toll Road Authority; Los Angeles Metro; and SANDAG.

Project Director, Loop 1 Express Lanes Preliminary (Level II) Traffic and Revenue Study, Central Texas Regional Mobility Authority, Austin, Texas. Mr. Mwalwanda serves as project director for the evaluation of an 11-mile express lane facility that will extend from Lady Bird Lake in the south to Parmer Lane in the north in Austin, Texas. The preliminary study includes various enhancements to the Capital Area Metropolitan Planning Organization (CAMPO) travel demand model and the coordination of a comprehensive traffic count program to collect traffic counts, stated preference data, origin/destination data and speed and delay information within the corridor. The analysis includes the evaluation of various toll pricing, project phasing and configurations to evaluate the financial feasibility of the corridor taking into consideration various transportation demand management objectives. The models developed as part of this effort also support the environment assessment of the corridor being conducted by TxDOT.

Project Director, US 183A Investment Grade Peer Review, CTRMA, Austin, Texas. Mr. Mwalwanda served as the project director performing a peer review in support of the USDOT TIFIA application by the CTRMA. The review included a study of all key variables likely to affect the investment grade T&R analysis that was performed.

Project Director, Toll 49 Comprehensive (Level 3) Traffic and Toll Revenue Study, NET RMA, Tyler, Texas. Mr. Mwalwanda served as the project director for the comprehensive Level 3 Traffic and Toll Revenue Study to evaluate the feasibility of the

Education

MASc – Transportation Engineering, University of Toronto, Toronto, Canada, 1999

BASc – Civil Engineering, University of Toronto, Toronto, Canada, 1997

corridor. His responsibilities included coordination of several subconsultants that are performed the origin/destination surveys, stated preference surveys, traffic count collection and independent economic reviews, and presentations to the client, stakeholder, and bankers and lenders. He provided quality control and technical oversight for the development of the final report and participated in client discussions and presentations. An early assessment was undertaken to evaluate the feasibility of cash plazas compared to the AET facility options that were ultimately implemented.

Project Director, Grand Parkway SH 99 Segments E, F and G Investment Grade Traffic and Revenue Study, Houston, Texas. Mr. Mwalwanda served as the project director for the implementation of the traffic and revenue study to support design-build financing efforts for the Grand Parkway SH 99 advisor for the Texas Department of Transportation (TxDOT). In this role, he assisted in finalizing the investment grade study and the preparation of presentation to the rating agencies for the successful \$2.9B financing of the project. Mr. Mwalwanda provided risk analyses and technical reviews of the procurement documents and reports and continuously interacts with key stakeholders for the project that included: the local planning organization (HGAC), seven county officials, Grand Parkway Association, the local tolling authority (HCTRA) and numerous TxDOT divisions that included: local TxDOT districts, the TxDOT Special Projects Division, TxDOT Special Projects Office Division, the TxDOT Toll Operations Division, the TxDOT Legal Counsel, and the TxDOT Debt Management Division.

Project Manager, I-405 Express Lanes Sepulveda Pass Traffic and Revenue Study, Los Angeles County Metropolitan Transportation Authority. This study will address the first phase of the corridor improvement – dynamically priced tolled express lanes. Demand along the tolled express lane will be managed using an all-electronic tolling system with a dynamic pricing algorithm that will vary tolls based on the level of congestion in the express lanes, travel direction and time of day. Rates will be set to manage demand in the express lanes to ensure minimum operating speeds of 45 miles per hour. The express lanes will be available to passenger vehicles only, and small two-axle trucks. Tolls will be consistent with Metro's current tolling policy and business rules. A total of 15 scenarios, will be studied using a combination of assumptions related to project configuration and different toll policy options (such as discounts for carpools and clean air vehicles, toll rate setting parameters, and maximum tolls).

Principal-in-Charge, I-10 Express Lanes Extension Investment Grade Traffic and Revenue Study, Los Angeles County Metropolitan Transportation Authority. This project is on Metro's 28 by 28 list of short-term priorities and is a Tier 1 project on Metro's ExpressLanes Strategic Plan but lacks specific funding sources. The goal of this study is to identify the potential toll revenue that could be generated by the project to conduct financial analysis of funding capacity and identify and pursue potential sources of funding. The range of scenarios to be tested in this study will address current and future toll policy decisions that will provide a range of possible revenue for the financial analysis. Demand along the tolled express lane will be managed using an all-electronic tolling system with a dynamic pricing algorithm that will vary tolls based on the level of congestion in the express lanes, travel direction and time of day. A total of 15 scenarios, will be studied using a combination of assumptions related to project configuration and different toll policy options (such as discounts for carpools and clean air vehicles, toll rate setting parameters, and maximum tolls).

Yong Zhao, PhD, PE, AICP, PMP

Deputy Project Manager

Dr. Zhao has more than 23 years of project experience managing preliminary, intermediate, and investment-grade traffic and toll revenue studies, congestion pricing analyses, travel demand modelling and forecasting, risk analysis in travel forecasts, traveler's behavioral theory and discrete choice models, traffic engineering and simulation modelling, and transportation surveys. He is active in publishing and presenting peer-reviewed technical papers at various professional conferences. Dr. Zhao has developed more than 80 T&R analyses from sketch level to investment grade for both public and private clients. He directly supported more than \$5 billion bond sale or concession transfer. He has managed various T&R projects for traditional toll roads and managed lanes with dynamic pricing and conducted due diligence reviews for T&R studies in Texas, California, Washington, Florida, Virginia, Delaware, Maryland, and Louisiana. Dr. Zhao is the project manager for Mid-Bay Bridge T&R Advisory Service, Tampa Hillsborough Expressway Authority T&R On-call Service, Ohio Turnpike T&R On-call Service, Transportation Corridor Agencies (TCA) T&R On-Call Service, TxDOT T&R Study and Project Risk Workshop On-call Contracts. He also recently led the T&R team and completed Delaware DOT US 301 Toll Discount Program T&R study, Maryland I-270/I-495 Managed Lane P3 Project T&R Study, Dulles Greenway, Dulles Toll Road, and I-66 Express Inside the Beltway T&R Study, and SH 288 Express Toll Lanes T&R Study.

Project Manager, Manor Expressway (US290E) Investment Grade Traffic and Toll Revenue Study, Austin, TX, CTRMA. Dr. Zhao developed the multiple WAs under the master contract with CTRAM with scope, schedule, and budget, managed the detailed breakdown plan with staff and resources. He prepared weekly progress reports, facilitated weekly calls with client and project team. He was also responsible for the QA/QC program of the project and invoice billing to the client. This investment grade analysis and multiple updates includes a comprehensive data collection effort that serves as the calibration set for the proprietary toll diversion model used to estimate overall demand in the region and specifically tolled traffic on the facility. Presented at rating agency and investor meetings, which successfully supported \$376M bond sale in 2012.

Project Manager, TxDOT T&R Service On-Call Contract, Austin, Texas, TxDOT. Dr. Zhao served as PM for the T&R contract for on-call services including I-35E monthly monitoring, Phase II construction time of day tolling policy development and support, preliminary T&R analysis for construction phase ramp relocation. The T&R supporting service also include DBRS annual data request, toll facility quarterly, bi-annual, and annual monitoring reports.

Project Manager, NTE GEC Contract T&R Support, Austin, Texas, Pape-Dawson Engineering. Dr. Zhao supported the NTE 1 and 2W monitoring service, responses to the developer, NTEMP's requests of change orders, and follow-up negotiation support. He also supported the NTE 3C construction change order review. He led the team developed level 2 T&R studies for NTE Express Lanes and VISSIM analyses for several NTE segments to evaluate the potential congestion mitigation.

Project Manager, SH 288 Express Toll Lane (Brazoria County) Extension Sketch Level T&R Study, Brazoria, TX, BCTRA. As project manager, Dr. Zhao developed the sketch level

Education

PhD, Civil Engineering, University of Texas at Austin, 2002

MS, Transportation Planning, Tongji University, Shanghai, China, 1996

BS, Road and Traffic Engineering, Tongji University, Shanghai, China, 1993

Registration

Professional Engineer: Texas, 94622

Certifications

American Institute of Certified Planners, 021596

Project Management Professional, 3356951

Honors/Awards

Proximo Deals of 2020 Award

TxDOT Precertification

- 1.2.1 Systems Planning
- 1.3.1 Corridor Planning
- 1.4.1 Land Planning
- 1.5.1 Feasibility Studies
- 1.6.1 Major Investment Studies
- 1.7.1 Travel Demand Modeling
- 7.1.1 Traffic Engineering Study
- 7.5.1 ITS

T&R for the proposed extension project for SH 288 Express Lane. The sketch level T&R analysis was based on existing data including toll transaction, traffic counts, and OD data from StreetLight and toll gantries, and INRIX travel time data to build a base case reflecting the current traffic patterns. Several future configuration scenarios were tested and the results was used to advance the project to higher levels of T&R analyses for financial plans.

Project Manager, BCTRA SH 288 Express Lane Toll Consultant Service, Brazoria, TX, BCTRA. For this toll consultant service contract, Dr. Zhao led the team conducting quarterly T&R monitoring service, developing quarterly/semiannually toll escalation recommendations. He also helped the agency to update the toll policy in order to maintain a comparable toll schedule with the SH 288 Express Lane Harris County portion which the private concessionaire operates.

Project Manager, SH 288 Express Toll Lane (Harris County) Comprehensive T&R Study, Houston, TX, Private Client, August 2021-September 2021. As project manager, Dr. Zhao developed the proposal with scope, schedule, and budget, negotiated the contract, managed the detailed breakdown plan with staff and resources, oversaw and coordinated with the subconsultant, Arizona State University on DTA Lite model development. He prepared weekly progress reports, facilitated weekly calls with client, subconsultant, and project team. He was also responsible for the QA/QC program of the project and invoice billing to the client. To validate the choice behaviors of travelers on this managed lane without travel time saving and under the covid impact, the T&R team utilized the StreetLight OD data, toll gantry OD data, INRIX travel time data, and related toll facilities' transaction data to build a base case reflecting the current traffic patterns. Future revenue projections would be used for the client to evaluate their financial strategy.

Project Manager, TxDOT T&R Contract, Austin, Texas, TxDOT. Dr. Zhao served as PM for the T&R contract and developed level 2 T&R studies for LBJ East Express Lanes. He coordinated with the client and prepared the scope, schedule and budget. The T&R Team has been on this recurrent on-call service for TxDOT to support the T&R study needs for more than 15 years. Dr. Zhao lead the team and conducted various levels T&R studies for the agency's plan with more feasible toll projects.

Deputy Project Manager, I-5 Managed Lane Investment Grade T&R Study, Los Angeles, CA, Caltrans. As deputy project manager, Dr. Zhao developed project execution and quality management plan. He oversaw and coordinated with the subconsultants, He led the team and developed a Stated Preference survey to understand the choice behaviors of travelers on this corridor. Screenline traffic counts, travel time data, and vehicle occupancy data were assembled to build a base case reflecting the current traffic patterns. Future revenue projections would be used for the client to apply for TIFIA loan.

Deputy Project Manager, I-405 Express Lanes Investment Grade T&R Study, Los Angeles, CA, LA Metro. As deputy project manager, Dr. Zhao developed and managed the detailed breakdown plan with staff and resources, oversaw and coordinated with the subconsultants, He is responsible for the Project Quality Management program and invoice billing to the client. The team developed a Stated Preference survey to understand the choice behaviors of travelers on this corridor. StreetLight OD data, traffic counts, travel time data, and adjacent toll facilities' transaction data were assembled to build a base case reflecting the current traffic patterns. Future revenue projections would be used for the client to evaluate their financial strategy.

Bikash Gautam

Technical Leader

Mr. Gautam has more than 21 years of experience in general civil engineering and more than 17 years of experience in the development of travel demand, revenue forecasting models and T&R Analysis. He has gained extensive experience while working on several travel demand modeling projects, traffic and toll revenue studies ranging from toll feasibility analysis to investment grade level studies, including policy developments and technical support for project financing. Along with project/task management skills, his technical expertise includes data collection program development, network modeling and calibration, data summary, and report writing for traditional toll road projects, concurrent and reversible managed/express lane projects with variable congestion pricing for different toll collection strategies. His areas of interest include toll diversion modeling and financial analysis, urban, intercity, and statewide regional travel demand forecasting, urban and statewide emergency mass evacuation modeling, dynamic and static traffic assignment modeling and analysis. He has been providing technical support and task management support for work with several agencies, including TxDOT, CTRMA, NET RMA, Alamo RMA, MCTRA, and OTA.

Project Technical Leader/Deputy Project Manager/Planning Analyst, MoPac-North Express Lanes T&R/Performance Monitoring Support, Comprehensive T&R Study and MoPac-South Environmental Support, CTRMA, Austin, Texas. CDM Smith was retained by CTRMA in 2010 through 2013 timeframe to conduct a Level 2 intermediate traffic and toll revenue study for the MoPac-North express lanes corridor in Austin, Texas. The project limits were from W. Parmer Lane to Lake Austin Boulevard with approximately 11.2-miles. The study considered recent traffic and demographic growth trends within the Greater Austin region. In addition, to better understand the traffic characteristics within the region, an origin-destination survey, and a stated preference survey were undertaken as part of the study. As a Planning Analyst and Task Leader, Mr. Gautam developed extensive data collection program, performed traffic and toll revenue analysis and proposed an Intermediate (Level-2) Traffic and Toll Revenue evaluation for the project corridor. Further, a comprehensive traffic and toll revenue study for the existing 11-mile MoPac-North express lane corridor and traffic study with environmental support for the proposed 8-mile MoPac-South express lane corridor were undertaken in 2018 through 2022 timeframe. The existing and proposed MoPac express lane corridor is one/two-lane limited access facility from SH 45 North Toll Road to MoPac Highway and Lake Austin Boulevard to Slaughter Lane.

Project Technical Leader, IH 35E Investment Grade Level Traffic and Toll Revenue Study Update and Technical Support, TxDOT, Dallas, Texas. CDM Smith was retained by TxDOT to conduct a Level-3 T&R study for the proposed IH 35E reversible managed lane project in 2018. This project built upon the investment grade level T&R study update completed in 2010 and several scenario sensitivities conducted through 2016 with a Bringdown Letter update in 2016. Mr. Gautam served as a Project Technical Leader and coordinated with multiple staff in developing the refresh of the previous data collection programs, analyzed the historical as well as current data within the study area. He worked on performing comprehensive traffic and toll revenue study with several ongoing T&R

Education

MS – Civil Engineering, University of Texas at El Paso, 2006

BS – Civil Engineering, Tribhuvan University, Nepal, 2002

Years of Experience

CDM Smith: 17
Total: 21

Training

AutoCAD and AutoLISP, Tribhuvan University

Visual Basic, PENTASOFT Nepal Centre

sensitivities for the IH 35E reversible managed lanes project between FM 2181 and IH 635 in Dallas, Texas. Mr. Gautam is currently supporting TxDOT with several T&R sensitivity assessments related to the corridor configurations and toll pricing strategies.

Project Technical Leader/Deputy Project Manager, Existing NET RMA Toll 49 System T&R Monitoring Support and Proposed Segment 6 Environmental Support, NET RMA, Tyler, Texas. CDM Smith is retained by NET RMA to monitor the T&R trend for the existing Toll 49 System and present the summary to NET RMA staff and board members on a quarterly basis. CDM Smith is also assisting NET RMA and its consultants with the miscellaneous technical support tasks including proposed Segment 6 Environmental Support. Mr. Gautam serves as a Project Technical Leader as well as Deputy Manager on the System T&R monitoring and Segment 6 Environmental Support tasks in which he oversees the tasks' progress and schedule, shares technical expertise, and communicates with client and their consultants on a regular basis.

Project Technical Leader, Texas Statewide Technical Support, TxDOT. CDM Smith is under contract with the TxDOT to provide traffic and toll revenue support as well as miscellaneous technical support. Mr. Gautam serves as a Project Technical Leader as well as Technical Advisor on the ongoing miscellaneous studies including Midtown Express Traffic & Toll Revenue Update in Dallas, Texas; North Tarrant Express Segments 1, 2W and I-35W Segments 3A, 3B and 3C Traffic & Revenue Study Update in Fort Worth, Texas.

Project Technical Leader, Systemwide Comprehensive Traffic and Toll Revenue Study, OTA. CDM Smith was retained by Oklahoma Turnpike Authority (OTA) to conduct a comprehensive traffic and toll revenue study for the existing toll facilities within the Oklahoma state. Mr. Gautam led the project team in developing transactions and toll revenue forecast for multiple toll facilities within the state.

Project Technical Leader/Deputy Project Manager/Task Leader/Lead Analyst, Toll 49 Sketch Level through Comprehensive Traffic and Toll Revenue Study, NET RMA, Tyler, Texas. CDM Smith conducted a comprehensive T&R Level 3 study update for NET RMA in 2010 and submitted a Bring Down Report in 2014 for the proposed Toll 49 toll facility in Smith County, Texas. Further in 2016, another Comprehensive traffic and toll revenue study was undertaken by CDM Smith and assisted NET RMA with successful \$181 million revenue bond financing of Segment 4. Recently in 2022, a Comprehensive traffic and toll revenue study was completed to re-benchmark the previous forecasts, in support of possible re-financing. Mr. Gautam contributed to the existing traffic data analysis and updated the transactions and toll revenue forecasts.

Task Leader, Midtown Express Conceptual, Level 2 and Investment Grade T&R Studies, TxDOT, Dallas, Texas. CDM Smith provided procurement support including feasibility/conceptual studies and subsequently for a Level 3 investment grade traffic and toll revenue study for the SH 183, NTE 2E, SH 114 and Loop 12 Managed Lanes projects. This project builds upon the level 2 traffic and toll revenue study update completed in 2014 and in 2010, as well as extensive data collection program in 2008. Mr. Gautam developed the refresh of the previous data collection program, analyzed the historical as well as current data within the study area. He worked on performing investment grade level 3 traffic and toll revenue analysis for the SH 183 managed lanes project between Industrial Boulevard and IH 35E, SH 114 managed lanes between International Parkway and SH 183 and Loop 12 managed lanes between IH 35E and SH 183.

Kamran A. Khan

Project Principal

Mr. Khan is a highly respected hands-on leader. He currently manages CDM Smith's National Tolling Finance and Technology practice, overseeing the performance of more than 85 tolling professionals in CDM Smith's five tolling centers across the US. He has over 36 years of professional experience (33 years with CDM Smith) and an extensive background in toll revenue studies, supporting over \$30 billion in project financing. He serves as senior advisor and reviewer for all major traffic and revenue studies within the national practice. Kamran provides policy guidance and advice at the executive level to multiple toll agencies nationally. His reach throughout CDM Smith's client base and the industry provides him with the expertise of current trends, such as dynamic and time-of-day pricing for managed lanes, ETC, and AET. He routinely leads coordination with rating agencies, underwriters, and investors as part of industry exchanges. He works with numerous clients nationally, serving as a senior advisor/lead practitioner to the Illinois Tollway; E-470 Public Highway Authority, Colo.; Miami-Dade Expressway Authority, Florida; North Texas Tollway Authority; Harris County Toll Road Authority; Texas Department of Transportation; and Florida's Turnpike.

Project Principal, E-470 Public Highway Authority, Colorado. Project principal for investment grade study for the toll road. The study included data collection, review of annual transactions by plaza and account activity, independent economic corridor analysis, stated preference surveys, review of long-range needs and review of various pricing options, and toll sensitivity analysis. Extensive use of DRCOG model data sets. Developed scenarios to reflect COVID-19, with presentations to rating agencies and investors. One of the first successful toll road bond transactions in the COVID-19 environment.

Project Principal, North Texas Tollway Authority, Traffic Engineering Retainer Services, TX. Provided technical guidance and review for investment grade studies conducted for the System and new projects/extensions such as PGBT Eastern and Western Extensions and Chisholm Trail Parkway. Comprehensive studies have included detailed data collection, independent socioeconomic forecasts, stated preference surveys, travel demand modeling, development of transaction and revenue forecasts, price elasticity analysis, and sensitivity testing. Extensive use and adaptation of NCTCOG travel demand model. Provided letter updates for financings between comprehensive studies. Participated in rating agency presentations and provided certifications. Work efforts also include a review of T&R forecasts for NTTA budget preparation. Involved in continuous monitoring of T&R performance for NTTA facilities.

Project Principal, Traffic Engineering, Illinois Tollway, Downers Grove, Illinois. Manages services to the Authority, including traffic and revenue studies, traffic operations, ITS, and toll collection systems. Conducted various studies and tasks for the Authority, including providing guidance and recommendations with respect to toll rates, toll sensitivity, and toll collection systems, as well as determining the resulting traffic and revenue impacts; managing preparation of the annual traffic and revenue report by identifying traffic and revenue trend, economic conditions, and construction impacts; conducting interchange feasibility studies; assessing development impacts to the tollway; long range and capital planning to support the \$14 billion capital plan.

Education

MS - Transportation Engineering and Planning, University of Southampton, UK, 1989

BS - Civil Engineering, Kingston Polytechnic, UK, 1986

Years of Experience

Total Years: 36
CDM Smith: 33

Senior Advisor, 95 Express Investment Grade T&R Study, FTE/ FDOT, Florida. The study involved refining the travel demand model from SERPM, using independent socioeconomic forecasts, and integrating output into the ELTOD model developed for the I-95 corridor. The study considered the timing and staging of project improvements and the representation of the proposed tolling policy. Long-term transactions and revenue forecasts were developed.

Task Lead, Michigan Interstate Tolling Feasibility and Priced Managed Lanes Study, Michigan DOT. As part of the HNTB/CDM Smith team, leading the traffic and revenue assessment of 28 limited access facilities as potential tolling corridors. The initial phase supported screening candidate corridors by considering various criteria, including project costs, traffic potential, environmental impacts, and high-level financial feasibility. The subsequent phase developed a short list of 10 tolling corridors that were studied in more detail as part of an implementation plan. The CDM Smith team refined the Michigan statewide model by calibrating it to counts and incorporating travel pattern information sourced from GPS and LBS data sets. The model was further enhanced by incorporating tolling algorithms to simulate the impacts of pricing and low-income discount programs. Developed long-range transaction and revenue streams to support financial feasibility assessments for each corridor.

Project Principal, Chicago Mobility and Congestion Pricing Study –lead for an overall study that considers all current mobility options, prevalent travel patterns and trip characteristics, and travel costs for Chicago residents and commuters. A detailed assessment of current transportation fees and taxes will be conducted. The study looks at current equity deficits for vulnerable communities with respect to transportation accessibility within the city. The study will identify areas and corridors of high personal vehicle traffic demand and congestion and will establish a series of key performance metrics to evaluate various travel demand management and pricing policies. Broad stakeholder engagement will be conducted to develop and review potential pricing policies, including cordon pricing, area pricing, and corridor/expressway pricing. Based on screening, preferred alternatives will be taken forward for more detailed evaluations, including the development of a concept of operations.

Project Principal, Interstate Tolling Project Planning and NEPA Services, Indiana Department of Transportation. Leading CDM's Smith project team in assessing the impact of tolling on four interstate corridors. Initial efforts are focused on developing traffic and revenue forecasts and diversion estimates on local routes. The study involves extension data collection, video surveys, and analysis of current travel patterns and trip distributions. In addition, the study team is developing a technical approach to traffic forecasting in support of future NEPA studies.

Project Principal Traffic and Revenue Services Dulles Toll Road, Metropolitan Washington Airports Authority, Virginia. For ongoing traffic and revenue retainer services, including monitoring of traffic and revenue performance, comprehensive traffic and revenue studies in support of project financings for the Silver Line Metrorail Service. Conducted extensive traffic data compilation, including stated preference surveys to measure values of time. Utilized MWCOG model data sets to estimate transit and highway demand and incorporated tolling algorithms to simulate the impact of pricing. Currently updating forecasting to estimate the impact of COVID-19.

Cissy S. Kulakowski, PE, PMP

Senior Technical Advisor

Ms. Kulakowski conducts traffic and revenue studies for toll bridges, toll corridors, express lanes, and regional congestion pricing. Her area of emphasis is in the development and use of modeling techniques for priced facilities, including all aspects of data collection, model calibration/validation, developing stated preference surveys to estimate drivers' value of time, traffic operations analysis in support of assessing willingness to pay, and presenting these results to clients, stakeholders, ratings agencies, and TIFIA. She specializes in studies of express lanes facilities around the country, beginning with the first, the 91 Express Lanes in Orange County, CA, and most recently in support of San Bernardino County Transportation Authority's successful TIFIA application for their I-10 Express Lanes.

Traffic and Revenue Forecasting Lead, Otay Mesa Binational Investment Grade Traffic and Revenue Study, San Diego Association of Governments, California. Serving as the traffic and revenue forecasting lead for an Investment Grade Level Traffic and Revenue Study for the proposed Otay Mesa East-Mesa de Otay II Port of Entry (POE) within the San Diego/Tijuana region and the adjoining SR-11 tolled access road. This comprehensive T&R study and analysis is part of SANDAG's ongoing efforts and is intended to support and secure project financing for the construction of the proposed Otay Mesa East-Mesa de Otay II POE. The Otay Mesa East-Mesa de Otay II POE Project is a joint effort between SANDAG and Caltrans, in collaboration with state and federal partners in the United States (U.S.) and Mexico, to create a new multimodal land POE for the region.

Project Manager, I-10 Express Lanes Extension Investment Grade Traffic and Revenue Study, Los Angeles County Metropolitan Transportation Authority, California. This project is on Metro's 28 by 28 list of short-term priorities, and is a Tier 1 project on Metro's ExpressLanes Strategic Plan, but lacks specific funding sources. The goal of this study is to identify the potential toll revenue that could be generated by the project to conduct financial analysis of funding capacity and identify and pursue potential sources of funding. A total of 15 scenarios will be studied using a combination of assumptions related to project configuration and different toll policy options (such as discounts for carpools and clean air vehicles, toll rate setting parameters, and maximum tolls).

Project Manager, I-10 and I-15 Express Lanes Investment Grade Traffic and Revenue Study, San Bernardino County, California. CDM Smith is conducting an investment-grade traffic and revenue study to assist SANBAG in its efforts to secure bond ratings and a financial commitment from TIFIA to help in financing the first phase of its express lanes system. The I-10 Phase 1 project consists of expansion and conversion of the existing I-10 HOV lane from Los Angeles County to I-15. As part of this work, CDM Smith collected updated traffic count and travel time/speed data in the I-10 and I-15 corridors, collected interchange-to-interchange travel pattern data using Bluetooth recognition, developed an updated regional socioeconomic forecast based on the upcoming 2016 Regional Transportation Plan, updated traffic operational analysis for the corridor, and collected new stated preference surveys. This data will be incorporated into a corridor model that will be used to forecast traffic and toll revenue that will be used to develop a financing plan for the facility.

Education

MS – Transportation Planning and Engineering, NYU Tandon School of Engineering, 1993

BS - Civil Engineering, University of Pennsylvania, 1987

Registration

Professional Engineer: Connecticut, 1993

Certification

Project Management Professional (PMP), 2019

Project Manager, I-5 North Investment Grade Traffic and Revenue Study, Los Angeles County, California. The final phase of the I-5 North corridor improvement plan is to construct HOV lanes from SR 14 to Parker Road. As part of its assessment to identify potential sources of revenue to advance this project, LA Metro retained CDM Smith to conduct an investment-grade traffic and revenue study for potential HOT lanes for the project. Both the HOV and HOT lane configuration are environmentally cleared. As part of this work, CDM Smith collected current traffic count and travel time/speed data within the study area, collected interchange-to-interchange travel pattern data using Bluetooth recognition, developed an updated regional socioeconomic forecast based on the upcoming 2016 Regional Transportation Plan, conducted traffic operational analysis for the corridor, and collected stated preference surveys from drivers who use I-5. This data will be incorporated into a corridor model that will be used to forecast traffic and toll revenue that will be used to develop a financing plan for the facility.

Project Manager, I-10 and I-15 Express Lanes Preliminary Traffic and Revenue Study, San Bernardino County, California. To help with its decision to consider a tolled express lanes option for its corridor improvement projects, the San Bernardino Associated Governments retained CDM Smith to study the feasibility of adding express lanes to I-10 and I-15 within San Bernardino County. Each 33-mile project, when completed, would add two tolled express lanes in each direction for most of its lengths. As part of this work, CDM Smith used the regional travel demand model to identify regional travel patterns, developed a subarea model around the study corridors, incorporated tolling algorithms into the subarea model, incorporated the results of independent reviews of the regional socioeconomic forecast, developed and used a microsimulation model to assess the future delays, and developed a traffic and revenue forecast to be used in determining the financial feasibility of the projects. CDM Smith also developed toll system capital and operating costs and developed a preliminary concept of operations document for the projects.

Senior Analyst, US 101 Express Lanes Feasibility Analysis, Ventura County, California. CDM Smith conducted a feasibility analysis of potential express lanes on US101 for the Ventura County Transportation Commission. The analysis was performed on a sketch-level basis, and required the development of traffic operations profile based on readily available information. Ms. Kulakowski was responsible for all the traffic and revenue forecasting for this study, which culminated in a preliminary feasibility report.

Senior Analyst, SCAG Express Travel Choices Study, Southern California. As part of a large, multidisciplinary team, CDM Smith was responsible for enhancing the Southern California Association of Governments' model to better reflect the potential impacts of alternative forms of user pricing into the SCAG travel demand model, performing the traffic analysis for these alternatives, and developing inputs to social justice and economic/financial models. As the technical lead for CDM Smith's modeling efforts for this alternative pricing study, Ms. Kulakowski was an integral part of a large, multidisciplinary team. She was directly responsible for integrating alternative user pricing schemes in the travel demand model, developing the traffic analysis for each alternative, and determining inputs to the financial models.

Scott A. Allaire

Senior Technical Advisor

Mr. Allaire is a vice president and a discipline leader of CDM Smith's Transportation, Finance, and Technology (TFT) Group. Mr. Allaire's responsibilities include business development, client interaction, recruitment and hiring of professional staff, mentoring, project management, quality management, and participating in industry conferences. Mr. Allaire specializes in toll revenue studies where his major project experience includes all levels, phases, and components of traffic and toll revenue feasibility studies; including data collection, development and use of toll travel demand modeling techniques, managed lane analysis and forecasting, cashless tolling, economics, sensitivity testing and risk analysis, and presentations to rating agencies and TIFIA in support of project financing.

Project Director, SH 99 Grand Parkway Investment Grade Traffic and Revenue Study, Harris County Toll Road Authority (HCTRA), Houston, Texas. Mr. Allaire served as Project Director for a study of a planned 180-mile third circumferential tollway around Houston, Texas. The study involved significant data collection efforts, analysis of future economic conditions, model development, traffic and revenue forecasting, and sensitivity tests. Mr. Allaire was responsible for review of all project deliverables, particularly the long-term traffic and revenue forecasts for the new facility.

Project Director, SH 288 Managed Lanes Traffic and Revenue Study. For Brazoria County Texas, Mr. Allaire is serving as Project Director for a study of implementing reversible managed lanes along the existing SH 288 Freeway in Brazoria and Harris Counties in Houston, Texas. Various infrastructure alternatives are being considered. Mr. Allaire is tasked with participating in client meetings, review of the technical analysis approach to the study, review of technical submissions and the final report, and final review of traffic and revenue estimates.

Project Manager, U.S. 290 Managed Lanes Preliminary Traffic and Revenue Study, Harris County, Texas. Mr. Allaire was Project Manager for this study in Harris County, Texas. Estimation of traffic and revenue on the proposed facility was performed under different operating scenarios, including an HOV3+ free condition. A micromodel analysis of the corridor was used. Variable toll pricing was used to manage the single-occupancy vehicle demand for the facility to preserve a free-flowing condition for high-occupancy vehicle traffic.

Project Manager, Connecticut Statewide Tolling Planning and Implementation Study, Department of Transportation (DOT), Connecticut. For the Connecticut DOT, Mr. Allaire is serving as Project Manager for a major statewide tolling study to implement tolls on Connecticut Interstates and State Highways. This includes an evaluation of the revenue potential for each corridor, diversion estimates to non-tolled roadways, travel time improvements from tolling, technology needs and costs, institutional and organizational requirements, toll discount analysis, and hosting workshops with the DOT and Legislative Liaisons to gather input and consensus on corridors to toll, toll rates, and policy decisions. The comprehensive study will provide the framework for the DOT to implement tolling, while providing the State Legislature with the necessary information to make decisions regarding potential tolling in the State.

Education

MS – Civil Engineering,
University of
Connecticut, 1999

BS – Civil Engineering,
University of New
Hampshire, 1995

Total Years of Experience

Total Years: 23
CDM Smith: 18

Project Director, I-495 and I-270 Express lanes Level 2 and Investment Grade T&R Study, Maryland Department of Transportation/State Highway Association, Maryland, April 2018 – On-going. For the Maryland Department of Transportation, Mr. Allaire is serving as Project Director for a traffic and revenue study for a network of express lanes around Washington D.C on I-495 and I-270. The CDM Smith team is working closely with the MDOT to develop forecasts under various project configurations, tolling policies, and phasing alternatives. Multiple sensitivity tests are also being conducted. CDM Smith participates in progress meetings with the complete project team at MDOT offices or via conference call.

Project Manager, I-64 Norfolk Regional Express Lanes Investment Grade T&R Study, Hampton Roads Transportation Accountability Commission (HRTAC)/Virginia Office of Public-Private Partnerships (VAP3), Norfolk, Virginia. For the Hampton Roads Transportation Accountability Commission (HRTAC) and the Virginia Office of Public-Private Partnerships (VAP3), Mr. Allaire is serving as Project Manager for an investment grade traffic and toll revenue study for a proposed network of express lanes along I-64 in the Hampton Roads region. The project includes more than 40 miles of express toll lanes. Mr. Allaire is responsible for overseeing all technical components of the study, reviewing study findings, forecasts, study coordination, and documentation.

Project Manager, Virginia I-395 Sketch, Level 2, and Investment Grade T&R Studies, Virginia Office of Public-Private Partnerships (VAP3), Virginia. Mr. Allaire served as Project Manager for three different levels of T&R studies of extending the existing I-95 Express Lanes in Virginia northward along I-395. Mr. Allaire was responsible for developing the approach to each level of study, review of all technical findings and reports, and providing revenue projections for a base case and equity case during the investment grade phase of study as a basis to compare against those developed by the concessionaire. Mr. Allaire directly participated in meetings between VAP3 and the concessionaire during negotiations in support of VDOT.

Project Director, Virginia I-95 Fredericksburg Extension Express Lanes Level 2 T&R Study, Virginia Office of Public-Private Partnerships (VAP3), Virginia. Mr. Allaire is serving as Project Director for a Level 2 T&R study of extending the existing I-95 Express Lanes in Virginia southward 10 miles into Fredericksburg Virginia. Mr. Allaire was responsible for developing all work efforts, staffing, review of results and reports, and participating in client meetings to discuss estimates. Revenue projections were produced for a base case and equity case as a basis to compare against those developed by the concessionaire for the project and to support negotiations for VDOT from a T&R view point.

Project Manager, Norfolk Virginia I-64 HOT Lanes Sketch Level T&R Studies, Virginia Department of Transportation, Virginia. Mr. Allaire serving as Project Manager for several Level 1 High-Occupancy (HOT) lanes studies of converting the existing I-64 HOV lanes in Norfolk to HOT lanes. The studies estimated the traffic and toll revenue potential of converting both the reversible and concurrent HOV lanes, and extending the HOT lanes westward across the High-Rise Bridge to I-664 as input into the overall feasibility assessment of the conversion project.

Special Studies: Stated Preference Surveys

Mr. Begert joined CDM Smith in 2013 and is a transportation planner with over ten years analytical experience. In 2023, Mr. Begert assumed the role of lead toll traffic & revenue forecaster for the Illinois Tollway, in addition to continuing in his role as the firm's leader in the transportation survey design and stated preference (SP) choice modeling. Mr. Begert also has technical aptitude in spatial analysis with ESRI ArcGIS, travel demand modeling with Citilabs Cube, and traffic flow microsimulation in PTV Vissim.

Technical Lead, Transportation Survey Design and Analysis, Various Clients. Mr. Begert has led an emerging transportation survey practice since 2016 that has provided origin-destination and SP surveys to multiple toll agency and transportation agency clients in Illinois, Colorado, Washington, D.C., Texas, Virginia, Florida, and California. The practice grew out of an internal R&D project that he began in 2013. Mr. Begert manages the survey through all stages, from initial questionnaire drafting and SP experiment design, through programming and administration of the online survey, to the final analysis and reporting of survey results. As a final product of the surveys, multinomial logit models are used to generate estimates of value of time (VOT) from the SP experiments, which are a key component of regional travel demand models.

Survey Coordinator/Analyst, Mopac Express Lanes Comprehensive Traffic and Revenue Report, Central Texas Regional Mobility Authority, Austin, Texas. Mr. Begert designed a combined origin-destination SP survey for customers of the Texas Loop 1 (MoPac) near downtown Austin. He oversaw online programming and administration of the survey and designed a social media outreach campaign to recruit survey takers. Mr. Begert conducted multinomial logit modeling on segmented survey results to generate VOTs and value of travel time reliability (VOR) estimates for use in the regional travel demand model. Analyzed trip characteristics and sociodemographic data from the survey and summarized the results in a technical memorandum and T&R report chapter.

Survey Coordinator, Veterans Memorial Tollway (I-355) Stated Preference Survey, Illinois State Toll Highway Authority (Illinois Tollway). Mr. Begert designed an SP survey for the Veterans Tollway corridor to develop updated estimates of customer VOTs for the regional Tollway model. The sampling plan, survey instrument, incentive structure, choice alternatives, attribute levels, and orthogonal matrices for the SP survey were initially designed by Mr. Begert as an internal CDM Smith research and development project. Using the data collected, Mr. Begert developed multinomial logit models to estimate VOTs for various market segments, including peak travel times, off-peak travel times, work trips, non-work trips, and commercial vehicle drivers.

Technical Lead/Survey Coordinator, North Texas Tollway Authority (NTTA) 2022 Comprehensive Study, Dallas, Texas. Mr. Begert designed a SP survey of NTTA customers who used the NTTA toll network in the Dallas-Fort Worth Metroplex Region. The purpose of the survey was to estimate travelers' willingness to pay for travel time savings via the existing NTTA toll network. The survey collected data from current users of the network by asking respondents about a recent trip made using one of the five regional NTTA tollways and turnpikes and/or one of the three local toll bridges and tunnels. The estimates of toll

Education

MA - Urban Planning
University of Illinois at
Urbana-Champaign,
2011

BA - Environmental
Studies, Geology
University of Kansas,
2007

Certifications

American Institute of
Certified Planners
(AICP), May, 2015

price sensitivity and willingness to use the toll facilities were then incorporated into the travel demand models to support the traffic and revenue estimates for the Comprehensive Study.

Technical Lead/Survey Coordinator, Hampton Roads Express Lanes Summer Weekend Traffic and Revenue Study, HRTAC, Chesapeake, Virginia. Mr. Begert designed a SP survey of summer weekend vacation travelers as a follow-up to a previous survey of weekday travelers conducted by RSG Inc., in 2018. Traffic congestion peaks during summer weekend months in the Virginia Beach area, so the client was curious about the willingness to pay of summer weekend beach-goers compared to typical weekday commuters who travel at all times of the year. Mr. Begert conducted logistic regression models on the survey data and found that summer weekend traveler VOTs were approximately 30 percent higher than weekday VOTs, which had been estimated in the previous study.

Technical Lead/Survey Coordinator, Otay Mesa East Border Crossing Study, SANDAG, San Diego, California. Mr. Begert designed two SP and origin-destination surveys of northbound border crossers at the U.S.-Mexico border near San Diego, CA and Tijuana, Mexico to gather information on willingness to pay for wait time savings at the planned Otay Mesa East tolled border crossing. One survey targeted passenger vehicles and the other targeted commercial shipping/receiving firms and third-party logistics companies in the region. Mr. Begert ran logistic regression models using the SP data from the surveys to generate estimates of VOTs for the people and businesses that regularly use the currently available and overcrowded border crossings.

Technical Lead/Survey Coordinator, US 69 Express Lanes Level 2 Traffic and Revenue Study, Kansas Department of Transportation. Mr. Begert designed the SP and origin-destination survey as part of the planning process for the 69 Express Lanes, a managed lane facility on U.S. 69 in Overland Park, Kansas. Mr. Begert designed the SP experiments and ran the logistic regression models used to generate VOT and VOR estimates for use in the regional travel demand model.

Technical Lead/Survey Coordinator/Analyst, Osceola Parkway Comprehensive Traffic and Revenue Report, Osceola County, Florida. Mr. Begert served as technical lead on the SP and origin-destination survey portion of the project, and additionally acted as an analyst assisting with travel demand model network development and calibration. Mr. Begert collected and analyzed existing and historical traffic data, and assisted in preparing client deliverables, technical memorandums and exhibits for coordination meetings with project partners.

Survey Coordinator/Analyst, I-105 and I-605 Comprehensive Traffic and Revenue Studies, Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles, California. Mr. Begert designed choice modeling experiments to estimate VOT and VOR of travelers on the 105 and 605 Express Lanes in Los Angeles. Being a managed lane project, the SP survey focused on the differences between single- and high-occupancy vehicle values of travel time. Mr. Begert managed a team of computer programming subconsultants hired to program and the online survey and oversaw survey outreach and administration.

Demographic/Economic Analysis

Mr. Bigos is a senior economist specializing in analyzing transportation, with responsibilities that include developing and applying economic and econometric models, conducting economic and financial feasibilities, and identifying fiscal impacts and funding requirements. Mr. Bigos is experienced with various economic modeling software, including IMPLAN and REMI, as well as forecasting and feasibility models. He has analyzed all major transportation modes and for both passenger and freight-related considerations.

Economist, Grand Parkway (Update), Houston, TX. Mr. Bigos conducted an economic impact analysis of the proposed Grand Parkway segments H and I1, located in northeast Houston (Montgomery, Liberty, Harris, and Chambers counties), utilizing REMI PI+ modeling software. Impact included construction and travel-efficiency related considerations.

Economist, I-14 System Existing and Future Conditions, TX. Mr. Bigos compiled, analyzed, and presented the major existing I-14 corridor socioeconomic and freight data, including population, employment, real GRP, industry clustering, freight tons and value by county and by route density.

Economist, Presidio Regional Freight Mobility Plan, Presidio, TX. Mr. Bigos compiled a freight profile for the seven-county Presidio region in west Texas using data from IHS Transearch, and the BTS' TransBorder freight databases and conducted an economic impact of such freight movements and supply chain relationships.

Economist, US 190/IH 10 Feasibility Study, TX. Mr. Bigos evaluated the economic feasibility (through a BCA) and the economic impacts (through a REMI application) of ten corridor alternatives, as well as various individual corridor sections, for the proposed US 190/IH 10 corridor improvement that traverses the width of Texas from El Paso to the Louisiana state line. Economic feasibility was conducted through a consumer surplus-based travel efficiency analysis, and the economic impacts were conducted for both the applicable efficiency benefits and the construction/operating expenditure activities.

Economist, Central Florida Expressway Authority (CFX), FL. Mr. Bigos updated a socioeconomic profile for the seven counties in Central Florida and the State; historical and forecast population, employment, gross regional products, etc. for travel demand modeling and forecasting traffic and revenue.

Economist, I-73 Economic Impacts, SC. Mr. Bigos updated economic impact estimates for I-73 South associated with travel-related benefits such as travel-time, vehicle operating, accident, and emissions cost savings (from 2016 estimates; however, REMI economic modeling was not conducted as per previous studies).

Economist, New Jersey Turnpike. Mr. Bigos utilized econometric modeling (regression analysis) to develop updated mid-term traffic demand growth forecast for the NJ Turnpike and Garden State Parkway, conducted for various corridor groupings for both commercial and passenger vehicles. Also, a quantitative and qualitative assessment of the socioeconomic data for New Jersey was conducted. Equations were updated and revised in 2023.

Education

BA - Economics, State University of New York at Buffalo, 2004

MBA - Rollins College, Florida, 2014

Technical Specialties

Economic Impact Analysis

Economic Feasibility

Input-Output Economic Modeling

Econometric Modeling

Financial Analysis

Return on Investment (ROI)

Benefit Cost Analysis (BCA)

Breakeven Analysis

Funding Analysis

Freight Analysis

Market Research

Socioeconomic Profiling/Forecasting

Transportation Policy

Impact Software

Impact Analysis for Planning (IMPLAN)

Policy Insight® (PI+) and TranSight, produced by Regional Economic Models, Inc. (REMI)

BEA's RIMS II

Economist, Maryland Transportation Authority (MDTA), MD. Mr. Bigos updated a socioeconomic profile for Maryland; a historical and forecast compilation of population, employment, gross regional products, etc. for purposes of use in travel demand modeling exercises and forecasting traffic and revenue.

Economist, I-5 Managed Lanes T&R, Orange Co., CA. Mr. Bigos reviewed underlying socioeconomic data developed by a subconsultant, as inputs into the toll travel demand modeling, and reviewed and edited the accompanying documentation.

Economist, I-95 Express T&R, Florida's Turnpike Enterprise (FTE), Miami, FL. Mr. Bigos reviewed underlying socioeconomic data developed by a subconsultant, as inputs into the toll travel demand modeling.

Economist, Pennsylvania Turnpike. Mr. Bigos utilized econometric modeling (regression analysis) to develop updated long-term traffic demand growth forecast for the Turnpike, conducted for various corridor groupings on the mainline, ticket, and barrier facilities for both commercial and passenger vehicles. Also, a quantitative and qualitative assessment of the socioeconomic data for Pennsylvania was conducted. An update in 2022 retained 2018 equations, but revised the underlying explanatory variables (e.g., regional socioeconomics and fuel, etc.). In 2023, the regression modeling was updated with an extended historical timeframe, and modifications to explanatory variables (e.g., inclusion on COVID-19-related indexes, etc.).

Economist, Hood River Bridge T&R, OR. Mr. Bigos reviewed underlying socioeconomic data and documentation developed by a subconsultant, as inputs into the toll travel demand modeling for a new Hood River Bridge.

Economist, Hampton Roads Express Lanes Network (HRELN) T&R, VA. Mr. Bigos reviewed underlying socioeconomic data and documentation developed by a subconsultant, as inputs into the toll travel demand modeling.

Economist, Illinois Tollway, IL. Mr. Bigos conducted a socioeconomic profile for the Chicago area and the Nation, including compiling various short-terms forecasts for real Gross Domestic Product, national unemployment, and inflation.

Economist, Michigan Tolling and Managed Lane Program. Mr. Bigos conducted a socioeconomic profile for the 83 counties, for consideration in identifying future tolling options. A TRANSEARCH-based freight analysis was conducted. And, economic modeling of identified tolling and management lanes options will be conducted.

Economist, Miami-Dade Expressway Authority (MDX), Miami, FL. Mr. Bigos updated a socioeconomic profile for Miami; a historical and forecast compilation of population, employment, gross regional products, etc.

Economist, SANDAG Binational Investment Grade T&R, Otay Mesa, San Diego. Mr. Bigos applied econometric modeling (regression analysis) and other techniques to forecast passenger and commercial vehicle demand across the Otay Mesa and San Ysidro crossings in Southern California. A TRANSEARCH-based freight analysis was also conducted to identify IHS Markit's demand forecasts for cross-border goods movements.

Timothy J. Boesch, AICP, PMP

Special Studies: Multimodal

Tim Boesch brings over 25 years of transportation planning experience in academic, public agency, and private consulting arenas. Over the course of his career, Tim has supported a wide range of services including downtown circulation / multimodal, transit corridor planning and preliminary design, parking planning, highway corridor analysis, traffic and toll revenue forecasting, development impact review, and policy development. He is skilled at providing expert testimony for public agencies, solid analytical analysis for transportation planning, and translating complicated material for stakeholder comprehension.

Project Staff, Loop 1604 and US 281 Tolled/Managed Lanes Level-2 Intermediate T&R Study, Alamo Regional Mobility Authority/TxDOT, San Antonio, Texas. Mr. Boesch was in charge of existing conditions review for multiple corridor tolling study. The work included review of hundreds of traffic counts, traffic class counts, origin-destination surveys, speed and delay studies, and traveler characteristics. Mr. Boesch wrote extensive existing conditions chapter based on data collected. Key staff was involved in review of stated-preference propensity to pay results.

Project Manager, Puget Sound Regional Aviation Study, PSRC (WSP). Mr. Boesch led a team of aviation professionals and urban planners examining the commercial and general aviation facilities, access, and markets in the Puget Sound Region. The team's work included analyzing drive time, multimodal, and freight access to existing airports, general aviation capacity and forecast, developing performance metrics, benchmarking to other state and regional plans, and outlining opportunities/constraints on the regional system.

Project Manager, Route 40 Northgate to Downtown Transit Improvements, Seattle Department of Transportation, Washington. Mr. Boesch is leading a team of transit planning and design professionals to help improve transit speed and reliability as well as multimodal mobility along the third busiest bus route in the greater Seattle Area. The planning stage of the project includes review of existing transit operations, traffic operations, parking, signals and ITS, modeling of no build and future options, development of projects, development of screening criteria, combining projects into scenarios, and working with agency stakeholders to make decisions to move forward. Once the package of projects is selected, he will lead the project into 30% design including channelization, signalization, pavement rehab, and civil design. Mr. Boesch's responsibilities include scope, schedule, and budget; reviewing all documents, communications with SDOT and King County Metro; and assisting with transit technical analysis.

Project Manager, Roosevelt to Downtown High Capacity Transit Study 2014-2016, Seattle Department of Transportation, Washington. Mr. Boesch served as the deputy project manager and key local staff for this high capacity transit study from the Northgate mall area of Seattle to downtown. The city's Transit Master Plan identified this corridor as needing additional service since the region's planned light rail system did not include key neighborhoods along the route as well as the major growth in South Lake Union, including the Amazon headquarters. The project examined existing transit, traffic, and alternative

Education

MS - Transportation, Massachusetts Institute of Technology, 1996

BS - Mechanical Engineering, The Ohio State University, 1991

Certifications

American Institute of Certified Planners (AICP) #024138 (2010)

Project Management Professional (PMP) #2932745 (2020)

Years of Experience

Total Years: 25

CDM Smith: 17

mode conditions, current and expected sociodemographics, and high crash locations. Rapid streetcar vs. bus rapid transit mode choice analysis was developed and executed with BRT being selected. Alternatives were developed for analysis including center and side running full BRT, basic King County Metro RapidRide service, and targeted investments designed to align with project budget. The study will result in a selected corridor alternative, conceptual 10% design, and key documents needed for SDOT to carry the project into final design.

Project Manager, Washington State Bike Facilities and Pedestrian Plan, Washington State Department of Transportation (WSDOT), Bellevue, Washington. Mr. Boesch served as project manager overseeing the development of Washington's statewide pedestrian and bicycle plan. Responsibilities included managing client contacts, quality control, staff coordination, participation in steering committee meetings, and public outreach.

Project Manager, I-10 Mobile Bay Bridge and Bayway T&R On-Call, Alabama Department of Transportation (ALDOT), Mobile, Alabama, 2021 to Present. Mr. Boesch is leading a team of technical experts and modelers in developing sketch level T&R forecasts for varying configurations of the proposed Mobile Bay Bridge and Bayway Project. In addition to fiscal responsibilities, he also accountable for on-time delivery and quality control.

Project Manager, TB Next Toll Study, Florida Turnpike Enterprise, Tampa, Florida. Mr. Boesch led a team of technical experts and analyst staff in developing sketch and planning level T&R studies for an elevated connector to I-275 and express lanes on I-275 and the Howard Frankland Bridge which are currently under construction. Analysis included reviewing and updating prior traffic counts, traffic speeds, land uses, tolling model, new project configuration and tolling points. The project resulted in a 10-year projection of expected toll transactions and revenue along with a report suitable for agency use. Mr. Boesch assisted in data analysis and review, Streetlight data analysis, report development, and meetings with agency and district staff. In addition to fiscal responsibilities, he also accountable for on-time delivery and quality control.

Technical Project Manager, Statewide Tolling Study, INDOT, Indiana. Mr. Boesch led a team of tolling and planning professionals looking at tolling several interstates in Indiana. Work included modifying a statewide model to be reactive to tolling, reviewing metropolitan models for tolling effects during peak periods, analyzing multiple staging scenarios for tolling implementation, and providing presentations to key client staff. Work also included researching existing documentation and best practices on understanding economic and equity impacts of tolling as well as tolling in the context of NEPA and other environmental processes.

Project Manager, SR 520 Investment Grade Traffic and Toll Revenue Update 2016, Washington State Department of Transportation, Washington. Mr. Boesch served as project manager for the update of traffic and toll revenue forecasts for the tolled SR 520 bridge. The project includes analysis of detailed actual tolling experience data, revised economic forecast, and revision of toll travel demand model to update 40+ year forecast reflecting tolling experience to date. The updated forecast is being used for state budgeting, meeting TIFIA loan requirements, monthly and quarterly T&R performance monitoring, and supporting financial feasibility of the project financial structure.

Ken (Dusty) Deitiker

Tolling Technology

With over 25 years of diverse experience, Dusty Deitiker offers a well-rounded background in toll systems implementation and operations. His skills and experience includes program management; project management; toll technology planning, design, implementation, operations, and maintenance; back room operations; systems integration; vendor relations; procurement; customer relations; business development; and client relations. Over his professional career, he has successfully managed or participated in toll systems projects for public and private entities across the U.S., helping to implement, upgrade, and maintain systems in Texas, Washington, New York, Rhode Island, New Hampshire, Illinois, Virginia, and Washington D.C. His aptitude in strategic visioning combined with a strong technical background fosters his ability to see the end goal, making him a positive asset to any team. As a former toll systems program manager for some of the most notable tolling projects in the nation, Mr. Deitiker has served as an advisor to the Rhode Island Department of Transportation, the New Hampshire Bureau of Turnpikes, New York Metropolitan Transportation Authority, the Metropolitan Washington Airports Authority, Illinois Tollway, and several other agencies. His project work spans the planning, design, and implementation of all types of tolling collection systems, including conventional tolling and open road tolling/all electronic tolling. In addition, he offers experience with variable pricing models, back-office systems, and violation/video enforcement systems.

Toll Technologist, Oregon Department of Transportation General Toll

Consultant. CDM Smith is serving as the program manager and general toll consultant to ODOT's Office of Toll System Administration (OTSA). Under this contract, we are providing input, recommendations, in support of the new toll program, and will assist with contract procurement for the roadside and the back-office systems. In addition, we will lead the toll system development and design through the "go-live" process, hypercare (new customer onboarding process), and final acceptance of the toll project systems, and will provide support during the initial years of toll system operations. As a toll technologist for this project, Mr. Deitiker will help lead many of the tasks associated with this effort.

Project Manager, RhodeWorks Toll Facilities Consultant, Rhode Island Department of Transportation. This project will implement a statewide truck tolling program by installing ORT Toll Points, a shape-based classification systems with no embedded roadway sensors, across the state to collect toll revenue from large commercial vehicles that travel across all bridge structures. Acting as RIDOT's representative, Mr. Deitiker oversaw the preliminary civil design plan development, toll system requirements, design-build procurement, local environmental permitting, and completion of several environmental assessments for NEPA approval. In addition, his work included helping RIDOT implement new business rules, establish KPIs, review daily images, commission testing, analyze systems, conduct regular client meetings, and coordinate vendor meetings.

Deputy Project Manager, RITBA Newport/Pell Bridge E-ZPass Implementation, Newport, Rhode Island. As the deputy project manager for this complex project, Mr. Deitiker provided a variety of services. He assisted the Rhode Island Turnpike and Bridge Authority in the procurement of a new back office and lane system provider. This included guiding the development of the new E-ZPass policy and business rules, preparing the bid

Years of Experience

Total: 26

CDM Smith: < 1 yr.

package, selecting the vendor, and overseeing the contract. In addition, he ensured that the back office was brought online on time and within compliance of the specifications. In a parallel effort, RITBA implemented a new E-ZPass toll collection system for both cash and all-electronic tolling (AET) at its Newport/Pell Bridge toll plaza. Mr. Deitiker supported the initial needs assessment; evaluated the current toll system, operations, and business rules; developed a requirement and bid document package to procure a new toll system integrator; provided design oversight, factory testing, installation; and guided the final commissioning of the new TCS and E-ZPass system.

Project Manager, New Hampshire DOT, Bureau of Turnpikes On-Call Services, New Hampshire. Mr. Deitiker served as the project manager for two cycles of the statewide on-call toll services contracts. Through these projects, he assisted the NHDOT in overseeing the implementation of the Turnpike's new back-office system. He also assessed the technical and operational security of the toll system to identify potential high-risk issues and provide mitigation recommendations.

Project Manager, Bridges and Tunnels On-Call Toll Services, Metropolitan Transportation Authority and New York Triborough Bridge and Tunnel Authority. As the project manager, Mr. Deitiker managed the delivery of various tasks and services, including the *Henry Hudson Bridge AET Gateless Tolling Pilot Test* and the *Henry Hudson Bridge AET System Implementation*. As part of his role, he oversaw a range of activities, including selecting a toll system provider, conducting final testing, and commissioning the new system.

Project Manager, Bridges and Tunnels Facility Wide AET Conversion, Metropolitan Transportation Authority and New York Triborough Bridge and Tunnel Authority. Mr. Deitiker led the planning, design, and documentation processes in support of this AET conversion. This project was fast tracked by the Governor's office to include a complete conversion from conventional cash collection to AET. Working with the MTA, its toll systems integrator, and back-office provider, the conversion was implemented and in operation within 6 months.

Project Manager, Bridges and Tunnels Central Business District Congestion Pricing, Metropolitan Transportation Authority and New York Triborough Bridge and Tunnel Authority. As the project manager, Mr. Deitiker oversaw the technology assessment and RFP development for the congestion tolling roadside and middleware systems. Due to legislative and government related activities, this project was fast tracked, requiring that the team expeditiously develop a draft and final RFP for both the TCS and supporting infrastructure and review the legislation governing the congestion tolling program. In addition, the team drafted white papers and policy papers to aid in the design, interpretation, and development of the RFP, and ongoing decisions rendered by state designated parties and panels. Mr. Deitiker guided the data gathering activities to identify suggested road-side locations and implementation baseline, middleware, components, and relevant interface requirements of the proposed system, including new back office and third-party interfaces. In addition, he conducted a detailed cost analysis for the conceptual system design tolling components; a detailed analysis of best practices and emerging technologies in both the U.S. and abroad for large scale congestion pricing programs; and assisted in performing detailed risk assessments.

Vickie Dewey

Tolling Technology

With over 25 years of experience, Vickie is passionate about leveraging innovation and technology to advance transportation and rethink revenue systems for long-term sustainability. Based in California, she has worked with some of the nation's most progressive agencies to vision and plan, design, and execute new tolling and pricing systems; develop and implement revenue efficiencies; and prepare and improve our transportation systems for the future. Her expertise includes project and program management, system implementation, all-electronic and open road tolling conversions, procurement support, new technology deployments, risk management, stakeholder coordination, as well as new system testing and integration. Specializing in the next generation of priced systems, Vickie leads complex alternative delivery projects, assists new toll agencies with system development and integration, and facilitates vendor and construction coordination for toll system deployments.

Toll Advisor, I-15 Express Lanes, Utah Department of Transportation, Utah. As part of this express lanes deployment, UDOT sought an innovative approach to reduce occupancy violations, improve operational efficiencies, and increase revenues. Vickie worked closely with agency staff to achieve these goals in several areas. She developed and helped to deploy a smart phone-based pilot to declare and verify vehicle occupancy. Vickie developed business rules, policies, and technical approaches that would help guide upgrades to the existing system and aid the review and evaluation of future potential express lane corridors. In addition, she developed a concept of operations to support new back office and roadside upgrades. She also led the design and development of a new annual interstate performance report for the DOT.

Technical Toll Advisor, Next Generation Managed Lane Network, San Diego Association of Governments, California. As part of the effort to implement its *2021 Regional and Innovative Mobility Plan*, SANDAG partnered with several teams of innovators, entrepreneurs, and mobility experts to deploy innovative connector services. This effort resulted in a plan for a next generation managed lane network with connected and automated vehicle technology to improve the speed and reliability of transit and shared mobility services. Tasks involved a feasibility study, corridor selection, stakeholder outreach, environmental planning and documentation, and preliminary design. Vickie reviewed the possible corridors and provided toll interoperability details for the project planning.

Technical Consultant, Connected and Automated Vehicle Corridor, Michigan Department of Transportation, Michigan. In partnership with Cavnu, MDOT is developing the nation's first connected and automated vehicle corridor in Southeast Michigan. This corridor joins technology and infrastructure to improve safety, congestion, and accessibility for the surrounding community. As part of the project team, Vickie was involved in the early planning and preliminary engineering tasks. She assisted with defining needs to support operations, created the initial design concepts, and helped to identify roles and responsibilities necessary to achieve MDOT goals.

Education

BS, Mechanical Engineering,
San Diego State University

Certifications

UCLA Project Management Certificate

Years of Experience

Total Years: 25+
CDM Smith: <1

Technology Researcher and Innovation Coordinator, Traffic Reduction Study, Los Angeles County Metropolitan Transportation Authority (LA Metro), California. LA Metro is exploring options to reduce traffic, including a potential pilot to implement congestion pricing to reduce traffic and reinvest in transportation services. Vickie researched various technology options, developed an implementation and testing plan for a pilot program, and worked on multiple report sections helping to ensure a cohesive and global approach.

Toll Advisor, Highway 427 High-Occupancy Toll (HOT) Lanes, Ontario Ministry of Transportation, Canada. Highway 427 serves as one of two HOT corridors in Canada and is designed to improve traffic flow, maximize highway capacity, and help manage congestion. This 9.6-mile corridor includes electronic tolling in both directions from south of Highway 409 to north of Rutherford Road. Working closely with the Ontario Ministry, Vickie helped to finalize the concept of operations, develop business rules, and write procurement documents, incorporating best practices from the U.S. for the agency's first all-electronic tolling (AET) HOT lane. She also outlined roles and responsibilities for the Ministry and developed risk mitigation strategies.

Innovation Advisor, Open Architecture Tolling, Oregon Department of Transportation, Oregon. This project developed a more comprehensive vision for ODOT's open architecture tolling system that enhances interoperability with other states and provides a variety of solutions and payment options. As part of this project, Vickie developed an open architecture hybrid toll solution that accounts for multiple transportation modes. She provided guidance on tolling technical solutions and the use of emerging technologies to support various payment methods.

Toll Team Leader, I-15 Express Lanes, Riverside County Transportation Commission (RCTC), California. Vickie managed the design of the new express lanes system, focusing on changes to existing RCTC policies and revisions to existing business rules. The program required coordination with multiple local toll agencies and seamless integration with SR-91 Express Lanes program. Vickie led the concept of operations development, procurement coordination, FHWA and Caltrans review coordination, RFP development, proposal scoring, DB and Toll vendor coordination, testing plan development, and toll system design reviews.

Technical Lead, SR 91 Express Lanes, Riverside County Transportation Commission, California. This project extends the 91 Express Lanes from the Riverside County/Orange County Line to I-15, providing the first tolled express lanes in Riverside County. As the technical lead, Vickie served several roles. She provided technical guidance for the development of toll gantry locations; wrote the project description and provided design input for tolling points; provided toll system cost estimates, participated in the value engineering workshop, and served as the technical representative for RCTC to the California Toll Operators Committee Technical Working Group. In addition, she provided oversight for collaboration between the design-build contractor and the toll vendor. She reviewed schedules, scopes of work, and contracts for both civil construction and the toll system, and she facilitated coordination between both contractors during design phase and construction. She also helped to coordinate between Orange County Transportation Authority and RCTC in developing business rules for and designing the extension of the existing facility, which may include a single back office.

Mustafa Kamal

Traffic and Revenue

Mr. Kamal has extensive experience in the development of traffic and toll revenue forecasts for proposed managed-lanes and toll roads. He is also experienced in travel demand modeling for large multimodal projects including regional planning studies, major investment studies, roadway improvements and corridor studies. He is experienced in developing demand forecasts using various software packages such as Cube/Voyager and TransCAD as well as Paramics simulation software.

Project Technical Leader, Modeling Task Leader, Mopac North (Loop 1) Express Lanes Investment-Grade Traffic and Toll Revenue Study, CTRMA, Austin, Texas. CDM Smith conducted this investment-grade traffic and toll revenue study for the Mopac (Loop 1) express lanes in Austin, Texas for CTRMA. The project limits were from W. Parmer Lane to Lake Austin Boulevard with an approximate length of 11.2 miles. Mr. Kamal served as PTL and lead modeler for this study and developed traffic and toll revenue forecasts for the express lanes. These forecasts were based on benchmarked models and behavioral data and included updated value-of-time (VOT) and reliability measures shown to have a significant impact on the demand for the Mopac North express lanes.

Senior Modeler and Project Technical Leader, Mopac South (Loop 1) Traffic Support for Environmental Analyses, CTRMA, Austin, Texas. CDM Smith was retained by CTRMA to provide environmental traffic support for the Mopac South corridor. The project limits for Mopac South are from Cesar Chavez Street to Slaughter Lane (approximately 8 miles). The project included providing traffic data for air quality and noise analyses, Mobile Source Air Toxics (MSAT), Regional Toll Analysis (RTA), Project-Level Toll Analysis (PLTA) and developing measures of effectiveness (MOEs) for five different alternative configurations for the corridor as well as the No-Build alternative. Mr. Kamal is serving as PTL and senior modeler for this project.

Senior Transportation Planner and Modeling Lead, Mopac South (Loop 1) and US 183 North Express Lanes, CTRMA, Austin, Texas. CDM Smith conducted sketch-level traffic and toll revenue studies for various alternative configurations for the Mopac South and US 183 North express lanes in Austin, Texas for CTRMA. The project limits for Mopac South were from Cesar Chavez Street to Slaughter Lane (approximately 8 miles) and from SH 45 North to Mopac (Loop 1) for US 183 North (also approximately 8 miles). These two express lanes corridors will connect to and extend the Mopac express lanes currently under construction in central Austin. Mr. Kamal served as the senior modeler for this project and also developed the conceptual toll feasibility of the proposed express lanes.

Senior Transportation Planner and Modeling Lead, Mopac North (Loop 1) Express Lanes Intermediate Traffic and Toll Revenue Study, CTRMA, Austin, Texas. CDM Smith conducted this intermediate traffic and toll revenue study for the Mopac (Loop 1) express lanes in Austin, Texas for CTRMA. The project limits were from W. Parmer Lane to Lake Austin Boulevard with an approximate length of 11.2 miles. Mr. Kamal served as the senior modeler for this project and also developed the conceptual toll feasibility of the proposed express lanes. The express lanes opened to traffic in the Fall of 2017.

Education

MS - Transportation Engineering, University of Wisconsin, Madison, Wisconsin, 1988

BE - Civil Engineering,

NED University of Engineering and Technology, Karachi, Pakistan, 1987

SH 45 Southeast Investment-Grade Traffic & Toll Revenue Study, Austin Texas.

Mr. Kamal served as senior modeler for this investment-grade traffic and toll revenue study for TxDOT. The SH 45SE toll road located south of Austin connects IH 35 to SH 130, and serves as part of a larger bypass around the IH 35 corridor. Responsible for calibration of the travel demand model used for this study, including the implementation of appropriate value-of-time (VOT) used in the model based on the results of stated preference surveys. The travel demand model used for this study was based on the CAMPO model and utilized specialized toll diversion process inside the traffic assignment routine to forecast toll traffic. An all-electronic toll collection system is used for this project and the model developed forecasts for auto and truck traffic for ETC and Video Tolling customers.

US 290 East Investment-Grade Traffic & Toll Revenue Study Modeling Review, Austin, Texas.

Mr. Kamal performed an independent technical review of the traffic and toll revenue forecasts developed for the investment-grade study for the upgrade of the US 290E as a toll road. Performed detailed review of all aspects of the modeling performed for this study including model calibration and assumptions regarding various parameters used to develop traffic and toll revenue forecasts.

MCTRA 249 Tollway Investment-Grade Traffic & Toll Revenue Study, Houston, Texas.

CDM Smith conducted this investment-grade traffic and toll revenue study for the Montgomery County Toll Road Authority (MCTRA). The tollway is a three-mile extension of the Tomball Tollway, into Montgomery County, located in northwest Houston. Mr. Kamal served as the senior modeler for this project responsible for developing traffic and toll revenue forecasts for the toll road.

TxDOT SH 249 Toll Road Investment-Grade Traffic & Toll Revenue Study, Houston, Texas.

CDM Smith was retained by the Texas Department of Transportation (TxDOT) to conduct an investment-grade traffic and toll revenue study for the proposed extension to the State Highway 249 (SH 249) corridor. The proposed toll road is a further extension of the MCTRA SH 249 Tollway corridor into northwestern Montgomery County. Mr. Kamal served as the senior modeler for this project responsible for developing traffic and toll revenue forecasts for the toll road and providing support for rating agency reviews.

IH 35E Managed Lanes Investment-Grade Traffic and Toll Revenue Study, Dallas, Texas.

CDM Smith was retained by TxDOT to conduct an investment-grade traffic and toll revenue study for the IH 35E managed lanes project. The traffic and toll revenue estimates from this study were used to successfully close on a \$285 million TIFIA loan for this project in November 2016. Mr. Kamal served as the senior modeler responsible for developing traffic and toll revenue forecasts as well as providing support for rating agency reviews. The managed lanes opened to traffic in Spring 2017.

SH 183 /SH 114/ Loop 12 Managed Lanes Investment-Grade Traffic and Toll Revenue Study, Dallas, Texas.

CDM Smith was retained by TxDOT to conduct an investment-grade traffic and toll revenue study for the managed lanes along SH 183, SH 114 and Loop 12 in the vicinity of DFW Airport. Comprehensive data collection for this project included traffic counts, speed and delay data, as well as OD and SP surveys. Mr. Kamal served as the senior modeler. He also participated in meetings and presentations to Fitch rating agency in support of a TIFIA loan application for this project.

TIFIA Support/Risk Analysis

Mr. Lin's academic experience spans a wide array of planning capabilities within the transportation industry, including traffic engineering operations, transportation economics, urban planning, and GIS application. He is familiar with programming languages CamL, Mathematica, Python, and MATLAB. He is also skilled in traffic engineering programs CORSIM, Highway Capacity Software (HCS), and Synchro Studio.

Modeler, Loop 1 - MoPac South Express Lanes, Central Texas Regional Mobility Authority (CTRMA), Austin, Texas. The MoPac South Project involves the application of the NEPA process to develop improvement alternatives for the 8-mile Loop 1 MoPac Expressway corridor in Austin, Texas metropolitan area. I updated the roadway and transit networks of the travel demand model from Capital Area Metropolitan Planning Organization (CAMPO) in TransCAD. Mr. Lin then used the regional four-step model to develop new model runs and to evaluate project impact in documents such as: Regional Toll Analysis (RTA), Mobile Source Air Toxics Analysis (MSAT) and Project Level Toll Analysis (PLTA).

Traffic Engineer, Bee Cave Interchange, CTRMA, Austin, Texas. This project evaluates the impact of the MoPac South Project in Austin, Texas, on forecast traffic volumes using the Bee Cave Road interchange. Mr. Lin developed a CORSIM traffic model to evaluate one of the build option (Option 2C). Then, he analyzed the different outputs to produce performance measures such as queues and level of service.

Modeler, IH 35E Managed Lanes, Dallas, Texas/ SH 249, Texas Department of Transportation (TxDOT), Houston, Texas. These projects are Comprehensive Traffic and Toll Revenue Study. Based on the information about current and future background projects, Mr. Lin updated the base and future networks on Cube.

Analyst, Midtown Express T&R Study, TxDOT, Dallas, Texas. The project is a Comprehensive Traffic and Toll Revenue Study focusing on SH 183/SH 114/Loop 12 Managed Lanes (Midtown Express) in Dallas, Texas. Mr. Lin oversaw gathering information about current and future road projects, so I could update the networks in Cube. He assisted the team in summarizing the data collected using tools such as R and Excel Power Queries. He also, edited and ran the scripts in CUBE to calibrate the models. The outputs were analyzed with tools like select links runs and screenlines. Finally, he participated in producing the Traffic and Revenue numbers and wrote a chapter of the project report.

Modeler, SH 249 MCTRA T&R Study, Houston, Montgomery County Toll Road Authority (MCTRA), Texas. This project is a Comprehensive Traffic and Toll Revenue Study of SH 249, MCTRA portion in Houston, Texas. Based on the information about current and future background projects, he updated the base and future networks on Cube.

Modeler, Hampton Roads Bridge-Tunnel, Virginia Department of Transportation (VDOT), Norfolk, Virginia. This project consists in the addition on a high occupancy tolled tunnel to the existing I-64 bridge-tunnel linking Hampton and Norfolk, Virginia. A queue builder tool was introduced to the models and gave to each segment of the roads (our route and the main competitor), specific parameters that defines their own VDF

Education

ME – Transportation Engineering, Texas A&M University, 2016

ME – Civil Engineering, Ecole Spéciale des Travaux Publics, France, 2015

Registration

Engineer-in-Training: Texas 56725

Computer Skills

Traffic Engineering: Synchro, CORSIM, HCS

Travel Demand Model: Cube, TransCAD

Programming: Python, R, CamL, MATLAB, Visual Basic

Other Software: ArcGIS, AutoCAD

Languages

Fluent: French, English

Conversational: Spanish, Chinese, German

curves (responsible for queues and highlight bottlenecks and spillbacks). Mr. Lin oversaw experimenting this queue builder and the calibrating of the base year model.

Modeler, Gordie Howe International Bridge, Michigan Department of Transportation (MDOT), Detroit, Michigan. This project is an update from a previous study, except that this time, calibration was done by our team and not a sub-contractor. A cross-border project raises numerous challenges such as conversion rate, coordination between agencies and crossing processes at the customs. Mr. Lin was in charge of gathering information about current and future road projects, so he could update the networks on TransCAD. He assisted the team by developing automation tools to help manage the outputs and calibrate the travel demand models.

Planner, Burnet Road Corridor Study, City of Austin, Austin, Texas. Burnet Road is a 5-mile urban corridor in Austin, Texas. The contract includes both design and planning for this project. Mr. Lin was in charge of the planning and traffic sections of the analysis which consist in: a traffic projection memorandum, a safety analysis memorandum, a traffic operations memorandum and a PHB warrant study memorandum.

Planner, Horizon Boulevard Census TAZ Development, TxDOT), El Paso, Texas. Horizon Boulevard is a 10-mile study corridor in El Paso, Texas. Data about current and future roadway, commercial and residential developments were collected in the region. Mr. Lin summarized and updated the socio-demographic data input for the travel demand model. The outputs of the model are then used to develop traffic projections.

Planner, Freight Bottleneck Analysis, South East Texas Regional Planning Commission (SETRPC), Beaumont, Texas. On-call task to identify truck bottlenecks and to measure truck performance in the Beaumont region. A year worth of 15-min speed and volume data were studied using R.

Planner, Census TAZ Development, South East Texas Regional Planning Commission (SETRPC), Beaumont, Texas. Follow-up work from previous studies to develop the model inputs for the regular 5-year cycle of the model for submittal to TxDOT. The models consist of the three counties around Beaumont, Texas (Jefferson, Hardin and Orange counties) and facilitate air quality modeling in this area that used to be non-attainment until recently. The base year 2016 was updated with 2013 travel demand model output, census data and satellite images. The forecast year 2045 includes socio-demographic data such as household numbers, type of employment and income per household.

Planner, Laredo MTP 2045 Update, Laredo Metropolitan Planning Organization, Laredo, Texas. In order to update the Metropolitan Transportation Plan for the year 2045, socio-demographic data including household numbers, type of employment and income per household were forecasted. First, the base year 2013 were updated using census data and satellite images. Then, growths were modeled regarding the information collected from local authorities. Additional intermediate data were evaluated for the years 2018, 2030 and 2040.

Traffic Engineer, Burnet Road Corridor Study, City of Austin, Austin, Texas. Burnet Road is a 5-mile urban corridor in Austin, Texas. I developed the Synchro model to analyze corridor performance and evaluate intersection design alternatives. Based on this study, recommendations on traffic operations and design were suggested to the design team.

Data Collection/Analysis

Dr. Lu specializes in travel demand modeling related to toll studies and actively explores innovative methodologies to improve model quality and enhance understanding of travel behavior under tolling situation. She is proficient in toll diversion behavior study at both planning and mesoscopic simulation level, including T&R estimates, demand calibration, scenario analysis, and queue accumulation analysis. She has a strong background in software programming and masters Python to perform statistical analysis and data post-processing. Besides, Dr. Lu has extensive research on land use and transportation interaction, urban freight planning, machine learning approaches on travel mode choice studies, and agent-based modeling (ABM).

Analyst, MoPac North Express Lanes Comprehensive Traffic and Toll Revenue Study, Texas. CDM Smith conducted a comprehensive T&R analysis for the Loop 1 North Express Lane corridors. Dr. Lu took the challenge to study the queue accumulation pattern on the general-purpose lane. This study is crucial because only when the model accurately evaluates the congestion level on the general-purpose lane, Express Lane demand can be reasonably estimated.

Project Technical Leader, Illinois Tollway ON TO 2050 Model Update, Northeastern Illinois. An Illinois toll diversion model update to align with CMAP's ON TO 2050 travel demand model. Dr. Lu took the role of project technical leader. She implemented multiple innovative methods, such as queue accumulation, travel time reliability, and two-level toll choice behavior, to enhance the model's ability to estimate toll facilities' transactions. Besides taking the lead on developing essential technical components, she facilitated the project manager on scheduling, quality control of technical work, and team communication.

Lead Modeler/Analyst, Comprehensive-Level T&R Study of the Osceola Parkway, Osceola County Government, Osceola County, Florida. Dr. Lu led the modeling efforts to incorporate the latest socioeconomic data, utilize StreetLight data to refine O-D movement, calibrate travel demand, and perform toll scenario analysis and sensitivity analysis.

Lead Modeler/Analyst, Wekiva Parkway T&R Forecasts, Florida's Turnpike Enterprise, Lake and Seminole Counties, Florida). This study aimed to develop a T&R forecast for the Wekiva Parkway project from Fiscal Year 2017 through Fiscal Year 2050. Dr. Lu led the modeling efforts, including calibrating trip table with observed traffic counts, forecasting toll T&R, performing a risk analysis and scenario analysis.

Lead Modeler/Analyst, T&R Study for Dulles Toll Road, Washington DC. CDM Smith undertook a fully updated comprehensive/Investment Grade T&R study for Dulles Toll Road (DTR). Dr. Lu led the T&R modeling efforts, including running the latest MWCOG travel demand model, modeling the toll diversion behavior in this region, calibrating a base-year model, toll scenario analysis, and sensitivity analysis.

Lead Modeler/Architect, Modeling Queue Accumulation in Travel Demand Models, CDM Smith R&D. Dr. Lu developed a comprehensive queue accumulator program in

Education

PhD, Urban Planning and Policy, University of Illinois at Chicago, IL, 2009

MS, Traffic Information Engineering and Control, Northern Jiaotong University, China, 2002

BS, Information Engineering, Northern Jiaotong University, China, 1999

Years of Experience

Total Years: 12
CDM Smith: 6

Certifications

American Institute of Certified Planners (AICP)

Honors/Awards

Dissertation Fellowship Award, Lincoln Institute of Land Policy, 2007 (Nation-wide competition)

George Krambles Scholarship, University of Illinois at Chicago, 2007

Distinguished Graduate Scholar, University of Illinois at Chicago, 2007-2004

Python language and integrating it into Cube Voyager. She also validated the queue accumulator process against empirical speed and queue data.

Ridership Forecasting with STOPS for Transit Project Planning. Dr. Lu attended this 3-day training offered by NTI/FTA and know how to apply STOPS to forecast transit ridership and perform scenario analysis.

Lead Data Analyst, Combining Travel Demand Model with R programming for IL Tollway System-Wide Toll Sensitivity Analysis, Northeastern Illinois. Dr. Lu utilized R Shiny to develop a user interface to exhibit toll sensitivity shown in a travel demand model. With a single interface, users could view T&R toll sensitivity for individual or grouped plazas by facility type, time period, plaza type, etc.

Lead Data Analyst, R programming for Illinois Tollway System-Wide INRIX Speed Data Analysis, Northeastern Illinois. Dr. Lu used R program to analyze INRIX speed data and estimate the travel time reliability revealed by the speed data.

Lead Modeler/Architect, Incorporating Toll Diversion Algorithm in Dynamic Traffic Assignment, CDM Smith R&D. This research effort aimed for a higher quality of T&R forecast for a managed lane with dynamic tolling or traffic rerouting from construction activity. Dr. Lu leads this R&D effort, including developing diversion algorithm in dynamic traffic assignment, scenario analysis, and final report preparation.

Lead Modeler/Analyst, MOT Impact Analysis on Eden Spur: Using Dynamic Traffic Analysis (DTA), Northeastern Illinois. Dr. Lu led the modeling and analysis effort for the Edens Spur lane closure impact study. During the first effort in 2010, Dr. Lu researched and developed a DTA model to study the queue length and travel delay caused by the phasing of a lane closure. Our client Illinois Tollway Authority was very pleased with the estimate since it was close to the observed delay. Tollway requested the same impact analysis in 2017 for its construction plan on the same corridor occurring in 2020.

Lead Modeler/Analyst, SR 826, Palmetto Expressway East-West Corridor from I-75 to I-95 / Golden Glades, Florida. This study evaluated the traffic and toll revenue potential of SR826/Palmetto East-West express lanes in Miami-Dade County for a planning purpose. Dr. Lu tested various modeling strategies and applied the most reasonable solution to reflect travelers' toll diversion behavior. Dr. Lu also performed trip table calibration, T&R forecast, toll sensitivity test, and results analysis.

Lead Modeler/Analyst, Northwest Parkway T&R Study, Colorado. This comprehensive study developed T&R for Northwest Parkway associated with two scenarios with and without the NW Parkway extension and Jefferson Parkway as tolled facilities. Dr. Lu constructed the travel demand model, including toll diversion algorithm design, model calibration, OD survey incorporation, sensitivity analysis, and scenario analysis.

Lead Modeler/Analyst, Columbia River Crossing T&R Study, Washington & Oregon. Joined efforts between Oregon and Washington DOTs to provide tolled Interstate 5 bridge between Portland and Vancouver, Washington. Dr. Lu was the lead modeler. Responsibilities include running the four-step model, toll travel demand model calibration, toll sensitivity test, weekend model development. Dr. Lu also develops a Monte-Carlo simulation model to provide insights on mode shift, route diversion, trip suppression, and shift in departure time due to toll on the bridge, using stated preference survey results.

Abril Estefania Matysek, PE

Demographic/Economic Analysis

Ms. Matysek's experience spans a wide array of planning capabilities within the transportation industry, including traffic engineering operations, transportation planning and traffic and toll revenue forecasting. Her technical skills include extensive knowledge in conducting traffic analysis of freeways, tolled facilities and arterial networks and traffic simulation of large networks. Abril is experienced in Vissim (recognized as one of the world's leading traffic planning tools and a simulator of mobility as a service and connected and autonomous vehicles), Synchro, and ArcGIS.

SH 249 Comprehensive Study, Houston, TxDOT, Toll Operations Division. Ms. Matysek provided a variety of transportation planning tasks for this study, which was part of an on-call Traffic & Revenue contract. Such tasks included summarizing traffic count, origin-destination, and speed data for use in the calibration of the base year model. Ms. Matysek also played a key role in the writing of the report for this study.

SH 31 Traffic Analysis and Planning Study, Tyler, TxDOT. Ms. Matysek served as the engineer/analyst for the SH 31 study in Tyler, Texas. Such work included analyzing and summarizing traffic data, developing existing conditions balanced profiles, identifying growth trends from travel demand models and preparing a traffic projections memorandum to then perform an operations analysis for the corridor using Synchro and VISSIM.

Horizon Boulevard (FM 1281) Corridor Master Plan, El Paso, TxDOT. As part of this study, Ms. Matysek assisted with the traffic data collection program, analyzing the traffic count data and developing an existing conditions balanced profile for the corridor to use for modeling purposes, as well as analyzing the need for signalization at major intersections. Ms. Matysek was also part of the public involvement process for this study.

US 67 Corridor Master Plan, West Texas, TxDOT. As part of this study, Ms. Matysek assisted by analyzing existing conditions and preparing traffic projections along the corridor. She also performed an operational analysis along the corridor using Synchro and VISSIM in order to create concepts which would improve any failing intersections. These concepts were included as part of the final US 67 Corridor Master Plan. Ms. Matysek was also part of the public outreach and involvement for this study by helping create maps, presentations, and using her fluency in Spanish to better convey the project goals to the residents of the project area.

Existing Toll 49 System T&R Monitoring Support and Proposed Segment 6 Environmental Support, Tyler, NET RMA. Ms. Matysek assists in summarizing traffic and revenue trends along the existing segments of Toll 49 as part of the T&R monitoring support task. For the Segment 6 environmental support, Ms. Matysek coded six different alignments into future year Cube networks and summarized the outputs, including traffic, speeds, and level-of-service, along each alignment.

IH 35E Managed Lanes Phase II Analysis, Dallas, TxDOT. As part of this study, Ms. Matysek reviewed background projects in the future year Cube networks for Phase II of the

Education

BS – Civil Engineering,
Texas A&M University,
2017

Languages

Spanish

Certifications

Texas PE 144680

Software

Microsoft Office,
Synchro, VISSIM, CUBE,
ArcGIS

IH 35E managed lanes. She also led the writing of two memorandums as part of this study which analyze traffic and revenue forecasts under different tolling scenarios.

Las Americas Bridges Maintenance of Traffic (MOT) Implementation, Puerto Rico, USACE. Ms. Matysek supported the traffic analysis for this study which modeled three interchanges and four signalized intersections in Puerto Rico for existing conditions and seven MOT scenarios in VISSIM for AM and PM peak hours. This study will support the traffic management implementation plan during construction.

Connected Automated Vehicle (CAV) Modeling, Marysville, Ohio DOT. Ms. Matysek assisted in the traffic analysis for this study which included approximately 36 miles along US 33 in Marysville. The analysis involved modeling and analyzing the traffic performance for 10 scenarios with different CAV penetration rates along the study corridor using VISSIM. This study will support ODOT's decision making for long term improvement as CAV technology evolves.

Rockwall and Kaufman County Toll Road Sketch Level Traffic and Revenue Study, Rockwall and Kaufman Counties, NET RMA. As part of this study, Ms. Matysek summarized traffic count and origin-destination data within the study area and reviewed/coded background projects and the proposed corridor in the future year Cube networks. Ms. Matysek also led the development of the report for this study.

US 69 Express Lanes Level-2 Traffic and Revenue Study, Kansas City, KDOT. For the traffic and toll revenue analysis portion of this study, Ms. Matysek created a balanced profile for existing and future years to use as inputs in VISSIM to determine volume-delay function curves to use in the travel demand models. Additionally, Ms. Matysek led the development of the future year build volumes and provided support for the operational analysis of the corridor for existing, future No-Build, and Build conditions using VISSIM modeling software. Ms. Matysek also led the development of the report for this study.

Toll 49 Comprehensive Traffic and Toll Revenue Study, Tyler, NET RMA. As part of this study, Ms. Matysek developed and analyzed the data collection program for traffic count, speed, and origin-destination data to better understand existing travel patterns and for use in the base year model calibration. She also led the development of the report for this study.

SH 87 Regional Feasibility Study, Port Arthur, TxDOT. Ms. Matysek developed balanced volume diagrams for use in the study area intersection analysis. She created and calibrated existing AM and PM peak hour Vissim models of the study area and modeled varying alternatives at the main SH 87/SH 82 intersection for the alternative intersection analysis in effort to reduce congestion.

Naveen Mokkapati, PE

TIFIA Support/Risk Analysis

Mr. Mokkapati began his professional career in 2007 as a transportation analyst and modeler responsible for traffic and revenue research and analysis and financial feasibility studies. He is primarily responsible for conducting analyses for various toll studies for the North Texas Toll Authority (NTTA).

Mr. Mokkapati offers clients a keen ability to view projects from an end-user perspective. During his tenure with CDM Smith, he has developed tools to improve work processes, including a comprehensive monitoring database designed to track various travel characteristics of the NTTA system on a weekly basis. This information enhances the calibration and validation process necessary for traffic and revenue studies.

Mr. Mokkapati's experience includes working with state agencies, tollway authorities, metropolitan planning organizations, and others on projects from sketch level traffic and revenue studies to highly detailed investment grade traffic and revenue studies that are used for selling bonds.

Mr. Mokkapati's academic success provided him a solid foundation for building technical skills. He received a Kimley-Horn graduate scholarship in recognition of this outstanding academic record. During this time, he worked for about two years as a graduate research assistant at the Texas Transportation Institute where he learned about mathematical modeling techniques and as a result, became interested in predicting future travel behavior through understanding existing system conditions.

Project Technical Leader/ Transportation Modeler, NTTA System Comprehensive Traffic and Toll Revenue Study. Mr. Mokkapati led the project to develop traffic and revenue estimates on NTTA System. The major responsibilities include calibration of base year model, reviewing demographic updates done by independent economist, developing traffic and revenue estimates and conducting sensitivity analysis to understand the impacts of various input assumptions.

Transportation Modeler, Kalamazoo Turning Movements. Mr. Mokkapati created a template to estimate turning movements on 50 intersections in Kalamazoo, Michigan for base and future years. The inputs were gathered and summarized from field traffic counts, MDOT historical count database and Kalamazoo travel demand model. The outputs from the turning movement analysis were used in Synchro to evaluate Level of Service at the 50 intersections during peak periods for base and alternative future year scenarios.

Transportation Modeler, Ohio River Bridge Crossing Study. Mr. Mokkapati used KYOVA model to calculate future year traffic forecasts on the proposed Ohio river bridge crossing. The traffic forecasts for existing crossings were also estimated for both build and no-build scenarios. The existing 2017 counts were collected and summarized on the competing routes US 52, WV 527, 106 and I 64. The results include traffic forecasts for two bridge alternatives.

Transportation Modeler, North Carolina Intersection Volumes Forecasting. Mr. Mokkapati used Rocky Mount, NC model to calculate traffic growth rates that were then applied to observed 2017 AADT. Trip diversion rates were also calculated using the model

Education

MS – Civil Engineering,
Texas A&M University,
2007

B. Tech – Civil
Engineering, Indian
Institute of Technology,
Madras, 2005

Registration

Professional Engineer:
Texas, 2012
(License #107570)

Years of Experience

Total Years: 18
CDM Smith: 16

and applied to existing 2017 AADT. Some modifications to the model were implemented to improve traffic routing in the study area. These modifications are documented in the forecasting report.

Task Manager, Ohio 25k Statewide Model Integration with MPO Models. Mr. Mokkalapati integrated Ohio statewide model and six MPO models in CUBE platform. The major responsibilities include: disaggregate the statewide zones into smaller MPO zones and remove and replace statewide network with MPO network. The updated trip table and network are used for running highway assignment.

Analyst, VMT Estimation on NTTA Facilities. Mr. Mokkalapati estimated Vehicle Miles traveled (VMT) on the NTTA toll roads (extending about 90 miles) in Dallas-Fort Worth region. The VMT estimates are computed by creating a balanced daily traffic schematic using the transactions data on the toll gantries and traffic counts collected on non-toll ramps.

Analyst, Fort Bend County Toll Road Authority Systemwide Comprehensive Level Traffic & Toll Revenue Study. Mr. Mokkalapati assisted in developing traffic and revenue estimates on Fort Bend parkway and West park toll roads. The key tasks involved reviewing the model output from future year travel demand model and estimating traffic and revenue for various alternatives using toll assignment algorithms and conducting risk modeling to understand the high and low estimates for traffic and revenue. Other responsibilities include evaluating toll sensitivity, understanding the impact of various assumptions like revenue recovery, value of time, ramp-up, revenue days, opening date, etc.

Modeler, Chisholm Trail Parkway Investment Grade Study Update, Dallas, Texas. Mr. Mokkalapati assisted in reviewing and updating traffic and revenue estimates on Chisholm Trail Parkway. The key changes incorporated in this updated study included adoption of mobility plan 2035, updated independent economic review, and revenue recovery assumptions.

Analyst, Dallas North Tollway Ramp Alternatives, Texas. Mr. Mokkalapati evaluated the traffic and revenue impacts of the DNT ramp modifications between PGBT and Parker Road. The responsibilities included forecasting the future year traffic for existing and modified ramp configurations using CDM Smith traffic assignment model, assessing the reasonableness of changes in traffic patterns based on traffic counts, and recommending the revenue effects.

Analyst, President George Bush Turnpike Fourth Lane Revenue Impacts, Texas. Mr. Mokkalapati evaluated the traffic and revenue impacts of converting the fourth lane on PGBT to HOV lane under different HOV toll scenarios. Responsibilities included forecasting the future year traffic on the HOV lane and recommending the revenue effects.

Analyst, NTTA System Monitoring, Texas. Mr. Mokkalapati closely monitored the NTTA System transactions and revenue to look at the significance of impact of various market dynamics like 2008 credit crunch, \$4 gas price, electronic toll collection implementation, addition of new NTTA roadway capacity, among others.

Analyst, All-ETC Paper. Mr. Mokkalapati reviewed literature related to state of the practice on the electronic toll collection systems (cashless systems) across the world.

TIFIA Support/Risk Analysis

Mr. Muñoz is a practice leader for Public-Private Partnerships (P3), supporting clients in navigating the complex world of P3 project delivery. Mr. Muñoz has successfully procured five P3 contracts with construction values totaling over \$8.2 billion, and four design build contracts with construction values totaling over \$5.7 billion. Mr. Muñoz has over 20 years of P3 project delivery experience leading technical, financial and legal advisors in the completion of P3 procurements making him a leading expert in the commercial and technical aspects of P3 project delivery. Mr. Muñoz has over 25 years of state government experience moving up the ranks of the Texas Department of Transportation (TxDOT).

Advisor, Nevada Department of Transportation, Program Management Services. Mr. Muñoz is the Project Task Leader for a \$2.1M contract providing assistance with capital programming including prioritizing, funding and developing innovative and traditionally delivered projects. He has worked with NDOT to identify projects in NDOT's overall program for alternative or traditional delivery, setting target dates for letting based on the status of project development and an analysis of the timing and amounts of available funding.

P3 Advisory Services. Mr. Muñoz was the Project Manager for a \$1.8M contract leading financial, legal and other technical advisors in the completion of a variety of tasks for NDOT including review of an unsolicited proposal for improvements along the I-80 corridor with a cost of over \$400M and completing a comprehensive update to NDOT's P3 procedures manual.

Advisor, Illinois Department of Transportation P3 Advisory Services. Mr. Muñoz is the Project Manager for a \$11.1M contract leading financial, legal and other technical advisors in the completion of a variety of tasks for IDOT including development of a P3 procedures manual and performing feasibility analysis for the potential bridge bundling and highway lighting P3 projects.

Advisor, Virginia Office of Public Private Partnerships (VAP3), Transform 66 P3 Project. Mr. Muñoz assisted VAP3 by performing an audit of the best value proposer for the Transform 66 P3 Project. This audit is required under Section 56-560(E) of the Code of Virginia which requires a review and report on the public costs and potential liabilities to which taxpayers would be exposed. The "audit" was completed in December 2016.

Advisor, Pennsylvania Department of Transportation (PennDOT), Rapid Bridge Replacement Project. Mr. Muñoz has successfully assisted PennDOT in the development of commercial and technical procurement documents for an approximately \$900 million, 558-bridge replacement project with a 25-year lifecycle maintenance obligation to be delivered using the availability payment P3 delivery method. The procurement has reached commercial close on January 8, 2015 and financial close occurring March 18, 2015.

Advisor, CNG Fueling for Transit Agencies Partnership Project, PennDOT, Pennsylvania. Mr. Muñoz provided assistance in the development of commercial and technical procurement documents for an approximately \$126 million, design-build-

Education

BA – Business Administration, University of Texas at Austin, 1986

Certifications

Certified Public Accountant

Certified Internal Auditor

Honors/Awards

2011 Luther DeBerry Award recipient for outstanding contributions to the field of transportation in Texas presented by the Texas Transportation Institute and TxDOT

Years of Experience

34

Years with Firm

9

Office Location

Austin, TX

finance-maintain-operate P3 project. The project reached commercial close on June 20, 2016.

Advisor, Texas Department of Transportation (TxDOT), Programmatic Support. Mr. Muñoz has been extensively involved with the updating of programmatic contract documents, developing guidelines and commercial and technical documents that utilizes lessons learned from previous procurements as well as experiences in other jurisdictions. Mr. Muñoz has also prepared multiple white papers to help supplement training activities for personnel who are implementing P3 and design-build contracts. Mr. Muñoz also worked on the standardization of the cost estimating process across projects through development of an Excel-based model and instruction guide for cost estimators.

Advisor, Southern Gateway Managed Lanes Project, Texas. Mr. Muñoz provided advice to TxDOT on a design-build procurement for a \$550 million project. He provided advice on the procurement and technical documents.

Procurement Manager, South Padre Island 2nd Causeway Project, Texas. Mr. Muñoz served as the Procurement Manager for a P3 toll bridge to a resort area in south Texas. Mr. Muñoz led the legal and financial procurement teams in the initial procurement document development of this project. This project is now being developed by the Cameron County Regional Mobility Authority.

Advisor, Alaska Department of Transportation and Public Facilities (ADOT&PF), Knik Arm Crossing Project. Mr. Muñoz provided advice to ADOT&PF on a design-build procurement and obtaining a \$350 million TIFIA loan for a \$900 million bridge project. He provided advice on the TIFIA loan process, the design-build with long-term capital maintenance procurement process including document development, negotiation and selection.

Deputy Director, Innovative Financing/Debt Management Office, Texas Department of Transportation, Austin, Texas. Mr. Muñoz successfully led the financing legal and technical advisory teams in the delivery of design-build and P3 projects for TxDOT's innovative project delivery program. Under his leadership, Texas successfully developed over \$13 billion in P3 and design-build projects and procured multiple alternatively delivery projects using a variety of financing mechanisms. Mr. Muñoz also led a team that secured over \$3.3 billion of TIFIA loans for 5 projects and over \$1 billion of private activity bonds (PABs) for three projects. As a leader of procurements for innovatively delivered projects, Mr. Muñoz' responsibilities included confirming the availability of federal, state and local funding needed to advance projects; reviewing and approving drafts of documents for commercial reasonableness and consistency with the direction of executive leadership.

I-35E Project. Mr. Muñoz successfully led a team of financial, technical and legal advisors in negotiating terms and conditions for financial and technical documents for the delivery of this design-build project. Mr. Muñoz worked closely with North Central Texas Council of Governments in identifying and determining the viability of alternative funding sources, completing the financial analysis including the development of an approach and project cost and benefit projections and summarizing other qualitative benefits and payback period and for a \$20M TIGER grant application to be used for the credit subsidy in support of a TIFIA loan. The \$1.4B DB project was completed in May 2017.

Ybette M. Ochoa, PE

Traffic Engineering/Traffic Operations

With broad experience across the U.S., Ms. Ochoa offers over 13 years of professional experience serving in leading roles for complex projects with departments of transportation, toll authorities, and transit agencies. Understanding that today's challenges require data-driven, modern solutions founded on a blend of technical skill and a long-view of technology and mobility options, her work spans a wide variety of transportation planning, traffic operations, and intelligent transportation systems (ITS) projects. Her technical skills include extensive knowledge in database management; conducting signal timing studies; transit mobility planning and operations; airport landside planning, traffic analysis of freeways; tolled facilities and arterial networks; and traffic simulation of large networks. Ybette is proficient in Vissim (recognized as one of the world's leading traffic planning tools and a simulator of mobility as a service and connected and autonomous vehicles), HCS, Synchro, SimTraffic, ArcGIS, and Microsoft Office.

Traffic Engineer, US 183/MoPac Interchange Study, Central Texas Regional Mobility Authority (CTRMA), Austin, TX. This interchange study includes 12 interchanges, located along 3 miles of US 183 and 6 miles on MoPac. Ms. Ochoa developed and calibrated Vissim models for existing conditions and two future scenarios that included different managed lane configurations. Ms. Ochoa also developed a database and excel spreadsheets to automate modeling output post-processing to optimize the process and provide results more efficiently.

Project Technical Lead, Traffic Analysis of Removal of Signal on Route 9, Middletown, CT, Connecticut DOT. Ms. Ochoa is leading the traffic analysis for this study which involves an interchange and six signalized intersections along Route 9 and Main Street. The analysis involves multimodal modeling the existing corridor, 2025 No Build with and without commitments, and three build alternatives for years 2025 and 2045 in Vissim. The build alternatives propose to remove the existing signals along Route 9 to eliminate the recurrent AM and PM peak period congestion, measuring the operation impact of these improvements on Main Street. This study will support the selection of the preferred build alternative.

Technical Specialist Reviewer, Rehabilitation of Heroes Tunnel, New Haven, CT, Connecticut DOT. Ms. Ochoa is responsible for technical guidance, quality assurance/quality control of the operation and safety analysis. The study includes modeling 26 Vissim models representative of multiple scenarios and design years, to determine the impact of the improvements of the Heroes Tunnel along Route 15 and the Route 15 /Whalley Avenue interchange.

Lead Traffic Engineer, Randall Road at US 20 Planning and Environmental Linkages (PEL) Study, Kane County, IL. Ms. Ochoa is guiding the development of the traffic analysis for existing and future conditions. Ms. Ochoa is responsible for technical guidance, quality assurance/quality control, internal meeting coordination, client presentations, and report writing.

Lead Traffic Engineer, Las Americas Bridges Maintenance of Traffic (MOT) Implementation, Puerto Rico, USACE. Ms. Ochoa led the traffic analysis for this study which modeled three interchanges and four signalized intersections for existing conditions

Education

MS – Civil Engineering
University of Idaho,
Moscow, Idaho,
2007

BS – Civil Engineering,
Universidad Nacional San Antonio Abad del Cusco, Perú, 2004

Registration

Professional Engineer:
Texas

Languages

English
Spanish

Honors/Awards

ITE Amy Polk Young
Engineer of the Year,
2010

and seven MOT scenarios in Vissim for AM and PM peak hours. This first phase of the study relied on traffic volumes estimates based on historic counts. In the second phase of the study in 2021, all Vissim models were updated with traffic counts collected in October 2021, also additional constructions scenarios and strategies to mitigate construction impact were analyzed in Vissim. This study will support the traffic management implementation plan during construction of the Las Americas Bridges.

Lead Traffic Engineer, US 69 Traffic and Revenue (T&R) Level 2, Kansas DOT, KS. Ms. Ochoa led the development of existing, no build and build microsimulation models of 11 miles of the US69 corridor to support TDM process for T&R Level 2 analysis for the proposed tolled express lanes. The team developed T&R forecasts for the proposed US 69 express lanes that will be used to analyze financial feasibility. Her responsibilities were technical guidance, quality assurance/quality control, and internal meeting coordination.

Lead Traffic Engineer, Connected Automated Vehicle (CAV) Modeling, Marysville, Ohio DOT, OH. Ms. Ochoa led the traffic analysis for this study which included approximately 36 miles along US 33 in Marysville. The analysis involves modeling and analyzing the traffic performance for 10 scenarios with different CAV penetration rates within the study corridor. The project includes the development of a Simulation Model User Guide as a stand-alone document such that another agency could use as guidance to develop and run a CAV simulation project. This study will support ODOT decision making for long term improvement as CAV technology evolves.

Lead Traffic Engineer, I-94 & US 127 Interchange Study, Michigan Department of Transportation, MI. Ms. Ochoa led the traffic analysis of the I-94 & US 127 Interchange to assess the most effective interchange configuration for the traffic operations in year 2045. Analysis involved using Vissim to model and analyze the operations performance under the following scenarios: existing, no build, and five build scenarios in peak periods.

Lead Traffic Engineer, Grand Parkway Traffic Analysis, Texas Department of Transportation, Houston, TX. When fully built, the Grand Parkway will be a 184-mile encircling the greater Houston metropolitan area. As part of the comprehensive traffic study, Ms. Ochoa led the traffic analysis of a 5-mile section of Grand Parkway. The study measured the impact of the proposed alternatives to alleviate the known recurrent congestion along Grand Parkway between I-45 and Kuykendahl Road. She performed the traffic analysis in Vissim; it included modeling existing, 2025 and 2035 no build, and five build scenarios in the evening peak.

ITS Engineer, Connected Vehicle Pilot Study, Illinois State Toll Highway Authority (ISTHA). As ITS Engineer, Ms. Ochoa supported the design, implementation, and evaluation a connected vehicle deployment for the Illinois Tollway. The small-scale deployment has been designed, procured, and is currently being installed on 10 miles of I-90. Task will continue to evaluate performance, oversee integration into TMC, and evaluate potential applications.

ITS Engineer, US 67 Corridor Master Plan, Texas Department of Transportation-El Paso District, Texas. Ms. Ochoa developed the ITS Needs Assessment report and the ITS master plan that included solutions and recommendations such as advanced warning systems (animals, weather conditions, road geometry, and speed), dynamic message signs, accessibility to power and communications utilities, and smart parking system.

Data Collection/Analytics

Mr. Patel is a transportation modeler and analyst for CDM Smith. Mr. Patel's experience spans a wide array of transportation planning and traffic engineering capabilities within the transportation industry including urban transportation planning, transportation/land use modeling, traffic engineering operations, characteristics of traffic, public transit planning and operations, applied regression analysis, and GIS application. His experience with CDM Smith includes working on T&R studies for toll road and managed lane projects, travel demand modeling, transportation planning, and traffic forecasting. He offers skills in travel demand model development, calibration and validation, network development, data collection, analysis, and development of project reports.

Transportation Modeler/Analyst, Grand Parkway Projects, Houston, Texas

Department of Transportation (TxDOT), Texas. Grand Parkway projects included Grand Parkway System Segments D through I Comprehensive Level T&R study and Grand Parkway Segment B Level 2 T&R Study. As a modeler and analyst, Mr. Patel oversaw the preparation of traffic count data collection program and coordinating with sub consultants regarding the traffic count program. He gathered information about current and future projects to update the networks on CUBE. He reviewed and updated base year network, prepared sub consultant agreements, identified routes to collect speed and delay information and coordinated with other staffs on various tasks. Mr. Patel also led the preparation of T&R estimates and summarizing sensitivity tests.

Transportation Modeler/Analyst, Grand Parkway Project Miscellaneous Analysis, Houston, TxDOT, Texas.

Mr. Patel provided technical support on the various requests from TxDOT on the Grand Parkway corridor. He analyzed toll rate escalations and prepared toll rate memorandum to suggest toll rates for the year 2020 on the Grand Parkway corridor. He took a lead on expansion trigger analysis, which included analyzing congestion patterns, prepared balanced profiles to compare Volume/Capacity (V/C) ratios for various alternatives, ran travel demand models, prepared presentation for technical review committee and presented in front of the committee and prepared draft memo summarizing the analysis.

Transportation Modeler/Analyst, Illinois Statewide Travel Demand Model (ILSTDM) Development, Chicago.

Mr. Patel was responsible for developing centroid connectors for the internal and halo zones. He worked on to clean up the network geography based on comments received from the prime consultant. He also worked on developing control totals for the socio-economic data in the model by pulling Woods and Pooles, and ACS Data, and calculating growth rates.

Analyst, IH 35E Express Toll Lanes Comprehensive Level T&R Study, Dallas, Texas.

This project is to update T&R for IH 35E express lanes. As an analyst, Mr. Patel summarized and reviewed traffic counts which includes analyzing hourly profiles, comparing trends and creating balanced profile to check reasonableness of counts. He conducted travel time runs on project corridor to understand speed variation between general purpose lanes and express lanes and analyzed speed data from INRIX. Mr. Patel

Education

ME – Transportation Engineering, University of Texas at Arlington, 2016

BE – Civil Engineering, Gujarat Technological University, India, 2014

Registrations

Engineer-in-Training: Texas, 2017 (#60941)

Certifications

Autodesk Certified Professional: AutoCAD 2014, (#00351085)

Years of Experience

Total Years:

CDM Smith: 3

Computer Skills

Travel Demand Model: TransCAD, Cube

Traffic Engineering: VISSIM, HCS

Other Software: ArcGIS, SAS, AutoCAD

took a lead to update project report which includes creating tables and figures, coordinating with GIS staff to prepare maps and write up of different sections.

Transportation Modeler/Analyst, I-495 and I-270 Express Toll Lanes Level 2 T&R Study, Maryland. This project included a Level 2 T&R study for a potential tolled build alternative for the I-495 & I-270 P3 program. Mr. Patel performed network coding for the base and future years to update the regional roadway network including coding of the managed lane project configuration into the regional network, reviewing distances, capacities, and speed. He also assisted in sensitivity model runs. As an analyst, Mr. Patel was instrumental in the creation of a set of reliability factors used to simulate drivers' response to uncertainty on the roadway by analyzing variance in travel times, aided in balancing and preparing a traffic count profile, VMT trend analysis, setting up spreadsheet to analyze model output and compare different sensitivity tests, creation of tables for project report and work with GIS support staff to develop graphics for project report.

Transportation Modeler, Ohio Statewide Model, Ohio Department of Transportation, Ohio. This task is to provide support to Ohio Department of Transportation staff to update the statewide travel demand forecasting model network and trip tables to include the MPO specific networks and trip tables. As a modeler, Mr. Patel reviewed work and instructions completed by former staff, completed the integration of the MPO networks into the statewide travel demand model which requires review of MPO network to identify external TAZs, renumbering of nodes and TAZs to align with statewide network, identifying links and TAZs to replace and stitching of the network at the cordons after integration of MPO network. He also created the user guide for integration of the MPO network. As per the client's request, Mr. Patel helped tagging the Annual Average Daily Traffic (AADT) from previous statewide network using TransCAD and Cube.

Analyst, 2017 Lane Closure Guide, Illinois State Toll Highway Authority, Illinois, Chicago. The Illinois Tollway Lane Closure Guide is a 300-plus page reference document used by Tollway maintenance staff and contractors to evaluate when lane closures may be implemented with the least impact to existing traffic. Mr. Patel helped to analyze IL-390 segment which require a large multistep database to process hourly plaza transaction data, hourly mainline traffic volumes and other data sources.

Transportation Modeler/Analyst, System Comprehensive Traffic and Toll Revenue Study, North Texas Tollway Authority (NTTA), Dallas, Texas. This project is a Comprehensive Traffic and Toll Revenue study of NTTA system. As a transportation modeler and planner, Mr. Patel assisted on various tasks of the project. He collected GPS based speed data and analyzed travel time characteristics. Mr. Patel helped review the 2040 Metropolitan Transportation Plan (MTP) and update the future year roadway networks in CUBE regarding the background projects. He helped to identify locations to collect traffic counts and travel time data, analyzed change in demographics, converted trip tables from TransCAD to Cube, Summarized NTTA transaction data to calculate ZipCash recovery rate. He performed travel demand model run and toll sensitivity analysis. He also worked on to update and finalize T&R report.

Analyst, Grand Parkway System Segments D through I Comprehensive T&R Study, Houston, Texas. The project is a comprehensive T&R study of Grand Parkway system segments D through I. Mr. Patel helped update roadway networks in Cube. He summarized transaction data and reviewed line diagrams and report.

Special Studies: Emerging Technologies

Mr. Sirandas has over 12 years of experience in transportation data analysis, travel behavior forecasting, and traffic operations. He specializes in developing and applying macroscopic travel demand models, mesoscopic and dynamic traffic assignment (DTA) models, and microscopic traffic simulation models. Mr. Sirandas has recently joined CDM Smith's Toll and Revenue Regional Team as a modeling and simulation expert to support the traffic and revenue practice and adjacent areas including transportation modeling, revenue analysis, and Road User Charging (RUC). Mr. Sirandas enjoys working on multimodal projects set in complex and challenging environments with elements such as prioritized transit, walking and biking, and ridesharing. Additionally, he has built models that capture the effects of Autonomous Vehicles (AVs) and Connected Autonomous Vehicles (CAVs) on travel behavior and traffic flow. He has presented on these topics at conferences including the TRB Applications Conference, TRB Simulation and Modeling Workshop, ITE Annual and Western District Meetings, and PTV User Group Meetings. Mr. Sirandas is proficient in a range of modeling software including Bentley CUBE, PTV Visum, PTV Vissim, PTV Vistro, Synchro/SimTraffic, and relevant programming interfaces such as Python.

Transportation Analyst, Revenue Alternatives Analysis, Sustainable

Transportation Funding Strategies, Nevada DOT. Mr. Sirandas is conducting analysis to support the identification of alternative revenue mechanisms and baseline funding strategies for Nevada DOT. This role is part of a broader effort initiated by Nevada DOT and its partner agencies to establish a stakeholder working group, education and outreach campaign, and a technical study of alternative and sustainable transportation funding strategies.

Transportation Modeler, C-470 Express Lane Toll Revenue Forecasting, Colorado

Transportation Investment Office (CTIO), Colorado. Mr. Sirandas is supporting the travel demand modeling and revenue analysis for the Investment Grade Traffic and Revenue Study of the C-470 corridor in Denver, Colorado. He is assisting in the development, calibration, and validation of the CUBE travel demand model, followed by a toll sensitivity analysis and revenue forecasting analysis.

Transportation Modeling Lead, I-80 Design Alternatives Assessment (DAA), San Francisco Bay Area Metropolitan Transportation Commission (MTC), Contra Costa and Alameda Counties, California.

Mr. Sirandas led the transportation modeling and traffic analysis work, collaborating with a multidisciplinary team, to identify and evaluate design alternatives for the I-80 corridor in the San Francisco Bay Area. The alternatives spanned nine corridor-wide strategies aiming to reduce overall congestion in the corridor, improve transit and carpool operations, and serve more people in fewer vehicles. He led the development of a Dynamic Traffic Assignment (DTA) model to evaluate strategies such as HOV Lane Access Restrictions, Hours of Operation, and Express Lanes Conversions. Mr. Sirandas leveraged his experience with MTC's Activity-Based Model (Travel Model One) to develop travel demand and mode-shift information for the DAA strategies, and prepared traffic information for the revenue analysis. He also led the technical documentation and coordinated meetings with MTC, Alameda CTC, and CCTA. Following up on the DAA study,

Years of Experience

Total: 12

CDM Smith: 0

Education

MS – Transportation Engineering, The Pennsylvania State University, 2012

BS – Civil Engineering, The Indian Institute of Technology, Kharagpur, 2010

Registration

Professional Engineer (PE): Washington (2015)

License #53244

Software Proficiency

PTV Suite (Visum, Vissim, Vistro)

Bentley CUBE

Python, SQL

Linguistic Languages

English, Hindi, Telugu

Mr. Sirandas successfully led the traffic components of a winning proposal to deliver engineering services for advancing the HOV Lane Access Restrictions alternative through the Caltrans project development and environmental study phases.

Transportation Modeling Lead, State Route 239 Project Approval and Environmental Documentation (PA/ED), Contra Costa and Alameda Counties, California. Mr. Sirandas served as a technical lead on the Project Approval and Environmental Document for the State Route 239 Project in eastern Contra Costa County, eastern Alameda County, and western San Joaquin County. This project will provide a new four-lane highway from State Route 4 at Marsh Creek Road to Interstate 580/205 and will ultimately improve the area's transportation network by providing an alternate route for the heavy commute traffic that currently impacts the community of Byron and improving access to the local airport. Mr. Sirandas led the development and calibration of a large mesoscopic DTA model (using Visum software) that can capture the traffic re-routing effects of the proposed new SR 239 facility across a large subregional area. This model has helped the team develop project alternatives and refine the proposed geometry of the SR 239 project.

Transportation Modeling Lead, Portola Valley Evacuation Study, Portola Valley, California. Mr. Sirandas led the traffic modeling and operations analysis for an Evacuation Traffic Management Plan for the Town of Portola Valley, a small unincorporated town located on the eastern slope of the Santa Cruz Mountains. Mr. Sirandas developed a DTA model in the Visum software platform for the evacuation scenario analysis to identify evacuation route capacities, bottlenecks, and evacuation times. The DTA analysis evaluated various roadway closure and traffic control scenarios. Based on the analysis, roadway network improvements and traffic management strategies were identified.

Transportation Modeler, Transportation Authority of Marin (TAM) Travel Demand Model Update, Marin County, California. Mr. Sirandas served as a technical analyst to help develop an updated and simplified version of Bay Area MTC's Travel Model Two with refined land use, transportation networks, and tour-based trip generation components. The model development focused on simplifying the process for adding traffic analysis zone detail, modifying land use inputs, and quantifying inter-regional travel. The goal of this effort was to make the model easier to use for local applications in Marin County, while maintaining its current complexity.

Transportation Modeling Lead, Autonomous Vehicle (AV) and Connected AV (CAV) Modeling and Simulation, San Francisco, California. Mr. Sirandas served as a technical lead on the company's internal research team to evaluate the potential effects of AV and CAV adoption on travel demand and traffic flow. He developed both macroscopic and microscopic simulation models that incorporated the driving behavior and traffic flow characteristics of AVs and CAVs at various adoption rates, based on research outcomes from the European CoEXist project. Mr. Sirandas formulated guidelines for modeling aspects of AVs and CAVs, including deterministic driving behaviors, Vehicle-to-Vehicle (V2V) communication and Vehicle-to-Infrastructure (V2I) communication, using the Vissim simulation modeling platform. Findings from this research aim to guide future decision makers considering mixed fleet scenarios involving AVs and CAVs. These findings were presented at the 2019 ITE Western District Annual Meeting.

Xiaoran Wang

Traffic and Revenue

With a background in planning and transportation engineering, Ms. Wang spent the last four years in the express lane and tolling industry. She has expertise in traffic data analysis, socio-economic studies, traffic forecasting, and pricing strategy.

Transportation Planner, NTE Level 2 T&R Study, Texas Department of Transportation (TxDOT), Texas. Ms. Wang processed multi-year Streetlight data and observed transaction data in support of traffic model calibration. She studied O-D pattern on NTE corridor and the entire highway system in Dallas- Fort Worth Area. Ms. Wang also involved with socio-economic study, travel demand modeling and report writing for this project.

Transportation Planner, I-35 Traffic & Revenue Study, KDOT, Kansas. Ms. Wang conducted traffic data analysis for I-35 project in Kansas. Tasks including daily trip pattern analysis, seasonality analysis. She created build network using TransCAD which further used for Travel Demand Model.

Transportation Planner, Illinois Tollway Safety Study, Illinois Tollway, Illinois. Ms. Wang conducted descriptive analysis for Illinois Tollway safety study in 2023. The study including identify major crash area, analyze crash data and provide safety suggestions for the client. Ms. Wang created an interactive Power BI dashboard to show crash data on system interchanges and mainlane gantries. Identified the major crash locations and categorized the crashes into different categories.

Transportation Planner, I-5 Traffic & Revenue Study, Caltrans, California. Ms. Wang conducted traffic and toll revenue tasks for I-5 corridor. Including design of tolling plan, future year toll rate setting, VMT analysis, report creation.

Transportation Planner, I-405 Traffic & Revenue Study, LA Metro, California. Ms. Wang conducted data collection and data analysis tasks for I-405 corridor. Used third party data, Streetlight and Replica, to understand trip pattern on I-405 corridor.

Transportation Planner, FM 1314 Access Management Study, TxDOT, Texas. Ms. Wang analyzed Strava mobility data and Replica data, helped the project team understand pedestrian and biking trip characteristics in the region. She identified attraction points along the FM 1314 corridor, which needed further attention on safety and access management study.

Transportation Planner, Grand Parkway SH 99 Investment Grade Traffic & Revenue Study, TxDOT Toll Operations Division, Texas. Ms. Wang performed data analysis of ETC share and leakage on the entire Grand Parkway Segments in support of the Reliance Letter. Evaluated previous forecast versus current performance. She was a key member of writing the 2023 Reliance Letter for the client.

Transportation Planner, I-14 Implementation Strategy Study, TxDOT, Texas. TxDOT is looking for traffic study for a potential 1000 miles interstate corridor. Ms. Wang used Replica, a third-party data platform, helped the team understand the existing trip pattern, the flow between counties and the potential traffic hot spot. She created flow map and 3-D map to illustrate the traffic analysis for the study area.

Education

Master of Engineering – Transportation Engineer, University of California, Berkeley, 2019

Bachelor of Engineering – General Layout and Transportation Engineering, Xi'an University of Architecture and Technology, China, 2018

Registration

Engineer in Training (Texas)

Certifications

Google Data Analyst Certificate, 2023

Software Languages

R programming

SQL

Lead Traffic and Revenue Analyst, I-77 Express Lane, Ferrovial, Charlotte, North Carolina. Ms. Wang conducted analysis to deeply understand trip patterns and customer characteristics. She updated bid-time forecast based on current performance, new policy, socio-economic changes, and network improvements. Her work demonstrated the increasing value of I-77 express lane, which helped the client make a larger investment in I-77 express lanes in 2020 and 2022.

Analyst, Texpress Lanes, LBJ&NTE Mobility Partners, Dallas, Texas. Ms. Wang analyzed the performances of LBJ and NTE express lane. She monitored construction impact in the area. The analysis helped the company identify risks and opportunities.

Analyst, Highway 407, 407 ETR, Toronto, Canada. Ms. Wang performed traffic and revenue forecast for highway 407 during the COVID-19 pandemic. Due to the high uncertainties, she developed sensitivity models to test different toll scenarios and economic scenarios. The analysis helped the board decide short-term tolling strategy.

Researcher, National Manage Lane Sentiment Study, Texas A&M University and Cintra, Austin, Texas. Ms. Wang conducted a survey, interview people in four different cities (Log Angeles, Miami, Washington DC and Dallas) to understand how Manage Lane is performing in the US. This study was presented at the 2021 Transportation Research Board annual meeting. Ms. Wang helped researchers and operators identify the challenge to quantify Manage Lane performances today. The team then proposed solutions for the Manage Lane Committee to measure performances of those projects with an open and systematical approach.

Justin R. Winn, PE, PMP

Tolling Feasibility

Mr. Winn is experienced with all modern methods of toll collection, including automatic vehicle identification, video tolling, cash toll collection, as well as single point and point-to-point collection. He has been involved in the generation of traffic and revenue estimates to be used as a basis for financing toll projects, both by private entities and public agencies. He currently serves as a project manager for various ongoing toll studies, offering clients experience with modern methods of toll collection, as well as traffic and revenue estimation for financing public and private-funded toll projects. He has developed toll feasibility analyses for a variety of proposed toll facilities in Texas, Oklahoma, Louisiana, Iowa and Ohio.

Project Manager, North Texas Tollway Authority Traffic Engineer Services. Mr. Winn is serving as project manager for on-call traffic and revenue support services including system monitoring, long-term traffic and revenue forecasts and short-term forecasts for budgeting purposes.

Project Manager, Oklahoma Turnpike Authority Traffic Engineer Services. Mr. Winn serves as project manager for on-call traffic and revenue support services including system monitoring, long-term traffic and revenue forecasts and short-term forecasts for budgeting purposes.

Project Manager, Harris County Toll Road Authority Traffic Engineer Services. Mr. Winn serves as project manager for on-call traffic and revenue support services including system monitoring, long-term traffic and revenue forecasts and short-term forecasts for budgeting purposes.

Project Manager, North East Texas Regional Mobility Authority Traffic Engineer Services. Mr. Winn serves as project manager for on-call traffic and revenue support services including system monitoring, long-term traffic and revenue forecasts and short-term forecasts for budgeting purposes.

Project Manager, I-49 South Traffic and Revenue Study, Louisiana. Mr. Winn served as project manager for the development of preliminary traffic and revenue forecasts for the proposed I-49 South toll highway between Lafayette and New Orleans, Louisiana.

Project Manager, East Texas Hourglass, Tyler/Longview Area, Texas. Mr. Winn served as project manager for ongoing traffic and revenue evaluation of the proposed East Texas Hourglass toll project connecting the Tyler and Longview metropolitan areas.

Project Manager, Ohio Toll Corridor Feasibility Assessment. Mr. Winn served as project manager for assessment of toll feasibility as a funding option for new projects in Ohio. Tasks included a review of standard practices and current experience around the country, development of a screening methodology for evaluating potential projects and completion of sketch level traffic and revenue forecasts for certain corridors.

Project Manager, Southern Dallas County Infrastructure Analysis, Texas. Mr. Winn developed assessment of existing and needed transportation infrastructure for the southern Dallas County area, including the cities of Dallas, Ferris, Hutchins, Lancaster and Wilmer.

Education

BS - Civil Engineering,
Texas A&M
University, 2003

MS - Civil
Engineering, Texas
A&M University,
2005

Registration

Professional
Engineer:
Texas, 2011
(#108964)

Project Management
Professional, 2019

Years of Experience

Total Years: 20
CDM Smith: 17

TxDOT Precertification's

1.3.1 Subarea/
Corridor Planning

1.4.1 Land Planning/
Engineering

1.5.1 Feasibility
Studies

1.6.1 Major
Investment Studies

7.1.1 Traffic
Engineering Studies

Project Manager, SH 360 Sketch Level Traffic and Revenue Analysis, Texas. Mr. Winn monitored daily tasks and successfully kept the project on schedule and on budget, conducted quality assurance reviews, and developed a draft report for this sketch level traffic and revenue analysis in the Dallas/Fort Worth metropolitan area.

Project Manager, SH 170 Schematic Traffic and Sketch Level Traffic and Revenue Analysis, Texas. As the project manager, Mr. Winn monitored daily tasks and successfully kept the project on schedule and on budget, conducted quality assurance reviews, and developed a draft report.

Project Manager, Chisholm Trail Parkway Investment Grade Traffic and Revenue Study, Texas. As the project manager, Mr. Winn monitored daily tasks and successfully kept the project on schedule and on budget, conducted quality assurance reviews, and developed a draft report.

Project Manager, President George Bush Turnpike – Western Extension Investment Grade Traffic and Revenue Study, Texas. As the project manager, Mr. Winn monitored daily tasks and successfully kept the project on schedule and on budget, conducted quality assurance reviews, and developed a draft report.

Transportation Analyst, I-74 Corridor Improvement Study, Iowa. Mr. Winn assisted in the development of traffic and revenue forecasts for a proposed I-74 corridor improvement in the Quad Cities area of Iowa.

Project Manager, Southwest Parkway Investment Grade Traffic and Revenue Study, Texas. As the project manager, Mr. Winn monitored daily tasks and successfully kept the project on schedule and on budget, conducted quality assurance reviews, and developed a draft report.

Project Manager, SH 161 Investment Grade Traffic and Revenue Study, Texas. As the project manager, Mr. Winn monitored daily tasks, developed and monitored the budget, and developed the draft report.

Project Manager, North Texas Tollway Authority System Monitoring, Texas. As the project manager, Mr. Winn monitored daily tasks and successfully kept project on schedule and on budget, conducted quality control, and developed the draft report.

Transportation Analyst, North Texas Tollway Authority System Investment Grade Study, Dallas, Texas. This comprehensive NTTA System study was performed to estimate the traffic and revenue by taking into account impacts of key assumption changes such as toll rate increases, the economic recession, and the background regional mobility plan. As a transportation analyst, Mr. Winn assisted in developing a draft report.

Project Manager, Southwest Parkway-Chisholm Trail Parkway – Investment Grade Traffic and Toll Revenue Study, Tarrant and Johnson Counties, Texas. Mr. Winn served as project manager responsible for the evaluation of future traffic and toll revenue on the proposed Southwest Parkway-Chisholm Trail Parkway.

Project Manager, North Texas Tollway Authority System Monitoring, Texas. Mr. Winn served as project manager and chief modeler responsible for the ongoing monitoring of traffic and toll revenue on all NTTA System facilities. This project includes system reconnaissance, quarterly revenue estimate updates, and the production of a weekly NTTA dashboard.

Anteneh Yohannes, PE

Traffic Engineering/Traffic Operations

Mr. Yohannes is a transportation planning engineer with extensive experience as a traffic engineer, transportation planner, and traffic and revenue (T&R) analyst. He has contributed transportation engineering and planning knowledge to corridor and interchange studies, long-range transportation planning, managed lanes, and toll roads. His expertise includes data analytics, T&R analysis, micro- and mesoscopic simulation modeling, and travel demand modeling using TransCAD, TransModeler, CUBE, VISSIM, Synchro, and HCS, software.

Traffic and Revenue Analyst, MoPac North Level 3 T&R Study, Central Texas Regional Mobility Authority, Austin, Texas. Mr. Yohannes served as a T&R and data analyst. He monitored and analyzed traffic and revenue data for the MoPac North express lanes. He also assisted with the travel demand modeling effort to forecast long-term T&R projections and prepared technical figures and reports for client submittals and presentations.

Traffic and Revenue Analyst, I-405 Express Lanes Investment Grade T&R Study, Los Angeles, CA, LA Metro. Mr. Yohannes served as a Traffic and Revenue Analyst responsible for leading the data collection and analysis task for calibrating the I-405 Traffic and Revenue model. He also assisted in the development of a Stated Preference survey by which to understand the choice behaviors of travelers on this corridor. He assembled StreetLight OD data, traffic counts, travel time data, and adjacent toll facilities transactions to build a base case reflecting the existing traffic patterns. Mr. Yohannes also assisted in the future traffic and revenue forecasting.

Traffic Engineer, I-26 at I-95 Interchange Project, South Carolina Department of Transportation (SCDOT), Orangeburg, South Carolina. Mr. Yohannes served as a Traffic engineer in the development of TransModeler simulation models to provide current and future scenarios in order to make recommendations for roadway and interchange improvements that would support SCDOT's efforts to add capacity and improve safety.

Traffic Engineer, Route 9 Middletown Project, Connecticut Department of Transportation, Middletown, Connecticut. Mr. Yohannes provided technical support and reviewed VISSIM and Synchro scenario models.

Traffic and Revenue Engineer, Public-Private-Partnership (P3) project, Cintra US, Dallas, Texas. Mr. Yohannes served as Senior Traffic and Revenue Analyst for the T&R department of three major express lane projects in Dallas, TX – LBJ Express, North Tarrant Express, and North Tarrant Express 35W. He led the projects strategic pricing, traffic studies and modeling, preparing annual T&R budget, and long-term revenue projections.

Transportation Planner, Capital Area Metropolitan Planning Organization (CAMPO). Mr. Yohannes supported the development of CAMPO's long-range regional transportation plan. His responsibilities included working with consultants to develop CAMPO's regional travel demand and socioeconomic models.

Education

MS – Civil Engineering,
University of
Memphis, Memphis,
Tennessee, 2014

BS – Construction
Technology and
Management, Addis
Ababa University,
Addis Ababa, Ethiopia,
2008

Registration

Professional Engineer:
Texas, 146939

Gustavo A. Baez, P.Eng.

Traffic and Revenue

Gustavo A. Baez has extensive has 28 years of experience in dynamic pricing algorithm development, data analytics, toll feasibility studies, travel demand modeling, congestion pricing, risk analysis, and economic growth evaluation. He has participated in more than \$25B in bond financing for toll projects in the USA. Gustavo has managed, directed, and evaluated toll projects for public entities such as NTTA, ArDOT, LaDOTD, CTRMA, Alamo RMA, NET RMA, TxDOT's TTA Division, the Hidalgo County RMA, SRTA, and OTA.

Baez Consulting, LLC, President, 2007 – Present

Responsible and project director for data analytics, traffic forecast, travel demand modeling, traffic simulation, transportation planning, traffic and revenue auditing, and dynamic traffic data analytics for several projects such as:

Traffic Forecasting Framework Project, Transportation Planning and Programming Division, Texas Department of Transportation, Austin, Texas.

September 2021; End Date: October 2023

Mr. Baez supported developing a new framework, process and procedures to do traffic forecast within TxDOT to optimize the time frame to generate traffic forecast for project approval and construction. He researched the exiting SOPs influencing traffic forecast, the MOU between TxDOT and FHWA, the TIP and SIP process, and provided recommendations to incorporate them within the new traffic forecast framework.

I-35E, I-30, Midtown Express, and DFW Connector Managed Lanes Monitoring, Texas Department of Transportation, Dallas, Texas. January 2016; End Date: Ongoing

Gustavo is serving as a senior project manager evaluating and monitoring the I-35E, I-30, Dallas Fort Worth Connector (DFWC) and Midtown Expressway managed lanes corridors. The evaluation is based on databases from the LoneStar Data System, and second-by-second transactions from each gantry. He is analyzing the daily traffic data and performing traffic trend analysis for four managed lane facilities consisting of 34 gantries. The analysis included not only evaluating the traffic trend of the managed lanes but also the traffic trend of the general-purpose lanes for each managed lane corridor. Associated activities implemented to improve the operation of the managed facilities include: modified traffic operation information to optimize throughput or toll revenue incorporated into the dynamic pricing algorithm; customized decision-making tables to instruct managed lane operators to minimize speed reduction in the managed lanes; created computer programs in statistical packages and Excel to be able to summarize millions of transaction records produced by the managed lanes and general purpose lanes; developed a process to select the most optimum aggregation period in the dynamic pricing algorithm to optimize revenue considering the operation characteristics of the corridor such as peak-hour factor; truck percentage variations and managed lanes geometric configurations; selected the most appropriate AVI locations to summarize speed along the managed lane corridors; selected the most appropriate LoneStar general purpose lanes operation system locations to compare speed of the managed lanes with the general purpose lanes; created a data analytics system which allow to respond efficiently

Education

M.Eng. - Civil Engineering, University of Toronto, Canada, 1993

B. Eng. - Civil Engineering, Universidad Technologica de Panama, Panama, 1982

Registration

Professional Engineer: Ontario, Canada, #90219940

Expertise

Data Analytics

Travel Demand Modeling

Transportation Planning

Traffic Simulation

Feasibility Studies

Managed Lanes Analysis

Dynamic Traffic Algorithms and Predictive Models

Traffic and Revenue Forecast

Congestion Pricing

to questions from decision makers about the performance of the managed lanes; and created a monthly summary report for each of the managed lanes corridors.

North Texas Tollway Authority System (NTTAS), North Texas Tollway Authority, Dallas, Texas, January 2001; End Date: Ongoing

Gustavo is supporting the evaluation of the daily traffic for the North Texas Tollway Authority System composed of nine operating toll facilities and one hundred and three toll gantries. He analyzed historical toll traffic data and performed traffic trend analyses on the performance and operation of the nine toll facilities. He has used several statistical techniques such as time-series trend algorithms, box-plot techniques, and coefficient of variation process to optimize the operation and revenue collection of the toll facilities. These statistical techniques have been used to forecast short-term revenue; correlate special events with revenue leakage; evaluate revenue risks and estimate expected forecast error.

Oklahoma Turnpike System, Oklahoma Turnpike Authority (OTA), August 2006-Present.

Mr. Baez has monitored and evaluated data analytics for the OTA System since 2006. The Oklahoma Turnpike System consists of eleven urban and inter-urban turnpikes: the Turner Turnpike, the Will Rogers Turnpike, the H.E. Bailey Turnpike, the Indian Nation Turnpike, the Muskogee Turnpike, the Cimarron Turnpike, the Chickasaw Turnpike, the Cherokee Turnpike, the John Kilpatrick Turnpike, the Creek Turnpike, and Kickapoo Turnpike. More than fifty percent of toll revenue collected by the OTAS depends on the number of commercial vehicles using the inter-urban turnpikes. The commercial vehicles traffic is correlated to the national and international trade (Mexico-USA-Canada). Using data analytics techniques, Baez Consulting has developed predictive tools to correlate macro-economic attributes and traffic in the OTAS.

North Texas Tollway Authority System (NTTAS) Origin and Destination (OD) Data Collection, North Texas Tollway Authority, Dallas, Texas, 2019.

Mr. Baez coordinated the collection of OD data for one hundred locations in the vicinity of the NTTAS using the state-of-the-practice data sources from StreetLight and data analytics algorithms to summarize the information. The OD data was used to validate the travel demand model to update the NTTAS traffic and toll revenue trends.

Wilbur Smith Associates (WSA), Vice-President, 2000 – 2007

In charge and responsible for all WSA traffic and toll revenue projects in Texas and Oklahoma. Managed the traffic and revenue contracts for NTTA, TxDOT, Oklahoma Turnpike and private concessionaries. Evaluated the feasibility of many toll projects in Texas and Oklahoma. Major highlights are:

North Central Texas Council of Governments (NCTCOG), Principal Transportation Planner, 1994-2000

Responsible for travel demand modeling for major investment studies, mobility plans, geographic information system (GIS) modeling applications, and travel demand model development. He supported the TxDOT District creating traffic forecast and turning movements for several projects in the Dallas Fort Worth region.

Michael S. Bomba, Ph.D.

Demographic/Economic Analysis

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.

JOHANNA ZMUD, PHD

Stated Preference Surveys



Dr. Zmud is a survey research expert and travel behavior analyst. She has been at the forefront of applying survey science to the gathering of data on current and future travel behavior and in understanding trends, such as transportation mode choice. Starting in 1987, and for the next 23 years, she was a co-founder of NuStats, which became the largest producer of data on urban travel. In early 2000, she co-founded, GeoStats, which developed technology solutions for measuring personal and vehicle movements. In 2010, Johanna joined the RAND Corporation, where she served as Director of RAND's Transportation, Space, and Technology program. In 2014, she joined the leadership team of the Texas A&M Transportation Institute (TTI), where she directed the multimodal planning division covering the transit mobility, modeling and forecasting, and transportation planning program. After a year as a Consulting Principal at Research Systems Group (RSG), a survey, analytics, and modeling firm, she founded Blue Door with partners. She has written or edited 50 books or book length reports (including two books on transport survey methods) and over 30 peer-reviewed articles.

PROJECT HIGHLIGHTS

Current Studies

Measuring Transportation Insecurity within Study to Estimate Transportation Cost Burden. Role: Task Lead. This task to define and measure 'transportation insecurity' aligns with U.S. DOT policy priorities and initiatives, such as Justice40, the equity goals of the U.S. DOT Strategic Plan, and the 'expanding access' focus area of the U.S. DOT Equity Action Plan.

FHWA Complete Trip ITS4US (Under-Served). Role: Evaluation Co-Lead. Under subcontract to ICF, Is the performance measures evaluation co-lead for a pilot deployment in Buffalo, New York. which seeks to integrate innovative technologies to improve mobility and accessibility for underserved populations.

NCHRP 19-22: Equity Impacts of Transportation Revenue Mechanisms and Changing Trends. Role: Subcontractor to Texas A&M Transportation Institute. This National Cooperative Highway Research Program (NCHRP) project develops a toolkit for state departments of transportation about equity impacts resulting from alternative revenue structures and includes strategies to mitigate inequities.

Past Experience

Impacts of Transformational Technologies on Underserved Populations. Role: PI. This Transit Cooperative Research Program study's primary focus is on improving mobility, accessibility, and inclusivity for traditionally underserved populations. by identifying barriers for certain populations

EXPERTISE

- Survey Research
- Qualitative Research
- Policy Analysis
- Statistical Analysis

EDUCATION

- PhD, Sociology of Technology, University of Southern California (USC)
- MA, Communication Management & Policy, USC
- MS, Educational Statistics, University of Maryland
- BS, German, East Carolina University

HONORS

- 2022 Senior Fellow, Institute for Transportation Studies, UC-Berkeley
- 2022 Outstanding Industry Contributor, Zephyr Foundation
- 2016 National Associate, National Research Council, National Academies of Science, Engineering, and Medicine

AFFILIATIONS

- Transportation Research Board (TRB) - Committees:
 - State/National Data and Information Systems
 - Effects of Information and Communication Technologies on Travel Choices
- International Association of Travel Behavior Researchers
- World Conference on Transport Research

(e.g., persons with impairments, low-income, non-English speakers) to use new mobility services and to determine policy and planning solutions to overcome specific barriers. (2021)

Florida Department of Transportation. Travel Surveys for Model Update. Role: Senior Advisor. Johanna provided senior guidance for a Visitor Travel Survey and a Workplace Travel Survey to collect data to be used for a travel demand model update while at RSG. (2022)

Mobility Mode Choice Quantitative Analysis. Role: Senior Advisor. RSG conducted travel behavior and mode choice research to provide an evidence-based understanding of the characteristics of travel demand in San Francisco County for a self-driving taxi pilot. (2022)

Next Generation National Household Travel Survey (NHTS). Role: Senior Advisor. Under subcontract to IPSOS, the firm designing and implementing the NextGen NHTS, Dr. Zmud served as a senior advisor on methodology and data uses. FHWA launched the NextGen NHTS to establish a more continuous travel monitoring program with national and local data products. (2020)

Texas CAV Task Force 2020 Annual Report. Connected and Automated Vehicle (CAV) Data Issues and Opportunities. Role: PI. Dr. Zmud authored a White Paper that addressed CV and AV data privacy, security, and cybersecurity challenges. The paper also examined CV and AV data use, general, and ownership concepts. The paper closed with the opportunities and challenges for data sharing and data exchange. (2021)

NCHRP 20-102(9): Updating Regional Transportation Planning and Modeling Tools to Address Impacts of Connected and Automated Vehicles (CAVs). Role: PI. Sponsored by NCHRP, this research resulted in detailed information and guidelines for state DOTs and MPOs to help update their modeling and forecasting tools to address expected impacts of CAVs on transportation supply, road capacity, and travel demand components. (2018)

NCHRP 20-83(6). Impact of Socio-Demographics on Travel Demand. Role: PI. This research examined how socio-demographic factors may affect travel demand over the next 30 to 50 years and identified strategies and actions that can be used by policymakers in state and local transportation and planning agencies to plan and prepare for alternative future scenarios. (2014).

Regional Household Travel Behavior Surveys. Role: PI. As president of NuStats, from 1993-2010, Johanna led the design and execution of over 30 large-scale household travel surveys for states and regional governments.

SELECTED PUBLICATIONS

Mansfield, T., J. Ehrlich, J. Zmud, and M. Lee. "Built Environment Influences on Active Travel in the Twin Cities Region: Evidence from a Smartphone-Based Household Travel Survey. To be published, TRR.

Gick, B., and J. Zmud. (2021). *Connected and Automated Vehicle Terminology*. White Paper prepared for the Texas CAV Task Force. 2020 Annual Report. College Station: Texas A&M Transportation Institute.

Kim, W., Kelley-Baker, T., Sener, I., Zmud, J., Graham, M. & Kolek, S. (2019). *Users' Understanding of Automated Vehicles and Perception to Improve Traffic Safety –Results from a National Survey* (Research Brief). Washington, D.C.: AAA Foundation for Traffic Safety.

Zmud, J., I., Sener, B. Lenz, and V. Kolarova. (2018) "Not so Autonomous Vehicles: A Path to Consumers Changing World." In *Road Vehicle Automation 6*. Meyer and Beiker, Eds. Switzerland: Springer.

Zmud, J, F. Dias, P. Lavieri, C. Bhat, R. Pendyala, Y. Shiftan, M. Outwater, and B. Lenz. (2018). "Research to Examine Behavioral Responses to Automated Vehicles." In *Road Vehicle Automation 5*. Meyer and Beiker, eds. Switzerland: Springer.

Zmud, J. *Changing Consumer Preferences and Mobility Behaviors in the Context of a Modal Revolution*. (2018) White Paper prepared for the FHWA Emerging Trends Symposium.

Zmud, J., L. Green, T. Kuhnimhof, S. LeVine, J. Polak, and P. Phleps. (2017) *Still Going...and Going: The Emerging Travel Patterns of Older Adults*. Institute for Mobility Research (IFMO) of the BMW Group. Munich, Germany.

GINGER GOODIN, PE

Stated Preference Surveys



Ginger Goodin is a research professional with over 35 years of experience in transportation engineering and public policy. After more than a decade in public works and transportation at the City of Austin, she worked in various capacities at the Texas A&M Transportation Institute (TTI) based in Austin, leading large-scale research projects for federal, state, and local sponsors and strategic initiatives for the Institute. She served five years as the Director of the Transportation Policy Research Center at TTI, working directly with the Texas Legislature to provide data-driven transportation insights in support of policy development. She is an experienced executive with a demonstrated history of working across diverse stakeholders in the transportation industry and applying innovation to practice. She has expertise in mobility, policy, innovation, and technology with background in infrastructure investment, road pricing, and policy implications of technology applications for moving people and goods.

EXPERTISE

- Transportation Policy
- Emerging Transportation Technologies
- Managed Lanes Planning and Operations
- Stakeholder Engagement

EDUCATION AND CERTIFICATIONS

- Master of Engineering, Civil Engineering, Texas A&M University
- BS, Civil Engineering, Texas A&M University
- Registered Professional Engineer, Texas #64560

EMPLOYMENT HISTORY

Blue Door Strategy and Research – Founding Partner (2022-present)

Center for Transportation Research, University of Texas at Austin (2024-present, part-time)

- Senior Advisor for Policy and Strategy

Texas A&M University College of Engineering (2024-present)

- Visiting Lecturer, Graduate Course in Transportation Policy

Texas A&M Transportation Institute

- Assistant Agency Director for State Affairs (2018-2022)
- Director, Policy Research Center (2013–2018)
- Division Head, Austin Planning Division (2011–2013)
- Senior Research Engineer / Research Engineer / Associate Research Engineer (1996–2018)

City of Austin, Department of Public Works and Transportation

- Area Engineer – Construction Inspection (1995-1996)
- Operations Engineer – Street and Bridge Division (1990-1995)

- Contracts and Design Engineer – Design and Consulting Services (1988-1990)
- Traffic Engineering Associate, Urban Transportation (1985-1988)

PROJECT HIGHLIGHTS

Technology Corridor Strategy, Central Texas Regional Mobility Authority. Ms. Goodin led the development of a strategic, needs-based process by which rapidly emerging innovations can be incorporated in corridor projects, particularly those of regional significance involving local partners. The project involved working closely with CTRMA's partners – City of Austin, TxDOT, Capital Metro, Travis and Williamson Counties – to priorities needs, identify applications, and determine collaboration mechanisms.

Mobility Investment Priorities (Rider 42), Texas Department of Transportation (TxDOT) and Texas Legislature. Ms. Goodin served as TTI's lead researcher and facilitator for the Austin region under a program established by the Texas Legislature in 2011 to address the state's most congested corridors. In this capacity she facilitated a working group on behalf of Sen. Kirk Watson, the region's state senator. The group was comprised of TxDOT and local agency executives for the purpose of prioritizing \$31 million in state bond funding for engineering and feasibility studies, and to identify strategies for traffic and demand management on six area corridors. In support of regional policy development, she co-led a team of researchers that built a state-of-the-art multi-resolution model of the Austin roadway network to test alternative congestion reduction projects for IH 35.

IBTTA Road Safety Campaign: Industry Highlights and Best Practices. Ms. Goodin served as Blue Door's project manager for an independent review of best practices among some of the tolling industry's leading agencies in safety performance. Using an industry survey and case study approach, the report presents the "safe system" framework that has produced results internationally, highlights current practices, documents safety strategies that have achieved measurable results among leading toll operators, and presents findings and opportunities for IBTTA to lead the tolling industry toward fewer deaths and injuries on its facilities.

AFFILIATIONS

Transportation Research Board (TRB) Committees:

- Economics and Finance, (2024-present), Co-Chair, Strategic Planning Task Force
- Managed Lanes (2004-2013), Past Chair
- Vehicle-Highway Automation (2013-2016)
- EU-US Transportation Research Symposium on Automation (2014)

HONORS

- Texas A&M University System Regents Fellow, 2017
- TTI/Trinity Charley V. Wootan Career Achievement for Research Award, 2013.
- Woman of the Year, Heart of Texas Chapter, Women's Transportation Seminar (WTS), 2011.
- Leadership Texas, Class of 2010

COMMUNITY SERVICE

- City of Cedar Park Bond Advisory Task Force (2021)
- City of Cedar Park Mobility Master Plan Advisory Committee, Chair (2023)
- City of Cedar Park Community Development Board (Type B), (2018-present), Immediate Past President

[Blue Door Strategy and Research](#)

**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.

Christopher Mwalwanda 

 Name

 Vice President

 Title

 CDM Smith Inc.

 Company

 June 10, 2024

 Date

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: Christopher Mwalwanda, Vice President

REPRESENTING: CDM Smith 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 CDM Smith Inc.

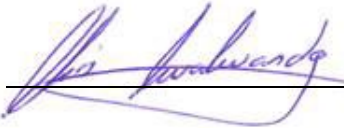
Section I of this Disclosure Statement Form describes the potential conflicts of interest. Section II of this Disclosure Statement Form describes the proposer's management plan for dealing with the potential conflicts of interest as described in Section I of this form. This Disclosure Statement is being 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: Christopher Mwalwanda, Vice President

REPRESENTING: CDM Smith Inc.

APPROVED BY THE CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY:

SIGNED: _____ DATE: _____

NAME AND TITLE: _____



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

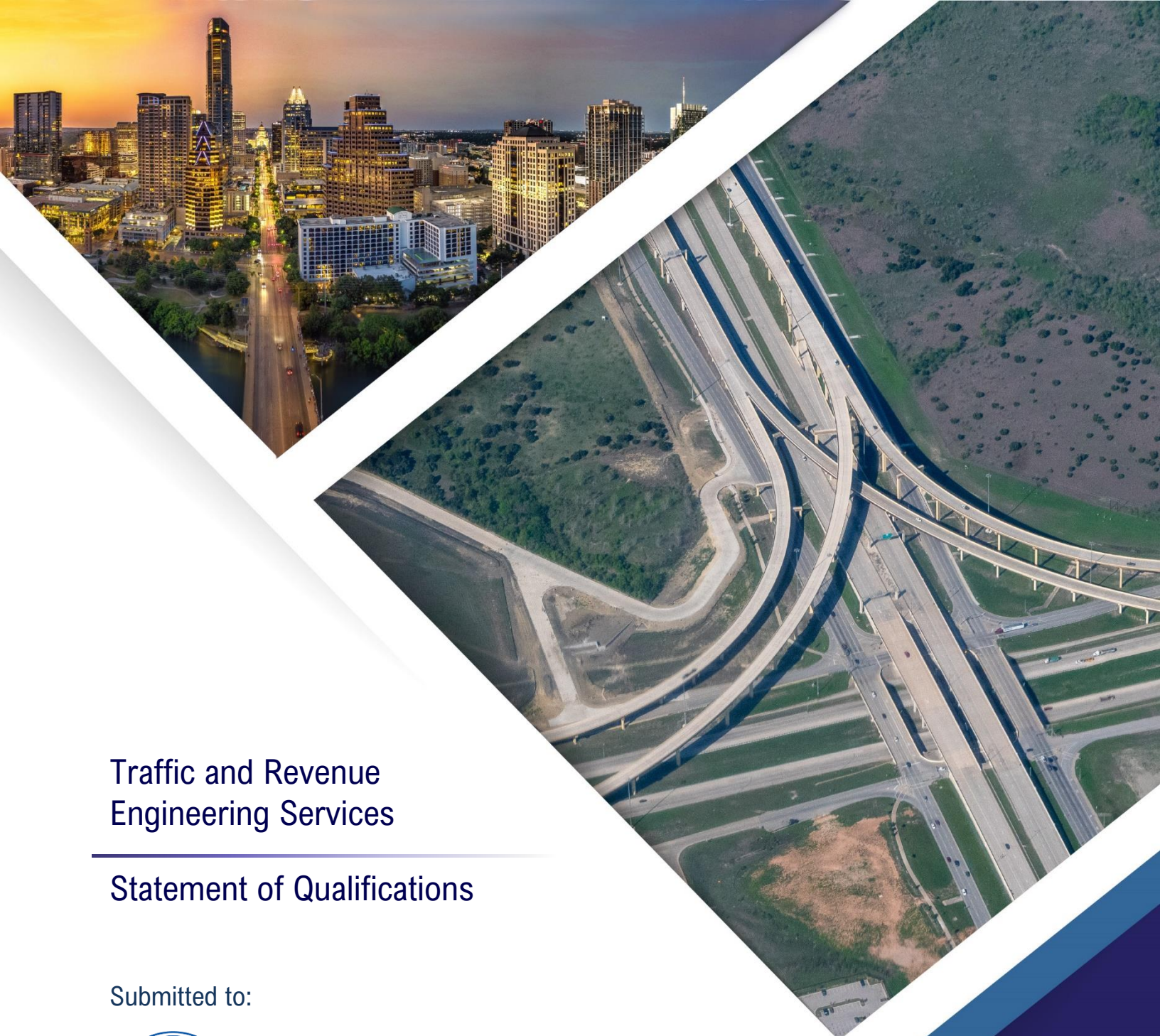
*Nate Prathaftakis
41 Peabody St
Nashville, TN 37210*

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.

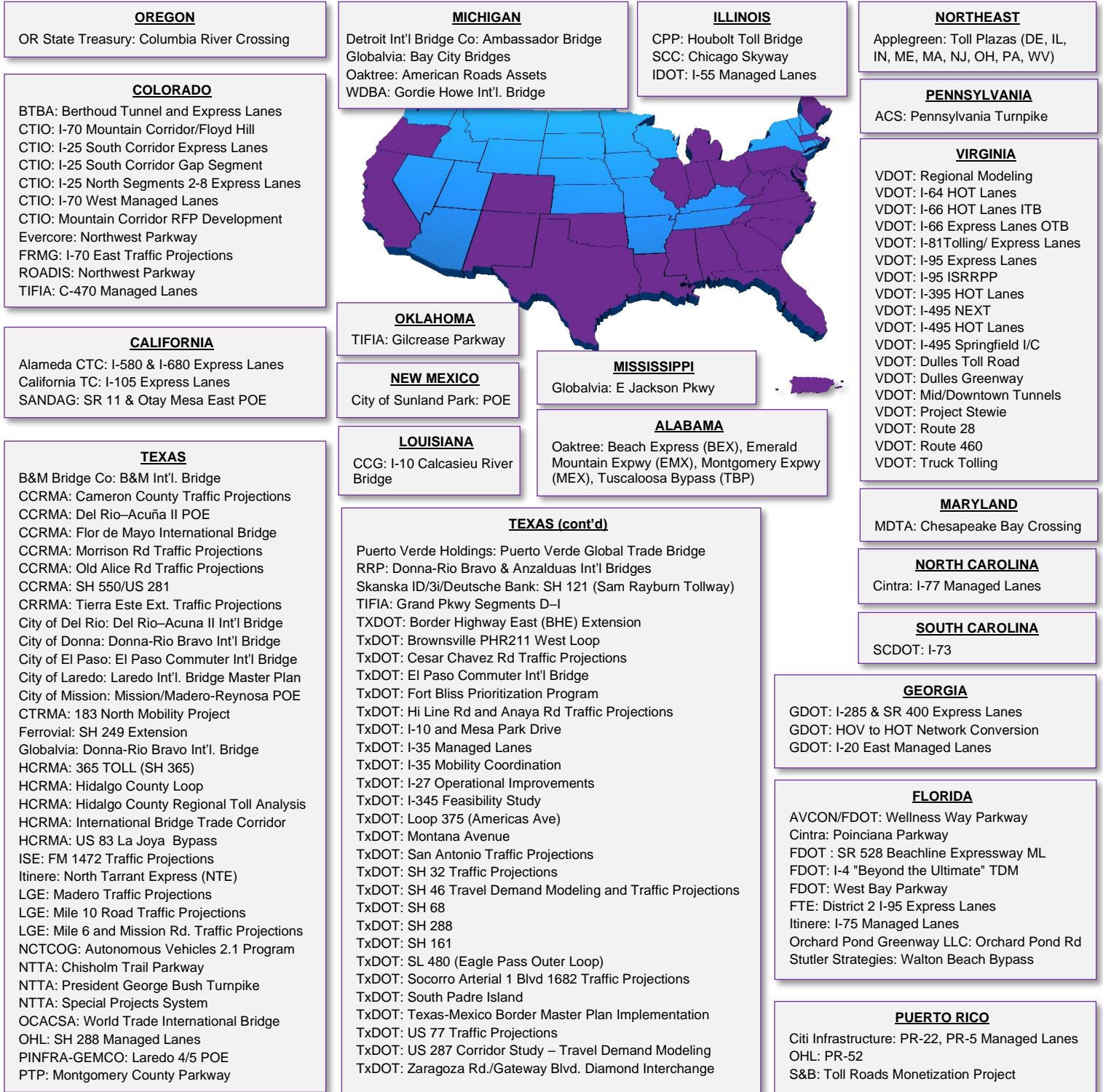
C&M's experience as T&R Engineers includes work on more than 800 miles of tolled roads, tunnels, and bridges, including High Occupancy Toll (HOT) lanes, managed lanes, and projects with fixed, dynamic, or variable pricing with a focus on congestion management and/or revenue maximization.

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.



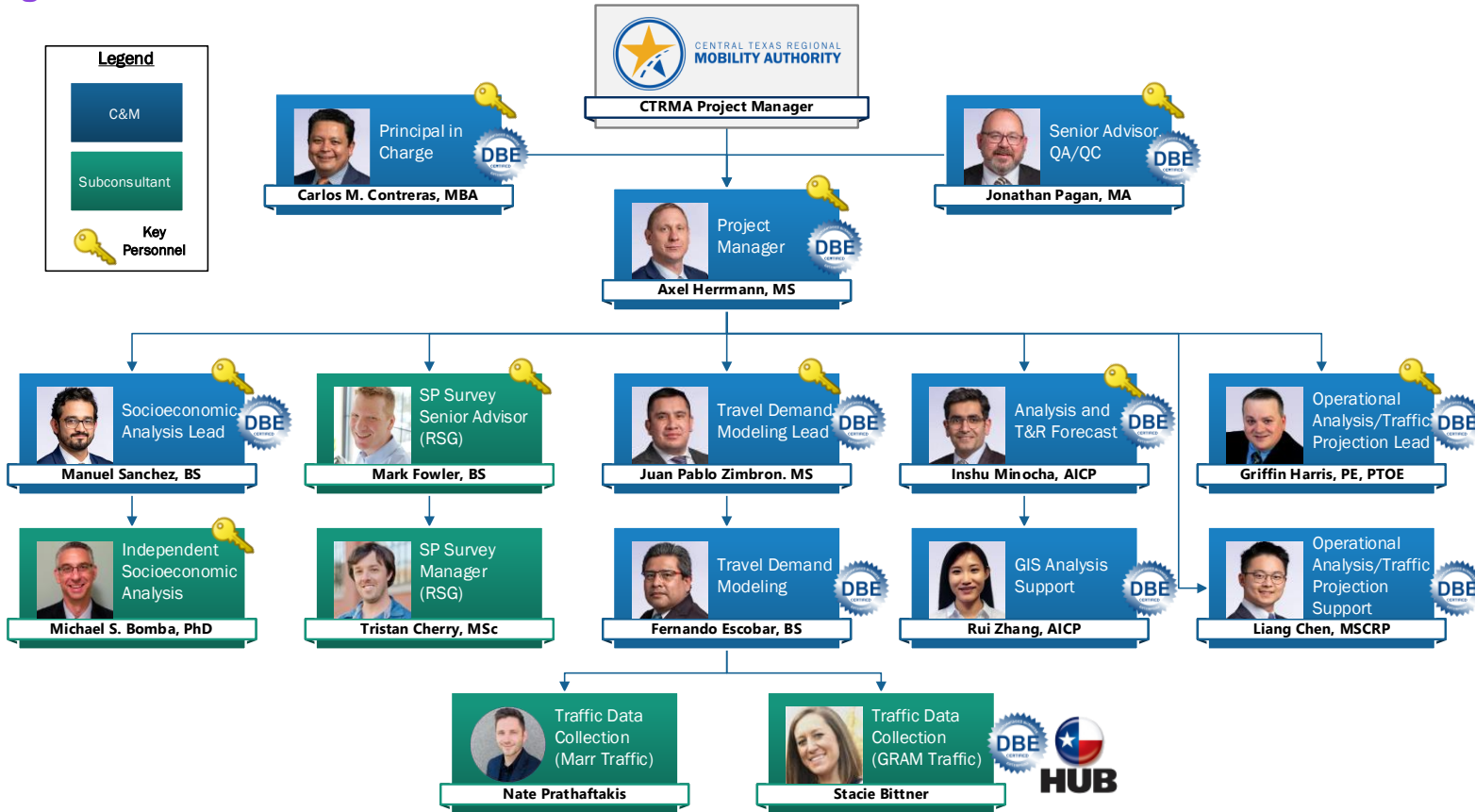
Marr Traffic is a privately owned traffic data collection firm that was established in 2015 and specializes in advanced traffic data collection, focusing on intersection and roundabout safety. Marr has 5 offices

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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cmcontreras@candm-associates.com
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.

Texas

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Virginia

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California

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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)



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #11

Discuss and consider approving a contract with Stantec Consulting Services, 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 authorization
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 our toll facility's traffic and revenue including corridor travel demands, future growth characteristics, market capture and demand share. The Authority's Debt Indenture also requires 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 Stantec for traffic and revenue engineering services for a term of five years with a not to exceed cumulative 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 STANTEC CONSULTING SERVICES, INC. FOR
TRAFFIC AND REVENUE ENGINEERING SERVICES**

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

WHEREAS, by Resolution No. 24-030, dated June 26, 2024, the Board of Directors awarded a contract to Stantec Consulting Services, Inc. (Stantec) for traffic and revenue engineering services and authorized the Executive Director to negotiate a contract with Stantec; and

WHEREAS, the Executive Director and Stantec have negotiated a proposed contract for traffic and revenue engineering services which is attached hereto as Exhibit A and sets forth the scope of services, compensation and other terms; and

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

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

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

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 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 Stantec Consulting Services 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 in January 2025. 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 ("TxDOT"), 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 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:

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

- i) TAXES. All payments to be made by the Authority to the Consultant pursuant to this Agreement are inclusive of federal, state, or other taxes, if any, however designated, levied, or based. The Authority acknowledges and represents that it is a tax-exempt entity under Sections 151.309, et seq., of the Texas Tax Code. Title to any consumable items purchased by the Consultant in performing this Agreement shall be deemed to have passed to the Authority at the time the Consultant takes possession or earlier, and such consumable items shall immediately be marked, labeled, or physically identified as the property of the Authority, to the extent practicable.
- j) AS-NEEDED BASIS. As provided for above, the Authority shall request that the Consultant perform specific Services on an as-needed basis and through the issuance of Work Authorizations. No representation or assurance has been made on behalf of the Authority to the Consultant as to the total compensation to be paid to the Consultant under this Agreement.
- k) COMPENSATION OF SUBCONSULTANTS. As noted in the Consultant's response to the RFQ, the Consultant will employ subconsultants providing Services under this Agreement. All subconsultants providing Services under this Agreement shall be subject to, and compensated or reimbursed in accordance with, all requirements of this Article 3, provided that each subconsultant shall utilize its own actual hourly rates (computed using its own multiplier based on actual audited FAR rates or audited overhead rates if FAR rates are not available) provided that no such rates shall exceed the corresponding rates paid by the Consultant for its personnel of comparable grade, category and experience, and further provided that no Subconsultant's FAR rate or audited overhead rate may exceed that of the Consultant without the prior written consent of the Authority. The Consultant agrees to pay its subconsultants for satisfactory performance of their contracts no later than thirty (30) days from its receipt of payment from the 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 Stantec Consulting Services 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:

Stantec Consulting Services Inc.
475 Fifth Avenue
12th Floor
New York, NY 10017

Attn: Richard Gobeille, Senior Principal

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

STANTEC CONSULTING
SERVICES INC.

Gobeille, Rick Digitally signed by Gobeille, Rick
Date: 2024.08.16 15:33:31 -04'00'

By: _____ By: _____

Name: _____ Name: _____

Title: _____ Title: _____

Date: _____ Date: _____

APPENDIX A
SCOPE OF SERVICES

I. Purpose

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

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

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

II. Services

The Consultant shall be responsible for conducting complex traffic modeling and forecasting, including forecasting of revenues for bond-financed toll projects, and rendering opinions and other analyses concerning traffic and revenue projections 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	\$111.57
Project Manager	\$75.42
Senior Modeler	\$84.60
Planner	\$60.33
Senior Engineer	\$58.44
Junior Modeler	\$41.83
Junior Engineer	\$38.36

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 Stantec Consulting Services 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: _____

STANTEC CONSULTING SERVICES INC.

By: _____

Name: _____

Title: _____

Date: _____

APPENDIX D
SUBCONSULTANTS

Ally General Solutions, LLC:

*Roland Castaneda
5300 Hollister Rd, Ste 111
Houston, TX 77040
Ph: (281) 888-7682*

Bomba Consulting, LLC:

*Michael Bomba
3410 Far West Blvd, Ste 254
Austin, TX 78731
Ph: (512) 217-8411*

Novus Integrated Technology Solutions, LLC:

*Nishant Kukadia
3016 Polar Lane, Ste 301
Cedar Park, TX 78613
Ph: (512) 658-3119*

OTHON, Inc.:

*Srini Sangineni
4201B W Parmer Ln, Ste 230
Austin, TX 78727
Ph: (512) 940-8602*

CJ Hensch & Associates, Inc.:

*Roger Allen
5215 Sycamore Ave
Pasadena, TX 77503
Ph: (713) 376-1453*

APPENDIX E
KEY PERSONNEL

Title	Employee Name
Project Director	Bill Ihlo, PE
Project Manager	Tiffany Cummings, PE
Principal-in-Charge	Rick Gobeille, PE
Demographics	Haley Andrews, AICP
Travel Demand Modeling/Data Analytics	Jun Yao
Demographics	Michael Bomba, Ph.D.

APPENDIX F
CONSULTANT STATEMENT OF QUALIFICATIONS

[Attached]



Statement of Qualifications



TRAFFIC AND REVENUE ENGINEERING SERVICES

PREPARED FOR:
Central Texas Regional Mobility Authority



June 12, 2024

June 12, 2024

Attention: Finance Department

Central Texas Regional Mobility Authority

3300 N IH 35 Suite 300

Austin, Texas 78705

Reference: Traffic and Revenue Engineering Services Request for Qualifications

Dear CTRMA,

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

Stantec, a leader in Traffic and Revenue (T&R) analyses, has over 45 years of T&R experience, with 216 successful toll revenue bond financings totaling over \$70 billion. Stantec remains at the forefront of the toll road and express lanes industry, not only in the Austin area on your facilities, but also for toll facilities around the country including California, Washington, New York, Massachusetts, New Hampshire, Ohio, Virginia, North Carolina, South Carolina, Illinois, Georgia, and Florida. Since 2005, Stantec has worked directly with the Mobility Authority, successfully preparing reports and bring-down letters for over \$3.6 billion of toll revenue bond financing (and refinancing) for your toll facilities, as well as performing all duties imposed by the Authority's Master Trust Indenture Agreement. We are proud to have been involved with the growth of your System since the Authority's inception to the opening of 183A in 2007, to the current System of five toll roads and one express lane facility, and to the continued expansion of the System with 183A Phase III and 183N Express Lanes opening in the next year or so, developing T&R projections for all facilities in some capacity. Over the past 15+ years, Stantec has been adaptable to meet the Mobility Authority's traffic and revenue needs and would continue to be nimble in our approach to provide traffic and revenue support, including specialized studies to the Mobility Authority as your customer base grows, revenue collection challenges arise, or project priorities shift.

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

Our knowledge of your facilities and the breadth of our experience enables us to hit the ground running and to develop effective project approaches in a meaningful manner. Bill Ihlo, PE, would continue as Project Director and Tiffany Cummings, PE, would be your Project Manager. Together they would ensure that the appropriate staff will continue to be committed to your projects, assuring that the work is conducted efficiently and cost effectively. Bill and Tiffany are backed by a team of technical advisors and experts including Rick Gobeille, PE, who currently leads Stantec's Transportation and Toll Roads Group and would be the Principal-in-Charge. Bill, Tiffany and Rick are all passionate and dedicated to continuing to



provide you with our high-quality work. Together, we will provide the same meaningful, efficient and pragmatic approach you have become familiar with. This team brings over 75 years of combined experience in traffic and revenue forecasting.

Our team is strengthened further with the inclusion of Michael Bomba, Ph.D., who has developed SED forecasts which have been equaled or exceeded by actual conditions for all Austin regional toll road projects over the last 25 years. Texas-based firms, Novus and OTHON, would provide transportation plan support services as well as traffic engineering work, while CJ Hensch & Associates and AGS Engineering & Construction would provide data collection services. Our team provides a full set of skills and resources to help meet the needs of the Mobility Authority. All of the key personnel included in this proposal are well versed in Austin-area toll facility studies, have worked together in the past, and understand how to deliver successful projects for the Mobility Authority.

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

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

Regards,

STANTEC CONSULTING SERVICES INC.

A handwritten signature in black ink, appearing to read "Richard J. Gobeille".

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

A handwritten signature in black ink, appearing to read "William Ihlo".

William Ihlo, PE
Principal
475 Fifth Avenue, 12th Floor
New York, NY 10017
(917) 655-6463
william.ihlo@stantec.com

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Cover Letter

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Appendix

I. The Firm

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

The Stantec community unites approximately 31,000 employees working in over 450 locations. We collaborate across disciplines and industries to bring infrastructure, buildings, and energy and resource projects to life.

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

Stantec will be the prime consultant, providing traffic modeling, toll revenue forecasting, feasibility assessment, and overall project management with over 45 employees included in its transportation planning and toll roads group. The principal office for performing this work is located in New York City with Bill Ihlo, PE (Project Director), Tiffany Cummings, PE (Project Manager), and Rick Gobeille, PE (Principal-in-Charge) based in that office supported by over 25 tolling staff. Traffic modeling efforts will be conducted primarily in our West Chester, PA, office, home to 6 of our modeling experts. The remaining Stantec tolling staff are located in offices around the United States with five key staff located in Texas: Haley Andrews, AICP (T&R Monitoring, Demographics, T&R Forecasting), Ami Parikh (Demographics), Marcelle Jones, JD (Indenture Compliance), and Ashish Anand, PE (Simulation Modeling) based in the Plano office, and Lutz Braeuer (Toll Systems and Technology) based in the Austin office. Haley has extensive experience working on Austin area projects, many of which were for CTRMA.

Joining our team is local Austinite Michael Bomba, Ph.D., of Bomba Consulting, LLC who will develop socioeconomic and land-use forecasts as he has for prior CTRMA studies. Novus, a transportation consulting firm based in Austin, will support Stantec with transportation plan reviews. We have also teamed with another Texas-based firm, Othon, Inc., Consulting Engineers (OTHON), to support transportation plan reviews as well as traffic engineering work. Both data collection firms

on our team, CJ Hensch & Associates, Inc. (CJH) and Ally General Solutions, LLC dba AGS Engineering & Construction (AGS), are based in Texas as well. Stantec has worked with Michael Bomba, CJH, and AGS on prior CTRMA and TxDOT studies, while Novus and OTHON staff have teamed with Stantec staff on tolling studies for other clients. Our entire team understands the projects, the Authority's needs, and each team member's needs. A table summarizing our team's staffing levels by location and discipline is on page 10.

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

Stantec has an over 45-year history of providing traffic and revenue (T&R) services on a variety of high profile, successful, and often complex tolling projects throughout the United States. Stantec is a nationally recognized leader in T&R analyses and traffic operations for toll facilities. Our reports have been the basis for 216 bond sales totaling over \$70 billion. Since 2019 alone, we have completed 50 bond sales for over \$19 billion for new, expanded or existing toll facilities. Our work has spanned 38 states, Canada and Mexico. In addition to the Mobility Authority, we are the on-call T&R consultant for multiple toll authorities, including but not limited to the Washington State DOT, the North Carolina Turnpike Authority, the State Road and Tollway Authority in Georgia, the Riverside County Transportation Commission, the New York State Thruway Authority, and the Texas DOT.

Working in the best interest of our public and private clients, the communities surrounding the roadways, and the wider regions, we bring our extensive knowledge of toll roads and systems to the challenge of developing credible toll facility feasibility studies. Our clients return to us repeatedly with requests to produce quick feasibility studies that answer the initial question "Does this project make sense?" as well as Investment Grade Studies that aid in their effort to obtain financing for their projects. Level I studies help clarify whether more analysis—and more money—should be expended on the project and, perhaps, provide a sense of staging. This is enormously helpful to clients and

communities as we assess the impact to the entire regional network of tolling an existing corridor with express lanes, building a new toll facility, or changing toll structures.

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

Stantec is uniquely qualified for these Traffic and Revenue Consulting Services. There is a long history and a synergy between the key tolling staff at Stantec and the CTRMA. The Stantec Team has a deep background in studying Austin's toll facilities. We have acquired knowledge and expertise from our work on CTRMA's existing and future toll facilities. We've studied US 183 as far north as Liberty Hill with our work for the 183A Phase III Project, and as far south as the Austin-Bergstrom International Airport with 183 South. We recognize the challenges surrounding the 183N Express Lanes Project, particularly as CTRMA prepares for the project to open and its critical connections to MoPac N Express Lanes. We are already assisting CTRMA navigate through these operational challenges by conducting tasks such as analyzing capacity constraints, re-evaluating opening day toll rates, and participating in discussions with CTRMA staff and its team of consultants including engineers and toll collection vendors. We know the 290E toll road inside and out and know that the next phase, extending the road to the east, is critical for Manor's mobility. We know the regional significance of 183S as a bypass around the increasingly congested IH-35. We even know the importance of small but key facilities like 71E and 45SW that provide fast and reliable connectivity to the region. Our team examines traffic from both a macro-level, analyzing how land use and regional transportation policies impact traffic, and a micro-level, recognizing how roadway geometry and signage can impact driver

behavior. Our team is always exploring opportunities to add value for our clients. We leverage the power of big data to understand traffic better and we commit funds to R&D to make our modeling tools better.

The following table presents the 50 bond sales totaling over \$19 billion that Stantec has supported since 2019:

Amount	Date	Authority
\$1,587,210,000	4/30/2019	New York State Thruway Authority
\$150,000,000	5/15/2019	Triborough Bridge and Tunnel Authority
\$125,000,000	7/17/2019	Foothill/Eastern Transportation Corridor Agency
\$137,135,000	9/10/2019	Delaware Transportation Authority
\$102,465,000	9/20/2019	Triborough Bridge and Tunnel Authority
\$464,650,000	10/2/2019	MassDOT Metropolitan Highway System
\$857,625,000	10/18/2019	New York State Thruway Authority
\$1,693,245,000	10/18/2019	New York State Thruway Authority
\$40,840,000	10/31/2019	New Hampshire DOT
\$48,805,000	11/20/2019	Rhode Island Turnpike and Bridge Authority
\$46,050,000	11/26/2019	Triborough Bridge and Tunnel Authority
\$200,000,000	11/26/2019	Triborough Bridge and Tunnel Authority
\$50,265,000	12/17/2019	Central Texas Regional Mobility Authority
\$897,055,000	12/17/2019	Foothill/Eastern Transportation Corridor Agency
\$102,070,000	1/23/2020	Triborough Bridge and Tunnel Authority
\$450,000,000	2/20/2020	New York State Thruway Authority
\$683,780,000	2/20/2020	Texas Transportation Commission
\$525,000,000	5/22/2020	Triborough Bridge and Tunnel Authority
\$295,260,000	8/25/2020	Central Texas Regional Mobility Authority
\$217,335,000	8/25/2020	Delaware Transportation Authority
\$222,300,000	9/10/2020	Tampa-Hillsborough Expressway Authority
\$339,605,000	10/27/2020	Central Texas Regional Mobility Authority
\$187,200,000	1/15/2021	Triborough Bridge and Tunnel Authority
\$135,010,000	1/26/2021	Ohio Turnpike and Infrastructure Commission
\$291,900,000	1/27/2021	Triborough Bridge and Tunnel Authority
\$104,700,000	1/27/2021	Triborough Bridge and Tunnel Authority
\$759,722,000	2/9/2021	Foothill/Eastern Transportation Corridor Agency
\$499,260,000	3/23/2021	Central Texas Regional Mobility Authority
\$400,000,000	3/26/2021	Triborough Bridge and Tunnel Authority
\$192,835,000	6/4/2021	Triborough Bridge and Tunnel Authority
\$73,300,000	7/29/2021	New York State Bridge Authority
\$40,935,000	7/29/2021	New York State Bridge Authority
\$549,480,000	9/23/2021	New York State Thruway Authority
\$615,059,000	10/5/2021	Riverside County Transportation Commission
\$98,985,000	9/25/2021	Triborough Bridge and Tunnel Authority
\$615,390,000	10/7/2021	Central Texas Regional Mobility Authority
\$164,180,000	10/22/2021	Triborough Bridge and Tunnel Authority
\$1,125,541,000	12/17/2021	San Joaquin Hills Transportation Corridor Agy
\$96,335,000	1/25/2022	Triborough Bridge and Tunnel Authority
\$754,830,000	2/16/2022	Metropolitan Washington Airports Authority
\$310,220,000	2/16/2022	Ohio Turnpike and Infrastructure Commission

\$90,295,000	4/13/2022	New Hampshire DOT
\$400,000,000	8/16/2022	Triborough Bridge and Tunnel Authority
\$128,910,000	8/23/2022	Delaware Transportation Authority
\$148,470,000	12/8/2022	Triborough Bridge and Tunnel Authority
\$828,225,000	1/27/2023	Triborough Bridge and Tunnel Authority
\$260,560,000	6/16/2023	Triborough Bridge and Tunnel Authority
\$370,030,000	8/9/2023	Triborough Bridge and Tunnel Authority
\$102,500,000	12/7/2023	Triborough Bridge and Tunnel Authority
\$1,024,320,000	1/31/2024	New York State Thruway Authority
\$19,603,887,000	TOTAL	

For each project, we developed the appropriate modeling tools to forecast T&R as well as defend the estimates to rating agencies, investors, underwriters, TIFIA, Trustees, and other stakeholders. For each of these sales, the required bond sale certificates were developed, trust and bond indentures followed, and appropriate level of support provided to complete a successful issue.

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

Stantec will continue to provide the CTRMA with expertise in all of the duties imposed on traffic engineers under the requirements of trust indentures for bond and loan financing of toll facilities. We understand these duties well from our experience on over \$70 billion of financings on toll roads and express lanes throughout the country. Our experience includes municipalities that had never run a toll facility before, to authorities that have been operating a mature system of roadways for decades, such as the New York State Thruway Authority for whom we have been working for 25 years. For each financing, the required bond sale certificates were developed, trust and bond indentures followed, and appropriate level of support provided to complete a successful issue. Our T&R staff work with our clients' financial advisors, lawyers, and bankers to ensure a successful bond sale. We have successfully performed these duties for the CTRMA on 13 bond sales totaling \$3.7 billion, the most recent in late 2021. Our experience with CTRMA's staff and the financial team leading the sales will be invaluable to the CTRMA's future financings. Beyond supporting these sales, Stantec's

T&R Team regularly makes annual assessments and reviews the actuals, forecasts, and coverage requirements within the terms of the trust indentures. Most recently, Stantec prepared monthly T&R forecasts for both the System and MoPac N Express Lanes for use in CTRMA's FY 2025 budget planning process.

Stantec has also helped prepare opinions for the Mobility Authority and other entities on toll escalation policies, veterans discounts, paypoint toll adjustments, new additions to the System, development of non-tolled roads parallel to the System, and phased openings. These evaluations were documented in written opinions presented to the Board of Directors and shared with the investment community.

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

Stantec regularly develops and maintains sophisticated traffic modeling tools for T&R studies, transportation planning studies, and environmental/air quality & noise studies throughout the country. Representative clients include the Washington State DOT, the New Jersey DOT, and State Road and Tollway Authority. Stantec uses a variety of modeling platforms for our traffic and revenue projects. Our basic travel demand platform for the Central Texas Region uses an integrated model combining the Capital Area Metropolitan Planning Organization (CAMPO) and Alamo Area Metropolitan Planning Organization (AAMPO) models. We have developed a process to weave these models together to provide more reliable estimates for travel in the region. The purpose of a joint model is to accurately represent long-distance trips in the Central Texas region (e.g. on IH-35 and SH 130 between Austin and San Antonio). This in turn allows us to better understand traffic on the CTRMA System. We start with the base MPO models and make adjustments to reflect the latest traffic and demographic activity for the base year.

These models are converted to a CUBE travel demand model that is then calibrated to existing conditions. The calibration process involves modifying the basic model inputs to approximate speed and volume at hundreds of key locations in and around the Project or System corridors. The calibrated models are used as the basis for future

projections. Adjustments are made to the model parameters to reflect the latest available forecasts for demographic growth and the timing and scope of infrastructure improvements in the region. These future conditions models are then used to determine future traffic and revenue projections.

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

E. LEGAL DISPUTES

Summary of all regulatory and legal proceedings initiated since January 1, 2019, in which the firm has been named as a claimant, plaintiff, respondent, or defendant, including the nature of the proceeding, the claims made, and resolution or current status thereof — Stantec is involved in thousands of projects annually over a vast geography. Stantec provides professional services and has been subject to inspections and investigations related to compliance with various regulatory matters, and has received warnings, citations and orders as a result. In the interest of transparency, we do advise that we have been subject to a few administrative penalties, some orders and warning letters relating to regulatory matters. In each instance, Stantec cooperated fully with the applicable regulatory agency towards a prompt resolution. Importantly, Stantec has not been convicted for any violation of any serious federal, provincial or territorial laws. As part of Stantec's continual improvement process, our functional and Risk Management teams take proactive steps to review and update practices and procedures to prevent incidents from occurring.

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

Summary of any protest filed by the firm related to procurement of services by any other entity since January 1, 2019, including the nature of the protest and the resolution or current status thereof — Stantec is awarded thousands of discrete projects annually. Stantec does not formally track protests against or by the company. However, in the interest of transparency, Stantec discloses knowledge of at least one protest of which it is aware.

Any early termination of the firm's work or contract for services by any authority or entity since January 1, 2019, including an explanation of the types of services and the reason for termination — Stantec performs work on thousands of discrete projects annually. All but a very few of these projects are completed successfully. Occasionally, issues arise on a project that prevents Stantec from completing an assignment. Such issues include failure of the client to secure or maintain financing; failure of the client to pay consultant invoices; and disagreements over scope of work. Stantec takes great pride in and places a high value on its long-term ongoing relationships with its clients. This is evident by the fact that the majority of our clients are repeat customers. Where issues arise on a project, Stantec makes every commercially reasonable effort to resolve matters in dispute amicably in the mutual interests of the client and Stantec. This serves both Stantec and our clients well. However, to the best of our knowledge after reasonable inquiry, except for the following matters, Stantec has not been terminated since the date of the inquiry:

In 2018, Stantec received a letter from its client, Hillsborough Area Regional Transit Authority (“HART”), terminating Stantec for cause on its project located in Tampa, FL. Stantec believes the termination was due to performance by a subconsultant of Stantec and not Stantec itself. Stantec disputed the allegation that cause existed to terminate the contract, but the matter was never formally appealed by Stantec beyond its administrative remedies.

On June 18, 2019, Stantec received a letter from its client, PLACE E-Generation One, LLC purporting to terminate for cause Stantec’s services on its project located in Minneapolis, MN. Stantec has contested the termination for cause and the matter is not currently resolved.

F. HOW THE FIRM CHARGES PROFESSIONAL FEES

Stantec charges for our efforts based on a number of factors— the direct technical labor costs, an overhead multiplier rate, and a percent fee. Costs for subconsultants and direct expenses are billed at cost, with no markup. This is consistent with the fee schedule we use for our traffic and revenue projects for TxDOT.

The overhead multiplier is audited by the State of Texas annually. The current audited rate as of June 2024 is 159.477%, and our fee is 10%. The following shows the fee accrual for an employee who spends 2 hours working on a project with an hourly rate of \$20: $2 \text{ hours} \times \$20/\text{hour} \times (100\% + 159.477\%) \times (100\% + 10\%) = \$ 114.17$

G. CONFLICTS OR POTENTIAL CONFLICTS OF INTEREST

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

Stantec’s multi-disciplinary team includes a Community Development practice in the Central Texas region. On some of our land development projects, we have engaged with entities in which some of the Board Members may have an interest. These efforts are independent of our traffic and revenue practice, and are typically done by Stantec staff who are not engaged in our traffic and revenue studies.

Stantec provides transportation planning, traffic engineering, and traffic and revenue forecasting services for other entities in the Austin area. Where a conflict may exist, we will review our anticipated scope of work with the Mobility Authority prior to entering into any new engagements with other entities, such as TxDOT, County or municipal agencies.

II. Firm Organization, Staffing and Procedures

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

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

Bill Ihlo, PE, Project Director: Bill has been working on T&R projects for over 40 years. He has helped support over \$12B in infrastructure financing projects, and is a trusted resource for his clients, with a strong understanding of the players in the Central Texas region. He has worked on toll facilities for clients throughout the country, but a substantial part of his career has been devoted to T&R studies in Texas. Bill was involved with the Texas Turnpike Authority doing initial roadside OD surveys for the first Austin toll roads starting in 1998. He has been working on projects for the CTRMA since 2002 and has helped develop forecasts for all of the current CTRMA system elements. Bill has accompanied Mobility Authority staff in meetings with TIFIA, the rating agencies, and the investment community. He will be the principal officer on this contract.

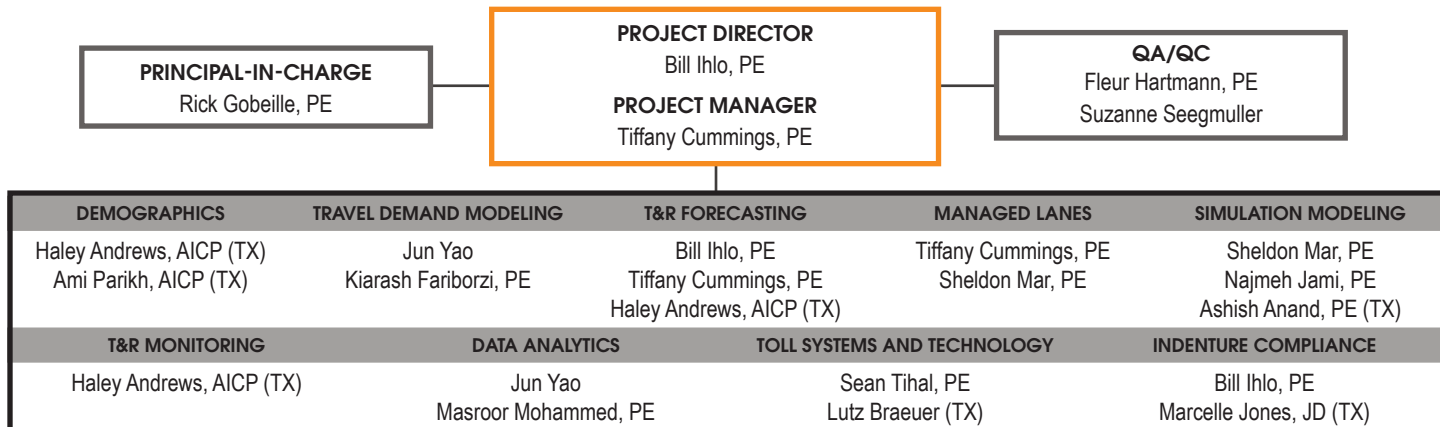
Bill has also participated in the team’s coordination efforts with other stakeholders in the Austin region, including discussions with TxDOT on the SH 130/290 Project and 183 North. In his time working with the Mobility Authority, Bill has worked closely with the Executive Director, Chief Financial Officer,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

Tiffany Cummings, PE, Project Manager: As the Project Manager, the Mobility Authority’s studies have been and will continue to be Tiffany’s

Organizational Chart



PROJECT MANAGEMENT TEAM



SUBCONSULTANTS

DEMOGRAPHICS FORECASTS	TRANSPORTATION PLAN REVIEW	TRAFFIC ENGINEERING	DATA COLLECTION
BOMBA CONSULTING, LLC Michael Bomba, PhD (TX)	TRANSPORTATION PLAN REVIEW NOVUS* Nishant Kukadia, AICP, PMP, MBA (TX) OTHON* Srini Sangineni, PE, PTP, PTOE (TX)	TRAFFIC ENGINEERING OTHON* Srini Sangineni, PE, PTP, PTOE (TX)	DATA COLLECTION CJ HENSCH* Roger Allen (TX) ALLY GENERAL SOLUTIONS* Rolando Castañeda, PE (TX)

PRINCIPAL OFFICE & OFFICER
475 Fifth Avenue, 12th Floor, New York, NY 10017
Bill Ihlo, PE, Project Director

*Texas HUB Firm and/or DBE

first priority. She has spent the majority of her 13-year career working on T&R forecasting studies for toll facilities in the Austin area for both the Mobility Authority and TxDOT. Because of her experience in the region, she is an expert in the traffic patterns, land development patterns, and rapidly developing highway network of the Austin region. Tiffany has an acute understanding of the CTRMA toll facilities through her daily and monthly monitoring of nearly every facility since their opening.

She has served as Project Manager for the last 5 investment-grade studies for the Mobility Authority, beginning with the 2019 T&R Study to refinance the CTRMA System after 45 SW was added to the System. Throughout 2020 and 2021, Tiffany prepared investment-grade forecasts to support the financings of the 183A Phase III and 183N Express Lane projects, which included support during TIFIA loan applications. For each of these T&R studies, as well as the 2018 investment-grade T&R study for the 290E Phase III Project and the 2015 investment-grade T&R study for the 183 South Project, Tiffany developed the data collection program, analyzed traffic data within the study area, oversaw the calibration of the travel demand model and microsimulation model,

prepared the traffic and revenue forecasts, and conducted sensitivity tests. Tiffany has regularly prepared T&R reports or memos that were included in Official Statements and bringdown letters during her work on the 2015, 2016, 2018, 2019, 2020, and 2021 CTRMA bond financings and refundings as well as the 2015 Central Texas Turnpike System (CTTS) bond financing for TxDOT.

Rick Gobeille, PE, Principal-in-Charge: Rick is a nationally recognized leader in toll systems technology, development and implementation, traffic and revenue forecasting, operating cost estimates, and toll facility operations. Over the course of his 40+ year career, he has prepared reports and studies, and made more than 100 presentations to ratings agencies, underwriters, and investors, in support of more than \$30B of Toll Revenue Bond Sales and Trust Agreement requirements. He has also prepared studies for the adoption of new technologies, starting with E-ZPass testing in the early 1990s. Rick provides access to approaches and solutions considered and adopted by other tolling agencies that may bring value to the Mobility Authority.

Fleur Hartmann, Technical Advisor, QA/QC: Fleur Hartmann has over

30 years of experience managing a variety of traffic and transportation projects including toll facility studies, traffic planning studies, and transit planning studies. Her toll experience includes completing toll facility feasibility and financing studies for public, private and partnered clients; HOV/HOT/managed lane studies; toll increase studies; and interchange studies for existing toll roads. She is well versed in developing diversified, interactive traffic and revenue models, researching socioeconomic databases, writing complex traffic and revenue reports for financing, and developing, setting up, and conducting origin-destination and other field surveys.

Suzanne Seegmuller, Technical Advisor, QA/QC: Suzanne Seegmuller brings more than 30 years of transportation experience with a focus in conducting financial impact analysis and T&R studies for existing and new toll road facilities. Her practical experience includes financial forecasting, market and policy analysis, cost/benefit analysis, organizational analysis and due diligence review. Additionally, she is well versed in assessing the impacts of toll increases, discount programs, plaza capacities, toll rate setting, and changes to vehicle classification systems for established toll facilities undergoing expansion or technology upgrades.

Jun Yao, Travel Demand Modeling & Data Analytics Lead: Jun has more than 15 years of experience preparing investment grade T&R forecasts. He has led the modeling efforts and developed T&R forecasts for conventional toll roads and managed lane facilities across the nation. Within Texas, the majority of his experience has been with toll roads in the Austin area including all of the CTRMA facilities and the Central Texas Turnpike System operated by TxDOT. For several managed lane facilities, Jun has also performed microsimulation analysis to evaluate the operational characteristics of the managed lanes at key access points. He has also performed extensive sensitivity analysis and risk analysis for rating agency presentations. He also leads efforts requiring big data analysis capability by developing customized programs using Python, VBA macro and SQL.

Haley Andrews, AICP, Demographics Lead, T&R Forecasting, T&R Monitoring: Haley has 11 years of experience, which includes 9 years of experience working on T&R studies for CTRMA projects. Her primary role in these projects is to research, analyze, and review the socioeconomic and network assumptions in the travel demand model

and make changes as necessary to reflect a reasonable outlook of future growth. Haley also leads all T&R monitoring efforts for CTRMA facilities, analyzing observed trends and summarizing them into monthly monitoring reports.

Through her work with CTRMA as well as on other toll roads and non-tolled corridors in Central Texas, Haley has developed an intimate knowledge of transportation and development plans in the region, and established connections with many local planning entities that provide valuable input used in model development. Even before her role at Stantec, Haley worked with cities, counties and MPOs in the Austin area to develop long range transportation plans. She worked extensively with the Laredo Urban Transportation Study to prepare the MPO for its first certification review by FHWA and FTA as a newly designated transportation management area.

Sheldon Mar, PE, Simulation Modeling Lead, Managed Lanes: Sheldon has 20 years of experience in simulation modeling, and T&R forecasting. Sheldon regularly serves as a technical advisor on simulation modeling studies and managed lane projects, including Stantec's work in the RM 620 corridor, a confidential Managed Lanes forecast for TxDOT, and our various studies of the 183N Express Lanes including the investment-grade T&R forecast. Sheldon regularly serves as the project manager or simulation modeling lead on Stantec's Managed Lanes T&R forecasts. He currently serves as Stantec's Project Manager for all T&R work for RCTC, including investment-grade T&R studies for the SR 91 Express Lanes and the I-15 Express Lanes in southern California.

Marcelle Jones, JD, Indenture Compliance: Marcelle is well-versed in transportation policy and related issues. She supports and directs clients in the evaluation and formulation of policy, procurement, and strategic business decisions by anticipating and assessing the impact of emerging trends, threats and opportunities. Marcelle led the toll industry in the first ever toll enforcement workshop and its first conversations on mileage-based user fees. Her experience and knowledge of industry practices and trends has helped agencies establish proactive business rules and organizational frameworks, minimize risks; and identify essential procurement and contractual provisions in public-public and

public-private agreements. She has authored and advised on legislation, statutes, administrative rules, and policies for various public agencies across 17 states. Marcelle also served as a project manager for the TxDOT design-build program where she managed an 11-member team to support TxDOT with the development of procurement documents and process for regionally significant projects.

Sean Tihal, PE, Toll Systems and Technology: With over 22 years of transportation consulting experience, Sean is well versed in roadside and back office toll systems and operations, toll strategic planning, toll feasibility studies, and toll operations analyses. He has conducted numerous studies related to capital and operating costs (CAPEX and OPEX), electronic tolling market share analyses, toll policy, tolling configurations, toll pricing and toll payment alternatives, and toll planning studies for over 29 transportation agencies across the US and Canada. As part of his toll strategic planning and system implementation work, Sean has supported his clients to assess and implement state of the practice and emerging technologies for roadside and back office electronic tolling applications including but not limited to vehicle identification and classification, payment methods, trip building, customer communications, customer account management, unpaid toll processing and invoicing, as well as networking, security and PCI compliance.

Michael Bomba, PhD, Demographic Forecasts (Bomba Consulting): Michael has more than 25 years of experience contributing to T&R studies in the Austin and San Antonio regions. He has assessed the reasonableness of the CAMPO and AAMPO's population and employment estimates and forecasts at the zonal level, adjusting them as necessary for T&R purposes. Michael has completed over 50 studies, and these model inputs have been used to successfully sell approximately \$9B of municipal bonds and federal loans (e.g., TIFIA, etc.) for green field projects, major facility upgrades, building connecting ramps, and refinancing existing municipal bonds. Toll road projects in the Austin region that have been financed and constructed using these studies include: SH 130 (Segments 1 through 4), SH 45 North, Loop 1, 183A, US 290 East, SH 45 Southeast, US 183 South, and US 183 North Managed Lanes (under construction). His efforts have included

participating in presentations to rating agencies in New York City and presentations to major institutional investors (e.g. BlackRock, PIMCO, Vanguard, etc.) in New York City, Philadelphia and Boston.

Nishant Kukadia, AICP, PMP, MBA, Transportation Plan Review (Novus): Nishant has two decades of experience in project development ranging from advanced planning to implementation of projects. He has worked on large infrastructure program contracts and managed four indefinite deliverable contracts ranging from \$10M to \$25M, with multiple task orders. His diverse professional background includes corridor planning, feasibility studies, procurement engineering, public private partnerships, ridership estimation, traffic and revenue (T&R) analysis, benefit cost analysis, economic impact analysis, risk analysis, big data analysis, safety studies and alternative financing (TIF, TRZ). Nishant has conducted activities such as legislative reviews, policy recommendations, funding analysis, as well as facilitation and coordination with external organizations and stakeholder groups.

Srini Sangineni, PE, PTP, PTOE, Traffic Engineering (OTHON): Srini has over 33 years of experience with a focus in traffic signal design including projects with railroad preemption, illumination, transportation planning and design, traffic operations, traffic signal timing, traffic safety and work zone traffic control. Srini served as a traffic engineer for engineering consulting firms, the City of Austin, and the Texas Transportation Institute (TTI). He provided project management and design services for TxDOT, NTTA, DFW International Airport, DART, NCTCOG, cities, counties, and other clients. Srini has successfully completed over 40 travel demand modeling, traffic forecasting, and traffic operational analysis tasks for schematic projects in the Dallas/Fort Worth area and Texas (statewide). For traffic analysis and traffic simulation, Srini and the OTHON team use VISSIM, Synchro, HCS and MicroStation. IHSDM, ISATe, or HSS are used for safety analysis.

Roger Allen, Data Collection (CJH): Roger has 23 years' experience in field traffic data collection project management as a subconsultant. He has directed traffic data collection efforts for T&R Studies since 2001 for the CTRMA, TxDOT, Harris County Toll Road Authority, NTTA, Fort Bend Toll Authority, Brazoria County Toll Road Authority, Alamo RMA, and the NET RMA. During this time, he has led data collection efforts

implementing the latest technologies being deployed in the field to provide the safest and most accurate studies available.

Rolando Castañeda, Data Collection (AGS): With over 24 years of experience in engineering projects throughout Texas, Rolando's role on this Team is to support data collection efforts.

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

Bill Ihlo and Tiffany Cummings would continue to be permanently assigned to the project and would not be substituted with other personnel without the Authority's prior approval. As a team, they have been supporting the CTRMA for over 20 years. They would continue to be supported by key staff including Haley Andrews in Plano, TX and Jun Yao in West Chester, PA, and additionally by our subconsultant Michael Bomba, who is based in Austin and currently works on CTRMA projects. Both Haley and Jun are also permanently assigned to current and potential CTRMA projects. Rick Gobeille will be the Principal-in-Charge with over 40 years of experience for toll road agencies. Past and current CTRMA project experience for these key personnel is described

in Section II.A above as well as in the resumes attached.

C. NUMBER OF STAFF, BY SPECIALTY AND BY GEOGRAPHIC LOCATION, COMMITTED FOR AVAILABILITY TO SUPPORT THE TRAFFIC & REVENUE SERVICES BEING TENDERED BY CTRMA

Stantec's T&R Team consists of 48 full-time transportation professionals throughout the US. The number of staff, by specialty and location are listed in the adjacent table. We leverage their individual skills, from T&R forecasting, transportation planning, traffic engineering, travel demand modeling, simulation modeling, economic modeling, data analytics, traffic data collection, demographic forecasting, and toll systems, based on the mix of available projects. Our core T&R Team is supported by over 50 other professionals who have expertise in one or more of the above-mentioned areas. This provides Stantec and our clients with a deep roster of qualified professionals who can be utilized for multiple concurrent projects. As needed, we will collaborate with specialty consultants such as SkyComp, Streetlight Data and Airsage.

D. BUSINESS OPPORTUNITY PROGRAM ("BOP") & DISADVANTAGE BUSINESS ENTERPRISE ("DBE") PARTICIPATION

Stantec commits to comply with the proposed DBE/HUB goal for the

Staff Experience by Office Location

Office	Staff	T&R Forecasting	Transportation Planning	Traffic Engineering	Travel Demand Modeling	Simulation Modeling	Economic Modeling	Data Analytics	Traffic Data Collection	Demographic Forecasting	Toll Systems
New York, NY	28	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
West Chester, PA	6	✓	✓	✓	✓	✓		✓	✓	✓	
Dallas, TX	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Austin, TX	2	✓	✓				✓		✓		✓
Atlanta, GA	2	✓	✓	✓							✓
Chicago, IL	1										✓
Portland, OR	2	✓	✓		✓	✓	✓		✓		
Denver, CO	1	✓	✓	✓		✓			✓		
Louisville, KY	1										✓
Stantec Staff for Traffic and Revenue Studies	48										
Bomba Consulting, LLC - Austin, TX	2									✓	
Novus Integrated Technology Solutions, LLC – Austin, TX	2		✓								
OTHON, Inc. – Richardson, TX, Houston, TX, & Austin, TX	91	✓	✓	✓	✓	✓					
Ally General Solutions - Houston, TX	28								✓		
CJ Hensch & Associates, Inc. - Irving, TX & Pasadena, TX	16								✓		
Subconsultant Support Staff	139										

Agreement (see also signed Appendix C). As described below, our Team has a roster of several certified HUB firms that can provide a range of services to the Mobility Authority. The exact mix of firms will depend on the nature of task orders and associated opportunities.

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

- **AGS Engineering & Construction** is a certified HUB and DBE in the State of Texas. AGS has also worked with Stantec on extensive data collection efforts in the Central Texas region. They bring additional depth for large field data collection programs.
- **CJ Hensch & Associates, Inc.** is a certified DBE/WBE/HUB in the State of Texas. They have worked with Stantec on data collection and summarization, and field reconnaissance tasks in the Central Texas region.
- **Novus Integrated Technology Solutions LLC** is a small transportation consulting firm in Austin, Texas. The firm provides services in the areas of statewide corridor planning, systems planning, statewide long range transportation planning, traffic and revenue analysis, economic consulting, financial analysis, grant applications, environmental analysis, public-private partnerships, and implementation strategy development. Novus is a DBE and HUB certified firm in Texas.
- **OTHON, Inc.**, Consulting Engineers has provided multi-discipline engineering services for over 27 years with offices in Richardson Houston (HQ) and Austin, Texas. OTHON is a certified DBE, HUB, MBE, and SBE.

Evidence of Compliance with Assigned DBE/HUB Subcontracting Goals or Evidence of Good Faith Efforts

Although Stantec's current contract that began in October 2020 did not require a specific DBE/HUB participation rate, Stantec has achieved a DBE/HUB participate rate of 6% for the contract to date. Please see the "Supporting Evidence of Stantec's DBE Performance" section of the appendix for additional information on our past performance.

Innovative Approaches or Unique Outreach Used Successfully to Encourage DBE/HUB Participation

Stantec was able to utilize its vast network of transportation professionals to reach out to DBE/HUB firms qualified to support the tasks associated with this scope of work. Stantec's T&R team regularly participates in professional organizations such as IBTTA, TRB, WTS, and ITE, so the relationships we build with other qualified firms allows us to identify potential subconsultants on our projects.

III. Project Development Experience

A-E. RELEVANT INFRASTRUCTURE DEVELOPMENT PROJECTS SINCE JANUARY 1, 2019

Stantec has supported 50 bond sales totaling over \$19 billion since 2019. A summary of the 5 CTRMA bond sales since 2019 is shown in the table below. Descriptions of the other relevant projects for which Stantec has provided traffic and revenue services since 2019 are also included in the following pages.

CTRMA On-Call T&R Services | Texas | 5 CTRMA System bond sales since 2019 for a total of \$1.8 billion, most recent on 10/7/21 for \$615 million

Stantec has been providing T&R consulting services for the Mobility Authority since its inception in 2003. Our T&R forecasts have been the basis for CTRMA's 13 successful toll revenue bond and several TIFIA financings of \$3.6 billion. We regularly conduct assignments in connection with the Master Trust Indenture requirements; these include studies such as cash flow/ coverage analyses, monitoring transactions and revenues, providing annual updates for budgeting purposes, assessing changes in toll policies, reviewing and preparing sections of bond documents, issuing certificates as required, and providing input for TIFIA's annual status reports. In 2019, System T&R forecasts were used to refinance System debt with the recently added 45SW toll road. In 2020 and 2021, System T&R forecasts were used to finance the proposed 183A Phase III and 183N Express Lanes projects.

Recently, we've conducted special analyses for the Toll Operations department such as assessing the revenue impacts of bundling transactions into trips. We also prepared FY 2025 System and MoPac N

CTRMA Revenue Comparisons - Stantec Estimates vs Actuals

Date of CTRMA OS	12/17/2019	8/25/2020	10/27/2020	3/23/2021	10/7/2021
Project Name	CTRMA System T&R Study for 45SW (PRE_COVID)	CTRMA System T&R Study for System Refunding	CTRMA System T&R Study for 183A Phase III	CTRMA System T&R Study for 183N Express Lanes	CTRMA System T&R Study for System Refunding
2020 Estimated System Revenue (in \$000s)	\$129,697	\$96,441	\$97,267	\$99,036	\$99,036
2020 Actual System Revenue (in \$000s)	\$99,036	\$99,036	\$99,036	\$99,036	\$99,036
% Difference from Estimated	-23.6%	2.7%	1.8%	0.0%	0.0%
2021 Estimated System Revenue (in \$000s)	\$164,629	\$144,536	\$130,030	\$128,423	\$141,132
2021 Actual System Revenue (in \$000s)	\$141,204	\$141,204	\$141,204	\$141,204	\$141,204
% Difference from Estimated	-14.2%	-2.3%	8.6%	10.0%	0.1%
2022 Estimated System Revenue (in \$000s)	\$188,445	\$168,774	\$158,607	\$159,066	\$166,749
2022 Actual System Revenue (in \$000s)	\$185,209	\$185,209	\$185,209	\$185,209	\$185,209
% Difference from Estimated	-1.7%	9.7%	16.8%	16.4%	11.1%
2023 Estimated System Revenue (in \$000s)	\$211,607	\$196,205	\$185,515	\$186,761	\$190,287
2023 Actual System Revenue (in \$000s)	\$213,952	\$213,952	\$213,952	\$213,952	\$213,952
% Difference from Estimated	1.1%	9.0%	15.3%	14.6%	12.4%

Express Lanes forecasts for CTRMA's annual budget planning process.

A refresh of the travel demand model for post-Pandemic conditions is currently underway by Stantec to develop updated System forecasts.

The updated model is anticipated to be used for feasibility studies of future projects such as widening 183A, 290E Phase IV extension, and MoPac S Express Lanes as well as potential revisions to the System toll rates.

Jose Hernandez, CFO | 3300 N IH 35, Suite 300, Austin, Texas 78705 | (512) 636-4879

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

Stantec has been providing TxDOT forecasting services through a series of on-call T&R assignments since 1998. We have prepared all levels of T&R studies, ranging from Level 1 preliminary feasibility studies to Level 3 investment-grade studies that support financing. Stantec has provided T&R services for hundreds of toll feasibility studies made during the early planning stages for the growth and improvement of the greater Austin transportation roadway network. Following on those studies, we have prepared seven investment-grade T&R forecasts for toll facilities that led to more than \$5.7 billion in revenue bond financing. We have worked directly with several divisions within TxDOT on these studies, including the Toll Operations Division, Strategic Project Division, Debt Management Office, General Counsel, and Transportation Planning and Programming, as well as several district offices.

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

Date of TxDOT OS	2/20/2020 (PRE-COVID)
2023 Estimated System Revenue (in \$000s)	\$258,008
2023 Actual System Revenue (in \$000s)	\$264,323
% Difference from Estimated	+2.4%

Lin Zhou, Strategic Project Division | 12719 Burnet Road Austin, Texas 78727 | (512) 826-0868

New York State Thruway Authority Finance & Operation On-Call | New York | 6 NYSTA bond sales since 2019 for a total of \$6.2 billion, most recent on 1/31/24 for \$1.0 billion

The 570-mile New York State Thruway is the longest toll facility in the US and Stantec has been the Thruway Authority's consulting engineer for more than 20 years. In this role, we periodically prepare revenue forecasts, analyze toll rates, work with the bond counsel and financial consultants on pending matters, prepare engineer's certificates for the trustee, recommend measures to relieve traffic congestion, and address other related issues as requested by the Authority's staff and

board members. Notable recent work has included preparing T&R and fee revenue estimates for portions of the Thruway system as they were converted to AET. Another aspect analyzed during this study included developing and revising existing policies and legislation that would support AET for consistency with existing state and federal laws and the Authority's bond resolutions. We also studied the financial implications of AET conversion in terms of net revenue changes and analysis of different toll schedules to establish revenue neutrality. We reviewed state and federal laws as they pertained to video tolling and the methods available for enforcing and collecting those tolls. More recently, we tracked COVID-related impacts on traffic and revenue and periodically updated future estimates of T&R, completed Environmental Assessments for proposed toll modifications, and produced a Cashless Tolling Performance Report for the Authority Board.

Date of Thruway OS	9/23/2021	1/31/2024
2023 Estimated System Revenue (in \$000s)	\$807,686	\$817,734
2023 Actual System Revenue (in \$000s)	\$825,459	\$825,459
% Difference from Estimated	+2.2%	+0.9%

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

MTA Independent Engineer for Triborough Bridge and Tunnel Authority (TBTA) Bond Issues | New York | 20 bond sales since 2019 for \$4.8 billion, most recent on 12/7/23 for \$102 million

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

To complete each of the annual reports, we coordinated with TBTA to obtain current and historical traffic and revenue information for each of their facilities. This information was supplemented with current and historical traffic volume data for nearby non-tolled facilities along the East River, nearby non-tolled corridors, and nearby toll facilities such as the Port Authority of New York and New Jersey. Toll rates, toll revenues, and changes in toll schedules at the Port Authority facilities were also

analyzed. We developed a proprietary spreadsheet model to house all the current and historical traffic and revenue data and used that model as a basis for detailed traffic and revenue forecasting.

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

Date of MTA TBTA OS	6/16/2023
2023 Estimated System Revenue (in \$000s)	\$2,487,000
2023 Actual System Revenue (in \$000s)	\$2,417,000
% Difference from Estimated	-2.8%

Marcia Tannian, Director of Finance and Investor Relations | 347 Madison Ave, New York, New York 10017 | (212) 878-7278

Delaware Transportation Authority | Delaware | 3 bond sales since 2019 for \$4.8 million, most recent on 8/23/2022 for \$129 million

The Delaware Department of Transportation (DelDOT) retained Stantec to forecast the Delaware Turnpike and Route 1 Toll Road's traffic and revenue. The 11-mile Delaware Turnpike is a key link in the Northeast Corridor's I-95 route from New England, New York, Philadelphia and Wilmington to Baltimore, Washington, and the South. The SR 1 Corridor extends 100 miles, nearly the full length of the state, from the I-95/ Delaware Turnpike southward to the Maryland state line on the approach to Ocean City. Stantec analyzed the toll facilities' actual traffic and earnings record from its opening in 1963 and studied traffic patterns and revenue trends over the course of the Turnpike's years of operation from 1963 through 2024. Future traffic and revenue estimates are based on the analysis of historical trends.

Date of DelDOT OS	8/25/2020
2022 Estimated System Revenue (in \$000s)	\$153,987
2022 Actual System Revenue (in \$000s)	\$184,067
% Difference from Estimated	19.5%

*More recent data not available for comparison

Dawn Haw-Young, Assistant Director of Finance | 800 Bay Road / Route 113, Dover, Delaware 19901 | (302) 760-2727

**Transportation Corridor Agencies (TCA) | California | 3 Foothill/
Eastern TCA bond sales & 1 San Joaquin Hills TCA bond sale since
2019 for a total of \$2.9 billion, most recent on 2/9/21 for \$759.7
million (F/E) and 12/17/21 for \$1.1 billion (SJH)**

Date of San Joaquin Hills TCA OS	12/17/2021
2023 Estimated System Revenue (in \$000s)	\$163,800
2023 Actual System Revenue (in \$000s)	\$147,000
% Difference from Estimated	-10.3%

*Amy Potter, Deputy Chief Executive Officer | 125 Pacifica, Irvine,
California 92618 | (949) 754-3498*

For almost 20 years, Stantec has supported the TCA in the sale and refinancing of its toll revenue bonds, establishing fiscal year budgets, exploring the feasibility of expansion projects, and completing regional analyses to support the agency's goals and objectives. Stantec has completed numerous T&R studies, including the investment grade studies in 2013 & 2014 and the bringdown forecasts for both the F/ETC and SJHTC in 2021 and 2022 which included the impacts of the COVID-19 pandemic.

Since 2012, Stantec completes annual T&R reviews, forecasts, and recommends toll rate schedules. We work with the TCA's staff to review facility performance and traffic response to tolling changes. We then develop T&R forecasts to then evaluate how traffic would respond to potential toll policy changes or toll increases. These estimates assist TCA with their annual budget planning and selection of tolls for the next fiscal year. Over the years, this has included analyzing and advising on discount programs, all electronic tolling conversion, and special considerations during the start of the COVID-19 pandemic.

TCA has considered various changes to their roadway system over the years and Stantec has analyzed the potential impacts to T&R and operations. We developed a microsimulation model of the TCA system to identify future operational concerns with growing traffic demand. This model enables TCA to make informed decisions on various projects to ensure acceptable Level of Service on the toll roads.

Stantec also analyzed and evaluated the operational and T&R impacts of the planned 241/91 Express Lanes Connector. This includes extensive analysis since it would join the TCA toll roads and the existing 91 Express Lanes. We have developed microsimulation and marketshare models to evaluate numerous network and toll policy alternatives.

Date of Foothill/Eastern TCA OS	2/9/2021
2023 Estimated System Revenue (in \$000s)	\$195,000
2023 Actual System Revenue (in \$000s)	\$185,000
% Difference from Estimated	-5.1%

**Ohio Turnpike and Infrastructure Commission (OTIC) | Ohio | 2
OTIC bond sales since 2019 for a total of \$445.2 million, most
recent on 2/16/22 (forward bond sale) for \$310 million**

Since 2005, Stantec tolling principals have supported the Ohio Turnpike and Infrastructure Commission (OTIC) to plan, develop and implement system-wide upgrades of their Toll Collection System (TCS) and Customer Service Center (CSC). Stantec's tolling principals also have provided T&R forecasting and planning services to the OTIC which included T&R and Operations and Maintenance (O&M) Forecasts that supported a \$1.1 billion Toll Revenue Bond Sale in 2013, a \$126.7M Refunding Bond Sale in 2017 and an \$499.8M Bond Sale in 2018. More recently, Stantec forecasts supported the January 2021 sale of \$135M in toll revenue bonds, as well as the February 2022 forward delivery of \$310M in toll revenue refunding bonds, inclusive of the proposed toll system modifications as well as changes to travel behavior resulting from the COVID-19 pandemic.

Date of OTIC Bringdown Letter	11/3/2022
2023 Estimated System Revenue (in \$000s)	\$350,400
2023 Actual System Revenue (in \$000s)	\$360,852
% Difference from Estimated	3.0%

*Lisa Mejac, CPA, Chief Financial Officer | 682 Prospect St, Berea,
Ohio 44017 | (440) 971-2089*

**Riverside County Transportation Commission | California | Bond
sale on 10/5/21 for \$615.1 million**

Stantec has been working continuously with the Riverside County Transportation Commission (RCTC) since 2005 to support the agency's efforts to deliver and operate express lanes along the SR 91 and I-15 freeways in Riverside County, which opened to traffic in 2017 and 2021, respectively. We have supported the RCTC by forecasting express lanes traffic and revenue, by advising on toll policy and toll rates, and by assessing the potential impact of roadway improvements.

Stantec performed the Level 1, 2, and Investment Grade T&R studies for both the 91 and 15 Express Lanes starting in the early 2000's. Our efforts have helped the RCTC right-size their facilities and obtain financing.

After their successful financing and opening, we have continued to forecast how various changes to toll policy, the economy, and changes to the roadway network would impact revenue. Our T&R forecasts have supported a refinancing of the 91 Express Lanes revenue bonds following the COVID-19 pandemic and have informed cooperative agreements with neighbor agencies. In addition to T&R forecasts, we brought our expertise in traffic operations and traffic modeling, in conjunction with our understanding of the express lanes to help the RCTC assess highway improvement projects. We have consulted on a wide range of improvements from general purpose lane widenings, to express lane direct connectors, and ramp metering impacts. We have also supported the RCTC with its continuing operations by reviewing and advising on toll policy and toll rate setting. We monitor traffic and toll rates and identify when toll rates could be optimized to better manage express lanes demand.

Date of RCTC OS	10/5/2021
2023 Estimated System Revenue (in \$000s)	\$52,800
2023 Actual System Revenue (in \$000s)	\$67,843
% Difference from Estimated	28.5%

Jennifer Crosson, Toll Operations Director (SR-91) and David Thomas, Toll Project Delivery Director (I-15) | 4080 Lemon Street, 3rd Floor, Riverside, California 92501 | (951) 787-7141

Following is a summary of multiple other bond sales showing a comparison of estimated and actual revenues:

Tampa-Hillsborough Expressway Authority | Florida | Bond sale on 9/10/20 for \$222.3 million

Date of THEA OS	8/27/2020
2023 Estimated System Revenue (in \$000s)	\$106,475
2023 Actual System Revenue (in \$000s)	\$116,862
% Difference from Estimated	9.8%

Robert Frey, AICP, Director of Planning and Innovation | 1104 East Twiggs Street, Tampa, Florida 33635 | (813) 272-6740

Metropolitan Washington Airports Authority | Washington | Bond sale on 2/16/22 for \$754.8 million

Date of MWA OS	1/30/2022
2023 Estimated System Revenue (in \$000s)	\$216,003
2023 Actual System Revenue (in \$000s)	\$205,853
% Difference from Estimated	-4.7%

Mary Helou, Debt Program Manager | 1 Aviation Circle, MA-26, Washington DC 20001 | (703) 417-8716

New York State Bridge Authority (NYSBA) | New York | Bond sale on 7/29/22 for \$114.2 million

Date of NYSBA OS	7/29/2021
2023 Estimated System Revenue (in \$000s)	\$71,600
2023 Actual System Revenue (in \$000s)	\$77,152
% Difference from Estimated	7.8%

Brian Bushek, Treasurer & CFO | P.O. Box 1010, Highland, New York 12528 | (845) 691-7245

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

Date of MassDOT OS	10/2/2019 (PRE-COVID)
2023 Estimated System Revenue (in \$000s)	\$211,523
2023 Actual System Revenue (in \$000s)	\$187,039
% Difference from Estimated	-11.6%

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

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

Date of NH DOT OS	4/13/2022
2023 Estimated System Revenue (in \$000s)	\$129,145
2023 Est. Actual System Revenue (in \$000s)	\$123,920
% Difference from Estimated	-4.0%

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

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

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

More recent data not available for comparison

Jeff Goulart, CFO | RI-138, Jamestown, Rhode Island 02835 | (401) 423-0800

Subconsultant Experience

Ally General Solutions, LLC | Brazoria County Toll Road Authority

Level II T&R Study Data Collection | Texas: AGS helped Stantec collect traffic in the Houston area for a recent BCTRA T&R Study. This included 48-hour classification counts along a series of main lanes, frontage roads, arterials, direct connectors, and ramps.

Karen McKinnon, Assistant County Engineer | 451 N. Velasco, Suite 230, Angleton, Texas 77515 | (979) 864-1264

Bomba Consulting LLC | 2024 Central Texas Regional Mobility Authority Update (Level 2 Traffic & Revenue Study) | Texas:

Assessed the reasonableness of socioeconomic data in the Capital Area Metropolitan Planning Organization's (CAMPO) travel demand model at the zonal level, adjusting the data as necessary, for a Level 2 traffic & revenue study. The project study area incorporated almost the entirety of Travis County and the western portion of Williamson County. CAMPO's baseline county population and employment control totals were updated to 2022 and its forecast control totals were updated through 2045. All TAZs in the study area (which contained approximately 1,000 TAZs) were updated from 2020 Census counts to 2022 using digital aerial photography and other data sources. For the portions of the CTRMA project study area that overlapped with the Central Texas Turnpike System study area, baseline and forecast data from the 2022 CTTS study were used. Zonal level socioeconomic data forecasts in the study area were updated using data from local planning departments, secondary sources, and interviews with local planning officials. The revised forecasts were provided as spreadsheets for the travel demand model and the methodology and results of the adjustments were summarized as a chapter in the study's final report.

Jose Hernandez, Chief Financial Officer | 3300 N. IH-35, Suite 300, Austin, TX 78705 | (512) 636-4879

CJ Hensch & Associates, Inc. | MoPac North and 183 North Traffic Data Collection, 2023 CTRMA Data Collection | Texas: Conducted traffic counts and travel time runs in the MoPac North and 183 corridors,

in support of Stantec's traffic and revenue studies in these corridors for the Mobility Authority. CJ Hensch also performed a comprehensive traffic data collection count program, for Atkins under a separate CTRMA task, on MoPac, SH 71, US 290, US 183A, SH 45SW, and US183S. The data collection included peak hour turning movement counts, 48-hour main lane, direct connector, and ramp volume counts, 48-hour arterial counts, and 7-day pedestrian counts.

Carlos Sepulveda, AtkinsRéalis | 11801 Domain Blvd., Ste. 500, Austin, Texas 78758 | (512) 340-1108

Novus Integrated Technology Solutions LLC | Southern Gateway Traffic and Revenue Study | Dallas, TX: Managed the collection of socioeconomic data and development of population and employment forecasts as part of a Level 2 Traffic and Revenue Study to support

TxDOT with assessing the feasibility of constructing managed lanes within the existing US 67 and I-35 corridors in the Dallas metro area. Referred to as the Southern Gateway, these US 67 and I-35 both lead from the southern portion of the Dallas-Fort Worth Metroplex directly into Downtown Dallas.

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

OTHON, Inc. | HCTRA Traffic Demand Modeling for Sam Houston Tollway (Beltway 8), Section 1 | Texas: OTHON led the corridor and regional travel demand modeling including traffic forecasting, origin-

destination analysis and system operation analysis. OTHON analyzed and recommended corridor and system improvements supporting the conversion of the heavily congested Sam Houston Tollway, Section 1 to All-Electronic Tolling (AET) from US 290 to Hardy Toll Road, a 13.9-mile segment. The alternatives were developed and analyzed using O-D data from H-GAC, existing and historical traffic data, corridor demand from the H-GAC TDM, HCTRA transaction data, existing and future land use data, and TranStar speed data. A VISSIM analysis and a benefit/cost analysis (BCA) was completed for five alternatives.

Adhara Castelblanco, PE, AET Program Manager | 7701 Wilshire Place Drive, Houston, TX 77040 | (713) 587-7114

Supporting Evidence of Stantec’s DBE Performance

Stantec is committed to doing business with companies of all sizes and backgrounds and emphasizes mentorship and assisting small, emerging, minority-owned and disadvantaged businesses partners realize their business and development goals through meaningful roles on our projects and programs. Stantec performs services for numerous federal, provincial/state, and municipal clients who, like us, are committed to providing opportunities to all businesses.

Our purpose and policy statement, which defines our social procurement policy, is to look for opportunities at every level to embed supply chain diversity and workforce development initiatives into what we do. We believe in full engagement. Our proven diversity programs support participation in program management, engineering, and construction.

If you look at Stantec projects across the country, you will find that diverse firms are a key component of most teams. Regardless of the client’s requirement, we adhere to our commitment to the principles of non-discrimination and equal opportunity within our company and in teaming with subconsultants. For us, participation is not a contractual obligation, but rather, an integral part of how we do business and give back to the communities where we work and live. We are only successful if our small business partners are successful.

For more than 50 years, we have proven our commitment to equal opportunity by pioneering several successful, proactive development programs for diverse business enterprises. Through our program we track the opportunities provided to small and diverse businesses for many of our government contracts. Below is a partial listing of projects, where Stantec has met and/or exceeded the client participation goals.

Record of Past DBE Performance					
Project Name & Location (City/State)	Completion Date	Total Contract Value (US Dollars)	DBE Participation Goal (%)	DBE Participation Achieved (%)	Contract Owner
CTA Red and Purple Modernization Project, Contract #C17FT10211817	5/2025	\$2.1B	20% (Design)	20.6%	JuanPablo Prieto, CTA Director Diversity Programs (312) 681.2600 JPrieto@transitchicago.com
LIRR Third Track Expansion Project, Contract # 6420	12/2024	\$2.6B	31%	35.1%	Dominick Toscano, MTA-DDCR (646)252-1339 dtoscano@mtahg.org
Honolulu Authority for Rapid Transportation, Honolulu Rail Transit Project – East Section CE&I II, Honolulu, HI	Ongoing	\$102M	13%	30.8%	John Moore (808) 343-5787 jmoore@honolulu.gov
I-526 Lowcountry Corridor West Environmental Justice, Charleston, South Carolina	Ongoing	\$23.8M	(Currently working with SCDOT to develop the project Small Business and Supplier diversity program)	23.8%	Joy Riley, South Carolina DOT
Houston Airport ITRP Program	2025	\$33M	35%	39.5%	City of Houston, Houston Airport 16930 John F Kennedy Blvd, Houston, TX 77032 e139666@houstonairportsystem.net Mario.Diaz@houstontx.gov (281) 233-1877
LA Metro CMSSC – Los Angeles, CA Westside Purple Line Extension Project, Section 1	10/2024	\$110M	28.250%	36.359%	Jim Cohen, Executive Officer, Project Management (323) 900-2114 cohenja@metro.net



Bill Ihlo PE

Project Director, T&R Forecasting, Indenture Compliance

REGISTRATIONS

Professional Engineer
#17437, CT

Professional Engineer
#072882, NY

EDUCATION

Master of Urban Planning,
New York University, 1979

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

Bachelor of Science,
Management, Rensselaer
Polytechnic Institute, 1971

MEMBERSHIPS

Member, International
Bridge, Tunnel and
Turnpike Association

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

Select Project Experience

CTRMA Studies | Travis & Williamson Counties, Texas

Mr. Ihlo has been Project Manager or Project Director for nearly 20 years, responsible for conducting a wide variety of studies in support of a long-term role as the Mobility Authority's traffic consultant. Studies include preliminary feasibility, investment grade leading to financing, monitoring traffic and revenue performance, assessing changes in toll policy, preparing sections of bond documents, issuing certificates as required by trust indentures and providing input for annual reports to TIFIA. Major projects include the 11-mile 183A Turnpike Phases 1 and 2 projects, the 6-mile 290E project, the 8-mile 183S project, and the 183A Phase 3 as well as the 183N projects, both of which are now under construction.

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

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

183A Turnpike | Austin, Texas

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

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

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

Cashless Toll Studies | Texas and California

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

Managed Lane Studies | Various Locations

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



Tiffany Cummings PE

Project Manager, T&R Forecasting, Managed Lanes

REGISTRATIONS

Professional Engineer
#132525, TX

Professional Engineer
#096707, NY

EDUCATION

Bachelor of Science, Civil
Engineering, Clemson
University, 2011

MEMBERSHIPS

Member of the WTS
Greater New York
Chapter's Business
Diversity Committee,
Women's Transportation
Seminar

Ms. Cummings has over 10 years of experience in a variety of transportation engineering and planning projects. Specifically, she has extensive experience in transportation planning for toll roads and managed lanes with expertise in traffic and revenue forecasting, strategic toll rate analyses, toll facility monitoring, and travel demand model development. Ms. Cummings has completed toll facility feasibility and investment-grade studies for toll roads and managed lanes and is well-versed in developing traffic and revenue models and writing complex traffic and revenue reports for financing.

Select Project Experience

183N Express Lanes T&R Studies, 2018-2021 | Austin, Texas

Ms. Cummings served as PM for the 2021 investment-grade study (IGS) to finance the construction of the 183N Express Lanes (183N). She was responsible for the data collection program, analyzing existing traffic data, overseeing calibration of the traffic models, and preparing the T&R forecasts. She wrote the T&R report for inclusion in the Official Statement and TIFIA Letter of Intent. These efforts led to a \$499M System-wide bond sale and \$250M TIFIA loan. Prior to the 2021 financing, Tiffany managed a series of Level 1 studies in 2018, testing various configurations and toll rates. By 2019, the project advanced to a Level 3 IGS in anticipation of a bond financing and TIFIA loan. This study used a "subarea" model which allows for efficient calibration of managed lane corridors in a more refined manner using hourly models. A microsimulation model was used to evaluate managed lane operations and validate the forecasted demand. In 2020, Stantec recognized the new challenges of the 183N project, particularly around the Pandemic's severe revenue impacts on managed lanes. Tiffany conducted toll sensitivities to develop a toll policy that optimized revenues by varying the minimum toll by time of day. This policy led to the successful 2021 project financing.

MoPac South Express Lanes Feasibility Studies, 2017-2023 | Austin, Texas

Ms. Cummings prepared Level I forecasts for the proposed MoPac S Express Lanes several times from 2017 to 2021 using the latest regional travel demand model developed by Stantec. As part of these efforts, she analyzed the results of the traffic models and post-processed the results in a spreadsheet forecasting model by evaluating the observed relationship between demand and toll rates on the existing MoPac N Express Lanes. For each Level I study, she used the spreadsheet model to develop T&R forecasts and conducted sensitivity tests for several potential design alternatives. Most recently in 2023, Ms. Cummings led a study that evaluated the project's travel time benefits through a Build vs No Build analysis. This included a peer review of the model results produced by the regional MPO model for the environmental assessment process.

CTRMA System 2019 T&R Study | Austin, Texas

Ms. Cummings served as Assistant PM for this investment-grade (IG) study to refinance the CTRMA System. Responsible for the data collection program, analyzing existing traffic data, overseeing calibration of the travel demand model and microsimulation model, and preparing the T&R forecasts for the System. The IG forecasts were used to finance the 183A Phase III and 183N Express Lane projects through a TIFIA loan and bond sale. She wrote the T&R report for inclusion in the Official Statement and TIFIA Letter of Intent. These efforts led to a 2019 bond sale of \$50.2B.

290E Phase III T&R Studies, 2016-2018 | Austin, Texas

Ms. Cummings served as Assistant PM for this investment-grade (IG) study to finance the construction of 290E Phase III direct connectors. She was responsible for the data collection program, analyzing existing traffic data, overseeing calibration of the travel demand model, and preparing T&R forecasts for the System. The IG forecasts were used to finance the project through a TIFIA loan and bond sale. She wrote the T&R report for inclusion in the Official Statement and prepared presentations for rating agency meetings and investor roadshows. Ms. Cummings conducted numerous sensitivity tests as a part of this financing effort. These efforts led to a 2018 bond sale of \$90.4M. Prior to the 2018 IGS, Ms. Cummings prepared a series of Level I T&R forecasts during 2016 and 2017 to help evaluate the feasibility of the project.

183A Phase III Extension T&R Studies, 2015-2020 | Austin, Texas

Ms. Cummings served as a Project Manager for the 2020 investment-grade (IG) study to finance the construction of the 183A Phase III extension. She was responsible for the data collection program, analyzing existing traffic data, overseeing calibration of the travel demand model, and preparing T&R forecasts for the System. The IG forecasts were used to finance the project through a TIFIA loan and bond sale. She helped author the T&R report for inclusion in the Official Statement and prepared presentations for rating agency meetings and investor roadshows. Ms. Cummings also conducted numerous sensitivity tests as a part of this financing. These efforts led to a 2020 bond sale of \$339.6 million. Prior to the 2020 IGS, Ms. Cummings prepared a series of Level I T&R forecasts from 2015 to 2017 to help evaluate the feasibility of this extension.



Rick Gobeille PE

Principal-in-Charge

REGISTRATIONS

Professional Engineer
#PE050984E, PA

Professional Engineer
#21944, MD

Professional Engineer
#24GE03964100, NJ

Professional Engineer
#063235, NY

EDUCATION

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

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

Rick is a nationally recognized leader in toll systems technology, development and implementation, traffic and revenue forecasting, operating cost estimates, and toll facility operations. Over the course of his 40+ year career, he has prepared reports and studies, and made more than 100 presentations to ratings agencies, underwriters, and investors, in support of more than \$30B of Toll Revenue Bond Sales and Trust Agreement requirements. He has also prepared studies for the adoption of new technologies, starting with E-ZPass testing in the early 1990s.

Select Project Experience

WSDOT I-405 T&R Studies | Seattle, Washington

As Project Manager/Director for the ongoing Investment-grade I-405 SR and 167 Express Lanes study, Rick manages the quarterly and annual T&R updates for the Transportation Revenue Forecast Council and the monthly monitoring of five existing toll facilities. He provides the final review and approval for the T&R forecasts.

OCTA 91 Express Lanes T&R Studies | Orange County, California

Rick was Principal-in-Charge for the 91 Express Lanes T&R update. Rick's understanding of vehicle fleet turnover and electric vehicle adoption was instrumental in the development of an electric vehicle penetration and tolling model. Rick provided the final review and approval of the study's analysis, forecasting methodology, and the traffic and revenue forecast.

RCTC 91 Express Lanes T&R Studies | Riverside County, California

Rick was Principal-in-Charge for Stantec's 2021 effort to refresh the RCTC 91 ELs T&R forecast. He worked closely with the study's PM, Sheldon Mar, to develop a forecasting approach to reflect the impacts of the COVID-19 pandemic on the facility's T&R. He reviewed and provided final approval on the T&R forecast, Bringdown Letter, Additional Bonds Test, and Closing Certificates needed for the re-financing.

TCA 241/91 Express Lanes Connector Toll Rate and Traffic Studies | Orange County, California

Rick was Principal-in-Charge for this toll rate development and traffic operations study. He was responsible for reviewing and approving the project's technical approach, the results, and presentation materials. He worked closely with Stantec's PM and technical lead to complete various tasks. Rick participated in meetings with the executive staff of the OCTA, RCTC, TCA, and Caltrans with topics ranging from the impact of de-coupling toll rates, pricing policy, OD patterns, toll rate projections, and traffic operations impacts.

TCA F/ETC & SJHTC T&R Studies | Orange County, California

Since 2020, Rick has been serving as Stantec's Project Manager and Principal-in-Charge for studies of the TCA's F/ETC and SJHTC toll roads. In response to the COVID-19 pandemic, Rick managed the development of an approach to forecast traffic and revenue for the TCA's Toll Roads that was conscious of the COVID-19 pandemic's impacts on travel as well as the inherent uncertainty in how T&R would recover. He has led the development of toll rates for the various toll plazas in the system, and subsequent budget forecasts. Rick has presented findings to the TCA's executive staff. His work has been the basis for the TCA refinancing their revenue bonds.

Toll Technology Testing, Implementation, and Advisory Services | Various Locations

Rick was the Project Director/ Manager for many toll technology projects. Notable efforts include project manager for the high profile, most extensive testing program of Electronic Toll Collection equipment ever conducted for the New York, New Jersey and Pennsylvania Interagency E-ZPass Group (IAG). As program manager developed project needs, wrote specifications, procured and tested new electronic toll collections systems for the West Virginia Turnpike, Peace Bridge, New Hampshire DOT and the Ohio Turnpike. Directed independent certification testing of two major toll vendors products, Delaware Turnpike, New Jersey Turnpike, Garden State Parkway, SR-91, Highway 104 and the Fredericton to Moncton Highway. Currently represent two toll agencies as part of the E-ZPass Reciprocity Task Force.

Investment Grade Revenue Studies

Project Director/Manager/Staff for investment grade revenue estimates that resulted in some \$8 billion in bond financing. As part of those efforts Rick presented to S&P, Moody's, Fitch and TIFIA. Studies included "Greenfield" projects, refinancing, asset sales, public/private partnerships, non toll projects, and private placements. Clients included the New York State Thruway Authority, New Jersey Highway Authority, New Jersey Turnpike Authority, Maryland Transportation Authority, Delaware River and Bay Authority, IdleAire Technologies, Peace Bridge, Maritime Road Development Corporation, Ontario Road Development Corporation (Highway 407) and a Chicago Skyway bidder.



Fleur Hartmann PE

QA/QC & Technical Advisor

REGISTRATIONS

Professional Engineer
#036964, GA

Professional Engineer
#073566, NY

Professional Engineer
#050865, NC

EDUCATION

Master of Science, Civil
Engineering, The City
College of New York, 1995

Bachelor of Science, Civil
Engineering, The Cooper
Union for the Advancement
of Science and Art, 1988

Fleur's toll experience includes completing toll facility feasibility and financing studies for public, private and partnered clients; HOV/HOT/ managed lane studies; toll increase studies; and interchange studies for existing toll roads. She is well versed in developing diversified, interactive T&R models, researching socioeconomic databases, writing complex T&R reports for financing, and developing, setting up and conducting origin-destination and other field surveys.

Select Project Experience

TCA 241/91 ELC Tolls and Traffic | Orange County, California

Fleur has been the lead QA/QC Manager for the technical work on several projects related to tolling alternatives and access alternatives for the 241/91 Express Lanes Connector (ELC). The technical work has included three separate modeling platforms, including the travel demand model, VISSIM models and Stantec's marketshare model. She has assisted in developing presentation materials that clearly and concisely present the complicated alternatives and results to multi-agency working groups.

RCTC 91 Express Toll Setting | Riverside County, California

Fleur has been the QA/QC engineer for the continuing toll rate work being completed for the 91 Express Lanes. Immediately after the onset of COVID-19, RCTC reduced toll rates in reaction to the low traffic volumes in the SR 91 corridor. As traffic has been growing, the agency is reviewing tolls on a scheduled basis to react to the increasing congestion as traffic returned to pre-pandemic levels. As part of this review, Stantec completes a review of the congestion, including demand volumes and queuing by day and by hour and recommends toll increases (and decreases) based on the RCTC toll policy.

I-75 South Metro Express Lanes Customer Analysis | Atlanta, Georgia

Fleur was the Project Manager for this study that evaluated usage patterns in the I-75 corridor south of Atlanta. The analysis included determining the origins and destinations of the existing trips by time of day and the frequencies of these trips. These data were then evaluated against price and speed data in the express lanes versus the speeds in the general purpose lanes to understand the factors that influenced the driver's decision to use the express lanes. Existing signage in the corridor was assessed and deficiencies were identified. The study resulted in a set of recommendations to potentially improve usage of the corridor.

SRTA I-75 South Express Lanes Truck Study | Atlanta, Georgia

Ms. Hartmann evaluated the roadway grades in the corridor and was responsible for determining the potential effects that allowing trucks would have on both the speeds and capacities in the Express Lanes. She also was involved in estimating the number of trucks that would use the Express Lanes considering their origins and destinations and their trip lengths.

Atlanta NW Corridor Managed Lane Investment Grade Study | Atlanta, Georgia

Ms. Hartmann was the Project Manager for this project to build a reversible managed lane facility in the I-75/I-575 corridor in the northwest Atlanta area. This detailed study included the use of a travel demand which was calibrated to behavior on the nearby I-85 Express Lanes. Included was a detailed review of the existing and future proposed land use and network assumptions in the corridor. The study resulted in a conservative base case set of forecasts that optimized revenue in the corridor, promoted use of the lanes, and also reflected the operational experience of the I-85 Express Lanes. The study was instrumental in securing TIFIA loans.

I-77 South Express Lanes Initial Alternatives Study | Charlotte, North Carolina

Fleur was the Project Manager for this study that provided Level 1 estimates of transactions and revenue for a set of 15 express lane alternatives in the I-77 South Corridor. The alternatives varied access locations and the number of general purpose lanes and express lanes. The project included a limited calibration of a toll diversion model of the study area that integrated locally revealed toll paying characteristics of customers on the I-77 North Express Lanes and the Monroe Expressway.

NCTA 2021 and 2024 Toll Project Screening Studies | Charlotte, North Carolina

Fleur served as Project Manager for these studies that provided sketch level traffic and revenue estimates for multiple toll projects across the state. She developed a procedure that would be used for all projects to ensure consistent analyses. Travel demand models for each local area were used to find future average daily toll-free traffic volumes. For traditional toll roads, reasonable tolls were applied and traffic was diverted from the facility based on expected trip types, and travel time and distance comparisons. For the express lane facilities, Stantec's marketshare model was used to estimate traffic in the express lanes based on total congestion in the corridor. These sketch level forecasts will be used by NCDOT to prioritize potential projects to be included in the STIP.



Suzanne Seegmuller

QA/QC & Technical Advisor

EDUCATION

Bachelor of Science, Civil Engineering, Rensselaer Polytechnic Institute, 1991

Suzanne Seegmuller brings more than 30 years of transportation experience with a focus in conducting financial impact analysis and traffic and revenue (T&R) studies for existing and new toll road facilities. Her practical experience includes financial forecasting, market and policy analysis, cost/benefit analysis, organizational analysis and due diligence review. Through this knowledge, Ms. Seegmuller has served as both a Project Manager and Traffic and Revenue Task Leader for numerous investment grade studies across the United States including the New York State Thruway, Rhode Island Turnpike and Bridge Authority, I-495 Express Lanes, New Hampshire Turnpike and Central Texas Turnpike. Additionally, Ms. Seegmuller is well versed in assessing the impacts of toll increases, discount programs, plaza capacities, and changes to vehicle classification systems for established toll facilities undergoing expansion or technology upgrades. She has developed forecasting models for variable-priced HOT lanes, and models to determine costs, fees, and revenues associated with video tolling on all-electronic toll (AET) facilities.

Select Project Experience

New York State Thruway Authority Finance and Operations Services | Statewide, New York

As Project Manager, Suzanne completed investment-grade traffic and revenue studies that supported revenue financing bond sales totaling \$9.1B in 2013 through 2021. She also developed models to determine toll rates necessary for net revenue neutrality with AETC including a risk analysis, impacts of potential discount programs, and impacts of two-way versus one-way tolling. In addition, she completed a Toll Modification Study in December 2019 proposing toll increases on the Governor Mario M. Cuomo Bridge and throughout the state as the full system is converted to AETC, followed by an Environmental Assessment of the impacts of toll diversion expected to result from the toll modification in December 2020. Her recent work includes testing potential impacts of a range of late fee/violation charges, a 2022 Toll Modification Study, and an EA for 2024-2027 proposed toll increases, and preparation of a Cashless Tolling Performance Report.

New Hampshire Department of Transportation, Bureau of Turnpikes On-Call Toll Systems and Related Services | Statewide, New Hampshire

Suzanne manages all traffic and revenue work for the series of on-call contracts to provide on-call, toll-related services and support, including T&R forecasting. She developed forecasting models and prepared the investment grade T&R reports to support six revenue bond financing sales by NHDOT in 2009 through 2022 totaling over \$972 million. Other project tasks include a vehicle reclassification analysis, AET feasibility, frequency discount studies, and effects of moving or removing certain toll locations. Her recent work included a white paper evaluating different AET fee/violation structures.

MassDOT Traffic and Revenue Consulting Services | Statewide, Massachusetts

As Project Manager, Suzanne completed a study to develop toll rates for all Turnpike System facilities as they were converted from conventional tolling to AET. This included the Western Turnpike, a ticket system replaced by mainline AET gantries. The study included analysis of revenue and toll collection cost implications of the conversion, which involved relocation of every tolling point, changes to the vehicle classification system, differential tolls for pay-by-plate and in-state versus out-of-state E-ZPass, and setting billing fees to cover collection costs. In October 2019 after joining Stantec, Suzanne completed a traffic and revenue study for a bond refunding for the MHS in the amount of \$465 million. She also conducted analyses of revenue effects of planned and potential construction such as closures along the MHS for new building construction, opening of a new casino, and potential addition of a new Western Turnpike interchange. Her recent work included analysis of COVID-19 impacts on toll and fee revenues for future budgeting purposes.

CTRMA US 183A Investment Grade Traffic and Revenue Study | Austin, Texas

As Transportation Engineer, Suzanne was responsible for determining traffic and revenue for a proposed toll road using TP+ models. Efforts on this project included roadside interviews to determine characteristics of potential users, and video license plate survey to determine average trip length along competing routes. The T&R study led to \$234 million in bond financing for this roadway, which was constructed several years later.



Haley Andrews AICP

Demographics, T&R Forecasting and Monitoring

REGISTRATIONS

Certified Planner,
American Institute of
Certified Planners

EDUCATION

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

Bachelor of Arts,
Sociology, University of
Texas, 2009

MEMBERSHIPS

Member, American
Planning Association

Ms. Haley Andrews is a transportation planner with experience in traffic and revenue studies, long-range transportation planning, compliance with federal transportation planning regulations, public participation, geographic information systems (GIS), and travel demand modeling. Her responsibilities on these projects have included documentation of existing conditions, evaluation of socioeconomic forecasts, development of alternate land use and transportation scenarios, assessment of MPO plans, policies, and procedures, preparation and facilitation of public participation events, and preparation of reports, maps, and other graphic material. Ms. Andrews has analyzed and depicted data such as land use, sociodemographic, parking and traffic, and zonal and network characteristics of travel demand models using GIS. She is proficient in ArcGIS and Adobe Creative Suite. She also has experience using travel demand modeling software, including TransCAD and Cube Voyager.

Select Project Experience

I-75 South Express Lanes Customer Analysis | Metropolitan Area, Georgia

Stantec conducted a study of customers using the I-75 South Metro Express Lanes and their trip-making characteristics. Ms. Andrews performed an origin and destination analysis using StreetLight, analyzed customer and tag account location and frequency characteristics, and evaluated the approach signage in the corridor. Using ArcGIS, Ms. Andrews summarized StreetLight data showing eligible trips utilizing the managed lane facility based on current access points, the location of the most frequent home-based zip codes using the corridor, and an inventory of all approach signage along the facility.

Mid-Currituck Bridge Traffic and Revenue Study | North Carolina

To assist in the production of an investment-grade traffic and revenue study, Ms. Andrews reviewed land use and socioeconomic inputs to the travel demand model and proposed revisions to these inputs based on other sources of demographic data, including the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, State Data Centers, and Woods & Poole, as well as information gathered from local stakeholders and existing and historical aerial imagery. Ms. Andrews also assisted in developing written material for the final report and relevant maps, including travel time/speed maps, traffic count maps, origin/destination maps, as well as land use and socioeconomic maps.

I-77 South Express Lanes Level 2 Study | North Carolina

Ms. Andrews summarized and analyzed traffic counts for use in model calibration, collected origin-destination data from StreetLight, developed optimized toll rates for various scenarios, oversaw the development of socioeconomic inputs to the travel demand model, and created traffic and revenue streams in support of the I-77 South Express Lanes project. Ms. Andrews led the socioeconomic component of the study, reviewing and adjusting existing travel demand model inputs to revised base year estimates and updating forecasts based on information gathered from various third-party sources, including a detailed review of current construction and development pipeline activity in Uptown Charlotte.

Central Texas Mobility Authority (CTRMA) | Texas

Ms. Andrews is responsible for ongoing monitoring of the CTRMA System with monthly reports to the Mobility Authority. Ms. Andrews has participated in numerous T&R studies, from feasibility level to Investment Grade studies since 2015. Most recently, Ms. Andrews was responsible for overseeing the development of socioeconomic forecasts by an independent demographer. She conducted interviews with local planning staff to identify future growth areas and development constraints. Ms. Andrews consulted various transportation plans in the region and interviewed area stakeholders to refine the network inputs to the travel demand model. Ms. Andrews reviewed model outputs from both the regional travel demand model and "subarea" hourly model for reasonableness, prepared the T&R forecasts for the System, and drafted the T&R report for inclusion in the Official Statement and TIFIA Letter of Intent. These efforts led to a \$499M System-wide bond sale and subsequent \$250M TIFIA loan in 2021.

Texas Department of Transportation (TxDOT) | Texas

Ms. Andrews has participated in two refinancing projects for the Central Texas Turnpike System. For both projects, Ms. Andrews assisted in the development of revised population and employment forecasts for use in the travel demand model. She reviewed regional and local transportation plans for funded improvements and coded the network in the travel demand model to reflect these background network changes. She helped author the T&R report and used ArcGIS to create graphics depicting network characteristics and forecasted socioeconomic growth.

Ami Parikh AICP

Demographics

REGISTRATIONS

Certified Planner,
American Institute of
Certified Planners

EDUCATION

Masters in Urban and
Regional Planning, State
University of New York at
Albany, 2009

Bachelor of Interior
Design, Institute of
Environmental Design,
Gujarat, India, 2002

MEMBERSHIPS

Member, American
Planning Association

Member, Institute of
Transportation Engineers

Member, Greater Dallas
Planning Council

Ami is a transportation planning professional with diverse experience in community and stakeholder engagement, long range planning, traffic and revenue studies, geographic information systems (GIS), and travel demand modeling. Ami has also worked on a variety of planning and mobility studies including multi-modal planning, traffic/safety analysis, transit planning and feasibility, bike and pedestrian safety programs as well as special events transportation and operations plan. She has experience using travel demand modeling software, including TransCAD and Cube Voyager, as well as ArcGIS and Adobe Creative Suite. Ami's experience includes the public sector, where she was the Transportation Planner for Capital Area MPO (CDTC) in Albany, New York as well as Transportation Analyst for NYSDOT (Region 1 Planning and Program Management group). While working with different stakeholders and communities, Ami understands the importance of clear communication and engagement to ensure projects are supported by communities and stakeholders.

Select Project Experience

Central Texas Mobility Authority (CTRMA) | Texas

Ms. Parikh summarized the socio-economic forecasts provided by an independent demographer. Ms. Parikh assisted in field work by creating maps for all the different areas to verify and confirm the demographic data. Ms. Parikh consulted various transportation plans in the region to refine the network inputs to the travel demand model. Further, Ms. Parikh verified and updated the travel demand model with the updated information on proposed projects in the area.

Brazoria County Toll Road Authority Level II Traffic and Revenue Study | Texas

Ms. Parikh assisted in summarizing the socio-economic data to understand the patterns for the area using various tabular and mapping methods. Ms. Parikh consulted various transportation plans in the region to refine the network inputs to the travel demand model. Further, Ms. Parikh verified and updated the travel demand model with the updated information on the proposed projects. Ms. Parikh compared the different future travel demand models provided by H-GAC to prepare an updated base network for the project. Ms. Parikh summarized the travel time data collected for various corridors in the H-GAC area.

Fort Bend County Toll Road Authority | Texas

Ms. Parikh assisted in summarizing the socio-economic data to understand the patterns for the area using various tabular and mapping methods. Ms. Parikh consulted various transportation plans in the region to refine the network inputs to the travel demand model. Further, Ms. Parikh verified and updated the travel demand model with the updated information on the proposed projects. Ms. Parikh compared the different future travel demand models provided by H-GAC to prepare an updated base network for the project. Ms. Parikh summarized the travel time data collected for various corridors in the H-GAC area.

SRTA Traffic and Revenue Sketch Level Analyses for Various New Express Lane Corridors | Georgia

Ms. Parikh assisted in analyzing and understanding the traffic forecasts for various new express lane corridors from the different future travel demand models. Ms. Parikh created mapping graphics representing the future traffic forecasts along those corridors. Ms. Parikh summarized the travel time data collected for various corridors in the H-GAC area.

The Colony Comprehensive Plan Update | Texas

Project Manager for the comprehensive plan update for The Colony, a northern suburb of Dallas in Denton County. The updated plan articulates a land development and mobility vision based on stakeholder-driven identification of key assets/strengths, weaknesses/challenges, and opportunities.

Jun Yao

Travel Demand Modeling, Data Analytics

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

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

Mr. Yao has 20 years of experience, with specialized skills in Cube Voyager, TransCAD, VISUM and VISSIM. He holds a masters degree in civil engineering, with an emphasis in travel demand forecasting and traffic operations. He was the Lead Analyst of many T&R studies (including Level I, Level II and Investment Grade studies) serving clients in CA, GA, TX, NC, and WA. He was the Lead Modeler responsible for demand estimation for more than ten Vissim simulation projects. He also leads efforts requiring big data analysis capability by developing customized programs using python, VBA macro and SQL. His hands-on experience also includes regional model development and calibration, special generator model development and calibration, mesoscopic and micro- simulation modeling, traffic operation analyses, risk analysis, and GIS applications.

Select Project Experience

Central Texas Regional Mobility Authority (CTRMA) 183N Managed Lane Investment Grade Study | Austin, Texas

Transportation Modeler responsible for refining and calibrating the model framework that was developed as a part of the Central Texas Turnpike projects. Also responsible for QA/QC the whole modeling process, including demographic updates, highway network updates, as well as new modeling targets. In addition to the traditional classification counts and speed runs, the team also utilized the Origin- destination data from SkyComp, speed data from Inrix and SigAlert. Jun led the calibration efforts on both regional and subarea level TDM model, ran future year TDM models; produced Traffic and Revenue forecast and prepared summary tables for the report.

CTRMA 183A T&R Update | Austin, Texas

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

2010, 2012, 2014, 2018, 2022 Central Texas Turnpike System (CTTS) Update Project | Austin, Texas

Lead Modeler responsible for preparing and running two regional models and combining them into one integrated Toll Diversion Model. The two regional models, CAMPO-Austin Model and San Antonio Regional Model were developed within TransCAD environment. The integrated model was developed using Cube Voyager software package. Responsibilities included the preparation of the highway network, the transit network and the socioeconomic data; external traffic adjustments; the conversion of the highway network and trip tables between the TransCAD and CUBE formats, base year calibration; preparing and running future year TDM models; producing final Traffic and Revenue forecast and preparing summary tables for a final report. In the latest 2022 update, the model was calibrated a pre-COVID 2019 base year model, and a “new normal” adjustment was implemented to account for long-term post-COVID travel behavior shifts. Notably, the TDM calibration extended beyond traditional volume and congested speed targets, incorporating streetlight data for a more comprehensive understanding of traffic patterns.

TXDOT IH 35 Managed Lane Project | Austin, Texas

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

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

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

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

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

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

Lead Modeler responsible for the model calibration, future year T&R forecast model platform, and sensitivity analysis for several Level-2 and Investment Grade projects, including NWC, I-85 extension, I-75 S, GA 400, and I-285 MMIP.

Kiarash Fariborzi PE

Travel Demand Modeling

REGISTRATIONS

Professional Engineer
#0057770, MD

EDUCATION

Master of Science,
Transportation
Engineering, University of
Florida, 2016

Bachelor of Science,
Civil Engineering, Tehran
Polytechnic University,
Tehran, Iran, 2014

With 7 years of experience, Mr. Fariborzi has supported a variety of travel demand modeling and forecasting projects including toll road feasibility studies, corridor studies, transit studies, and various applications of regional travel demand models. He also has experience with micro-simulation modeling and transportation data analysis. Over the past two years, Mr. Fariborzi led the modeling effort of several toll and revenue studies in Charlotte area, North Carolina. He is specialized in Cube Voyager scripting, TransCAD GISDK scripting, GIS applications and developing customized programs in VBA macro and Python.

Select Project Experience

I-77 South Level 2 Toll and Revenue Study | Charlotte, North Carolina

The project analyzes the impacts of adding managed lanes to I-77 South corridor extending from South Carolina state line northwards to Uptown Charlotte to connect to I-77 North managed lanes. Mr. Fariborzi led the modeling effort for this project. A customized toll diversion model developed with Cube Voyager was used in this study. The input trip tables and highway network to the model were obtained from the MPO model (Metrolina Regional Model in TransCAD) and converted to Cube format. Mr. Fariborzi calibrated the model to the observed data including traffic volumes, speeds and origin-destination pattern data. The model was used to develop optimum toll rates at each pay point for various toll policy scenarios and to estimate the toll traffic and revenue in each scenario.

Morgantown Monongalia MPO Comprehensive Plans and Metropolitan Transportation Plan Update | Morgantown, West Virginia

Mr. Fariborzi led the travel demand modeling effort of this project. He recalibrated the regional model (MMMPO model) using new socio-economic data and traffic counts. This involved making updates to various model parameters such as trip generation rates as well as model inputs such as special generators to replicate the observed traffic patterns more accurately. Mr. Fariborzi added various reporting and mapping features to the model using GISDK scripting. In addition, he updated the model original GISDK script to implement several model enhancements such as new employment categories in trip generation, or K-factors in trip distribution process. Mr. Fariborzi then used the updated model to estimate the traffic for the horizon years and identified the roadway network deficiencies.

Jal NM-128 Relief Route Travel Demand Modeling | Jal, New Mexico

This project evaluates various alternatives to remedy the peak period congestion on a segment of NM-128 passing through City of Jal. Mr. Fariborzi developed a model from scratch for the study area using an OD Matrix Estimation approach in Cube Voyager and calibrated it to the StreetLight O-D pattern data, traffic count and travel speeds on NM-128. Mr. Fariborzi developed a framework to model the existing intersections in the corridor which are all stop controlled and are proposed to be replaced with traffic signals in future alternatives. The travel times along the corridor as well as system wide VMT and VHT were obtained from the model and compared across the alternatives.

Winnipeg Tour-Based Travel Demand Model Review | Winnipeg, Manitoba, Canada

To assess the suitability of the Winnipeg model as analysis tool for a proposed transit project for the City of Winnipeg, Mr. Fariborzi thoroughly reviewed all the components of this tour-based model in VISUM to assess their logic as well as the reasonableness of the results. He determined several major flaws that would preclude the model usage for the purpose of the study, such as use of fixed transit travel speed, unconstrained capacities at controlled junctions and inadequate representation of special trip generators. He then evaluated the potential solutions recommended by the team to the identified issues and prepared a memorandum to the client to outline the findings and recommendations for model improvement.



Sheldon Mar PE

Managed Lanes & Simulation Modeling

REGISTRATIONS

Professional Engineer
#087805, NY

EDUCATION

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

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

Sheldon has extensive experience in toll road and managed lanes T&R studies, traffic simulation modeling, and traffic impact studies. He has been the lead engineer or project manager for numerous transportation projects, including investment grade traffic and revenue forecast studies, and traffic operations studies using VISSIM micro-simulation models. Express Lane T&R and operational studies are Sheldon's specialty. He has worked on express lane projects in Southern California, Washington, Texas, Georgia, the Carolinas, Florida, Virginia, and New York, and for various delivery mechanisms, from public options, to P3s. Sheldon has been serving in this role for nearly 20 years.

Select Project Experience

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

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

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

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

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

Stantec simulated travel conditions on the heavily congested SR 91 and SR 241 between Orange and Riverside County and forecast utilization and toll rates for the 91 Express Lanes and 241/91 ELC. Sheldon was the PM for the effort to update Stantec's travel demand model and express lane market-share model to forecast likely peak period usage of the 91 EL's and 241/91 ELC. He also oversaw traffic simulation modeling of the corridor to demonstrate how traffic operations would change with the project, and under different toll policies. Sheldon has presented the study's findings to a wide array of audiences, including technical staff and executives from Caltrans, the TCA, the RCTC, and OCTA.

I-55 Corridor Study | Chicago, Illinois

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

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

Sheldon was responsible for assessing the traffic and revenue potential of a proposed 25-mile express lane along I-77 serving Charlotte. For this Level 2 study, Sheldon designed and managed a significant data collection effort, and analyzed historical employment, population, and income data. Sheldon identified a set of optimal toll rates to charge on the future express lanes, varying by time of day. Sheldon presented findings to NCDOT executive staff, TIFIA's Build-America-Bureau, and to Fitch Ratings. The T&R forecast informed the NCTA's valuation of the I-77 related to leasing the rights to the road to a concessionaire. Following the successful concession agreement, Sheldon continued to work with the NCDOT to advise on how various changes to toll policy would impact traffic and revenue.



Najmeh Jami PE

Simulation Modeling

REGISTRATIONS

Professional Engineer
#0402057091, VA

Professional Engineer
#105563, NY

EDUCATION

Master of Science,
Civil Engineering-
Transportation, University
of Memphis, 2011

Bachelor of Science, Civil
Engineering-Surveying,
Amirkabir University of
Technology, Tehran, Iran,
2008

MEMBERSHIPS

Professional Member,
Institute of Transportation
Engineers (Canada & US)

Najmeh is a licensed professional engineer with 12 years of experience in traffic engineering and transportation planning. Najmeh has extensive experience in traffic simulation modeling, capacity analysis, and traffic impact studies for both private and public sectors. She has been a traffic engineering lead in conducting several urban multimodal studies, interchange feasibility and safety projects. She also has experience in developing cost benefit analysis for transportation projects and traffic and revenue forecast for toll facilities.

Select Project Experience

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

Najmeh led the traffic simulation work for 183A and frontage roads between RM 620 and FM 1431. She developed models for both the existing and future scenarios to evaluate the impacts of mainline widening and completion of frontage road projects on the traffic flow. The microsimulation analysis was employed to identify locations expected to be under capacity with future growth. These results were then used to recommend additional improvements within the study area to ensure sufficient capacity. Throughout the process, Najmeh and the team coordinated closely with TxDOT and other public agencies to incorporate the latest planned improvements in the models.

I-95 Planning & Environment Linkages (PEL) Study | Stamford, Connecticut

Najmeh leads traffic engineering team in the Planning and Environment Linkages (PEL) study for the I-95 reconstruction from Exits 7 to 9 in Stamford, focusing on current and future traffic model development. She oversees the team conducting detailed analyses to identify root causes of congestion and collaborated closely with design teams to integrate traffic solutions into overall project plans. Najmeh also presents traffic study findings at public meetings, effectively communicating traffic analysis findings to stakeholders and the community.

Design Services for Sunrise Highway (NY27) Oakdale Merge | Long Island, New York

As the lead traffic engineer, Najmeh directs a team specializing in travel demand modeling, microsimulation, and safety to develop a transportation network for the study area and evaluate the operational performance of various construction alternatives. She and her team collaborate closely with the design team to apply the insights from traffic analysis to mitigation alternatives and to determine the recommended improvements for the study segment. Throughout the process, Najmeh has overseen intensive data analysis and modeling efforts, and coordinated with subconsultants on safety analysis.

RM 620 Corridor Refinement Study | Austin, Texas

As a microsimulation modeling lead, Najmeh was responsible for developing a calibrated microsimulation VISSIM model to replicate the existing traffic conditions in the RM 620 corridor between the Mansfield Dam and US 183 in Austin, TX. Najmeh and other team's members developed models for base and two future years in a no build and three build scenarios to evaluate the impact of implementing the proposed limited access facility above a significant portion of the corridor.

NHDOT On-Call Turnpike System Services | New Hampshire

As a Task leader, Najmeh updated the Traffic & Revenue (T&R) forecasting model which was previously developed by Stantec to reflect the impact of COVID-19 on T&R projections. Najmeh analyzed the collected T&R data during the pandemic provided by the client to evaluate the impact of the COVID-19 on the study toll facilities.



Ashish Anand PE

Simulation Modeling

REGISTRATIONS

Professional Engineer #
145391 TX

EDUCATION

Master of Science,
Civil Engineering
with specialization
in Transportation
Infrastructure and System
Engineering, Virginia Tech,
2017

Bachelor of Technology,
NITK Surathkal,
Mangalore, Karnataka,
India, 2013

Mr. Anand has experience in Traffic Data Analysis and Traffic Impact Assessment study. He has got good level of experience with Database and Analytical Tools such as MySQL, Power BI, and R. He has also got experience with Traffic Simulation software such as VISSIM and Synchro. In addition, he has 3 years of experience in construction and planning field working with a Metro Rail Corporation in India. Mr. Anand is detail-oriented, organized and committed team player who thrives on work ethics, integrity and aims to make an impact on the society.

Select Project Experience

241/91 Express Direct Connector | Corona, California

Mr. Anand assisted the Stantec team in network coding in VISSIM software and calibrated the existing traffic condition. He assisted in developing typical weekday base year's models AM and PM peak period. He also helped to develop future year build and no-build network and analyze the traffic data obtained from the software. Mr. Anand developed Microsimulation Models for various Build Options in VISSIM of SR 91 corridor for a typical Friday and Monday during PM and AM peak periods, when traffic flow is most congested. These models aided the demand modeling team in identifying the toll rates in future years for the express lanes.

Connecticut CT I-95 (Stamford) Existing Traffic Operation Study | Stamford, Connecticut

Mr. Anand led a team to develop the base year's and future year's microsimulation DTA model of four miles corridor for AM and PM peak period. He led the team to develop base year and future year microsimulation model in VISSIM based on FHWA updated 2019 calibration criteria. He assisted in analyzing a typical day for traffic study using FHWA guidelines and developed the calibration criteria for simulating a typical day in VISSIM. He forecasted traffic in future year and has been leading the team to develop future year microsimulation models for no-build and build alternatives.

Microsimulation of Transit Improvement Options in the Vicinity of Main/Portage | Winnipeg, MB, Canada

Mr. Anand assisted the Stantec team to develop a Microsimulation Modeling of the downtown area of Winnipeg, MB in Canada to analyze traffic conditions under existing condition, no-build and three options of build condition with Bus Rapid Transit corridor. He analyzed the various alternatives in VISSIM and Synchro to optimize cycle length and signal timings for the corridor to minimize overall network delay. Mr. Anand also studied Vehicle Travel Time and delay, People Travel Time and Delay, overall corridor delay for both vehicles and people obtained from the simulation model in determining the best alternative for downtown Winnipeg.

CA-91 OCTA Express Lane Transaction Data Analysis | OCTA, California

Mr. Anand has analyzed Traffic and Revenue on OCTA 91 express lane facilities trend since 1996. The T&R data analysis assisted the Traffic and Revenue forecast team to project future year's transactions and revenue. Mr. Anand also analyzed the historic impacts of gas price on Traffic and Revenue on OCTA 91 facilities.

I-15 Investment Grade Study | Southern California

Mr. Anand develops spreadsheet-based Market share model to forecast traffic and revenue on 30 miles express lane corridor along I-15 in southern California. He oversees the traffic data summarization efforts. He analyzed the toll lane usage based on various factors and developed toll lane usage curves based on road's congestion, and toll price. Mr. Anand has been assisting the traffic demand model team with traffic flow data and leading the efforts to develop spreadsheet based market share models to project traffic and revenue in future years based on current traffic condition and expected future years traffic conditions.

Masroor Mohammed PE

Data Analytics

EDUCATION

Master of Science, Civil Engineering, New Jersey Institute of Technology, 2016

Bachelor of Science, Civil Engineering, National Institute of Technology – Warangal, Telangana, India, 2014

Masroor is a transportation planner with technical experience in traffic network modelling and microsimulation, roadway capacity and operational analyses, traffic and revenue studies, pedestrian operation analysis and traffic data collection. He has worked extensively on various data-centric transportation planning projects. Leveraging his data analytics experience to develop algorithms for ingesting large datasets and processing them into transportation planning insights, trends, and patterns through effective visualizations and interactive dashboards. He also has experience working with location-based data platforms, python, web-development, SQL Workbench, Looker Studio, Power BI and Tableau.

Select Project Experience

Central Texas Regional Mobility Authority (CTRMA) Monitoring Dashboard | Texas

As CTRMA's on-call T&R consultant, Stantec provides monitoring services of the existing CTRMA facilities on an on-going basis, Mr. Mohammed was the lead developer for transaction and revenue tracking dashboard and the traffic count program data warehouse. Mr. Mohammed developed the algorithm for processing data from various sources into a centralized data lake, he also developed a query engine and visualization dashboard using Power BI to help understand the trends, performance, growth and identify anomalies in the data more effectively. This system served as a critical input towards the travel demand monitoring and revenue forecast efforts.

Central Texas Regional Mobility Authority (CTRMA) Trip Bundling Analysis | Texas

Mr. Mohammed was one of the lead developers on the CTRMA trip bundling analysis. He developed the algorithm utilizing python to ingest multiple months of data, process them through various bundling scenarios, calculated the processing cost for each and delivered a comparative assessment of transaction processing cost saving for each scenario.

Brazoria County Toll Road Authority Level II Traffic and Revenue Study | Texas

Mr. Mohammed worked on developing algorithm to process data from multiple years of revenue settlement reports to provide insights on revenue collection trends. He also developed daily level transaction summaries by payment type and plaza to analyze trends since the Brazoria County Expressway opened. This information was useful in understanding the ETC penetration rate over time and the share of violations by plaza.

Dallas Fort Worth (DFW) Airport Toll Plaza Analysis | Texas

The study was initiated to understand the operation of the existing toll collection system, provide recommendations to optimize this process and forecast the revenue collected under various policies. Mr. Mohammed utilized Tableau to generate summaries from a transaction database of about 21 million records. The summaries were developed for both transaction and revenue by payment type, duration of vehicle stay, vehicle frequency distribution etc. These summaries assisted in validating and understanding the existing conditions and served as an input for the forecasting model. Mr. Mohammed developed the forecasting model and used it to analyze various scenarios and conducted various sensitivity tests.

Trans Mountain Pipeline Expansion Project, Construction Delay Monitoring | British Columbia, Canada

The Trans Mountain Expansion Project includes construction, lane closures, temporary workspaces, access points and pipeline reactivation activities that will affect vehicular traffic along specific locations along the 700 kilometers of primary highway. Some key challenges to collecting this data are the large scope area, determining the causes of travel time and delays, and large areas of cellular dead zones. Mr. Mohammed leveraged a combination of location-based data and Google Maps API to capture and estimate the delays that were occurring in the corridor. He also developed a web-based data visualization dashboard to assist the clients in understanding the trends more effectively and help them provide delay mitigating solutions more efficiently.

City of Manitou Springs Traffic Analytics | Manitou Springs, Colorado

Mr. Mohammed utilized location-based data platforms to develop a framework for Manitou Springs to query individual day data and review the mobility trends that would help inform the City on the best use of their transportation infrastructure. The querying engine was built using Power BI, this application provided the client a quick and interactive way of navigating through the large database.

Sean Tihal PE

Toll Systems and Technology

REGISTRATIONS

Professional Engineer
#084025, NY

EDUCATION

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

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

MEMBERSHIPS

Member, International
Bridge, Tunnel and
Turnpike Association

CERTIFICATIONS

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

Sean has a passion for helping transportation agencies plan, procure, implement, and operate all forms of electronic tolling technologies for roadside toll collection systems. For over 23 years, he has delivered tolling projects for over 30 transportation agencies across the United States, Canada and Europe. Sean is also well versed in performing toll strategic planning studies, toll feasibility studies, toll capital and operating cost estimates (CAPEX and OPEX), toll operations analyses, toll policy studies, as well as toll pricing and toll payment analyses. Currently, he is providing program management services to the Illinois Tollway to introduce innovations in their back office and roadside electronic tolling systems, the Ohio Turnpike and Infrastructure Commission to modernize their roadside and back-office tolling systems, and the Rhode Island Turnpike and Bridge Authority to implement a new cashless tolling system for the Claiborne Pell Bridge.

Select Project Experience

Illinois Tollway Tolling Innovation and Business Strategy Services | Downers Grove, Illinois

As the Project Manager, Sean is currently supporting the Illinois Tollway to provide Tolling Innovation and Business Strategy Services (TIBSS) for the Tollway's Department of Business Systems. Specific work activities currently underway include support for overall Program Management and Coordination, Tolling Innovation, Data Analytics, Business Rules Review, Legislative and Administrative Rules Review, Back Office Risk Assessment, ANPR Innovation Research and ANPR RFP Preparation.

Oregon DOT General Toll Consultant | Portland, Oregon

As a Senior Toll Specialist, Sean is currently providing toll advisory services to the Oregon DOT to procure back office and roadside tolling systems to support multiple future toll projects.

Rhode Island Turnpike and Bridge Authority (RITBA), Newport Pell Bridge Toll Collection System (TCS) Upgrade | Jamestown, Rhode Island

As the Project Manager, Sean is currently leading the implementation of a new TCS to implement cashless tolling at RITBA's Newport Pell Bridge. Efforts previously performed include preparation of the TCS business rules, functional and technical requirements, the Request for Proposals document, managing the review and evaluation of vendor proposals, and contract negotiations.

Ohio Turnpike New Toll Collection System (TCS) Modernization Program Management | Statewide, Ohio

As the Project Manager, Sean is currently providing technical consulting services to the Ohio Turnpike and Infrastructure Commission for the implementation of a new TCS that introduced highway speed Open Road Tolling and low speed gateless E-ZPass Only travel on the Ohio Turnpike. Specific work activities include construction coordination support, oversight of the software design, development, integration, and testing activities as well as overall project management and coordination support.

Ohio Turnpike Customer Service Center (CSC) Modernization Program Management | Statewide, Ohio

As the Project Manager, Sean is currently providing technical consulting services to the Ohio Turnpike and Infrastructure Commission for the implementation of a new CSC to modernize their E-ZPass electronic tolling functionality and provide unpaid toll processing functionality. Specific work activities include oversight of the software design, development, integration, and testing activities as well as overall project management and coordination support.

Kane County DOT Longmeadow Parkway Toll Bridge Implementation | Kane County, Illinois

As the Project Manager, Sean is currently leading the implementation of a new roadside toll collection system (TCS) and a new back-office system (BOS) to support cashless tolling on the County's new Longmeadow Parkway Toll Bridge. Work efforts performed to date include the development of toll policies and business rules, a revised vehicle classification structure and toll rate structure, discount plan analyses, preparation of a County toll ordinance, preparation of Request for Proposals (RFPs) for the TCS and BOS including contract development and negotiations support, E-ZPass interoperability coordination, and an RFP for debt collections, administrative hearings, and payment plan administration services.

*denotes projects completed with other firms



Lutz Braeuer

Toll Systems and Technology

EDUCATION

Bachelors in Business Administration, Texas Christian University, 2000

MEMBERSHIPS

Member, International Bridge, Tunnel and Turnpike Association

Lutz has more than 15 years of technical experience in the surface transportation industry. He is well versed in a wide variety of activities that cover the entire spectrum from transportation feasibility studies to operations support. In past engagements, Lutz supported TxDOT's Toll Operations Division where he was part of an integrated team that developed a comprehensive toll program from inception to most recently Ohio Turnpike's TCS and CSC modernization where he is supporting the phased implementation of a new back-office system. Lutz is keen on providing client-focused expertise in the areas of roadside and back-office system implementations, strategic business planning, emerging tolling trends and technologies, tolling innovation, data collection and analysis, and business intelligence design and implementation.

Select Project Experience

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

Ongoing implementation support of the new modernized Toll Collection System (TCS) and Customer Service Center (CSC) systems. CSC Phase 1 (E-ZPass modernizations) launched in February 2021 and Phase 2 (Unpaid Tolls Processing) in April 2024. The modernized TCS is introducing highway-speed ORT and low-speed gateless tolling operations across the Ohio Turnpike.

Ohio Turnpike and Infrastructure Commission, TCS and CSC Strategic Plan* | Statewide, Ohio

Professional services for preparing a Toll Collection System and Customer Service Center Strategic Plan for the Ohio Turnpike. Tasks included assessments of the existing system, development of potential alternatives, operational analyses, risk analyses, cost/benefit analyses, and recommendation of a preferred alternative for implementation. Efforts included developing policies, business rules and legislation for handling unpaid tolls, feasibility of the preferred alternative, and assessments of the various procurement options for implementing the Strategic Plan.

Los Angeles County Metropolitan Authority, ExpressLanes Project Operations and Maintenance Oversight Support* | Los Angeles, California

Operational analysis and systems implementation support for LA Metro's ExpressLanes program including monitoring and reporting on the contractor's roadside and back office performance, analyzing operational data, recommending improvements to customer and violation policies, evaluating the ExpressLanes' performance, ensuring all trip data and revenue is reconciled and properly accounted for, supporting LA Metro's finance and audit departments, administering the vendor's contract, and evaluating emerging and applicable technologies. Oversight support of re-procured roadside and back office systems with a variety of tasks ranging from design, development, implementation, and post go-live operational assistance.

Texas Department of Transportation, Toll Operations Division, On-Call Toll Services * | Austin, Texas

Responsible for conducting traffic & revenue projections for DFW managed lane projects and assisting with toll feasibility analyses of potential new highway corridors throughout the state. Projects include analyzing numerous alternative tolling, interchange location and roadway configuration scenarios.

Georgia State Road and Tollway Authority, On-Call Toll Services * | Atlanta, Georgia

On-call toll feasibility and traffic and revenue consulting services to assess viability of toll/user-financed facilities and projects that would require innovative transportation financing. Efforts included developing a dynamic pricing spreadsheet model to support the investment-grade traffic & revenue study for the I-85 Express Lanes in Atlanta.

Tampa Hillsborough Expressway Authority, Traffic & Revenue Forecast Retainer* | Tampa, Florida

Ongoing engagement to provide traffic & revenue and transportation planning services for on-call T&R service retainer that supports a variety of the Authority's projects and studies.

*denotes projects completed with other firms



Marcelle Jones JD

Indenture Compliance

EDUCATION

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

Juris Doctor, Law, University of Wisconsin, 1992

Bachelor of Arts, Journalism, University of Oklahoma, 1984

MEMBERSHIPS

NCHRP 20-6 Legal Research Committee, Transportation Research Board

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

Member, State Bar of Texas

Foundation Member, International Bridge, Tunnel and Turnpike Association

Known for her forward-thinking and issue-spotting detection and resolutions, Ms. Jones leads her clients in the evaluation and formulation of policy, strategic business decisions, regulatory and contract compliance, and risk management. Her 29 years of experience and knowledge of industry practices and trends has helped agency's establish business, operational and organizational frameworks for toll operations and public-private partnerships; assess and minimize risks; and identify essential procurement and contractual provisions in public-public and public-private agreements. She has authored and advised on legislation, statutes, administrative rules, and policies for various public agencies across 17 states.

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

Select Project Experience

Oregon Department of Transportation Toll Program | Statewide, Oregon

Stantec Project Manager for the ODOT General Toll Consultant contract to stand up the operations of the DOT's first state-level toll program, which includes an interstate bridge between Oregon and Washington, and the first proposed project to convert all lanes of an existing interstate highway to congestion priced roads. Provided strategic advice on alternative approaches to developing a performance-based contract, phasing procurement for accelerated delivery, and toll systems and customer service services requirements, industry standards, practices and emerging opportunities. Providing as needed, risk assessments; legislation and administrative rules review. Managing the GTC team resources, project budget, and project work orders.

Ohio Turnpike and Infrastructure Commission * | Ohio

As Strategic Planning and Procurement Advisor worked closely with agency executives to develop its strategic plan to guide the future deployment and integration of new technologies and innovations for the modernization of its toll collection systems and customer service center. Evaluated and consulted on the commission's toll policies, statutes and master trust agreement and industry lesson learned. Drafted several white papers regarding differential tolls, border tolling, compliance with trust agreements, utilization of existing statutes to support its program and legislation needed. Support client with new system procurements, incorporation of small businesses, DMV holds, lessons learned, and contracting.

Texas Department of Transportation* | Texas

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

Also served as part of an integrated team that worked with TxDOT to develop a comprehensive toll program to identify and expedited project delivery solutions from the inception and planning of a toll road project to the customer service interface. Advised on impacts of state, federal and administrative laws to achieve agency goals on such matters as the use of construction-manager-at-risk, design-build, and toll policies. Identified enforcement and collection mechanisms and recommended solutions to support the State's introduction of new technology to enable video tolling/ORT facilities. Issues pertained to license plate lookups, the protection of personal information, and application of debt collection laws. Assisted in evaluating projects for toll viability/feasibility, developing toll collection schemes, procuring a toll collection system provider and providing implementation plans and oversight to move projects forward.

*denotes projects completed with other firms

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
- 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

Professional Organizations

- Transportation Research Forum. 2023-Present.
- Transportation Research Board – National Research Council, National Academies of Science, Engineering & Medicine – 1999-Present.

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 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). Dr. Bomba was also a contributor to the traffic and revenue analysis for the concession team that has been selected to rebuild the -10 Bridge in Lake Charles, Louisiana.

Recent 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.

Nishant N. Kukadia, AICP, PMP, MBA



Nishant has two decades of experience in project development ranging from advanced planning to implementation of projects. He has worked on large infrastructure program contracts and managed four indefinite deliverable contracts ranging from \$10M to \$25M, with multiple task orders. His diverse professional background includes corridor planning, feasibility studies, procurement engineering, public private partnerships, ridership estimation, traffic and revenue (T&R) analysis, benefit cost analysis, economic impact analysis, risk analysis, big data analysis, safety studies and alternative financing (TIF, TRZ). Nishant has conducted activities such as legislative reviews, policy recommendations, funding analysis, as well as facilitation and coordination with external organizations and stakeholder groups. Representative projects include:

EDUCATION

Master of Business Administration, The University of Texas at Austin, 2011

Master of Urban Planning, Texas A&M University, 2004

Bachelor of Architecture, Maharaja Sayajirao University of Baroda, 2002

CERTIFICATIONS

American Institute of Certified Planners (AICP), 2007, #021822

Project Management Professional (PMP), 2013, #1654786

MEMBERSHIPS AND AFFILIATIONS

American Planning Association

Transportation Research Board

Project Management Institute

CONTINUING EDUCATION

Post Graduate Program - Artificial Intelligence for Leaders, The University of Texas at Austin, 2021

Southern Gateway Traffic and Revenue Study, Dallas, TX

Client: Texas Department of Transportation

Role: Planning Task Lead

Timeframe: 2014 - 2015

Scope: Level 2 T&R Study for Southern Gateway Project

Responsibilities: Managed the collection of socioeconomic data and development of population and employment forecasts as part of a Level 2 Traffic and Revenue Study to support TxDOT with assessing the feasibility of constructing managed lanes within the existing US 67 and I-35 corridors in the Dallas metro area. Referred to as the Southern Gateway, these US 67 and I-35 both lead from the southern portion of the Dallas-Fort Worth Metroplex directly into Downtown Dallas.

Camino Colombia Toll Road Study, Laredo, TX

Client: Texas Department of Transportation

Role: Transportation Planner

Timeframe: 2004 - 2005

Scope: Toll system enhancements for Camino Colombia

Responsibilities: Coordinated with economic development agencies on the potential warehouse and industrial development likely to occur within the traffic shed for the Camino Colombia Toll Road. Quantified traffic forecasts and provided recommendations for toll improvement strategies. Identified and evaluated three different toll collection improvements using traffic forecasts developed by the team. Determined recommendations to relocate and modernize the existing toll collection plaza to produce the most revenue while minimizing operations and maintenance costs.

EDUCATION

Master of Science, Civil Engineering
Texas A&M University, TX, 1992

Bachelor of Science, Civil Engineering
Osmania University, India, 1988

EXPERTISE

- Traffic Signal Design
- Traffic Signal Timing
- Traffic Analysis & Simulation
- ITS
- Illumination
- IAJR
- Forecasting/
- TDM

TxDOT PRECERTS

1.3.1	1.4.1	1.5.1	1.7.1
3.2.1	3.7.1	4.2.1	4.7.1
7.1.1	7.3.1	7.4.1	7.5.1
8.1.1	8.2.1	8.3.1	8.4.1
8.6.1	11.1.1	23.4.4	

REGISTRATION

- PE TX # 85575

CERTIFICATIONS

- Professional Traffic Operations Engineer (PTOE) No. 2999
- Professional Transportation Planner (PTP) No. 263



TxDOT EMPLOYEE SEQUENCE NUMBER: 3085

Srinivas Sangineni, PE, PTP, PTOE, has over 33 years of experience in Intelligent Transportation Systems (ITS) with a focus in traffic signal design including projects with railroad preemption, illumination, transportation planning and design, traffic operations, traffic signal timing, traffic safety and work zone traffic control. Srini served as a traffic engineer for engineering consulting firms, the City of Austin, and the Texas Transportation Institute (TTI). He provided project management and design services for TxDOT, NTTA, DFW International Airport, DART, NCTCOG, cities, counties, and other clients.

Srini has successfully completed over 40 travel demand modeling, traffic forecasting, and traffic operational analysis tasks for schematic projects in the Dallas/Fort Worth area and Statewide. For traffic analysis and traffic simulation, Srini and the OTHON team use VISSIM, Synchro, HCS and MicroStation. IHSDM, ISATe, or HSS are used for safety analysis.

PROJECT EXPERIENCE

HCTRA Traffic Modeling for Sam Houston Tollway (Beltway 8), Section 1 (2022-2023), Harris County, TX. Senior Project Engineer.

OTHON provided engineering and planning services for corridor and area-wide travel demand modeling including traffic forecasting, origin-destination analysis and system operation analysis, and to recommend corridor and system improvements supporting the conversion of the Sam Houston Tollway, Section 1 to All-Electronic Tolling (AET) from US 290 to Hardy Toll Road, a 13.9-mile segment in Harris County, Texas. The design studies include on-call VISSIM traffic modeling in support of alternative analyses within the planning, design, and construction phases of the AET overall program. Ultimately eight (8) scenarios were for up to three (3) different analysis years. The recommendations were organized into short-, mid-, and long-term solutions to support HCTRA's goal of LOS B. The short-term recommendations included removing toll gantries, implantation of Active Traffic Management System (ATMS) or lane control signals, potentially on existing overhead sign bridges or existing bridges. Mid-term recommendations include addition of a 5th lane, C-D road for the northbound approach to SH 249, and an auxiliary lane addition between Antoine Drive and Veterans Memorial Drive. Long-term recommendations included 2-lane HOV Toll Lanes and providing a 2-lane direct connector from northbound Sam Houston Tollway (Beltway 8) to SH 249. In addition to the improvements to reach LOS B, the following improvements were recommended including intersection safety strategies to benefit pedestrian and bicyclist including adding crosswalks and pedestrian signals, installation of stop bars, re-design right turn lanes, and driveway consolidations. In addition, the Orbit Trail providing a network spine for trails, bikeways, and mixed-use paths near Sam Houston Tollway (Beltway 8) to support multi-modal goals. The alternatives were developed using O-D data from H-GAC, existing and historical traffic data, volumes from the H-GAC TDM, HCTRA data, existing and future land use maps, and TranStar speed data. A VISSIM analysis was completed and a benefit/cost analysis of the five C-D options. Construction Cost: \$962M.

North Texas Tollway Authority (NTTA) Maintenance Management Consultant (MMC) Contract projects (2013-2021):

- **President George Bush Turnpike – Western Extension (PGBT-WE) and Chisholm Trail Parkway (CTP) Socioeconomic Analysis (2013); Tarrant & Johnson Counties, TX.** Senior Project Manager. Updated the socioeconomic and demographic data associated with the “Chisholm Trail Parkway Investment Grade Traffic & Toll Revenue Study” and the “President George Bush Turnpike-Western Extension Investment Grade Traffic & Toll Revenue Study”. OTHON updated and analyzed the population, employment, median household income, consumer price index, and building permits data. OTHON coordinated with several public agencies to obtain the current and historical data and provided reports with the summary and analysis. Deliverables included analysis summary and GIS maps.
- **Sam Rayburn Tollway (SRT)/I-35E Interchange VISSIM Traffic Study (2014); Lewisville, TX; NTTA.** Senior Project Manager. Performed a traffic operational analysis for the Sam Rayburn Tollway (SRT) – I-35E freeway interchange. Analyzed existing weekday AM peak period traffic operations at this interchange through microscopic modeling and identified improvements to relieve congestion along westbound SRT main lanes in the vicinity of exit ramps to I-35E. Developed VISSIM models for existing and recommended scenarios. VISSIM models included EB/WB SRT to SB I-35E direct connector ramps and the signalized SRT – I-35E frontage road interchange. The Measures of Effectiveness (MOE) included travel time, delay, speed and queue. Proposed recommendations showed improvements in existing traffic operations along WB SRT main lanes and exit ramps to I-35E with approximately 39% reduction in overall travel time and approximately 82% reduction in overall vehicular delay (analytically).

Roger Allen

Education

University of Houston Clear Lake, Houston, Texas
Bachelor of Science in Accounting
December, 2002

'91-'94 San Jacinto College, Pasadena, Texas
Associate of Arts in Mathematics, Pre-Engineering

Experience

'01-Present Vice President, C J Hensch & Associates, Incorporated, Pasadena, Texas

- Project Manager
- Implement and monitor Total Quality Management System
- Ensure accuracy of Traffic Data Deliverables
- Develop and Train Staff
- New Technologies Advisor/Developer

Roger Allen has 23 years' experience in field traffic data collection project management for Traffic and Revenue Studies as a subconsultant. Roger has directed traffic data collection efforts for Toll and Revenue Studies since 2001 for the CTRMA, TxDOT, Harris County Toll Road Authority, NTTA, Fort Bend Toll Authority, Brazoria County Toll Road Authority, Alamo RMA, and the NET RMA. During this time he has led data collection efforts implementing the latest technologies being deployed in the field to provide the safest and most accurate studies available. This long term experience allows Mr. Allen to deliver innovative/cost effective solutions to complex problems that may arise. Mr. Allen has been a guest speaker on the subject of Innovative solutions at the Texas Institute of Traffic Engineers City of Richardson Conference and for Texas Southern Universities' Transportation Program. C J Hensch & Associates has other projects that have been presented at professional organization such as Texas-Intelligent Transportation Systems including the City of College Station's Game Day Traffic Study - Texas A&M/Alabama Football Game and Txdot's Houston Regional Rider 42 Study.

He has completed and directed numerous projects in all areas of data collection while working in the industry for over 23 years. Mr. Allen holds a BS from the University of Houston, Clear Lake and has extensive experience in project management and quality control. Roger worked for the City of Pasadena's Engineering Department for 3 years in the field and worked 7 years for Ethyl Corporation as an Operations Coordinator/Project Manager for 5 process units. During this time Mr. Allen was part of the Ethyl's corporate best practices/Six Sigma quality management team and worked as an ISO 9000 Internal Lead Auditor. As a Six Sigma project manager/ team leader, Mr. Allen has taken his previous petrochemical industry experience and has worked closely with traffic industry software and hardware developers to test and improve reliability and accuracy of various types of traffic data collection technologies including Thru Traffic, Miovision, Jamar Technologies, Post Oak Traffic's Bluetooth AWAM, and MicroTraffic. He has also worked with Harris County's Engineering Group to develop and implement a progressive software output to accommodate planning, signalization, and quantitative MOEs on major arterials. Roger also implemented a total quality management system which includes proactive testing and maintenance of traffic data collection equipment to minimize equipment failure during projects. He also developed all safety and installation methods for C J Hensch and Associates' data collection efforts. His goal is to perform a project right the first time. As the team's key person for technical development/ project management, and technical support, Mr. Allen will ensure that the CJH Team will deliver the highest quality traffic data.

Traffic Data Collection Traffic and Revenue Projects

- Data Collection Project Manager (CJH)- Loop 1 Express Lanes Preliminary (Level 2) T&R Study, CTRMA, Austin, Texas.
- Project Manager (Data Collection), Grand Parkway Segments H and I Level 2 T&R Study, Houston
- Project Manager (Data Collection), Investment Grade T&R Study, NTTA, Texas
- Project Manager (Data Collection, Toll 49 Comprehensive (Level 3) Traffic and Toll Revenue Study
- NET RMA, Tyler, Texas
- Project Manager (Data Collection) Grand Parkway SH 99 Segments E, F and G Investment Grade T&R Study, Houston, Texas.
- Project Manager (Data Collection) IH 35E Managed Lanes Comprehensive (Level 3) T&R Study, Texas
- Project Manager (Data Collection) MoPac North Express Lanes Comprehensive
- T&R Study, CTMRA Austin, Texas.
- Project Manager (Data Collection), Loop 1604 Managed Lanes Level-2 Study, Alamo
- RMA & TxDOT, San Antonio, Texas.
- Project Manager (Data Collection), Midtown Express (SH 183, SH 114, and Loop 12 Managed Lanes)
- Project Manager (Data Collection) Sketch Level, Sketch-Level Plus, Level-2 and Level-3 T&R Studies, TxDOT Dallas
- Project Manager (Data Collection) Harris County Toll Road Authority System Counts
- Project Manager (Data Collection) Harris County Toll Road Authority- Hardy Toll Road

ROLANDO CASTAÑEDA, PE

PRESIDENT

Mr. Castañeda has over 24 years of experience and serves as President for Ally General Solutions (AGS) and is responsible for plan preparation and necessary calculations related to the design of traffic and roadway improvements.

Professional Credentials

Bachelor of Science in Civil Engineering, Texas A&M University-Kingsville, 2001
Registered Professional Engineer: Texas (No. 98276), 2006
Member, American Society of Civil Engineers
Member, Texas Institute of Transportation Engineers
Professional Affiliate, Houston Hispanic Architects and Engineers, Board Member (3rd Term)

Experience

Traffic Signal Design at the Intersections of Tanner Road at Cunningham Road and at Tanner Road at Brittmore Park Drive, Harris County Precinct 3, Houston, Texas--Project Engineer. Assisted with the design of two new signals on Tanner Road.

METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included assisting with intersection and traffic signal upgrades for intersections inside the inner loop of Interstate Highway 610. Also provided technical support in the development of Traffic Signal Books.

METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included field surveying the project area for existing utilities and traffic-related equipment. Other responsibilities were to assist with design of aerial traffic signal interconnect (fiber optic) cable in Northwest and Southwest Houston.

METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included field verifying existing conditions for approximately 750 intersections and changing graphics for the implementation of ICONS graphic program. Assisted with end-to-end testing of about 300 intersections from TRANSTAR.

METRO Regional Computerized Traffic Signal System, City of Houston, Houston, Texas--Project Engineer. Responsibilities included assisting with intersection and traffic signal upgrades for intersections outside the loop of Beltway 8. Other responsibilities included changing and updating signal timings for 17 intersections along Bay Area Boulevard and Briar Forest in Houston.

Traffic Signal Design at the Intersection of State Highway 6 and Life Time Fitness Entrance, Texas Department of Transportation, Houston, Texas and City of Sugar Land, Texas--Project Engineer. Responsibilities included design of a split-phased intersection in Sugar Land and preparing plans, estimate, and specifications for bid. Other responsibilities included minor roadway design, signal timings, and synchronization along State Highway 6, along with construction management.

Traffic Signal Improvements at the Intersections of State Highway 6 and Aetna Entrance and Kensington Boulevard, Texas Department of Transportation, Houston, Texas and City of Sugar Land, Texas--Project Engineer. Responsibilities included design and improvements to both intersections along with preparing plans, estimate, and specifications for bid. Other responsibilities included minor roadway design, signal timings, and synchronization along State Highway 6, along with construction management.

Traffic Signal Design at the Intersection of Town Center Boulevard North and Mall Ring Road (First Colony Mall), City of Sugar Land, Texas--Project Engineer. Responsibilities included the design of "T" intersection with Wi-Fi communication. Also in the design were countdown pedestrian signal heads. Signal design will be used as city of Sugar Land's Standard for Signal Design. Prepared plans, estimate, and specifications for bid. Prepared signal timings for this signal with Sychro. Performed construction management and inspections for the project.

Design/Modified School Zones along Dell Dale Street and Additional Side Streets, Harris County, Texas--Project Engineer. This area consisted of four schools, three along Dell Dale Street. The design along Dell Dale Street included three school zones and additional school zones on all access streets. The design also included signing, pavement markings and installing ADA-approved wheelchair ramps. Paging's flashing beacons solar were used in the design.

Fiber Optic Communications Design HCPID, Harris County, Texas--Project Engineer. Responsibilities included preparing the design plans for fiber optic communications cable along Telge Road and West Little York Road in Harris County, Precinct 3. The 4.1-mile section of Telge Road runs from West Road to Jarvis Road and the 4.4 mile section of West Little York Road is from State Highway 6 to Fry Road. The communications cable will be for traffic signal coordination and management.

Interstate Highway 610/US 290 Interchange Reconstruction, Texas Department of Transportation, Houston District, Houston, Texas--Project Engineer. The overall project includes reconstruction of an existing three-level, fully directional interchange to a complete four-level, fully directional interchange. The project consists of the design of all main lanes, frontage roads, direct connectors, ramps and express lanes along Interstate Highway 610 from T.C. Jester to the interchange and along US 290 from West 34th Street to the interchange. Responsibilities included signing and pavement markings and the design of six traffic signals along US 290 and US 610 project limits. Provided Design and Construction services. 1/2012-1/2015

Fort Hood Advanced Traffic Management System, USACE, Fort Hood, Texas--Transportation Engineering. The project consists of a design-build team to design and implement an advanced traffic management system (ATMS) for the military base, Fort Hood. The ATMS will be designed to control 27-58 signalized intersections and CCTV using wireless communications and a traffic-responsive, central control system. All intersections are located on the military base.

**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.

Rick Gobeille _____ Name	Digitally signed by Rick Gobeille Date: 2024.06.06 11:09:08 -04'00'
Senior Principal _____ Title	
Stantec Consulting Services Inc. _____ Company	
6/6/2024 _____ Date	

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:  Digitally signed by Rick Gobeille
Date: 2024.06.06 11:15:16
-04'00' DATE: 6/6/2024

NAME AND TITLE: Rick Gobeille, Senior Principal

REPRESENTING: Stantec Consulting Services 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.

Please refer to section 1G of the proposal.

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

Please refer to section 1G of the proposal.

SIGNED:  Digitally signed by Rick Gobeille
Date: 2024.06.06 11:16:23 -04'00' DATE: 6/6/2024

NAME AND TITLE: Rick Gobeille, Senior Principal

REPRESENTING: Stantec Consulting Services Inc.

APPROVED BY THE CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY:

SIGNED: _____ DATE: _____

NAME AND TITLE: _____

Form of Contract

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

Contact Information:

William Ihlo, PE

Principal

475 Fifth Avenue, 12th Floor

New York, NY 10017

(203) 417-6780

william.ihlo@stantec.com

Rick Gobeille, PE

Senior Principal

475 Fifth Avenue, 12th Floor

New York, NY 10017

(212) 366-5625

rick.gobeille@stantec.com



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #12

Discuss and consider approving an interlocal agreement with the Texas Municipal League for cyber liability and data breach response insurance recovery coverage

Strategic Plan Relevance:	Stewardship
Department:	Finance
Contact:	José Hernández
Associated Costs:	\$1,875 for initial year of coverage
Funding Source:	Annual operating budget
Action Requested:	Consideration and approval of recommendation

Project Description/Background: Execution of the interlocal agreement will provide the Authority coverage for cyber liability and data breach recovery through the Texas Municipal League (TML) Risk Pool. The coverage will be effective for one year starting on October 1, 2024.

Previous Actions & Brief History of the Program/Project: Currently and in past fiscal years since 2016 the Authority has had cyber coverage through the TML. Due to the increased prevalence of cyber-attacks and claims from members the TML Board of Trustees has established a new Cyber Fund and made changes to the coverage structure being offered to participants.

The Cyber Fund will limit aggregate claim payments to \$25,000,000 annually. Additionally, the fund will offer two liability coverage options, one for \$500,000 and the second for \$1,000,000. Both levels represent reductions from current levels. Premiums will also increase for the coverage options. The coverage will provide for a variety of claim costs and there will be limits by category of claims and losses. The categories and limits are outlined in the attached Limit Page. The coverage will also provide response services in the event of a data breach.

Staff recommends the higher coverage option of \$1,000,000 in aggregate liability.

Financing: The \$1,875 premium for the initial year of coverage will be funded by the Authority's fiscal 2025 operating budget.

Action requested/Staff Recommendation: Staff requests consideration and approval for the Executive Director to execute the TML Risk Pool Cyber Liability and Data Breach Response interlocal agreement at the \$1,000,000 liability coverage level.

Backup provided:

- Draft resolution
- TML Risk Pool Cyber Liability and
Data Breach Response Interlocal Agreement
- TML Risk Pool Limit Page

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

RESOLUTION NO. 24-0XX

**APPROVING AN INTERLOCAL AGREEMENT WITH THE TEXAS MUNICIPAL
LEAGUE FOR CYBER LIABILITY AND DATA BREACH RECOVERY INSURANCE**

WHEREAS, as member of the Texas Municipal League (TML), the Mobility Authority has maintained cyber liability and data breach recovery coverage offered by TML; and

WHEREAS, due to the increase in cyber-attacks and claims from members of TML, the TML Board of Trustees has formed the Texas Municipal League Joint Cyber Liability and Data Breach Response Self-Insurance Fund (Fund); and

WHEREAS, the Fund offers a new coverage structure that limits aggregate claim payments to \$25,000,000 annually and offers two liability coverage options, one for \$500,000 and the second for \$1,000,000 to TML members; and

WHEREAS, the Executive Director recommends that the Board of Directors approve an interlocal agreement with the Texas Municipal League for \$1,000,000 of aggregate cyber liability coverage and an \$1,875 annual premium in the form or substantially same form attached hereto as Exhibit A.

NOW THEREFORE, BE IT RESOLVED that the proposed interlocal agreement with the Texas Municipal League is hereby approved; and

BE IT FURTHER RESOLVED that the Executive Director is authorized and directed to finalize and execute the interlocal agreement on behalf of the Mobility Authority in the form or substantially same form as Exhibit A hereto.

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

Texas Municipal League Intergovernmental Risk Pool

1821 Rutherford Lane, First Floor • Austin, Texas 78754

CYBER LIABILITY AND DATA BREACH RESPONSE INTERLOCAL AGREEMENT

This Contract and Interlocal Agreement is entered into by and between political subdivisions of this state (hereinafter referred to as “Pool Members”) to form a joint self-insurance pool to be named the Texas Municipal League Joint Cyber Liability and Data Breach Response Self-Insurance Fund (hereinafter referred to as the “Fund”) for the purpose of providing coverages against risks which are inherent in operating a political subdivision.

WITNESSETH:

The undersigned Pool Member, in accordance with Chapter 2259, Texas Government Code, the Interlocal Cooperation Act, Tex. Gov’t Code § 791.001, et seq., and the interpretation thereof by the Attorney General of the State of Texas (Opinion #MW-347, May 29, 1981), and in consideration of other political subdivisions executing like agreements, does hereby agree to become one of the Pool Members of this self-insured pool. The conditions of membership agreed upon by and between the parties are as follows:

1. Definitions of terms used in this Interlocal Agreement.
 - a. Board. Refers to the Board of Trustees of the Fund.
 - b. Fund Year. 12:01 a.m. October 1 through 12:01 a.m. the following October 1.
 - c. Manual Rates. The basic rates applicable to each cyber liability and data breach response classification promulgated by the Insurance Service Office or the Board.
 - d. Texas Municipal League Cyber Liability and Data Breach Response Self-Insurance Plan. The Cyber Liability and Data Breach Response Coverage Document that sets forth in exact detail the coverages provided as part of the overall plan.
 - e. Adjustments. Refers to any offsets to manual premium that may result from the Pool Member’s election of deductibles, loss experience, or Fund Modifier which reflects the savings to the Pool Member by entering into this Interlocal Agreement.
 - f. Premium and Contribution. Used interchangeably in some parts of this Interlocal Agreement. Any reference at any time in this Interlocal Agreement to an insurance term not ordinarily a part of self-insurance shall be deemed for convenience only and is not construed as being contrary to the self-insurance concept except where the context clearly indicates no other possible interpretation such as but not limited to the reference to “reinsurance.”
 - g. Reimbursable Deductible. The amount that was chosen by this Pool Member to be applicable to the first monies paid by the Fund to effect judgment or settlement of any claim or suit. The Pool Member, upon notification of the action taken, shall promptly reimburse the Fund for all or such part of the deductible amount as has been paid by the Fund. Further, however, the Fund’s obligation to pay damages shall be subject to the limits of liability stated in the Declarations of Coverage or Endorsements to this Interlocal Agreement less the stated deductible amount.
 - h. Fund Modifier. A percentage figure that is applied to the manual rates by the Fund to reflect the savings to the Pool Member by entering into this Interlocal Agreement.
 - i. Agreement Period. The continuous period since the Pool Member first became a member of this Fund excluding, however, any period or periods of time therein that the member did not participate as a member of the Pool.
 - j. Declarations of Coverage. The specific indication of the coverages, limits, deductibles, contributions, and special provisions elected by each individual Pool Member. The Declarations of Coverages may be modified by Endorsement.
2. The Board, acting through its agents and Fund staff, is responsible for the administration of all Fund business on behalf of the Pool Members.
3. In consideration of the execution of this Interlocal Agreement by and between the Pool Member and the Fund and of the contributions of the Pool Member, the coverage elected by the Pool Member is afforded according to the terms of the Texas Municipal League Cyber Liability and Data Breach Response Self-Insurance Plan. The affirmative declaration of contributions and limits of liability in the Declarations of Coverage and Endorsements determine the applicability of the Self-Insurance Plan.

Each Pool Member agrees to adopt and accept the coverages, provisions, terms, conditions, exclusions, and limitations as further provided for in the Texas Municipal League Cyber Liability and Data Breach Response Self-Insurance Plan or as specifically modified by the Pool Member's Declarations of Coverage. This Interlocal Agreement shall be construed to incorporate the Texas Municipal League Cyber Liability and Data Breach Response Self-Insurance Plan, Declarations of Coverage, and Endorsements and addenda whether or not physically attached hereto.

4. It is understood that by participating in this risk sharing mechanism to cover cyber liability and data breach response exposures, the Pool Member does not intend to waive any of the immunities that its officers or its employees now possess. The Pool Member recognizes the Texas Tort Claims Act and its limitations to certain governmental functions as well as its monetary limitations and that by executing this Interlocal Agreement does not agree to expand those limitations.
5. The term of this Interlocal Agreement and the self-insurance provided to the Pool Member shall be continuous commencing 12:01 a.m. on the date designated in this Interlocal Agreement until terminated as provided below. Although the self-insurance provided for in this Interlocal Agreement shall be continuous until terminated, the limit of liability of the Fund under the coverages that the Pool Member elects shall be limited during any Fund Year to the amount stated in the Declarations of Coverage for that Fund Year.

This Interlocal Agreement may be terminated by either party giving to the other sixty (60) days' prior written notice of intent to terminate except the Pool Member may terminate this Interlocal Agreement and its coverages thereunder without giving the sixty (60) days' notice if the reason is because of a change by the Fund in the Pool Member's contribution, coverage, or other change in the limits of liability, terms, conditions, exclusions, and limitations provided for in the Texas Municipal League Cyber Liability and Data Breach Response Self-Insurance Plan provided that no termination by the Member shall be effective prior to the date that written notice of termination is actually received in the offices of the Fund and provided that the Pool Member agrees to and shall pay the applicable premium and contribution for those coverages it is terminating until the date the notice of termination is actually received by the Fund.

The Fund shall provide the Pool Member with Declarations of Coverage and any Endorsements that determine the applicability of the Texas Municipal League Cyber Liability and Data Breach Response Self-Insurance Plan annually by December 1. Such Declarations of Coverage shall include, but not be limited to, the coverage period which shall be the applicable Fund Year, limits, deductibles, contributions, special provisions, and limitations. Changes made during the Fund Year, whether requested by the Pool Member or required by the Fund, will be handled by Endorsement.

It is the intention of the parties that the Pool Member's coverages under this Interlocal Agreement shall remain in full force and effect from Fund Year to Fund Year, subject to the limits of liability that the Fund can provide each Fund Year and the terms, conditions, and limitations that the Fund may require to protect its solvency and to comply with reinsurance requirements, until notice of termination is given as herein provided. Realizing that the Pool Member needs the earliest possible information concerning the Fund coverages, limits, and exclusions, and the Pool Member's contribution that will be required for any new Fund Year, the Fund will endeavor to provide this information as soon as possible before the beginning of each Fund Year. The parties recognize, however, that conditions in the reinsurance industry are such that the Fund may not be able to provide this information to the Pool Member before the beginning of a Fund Year for various reasons including the failure of the Pool Member to timely submit the appropriate exposure summary or delays on the part of reinsurers in getting information to the Fund, and so, to protect the Pool Member from gaps in its coverage and to protect the solvency of the Fund, the parties agree as follows:

If, for any reason other than the Pool Member's failure to provide the information requested in the exposure summary, the Fund has not been able to provide the Pool Member with information concerning available coverages for a new Fund Year or advise the Pool Member of the amount of its contribution for the new Fund Year by the beginning of the Fund Year, the Fund shall nevertheless continue the Pool Member's coverages at the same limits of liability (if still available and if not, then at the highest limit of liability available for the new Fund Year) so that the Pool Member shall at all times remain covered as herein provided and the Pool Member's initial contributions for the new Fund Year shall be determined by a "tentative contribution" as determined by the Board with the Pool Member's actual annual contribution to be credited by the amount paid in accordance with the tentative contribution and adjusted during the Fund Year. In the event the Pool Member does not wish to have its coverages extended or renewed at the end of any Fund Year, the burden shall be upon the Pool Member to give written notice to the Fund as provided hereinabove and the Pool Member agrees to pay as hereinabove stated all contributions or pro rata contributions until the date such written notice is received in the offices of the Fund or the date of termination of this Interlocal Agreement, whichever is later.

6. Commensurate with the execution of this Interlocal Agreement and annually thereafter, the Pool Member shall complete the appropriate exposure summary and deliver it or cause it to be delivered to the Fund, or, if so instructed, to a designated contractor, no later than September 1 of each year and new annual contributions shall be calculated using manual rates times exposure, less any adjustments. Intentional or reckless misstatements on the exposure summary shall be grounds for cancellation. In the event that the Pool Member fails or refuses to submit the appropriate exposure summary, the Fund reserves the right to terminate such Pool Member by giving thirty (30) days' written notice and to collect any and all contributions that are earned pro rata for the period preceding contract termination.

The Pool Member agrees to pay the annual contribution to the Fund in four (4) equal quarterly installments, in advance, commencing at the beginning of this Interlocal Agreement with subsequent installments due the first quarter thereafter. In the event this Interlocal Agreement is terminated as herein provided, the Fund shall promptly repay to the Pool Member any such unearned annual contribution prorated as of the date of termination and the Pool Member agrees during the term of this Interlocal Agreement to promptly pay all reimbursable deductibles upon receipt of statement.

At the end of each and every Fund Year, the Fund may require the Pool Member to submit the actual data requested on the exposure summary as reflected by the books and records of the Pool Member. The Fund reserves the right to audit the records of any Pool Member and adjust contributions accordingly.

In the event that the Pool Member fails or refuses to make the payments, including accrued interest, as herein provided, the Fund reserves the right to terminate such Pool Member by giving them ten (10) days' written notice and to collect any and all amounts that are earned pro rata for the period preceding contract termination. If the amounts owed, including reimbursable deductibles, must be collected by suit, the Pool Member agrees to pay attorneys' fees and costs incurred in such suit.

7. The Fund shall maintain adequate protection from catastrophic losses to protect its financial integrity. Aggregate protection shall also be maintained. The Member's contributions shall be limited to that amount as calculated under this Interlocal Agreement. Notwithstanding anything to the contrary, the total combined aggregate limit of liability of the Fund for all Pool Members in any Fund Year, regardless of the number of occurrences or claims, shall be limited to the amount of money contained in the Fund. As to the Pool annual aggregate limits or the amount of money in the Fund, the Board of Trustees, in its sole discretion, may determine an allocation methodology among affected Pool Members should the Pool annual aggregate limit be reached, or should the money in the Fund be exhausted.
8. Notwithstanding the provisions of the foregoing paragraph, it is agreed the Board shall have the right to adjust the financial protection outlined above and/or amend coverages as it finds available or deems necessary to maintain the fiscal soundness of the Fund at the beginning of or during any Fund Year.
9. The Fund will make available loss control services to the Pool Members to assist them in following a plan of loss control that may result in reduced losses. The Pool Member agrees that it will cooperate in instituting any and all reasonable loss control recommendations. In the event that the recommendations submitted seem unreasonable, the Pool Member has a right to appeal to the Board. The Board shall hear the objections of the Pool Member at its next regularly scheduled meeting and its decisions will be final and binding on all parties. Any Pool Member who does not agree to follow the decision of the Board shall be withdrawn from the Fund immediately.
10. The Pool Member agrees that it will appoint a contact of department head rank, and the Fund shall not be required to contact any other individual except this one person. Any notice to or any agreements with the contact shall be binding upon the Pool Member. The Pool Member reserves the right to change the contact from time to time by giving written notice to the Fund.
11. The Fund agrees to handle all cyber liability and data breach response claims, and provide a defense for any and all cyber liability and data breach response claims covered under this Interlocal Agreement after prompt notice has been given. The Pool Member hereby appoints the Fund staff and Contractors as its agents to act in all matters pertaining to processing and handling of claims covered under this Interlocal Agreement and shall cooperate fully in supplying any information needed or helpful in settlement or defense of such claims. As respects cyber liability and data breach response claims, the Fund staff and Contractors shall carry on all negotiations with the claimant and his/her attorney, when applicable, and negotiate within authority previously granted by the Fund. If a personal appearance by the Pool Member or an employee is necessary, the expense of this appearance will not be the responsibility of the Fund. With the advice and consent of the Fund, the Fund staff and the Contractors will retain and supervise legal counsel for the prosecution and defense of any litigation. All decisions on individual cases shall be made by the Fund through the Fund staff and the Contractors, which include, but are not limited to, the decision to appeal or not to appeal, settlement negotiations, the decision of whether to settle, and other litigation tactics. However, any Pool Member shall have the right in any case to consult with the Fund on any decision made by the Fund staff or Contractors. The Board shall hear the objections of the Pool Member at its next regularly scheduled meeting and its decision will be final and binding on all parties. Any suit brought or defended by the Fund shall be brought or defended only in the name of the Pool Member and/or its officers or employees. There shall be supplied periodically to each Pool Member a computer printout involving a statement of claims. As respects the Texas Municipal League Cyber Liability and Data Breach Response Self-Insurance Plan, the Fund shall have priority in enforcing its subrogation claims against the claims of Pool Member.
12. The Pool Member acknowledges that it has received a copy of the Bylaws of the Fund and agrees to abide by the Bylaws and any amendments thereto.
13. The Fund agrees that all Fund transactions will be annually audited by a nationally recognized certified public accounting firm.
14. If legally required, the Fund shall cause to be filed the necessary tax forms with the Internal Revenue Service.

15. As the administrators of the Fund, the Board shall primarily and consistently keep foremost in their deliberations and decisions in operating the Fund that each of the participating Pool Members is a “self-insured.” At least annually, the Board shall carefully review, study, and consider the actual claims or loss experience (including reserves for future claims payments) of each of the Pool Members, the pro rata savings to the Fund resulting from overall loss experience attributed to each Pool Member, and the pro rata portion of the cost of all catastrophic loss protection and aggregate stop loss protection allocated to each Pool Member as well as the pro rata allocation, as determined by the Board of the other and necessary administrative expenses of the Pool, in order to reasonably determine the actual pro rata cost, expense, and loss experience of each Pool Member in order to maintain as nearly as possible an equitable and reasonable self-insurance administration of the Fund as applied to each Pool Member.

The Fund shall maintain case reserves and supplemental reserves computed in accordance with standard actuarial principles, taking into account historical and other data, designed to measure claims development and claims incurred but not yet reported, so that funds will be available to meet these claims as they become due, subject to paragraph 7 above. The Board has complete authority to determine all matters pertaining to the existence and dissolution of the Fund.

16. Venue of any suit or action arising out of or related to this Interlocal Agreement shall be exclusively in the state and federal courts of Travis County, Texas. The parties agree they shall assume their own expenses for attorney’s fees in any suit or action arising out of or related to this Interlocal Agreement.
17. The parties agree this Interlocal Agreement may be executed by original written ink signature on paper documents, an exchange of copies showing the original written ink signature on paper documents, or electronic or digital signature technology in such a manner that the signature is unique and verifiable to the person signing. The use of any one or combination of these methods of execution shall constitute a legally binding and valid signing of this Interlocal Agreement, which may be executed in one or more counterparts, each of which, when duly executed, shall be deemed an original.

EMPLOYER MEMBERS’ FUND CONTACT (See Section 10):

Member Name _____

Name of Contact _____ Title _____

Mailing Address _____ Email Address _____

Street Address (if different from above) _____

City _____ Zip _____ Phone _____

SIGNATURE OF AUTHORIZED MEMBER OFFICIAL

Title _____ Date _____

Member’s Federal Tax I.D. Number ____ - _____

This Information is MANDATORY

TO BE COMPLETED BY FUND: (OFFICE USE ONLY)

Effective Date of This Agreement _____

Member Name _____

Contract Number _____

SIGNATURE OF AUTHORIZED FUND OFFICIAL

Title _____ Date _____



LIMIT PAGE

Your entity currently has **Core** Cyber Coverage with the Pool. The following is an abbreviated description of the Core and Core+ limit structure beginning October 1, 2024. The Coverage Document can be accessed at <https://members.tmlirp.org/downloads> (this link will ask you to log into the Member Portal for access).

*A limit of \$25,000,000 is shared by all **Members** for aggregate losses occurring within the Fund Year as defined in the Cyber Liability and Data Breach Response Interlocal Agreement.*

	Core	Core+
Tower 1 - Limit of Liability*	\$500,000	\$1,000,000
Data & Network and Media Liability Aggregate Limit of Liability	\$500,000	\$1,000,000
Retention	\$0	\$0
Tower 2 - Limit of Liability	\$100,000	\$250,000
<u>First Party Loss</u>		
Business Interruption Aggregate Sublimit	\$20,000	\$50,000
Cyber Extortion Loss Aggregate Sublimit	\$25,000	\$50,000
Data Recovery Costs Aggregate Sublimit	\$20,000	\$50,000
Reputational Loss Aggregate Sublimit	\$5,000	\$10,000
Retention (other than Business Interruption)	\$0	\$5,000
Income Loss Retention under Business Interruption	\$5,000	\$5,000
<u>Third Party Loss</u>		
Regulatory Defense and Penalties Aggregate Sublimit	\$25,000	\$75,000
Payment Card Liabilities & Costs Aggregate Sublimit	\$10,000	\$25,000
Retention	\$0	\$5,000
<u>eCrime</u>		
Fraudulent Instruction Aggregate Sublimit	\$25,000	\$50,000
Funds Transfer Aggregate Sublimit	\$25,000	\$50,000
Telephone Fraud Aggregate Sublimit	\$25,000	\$50,000
Criminal Reward	\$2,500	\$2,500
Retention (other than Criminal Reward)	\$2,500	\$5,000
Retention Criminal Reward	\$0	\$0
Tower 3 - Limit of Liability	\$100,000	\$150,000
Breach Breach Response Aggregate Limit of Liability Beazley Response Services	\$100,000	\$150,000
Retention	\$0	\$0
New 2024-25 Annual Contribution	\$1,500	\$1,875
<i>Previous 2023-24 Contribution</i>	<i>\$350</i>	<i>\$483</i>

**The Tower 1 Limit of Liability changed from \$1 million to \$500,000 for Core limits and from \$2 million to \$1 million for Core+ limits. All other limits remained unchanged.*



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #13

Discuss and consider amending
Mobility Policy Code § 101.038 to
authorize the Executive Director to
negotiate and execute certain
settlement agreements for certain
claims by or against the Mobility
Authority

Strategic Plan Relevance:	Stewardship
Department:	Administration
Contact:	James Bass, Executive Director
Associated Costs:	Not Applicable
Funding Source:	Not Applicable
Action Requested:	Consider and act on draft resolution

Project Description/Background:

In its normal course of business, claims are brought upon the Mobility Authority. In some instances, it is in the best interest of the Mobility Authority to settle claims administratively rather than taking a claim through the court system. The proposed policy change seeks to streamline the process of claims settlement by delegating the authority for claims settlement to the Executive Director for claims that do not exceed \$50,000.

Errors and omissions by professional service providers (“providers”) occur on complex design and construction projects. While not ideal, these do occur on Mobility Authority projects, however, contract terms are in place to protect the Mobility Authority. As a part of the settlement process with providers, the Mobility Authority receives compensation to offset expenses related to the error or omission. In some cases, providers do request to be provided a release for any additional claims in the future related to the specific error or omission being addressed. These releases are very narrowly focused so that the provider is not released from any more liability than the specific issue being addressed. The proposed policy change seeks to streamline the

settlement of errors and omissions to provide the Executive Director the authority to execute and issue the settlement and release related to errors and omissions.

Previous Actions & Brief History of the Program/Project: The Mobility Authority's Policy Code was approved by the CTRMA Board of Directors in February 2012. Numerous amendments have been made since the Policy Code's adoption. In June 2024 the board approved the incorrect version of the draft policy code amendment.

Financing: Not applicable

Action requested/Staff Recommendation: Staff recommends approval of the correct version of the policy code amendment which is a change to Article 3 of the *Mobility Authority Policy Code* regarding resolving claims and errors and omissions.

Backup provided: Draft Resolution Chapter 1, Article 3 of the Mobility Authority Policy Code

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

RESOLUTION NO. 24-0XX

AMENDING MOBILITY AUTHORITY POLICY CODE SECTION 101.038

WHEREAS, by Resolution No. 12-016 dated February 29, 2012, the Board of Directors adopted the Mobility Authority Policy Code (“Policy Code”); and

WHEREAS, subsequent to its initial adoption, the Board of Directors has amended the Policy Code from time to time in order to modify existing policies and incorporate new policies beneficial to the operation of the Central Texas Regional Mobility Authority (“Mobility Authority”); and

WHEREAS, throughout the Mobility Authority’s ordinary course of business, claims are brought by or against the Mobility Authority; and

WHEREAS, at the June 26, 2024 Board Meeting, amendments to Section 101.038 of the Policy Code delegating authority to the Executive Director to negotiate and execute certain settlement agreements were approved by the Board; and

WHEREAS, an incorrect version of the draft amendments to Policy Code Section 101.038 was inadvertently provided to the Board for consideration at the June 26, 2024 Board Meeting; and

WHEREAS, the Executive Director recommends that the Board reconsider the action taken in June 2024 and approve the correct version of the proposed amendments to Policy Code Section 101.038 to authorize the Executive Director to execute certain settlement agreements on behalf of the Mobility Authority as shown in Exhibit A.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby amends Section 101.038 of the Mobility Authority Policy Code as shown in Exhibit A attached hereto.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 28th day of June 2024.

Submitted and reviewed by:

Approved:

James M. Bass
Executive Director

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

Exhibit A

101.038 Executive Director

(a) The executive director will be selected by the board and shall serve at the pleasure of the board, performing all duties assigned by the board and implementing all resolutions adopted by the board.

(b) In addition, the executive director:

(1) shall be responsible for general management, hiring and termination of employees, and day-to-day operations of the authority;

(2) shall be responsible for preparing a draft of the Strategic Plan for the authority's operations, as described in Section 101.013;

(3) shall be responsible for preparing a draft of the authority's written Annual Report, as described in Section 101.013;

(4) at the invitation of a Commissioners Court of a county in the authority, shall appear, with representatives of the board, before the Commissioners Court to present the authority's Annual Report and respond to questions and receive comments regarding the Report or the authority's operations;

(5) may initiate procurements for goods and services, consulting and professional services, and construction services in accordance with the procedures established in this Policy Code, including soliciting proposals and advertising contracts for bids;

(6) may execute inter-agency and interlocal contracts, service contracts, and employment agreements provided that obligations assumed pursuant to such agreements are within limits specified in the most recent budget approved by the board;

(7) may execute contracts, contract supplements, contract change orders, and purchase orders not exceeding amounts established in Resolutions of the board;

(8) may negotiate and execute a settlement and release for a claim:

(a) by or against the authority that does not exceed \$50,000. Except as provided in (b) below, claims by or against the authority in excess of \$50,000 may be compromised or settled only with the approval of the board; or,

(b) from the provider to the Mobility Authority for a design error omission. The Executive Director shall submit a report to the board on the resolution of any such claim that involved a Change Order requiring the approval of the Board. ; and

(9) shall have such obligations and authority as may be described in one or more Resolutions enacted from time to time by the board.

(c) The executive director may delegate the foregoing duties and responsibilities as the executive director deems appropriate, provided such delegation does not conflict with applicable law or any express direction of the board.

101.038 Executive Director

(a) The executive director will be selected by the board and shall serve at the pleasure of the board, performing all duties assigned by the board and implementing all resolutions adopted by the board.

(b) In addition, the executive director:

(1) shall be responsible for general management, hiring and termination of employees, and day-to-day operations of the authority;

(2) shall be responsible for preparing a draft of the Strategic Plan for the authority's operations, as described in Section 101.013;

(3) shall be responsible for preparing a draft of the authority's written Annual Report, as described in Section 101.013;

(4) at the invitation of a Commissioners Court of a county in the authority, shall appear, with representatives of the board, before the Commissioners Court to present the authority's Annual Report and respond to questions and receive comments regarding the Report or the authority's operations;

(5) may initiate procurements for goods and services, consulting and professional services, and construction services in accordance with the procedures established in this Policy Code, including soliciting proposals and advertising contracts for bids;

(6) may execute inter-agency and interlocal contracts, service contracts, and employment agreements provided that obligations assumed pursuant to such agreements are within limits specified in the most recent budget approved by the board;

(7) may execute contracts, contract supplements, contract change orders, and purchase orders not exceeding amounts established in Resolutions of the board;

(8) may negotiate and execute a settlement and release for a claim:

(a) by or against the authority that does not exceed \$50,000. Except as provided in (b) below, claims by or against the authority in excess of \$50,000 may be compromised or settled only with the approval of the board; or,

(b) ~~from the provider to the Mobility Authority by the authority for a design errors and/or omission, s that does not exceed the maximum amount for change orders that the executive director is authorized to issue for the project without board approval.~~ The Executive Director shall submit a report any such settlement in excess of \$50,000 to the board on the resolution of any such claim that involved a

Change Order requiring the approval of the Board. ~~at or prior to the next board meeting following execution of the settlement and release;~~ and

(9) shall have such obligations and authority as may be described in one or more Resolutions enacted from time to time by the board.

(c) The executive director may delegate the foregoing duties and responsibilities as the executive director deems appropriate, provided such delegation does not conflict with applicable law or any express direction of the board.



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #14

Discuss and consider approving an agreement with the North Texas Tollway Authority for TollTag® marketing, promotional services and account enrollment

Strategic Plan Relevance:	Collaboration, Service, Stewardship
Department:	Operations
Contact:	Tracie Brown, Director of Operations
Associated Costs:	TBD
Funding Source:	FY25 Operating Budget
Action Requested:	Consider and act upon draft resolution

Project Description/Background: Pre-paid electronic toll collection is the most efficient way to facilitate payment for travel on tolled facilities. Pre-paid electronic toll collection methods include transponders (more commonly known as “tags”) and license plate-based accounts. For customers, electronic toll collection methods are the most economical and most cost-effective way to pay for travel on an open toll road system. Customers with an electronic toll tag account currently pay 33% less for tolls on Mobility Authority operated toll facilities than customers who utilize the Authority’s courtesy Pay By Mail program. They also avoid administrative fees related to late payments and legal consequences resulting from non-payment.

The Mobility Authority benefits from pre-paid electronic toll collection through more efficient transaction processing which results in faster revenue realization. The lower costs to collect and mitigation of toll violations aid the Authority’s credit rating which translates to lower borrowing costs.

The Mobility Authority experienced a sharp decline in prepaid account usage in 2020 while the number of Pay By Mail invoices issued each month increased. The reconstruction of IH-35 will shift travelers to adjacent facilities, including the toll roads

owned and operated by the Mobility Authority. To mitigate a greater increase in Pay By Mail invoices, a substantial increase in the number of customers using pre-paid electronic toll payment methods is necessary.

Action requested/Staff Recommendation: As the Mobility Authority contemplated the future of its Pay By Mail program ahead of a March 2027 contract expiration with its current vendor, a Request for Offer was issued to the Harris County Toll Road Authority (HCTRA) and North Texas Tollway Authority (NTTA). In their response NTTA offered the opportunity to partner in increasing pre-paid account usage in the Central Texas region through a focused effort to market and distribute NTTA's TollTag® products. Today's action seeks approval of a negotiated Distribution Agreement between CTRMA and NTTA that includes:

- access to the TRIPS module of NTTA's back-office system;
- training on NTTA TollTag® account creation, management and vehicle updates within the TRIPS module;
- NTTA issue resolution support;
- NTTA assistance in the creation of TollTag® marketing material; and
- NTTA consulting services on marketing and related activities.

CTRMA will compensate NTTA for its efforts at the hourly rate or flat fee set forth in applicable Work Authorizations plus any costs or expenses incurred by NTTA, its vendors, consultants and contractors. Expected Work Authorizations include licensing for access to the TRIPS module for CTRMA's Pay By Mail customer representatives; the development of marketing collateral; and delivery of TollTags for distribution at special events.

The term of the proposed Agreement is two years with automatic renewal for successive one (1) year periods unless terminated. Staff recommends approval of the Distribution Agreement between the Mobility Authority and NTTA for TollTag® marketing and distribution services.

Previous Actions & Brief History of the Program/Project: In 2017 the Mobility Authority executed the Central States Interoperability Agreement to facilitate the acceptance and financial reconciliation of electronic toll collection payment methods managed and hosted by the Fort Bend County Regional Transportation Authority, the Harris County Toll Road Authority (HCTRA), the Kansas Turnpike Authority (KTA), the North Texas Tollway Authority (NTTA), the Oklahoma Turnpike Authority (OTA),

and the Texas Department of Transportation (TxDOT). The TollTag® suite of products and TollTag® customers are part of this Agreement. There is no other direct relationship between the Mobility Authority and NTTA for the services being considered by this action.

Backup provided: Resolution to be provided at the board meeting
Distribution Agreement



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #15

Discuss and consider approving an interlocal agreement with Travis County to assist with design and construction of the 2023 Travis County Proposition A Road Project

Strategic Plan Relevance:	Collaboration
Department:	Engineering
Contact:	Mike Sexton, P.E., Director of Engineering
Associated Costs:	Not to exceed budgets approved by Travis County
Funding Source:	Travis County
Action Requested:	Consider and act on draft resolution

Project Description/Background: Travis County has approached Mobility Authority staff regarding the development of six 2023 County Bond projects:

- Blake Manor Road from Taylor Lane to Burleson Manor Road – Widen from a 2-lane roadway to a 4-lane divided roadway with shoulders
- Rowe Lane from State Highway 130 to Hodde Lane - Improve from a 2-lane undivided roadway with no shoulders to a SAFE2 cross section that includes a 2-lane divided roadway with two-way left turn lane, shoulders and a shared use path on one side
- Cameron Road east of SH 130 from Pecan Street to Fuchs Grove Road - Widen from a 2-lane roadway without shoulders to a 4-lane divided roadway with a shared use path
- Arterial A- Finish outdated 95% design, ROW and Construction for a new 4-lane divided roadway with bike lanes and sidewalks
- Bee Creek Road from Lakehurst Road to Highland Boulevard -Improve from a 2-lane undivided roadway with no shoulders to a SAFE2 cross section that includes a 2-lane divided roadway with two-way left turn lane, shoulders and a shared use path
- Howard Lane Shared Use Path - Install at Shared Use Path on the south side of

Howard Lane from McNeil Road to McNeil-Merriltown Road

Previous Actions & Brief History of the Program/Project: At its March 28, 2018 meeting, the Board Authorized staff to enter into an interlocal agreement with Travis County for the development and delivery of the Elroy Road and Ross Road projects on behalf of Travis County as a part of their bond program aimed at providing enhanced mobility in the region.

During the development of these two projects, County staff approached Mobility Authority staff and requested additional assistance in delivery of six additional bond program projects. At its September 11, 2019 meeting, the Board Authorized staff to enter into an interlocal agreement with Travis County for the development and delivery of the Old San Antonio Road, Old Lockhart Road, County Line Road, Thaxton Road, Pearce Lane, and South Pleasant Valley projects.

Financing: Travis County

Action requested/Staff Recommendation: Staff is requesting approval of the draft resolution that will allow the Executive Director, or his designee, to execute the interlocal agreement and negotiate and execute contracts, work authorizations and task orders to complete the work contemplated through the interlocal agreement.

Backup provided: Draft resolution
Draft interlocal agreement with Travis County for
project development
Project map

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

RESOLUTION NO. 24-0XX

**APPROVE AN INTERLOCAL AGREEMENT WITH TRAVIS COUNTY FOR THE
DEVELOPMENT OF CERTAIN COUNTY TRANSPORTATION PROJECTS**

WHEREAS, both the Central Texas Regional Mobility Authority (“Mobility Authority”) and Travis County are authorized to design and construct roads needed to relieve existing and future traffic congestion and to improve the transportation network that serves Travis County residents and the traveling public; and

WHEREAS, under the Interlocal Cooperation Act, Chapter 791, Government Code, and Chapters 222 and 370, Transportation Code, the Mobility Authority and Travis County may enter into one or more agreements to cooperate in funding, designing, building, and maintaining improvements to the roadway system that serves the residents, landowners, businesses, and the traveling public in southeast Travis County; and

WHEREAS, Travis County has approached the Mobility Authority about the possibility of entering into an interlocal agreement to develop and deliver six projects identified in Travis County’s 2023 Bond Program as shown on Exhibit A; and

WHEREAS, the Executive Director and Travis County staff have negotiated an interlocal agreement for the Mobility Authority to develop and deliver the Travis County bond projects which is attached hereto as Exhibit B; and

WHEREAS, the Travis County Commissioners Court will approve the proposed interlocal agreement at a future county commissioners court meeting; and

WHEREAS, the Executive Director recommends that the Board approve the proposed interlocal agreement and authorize him to take all such actions as are necessary to complete the work contemplated in the interlocal agreement including negotiating and executing contracts, work authorizations and task orders for the identified projects.

NOW THEREFORE, BE IT RESOLVED, that the Board hereby approves the proposed interlocal agreement with Travis County and

BE IT FURTHER RESOLVED, that contingent upon corresponding approval of the interlocal agreement by the Travis County Commissioners Court, the Board hereby authorizes the Executive Director to finalize and execute the interlocal agreement on behalf of the Mobility Authority in the form or substantially same form attached hereto as Exhibit B; and

BE IT FURTHER RESOLVED, that the Executive Director or his designee is authorized to take all such actions necessary to complete the work contemplated in the interlocal agreement including negotiating and executing contracts, work authorizations and task orders.

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 Bass
Executive Director

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

Exhibit A

Exhibit B

INTERLOCAL COOPERATION AGREEMENT

This Interlocal Cooperation Agreement (“Agreement”) is between Travis County, Texas, a political subdivision of the State of Texas (the “County”), and the Central Texas Regional Mobility Authority, a political subdivision of the State of Texas (the “Authority”). County and Authority may be referred to collectively in this Agreement as the “Parties,” and individually as a “Party.”

Recitals

A. The following projects (individually referred to herein as a “Project” and collectively as the “Projects”) were approved by Travis County voters in the County’s 2023 bond referendum:

1. Blake Manor Road – construction of a new 4-lane divided roadway from Taylor Lane to Burlison Manor Road;
2. Rowe Lane – construction of and improvements to existing roadway and the addition of a shared use path from State Highway 130 to Hodde Lane; and
3. Cameron Road – construction of a new 4-lane divided roadway and addition of a shared use path east of SH 130 from Pecan Street to Fuchs Grove Road; and
4. Arterial A – construction of a new 4-lane divided roadway with sidewalks and bike lanes; and
5. Bee Creek Road – construction of and improvements to existing roadway and the addition of a shared use path from Lakehurst Road to Highland Boulevard; and
6. Howard Lane/McNeil Road – add a shared use path from McNeil Drive to McNeil-Merriltown Road; and
7. South Pleasant Valley - widen the existing-2 lane undivided roadway (Bradshaw and Turnersville Rd) to 4-lane divided roadway with a median, bike lanes and sidewalks from City of Austin to SH45.

B. The Projects are generally described and depicted in the attached Exhibit 1.

C. The County has been tasked with timely completion of the Projects and contracting with the Authority to manage the design and construction of the Projects would help the County to expedite the completion of these Projects.

D. The County has agreed to fund the direct and indirect costs of the Projects as well as oversee the Projects, and the Authority has agreed to manage the design, procurement, and/or construction of the Projects, all in accordance with the terms and conditions set forth in this Agreement.

E. The County Executive of the County’s Transportation and Natural Resources Department (“TNR”) will assign a single project manager (“County Project Manager”) from

TNR to oversee delivery of the Projects and act as the County's representative. The County Project Manager will direct and oversee the fulfillment of the County's obligations outlined in this Agreement.

F. The Authority will assign a single program manager ("Authority Program Manager") from the Authority's Engineering Department to act as the Authority's representative. The Authority Program Manager will direct and oversee the fulfillment of the Authority's obligations outlined in this Agreement.

G. The Parties, as political subdivisions of the State of Texas, intend for this Agreement to conform in all respects with the provisions of the Interlocal Cooperation Act, Texas Government Code Section 791.001, et seq.;

NOW, THEREFORE, the Parties agree that the recitals set forth above are fully incorporated into the terms of this Agreement and further agree as follows:

1. Financial Obligations.

(A) The County shall be solely responsible for paying all costs of the Projects, including paying all documented costs incurred by the Authority related to the Projects. Other than in-kind services as specified herein, the Authority is not contributing any funding for the Projects.

(B) The Authority and County will jointly develop a detailed budget for each Project, including a cash flow projection and the County's projected funding sources ("Budget"). Each Budget will include the following costs ("Project Expenses") to be paid by the Authority (from the appropriate Trust Account funded by the County) to itself and to its outside consultants, vendors, and the construction contractor for each of the Projects for expenses incurred by the Authority and its outside consultants, vendors, and the construction contractor after the effective date of this Agreement:

- (1) preliminary engineering;
- (2) capital costs (design and construction);
- (3) engineering oversight (including design reviews, construction management, materials testing, inspection);
- (4) the Authority's legal, administrative, and other fees and expenses related to this Agreement, procurement, and Project development and oversight, including defending any contractor or third-party claims and/or lawsuits;
- (5) environmental permits and approvals, if required;
- (6) utility coordination services;
- (7) utility relocation costs (when the relocation costs are not the responsibility of the utility owner);
- (8) right-of-way coordination, appraisal, and acquisition services;
- (9) right-of-way land purchase costs;
- (10) contingencies, including costs of any judgment, settlement or other award resulting from a contractor or third-party claim and/or lawsuits; and

- (11) all other costs reasonably projected as necessary to complete a Project, close out a Project that is canceled or reimburse the Authority for its expenses in the event this Agreement is terminated, excluding any additional cost for a Party's in-kind services provided through a Party's employee; and
- (12) an administrative expense fee for the Authority's staff to implement, administer, and manage the activities described in Paragraphs (1) through (11) above, and equal to 4.65% of the actual costs incurred by the Authority for the activities described in (1) through (11) above, but excluding
 - (a) costs for any permits obtained by the County,
 - (b) costs for services performed by County staff or any County contractor that is not the Authority;
 - (c) the costs described in Paragraphs 7 (utility relocation costs), (9) (right-of way land purchase costs);
 - (d) the costs of defending any contractor or third-party claims and/or lawsuits if those costs are incurred by legal counsel or consultants not employed by the Authority; and
 - (e) the costs of any judgement, settlement, or other award resulting from a contractor or third-party claim or lawsuit.

(C) A Budget will be agreed to for the Projects establishing funding by Project phase: pre-construction and construction. Deposits will be made by phase (pre-construction funding and construction funding).

(D) The County will provide funding for each Project as outlined in the approved Budget for each Project. The Authority will deposit all Project funds provided by the County into separate Trust Accounts for each Project as directed by the County Project Manager so as not to commingle the funds with other Authority projects. Notwithstanding the amounts projected in the Budgets or available in the Trust Accounts, the County shall be solely responsible for paying all Project Expenses.

(E) Administrative Expense. The 4.65% administration expense described in Section 1(B)(12) shall be included in the detailed Budget for each Project and shall be disbursed to the Authority on a pro-rata basis as funds are drawn down from the respective Trust Accounts to pay Project costs.

(F) No later than 10 days after the County has approved each Budget, as evidenced by a written notice of Budget approval signed by the County Project Manager and delivered to the Authority, the County shall make an initial deposit to the Authority, which is identified in the Budget as the pre-construction funding for use by the Authority to pay Project costs incurred after the date of Budget approval. Upon receipt of pre-construction funding, the Authority will proceed with completion of the pre-construction funding phase, the Authority will provide notification to the County of a proposed advertisement to bid for a construction contract ("Construction Contract"), and if the County approves the proposed solicitation, the County will have 30 days to deposit the construction funding into the Project Trust Account. If the Parties have not agreed on each Budget by December 31, 2024, or if the

County fails to make any deposit to the Authority required by this Agreement, the Authority may cancel the Project and the County shall be responsible for any demobilization and other costs associated with the cancellation.

(G) After a Budget is approved, it may be revised by written agreement of the County Project Manager and the Authority Program Manager. If the total cost of any one Project is projected to exceed the estimate set forth in the Budget for that Project, the Parties may engage in value engineering or other cost cutting measures in an attempt to control costs on any Project or may identify contingency funds available from another of the Projects that can be transferred to the Project with the shortfall. If the projected combined costs of the Projects exceed funding available from the combined Project Budgets, the County may elect to provide the funds required to pay the additional Project costs using funds available from other sources, including funds provided to the County by third parties other than the Authority. If the County fails to provide sufficient funds required to pay excess Project costs, the Authority may cancel the Project and, the County shall be responsible for any demobilization and other costs associated with the cancellation.

(H) The Authority shall have no obligation to execute a Construction Contract for any Project, or to issue a notice to proceed under a Construction Contract until the County has paid all funds required by a Budget to fully fund the Construction Contract, related oversight and inspection costs, and the contingency fund established in the Budget for that Project.

(I) The Authority may disburse funds from each Trust Account to pay Project Expenses. Except for a disbursement made to cover the Authority's costs related to a claim and/or lawsuit, a disbursement of funds must first be approved by the County Project Manager before the funds can be disbursed. The Authority will provide a summary of the proposed disbursement with appropriate back-up. The County Project Manager will review each proposed disbursement within ten (10) days of receipt and either approve the disbursement or provide comment otherwise. If the County Project Manager does not provide approval or comments by the deadline, the County is deemed to have approved the disbursement.

(J) The Authority may disburse funds from each Trust Account to pay the Authority's costs related to claims and/or lawsuits without obtaining approval from the County Project Manager. If there are insufficient funds in the Trust Accounts to cover the Authority's costs, the Authority will submit an invoice to the County detailing the outstanding expenses and the County will make deposit to the Authority within forty-five (45) days of receipt of the invoice.

(K) Any interest earned on the funds in a Trust Account that is not used for Project expenditures shall be reported to the County and remitted back to the County following final Project closeout.

(L) Any funds remaining in a Trust Account shall be disbursed to the County after the corresponding Project is accepted by the County as evidenced by a certificate of

acceptance provided to the Authority, and after the Authority has disbursed and paid all Project Expenses that were accrued and payable on the date of the County's acceptance.

(M) The Authority shall keep and maintain records to document and support that each disbursement made by the Authority is for an authorized purpose under this Agreement, and the Authority shall make these records available for inspection and copying when requested by the County Project Manager or other County representative. All of the Authority's disbursements paid from a Trust Account shall be subject to audit by the County at the County's request and sole expense. The Authority shall transfer all disbursement records related to a specific project to the County upon final acceptance of the subject project. The Authority shall keep and maintain any remaining Project records in accordance with State requirements and Authority document retention policies subsequent to Project completion or termination of this Agreement.

(N) The Authority shall request written approval from the County Project Manager for any proposed change order it recommends for the Construction Contract for the Project. The County Project Manager will promptly review each proposed change order and either approve or deny the request within ten (10) days after the County Project Manager's receipt of the request. If the County Program Manager, in consultation with the Mobility Authority, determines that a proposed change order is of a significant nature or amount that requires submission to the Commissioners Court for consideration, the County Project Manager will give notify the Authority no later than ten (10) days after the Commissioners Court's decision. If the County Project Manager does not provide a written response by the tenth (10) day after the County Project Manager's receipt of the request, or receipt of Commissioners Court approval, the County is deemed to have approved the change order. If the County Project Manager denies the request for a change order and it results in a claim and/or lawsuit by the contractor, the County shall be solely responsible for paying (1) all of the Authority's reasonable costs associated with defending the claim, including staff time, attorney fees, consultant fees, and all costs to prepare for dispute resolution and/or trial and (2) any settlement, judgment, award, or other payment due to the contractor as a result of the claim. Notwithstanding any provision to the contrary, in any dispute resolution proceeding or lawsuit by a contractor, the County has the right to review and approve the Authority's selection of outside counsel and outside consultants used to assist in any contractor claims, and such approval by the County shall not be unreasonably withheld. If the County rejects the outside counsel or outside consultants selected by the Authority, the County shall provide mutually agreeable alternatives to assist with the claim(s). If the County does not provide approval or mutually acceptable alternatives no later than 4:00 p.m. Central Time on the next business day after the County's receipt of the Authority's proposed outside counsel and/or consultants, the County is deemed to have approved the Authority's selection. In this Agreement, "receipt" means the date of the email sent by the Authority notifying the County of its selection and "business day" means any weekday that is not a County holiday.

(O) The County has contracted with a third-party program manager who will support the County in tracking and scheduling the Projects. The Authority agrees to coordinate and

cooperate with this third-party program manager by providing requested schedule and spending updates.

2. Project Development.

(A) The County will timely acquire and make available to the Authority all rights-of-way (“ROW”), licenses, easements of any nature and duration, and rights of possession needed to complete each Project. County will obtain any additional rights or rights-of-way needed for design changes or betterments to each Project requested and funded by the County. A portion or all right-of-way acquisition tasks can be delegated to the Authority if both parties agree and the Budget is modified to reflect the new scope.

(B) The Authority shall provide ROW documents to the County upon written concurrence of ROW footprint by the County, and as applicable, the City of Austin, the Texas Department of Transportation (“TxDOT”) and any other local entities with jurisdiction for approval authority for the Project. The County shall pay all resulting costs to revise ROW documents as a result of design comments after submittal of ROW documents. The Authority shall prepare right-of-way maps (“strip maps”), property descriptions (“field notes” and “parcel plats”), and other data as needed to describe the right-of-way and access rights necessary for the Projects. The Authority shall perform all real property record and land title research useful or necessary in preliminary and final determination of parcel acquisition needs and preparation of ROW documents. For purposes of this Agreement, ROW documents are further defined as comprehensive legal descriptions for all parcels wherein acquisition of real property interests, whether permanent or temporary, are required for construction of the Projects. Legal descriptions shall be comprised of finalized parcel plats with metes and bounds descriptions, signed and sealed by a Registered Professional Land Surveyor currently licensed by the Texas Board of Professional Engineers and Land Surveyors. All parcel plats and sketches shall depict the land area of the parcel, in addition to all improvements and significant natural vegetation located within or proximate to that land area. Copies of this data shall be delivered to the County for review at least three weeks before beginning the standard process for acquisition of right-of-way for each of the Projects. All surveying for ROW documents shall be tied to the Texas State Plane Coordinate System and must be located relative to all adjoining projects. Following the County’s acceptance of ROW documents, the Authority shall provide right-of-way line and on-site parcel staking whenever requested by the County, or its agents and assigns, for use in appraisal, land-planning, and activities associated with property owner negotiations.

(C) Depending on which Party is allocated funds for utility work in the Budget, the Authority and/or the County’s design consultant will perform the utility investigations, identify utility conflicts and coordinate relocations or protection in place plans with the utilities. The County will enter into any utility agreements required for the Projects and will be responsible for making payments, if any, as required per the applicable utility agreements. The County shall provide such permits and easements as may be necessary for the Authority to accomplish the relocation of utilities. The County will cooperate with the Authority in securing the performance of all necessary utility

relocations. The County will coordinate with the Authority regarding the placement or relocation of any utility within or on the Projects to minimize and mitigate any disruption to the construction of the Projects.

(D) The design, plans, and specifications for each Project shall comply with applicable local, state, and federal regulations and standards and shall be sealed by a Texas Registered Professional Engineer.

(E) The Authority will manage the design and construction of the Blake Manor Road, Rowe Lane, Cameron Road, Arterial A, Bee Creek Road, Howard Lane Shared Use Path, and South Pleasant Valley Projects pursuant to criteria established by the County prior to Budget approval, including (i) development of the engineering design, plans, and specifications for all roadway improvements; (ii) surveying; (iii) construction; and (iv) inspection and testing.

(F) When design work for each design package is 30% complete, 60% complete, and again when the design work for each design package is 90% complete, Authority shall submit the complete design package to the County Project Manager. County Project Manager will determine the necessary reviewers from the County, conduct reviews, and provide comments on the design package to the Authority. The Parties will participate in joint monthly coordination and review meetings with representatives from all affected County reviewers to avoid or resolve conflicts in review comments. The County shall complete its review and notify the Authority of its approval or disapproval of the design package no later than ten (10) days after receiving the design package. Following the initial ten (10) day county review period, the project schedule shall be extended day-for-day until County approval or disapproval is received. If the County disapproves of the information submitted, the County shall at the same time notify Authority of the reasons for the disapproval and actions necessary for the design package to meet County approval. The Authority will have an opportunity to correct or submit additional information to cure any defects or deviations identified by County. Any defects or deviations will be discussed in an over-the-shoulder review meeting and incorporated into the next submittal.

(G) The County Project Manager will coordinate and secure County permits as necessary with County Development Services and the City of Austin.

(H) When applicable, the Authority in cooperation with the County shall obtain, unless waived, an approved Conditional Letter of Map Revision (CLOMR), and Letter of Map Revision (LOMR), and environmental assessments and clearances associated with each Project.

(I) The Authority will ensure that its design engineer for each of the Projects for which it is managing design provides professional liability, automobile liability, and general liability insurance in accordance with the standard requirements of the Authority. The Authority will ensure the Authority and the County are named as additional insureds with respect to such general liability and automobile liability coverage.

(J) The Authority will make a good faith effort to encourage Historically Underutilized Business (HUB) participation at the same level as required for all County projects as described in the County Code Chapter 32, section 32.008 and the County purchasing procedures guide. The Authority or its design engineer will enter payment data into the County's Vendor Tracking System (VTS) identifying HUB percentages utilized for each project.

(K) The Authority will not be required to include Travis County Better Builder certifications as part of its Construction Contract, as the Authority pre-certifies its contractors and will make a good faith effort to enforce OSHA safety standards and encourage living wages to the same level as required by the Travis County Better Builder Program on those Projects identified as potential candidates for the program.

3. Project Bidding & Award of Construction Contract.

The Authority will manage the solicitation of bids for the construction of each Project based on the approved plans and specifications and in accordance with the Authority's bidding policies, laws, practices, and procedures. The Authority shall submit an invitation for bid for the Construction Contract, including all the requirements of Section 3. The Authority shall issue the invitation for bids within thirty (30) days of County's written approval of the Final Plans and Specifications under Section 2 and County's funding of the construction phase unless the County provides written notice that issuance of the invitation for bids should be delayed. The Authority shall provide the County with all responses to the bid solicitation. The Authority will notify the County of the lowest responsible bidder and the amount of the bid for each Project. The County Project Manager will have ten (10) days to review the Authority's recommendation for award. Notwithstanding any provision to the contrary, the Authority must not award a Construction Contract until after the Authority receives written approval to do so from the County Program Manager. The County shall not withhold approval of a bid within budget and evaluated to be responsible by the Authority and the County shall provide written approval within ten (10) days.

(A) The County and Authority will consult on necessary or desirable provisions to be included in any Construction Contract for a Project procured by the Authority. Each Construction Contract executed by the Authority shall include, without limitation: indemnification protection provisions for the Authority and County, a deadline for substantial completion of the Project; and provisions establishing the right of the Authority to assign the Construction Contract to the County together with all contractor's warranties, guarantees, and bonds. Each Construction Contract executed by the Authority may also include incentive/disincentive provisions for meeting an agreed-to schedule, but no disincentives will apply to a delay attributable to the Authority, the County, or a force majeure event.

(B) Upon Final Acceptance under the Construction Contract, the Authority shall assign the Construction Contract to the County and the County shall assume

responsibility for the Project, including all maintenance responsibilities, contractor's warranties, guarantees, and bonds. The Authority shall not be responsible for execution of warranty claims or be held liable in any warranty dispute.

4. Project Management.

(A) The Authority will act on behalf of the County with respect to each Project. The Authority will designate a Program Manager and may designate other representatives to transmit instructions and act on behalf of the Authority with respect to each Project. The Authority will deliver monthly reports to County regarding disbursement summaries, financial, design and construction progress. The Authority, on request, will appear before the Commissioners Court for briefings.

(B) The County Project Manager will act on behalf of the County with respect to each Project, coordinate with the Authority, receive and transmit information and instructions, and will have complete authority to interpret, define, and communicate the County's policies and decisions with respect to each Project. The County Project Manager may specifically designate other representatives to transmit instructions and act on behalf of the County with respect to the Project, and the Authority shall be authorized to rely solely on communications with the County Project Manager and its express designees, and no other County authorities, with regard to the County's oversight of the Project.

(C) The Authority agrees to cooperate with the County Project Manager regarding the County Project Manager's interpretation of the County's policies and decisions with respect to each Project. The County Project Manager will review each issue and provide a response within ten (10) days of being notified by the Authority. If the County Project Manager does not provide a decision or seek clarification from the Authority within 10 days after the County Project Manager receives notification of an issue, the County is deemed to have agreed with the Authority's position on the issue. If a dispute arises within the ten (10)-day window, the County Project Manager's decision will be final, but the County shall be solely responsible for any and all costs associated with a decision mandated by the County. The County shall adjust the appropriate Budget and provide additional funding within thirty (30) days of being notified by the Authority of the additional costs.

(D) For each Project, the Authority agrees to upload the following materials to Procore:

- (1) the Authority's schedule for the advertisement for bids, award of contract, and construction of the Project;
- (2) a copy of all contracts let by the Authority for the Project;
- (3) a monthly itemized statement of all disbursements made and debts incurred during the preceding month relating to the Project, including copies of invoices, statements, vouchers, or any other evidence of payment of debt;
- (4) a written copy of all field changes, supplemental agreements, or revisions to the design plans for the Project;
- (5) a copy of any change order request related to the Project no later than 5 days after the Authority receives the request;

- (6) sufficient notice, documentation, and opportunity for the County to assist in the final review of the construction services performed by the construction contractor with respect to the Project;
- (7) a copy of the record as-built drawings of the Project for the County's records no later than sixty (60) days after satisfactory completion of construction of the Project or the termination of this Agreement, whichever is sooner

5. Default; Termination

(A) Either Party may terminate this Agreement if the other Party defaults in its obligation and, after receiving notice of the default and of the non-defaulting Party's intent to terminate, fails to cure the default no later than ten (10) days after receipt of that notice unless both parties agree to extend the ten (10) day cure period. Otherwise, this Agreement will terminate on the date when all outstanding Projects have achieved Final Acceptance under the Construction Contracts and all Trust Account funds have been disbursed in accordance with the terms of this Agreement.

(B) In the event this Agreement is terminated by either Party due to default of the other Party, the Authority shall prepare and submit an accounting of all Project Expenses received and disbursed and an invoice to the County detailing all outstanding Project Expenses. No later than thirty (30) days following the receipt of the invoice, the County shall reimburse the Authority for all remaining costs it has incurred managing and administering the Projects on behalf of the County. Within thirty (30) days following the reimbursement from the County, the Authority shall return to the County all surplus funds remaining in the Trust Accounts.

(C) The Parties agree that the provisions of Section 1.(D) regarding the County's obligation to pay all Project Expenses, Section 1. (J), CTRMA's obligation to remit interest to County, Section 1. (K), CTRMA's obligation to disburse remaining funds to County after Project acceptance, Section 1.(L), CTRMA's obligation to keep records, Section 1. (M) regarding the County's obligation to pay costs associated with any claims, Section 5. (B) regarding the County's responsibility to reimburse the Authority for Project Expenses, and Section 7. regarding liability, shall survive the termination of this Agreement.

6. Dispute Resolution

(A) If a disagreement between Authority and County arises regarding engineering design, design and construction standards, plans and specifications, inspection and testing, deficiencies and remedial action, change orders, or any other requirement or provision of this Agreement, and the disagreement is not resolved by the Authority's Program Manager and the County Project Manager within five (5) days, it shall be referred as soon as possible to the CTRMA Director of Engineering and TNR County Executive. If still not resolved within five (5) days, it shall be referred to the Authority's Executive Director (or their designee) and the Travis County Judge (or their designee).

(B) When mediation is acceptable to both parties, the parties may use a mutually acceptable mediator, or a mediator appointed by a court of competent jurisdiction.

Mediation is conducted in compliance with Chapter 154 of the Texas Civil Practice and Remedies Code. Unless both parties are satisfied with the mediated resolution, the mediation is not a final and binding resolution of the dispute. All communications within the scope of the mediation must remain confidential in compliance with section 154.073 of the Texas Civil Practice and Remedies Code, unless both parties agree in writing to waive confidentiality.

7. Liability.

(A) To the extent allowed by Texas law, the County and Authority agree that each Party is responsible for its own proportionate share of any liability for personal injury or death or property damage arising out of or connected to its negligent acts or omissions in connection with this Agreement as determined by a court of competent jurisdiction. Neither the County nor Authority waives, relinquishes, limits or conditions its governmental immunity or any other right to avoid liability which it otherwise might have to a third party. Nothing in this Agreement shall be construed as creating any liability in favor of any third party or parties against either County or Authority, nor shall it ever be construed as relieving any third party or parties from any liabilities of such third party or parties to County or the Authority. The County shall have liability for claims arising from the delay or non-performance of third-party or municipal utilities to relocate or approve utility work necessary for Project construction.

(B) Claims Notification. If the Authority or the County receives notice or becomes aware of any claim or other action, including proceedings before an administrative agency, which is made or brought by any person, firm, corporation, or other entity against the Authority or the County in relation to this Agreement, the Party receiving such notice must give written notice to the other Party of the claim or other action within three working days after being notified of it. The notice shall include copies of all pertinent papers received by that Party with respect to these claims or actions relating to a Project.

8. Miscellaneous.

(A) Force Majeure. Whenever a period of time is prescribed by this Agreement for action to be taken by either Party, the Party shall not be liable or responsible for, and there shall be excluded from the computation of any such period of time, any delays due to strikes, riots, acts of God, shortages of labor or materials, war, terrorist acts or activities, governmental laws, regulations, or restrictions, or any other causes of any kind whatsoever which are beyond the control of such party.

(B) Notice. All notices, demands or other requests, and other communications required or permitted under this Agreement or which any Party may desire to give, shall be in writing and shall be deemed to have been given on the sooner to occur of (i) receipt by the Party to whom the notice is hand-delivered, with a written receipt of notice provided by the receiving Party, or (ii) two days after deposit in a regularly maintained express mail

receptacle of the United States Postal Service, postage prepaid, or registered or certified mail, return receipt requested, express mail delivery, addressed to such Party at the respective addresses set forth below, or such other address as each Party may from time to time designate by written notice to the others as herein required or (iii) electronic mail transmission (the latter of scanned documents in formats such as .pdf or .tif) for which confirmation of receipt by the other Party has been obtained by the sending Party:

AUTHORITY: Mike Sexton, Director of Engineering
Central Texas Regional Mobility Authority
3300 N. IH-35, Suite 300
Austin, TX 78705
Email address: msexton@ctrma.org

WITH COPY TO: Geoff Petrov, General Counsel
Central Texas Regional Mobility Authority
3300 N. IH-35, Suite 300
Austin, TX 78705
Email address: gpetrov@ctrma.org

COUNTY: Cynthia McDonald (or her successor)
County Executive, TNR
P. O. Box 1748
Austin, Texas 78767
Email address: Cynthia.McDonald@traviscountytexas.gov

AND: David Greear, Public Works Director
Travis County Transportation and Natural Resources
P.O. Box 1740 Austin, TX 78767
Email address: david.greear@traviscountytexas.gov

AND: C. W. Bruner, PMP, CPPB (or successor)
Travis County Purchasing Agent
P.O. Box 1748
Austin, Texas 78767
Email address: c.w.bruner@traviscountytexas.gov

WITH A COPY TO: Julie Joe, Assistant County Attorney
Travis County Attorney's Office
P.O. Box 1748
Austin, TX 78767
Email address: julie.joe@traviscountytexas.gov

(C) Calculation of Days. Each reference in this Agreement to a day or days refers to a day that is not a Saturday, Sunday, or a legal holiday observed by both the County and

the Authority. If the last day of any period described in this Agreement is a Saturday, Sunday, or such legal holiday, the period is extended to include the next day that is not a Saturday, Sunday, or such legal holiday.

(D) Entire Agreement. This Agreement contains the complete and entire Agreement between the Parties respecting the matters addressed herein, and supersedes all prior negotiations, agreements, representations, and understanding, if any, between the Parties respecting the Projects. This Agreement may not be modified, discharged, or changed in any respect whatsoever except by a further agreement in writing duly executed by authorized representatives of the Parties hereto. The recitals set forth above and the attached exhibits are incorporated herein.

(E) Effective Date. This Agreement takes effect upon the last date of due execution of the Agreement by the County and the Authority.

(F) Other Instruments. The Parties hereto covenant and agree that they will execute other and further instruments and documents as may become necessary or convenient to effectuate and carry out the purposes of this Agreement.

(G) Invalid Provision. Any clause, sentence, provision, paragraph, or article of this agreement held by a court of competent jurisdiction to be invalid, illegal, or ineffective shall not impair, invalidate, or nullify the remainder of this Agreement, but the effect thereof shall be confined to the clause, sentence, provision, paragraph, or article so held to be invalid, illegal, or ineffective.

TRAVIS COUNTY, a political
subdivision of the State of Texas

**CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY**, a political
subdivision of the State of Texas

By: _____
Andy Brown
Travis County Judge
Date: _____

By: _____
James M. Bass
Executive Director
Date: _____



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #16
Quarterly Project Updates

Strategic Plan Relevance: Stewardship, Service & Safety
Department: Engineering
Contact: Mike Sexton, Director of Engineering
Associated Costs: N/A
Funding Source: N/A
Action Requested: Briefing and Board Discussion Only

Project Description/Background:

Projects under construction:

- A. 183A Phase III Project
- B. 183 North Mobility Project

Backup provided: None



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #17

Executive Director Board Report

Strategic Plan Relevance: Stewardship, Collaboration, Innovation, Service & Safety

Department: Executive

Contact: James M. Bass, Executive Director

Associated Costs: N/A

Funding Source: N/A

Action Requested: Briefing and Board Discussion Only

Project Description/Background:

Executive Director Report.

- A. Recent agency staff activities.
- B. Agency performance metrics.
- C. Update on efforts to increase pre-paid account penetration.
- D. Barton Skyway Ramp Relief celebration.
- E. 290E Toll Phase IV.

Backup provided: None



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #18

Executive Session

Executive Session:

Discuss the acquisition of one or more parcels or interests in real property need for a Mobility Authority headquarters, including facilities for traffic and incident management and other agency functions, pursuant to §551.071 (Consultation with Attorney) and §551.072 (Deliberation Regarding Real Property; Closed Meeting).



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #19

Executive Session

Executive Session:

Discuss legal issues related to claims by or against the Mobility Authority; pending or contemplated litigation and any related settlement offers; or other matters as authorized by §551.071 (Consultation with Attorney).



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #20

Executive Session

Executive Session:

Discuss legal issues related to the development of the Mopac South Project, as authorized by §551.071 (Consultation with Attorney).



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #21

Executive Session

Executive Session:

Discuss legal issues relating to procurement and financing of Mobility Authority transportation projects and toll system improvements, as authorized by §551.071 (Consultation with Attorney).



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #22

Executive Session

Executive Session:

Discuss personnel matters related to the executive director's employment agreement, as authorized by §551.074 (Personnel Matters).



CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY

August 28, 2024
AGENDA ITEM #23

Adjourn Meeting

Adjourn Board Meeting.