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Program Progress Performance Report for University Transportation Centers at  
**University of Texas at Arlington**

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Office of the Assistant Secretary for Research and Technology (OST-R)

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University, Georgia Institute of Technology, University of  
Wisconsin-Madison, University of South Florida.

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## Table of Contents

1. ACCOMPLISHMENTS: .....	4
What are the major goals and objectives of the program? .....	4
What was accomplished under these goals? .....	6
Administrative .....	6
Table 1.1: List of selected research projects through CTEDD General RFP Grant Category .....	7
Table 1.2: List of selected research projects through CTEDD SEED Grant Category .....	8
Education and Workforce .....	10
Fig. 1.1: Representatives from DART and UTA with DART President/Executive Director Gary Thomas and UTA President Vistasp Karbhari.....	10
Fig. 1.2: CTEDD and CUTR cohosted a reception event at the 97 <sup>th</sup> annual TRB meeting. ....	12
Engagement and Technology Transfer .....	12
How have the results been disseminated? If so, in what way/s? .....	13
What do you plan to do during the next reporting period to accomplish the goals and objectives? .....	13
Research.....	13
Education and Workforce .....	13
Engagement and Technology Transfer .....	14
2. PRODUCTS: What has the program produced? .....	15
Table 2.1: Presentations and Lectern Sessions at 97 <sup>th</sup> Annual TRB Meeting by CTEDD Consortium Members .....	15
Table 2.2: Invited Talks and other Conference Presentations by CTEDD Consortium Members .....	15
Website(s) or other Internet site(s) .....	16
Technologies or techniques .....	17
Inventions, patent applications, and/or licenses .....	17
Other products, such as data or databases, physical collections, audio or video products, software or NetWare, models, educational aids or curricula, instruments, or equipment .....	17
3. PARTICIPANTS & COLLABORATING ORGANIZATIONS: Who has been involved? .....	17
What organizations have been involved as partners? .....	17
Table 3.1: Current and Future CTEDD External Partners .....	17
Have other collaborators or contacts been involved? .....	18
4. IMPACT: What is the impact of the program? How has it contributed to transportation education, research and technology transfer?.....	18
What is the impact on the development of the principal discipline(s) of the project? .....	19
What is the impact on the other disciplines? .....	19
What is the impact on development of human resources?.....	19

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What is the impact on physical, institutional, and information resources at the university and/or other partner institution? .....	19
What is the impact on technology transfer (include transfer of results to entities in government or industry, adoption of new practices, or instances where research has led to the initiation of a start-up company)?.....	19
What is the impact on society beyond science and technology? .....	20
5. CHANGES/PROBLEMS: .....	20
Changes in approach and reasons for change .....	20
Actual or anticipated problems or delays and actions or plans to resolve them .....	20
Changes that have a significant impact on expenditures .....	20
Significant changes in use or care of human subjects, vertebrate animals, and/or Biohazards.....	20
Change of primary performance site location from that originally proposed .....	20

## 1. ACCOMPLISHMENTS:

### What are the major goals and objectives of the program?

#### MISSION:

The Center for Transportation Equity, Decisions and Dollars (CTEDD) is a University of Texas at Arlington (UTA)-led partnership with the California Polytechnic State University (Cal Poly), Georgia Institute of Technology (GIT), University of Wisconsin-Madison (UWM) and University of South Florida (USF). CTEDD aims to lead transportation policy research that improves economic development through more efficient, cost-effective use of existing transportation systems, and offer better access to jobs and opportunities. CTEDD hopes to address these needs through innovative use of cutting edge technology, and policies that harness private resources for public infrastructure. CTEDD and its consortium members aim to serve their fast-growing regions and the nation as a whole through various programs that expand economic prosperity, provide outreach to policy makers, address infrastructure needs through innovative methods, and educate future leaders of the transportation field.

#### VISION:

CTEDD aims to be a leader in transitioning our antiquated transportation system towards the future through innovative policy making and the latest technology.

The major goals for CTEDD, as described in our application, fall into four categories:

#### CATEGORY #1: Research

##### **GOAL 1: CTEDD PROPOSES MULTIDISCIPLINARY RESEARCH IN SIX BROAD AREAS:**

Focus Area 1: Creative Use of Existing Infrastructure for Future Transportation Needs: Optimizing and upgrading the existing infrastructure to accommodate different mobility options, infrastructure preservation, innovative land use planning, and enhancing ridership.

Focus Area 2: Innovative Funding Strategies for Future Transportation Infrastructure, and Better Maintenance of Existing Infrastructure: Understanding the nature of policy making, its challenges and obstacles for future transportation infrastructure, and providing the knowledge to overcome them.

Focus Area 3: Transportation Systems, Economic Competitiveness, and Equal Access: Understanding different transportation demands due to the multi-scalar nature of economic developments, and designing transportation systems that serve users equally and enable them to access opportunities.

Focus Area 4: Employing Big Data and Innovative Techniques to Improve System Efficiency: Updating infrastructure maintenance management and public participation practices through the utilization of innovative and data driven strategies.

Focus Area 5: Ensuring Transportation System Vitality through Performance Management and Monitoring Systems: Upgrading monitoring systems for infrastructure maintenance and performance management of transportation systems.

Focus Area 6: Transportation Policy and Decision Making: Understating the obstacles to decision making due to jurisdictional fragmentation, and seeking solutions to the multi-scalar nature of transportation systems.

##### **GOAL 2: COMPETITIVE, PEER REVIEW PROJECT SELECTION PROCESS**

- CTEDD projects are selected through an open Request for Proposals (RFP) process.
- RFPs are open to faculty at member institutions. All faculty members, postdocs and research associates are eligible to submit research, education and technology transfer project proposals responding to CTEDD's themes.
- Proposal evaluation and selection processes are based on external peer review and rely on the expertise of practitioners and researchers nationally.

##### **GOAL 3: DIVERSE RESEARCH GRANT CATEGORIES**

- *General RFP:* CTEDD distributes grants among affiliated faculty members through the CTEDD General RFP.

- *SEED Grants*: The SEED Grant aims to encourage postdocs and junior faculty to participate in research projects. Compared to the CTEDD General RFP, SEED Grants have a larger financial cap and wider scope.
- *Emerging Scholar Research Fellowship RFP*: CTEDD supports research activities of young, emerging scholars through thesis and fellowships.

#### **GOAL 4: ENHANCE COLLABORATIVE RESEARCH AND PARTNERSHIP OPPORTUNITIES**

- *External Advisory Board*: The Advisory Board helps CTEDD identify significant research topics, the Center's annual plan and connect with appropriate partners.
- *Industry-University grant*: This initiative assists local transportation-related organizations, entities, industries and communities seeking partnerships with our expert research team. CTEDD aims to link these opportunities to its affiliated research faculty.
- *Diverse Internal Collaboration*: CTEDD encourages Multi-modal, multi-disciplinary collaborations across disciplines. The areas of research covers expertise from engineering, planning, public policy, business, social science, and big data.

#### **CATEGORY #2: Education and Workforce Development**

CTEDD's education and workforce development goals will be accomplished through the creation of pre-college, undergraduate and graduate programs and professional development learning opportunities. These initiatives target traditional educational venues and alternatives provided in short-term formats or via virtual technologies.

#### **GOAL 1: ATTRACT AND EDUCATE PRE-COLLEGE STUDENTS**

- *Leveraging and Supporting the Existing Initiatives*: CTEDD's members will use existing programs to expose K–12 students to transportation as a career choice.
- *Joint educational initiatives with K-12 schools*: CTEDD will facilitate partnerships with K–12 and secondary schools, along with community colleges, and technical schools, to align education and industry, and to support career pathways for current and future transportation workers.

#### **GOAL 2: ATTRACT AND EDUCATE UNDERGRADUATE AND GRADUATE STUDENTS**

- Offering degrees, courses, curricula, certificates and E-Modules
- *Providing Experiential Training Opportunities through Students' Involvement in Research Projects*: CTEDD requires research projects to involve undergraduate and graduate students. We also aim to broaden these students' exposure to the range of transportation professions available, particularly through the lens of equity and upward social mobility. Our intent is to expand the workforce pool and diversity of new professionals.
- *CTEDD Student Chapter-Led Activities*: *CTEDD leadership structure includes the elected student leadership council. The council members are elected leaders of the CTEDD student chapter and represent students through decision making processes.*
- *Student Competitions, Fellowship and Scholarship Programs*: To demonstrate our commitment to the ongoing education of graduate students, CTEDD offers competitive scholarships, fellowships, assistantships and awards to attract graduate students, especially those from underrepresented populations.
- *Hosting Seminars, Workshops and Online Training Initiatives*: CTEDD creates and maintains a calendar of seminars, workshops, professional courses and other training opportunities targeted at our audiences.

#### **GOAL 3: PROFESSIONAL DEVELOPMENT OPPORTUNITIES**

- *Hosting Transportation Oriented Annual Career Fairs*
- *Developing Joint Industry-University Educational Programs*, housed by private companies and agencies.
- *Citizens and Transportation Policymakers and Leaders*: In order to improve the information available to the public on issues related to CTEDD research priorities, our researchers will be required to submit a 1–2 page policy brief along with their research findings. These policy briefs will be written in a layperson style and disseminated through appropriate media channels.

### CATEGORY #3: Engagement and Technology Transfer

CTEDD aims to ensure that research moves routinely into practice and consistently equips decision makers, researchers and communities with data and information for transportation decision-making, funding sources, and mechanisms to achieve efficiency, equity and upward social mobility. To achieve this, CTEDD's goals and programs are as follows:

#### **GOAL 1: REGULAR DISSEMINATION OF INFORMATION FOR CTEDD PROGRAMS, EVENTS AND NEWS**

- *CTEDD Social Media:* The center seek to develop an extensive social media and electronic presence so that information are shared in the way that is accessible to all, efficient and consistent.
- *CTEDD Website* is also be a principal communication channel to both disseminate research news, and act as an online host for news outlets to share CTEDD news with a broader audience. CTEDD's website will house a blog platform through which researchers and subject matter experts can exchange their knowledge, ideas and expertise.
- *CTEDD Subscription and Email Pipeline:* CTEDD research, news, events and updates are publicly accessible through a subscription. CTEDD will send a quarterly e-newsletter to a list of recipients to drive interest and awareness in center's programs
- *YouTube and Periscope Channels:* CTEDD YouTube and Periscope channels also make CTEDD's recorded events, webinars, and other educational programs publicly accessible.

#### **GOAL 2: INNOVATIVE USE OF TECHNOLOGY FOR DISSEMINATION:**

- *Multimedia Collaboration with Established Outlets:* CTEDD seeks to collaborate with TEDx Talk and radio podcast programs for joint events such as CTEDDx Talks.
- *Livestream of Events:* CTEDD social media and website pages will host live broadcasts of events.
- *CTEDD Testimonies:* CTEDD established a new tradition of outreach; regular and free-of-charge presentations to inform decision makers.

#### **GOAL 3: EFFECTIVE DISSEMINATION AND IMPLEMENTATION OF EACH RESEARCH PROJECT**

- *Two Page Policy Briefs:* Each project is required to produce a plain-language research brief written for decision-and policy makers.
- *Journal Publications and Conference Presentations:* The CTEDD project budget includes expenses for conference travel to present results, PIs are also encouraged to publish their research results in top peer-reviewed journals.
- *Three local implementation contacts:* CTEDD PIs must identify three practitioners at local nonprofits or governmental agencies who may directly implement the research outcomes.
- *Implementation plan:* CTEDD research proposals will identify a strategy for implementing their outcomes and/or research findings.
- *Webinar Series:* CTEDD projects are required to present a webinar session upon completion of the projects.

### **What was accomplished under these goals?**

#### **Administrative**

CTEDD has completed the following administrative tasks and related research and engagement activities during the reporting period of June 1, 2017 to March 31, 2018:

- A program manager was trained and hired to overlook and manage the Center's research and technology transfer tasks and communication.
- A Post-Doctoral Research Associate renewed his contract and another Post-Doctoral Research Associate was hired.
- Administrative support was provided from the Institute of Urban Studies at UTA for cost share and budgeting requirements.
- Monthly meetings took place with the Director of the Office of Grants and Contracts at UTA pertaining to research and fellowship grants.

- Monthly meetings took place with the Director of Accounting at UTA pertaining to any financial planning and budgeting for the Center.
- The first annual in-person Executive Committee meeting took place in November 2017 at UTA for two days where 10 hours of brainstorming was conducted on plans and directions for the upcoming year.
- The CTEDD Student Council (CSC) was officially registered and established through the University of Texas at Arlington division of student affairs in the Fall 2017 Semester. The core Executive Committee consists of the President, Coordination Lead, Research Lead and an Event Lead. The total student membership of CSC is at 35 students from different departments such as the College of Architecture Planning and Public Affairs, College of Business, School of Social Science and College of Engineering. In addition, the committee has 10 Ambassadors, who are the presidents of Women in Transportation Seminar (WTS) and Institute of Transportation Engineer (ITE) student chapters at UT-Arlington, University of South Florida, Cal Poly San Louis Obispo and Georgia Institute of technology, all competitively selected for their positions. The Advisory Board Council of CSC consists of the CTEDD director, program manager, a research associate and two other faculty members.

#### DIVERSE RESEARCH GRANT CATEGORIES

*Creation, solicitation and dissemination of a variety of research grants.*

- The first round of CTEDD’s general research category grants was awarded (Table 1.1)
- We prepared an RFP for CTEDD’s first round of SEED grants within the Center’s themes. The RFP included the guidelines and a template for each research project’s Data Management Plan (DMP), and requested the descriptions, outlines, timelines and budgets (Table 1.2).
- Quarterly reports were submitted by the first round General RFP for PIs to ensure viable utilization of funding in accordance with CTEDD’s stated goals.
- A second round of a General RFP was created during this reporting period. To ensure that this round caters to policy gaps and needs around the nation, the following steps were taken:
  - We conducted interviews with city officials, state legislators and MPO board members to gain a better understanding of transportation needs regionally and nationally.
  - Based on the above interviews, we identified recurring topics and themes that policy makers were most concerned with. The RFP was created with a suggested theme and project direction under “transportation project prioritization and funding.” We advised that the following topics be considered during project brainstorming, and would be given higher ranking during the internal and external reviews. The topics within this theme were outlined as follows:
    - Regionalization
    - Congestion
    - Local and Regional Prioritization of Transportation Needs
    - Public-Private Partnerships in Transportation Operations
    - Funding of Transportation Operations/Maintenance/Capital
- Furthermore, more emphasis was given to projects that would be multi-disciplinary and cross-university. The RFP was then reviewed by the Executive Committee, and released in April 2018.

**Table 1.1: List of selected research projects through CTEDD General RFP Grant Category**

	Focus Area	Project Name	Consortium Member	Status
CTEDD-017-01	<b>FOCUS AREA 4</b>	Evaluation of Adaptive Ramp Metering on I-80 in the San Francisco Bay Area	Cal Poly	In Progress
CTEDD-017-02	<b>FOCUS AREA 1</b> <b>FOCUS AREA 3</b>	Integrating Transportation Management Companies (TMCs) and Public Transportation	GIT	In Progress

CTEDD-017-03	<b>FOCUS AREA 5</b>	A Multi-asset Transportation Infrastructure Asset Management Framework and Modeling for Local Governments	GIT	In Progress
CTEDD-017-04	<b>FOCUS AREA 1</b> <b>FOCUS AREA 6</b>	When and Where are Dedicated Lanes needed under Mixed Traffic of Automated and Non-Automated Vehicles for Optimal System Level Benefits?	GIT	In Progress
CTEDD-017-05	<b>FOCUS AREA 2</b> <b>FOCUS AREA 3</b>	Assisting Transit Riders with Disabilities via an App Designed for All	USF	In Progress
CTEDD-017-06	<b>FOCUS AREA 6</b>	Moving Communities Forward: Social Marketing and Social Change for Transportation	USF	In Progress
CTEDD-017-07	<b>FOCUS AREA 4</b> <b>FOCUS AREA 5</b>	Improving Transportation Performance Measurement via Open “Big Data” Systems – Phase 1	USF	In Progress
CTEDD-017-08	<b>FOCUS AREA 3</b> <b>FOCUS AREA 6</b>	Overcoming Local Barriers to Regional Transportation: Understanding Transit System Fragmentation from an Institutional Framework	UTA	In Progress
CTEDD-017-09	<b>FOCUS AREA 1</b> <b>FOCUS AREA 3</b> <b>FOCUS AREA 4</b> <b>FOCUS AREA 5</b>	Innovative Places: Methodological Framework for Measuring Environmental Determinants and Operationalizing an Innovation Index (I-Index)	UTA	In Progress
CTEDD-017-10	<b>FOCUS AREA 5</b>	Evaluation of Pavement Performance Using Remote Sensing Techniques	UTA	In Progress
CTEDD-017-11	<b>FOCUS AREA 4</b>	Fast Reference-free Crack Measurement (RACM) System in Transportation Infrastructures using Noncontact Ultrasound	UTA	In Progress

**Table 1.2: List of selected research projects through CTEDD SEED Grant Category**

	<b>Focus Area</b>	<b>Project Name</b>	<b>Consortium Member</b>	<b>Status</b>
CTEDD 018-01 SG	<b>FOCUS AREA 6</b>	Transportation policies to facilitate electric vehicle adoption at the local government level: A preliminary study	UTA	In Progress
CTEDD 018-02 SG	<b>FOCUS AREA 4</b> <b>FOCUS AREA 6</b>	Assessment of Extreme Weather Events Under Changing Climate on Transit Desert Communities	UTA	In Progress
CTEDD 018-03 SG	<b>FOCUS AREA 1</b> <b>FOCUS AREA 4</b>	Creative Utilization of Urban Roadway Facilities with Predictive Safety Assessment Tool – Phase 1	USF	In Progress
CTEDD 018-04 SG	<b>FOCUS AREA 1</b> <b>FOCUS AREA 6</b>	Assessing Viability of Car-Sharing for Low-Income Communities	UTA	In Progress
CTEDD 018-05 SG	<b>FOCUS AREA 2</b> <b>FOCUS AREA 3</b> <b>FOCUS AREA 6</b>	Identifying, Weighting and Causality Modeling of Social and Economic Barriers to Rapid Infrastructure Recovery from Natural Disasters: A Study of Hurricane Harvey	UTA	In Progress
CTEDD 018-06 SG	<b>FOCUS AREA 1</b> <b>FOCUS AREA 3</b> <b>FOCUS AREA 5</b> <b>FOCUS AREA 6</b>	Trip and parking generation at transit-oriented developments: Two case studies in Texas	UTA	In Progress

COMPETITIVE, PEER REVIEW PROJECT SELECTION PROCESS



*Ensuring a thorough internal and external review of projects.*

- The Executive Committee reviewed and finalized the SEED grant RFP before solicitation.
- On September 27, 2017, CTEDD released the SEED Grant for consortium member researchers to submit proposals.
- The Director and Interim Program Manager worked with the PIs and their consortium member staff during the proposal submission process to provide assistance with the requirements, matching sources, documentation and budgeting for their projects.
- Through an internal review, the Interim Program Manager reviewed proposals in terms of the required items and documents, before sending them out for peer review.
- Each proposal was reviewed by at least two external reviewers from the Peer Review Committee, including one academic researcher and one practitioner based on the following evaluation criteria:
  - Intellectual Merit
  - Applicability of Outcomes
  - Qualifications
  - Innovation
  - Methodology
  - Resources and Collaboration
  - Broader Impact
  - Fitness for CTEDD Focus area(s)
  - Contribution to CTEDD mission vision
- Each proposal was also reviewed and scored by the Interim Program Manager for the following programmatic criteria:
  - Fit with the CTEDD theme and transportation equity focus
  - Student support/mentoring
  - Support for tenure-track faculty
  - Leveraging of matching funds
  - Substantive and meaningful external collaboration; multi-disciplinary and/or multi-campus collaboration.
  - Synthesized results from external and programmatic review, and ranked proposals accordingly.
- The final selection of the awardees was made, after which the Office of Grants created their Notice of Awards. (Table 1.2) The projects are currently in progress.

ENHANCE COLLABORATIVE RESEARCH AND PARTNERSHIP OPPORTUNITIES

*Ensuring opportunity for multi-disciplinary and multi-university collaboration*

- CTEDD promotes collaboration between disciplines and universities to create more impactful projects. Therefore, the selected projects for both the General and SEED grants have many inter-disciplinary collaborations. Some of these collaborations are as follows:
  - Between the Departments of City and Regional Planning and Civil and Environmental Engineering at CalPoly.
  - Between the Center for Quality Growth and Regional Development and the School of Civil and Environmental Engineering at GIT.
  - Between the School of City and Regional Planning and the School of international Affairs and College of Liberal Arts at GIT.
  - Between the Center for Urban Transportation Research and the Department of Civil and Environmental Engineering at USF.
  - Between the College of Civil Engineering and the Department of Sociology and Anthropology at UTA.
  - Between the College of Architecture, Planning and Public Affairs at UTA and the Department of City and Metropolitan Planning at the University of Utah under a subcontract agreement.
  - Between the College of Architecture, Planning and Public Affairs at UTA and Department of Urban Affairs and Planning at Virginia Tech under a subcontract agreement.

## Education and Workforce

### ATTRACT AND EDUCATE PRE-COLLEGE STUDENTS

- CTEDD has initiated a partnership with North Texas Conference of Minority Transportation Officials (COMTO). One of the initiatives is partnership with COMTO high-school programs, including a scholarship program, a summer camp, and a field trip for students who want to establish an academic or professional career in the transportation industry. CTEDD is now partnering with COMTO in their 2018 COMTO North Texas Scholarship Reception.
- In August 2017, UTA and Dallas Area Rapid Transit (DART) launched a first-of-its-kind partnership offering select UTA undergraduate students valuable experiential learning opportunities in the fields of business, engineering, urban planning and transportation management for a year. Starting in Spring 2018, students have spent time interacting with key DART executives as they develop progressive transportation initiatives for Dallas. Students have also been able to combine a rigorous academic degree with practical experience that includes exposure to high level strategy. In the upcoming years, the program aims to expand to include a paid internship for participants during the summer between their junior and senior years (Fig.1.1).



**Fig. 1.1: Representatives from DART and UTA with DART President/Executive Director Gary Thomas and UTA President Vistasp Karbhari**

### ATTRACT AND EDUCATE UNDERGRADUATE AND GRADUATE STUDENTS

- *Research Assistantships:* Through the first cycle of CTEDD general RFP and SEED grants, a total of 40 undergraduate and graduate students are participating in the research programs and through research assistantship, can obtain experiential training opportunities. Notably, 26 of these students are from underrepresented populations.
- *CTEDD Student Council:*

The Council has performed strong engagement in CTEDD organizational tasks, outreach and research activities. The Council Executive Committee consists of a president, coordination lead, research lead and event lead. The Council core Executive Committee and the UT-Arlington Ambassadors have been meeting biweekly for organizing the monthly events. The Council has its own page on the CTEDD website through which they provide updates and collect members. Since its establishment, the Council has hosted 15 events which all have been published on the website's page. These events include the following:

  - Multimedia Competition on Short Movies and Photography based on Transportation Equity
  - Pioneer Student Research Award Banquet
  - Project Presentations for the Fall CSC research Symposium
  - Research Lab Technology Visits
  - Book Club Sessions

- Movie Nights and Discussions
- External Speaker Series
- Association of Collegiate Schools of Planning (ACSP) 2018 Pre-Conference Boot Camp
- Workshops and Professional Development

All of the events were also live-cast on CTEDD social media pages. The Council's Executive Committee and all of the Ambassadors from consortium members participated and met at the Transportation Research Board 97<sup>th</sup> annual meeting, and once through a phone conference. Through these two meetings, the Council agreed on two initiatives:

1. Cross advertisement of events and activities and;
2. Planning for a field trip to a consortium member region as well as student-led research summit.

Due to these outstanding activities and a strong collaboration with other student organizations, CSC has been nominated for New Student Organization of the Year at UT-Arlington. The CTEDD director has also been nominated for the student organization Advisor of the Year award. Both were recognized at the UT-Arlington Leadership Recognition Ceremony.

- *Student Organizations:* The presidents of WTS and ITE student chapters are also members of the CTEDD Student Council Executive Board. Through this, they have been involved in event planning and other CTEDD activities.
- *Fellowships:* CTEDD conducted its first round of fellowship applications for students doing thesis and dissertation projects at one of the five consortium member universities of CTEDD. One student from Georgia Tech was selected for the award, and will be completing her thesis in Fall 2018.
- *Educational RFP:*  
CTEDD issued its first round of the Educational RFP, asking for proposals on educational projects that can help develop transportation-related educational platforms. This round received four proposals which are to be reviewed by the Executive Committee.
- *Awards:* Several students have won awards under the CTEDD program pertaining to different categories:
  - ITE Best International Student Chapter Award 2017
  - ITE Western District Best Student Chapter Award 2017
  - American Planning Association (Local Chapter) 2018 Scholarship award
  - Best Poster Presentation Award – Association of Collegiate Schools of Planning 57<sup>th</sup> Annual Conference
  - The WTS President and Secretary who are also involved in research and the CSC under CTEDD, received the Women in Transportation Seminar DFW Greater Chapter - 2018 Scholarship Awards
  - University Transportation Center – Student of the Year Award

#### PROFESSIONAL DEVELOPMENT OPPORTUNITIES

- CTEDD has planned and established the **CSC mentorship program**. The mentorship program aims to connect mentors from transportation industry with the graduate or undergraduate student mentees interested in continuing their career in the transportation industry.
- Among the CSC events, three events were designated for the professional development, including a Firm Visit event, a Killer Lined-in Profile event and Dunaway Associates/Greater Fort Worth ITE presentation.
- CTEDD hosted two other events including Equity in Transportation: Equal Access to Opportunities for All panel discussion, and Hyperloop DFW-Laredo-Houston. The first was a panel and latter a lecture however presenters were among high-level decision makers from City of Dallas, North Central Texas Council of Government (North Texas Metropolitan Planning Organization), Dallas Area Rapid Transit and Aecom. Attendees participated in networking with students and faculty after the presentations.
- CTEDD cohosted a reception event at the TRB 96<sup>th</sup> annual meeting with more than 200 attendees from TXDOT, TRB, US DOT, NCTCOG, along with several universities and public private entities. The event included networking between students, scholars and professionals.



Fig. 1.2: CTEDD and CUTR cohosted a reception event at the 97<sup>th</sup> annual TRB meeting.

### Engagement and Technology Transfer

#### REGULAR DISSEMINATION OF INFORMATION FOR CTEDD PROGRAMS, EVENTS AND NEWS:

- CTEDD has successfully made use of social media platforms to disseminate event and project information. Students and researchers have found these platforms to be effective in providing them with useful updates. The updates from these platforms are as follows:
  - The CTEDD Facebook page followers have doubled since its inception.
  - The CTEDD Twitter page followers have also doubled over the past year.
  - The CTEDD LinkedIn page was launched and already has 219 followers
  - All of CTEDD's videos have been uploaded to CTEDD's Periscope channel.
- The CTEDD website is constantly updated with events, news pieces, research projects and student information. A website expert was recently hired to take care of website maintenance and technical tasks to improve website functioning and user-friendliness. The Google analytics report of the website for the **past three months**, which is reflective of the activity for the past year is as follows:
  - 581 users have visited the website
  - There have been a total of 3,626 views.
  - There have been 243 searches

#### INNOVATIVE USE OF TECHNOLOGY FOR DISSEMINATION TO REACH OUT TO A BROADER AUDIENCE:

- CTEDD ensures broadcasting of all its events through its Facebook, Periscope and Twitter channels. The events that were broadcasted live in this reporting period are as follows:
  - Planning for Innovative and Entrepreneurial Urban Ecosystems APA TX17 Conference Program (November 2, 2017)
  - Planning for Transportation System that Provides Equal Access APA TX17 Conference Program (November 3, 2017)
  - ACSP Pre-organized Session: Equity in Transportation Policy (2017)
  - Equity in Transportation: Equal Access to Opportunities for All (November 9, 2017)
  - Hyperloop DFW-Laredo-Houston (November 15, 2017)
  - CSC Research Symposium (December 1, 2017)
  - Roundabouts: Where We Are and Future Needs (February 15, 2018)
  - ACSP 2018 Pre-conference Boot Camp – national collaboration (March 7, 2018)

- CTEDD conducted its first online podcast with researchers from UTA and USF on their research projects: “Assessment of Extreme Weather Events under Changing Climate on Transit Desert Communities” and “Assisting New Transit Riders, Including those with Disabilities, via an App Designed for All”. The podcast’s link has been provided in the Products section of this report.

#### DISSEMINATION AND IMPLEMENTATION OF EACH RESEARCH PROJECT:

##### **How have the results been disseminated? If so, in what way/s?**

CTEDD doesn’t currently have any completed project as all of them are in process. However, the products section of this report highlights a selected list of publications, conference presentations and invited talks by the CTEDD consortium members. The next reporting period is expected to have completed projects and associated publications, the details of which are highlighted in the next section.

##### **What do you plan to do during the next reporting period to accomplish the goals and objectives?**

#### Research

- *General RFP Round 1:*

The first round of the General RFP projects are aimed to be completed within the next reporting period around September, after which the individual dissemination will take place. A total of around \$600,000 was awarded for this round. Each project requires a policy brief, a webinar session of the PI presenting their project, and testimonies at local governments. A final deliverable report will also be required to assess the outcomes and evaluate the overall findings of the individual projects.
- *General RFP Round 2:*

The second round of General RFP will be issued in April. This time, the researchers/Pis have been asked to submit abstracts before their full proposals, allowing the Center time to finalize the external peer review committee. The proposals are set to be submitted in the beginning of May before which an information session will be provided to all candidates. Individual and collaborative projects will be awarded in the amount of \$65,000 - \$100,000 in this round, totaling \$650,000 of awards. Furthermore, the notice of awards from the Office of Grants and Contracts is to be provided in June, in time for the Pis to make the necessary hires and begin their projects just in time for the new academic year in August.
- *SEED Grant Round 1:*

The first round of SEED grants will continue in the next reporting period, where Pis will provide quarterly updates on their progress and their end-of-project dissemination plans. The total award amount was \$180,000.
- *SEED Grant Round 2:*

The second round of SEED grants will be aimed at junior and underrepresented faculty at the consortium member universities. The awarding will be between \$150,000 and \$200,000 in total. It will be issued in August to allow time for the review process and notice of awards, and enable Pis to make the necessary hires in December, beginning their projects in the spring semester.
- *University-Industry Partnership*

The upcoming reporting period aims to launch a University-Industry Partnership RFP, offering collaborations between academic and professional individuals to create impactful research. The Executive Committee is aiming to decide on the details of the RFP in the upcoming reporting period.

#### Education and Workforce

- Under the umbrella of collaborations with the Citylab School in Dallas, CTEDD is currently working on providing panel speakers and creating activities through the CTEDD Student Council for the annual symposium hosted by CityLab in May 2018.

- The first round of an Educational RFP was issued, through which the Center has received four collaborative proposals. The upcoming period will hold internal and external review sessions and award the PIs to enable them to begin their projects. This RFP aims to attract researchers to launch and create innovative educational training methods and materials for school-level, college-level, graduate-level and professional-level audiences.
- CTEDD aims to identify more educational institutes around the nation and specifically within the Consortium areas to promote transportation as a prominent career field in all levels of education.
- The CTEDD Student Council will hold its Executive Committee New Academic Year Election for the fall and spring semesters.
- The CTEDD Student Council aims to hold a multimedia competition for students at Consortium member universities. This competition aims to attract short films and images taken by students representing transportation needs, and identifying transportation technologies and gaps, which bring more awareness among university students to transportation policies and processes.
- CSC will also host another research symposium in order to create a platform for students to present their work.
- CTEDD will issue more rounds of fellowships and scholarships during the next reporting period though a call for applications. The second round will be issued in the summer for an award to be granted in the fall. This call for applications will target students who are in the last year of their graduate education, are working on a thesis or dissertation related to transportation, and are citizens of the United States. The fellowship aims to provide financial support to help such students graduate on time.
- The DART Leadership Academy hopes to continue its practices in the next reporting period with five new interns.
- CTEDD will also be awarding a total amount of \$30,000 as travel funds to students who are presenting their papers at conferences under the Center.

### **Engagement and Technology Transfer**

- A policy symposium is set to be hosted in the fall of 2018 in collaboration with renowned transportation institutions. The aim of this symposium is to hold panel discussions and provide presentations on pressing transportation policy issues affecting the state and local community. The session is also an opportunity for policy makers to discuss possible solutions to difficult challenges, and for academics to hear about the latest transportation concerns affecting local and state governments. The symposium aims to bridge the gap between researchers and policy-makers, and lay the groundwork for more effective transportation policy.
- CTEDD has already conducted a number of meetings with the Fine Arts Department at UTA to discuss potential collaborations and projects on visual ethnographic research aimed at transportation needs. The upcoming reporting period aims to finalize the project direction and create a visual product of transportation research conducted under the Center. This product also aims to inform and bridge the gap for state legislators and policy makers around the country.
- CTEDD is currently working on an E-newsletter to be distributed monthly on the CTEDD website and to CTEDD members in order to inform them of the latest news and research findings at CTEDD and in the transportation industry. The upcoming reporting period will have a finalized template and several issues of the E-newsletter.
- CTEDD aims to record and produce more podcasts with discussions on transportation research and policy taking place by the CTEDD consortium. External experts will also be invited to speak about the latest technologies and findings in transportation. All of these podcasts are to be distributed on CTEDD's social media platforms and its website.
- In order to highlight the reason the contributions of CTEDD members to transportation research, story features will be created and disseminated on such members and researchers through online social media platforms and the CTEDD website. These stories will be collected through interviews, interactions and personal experiences of said members.
- Several webinars will be produced based on the findings from research projects completed in the upcoming reporting period. These webinar sessions will also be distributed on all CTEDD social media platforms and its website.
- All completed projects by CTEDD will also be presented at the next annual TRB meeting.

- CTEDD aims to host a signature speaking series by inviting well-known scholars and transportation experts to discuss their research and experiences with the CTEDD consortium as well as the general public.

**2. PRODUCTS: What has the program produced?**

**Publications, conference papers, and presentations**

CTEDD doesn't currently have any completed projects as all of them are in process. However, the following are a selected list of publications, conference presentations and invited talks by the CTEDD consortium.

- *Public Testimonies:* CTEDD has conducted a several testimonies at local and regional government bodies within this reporting period:
  - City of Dallas Council Committee on Mobility Solutions, Infrastructure and Sustainability Committee, *Transportation Equity and Access to Opportunity for Transit-Dependent Population in Dallas*, Dallas City Hall, TX (October 2017).
  - Dallas Area Rapid Transit Board, *DART Transit System and Transit Dependent Population*, DART Headquarters, Dallas, TX (January 2018).
- *TRB Conference Presentations:* CTEDD Executive Directors, researchers and consortium members participated in several presentations, poster sessions and lectures at the 97<sup>th</sup> annual TRB meeting (Table 2.1).

**Table 2.1: Presentations and Lectern Sessions at 97<sup>th</sup> Annual TRB Meeting by CTEDD Consortium Members**

#	Topic	Category
1	Resilience Research Road Map	Workshop
2	Innovations in Urban Data and Mobility Modeling	Poster Session
3	Intelligent Transportation Systems: State of the Industry 2018	Lectern Session
4	SHRP 2 Safety Data: Researchers' Perspectives and Some Analysis results	Lectern Session
5	Transit Data Take Center Stage: New Sources and New Applications	Poster Session
6	SHRP 2 Safety Data: Key Results from State DOT Research	Lectern Session
7	The Search for a Better Way: Part 1-2 (Exploring and Refining Methods in Highway Safety)	Poster Session
8	Applications of Unmanned Aerial Systems to Help with Infrastructure Inspection	Lectern Session
9	Implementation and Extension of Geotechnical Asset Management Practice	Lectern Session
10	Innovations and Advances in Transportation Geotechnics	Lectern Session
11	Frontiers in Social and Economic Factors of Transportation	Poster Session
12	Emerging Research in Transportation Land Development	Poster Session
13	Revenue and Finance Research Subcommittee	Meeting
14	Travel Behavior	Poster Session
15	Planning Process and Environmental Justice	Lectern Session
16	Pedestrian Planning, Modeling, and Simulation	Poster Session
17	Planning for a Future with Autonomous Connected Vehicles	Lectern Session

- *Keynotes and Invited Talks and Other Presentations:* CTEDD executive members, researchers and consortium members have participated in a variety of presentations, conferences and invited talks throughout the reporting period, as shown in Table 1.4

**Table 2.2: Invited Talks and other Conference Presentations by CTEDD Consortium Members**

Title	Conference/Location	Category	Date
Adaptive Ramp Metering	Institute of Transportation Engineers (ITE) meeting in the West District, San Diego, CA ITE international meeting, Toronto, Canada.	Conference Presentation	2017
Rethinking Urban Mobility	Texas Tribune (Invited Panelist), Dallas, TX	Invited Talk	February, 2018

Does Location Matter? Transportation, Economic Development and Housing	Tarrant Regional Transportation Coalition (TRTC), Fort Worth, TX	Invited Talk	December 2017
I345 Tear Down Project; What Else We Need to Know	Dallas Mobility Council (DMC), Dallas, TX	Invited Talk	November 2017
Inclusive Mobility	Smart Cities Council, Washington, D.C.	National Invited Panelist	October 2017
Does Location Matter: Housing Affordability and Access to Opportunity for All	25 <sup>th</sup> Annual Texas Association of Local Housing Finance Agencies, Fort Worth, TX	Keynote Speaker	October 2017
Texas R&D Team	Texas Mobility Summit 2, Houston, TX	Invited Panelist	October 2017
Leveraging Local and State Planning for Megaregional Transportation Needs	Association of Collegiate Schools of Planning, Denver, CO	Invited Roundtable	2017
Urban Sprawl, Poor Accessibility and Associated Quality of Life Impacts	National Webinar TRB Panel	Invited Panelist and Speaker	May 2017
Communal Innovation: Planning for Neighborhoods to Accommodate Knowledge Sharing and Innovation Making	40 <sup>th</sup> Annual Conference of the Association for Community Design, Dallas, TX	Invited Talk	June 2017
Location Efficiency and the Provision of Affordable Housing in Ohio	Starting at Home Conference, Cincinnati, OH	National Invited Panelist and Speaker	April 2017
Planning for Smarter Urban Communities	Annual Meeting of Association of Metropolitan Planning Organizations (AMPO), Arlington, TX Smart Texas Revolution panel, Earth Day Texas, Dallas, TX	National Invited Speaker/Panelist	April 2017
Planning for the Transportation System that Provides Equal Access for All	American Planning Association (Texas) Annual Meeting, Frisco, TX	Pre-organized Panel Discussion	2017
Planning for Innovative and Entrepreneurial Urban Ecosystems	American Planning Association (Texas) Annual Meeting, Frisco, TX	Pre-organized Panel Discussion	2017
Caught in the Service Gap: Understanding the Link between Transportation Equity and Metropolitan Fragmentation	Association of Collegiate Schools of Planning, Denver CO	Pre-organized session with UCLA and Virginia Tech	2017
Drone Data Collection to Monitor the Health of Civil Infrastructure in Texas including Post Recent Hurricane	CityAge: The New American City	Invited Talk	2017
Implementation of unmanned aerial vehicles to monitor transportation infrastructure in Texas	State Transportation Innovation Council (STIC),	Invited Talk	2018

### Website(s) or other Internet site(s)

CTEDD Website: <https://ctedd.uta.edu>

CTEDD Twitter Page: <https://twitter.com/CTEDD>

CTEDD Facebook Page: <https://www.facebook.com/CTEDD-1945985105622480/>

CTEDD YouTube Channel: <https://www.youtube.com/channel/UCqf2G50JsqMMC66kcUMKYJA/videos>

CTEDD LinkedIn Page: <https://www.linkedin.com/company/institute-of-urban-studies/>



**Technologies or techniques**

Nothing to report for this period

**Inventions, patent applications, and/or licenses**

Nothing to report for this period

**Other products, such as data or databases, physical collections, audio or video products, software or NetWare, models, educational aids or curricula, instruments, or equipment**

- The first CTEDD Podcast can be listened to here: <https://www.buzzsprout.com/18472/681174-transit-equity-research-at-ctedd>.
- All CTEDD news and media can be viewed here: <https://twitter.com/CTEDD/media>
- The ACSP pre-conference boot camp can be viewed here: <https://twitter.com/CTEDD/status/971513140092555264>
- The Roundabouts: Where We Are and Future Needs lecture can be viewed here: <https://www.facebook.com/UTACTEDD/videos/2107991049421884/>
- The WTS-CSC book session club session can be viewed here: <https://www.facebook.com/1859916774243060/videos/2066246240276778/UzpfSTE5NDU5ODUxMDU2MjI0ODA6MjEwMzk0ODAxOTgyNjE4Nw/>

**3. PARTICIPANTS & COLLABORATING ORGANIZATIONS: Who has been involved?****What organizations have been involved as partners?**

The members of the consortium include the University of Texas at Arlington, California Polytechnic State University, San Luis Obispo, Georgia Institute of Technology, University of Wisconsin–Madison and University of South Florida. Table 3.1 presents a list of current and future CTEDD external partners

**Table 3.1: Current and Future CTEDD External Partners**

Partner	Type	Program	Collaboration Type	Status
CityLab high school	Regional	The Connected City course, summer transportation camp, annual symposium etc.	Education	3
Dallas Area Rapid Transit	Regional	DART Leadership Academy	Education	3
WTS International	International	Transportation Career Fair	Education	1
Fort Worth Transit Authority	Regional	“Tarrant Transit Alliance “ Citizens Advocacy Group	Education and Tech Transfer	1
North Texas Council of Government (NCTCOG)	Regional	Partnership on Research Projects	Research	3
Association of Metropolitan Planning Organization (AMPO)	National	CTEDD signature event on Smart Cities	Education and Tech Transfer	4
City of Dallas	Regional	Partnership on Research Projects	Research	4
Texas Department of Transportation	State-wide	Partnership on Research Projects	Research	3
Georgia Department of Transportation	State-wide	Partnership on Research Projects	Research	1

Metropolitan Transportation Commission	National	Partnership on Research Projects	Research	3
Conference of Minority Transportation Officials (COMTO)	Regional	Collaboration on symposiums, events, educational programs	Tech Transfer and Education	3
American Planning Association Texas Chapter	State-wide	Collaboration on Mobile Workshops	Education	2
Texas Municipal League	State-wide	Collaboration on Annual Meeting	Tech Transfer	2
UT Dallas – The Institute of Urban Policy Research	Regional	Partnership on Research Projects	Research	1
The Rockefeller Foundation: 100 Resilient Cities	International	Partnership on Research Projects, Education and Tech Transfer	Research, Education and Tech Transfer	2
Texas Innovation Alliance	State-wide	Partnership on Research Projects	Research	1
Eno Foundation	National	Collaboration on Symposiums, Events and Education	Tech Transfer and Education	2
University of Utah	International	Partnership on Research Projects	Research	3
Virginia Polytechnic Institute and State University	International	Partnership on Research Projects	Research	3
Transportation Radio	National	Partnership on Tech Transfer	Tech Transfer	3
ITE Learning Hub	National	Partnership on Tech Transfer	Tech Transfer	1
Building Professional Institute	State-wide	Partnership on Tech Transfer	Tech transfer	3
Status *** 1 Initial arrangement 2 Agreement made, will be implemented 3 Implementation phase 4 Completion				

**Have other collaborators or contacts been involved?** Please see Table 3.1.

**4. IMPACT: What is the impact of the program? How has it contributed to transportation education, research and technology transfer?**

- CTEDD’s members have been recipients of several awards throughout the year within different categories:
  - CTEDD’s Executive member won the Traffic Bowl Championship at the 2017 ITE International Meeting
  - CTEDD’s Director has been nominated by Planetizen as 200 of the most influential planners.
  - CTEDD’s Director was featured in the American Planning Association Magazine in May 2017.
  - CTEDD’s Director was one of the five recipients of the inaugural class of Presidential Fellows at UTA.
  - CTEDD’s executive member won two awards at the 97<sup>th</sup> Annual TRB meeting for the 2017 Best Paper Award under the Geological and Geo-environmental Engineering Section.
  
- CTEDD and the Center’s Director have been referenced on several occasions in the media, directing the attention of a wide public audience towards serious concerns about transportation equity and social upward mobility, leading to a regional public discussion about how transportation policy can be reformed to better serve the mobility needs of the regions. Some examples of media coverage are as follows:
  - Eno Transportation Weekly, March 2018, “Promoting Upward Mobility through Transportation Policy”
  - D Magazine, January 2018, “These UT Arlington Researchers Are Answering North Texas’ Toughest Questions”
  - NPR (national) News Interview, December 2017, “Inefficiencies in Dallas Mass Transit Affect Riders Who Depend On It Most, Report Shows”
  - KERA News Interview, December 2017, “Top Stories: UTA Study Highlights Dallas' Public Transit Problem; A Border Family Reunion”

- NBC 5 TV Interview, October 2017, “Transit Report Criticizes Reach of DART Service”
- Fox 4 TV *Live* Interview, November 2017, “Study finds DART is not easily accessible”
- Next City, October 2017, “Dallas DART Is Failing Those Who Need it Most”
- D Magazine, October 2017, “Bombshell Report Reveals DART’s System-Wide Inadequacy”
- Smart Cities Council of North America, October 2017, “Yes, we DO need to provide mobility for everyone” -
- Dallas Morning News, October 2017, “Dallas, waiting for the bus all day, can no longer have mercy on DART-
- ABC (WFAA 8), September 2017, “Verify: Bike sharing...How does this all work?”
- Fort Worth Weekly, September 2017, “Is mass transit finally coming to Arlington, the largest city in the nation without it?”

**What is the impact on the development of the principal discipline(s) of the project?**

Nothing to report for this period

**What is the impact on the other disciplines?**

Nothing to report for this period

**What is the impact on development of human resources?**

- The CTEDD Student Council Student of the Year, with her gained skills and expertise at CTEDD on transportation planning and research, was offered jobs from DART and NCTCOG. She accepted the one at DART as a Service Planner.
- One of CTEDD’s Graduate Research Assistants who was working on transportation policy was recently promoted to a full-time staff position at the Center.
- An individual with disabilities joined CTEDD as a Postdoctoral Research Associate and is contributing to research on transportation and mobility for people with disabilities.
- The number of Graduate Research Assistants at CTEDD increased from 15 to 22, several of which are from minority groups that depend on this opportunity for financial and educational support.

**What is the impact on physical, institutional, and information resources at the university and/or other partner institution?**

- The new strategic plan of UTA has now included transportation and CTEDD in its focus areas. Through this, they are institutionally investing into the cause and are working on providing more resources to enhance the work. These provisions are as follows:
  - Creating a new space and capacity to support the Center’s activities.
  - Supporting 50% of the indirect costs generated from these activities
- CTEDD has fostered the first of its kind multi-disciplinary collaborations. The following are just some example of the kind of collaborations that have taken place:
  - Collaborations between the College of Architecture, Planning and Public affairs and the College of Earth and Environmental Sciences at UTA
  - Between the Departments of City and Regional Planning and Civil and Environmental Engineering at the Cal Poly
  - Between the Center for Quality Growth and Regional Development and the School of Civil and Environmental Engineering at GIT.
  - Between the School of City and Regional Planning and the School of international Affairs and College of Liberal Arts at GIT.

**What is the impact on technology transfer (include transfer of results to entities in government or industry, adoption of new practices, or instances where research has led to the initiation of a start-up company)?**

- The results of the research produced at CTEDD on public transit and equity has created the following outcomes:
  - DART is no longer implementing its fare increase program
  - The Regional Transportation Council (RTC) has approved a \$1 million study aimed at analyzing DART fare increases and lowering the negative impact on low-income communities.
  - The researchers of this study were invited to the DART Board of Directors annual retreat to present their study.
  - DART is now working on putting together an action plan to address the issues raised in the study.
  - DART is also rethinking its criteria for future investments, resulting in retirements by two of their Vice Presidents.

### **What is the impact on society beyond science and technology?**

One of the researchers from the University of South Florida has successfully implemented one of her project workshops in Boise, Idaho. Her research titled, “Moving Communities Forward: Social Marketing and Social Change for Transportation”, focuses on providing mobile workshops targeted to transportation professionals who are seeking to change travelers’ behaviors to reduce congestion and/or improve safety using social marketing. The first workshop of the project addressed the increase in transportation challenges due to rapid population growth. Fourteen transportation professionals gathered together to address those challenges and develop programming and communications strategies to help reframe how Boise commuters approach their method of getting to work. This sort of impact is beyond science and technology and represents the kind of work CTEDD supports and advocates for.

## **5. CHANGES/PROBLEMS:**

### **Changes in approach and reasons for change**

Nothing to report for this period

### **Actual or anticipated problems or delays and actions or plans to resolve them**

Nothing to report for this period

### **Changes that have a significant impact on expenditures**

Nothing to report for this period

### **Significant changes in use or care of human subjects, vertebrate animals, and/or Biohazards**

Nothing to report for this period

### **Change of primary performance site location from that originally proposed**

Nothing to report for this period