



**CENTRAL TEXAS  
Regional Mobility Authority**

February 22, 2017  
AGENDA ITEM #14

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Approve a Master Interlocal Agreement and  
Work Authorization No. 1 with the Texas A&M  
Transportation Institute

Strategic Plan Relevance: Regional Mobility  
Department: Engineering  
Contact: Jeff Dailey, Deputy Executive Director  
Associated Costs: Not to Exceed \$500,000.00  
Funding Source: General Funds  
Action Requested: Authorize Executive Director to Execute a Master Interlocal Agreement with the Texas A&M Transportation Institute (TTI)

Summary:

The Master Interlocal Agreement in an amount not to exceed \$500,000 will allow CTRMA to pursue research in an effort to inform planning, design, construction, operations and maintenance decisions and procedures. This agreement shall remain in effect for three years and can be extended by the Executive Director for two additional one-year periods if remaining funds allow.

Included in this request is the initial Work Authorization No. 1 to conduct research with the goal of improving the customer interface with CTRMA and TxDOT Toll Operations Division. The business rules related to TxTag based and All Electronic Toll (AET) toll systems can be complex and confusing from a user's perspective. Adding to the complexity and confusion is that there are two toll system operators (CTRMA and TxDOT) in the region. The goals of the proposed project are to:

- Identify the main causes of negative user experience with the front and back office customer toll system touchpoints and how the underlying customer user mental models contribute to negative experiences, and
- Identify solutions, that when implemented, will improve the user experience for front and back office system touchpoints.

The estimated cost for this Work Authorization is \$112,714.00. TxDOT has agreed to participate in and fund 50% of the cost.

Backup provided: Master Interlocal Agreement  
Work Authorization No. 1  
Draft Board Resolution

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

**RESOLUTION NO. 17-0XX**

**APPROVAL TO EXECUTE A MASTER INTERLOCAL AGREEMENT  
AND WORK AUTHORIZATION NO. 1 WITH  
THE TEXAS A&M TRANSPORTATION INSTITUTE**

WHEREAS, the Mobility Authority has a need for technical and research services, including conducting behavioral studies for use in developing initiatives to improve customer service and, ultimately, enhance the road user experience; and

WHEREAS, the Executive Director anticipates additional research may be required following completion of the initial studies and other technical research services will be beneficial to improve Mobility Authority operations; and

WHEREAS, the Texas A&M Transportation Institute (“TTI”) has the resources and expertise to provide these services to the Mobility Authority, and having a Master Interlocal Agreement with TTI will facilitate engaging its services when needed in the future; and

WHEREAS, the Executive Director and TTI have agreed to a Master Interlocal Agreement not to exceed \$500,000.00 for contemplated and future technical and research services; and

WHEREAS, the Executive Director and TTI have agreed to Work Authorization No. 1 not to exceed \$112,714 to conduct the contemplated behavioral studies; and

WHEREAS, the Executive Director and TxDOT have agreed to a proposed Interlocal Agreement whereby TxDOT would reimburse the Mobility Authority for fifty percent (50%) of the cost of the services to be provided under Work Authorization No. 1; and

WHEREAS, the Executive Director recommends that the Board approve the proposed Master Interlocal Agreement and Work Authorization No. 1 with TTI, each in the form or substantially in the same form as Exhibit A attached hereto; and

WHEREAS, the Executive Director recommends that the Board approve the proposed Interlocal Agreement with TxDOT in the form or substantially in the same form as Exhibit B attached hereto

NOW THEREFORE, BE IT RESOLVED, that the Board approves an amount not to exceed \$500,000.00 for projects within the scope of services described in the Master Interlocal Agreement, including an amount not to exceed \$112,714.00 for the services described in Work Authorization No. 1; and

BE IT FURTHER RESOLVED, that the Board authorizes the Executive Director to finalize and execute the proposed Master Interlocal Agreement and Work Authorization No. 1 with TTI in the form or substantially the same form as Exhibit A; and

BE IT FURTHER RESOLVED, that the Board authorizes the Executive Director to finalize and execute the proposed Interlocal Agreement with TxDOT in the form or substantially the same form as Exhibit B.

Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 22<sup>nd</sup> day of February 2017.

Submitted and reviewed by:

Approved:

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Geoffrey S. Petrov, General Counsel

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Ray A. Wilkerson  
Chairman, Board of Directors

**Exhibit A**

THE STATE OF TEXAS       §  
THE COUNTY OF TRAVIS     §

**INTERLOCAL COOPERATION CONTRACT**

**THIS MASTER INTERLOCAL AGREEMENT (Agreement)** is entered into by and between the agencies shown below as Contracting Parties under the authority granted and in compliance with the provisions of Chapter 771 of the Government Code.

**I. CONTRACTING PARTIES:**

The Receiving Agency       Central Texas Regional Mobility Authority (CTRMA, the Authority)  
The Performing Agency       Texas A&M Transportation Institute (TTI)

**II. STATEMENT OF SERVICES TO BE PERFORMED:** The Performing Agency will undertake and carry out services described in **Attachment A**, Scope of Services.

**III. CONTRACT PAYMENT:** The total amount of this contract shall not exceed **\$500,000** (five hundred thousand dollars and no cents). Payments shall be billed **Monthly**.

**IV. TERM OF CONTRACT:** The Term for this Agreement shall begin on the date of execution and remain in effect for three years from that date, unless sooner terminated as provided in this Agreement. The Authority's Executive Director, or his designee, is authorized to extend this Agreement, pending available funds, for two one-year extensions by providing written notification to TTI.

**V. THE AGREEING PARTIES** certify that:

1. The services specified above are necessary and essential for activities that are properly within the statutory functions and programs of the affected agencies.
2. The proposed arrangements serve the interest of efficient and economical administration of the State Government and of the Central Texas Regional Mobility Authority, a Texas political subdivision organized and operating under Chapter 370, Texas Transportation Code.
3. The services or resources agreed upon are not required by Article XVI, Section 21 of the Constitution of Texas to be supplied under contract given to the lowest responsible bidder.

**VI. LEGAL AUTHORITY:**

The Receiving Agency further certifies that it has the authority to request the above services by authority granted in Texas Transportation Code, Chapter 370.

The Performing Agency further certifies that it has the authority to perform the services by authority granted in Texas Education Code, Chapter 67.

This contract incorporates the provisions of **Attachment A**, Scope of Services, **Attachment B**, Work Authorization, and **Attachment C**, General Terms and Conditions.

**THE UNDERSIGNED PARTIES** bind themselves to the faithful performance of this contract.

**THE RECEIVING AGENCY**  
Central Texas Regional Mobility Authority

**THE PERFORMING AGENCY**  
Texas A&M Transportation Institute

\_\_\_\_\_  
Mike Heiligenstein  
Executive Director

\_\_\_\_\_  
AUTHORIZED SIGNATURE  
Title

\_\_\_\_\_  
DATE

\_\_\_\_\_  
DATE

Contract No. \_\_\_\_\_

## ATTACHMENT A

### Interlocal Cooperation Contract Scope of Services

#### Technical Services to the Central Texas Regional Mobility Authority

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This scope of services outlines general task areas in which TTI may perform work for the Central Texas Regional Mobility Authority during the term of this agreement. Each task will be performed on an as needed basis and as time allows. A written Notice to Proceed will be required before any services can be performed. A Notice to Proceed may only be authorized by the Authority. Each Notice to Proceed will include a work plan for the task(s) requested, the maximum amount payable under that Notice to Proceed, and will specify an initiation and completion date.

CTRMA may, during the term of performance of this Agreement, authorize TTI to perform work consisting of research projects (the "Projects") to achieve the objectives generally described in this **Attachment A** (which lists but is not limited to the variable scopes of work). For each Project, TTI shall submit to the Authority an individually numbered written Work Authorization in the form attached hereto as **Attachment B** containing a period of performance with a beginning and end date, a full description of the work to be performed, a work schedule with milestones, a cost not to exceed amount, the basis of payment (i.e. cost plus fixed fee, unit cost, lump sum, or specified rate) and a Work Authorization budget. The Authority and TTI shall negotiate in good faith the terms and conditions of each such Work Authorization. Provided however, if a conflict exists between this Agreement and an individual Work Authorization, then the Work Authorization shall control. TTI shall use its reasonable efforts to perform the Projects in accordance to the schedules and milestones set forth in each Work Authorization. TTI shall promptly notify the Authority of any event that will affect completion of the Work Authorization. The Projects shall be performed in accordance with established policies and procedures of CTRMA and TTI.

The following are key areas of focus and objectives at TTI:

- **Mobility:** Urban Mobility; Travel-time information systems; HOV and HOT Lanes; Congestion Management; Rural Connectivity; Intercity Passenger Rail; Transit Mobility; Managed Lanes; Border Crossing Efficiency; Air Transportation; Transportation Demand Management; Active Traffic Management; & Travel Forecasting.
- **Infrastructure:** Pavement Design and Maintenance; Infrastructure Rehabilitation; Bridge Design and Maintenance; Land Use Planning; Roadway Design; Pavement Recycling; Construction Practices; Contracting Methods; Pavement Diagnostics and Preservation; & Soil Analysis.
- **Safety:** Pavement Design and Maintenance; Infrastructure Rehabilitation; Bridge Design and Maintenance; Land Use Planning; Roadway Design; Pavement Recycling; Construction Practices; Contracting Methods; Pavement Diagnostics and Preservation; and Soil Analysis.
- **Economics:** Revenue and Expense Forecasting; Innovative Financing; Congestion Pricing; Economic Analyses; Policy Analyses; User Fee Alternatives; Transportation Needs Estimation; Investment Decision Support; Data Integration and Management; Cost-Savings Measures; Performance Management; and Freight Transportation Rate Analysis.
- **Freight Movement:** Universal Freight Shuttle; Freeway Truck Operations; Freight Rail; Multimodal Freight Transportation; Ports and Waterways; Supply Chain Management; Trade Globalization; Border Freight Mobility; and Intermodal Trucking.
- **Human Factors:** Driver Behavior; Public Education and Outreach; Distracted Driving; Impaired Driving; Driving Simulator Testing; Eye-Tracking System; Roadway Visibility; Data Collection and Monitoring; and Traffic Law.

- **Enforcement:** Traffic Control Device Design and Evaluation; Roadway Warning Systems; Surveys and Focus Groups; & Occupant Protection.
- **Security:** Homeland Security; Antiterrorist Perimeter Security Devices; Border Security; Port Security; Emergency Planning and Response; Hazardous Materials Transport; Transit Security; Airport Security; & Customs and Border Protection.
- **Environment:** Erosion and Sediment Control; Vehicle Emissions Testing; Air Quality; Fuel Efficiency; Hybrid Technologies; Clean Fuels; Vegetation Management; Storm Water Quality; Recyclable Pavements; Alternative Transportation; Sustainable Transportation; & Warm Mix Asphalt.
- **Workforce Development:** Undergraduate and Graduate Education; Multi-Disciplinary Transportation Certificate Program; Transportation Career Development; Summer Transportation Institute; Technology Transfer; Graduate Research; Professional Development; & Guidebooks and Course Materials.

TTI participates in work that advances transportation knowledge and practices. TTI does not participate in work that should be performed by a private consultant.

TTI will provide work that clearly is part of a program of research, development, and technology transfer.

TTI may also be involved in innovative projects and the evaluation of those projects. An innovative project advances the state-of-the-art or the state-of-the-practice. It may require research on new methodologies, analytical techniques or technologies. For example, projects may result in new methods and criteria that need to be brought into practice in order to reduce risk and make transit safer and more efficient. The evaluation of these innovative projects is also a vital component of the research program. These evaluations and refinements are published in the literature and lead to better technology transfer, allowing others to clearly understand the use and implementation of the application.

In addition, TTI may be involved in an applied program of research. It is important that the results of research be transferred to the profession that will implement the research results. Through a variety of mechanisms such as seminars, videos, reports, publications, newsletters, one-on-one project reviews, and conferences, the Institute provides the profession, both public and private sector, with the findings from the research program and information on how to implement those findings. This is an important component of an applied research, development, and technology transfer program. Through resources invested in TTI, a long term institutional memory, and related data bases that have been developed, TTI can be of particular assistance to public agencies.

TTI possesses, or has access to, a variety of specialized facilities and laboratories, that are not generally available elsewhere. When appropriate, these facilities are available for project use.

In very general terms, TTI participates in work that advances transportation knowledge and practices. Using this premise, it is possible to identify certain kinds of work TTI chooses not to perform. A rather extensive list of projects falls into this category. The listing below is not intended to be comprehensive, but is representative of the types of work TTI does not pursue.

- Highway plans, specifications, and estimates, including bridge structures
- Hydrology and hydraulics design on specific projects
- Site specific traffic signal warrants, traffic signal design, signal timing studies
- Private development site layout, parking design and access
- Zoning issues related to transportation
- Traffic impact studies
- Final design of traffic control centers and intelligent transportations systems (work not properly part of the research and development needs)
- Tort litigation, including related forensic analyses, courtroom testimony
- Appraisals and valuation studies
- Routine pavement mixture designs
- Routine pavement structural designs

- Construction inspection services
- Lead role in major investment studies
- Lead role in community outreach associated with specific projects
- Lead role in environmental impact assessments for specific projects
- Travel demand modeling on a project specific basis
- Materials testing and certification
- Transportation data collection not in support of specific TTI projects
- Data collection to determine speed limits on specific roadways
- Master plans for capital improvement programs

It is the position of TTI that, if a public agency in Texas issues a request for proposal that is distributed to the private sector, the Institute will not compete for that work. TTI interprets the issuing of this RFP to mean that the agency has decided that the work should be performed by a private consultant, and that TTI competition for that work is inappropriate. Furthermore, the Institute, when contacted by a public agency regarding a possible sole-source contract, will evaluate whether the work in question should properly be performed by TTI or whether the public agency should issue an RFP for the work.

If TTI has some unique skill or other attribute that causes the public agency to request some level of TTI participation in the project, the Institute will make its services available to all consultants desiring to propose on the project; i.e., TTI will not team exclusively with any consultants. Preferably, the public agency will negotiate this involvement directly with TTI rather than expecting the Institute to negotiate individually with each of the private consulting firms.



**ATTACHMENT B**

**[EXAMPLE WORK AUTHORIZATION]**

**MASTER RESEARCH AGREEMENT**  
**Between**  
**TEXAS A&M TRANSPORTATION INSTITUTE**  
**And**  
**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

**WORK AUTHORIZATION NO. \_\_**

This Work Authorization No. \_\_ (the “Work Authorization”) is entered into by and between Central Texas Regional Mobility Authority, a political subdivision of the State of Texas having its principal place of business at 3300 N IH-35, Suite 300, Austin, Texas 78705 (the “Authority”), and the **Texas A&M Transportation Institute**, a member of The Texas A&M University System (“TTI”) and an agency of the State of Texas, having its principal place of business at 400 Harvey Mitchell Parkway South, Suite 300, College Station, Texas 77845 referred to individually as “Party” and collectively the “Parties”.

WHEREAS, the Authority and TTI entered into a Master Interlocal Agreement (the “ILA”) effective as of \_\_\_\_\_, whereby except as otherwise specified herein, the terms and conditions of that Agreement are incorporated by reference into this Work Authorization.

NOW, THEREFORE, the Parties hereto agree as follows:

1. Statement of Work. TTI agrees to use its reasonable efforts to perform the work of the project as set forth in **Exhibit A** (the “Project”). Any change to this Project, including the identity of the Principal Investigator(s) as specified in Section 2, will be made effective only by a mutual written agreement.
2. Principal Investigator. The Project will be supervised by (PI name, phone, email), the Principal Investigator who will manage the Project on behalf of TTI.
3. Technical Point of Contact. (Authority) designates (name, title, phone, email), as the primary point of contact to provide data and information as needed by the TTI project team consistent with the statement of work for this Work Authorization.
4. Period of Performance. The research shall be conducted during the period \_\_\_\_\_ through \_\_\_\_\_ and will be subject to extension only by mutual written agreement of both parties.
5. Price and Payment.
  - a. As consideration and compensation for TTI’s performance of this Work Authorization, The Authority agrees to pay TTI the fixed price amount of \$000,000 (the “Fixed Price”) in accordance with the following schedule: \_\_\_\_\_
  - b. The Fixed Price is based on the budget of the Project set forth in **Exhibit A**. Changes that affect costs such as Authority requested revisions to **Exhibits A** or marked differences that affect the initial price will be

approved in advance by the Authority. The revisions to **Exhibits A** and the additional funds will be added to this Work Authorization only by an amendment signed by both parties.

6. Reports. TTI shall submit the following reports to the Authority:

Report	Due Date

7. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Agreement.

IN WITNESS WHEREOF, the parties have caused this Work Authorization No.\_\_\_\_ to be executed by their authorized representative.

**TEXAS A&M TRANSPORTATION  
INSTITUTE**

**CENTRAL TEXAS REGIONAL  
MOBILITY AUTHORITY**

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT C**  
**Interlocal Cooperation Contract**  
**General Terms and Conditions**

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**Article 1. Amendments**

This contract may only be amended by written agreement executed by both parties prior to the expiration of the contract.

**Article 2. Records and Ownership**

- A. The Performing Agency agrees to maintain all books, documents, papers, accounting records, and other evidence pertaining to costs at its office during the contract period and for four years from the date of final payment under the contract. These materials shall be made available for inspection and copying by the Receiving Agency, by the State Auditor's Office, and by their authorized representatives. If the contract is federally funded, these materials shall also be made available for inspection and copying by the U.S. Department of Transportation and by the Office of the Inspector General.
- B. After completion or termination of this contract, all documents prepared by the Performing Agency or furnished to the Performing Agency by the Receiving Agency shall be delivered to and become the property of the Receiving Agency. All sketches, photographs, calculations, and other data prepared under this contract shall be made available, on request, to the Receiving Agency without restriction or limitation of further use.
- C. The Receiving Agency shall own all title to, all interests in, and all rights to all intellectual property (including copyrights, trade and service marks, trade secrets, and patentable devices or methods) arising from or developed under this contract.
- D. Except to the extent that a specific provision of this contract states to the contrary, all equipment purchased by the Performing Agency or its subcontractors under this contract shall be owned by the Receiving Agency and will be delivered to the Receiving Agency at the time the contract is completed or terminated.

**Article 3. Performing Agency Resources**

All employees of the Performing Agency shall have adequate knowledge and experience to enable them to perform the duties assigned to them. The Performing Agency certifies that it currently has adequate qualified personnel in its employ to perform the work required under this contract or will be able to obtain adequate qualified personnel from sources other than the Receiving Agency. On receipt of written notice from the Receiving Agency detailing supporting factors and evidence, the Performing Agency shall remove from the project any employee of the Performing Agency who is incompetent or whose conduct becomes detrimental to the work. Unless otherwise specified, the Performing Agency shall furnish all equipment, materials, supplies, and other resources required to perform the work.

**Article 4. Notice to Proceed**

The Performing Agency shall not proceed with any work or incur any costs until the Receiving Agency issues a written Notice to Proceed to the Performing Agency authorizing work to begin. Any costs incurred by the Performing Agency before receiving the notice are not eligible for reimbursement.

**Article 5. Additional Work**

- A. If the Performing Agency is of the opinion that any assigned work is beyond the scope of this contract and constitutes additional work, it shall promptly notify the Receiving Agency in writing. The written notice shall present the relevant facts and show how the work constitutes additional work.
- B. If the Receiving Agency in its sole discretion finds that the work does constitute additional work, the Receiving Agency shall so advise the Performing Agency. If both parties agree, the parties will execute a written amendment to this contract to authorize such additional work. The Performing Agency shall not

perform any proposed additional work or incur any additional costs before the execution of an amendment.

- C. The Receiving Agency shall not be responsible for actions by the Performing Agency or for any costs incurred by the Performing Agency relating to additional work that is performed before an amendment is executed or that is outside the scope of the contract, as amended.

#### **Article 6. Nonconforming Work**

If the Performing Agency submits work that does not comply with the terms of this contract, the Receiving Agency shall instruct the Performing Agency to make any revisions that are necessary to bring the work into compliance with the contract. No additional compensation shall be paid for this work.

#### **Article 7. Conflict of Interest**

The Performing Agency shall not assign an employee to a project if the employee:

1. owns an interest in or is an officer or employee of a business entity that has or may have a contract with the state or the Receiving Agency relating to the project;
2. has a direct or indirect financial interest in the outcome of the project;
3. has performed services regarding the subject matter of the project for an entity that has a direct or indirect financial interest in the outcome of the project or that has or may have a contract with the Receiving Agency; or
4. is a current part-time or full-time employee of the Receiving Agency.

#### **Article 8. Disputes**

The Performing Agency shall be responsible for the settlement of all contractual and administrative issues arising out of procurements entered in support of contract services. The Receiving Agency shall be responsible for the settlement of any dispute concerning this contract unless the dispute involves a subcontract.

#### **Article 9. No Assignment**

Neither party shall assign, sublet, or transfer any interest in this agreement.

#### **Article 10. Remedies**

This agreement shall not be considered as specifying the exclusive remedy for any default, but either party may avail itself of any remedy existing at law or in equity, and all remedies shall be cumulative.

#### **Article 11. Subcontracts**

A subcontract may not be executed by the Performing Agency without prior written authorization by the Receiving Agency. Subcontracts in excess of \$25,000 shall contain all applicable terms and conditions of this contract. No subcontract will relieve the Performing Agency of its responsibility under this contract.

#### **Article 12. Gratuities**

Any person who is doing business with or who reasonably speaking may do business with the Receiving Agency under this contract may not make any offer of benefits, gifts, or favors to employees of the Receiving Agency. The only exceptions allowed are ordinary business lunches and items that have received the advanced written approval of both the Executive Director of the Texas Department of Transportation and of the Receiving Agency.

#### **Article 13. Termination**

This contract may be terminated by satisfactory completion of all services and obligations contained in this contract, by mutual written agreement, or by either party unilaterally after 30 days' written notice to the other party. The Receiving Agency shall compensate the Performing Agency only for those eligible expenses that are incurred during this contract and that are directly attributable to the completed portion of the work covered by this contract and only if the work has been completed in a manner satisfactory and acceptable

to the Receiving Agency. The Performing Agency shall neither incur nor be reimbursed for any new obligations after the effective date of termination.

#### **Article 14. Basis for Calculating Reimbursement Costs**

The Receiving Agency will reimburse the Performing Agency for actual costs incurred in carrying out the services authorized in a Notice to Proceed issued in accordance with Attachment A, Scope of Services, subject to the cost categories and estimated costs set forth in the Notice to Proceed. The Receiving Agency shall compensate the Performing Agency for only those eligible expenses incurred during this contract that are directly attributable to the completed portion of the work covered by the Notice to Proceed and this contract, provided that the work has been completed in a manner satisfactory and acceptable to the Receiving Agency. The Performing Agency shall not incur or be reimbursed for any new obligations after the effective date of termination. The Performing Agency shall bill the Receiving Agency for actual travel expenses, not to exceed the limits reimbursable under state law. Out-of-state or out-of-country travel by the Performing Agency requires prior approval by the Receiving Agency.

The Performing Agency will invoice Receiving Agency monthly. Receiving Agency will process payments in accordance with the Texas Prompt Payment Act (Prompt Payment Act), Chapter 2251, Texas Government Code. Interest charges will be paid in accordance with the Prompt Payment Act.

#### **Article 15. Funding**

The Receiving Agency shall pay for services from funds available to the Receiving Agency from which like expenditures would normally be paid. If for any reason subcontractors and suppliers, if any, are not paid before the Receiving Agency reimburses the Performing Agency for their services, the Performing Agency shall pay the subcontractors and suppliers all undisputed amounts due for work no more than 10 days after the Performing Agency receives payment for the work unless a different time is specified by law. This requirement also applies to all lower-tier subcontractors and suppliers and must be incorporated in all subcontracts. If the Performing Agency fails to comply with this Article, the Receiving Agency may withhold payments and suspend work until the subcontractors and suppliers are paid. The Performing Agency is authorized to submit requests for reimbursement no more frequently than monthly and no later than 120 days after costs are incurred.

#### **Article 16. Reference to Costs Principles and Circulars**

Reimbursement with state or federal funds will be limited to costs determined to be reasonable and allowable under cost principles established in OMB Circular A-21, "Cost Principles for Educational Institutions," or OMB Circular A-87, "Cost Principles for State and Local Governments." The parties shall comply with the requirements of the Single Audit Act of 1984, P.L. 98-502, ensuring that the single audit report includes the coverage stipulated in OMB Circular A-133.

#### **Article 17. Authority of State Auditor**

The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the contract or indirectly through a subcontract under the contract, if any. Acceptance of funds from the state 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 18. 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. After receiving a written request from the Receiving Agency, the Performing Agency shall furnish the Receiving Agency with satisfactory proof of its compliance with this Article.

### **Article 19. Procurement and Property Management Standards**

The parties shall adhere to the procurement standard established in 49 CFR §18.36 and with the property management standard established in 49 CFR §18.32.

### **Article 20. Noncollusion**

The Performing Agency warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Performing Agency, to solicit or secure this Agreement, and that it has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon or resulting from the award or making of this Agreement. If the Performing Agency breaches or violates this warranty, the Receiving Agency shall have the right to annul this Agreement without liability or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover the full amount of such fee, commission, brokerage fee, contingent fee, or gift.

### **Article 21. Lobbying Certification**

In executing this agreement, each signatory certifies that:

- a. No federal appropriated funds have been paid or will be paid by or on behalf of the parties to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- b. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with federal contracts, grants, loans, or cooperative agreements, the signatory for the Performing Agency shall complete and submit the federal Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- c. The parties shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This statement is a material representation of fact upon which reliance was placed when this agreement was made or entered into. Submission of this statement is a prerequisite for making or entering into this agreement imposed by Title 31 U.S.C. §1352. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

By executing this agreement, the parties affirm this lobbying certification with respect to the Project and affirm this certification of the material representation of facts upon which reliance will be made.

### **Article 22. Equal Employment Opportunity**

The Performing Agency agrees to comply with Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 and as supplemented by Department of Labor regulations, 41 CFR Part 60. The Performing Agency agrees to consider minority universities for subcontracts when the opportunity exists. The Performing Agency warrants that it has developed and has on file appropriate affirmative action programs as required by applicable rules and regulations of the Secretary of Labor.

### **Article 23. Nondiscrimination**

- A. The Performing Agency shall comply with the regulations of the U.S. Department of Transportation relating to nondiscrimination in federally-assisted programs, including 49 CFR, Part 21; 23 CFR Chapter 1, Subchapter C; and 41 CFR, Parts 60 (the Regulations).

- B. The Performing Agency, with regard to the work performed during this agreement, shall not discriminate on the basis of race, color, sex, national origin, age, religion, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment.
- C. In all solicitations either by competitive bidding or negotiation made by the Performing Agency for work to be performed under a subcontract, including procurements of materials and leases of equipment, but not including routine purchase orders, each potential subcontractor or supplier shall be notified by the Performing Agency of the Performing Agency's obligations under this agreement and the Regulations.
- D. The Performing Agency shall provide all information and reports required by the Regulations and directives issued under the Regulations and shall permit access to its books, records, accounts, other sources of information and facilities as may be determined by the Texas Department of Transportation or the U.S. Department of Transportation to be pertinent to ascertain compliance with the Regulations or directives. If any information required of the Performing Agency is in the exclusive possession of another who fails or refuses to furnish this information, the Performing Agency shall so certify to the Receiving Agency or the U.S. Department of Transportation, whichever is appropriate, and shall set forth what efforts the Performing Agency has made to obtain the requested information.
- E. In the event of the Performing Agency's noncompliance with the nondiscrimination provision of this agreement, the Texas Department of Transportation shall impose such sanctions as it or the U.S. Department of Transportation may determine to be appropriate.
- F. The Performing Agency shall include the provisions of paragraphs A through E in every subcontract, including procurements of materials and leases of equipment, except routine purchase orders, unless exempt by the Regulations or directives. The Performing Agency shall take such lawful action with respect to any subcontract or procurement as the Receiving Agency may direct as a means of enforcing these provisions, including sanctions for noncompliance. In the event the Performing Agency becomes involved in or is threatened with litigation with a subcontractor or supplier as a result of directions given by the Receiving Agency, the Performing Agency may request the Receiving Agency to enter into the litigation to protect the interests of the State. In addition, the Performing Agency may request the United States to enter into litigation to protect the interests of the United States, if federal funds are used by Receiving Agency to make payment hereunder.

**Article 24. 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:

<b>Performing Agency:</b>	Texas A&M Transportation Institute c/o Sponsored Research Services 400 Harvey Mitchell Parkway South, Suite 300 College Station, Texas 77845 Attn: Chris Slape/Natilie Johnson
<b>Receiving Agency:</b>	Central Texas Regional Mobility Authority c/o Mike Heiligenstein, Executive Director 3300 N. IH-35, Suite 300 Austin, Texas 78705

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.

**MASTER RESEARCH INTERLOCAL AGREEMENT**  
**Between**  
**TEXAS A&M TRANSPORTATION INSTITUTE**  
**And**  
**CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

**WORK AUTHORIZATION NO. 1**

This Work Authorization No.1 (WA 1) is entered into by and between Central Texas Regional Mobility Authority, a political subdivision of the State of Texas having its principal place of business at 3300 N IH-35, Suite 300, Austin, Texas 78705 ("Authority"), and the **Texas A&M Transportation Institute**, a member of The Texas A&M University System ("System") and an agency of the State of Texas, having its principal place of business at 400 Harvey Mitchell Parkway South, Suite 300, College Station, Texas 77845 (hereinafter referred to as "TTI") referred to individually as "Party" and collectively the "Parties".

WHEREAS, the Authority and TTI entered into a Master Research Interlocal Agreement (the "ILA") effective as of February 22, 2017 whereby except as otherwise specified herein, the terms and conditions of the ILA are incorporated by reference into this Work Authorization.

NOW, THEREFORE, the Parties hereto agree as follows:

1. Statement of Work. TTI agrees to use its reasonable efforts to perform the work of the project as set forth in **Exhibit A** (the "Project"). Any change to this Project will be made effective only by a mutual written agreement.
2. Principal Investigator. The Project will be supervised by (PI name, phone, email), the Principal Investigator who will manage the Project on behalf of TTI.
3. Authority Technical Point of Contact. The Authority designates Ms. Jori Steck, Communications Manager, 512-450-6279, [Jsteck@ctrma.org](mailto:Jsteck@ctrma.org), as the primary point of contact to provide data and information as needed by the TTI project team consistent with the statement of work for this Work Authorization.
4. Period of Performance. The research shall be conducted during the period March 1, 2017 through December 31, 2017 and will be subject to extension only by mutual written agreement of both parties.
5. Price and Payment.
  - a. As consideration and compensation for TTI's performance of this Work



Authorization, the Authority agrees to pay TTI the fixed price amount of \$112,714.00 (the "Fixed Price"). Payments will be prorated to reflect project production, based on pre-established milestone objectives as agreed upon by both parties prior to the issuance of a Notice to Proceed (NTP).

b. The Fixed Price is based on the budget of the Project set forth in **Exhibit A**. Changes that affect costs such as Authority requested revisions to **Exhibit A** or marked differences that affect the initial price must be approved in advance by the Authority. The revisions to **Exhibit A** and the additional funds may only be added to this Work Authorization by an amendment signed by both parties.

6. Reports. TTI shall submit the following reports to the Authority:  
A comprehensive summary memo at the completion of each Task 1 through Task 4 and a complete report of findings as Task 5 with due dates indicated in Exhibit A, 3.5 "Project Tasks, Activities, Due Dates and Schedule".
7. This Work Authorization does not waive the parties' responsibilities and obligations provided under the ILA.

IN WITNESS WHEREOF, the parties have caused this Work Authorization No. 1 to be executed by their authorized representative.

**TEXAS A&M TRANSPORTATION  
INSTITUTE**

**CENTRAL TEXAS REGIONAL  
MOBILITY AUTHORITY**

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

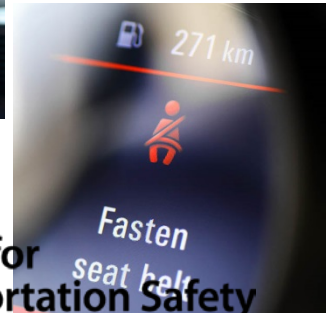
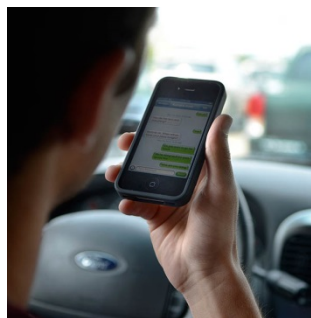
Date: \_\_\_\_\_

Date: \_\_\_\_\_

# EXHIBIT "A"

## Improving the User Experience with Toll System Interfaces

Preliminary Proposal  
February 2017



Center for  
Transportation Safety

Texas A&M Transportation Institute

**Improving the User Experience  
with  
Toll System Interfaces**

**Preliminary Proposal**

to

Tim Reilly, Director of Operations  
Jori Steck, Communications Manager

Central Texas Regional Mobility Authority  
Austin, Texas

Linda Sexton, Deputy Division Director

Texas Department of Transportation Toll Operations  
Austin, Texas

by

Michael Manser  
Senior Research Scientist

Johanna Zmud  
Senior Research Scientist

Center for Transportation Safety  
Texas A&M Transportation Institute  
College Station, Texas

February 10, 2017

# 1 Introduction

Toll roads in Central Texas use an electronic tolling system that eliminates the need for a cash-based system while also increasing efficiency. Electronic tolling systems are significantly more complex than cash-based systems from a technological and a user's perspectives. Adding to the complexity is the fact that there are two toll system operators (CTRMA and TxDOT) in the region and one toll tag, TxTag, that is administered by TxDOT but accepted by both operators. Customer interfaces for both front and back office operations have received considerable attention locally from the public and the media. For the purposes of this proposal, the interfaces do not include marketing and/or informational interfaces or operations. This has related primarily to the perceived challenges that users experienced while interacting with the various "touchpoints" which included websites, phone-based customer support, and billing statements.

A human factors approach to improving these user experiences would suggest that the problem is the gap between the way in which the "touchpoints" operate and the users' "mental models" (i.e., understanding) of the way these "touchpoints" should operate. Users' mental models are based on a combination of known facts about the touchpoint along with beliefs about what users know (or think they know) about a touchpoint's operation. When the actual operation of the touchpoint does not meet the users' mental model of the touchpoint, a significant amount of mistakes, confusion, frustration, and animosity can be evoked within the user because they find it difficult to use. This often leads to negative impressions of the touchpoint or agency responsible for the touchpoint.

A mismatch between models can also occur if the touchpoint is not designed to accommodate basic human limitations and capabilities. These limitations and capabilities can relate to how users understand simple and complex information, their ability to remember information, and physical interactions with touchpoints. Addressing human limitations and capabilities can significantly improve users' capacity to understand easily and interact with a touchpoint. Addressing mental models and human limitations and capabilities can be quite challenging for touchpoint designers because of their overfamiliarity with their systems and their belief that if they can easily use the touchpoint then everyone should be able to use the touchpoint with the same ease of use.

There are two general approaches to facilitate an alignment between user and touchpoint models. First, present to users a touchpoint that conforms to their mental models and is designed to address human limitations and capabilities (e.g., explaining things better and

making instructions or labels clearer). Second, improve users' mental models. The greatest gains can be made by addressing both approaches to the greatest extent possible.

Unless both approaches are addressed, users will continue to experience significant frustration and confusion, which will negatively impact users' perceptions of system acceptance, satisfaction, and trust. Identification and understanding of user frustration and confusion can serve as the basis for making touchpoint improvements that will subsequently increase system use and revenue.

The goals of the proposed project are to:

- Identify the main causes of negative user experience with the front and back office customer toll system touchpoints, and how the underlying customer user mental models contribute to negative experiences, and
- Identify solutions, that when implemented, will improve the user experience for front and back office system touchpoints.

## 2 Project Tasks

The Texas A&M Transportation Institute research team will successfully accomplish the proposed goals through the execution of several project tasks, identified in the following subsections.

### 2.1 Task 1 - Produce Process Maps for “Touchpoints”

Customers of CTRMA and TxDOT<sup>1</sup> toll roads interact with the tolling systems at various touchpoints including websites, phone-based customer support, printed mailings such as billing statements, “brick and mortar” storefronts<sup>2</sup>, etc. A system user interacts with one or more of these touchpoints to perform goal orientated tasks, such as paying a bill, updating a license

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<sup>1</sup> The proposed work will focus on CTRMA and TxDOT touchpoints only. Interfaces and touchpoints outside the CTRMA and TxDOT domains (e.g., North Texas Tollway Authority) will not be considered.

<sup>2</sup> Note, the project will not interview or otherwise examine storefront operations. However, TTI will attempt to query customers about relative frequency of use of storefronts versus other touchpoints within the customer survey.

plate number on file, or opening a TxTag account. Within Task 1, TTI project staff will interview three (3) CTRMA and three (3) TxDOT staff to identify the “tasks” that a user is expected to perform with each touchpoint. For each of the three touchpoints (i.e., web, phone support, billing statements), TTI will generate a list of 5-10 primary core tasks and process map each. This will be accomplished through interviews with CTRMA and TxDOT staff. This task will not include interviews with either CTRMA or TxTag (TxDOT) customers. Information gathered will include high-level information requirements of each touchpoint and possible points of “process breakdown”, that is, those areas where the process maps indicate a potential conflict with users’ mental models or human limitations or capabilities. Using this information, the team will generate specific performance targets for users (i.e., user experience goals) that should be met for each primary core task when users interact with each “touchpoint. The performance targets will be defined and documented and then used in subsequent tasks.

## **2.2 Task 2 - Gather User Perspectives in Online Survey**

An online survey of TxDOT and CTRMA customers will be conducted to assess significant points of process breakdown and associated primary core tasks. These would be the points that contribute most to a negative user experiences. It is expected that addressing the issues relative to the primary core tasks would greatly improve user experience. This survey is not a customer satisfaction survey. Instead, it is a survey to identify those tasks and elements of tasks that lead to the greatest positive and negative user experiences when interacting with the websites, phone support, and billing statements.

The online survey content will include the list of primary core tasks organized by touchpoint category (i.e., website, phone support, and billing statement) identified in Task 1. We anticipate identifying and addressing no more than 30 tasks (e.g., do customers try to pay their bill at MSB, CTRMA, TxDOT, or TxTAG). Survey respondents will be asked to select the five tasks for which they have experienced the most confusion or frustration in performing over the past year. Then the list will be presented again with the first five selected tasks removed, and users will be asked the question again. This will be done iteratively until a small group of tasks remain. When aggregated across all respondents, this method will result in a prioritized list of tasks that cause confusion and frustration. The survey will ask users about system use information that will further facilitate interpretation of results. The online survey program would conform to good principles of web survey interface to ensure a positive user experience. Data would be analyzed and priority lists developed in the aggregate and by operator (CTRMA/TxDOT).

We propose to send a survey link to CTRMA and TxDOT customer emails for the survey sample. We will provide a random method to each operator for selecting survey respondent emails from their customer databases. With the incentive and a motivating invitation to participate in the survey, we expect a response rate of 20% (1200 survey responses). Given this expectation, we would want to email the survey invitation to 3000 CTRMA and 3000 TxDOT customers. Note, TTI will request a total of 9000 customer emails (4500 CTRMA and 4500 TxDOT). The additional 3000 emails beyond the initial 6000 will be used to replace any duplicate records between CTRMA and TxDOT and will also be used if the overall response rate falls below 20% (1200 responses). The additional emails will negate the need for a second email request to both CTRMA and TxDOT. Note, a maximum of 9000 surveys (4500 for CTRMA and 4500 for TxDOT) will be sent out to customers regardless of survey response rates (i.e., if survey response rate is below 20% we will not request additional emails). The final format of email addresses will be specified by TTI and provided to CTRMA and TxDOT. Although, at this time we request that the fields of first name, last name, and email address be provided in an excel file with each field represented in a different column. The same data could also be provided in a comma delineated txt file. TxDOT will provide the customer information to TTI following receipt of signed nondisclosure agreements from TTI project staff members that will have access to the information. Prior to sending the survey invitation, we would match the lists to discard any duplicates. CTRMA and TxDOT will review and approve the survey before distribution to customers. We would like to offer an incentive of \$10 added to the existing TxTag account (or a new account) for completing the survey. The incentive will be paid to all participants (CTRMA and TxTAG customers who participate in the survey) by CTRMA (but not paid in by TTI). The estimated overall incentive costs for 6000 surveys would be \$60,000 (6000 x \$10). It is estimated that the overall incentive costs could be as high as \$90,000 (9000 customers x \$10 each) if all 9000 surveys are required.

## **2.3 Task 3 - Design and Execute Performance Target Tests**

At a meeting with CTRMA and TxDOT, the prioritized lists of problematic tasks will be evaluated, along with the other contextual information<sup>3</sup> gathered in the survey, to determine

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<sup>3</sup> Contextual information refers to factors that may influence task completion that TTI should be aware of and consider when designing and conducting the tests. Contextual information does not include any confidential customer account information

which primary core tasks should be addressed further. Performance target tests would be designed to identify specific process breakdown points for website or billing statements<sup>4</sup>. Together with CTRMA and TxDOT, TTI would identify appropriate metrics, such as the time or ease with which a user “should” be able to accomplish a task, which can be used as the criteria for successful or unsuccessful task performance. We expect to conduct the tests with no more than 10 tasks.

The tests would examine performance in two ways. First, user impressions as they perform the tasks will be analyzed. This will be accomplished through the use of a one-on-one “think out loud” testing protocol. In this protocol users are asked to complete each primary core task while continuously talking to the experimenter about their experience, how they are completing the task, what is confusing, etc. - that is, simply verbalizing their thoughts as they move through the user interface. This method has been used successfully in previous system evaluations to determine what users really think and feel about the interface design as they try to perform the task in question and the process areas associated with negative experiences. In particular, we would identify directly *why* users’ interactions and subsequent perceptions are incorrect and negative relative to specific touchpoint process map points. Second, in the case of the web interface, we would also be able to record actual keystrokes for additional insight and may consider analyzing that data. For example, while attempting to complete a goal users may select interface options that do not help them complete the primary core task or may dwell on a particular area of an interface. Both findings would suggest a degree of user misunderstanding.

A sample of 6 to 10 users at most would be employed for the performance target tests who are naïve to the touchpoints. These respondents would be randomly selected individuals from the public who are not CTRMA or TxDOT staff, are not CTRMA or TxDOT customers, and who have not participated in the survey. This is an important consideration because these individuals would not come into the performance target test with preconceived biases, enabling us to distinguish perceptions from facts. After the tests, we would have empirical information on the problematic touchpoints, process maps points, and user experiences. TTI will recruit these individuals from the general public or from the TTI participant pool. All performance target test materials will be provided to CTRMA and TxDOT for approval. The final set of materials will

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<sup>4</sup> TTI is unable to replicate phone-based support for performance target testing.



then receive Texas A&M Institutional Review Board approval and the project staff will then follow all IRB approved protocol.

## **2.4 Task 4 - Touchpoint Modification Recommendations**

TTI will hold a 1/2 day workshop with CTRMA and TxDOT staff to review the results of Tasks 1, 2 and 3 and will provide a list of recommended touchpoint modifications to improve users' experience. The advantages and disadvantages of the recommended fixes will be discussed and prioritized. TTI will document the discussion and consensus.

## **2.5 Task 5 - Report of Findings**

The project will culminate in a depiction of the weaknesses of the current user interface, along with recommendations for improvements that will most improve the ability of users to meet their goals with high acceptance and satisfaction. The report will document the methods used to gather this information and present the agreed upon findings.

# **3 Project Information**

## **3.1 Assumptions**

- 3.1.1 Institutional Review Board - According to the Code of Federal Regulations (45 CFR 46) all University-based research involving human participants must be reviewed and approved by an Institutional Review Board panel before any data collection can begin. This affects the Task 2 online survey and the Task 3 performance target tests. TTI has received approval for numerous tasks similar to the online survey and the performance target tests from the Texas A&M IRB panel and will seek approval from them for the current work. This approval will require participants in both tasks to fill out an informed consent document which requires minimal effort and will not interfere with each task. No customer confidential information is required for either IRB approval or for the informed consent document.
- 3.1.2 The work proposed here recommends that each of the 6000 tolling customers (3000 CTRMA and 3000 TxDOT), but potentially up to 9000 customers, who complete the Task 2 online survey be provided with \$10 tolling credit. The cost of this credit is not included in the proposed budget.

3.1.3 The Task 2 online survey will be facilitated by CTRMA and TxDOT support in terms of providing a random sample of toll users.

## 3.2 Project Management

### 3.2.1 Overview

The work proposed here will receive the full attention of the TTI staff. This will include 1) direct management and participation in the project by senior staff that have direct and extensive previous experience developing process maps for touchpoints, conducting online surveys, conducting performance target tests, and providing documentation to project sponsors. The project will use TTI's nationally recognized resources, will be managed by experienced project personnel to ensure deliverables and timeframes are met, and will include financial oversight to ensure budget constraints are met. A successful project is also achieved through productive communications between the project sponsor and project team. To ensure productive communications TTI staff will maintain regular contact with CTRMA and TxDOT at the request of CTRMA staff regarding primary project activities such as project task status and budget expenditures.

### 3.2.2 Reporting and Communications

This contract and workplan represent an agreement between the CTRMA and TTI and that funding for the work will be provided directly by CTRMA. It is recognized TxDOT is a partner in this work and that TxDOT will support CTRMA in several ways (e.g., partial project funding, feedback on deliverables, etc). to provide a clear and manageable reporting structure and because the contract is between CTRMA and TTI, TTI will report directly to CTRMA. All deliverables will be provided to CTRMA and communications will occur between CTRMA and TTI. TTI will, at the request of CTRMA, copy and include TxDOT staff; however, it is the responsibility of CTRMA to interact with TxDOT (e.g., share project materials with TxDOT, obtain TxDOT feedback on deliverable in a timely fashion, etc).

### 3.2.3 Information Exchange

TTI will not disclose the results or information related to the current work to third parties without the consent of CTRMA and TxDOT. TTI understands and agrees that CTRMA has no authority over customer account information provided by TxDOT to TTI for purposes of performing the current work and cannot consent to any release of such information. Likewise, TxDOT has no authority over customer account information provided by CTRMA to TTI for purposes of performing the current work and cannot consent to any release of such

information. Furthermore, TTI will not disclose any TxDOT customer account information to CTRMA. All contact/email lists will be kept confidential until the end of the project at which time they will be destroyed.

### 3.2.4 Project Schedule

Completing all project activities and deliverables by the scheduled due dates identified in Section 3.5 is imperative to achieve the overall project objectives and to achieve them in a timeframe anticipated by CTRMA.

## 3.3 Cost

Cost = \$112,714

## 3.4 Biographies

The proposed evaluation will employ senior and experienced project staff members who have extensive experience developing process maps for touchpoints, conducting online surveys, conducting performance target tests, and providing documentation to project sponsors.

### 3.4.1 Michael P. Manser

Michael Manser, Ph.D., is a Senior Research Scientist and the Human Factors Program Manager in the Center for Transportation Safety (CTS) at the Texas A&M Transportation Institute. The Human Factors Program examines the behavioral, cognitive, and perceptual related factors that contribute to transportation safety, mobility, and efficiency. A focus area of the Program includes the evaluation and design of web and machine-based user interfaces. He has more than 20 years of professional experience in the area of transportation research including extensive user interface evaluation and design. In his role as Program Manager Dr. Manser is responsible for managing program finances, managing programmatic resources such as the driving environment simulator, and providing a strategic research direction for the Program staff. He has also held positions at the University of Minnesota Intelligent Transportation Systems Institute and Center for Transportation Safety. He received his Ph.D. in Human Factors

and Ergonomics at the University of Minnesota and received has received User Interface Designer Certification.

### 3.4.2 Johanna Zmud

Dr. Zmud is a Senior Research Scientist at the Texas A&M Transportation Institute (TTI) and director of its Washington, D.C., office. She has nearly 30 years of transportation research and consulting experience, with clients at the federal, state, and metropolitan levels as well as international clients. She is an internationally acknowledged innovator in bridging transportation research, data, information, and technology. Throughout her professional career, her major research areas have been mobility analysis, technology applications for travel-data collection, emerging data management issues (e.g., data governance, ownership, and privacy), and the impacts of new technologies on travel demand. Two current policy studies at TTI pertain to autonomous vehicle-deployment scenarios and the impact of autonomous vehicles on travel mode choice and distance. Prior to her current position, she directed the transportation, space and technology program at the RAND Corporation.

### 3.5 Project Tasks, Activities, Due Dates, and Schedule

Task 1	Resp	Due Data ACA*	Week After Contract Award																																																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40												
CTRMA and TxDOT identify staff to be interviewed.	CTRMA	3	■	■	■																																																	
Conduct Touchpoint interviews with CTRMA staff.	TTI	7			■	■	■	■	■																																													
Conduct Touchpoint interviews with TxDOT staff.	TTI	7			■	■	■	■	■																																													
Submit task summary memo	TTI	8								■	■																																											
<b>Task 2</b>																																																						
Develop online survey	TTI	4		■	■																																																	
Submit online survey for approval	TTI	4		■	■																																																	
CTRMA/TxDOT approves survey or request modifications	CTRMA	6				■	■	■																																														
Submit final online survey	TTI	8																																																				
Provide CTRMA/TxDOT with sampling method	TTI	4		■	■																																																	
List of emails submitted to TTI	CTRMA	6					■																																															
Email survey to customers	TTI	12								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
Submit memo of methods, results, and priority lists	TTI	20																																																				
<b>Task 3</b>																																																						
Develop performance target test methodology	TTI	13																																																				
Submit methodology to CTRMA/TxDOT for approval	TTI	14																																																				
CTRMA/TxDOT approves or requests modifications	CTRMA	16																																																				
Submit final methodology	TTI	18																																																				
Conduct performance target test	TTI	26																																																				
Submit task summary memo	TTI	27																																																				
<b>Task 4</b>																																																						
Identify workshop date	TTI	24																																																				
Conduct workshop	TTI	30																																																				
Submit task summary memo	TTI	32																																																				
<b>Task 5</b>																																																						
Develop a report of project findings.	TTI	39																																																				
Submit report	TTI	40																																																				



**Exhibit B**

## Interlocal Agreement

### Contract Services Transmittal Form

From: Toll Operations Division - 87  (District/Division)	Contact Person: Linda Sexton  Phone No.: 512-874-9177
Subject: Improving the User Experience Survey	
Other Entity Central Texas Regional Mobility Authority	Contract Maximum Amount Payable \$56,357.00
Are any federal funds used in this contract? No  If yes, what kind of federal funds.	
Was the standard interlocal or amendment format modified? Yes _____ No <u>X</u>  If modified, date of Contract Services approval: _____  Modifications made are as follows:	



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 (CTRMA)      Local Government

**II. PURPOSE:** This Contract is intended to allow TxDOT to participate in a User Experience Survey with the CTRMA.

**III. STATEMENT OF SERVICES TO BE PERFORMED:** The Local Government 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 \$ 56,357.00 and shall conform to the provisions of **Attachment B**, Budget. Payments shall be billed monthly.

**V. TERM OF CONTRACT:** Payment under this contract beyond the end of the current fiscal biennium is subject to availability of appropriated funds. If funds are not appropriated, this contract shall be terminated immediately with no liability to either party. This contract begins when fully executed by both parties and terminates on December 31, 2017 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 \_\_\_\_\_, has authorized the Local Government to provide the scope of services.

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

**Central Texas Regional Mobility Authority**

By \_\_\_\_\_ Date \_\_\_\_\_  
Mike Heiligenstein  
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

TxDOT, in collaboration with the CTRMA, will participate jointly in a User Experience Survey to better align users and customer service touchpoints by understanding and addressing the users most common gaps as it relates to toll system interfaces. The Center for Transportation Safety, Texas A&M Transportation Institute (TTI) will perform the survey through an existing contract with CTRMA.

Toll roads in Central Texas use an electronic tolling system that eliminates the need for a cash-based system while also increasing efficiency. Electronic tolling systems are significantly more complex than cash-based systems from both a technological and user perspective. There are two toll system operators (CTRMA and TxDOT) in the region and one toll tag, TxTag, which is administered by TxDOT but accepted by both operators. Customer interfaces for both front and back office operations are critical in providing a good customer service experience while interacting with the various “touchpoints,” which include websites, phone-based customer support, and billing statements.

A human factors approach to improving these user experiences would suggest that the problem is the gap between the way in which the “touchpoints” operate and the users’ “mental models” (i.e., understanding) of the way these “touchpoints” should operate. A mismatch between models can also occur if the touchpoint is not designed to accommodate basic human limitations and capabilities. Addressing human limitations and capabilities can significantly improve users’ capacity to understand easily and interact with a touchpoint.

1. SURVEY: The survey will focus on two general approaches to facilitate an alignment between user and touchpoint models. The goals of the survey are to:
  - 1.1. Identify the main causes of negative user experience with the front and back office customer toll system touchpoints and how the underlying customer user mental models contribute to negative experiences, and
  - 1.2. Identify solutions, that when implemented, will improve the user experience for front and back office system touchpoints.
2. TASKS: Goals will be accomplished through the execution of several tasks identified below.

#### **2.1. Task 1 – Produce Process Maps for “Touchpoints”**

Customers of CTRMA and TxDOT toll roads interact with the tolling systems at various touchpoints including websites, phone-based customer support, printed mailings such as billing statements, etc. A system user interacts with these touchpoints to perform goal orientated tasks, such as paying a bill, updating a license plate number on file, or opening a TxTag account. Within Task 1, TTI project staff will interview three (3) CTRMA and three (3) TxDOT staff to identify the “tasks” that a user is expected to perform with each touchpoint. For each of the three touchpoints (i.e., web, phone support, billing statements), TTI will generate a list of 5-10 primary core tasks and process map each. Information gathered will include high-level information requirements of each touchpoint and possible points of “process breakdown”,

that is, those areas where the process maps indicate a potential conflict with users' mental models or human limitations or capabilities. Using this information, the TTI team will generate specific performance targets for users (i.e., user experience goals) that should be met for each primary core task when users interact with each "touchpoint. The performance targets will be defined and documented and then used in subsequent tasks.

## **2.2. Task 2 - Gather User Perspectives in Online Survey**

An online survey of TxDOT and CTRMA customers will be conducted to assess significant points of process breakdown and associated primary core tasks. The survey will identify those tasks and elements of tasks that lead to the greatest positive and negative user experiences when interacting with the websites, phone support, and billing statements.

The online survey content will include the list of primary core tasks organized by touchpoint category (i.e., website, phone support, and billing statement) identified in Task 1. It is anticipated that no more than 30 tasks will be identified and addressed (e.g., do customers try to pay their bill at MSB, CTRMA, TxDOT, or TxTAG). Survey respondents will be asked to select the five tasks for which they have experienced the most confusion or frustration in performing over the past year. Then the list will be presented again with the first five selected tasks removed, and users will be asked the question again. This will be done iteratively until a small group of tasks remain. When aggregated across all respondents, this method will result in a prioritized list of tasks. The survey will query about system use information and limited demographic information that will further facilitate interpretation of results. The online survey program would conform to good principles of web survey interface to ensure a positive user experience. Data would be analyzed and priority lists developed in the aggregate and by operator (CTRMA/TxDOT).

A survey link will be provided to CTRMA and TxDOT customer emails for the survey sample. A response rate of 20% (1200 survey responses) is expected. The survey invitation will be emailed to 3000 CTRMA and 3000 TxDOT customers. A total of 9000 customer emails (4500 CTRMA and 4500 TxDOT) will be requested. The additional 3000 emails beyond the initial 6000 will be used to replace any duplicate records between CTRMA and TxDOT and will also be used if the overall response rate falls below 20% (1200 responses). TxDOT will provide the customer information to TTI following receipt of signed nondisclosure agreements from TTI project staff members that will have access to the information. Prior to sending the survey invitation, any duplicates emails/customers will be discarded. CTRMA and TxDOT will review and approve the survey before distribution to customers.

## **2.3. Task 3 - Design and Execute Performance Target Tests**

### **2.3.1. Design**

CTRMA and TxDOT will approve the prioritized lists of tasks to be evaluated, along with the other contextual information gathered in the survey, to determine which primary core tasks should be addressed further. Performance target tests would be designed to identify specific process breakdown points for website or billing statements. Metrics, such as the time or ease

with which a user “should” be able to accomplish a task, which can be used as the criteria for successful or unsuccessful task performance, will be identified. No more than 10 tasks are expected to conduct the tests.

### **2.3.2. Execute Performance Target Tests**

The tests will examine performance in two ways:

2.3.2.1. First, user impressions as they perform the tasks will be analyzed. This will be accomplished through the use of a one-on-one “think out loud” testing protocol. In this protocol users are asked to complete each primary core task while continuously talking to the experimenter about their experience, how they are completing the task, what is confusing, etc. - that is, simply verbalizing their thoughts as they move through the user interface.

2.3.2.2. Second, in the case of the web interface, actual keystrokes will be recorded for additional insight and may consider analyzing that data. For example, while attempting to complete a goal users may select interface options that do not help them complete the primary core task or may dwell on a particular area of an interface.

#### **2.3.2.3. Random Naïve Sample**

A sample of 6 - 10 users at most would be employed for the performance target tests who are naïve to the touchpoints. These respondents would be randomly selected individuals from the public who are not CTRMA or TxDOT staff, are not CTRMA or TxDOT customers, and who have not participated in the survey. This is an important consideration because these individuals would not come into the performance target test with preconceived biases, which enables staff to distinguish perceptions from facts.

### **2.3.3. Results**

The test results will provide empirical information on the problematic touchpoints, process maps points, and user experiences. All performance target test materials will be provided to TxDOT for approval.

## **2.4. Task 4 - Touchpoint Modification Recommendations**

A half- day workshop to review the results of Tasks 1, 2 and 3 will be scheduled to provide a list of recommended touchpoint modifications to improve users’ experience. The advantages and disadvantages of the recommended fixes will be discussed and prioritized.

## **2.5. Task 5 - Report of Findings**

A report of the list of weaknesses of the current user interfaces, along with recommendations for improvements that will most improve the ability of users to meet their goals with high acceptance and satisfaction will be provided. The report will document the methods used to gather this information and present the agreed upon findings.

**ATTACHMENT B****Budget**

The table below provides general guidance for the cost of the survey. The particulars shall be determined and agreed upon prior to the start of specific tasks.

<b>Task</b>	<b>Description</b>	<b>Deliverable</b>	<b>Amount Payable</b>
<b>2.1</b>	<b>Process Maps</b>	<b>Approved Process Maps</b>	<b>9392.00</b>
<b>2.2</b>	<b>Online Survey</b>	<b>Approved Online Survey</b>	<b>9392.00</b>
<b>2.3.1</b>	<b>Design Performance Target Tests</b>	<b>Approved Performance Target Tests</b>	<b>9392.00</b>
<b>2.3.3</b>	<b>Performance Test Results</b>	<b>Provide Test Results</b>	<b>9392.00</b>
<b>2.4</b>	<b>Touchpoint Mod Recommendations</b>	<b>Provide and Agree on Recommendations</b>	<b>9392.00</b>
<b>2.5</b>	<b>Report of Findings</b>	<b>Approved report</b>	<b>9397.00</b>

## ATTACHMENT C

### General Terms and Conditions

#### Article 1. Additional Work

- A. If the Local Government is of the opinion that any assigned work is beyond the scope of this contract and constitutes additional work, it shall promptly notify TxDOT in writing. The written notice shall present the relevant facts and show how the work constitutes additional work.
- B. If TxDOT in its sole discretion finds that the work does constitute additional work, TxDOT shall so advise the Local Government and a written amendment will be executed. The Local Government shall not perform any proposed additional work or incur any additional costs before the execution of an amendment.
- C. TxDOT shall not be responsible for actions by the Local Government or for any costs incurred by the Local Government relating to additional work that is performed before an amendment is executed or that is outside the scope of the contract, as amended.

#### Article 2. Amendments

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

#### Article 3. Notice to Proceed

If Attachment A requires a notice to proceed, the Local Government shall not proceed with any work or incur any costs until TxDOT issues a written notice to the Local Government authorizing work to begin. Any costs incurred by the Local Government before receiving the notice are not eligible for reimbursement.

#### Article 4. 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 5. Nonconforming Work

If the Local Government submits work that does not comply with the terms of this contract, TxDOT shall instruct the Local Government to make any revisions that are necessary to bring the work into compliance with the contract. No additional compensation shall be paid for this work.

#### Article 6. 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. TxDOT shall compensate the Local Government only for those eligible expenses that are incurred during this contract and that are directly attributable to the completed portion of the work covered by this contract and only if the work has been completed in a manner satisfactory and acceptable to TxDOT. The Local Government shall neither incur nor be reimbursed for any new obligations after the date of termination.

#### Article 7. Funding

TxDOT shall pay for services from appropriation items or accounts from which like expenditures would normally be paid. Payments received by the Local Government shall be credited to the current appropriation items or accounts from which expenditures of that character were originally made. If for

any reason subcontractors and suppliers, if any, are not paid before TxDOT reimburses the Local Government for their services, the Local Government shall pay the subcontractors and suppliers all undisputed amounts due for work no more than 10 days after the Local Government receives payment for the work unless a different time is specified by law. This requirement also applies to all lower-tier subcontractors and suppliers and must be incorporated in all subcontracts. If the Local Government fails to comply with this Article, TxDOT may withhold payments and suspend work until the subcontractors and suppliers are paid. The Local Government is authorized to submit requests for reimbursement no more frequently than monthly and no later than ninety (90) days after costs are incurred.

#### **Article 8. Basis for Calculating Reimbursement Costs**

TxDOT will reimburse the Local Government for actual costs incurred in carrying out the services authorized in Attachment A, Scope of Services, subject to the cost categories and estimated costs set forth in Attachment B, Budget. TxDOT shall compensate the Local Government for only those eligible expenses incurred during this contract that are directly attributable to the completed portion of the work covered by this contract, provided that the work has been completed in a manner satisfactory and acceptable to TxDOT. The Local Government shall not incur or be reimbursed for any new obligations after the effective date of termination. The Local Government shall bill TxDOT for actual travel expenses, not to exceed the limits reimbursable under state law. Out-of-state or out-of-country travel by the Local Government requires prior approval by TxDOT.

#### **Article 9. 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. The only exceptions allowed are ordinary business lunches and items that have received the advanced written approval of the Executive Director of the Texas Department of Transportation.

#### **Article 10. Conflict of Interest**

The Local Government shall not assign an employee to a project if the employee:

- A. owns an interest in or is an officer or employee of a business entity that has or may have a contract with the state relating to the project;
- B. has a direct or indirect financial interest in the outcome of the project;
- C. has performed services regarding the subject matter of the project for an entity that has a direct or indirect financial interest in the outcome of the project or that has or may have a contract with TxDOT; or
- D. is a current part-time or full-time employee of TxDOT.

#### **Article 11. Local Government Resources**

All employees of the Local Government shall have adequate knowledge and experience to enable them to perform the duties assigned to them. The Local Government certifies that it currently has adequate qualified personnel in its employment to perform the work required under this contract or will be able to obtain adequate qualified personnel from sources other than TxDOT. On receipt of written notice from TxDOT detailing supporting factors and evidence, the Local Government shall remove from the project any employee of the Local Government who is incompetent or whose conduct becomes detrimental to the work. Unless otherwise specified, the Local Government shall furnish all equipment, materials, supplies, and other resources required to perform the work.

**Article 12. Assignment Subcontracts**

A subcontract may not be executed by the Local Government without prior written authorization by TxDOT. Subcontracts in excess of \$25,000 shall contain all applicable terms and conditions of this contract. No subcontract will relieve the Local Government of its responsibility under this contract. Neither party shall assign any interest in this agreement.

**Article 13. 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 14. Disputes**

The Local Government shall be responsible for the settlement of all contractual and administrative issues arising out of procurements entered in support of contract services. TxDOT shall be responsible for the settlement of any dispute concerning this contract unless the dispute involves a subcontract.

**Article 15. No Assignment**

Neither party shall assign, sublet, or transfer any interest in this agreement.

**Article 16. Remedies**

This agreement shall not be considered as specifying the exclusive remedy for any default, but either party may avail itself of any remedy existing at law or in equity, and all remedies shall be cumulative.

**Article 17. License for TxDOT Logo Use**

- A. Grant of License; Limitations: The Local Government is granted a limited revocable non-exclusive license to use the registered TxDOT trademark logo (TxDOT Flying "T") on any deliverables prepared under this contract that are the property of the State. The Local Government may not make any use of the registered TxDOT trademark logo on any other materials or documents unless it first submits that request in writing to the State and receives approval for the proposed use. The Local Government agrees that it shall not alter, modify, dilute, or otherwise misuse the registered TxDOT trademark logo or bring it into disrepute.
- B. Notice of Registration Required: The Local Government's use of the Flying "T" under this article shall be followed by the capital letter R enclosed within a circle (®) that gives notice that the Flying "T" is registered in the United States Patent and Trademark Office (USPTO).
- C. No Assignment or Sublicense: The Local Government may not assign or sublicense the rights granted by this article without the prior written consent of the State.
- D. Term of License: The license granted to the Local Government by this article shall terminate at the end of the term specified by this contract.

**Article 18. Records and Ownership**

- A. The Local Government agrees to maintain all books, documents, papers, accounting records, and other evidence pertaining to costs at its office during the contract period and for four years from the date of final payment under the contract. These materials shall be made available for inspection and copying by TxDOT, by the State Auditor's Office, and by their authorized representatives. If the contract is federally funded, these materials shall also be made available for inspection and copying by the U.S. Department of Transportation and by the Office of the Inspector General.



- B. After completion or termination of this contract, all documents prepared by the Local Government or furnished to the Local Government by TxDOT shall be delivered to and become the property of TxDOT. All sketches, photographs, calculations, and other data prepared under this contract shall be made available, on request, to TxDOT without restriction or limitation of further use.
- C. TxDOT shall own all title to, all interests in, all rights to, and all intellectual property (including copyrights, trade and service marks, trade secrets, and patentable devices or methods) arising from or developed under this contract.
- D. Except to the extent that a specific provision of this contract states to the contrary, all equipment purchased by the Local Government or its subcontractors under this contract shall be owned by TxDOT and will be delivered to TxDOT at the time the contract is completed or terminated.
- E. 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 19. Reference to Costs Principles and Circulars**

Reimbursement with state or federal funds will be limited to costs determined to be reasonable and allowable under cost principles established in OMB Circular A-21, "Cost Principles for Educational Institutions," or 2 CFR 200. The parties shall comply with the requirements of the Single Audit Act of 1984, P.L. 98-502, ensuring that the single audit report includes the coverage stipulated in 2 CFR 200.

#### **Article 20. Equal Employment Opportunity**

The Local Government agrees to comply with Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 and as supplemented by Department of Labor regulations, 41 CFR Part 60. The Local Government agrees to consider minority universities for subcontracts when the opportunity exists. The Local Government warrants that it has developed and has on file appropriate affirmative action programs as required by applicable rules and regulations of the Secretary of Labor.

#### **Article 21. Civil Rights Compliance**

- A. Compliance with Regulations: The Local Government will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made part of this agreement.
- B. Nondiscrimination: The Local Government, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Local Government will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
- C. Solicitations for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the Local Government for work to be performed under a subcontract, including procurement of materials or leases of

equipment, each potential subcontractor or supplier will be notified by the Local Government of the Local Government's obligations under this contract and the Acts and Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

- D. Information and Reports: The Local Government will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the State or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations or directives. Where any information required of the Local Government is in the exclusive possession of another who fails or refuses to furnish this information, the Local Government will so certify to the State or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
- E. Sanctions for Noncompliance: In the event of the Local Government's noncompliance with the Nondiscrimination provisions of this contract, the State will impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
  - a. withholding of payments to the Local Government under the contract until the Local Government complies and/or
  - b. cancelling, terminating, or suspending of the contract, in whole or in part.
- F. Incorporation of Provisions: The Local Government will include the provisions of paragraphs (A) through (F) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Local Government will take such action with respect to any subcontract or procurement as the State or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Local Government becomes involved in, or is threatened with, litigation with a subcontractor or supplier because of such direction, the Local Government may request the State to enter into such litigation to protect the interests of the State. In addition, the Local Government may request the United States to enter into such litigation to protect the interests of the United States.

## **Article 22. Noncollusion**

The Local Government warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Local Government, to solicit or secure this Agreement, and that it has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon or resulting from the award or making of this Agreement. If the Local Government breaches or violates this warranty, the Texas Department of Transportation shall have the right to annul this Agreement without liability or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover the full amount of such fee, commission, brokerage fee, contingent fee, or gift.

## **Article 23. Lobbying Certification**

In executing this agreement, each signatory certifies that:

- A. No federal appropriated funds have been paid or will be paid by or on behalf of the parties to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

- B. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with federal contracts, grants, loans, or cooperative agreements, the signatory for the Local Government shall complete and submit the federal Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- C. The parties shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This statement is a material representation of fact upon which reliance was placed when this agreement was made or entered into. Submission of this statement is a prerequisite for making or entering into this agreement imposed by Title 31 U.S.C. §1352. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

By executing this agreement, the parties affirm this lobbying certification with respect to the Project and affirm this certification of the material representation of facts upon which reliance will be made.

**Article 24. 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. After receiving a written request from TxDOT, the Local Government shall furnish TxDOT with satisfactory proof of its compliance with this Article.

**Article 25. Signatory Warranty**

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

**Article 26. 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:

<b>Local Government:</b>	Director of Operations Central Texas Regional Mobility Authority 3300 N. IH-35, Suite 300 Austin, Tx 78705
<b>TxDOT:</b>	TxDOT Division Director TxDOT, Toll Operations Division 12719 Burnet Road Austin, Texas 78727

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.

**Article 27. Pertinent Non-Discrimination Authorities**

During the performance of this contract, the Local Government, for itself, its assignees, and successors in interest agree to comply with the following nondiscrimination statutes and authorities; including but not limited to:

- A. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- B. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects).
- C. Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), as amended, (prohibits discrimination on the basis of sex).
- D. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.) as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27.
- E. The Age Discrimination Act of 1975, as amended, (49 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age).
- F. Airport and Airway Improvement Act of 1982, (49 U.S.C. Chapter 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex).
- G. The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not).
- H. Titles II and III of the Americans with Disabilities Act, which prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38.
- I. The Federal Aviation Administration’s Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex).
- J. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations.
- K. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, the parties must take reasonable steps to ensure that LEP persons have meaningful access to the programs (70 Fed. Reg. at 74087 to 74100).
- L. Title IX of the Education Amendments of 1972, as amended, which prohibits the parties from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq.).

Contract No \_\_\_\_\_

**ATTACHMENT D**  
**Resolution or Ordinance**