Phase 1 Institutional, Partnership, and Financial Plan

ARC ITS4US Deployment Project

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Final Report – March 16, 2022
FHWA-JPO-21-905

COMPLETE TRIP
ITS4US

U.S. Department of Transportation

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Notice

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16. Abstract

The Atlanta Regional Commission Complete Trip - ITS4US Deployment project, Safe Trips in a Connected Transportation Network (ST-CTN), is leveraging innovative solutions, existing deployments, and collaboration to make a positive impact using transportation technology to support safety, mobility, sustainability, and accessibility. The ST-CTN concept is comprised of an integrated set of advanced transportation technology solutions (connected vehicle, transit signal priority, machine learning, predictive analytics) to support safe and complete trips, with a focus on accessibility for those with disabilities, aging adults, and those with limited English proficiency.

This document serves as the Institutional, Partnership, and Financial Plan (IPFP) for the deployment project. The IPFP covers all of the stakeholder and partnership agreements for the deployment as well as a plan to continue operation beyond the phase three deployment for a minimum of five years. It seeks to help create institutional and financial models that enable long term sustainment of deployments by describing the team's governance structure, definitive documentation of all partnerships and agreements, ADA Transition Plans. It also assesses partnership risks and plans future agreement for post-deployment operations.

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1. Introduction

The Complete Trip - ITS4US Deployment Program is a multimodal effort – led by the Intelligent Transportation Systems (ITS) Joint Program Office (JPO) – and supported by the Office of the Secretary (OST), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) – to identify ways to provide more efficient, affordable, and accessible transportation options for underserved communities that often face greater challenges in accessing essential services. This program seeks to enable communities to build local partnerships, develop and deploy integrated and replicable mobility solutions to achieve complete trips for all travelers.

The Atlanta Regional Commission (ARC) is leading the concept development of a project supported by the Complete Trip – ITS4US Deployment Program. The Safe Trips in a Connected Transportation Network (ST-CTN) project seeks to enhance the traveler's complete trip travel experience by enhancing mobility, accessibility, reliability, and safety for system users, particularly for underserved communities, including those with disabilities, aging adults, and users with limited English proficiency (LEP). This is done by leveraging innovative solutions, existing deployments, institutional partnerships, and financial collaborative agreements.

The Institutional, Partnership, and Financial Plan (IPFP) describes all of the stakeholder and partnership agreements required to support successful development, design, operations, and evaluation of the ST-CTN project as well as a plan to continue operation beyond the three-phase deployment for a minimum of five years. It seeks to help create institutional and financial models that enable long term sustainment of deployments by:

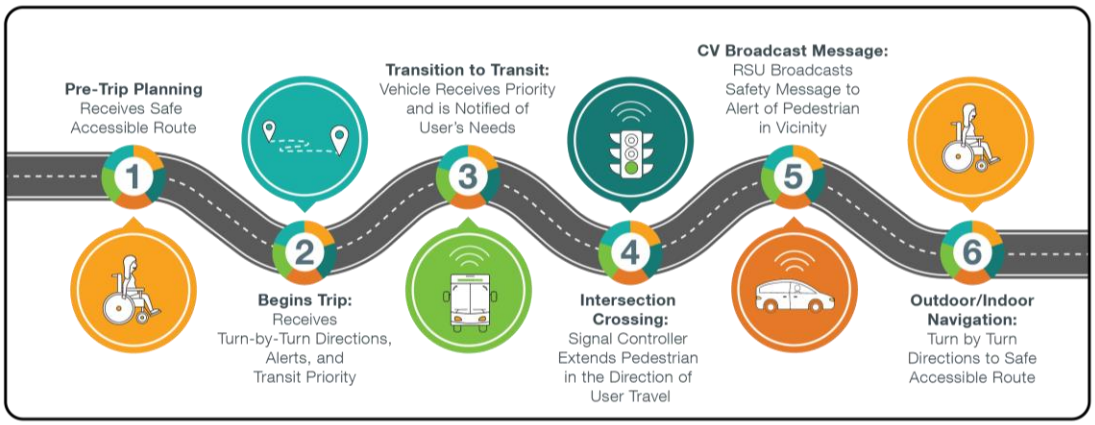
- Describing the team's governance structure
- Describing and providing definitive documentation of all partnerships and agreements
- Describing deployment partnership coordination activities
- Assessing potential institutional and partnership risks
- Defining a vision for how agreements will be adapted for post-deployment operations
- Documenting Americans with Disabilities Act (ADA) Transition Plans

The IPFP is a companion document to the program and project-level systems engineering documents, including the Project Management Plan (PMP), the Concept of Operations (ConOps), the Data Management Plan (DMP), the Participant Training and Stakeholder Education Plan (PTSEP), and the Outreach Plan. The IPFP will also serve as an input into the development of the Integrated Complete Trip Deployment Plan (ICTDP) and the Deployment Readiness Summary Briefing (DRSB). Any changes to the companion documents, specifically the DMP and the PTSEP, must remain consistent with the content in the IPFP.

1.1 Project Background

The ARC ST-CTN project is one of the Phase 1 Complete Trip – ITS4US Deployment Program projects selected to showcase innovative business partnerships, technologies, and practices that promote independent mobility for all travelers regardless of location, income, or disability.

The ST-CTN project aims to upgrade and integrate existing technologies and services to assist underserved populations with completing their trip successfully, safely, and reliably. The vision of the project is to provide users complete trip functionality with directions, conditions, and status on the links between trip legs that are personalized based on the user's profile, while connecting the user to connected vehicle (CV) infrastructure to provide safer trips and more transportation network awareness. Transit based trips were delineated into 6 segments (as depicted in **Figure 1**) to allow for easier understanding and a greater breakdown of priorities and goals.



Source: ARC, 2020

Figure 1. Traveler's Complete Trip

The delineated trip segments include the following steps and project components:

- **Step 1 Pre-Trip Planning.** The traveler plans for and receives a safe accessible route.
  - The ability to customize trip preferences based on the user's abilities.
- **Step 2 Begins Trip.** The traveler begins their trip and receives turn-by-turn directions, alerts, remote pedestrian activation, and can trigger transit signal priority (TSP) if the user is unable to stand for long periods or is sensitive to weather conditions.
  - Turn-by-turn, shortest path, directions along pathways that meet user defined preferences.
  - Provides support services for users if they become disoriented or have issues accessing defined paths.
  - Activates TSP for buses if the user requires additional time boarding or alighting a transit vehicle, is unable to stand for long periods, or is sensitive to weather conditions.

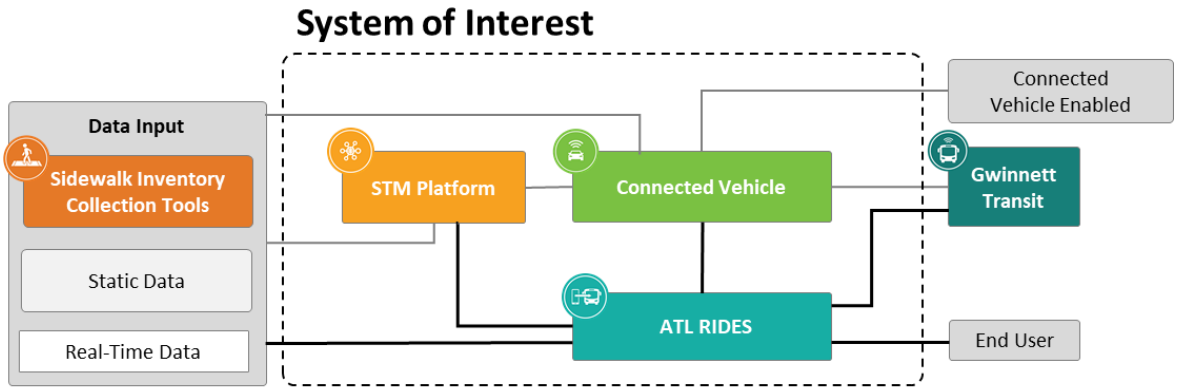
- **Step 3 Transition to Transit.** The traveler transitions to transit and the transit vehicle receives priority and is notified of users' needs. TSP can be triggered if the bus is running behind schedule.
    - Provides users with transit trips that have accommodations that meet user defined preferences.
    - Sends alerts to transit vehicles when users need additional time to board, navigate internally, or alight the transit vehicle.
    - Remotely requests service from transit vehicles while waiting to board or alight.
    - Triggers TSP if the bus is running behind schedule.
- **Step 4 Intersection Crossing.** When crossing a signalized intersection, the traveler interacts with the signal controller which extends the pedestrian phase in the direction of user travel.
    - Allows the user to communicate with connected intersections if they are unable to reach or press the crosswalk button.
    - Provides the user with information about the intersection crossing and adds time to the crossing if needed.
- **Step 5 CV Broadcast Message.** Roadside units (RSUs) broadcast safety message to alert CVs of pedestrians/bicyclists in the vicinity.
    - Provides the ability for users to remotely request service from transit vehicles while waiting to board or alight.
    - Provides communications between CVs and users to make them aware of each other when crossing a roadway or waiting at a transit stop.
- **Step 6 Outdoor/Indoor Navigation.** The traveler is provided with turn-by-turn directions to a safe accessible route.
    - Hands-free navigation via mobile apps and/or wearables and accessible channels (haptic, voice, text).
    - Alerts and dynamic rerouting in response to changes in path conditions.
    - Provides the user with accessible routes into and through transit hubs within the project area.
    - Provides users with updates on the operating status of indoor infrastructure such as elevators and escalators.

Additionally, user reporting will be available through the application to allow users to provide feedback on infrastructure that is currently out of service (bus ramps/lifts, elevators, escalators, etc.) or not accessible due to temporary or permanent obstructions (sidewalks, shared use-paths, etc.). This feature will help users avoid becoming delayed or inconvenienced because of unforeseen outages. Transit providers, city, county, and/or construction crews currently flag outages into the system. New features being proposed as part of the project will allow users to flag infrastructure that has not already been flagged by public agency staff. System development and system integrations completed within the scope of this deployment will enable travelers – specifically those in the underserved community – to program and safely complete single mode or multimodal trips that are based on their abilities; improve the transition between modes by providing additional details to users and transit service operators; suggest dynamic routing

changes based on infrastructure condition and calculated delay; and use crowdsourced data collection to update infrastructure conditions.

The ST-CTN project will use open-source software (OSS) tools allowing for the results to be replicable across the region and sidewalk inventory innovations will reduce the costs of managing pedestrian assets in any community.

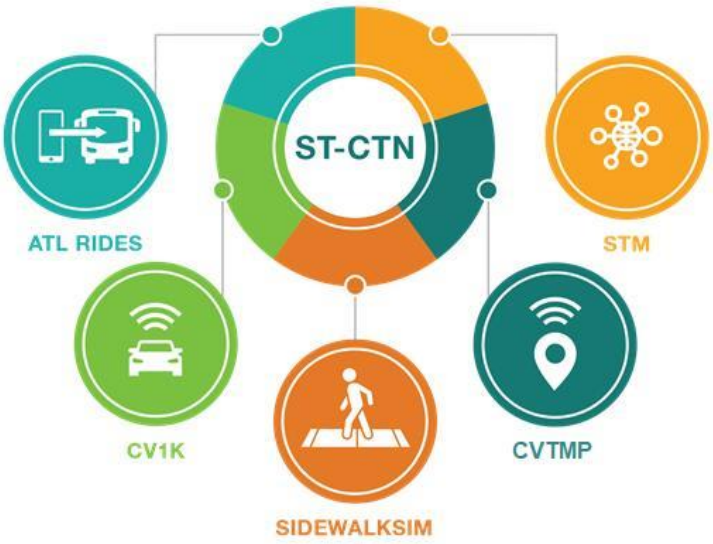
The conceptual diagram presented in **Figure 2** illustrates the concept, including the software, hardware, communications, and services planned for ST-CTN as shown.



Source: ARC, 2021

Figure 2. ST-CTN High-Level Context Diagram

The scope of the project is limited to development of interfaces between existing programs that expand the capabilities of these programs. The existing initiatives that are being leveraged to support the proposed ST-CTN system are shown in **Figure 3** and defined in more detail below.



Source: ARC, 2020

Figure 3. ST-CTN Integrated Initiatives

ATL RIDES. The Atlanta-Region Transit Link Authority (ATL), along with support from IBI Group, is leading the Atlanta Rider Information and Data Evaluation System (ATL RIDES) deployment which includes an OSS multi-modal trip planning and mobile application, integrated mobile fare payment options, and a Connected Data Platform (CDP) using regional General Transit Feed Specification (GTFS). The tool supports multi-agency context, multilingual support, and live-tracking capabilities using GTFS feeds. The Open Trip Planner (OTP) architecture facilitates integration with additional OSS tools including a data analytics engine, call center with integrated voice response (IVR), and account management system.

SIDEWALKSIM. SidewalkSim is an asset management system and shortest path (lowest impedance) routing tool for pedestrian pathways developed by Georgia Institute of Technology (GA Tech). Site inspections provide more detailed ADA and inclusive design and condition data for use in pathway accessibility analysis. SidewalkSim identifies the best path between any two points in the pedestrian network, given the set of pathway characteristics and any user-specified needs and route impedances.

CV1K. The Atlanta region is home to one of the largest CV deployments in the United States – Regional Connected Vehicle Infrastructure Deployment Program (CV1K). CV1K is deploying interoperable CV technologies at signalized intersections throughout the Atlanta region using both Dedicated Short-Range Communications (DSRC) and Cellular Vehicle to Everything (C-V2X) technologies to deliver safety and mobility-based applications. The program, led by ARC and GDOT, provides support to configure, operate, and maintain CV infrastructure and applications, including TSP. Gwinnett County will be one of the largest recipients of the first phase of this deployment.

CVTMP. Gwinnett County's Connected Vehicle Technology Master Plan (CVTMP) sets out to develop and improve economic viability and quality of life, address the needs and challenges to motorized and non-motorized modes, establish guidelines for deploying technology, and have broad applicability to Gwinnett, other local jurisdictions, and across the state—to set the standard for implementing CVs. Among the high priorities is establishing a mobile accessible safety program and alternative strategies for TSP in Gwinnett County.

STM. GA Tech's Space Time Memory (STM) platform processes traffic volume and speed data from multiple monitoring and modeling sources, tracks network performance measures, and predicts evolving route conditions using traditional and machine learning techniques. The STM projects trip trajectories through the transportation network, as network conditions change in space and time. This tool will be applied to analyze and predict performance through the multi-modal transportation network. The shortest path analysis will be applied to the combined

roadway, transit, sidewalk, and shared-use path networks, allowing routing decisions to incorporate travel time, safety, and other costs into path selection.

In some cases, partner agencies are upgrading the services within their current systems to create a more robust data set or toolset for the ST-CTN program.

1.2 Intended Audience

The intended audience of this IPFP includes the stakeholders who will use, develop, and manage the software and infrastructure that will be deployed as a part of the ST-CTN system. That audience includes the ST-CTN project team, the U.S. Department of Transportation (USDOT), and its Independent Evaluator. The ST-CTN project team includes the following phase 1 partners and their respective roles on the project:

- **ARC.** Project management, concept development, and concept collaboration lead
- **Georgia Department of Transportation (GDOT).** CV integration lead
- **Gwinnett County Department of Transportation (GCDOT).** System development and local agency deployment lead
- **Gwinnett County Transit (GCT).** System development and local agency deployment lead
- **Atlanta-Region Transit Link Authority (ATL).** ATL RIDES integration lead
- **All other project team members listed within this plan.**

In addition, this document will be shared with constituent agencies and stakeholders of related projects currently under deployment in the region who may be included in future ST-CTN system expansion.

1.3 Document Overview

The IPFP provides institutional and financial models that enable long term sustainment of deployment. The remainder of this document consists of the following sections and content:

- **Section 2** (Project Team) describes the team's Phase 1 governance structure and documents relationships among deployment partner organizations.

- **Section 3** (Partnerships and Agreements)Partnerships and Agreements provides additional details on partnerships specified in Section 2 such as nature of support, type of partnership and which stage of deployment.

- **Section 0** (Risk Assessment) assesses the potential institutional, partnership, and financial issues and identifies risk and mitigation strategies for each.

- **Section 5** (Operations and Management Concept) documents how the team intends to rely on funding from other sources as well as from the USDOT, how the team intends to sustain system operations for 3-5 years after deployment, and how earlier governance structures may need to be adapted as the project progresses.

- **Section 0** (Americans with Disabilities Act (ADA) Transition Plans) identifies the status and projected development path of all ADA Transition Plans for involved public sector agencies.

1.4 Relevant Sources

This section includes a list of documents referenced during the plan, including URLs, and USDOT Publication Numbers, where possible.

Table 1. References

ID	Referenced Documents
[CVTMP]	AECOM. "Gwinnett County Connected Vehicle Technology Master Plan (CVTMP)." Duluth: Gwinnett County Department of Transportation. (2019). https://www.gwinnettcounty.com/static/departments/transportation/pdf/CVTechnologyMasterPlan2019.pdf
[PMP]	Atlanta Regional Commission. Deliverable Task 1A Project Management Plan. Atlanta: U.S. Department of Transportation. (2021).
[UNIRP]	Atlanta Regional Commission. Deliverable Task 1B User Needs Identification and Requirements Planning (FHWA-JPO-21-852). Atlanta: U.S. Department of Transportation. (2021). https://rosap.ntl.bts.gov/view/dot/57010
[ConOps]	Atlanta Regional Commission. Deliverable Task 2 Concept of Operations (FHWA-JPO-21-857). Atlanta: U.S Department of Transportation. (2021). https://rosap.ntl.bts.gov/view/dot/59820
[DMP]	Atlanta Regional Commission. Deliverable Task 3 Data Management Plan (FHWA-JPO-21-865). Atlanta: U.S Department of Transportation. (2021). https://rosap.ntl.bts.gov/view/dot/58212
[ETRA]	Atlanta Regional Commission. Deliverable Task 7 Enabling Technology Readiness Assessment (FHWA-JPO-21-885). Atlanta: U.S Department of Transportation. (2021). https://rosap.ntl.bts.gov/view/dot/60126
[PTSEP]	Atlanta Regional Commission. Deliverable Task 9 Participant Training and Stakeholder Education Plan (FHWA-JPO-21-900). Atlanta: U.S Department of Transportation. (2021).
[OP]	Atlanta Regional Commission. Deliverable Task 11 Outreach Plan (FHWA-JPO-21-910). Atlanta: U.S Department of Transportation. (2022).
[ATIS]	Connected Vehicle Reference Implementation Architecture (CVRIA). Advanced Traveler Information System. Santa Ana: Iteris. (2016). https://local.iteris.com/cvria/html/applications/app4.html

ID	Referenced Documents
[CV1K]	Georgia Department of Transportation. "The Regional Connected Vehicle Program Scope of Work." Atlanta: Georgia Department of Transportation.
[GTFS]	GTFS. General Transit Feed Specification Reference. Washington D.C.: GTFS. (2019). https://gtfs.org/reference/realtime/v2/
[CI]	ICF, Wyoming Department of Transportation. Connected Intersection - Concept of Operations. Cheyenne: USDOT (2018). https://rosap.ntl.bts.gov/view/dot/41917
[CAV]	Park, Hyungjun; Khattak, Zulqarnain; Smith, Brian. Glossary of Connected and Automated Vehicle Terms *Version 1.0*. Charlottesville.: University of Virginia Center for Transportation Studies. (2018). http://www.ctb.virginia.gov/resources/2018/oct/tech/glossary-of-cav-terms-ver1.0-03052018-1.pdf
[ADA]	United States Department of Justice, Civil Rights Division. (2009). Americans with Disabilities Act of 1990. Washington D.C.: United States Government. https://beta.ada.gov/topics/intro-to-ada/
[BAA]	U.S. Department of Transportation, Federal Highway Administration. (2020). ITS4US Broad Agency Announcement. Washington D.C.: U.S. Department of Transportation.

2. Project Team

The successful development of the ST-CTN concept is dependent upon several key partnerships and initiatives throughout the region. These partners are actively engage and collaborate to govern the Phase 1, concept development of the ST-CTN project. The ST-CTN project team will be restructured for Phases 2 and 3. GDOT will be the Phase 2/3 applicant and prospective recipient. GDOT will serve as the lead Co-Project Management Lead (CPML) and a point of contact (POC). GDOT and ARC will execute an Inter-governmental Agreement. ARC will subcontract with remaining ST-CTN project team partners. The reasons for restructuring the partnership are to alleviate the financial and administrative responsibilities and shift them to a more resilient agency. GDOT's administrative competencies and financial resources are why the partnership has chosen for it to become the lead agency, especially in light of the upcoming Phase 2/3 activities (technology design, testing, deployment, and maintenance). In addition, GDOT's hands-on engagement and fiscal management during Phases 2 and 3 will maximize the potential for scaling the ST-CTN deployment to other jurisdictions within metro Atlanta and throughout the State of Georgia.

The ST-CTN project team is composed of the following organizations:

Source: ARC, 2022

Figure 4. Project Partner Logos

- **Georgia Department of Transportation (GDOT) – Project Management / Financial Administration.** The GDOT is the department responsible for the state of Georgia's roads. GDOT will be the lead agency for Phases 2 and 3, ultimately responsible for the success of the ST-CTN design, deployment, operations, and evaluation. GDOT will serve as the financial administrator and will rely on ARC to provide management for the project. It is anticipated that GDOT will provide cost share funds through a commitment of in-kind labor and State funds.

- **Atlanta Regional Commission (ARC) – Project Management / Product Owner. ARC** is the federally designated Metropolitan Planning Organization (MPO). ARC will support GDOT by continuing to provide management of the project but will rely on GDOT for financial administration.

- **Gwinnett County – Local Deployment.** 30 miles northeast of Atlanta, Gwinnett County has been one of the fastest growing counties in the country with a current (2019) population of 936,250. GCDOT operates local bus and paratransit service in the county with regional connections. Gwinnett County will serve as the Local Deployment Lead (LDL) and will manage the local deployment and integration of the project. It is anticipated that Gwinnett County will provide cost share funds through a commitment of in-kind labor and State funds.

- **Atlanta-Region Transit Link Authority (The ATL) – ATL RIDES Owner / Regional Expansion Strategy.** The ATL is charged with developing a regional transit plan for the 13-county Metropolitan Atlanta area. The ATL will serve as a project stakeholder and provide strategic direction to ensure that the project is scalable throughout the region.

- **Statewide Independent Living Council of Georgia (SILCGA) – Community Advocacy Liaison / Outreach and Training Coordination.** SILCGA is a nonprofit governed by people with all types of disabilities. SILCGA identifies societal barriers to independent living and collaborates to remove those barriers and to increase the support needed to create independent living opportunities. SILCGA will support the coordination and delivery of outreach and training activities, serving as a liaison to advocacy groups and other key stakeholders that support the underserved communities.

- **Georgia Institute of Technology (GA Tech) – STM Platform Development.** GA Tech is a leading research university. GA Tech will be responsible for capturing the enhanced sidewalk inventory data and design and development of the STM Platform subsystem.

- **Kimley-Horn and Associates, Inc. (KHA) – Quality Assurance / Configuration Management.** KHA is a consulting firm specializing in the planning, design, and implementation of state-of-the-art transportation systems. KHA will manage the configuration of Phase 1 documentation, ensuring that any changes that impact previously completed work is updated to be consistent. KHA will continue to serve as production quality assurance. In addition, KHA will serve as local outreach support.

- **GO Systems and Solutions LLC (GOSystems) – Systems Engineering.** GOSystems is a small, women-owned business providing systems engineering, solution architecture, system development, and testing services. GOSystems will be leading the systems development for this project, focusing on systems engineering and integration, standards, and data management. GOSystems will also lead the systems engineering process and ensure that all needs and requirements are met by the system. It is anticipated that GOSystems will provide cost share funds through a commitment of in-kind labor.

- **IBI Group (IBI) – ATL RIDES Development.** IBI is a team of industry leading architects, engineers, planners, designers, and technology professionals. They are currently working with ATL. IBI will be responsible for the design and development of the enhancements and integration to the ATL RIDES subsystem.

Phases 2 and 3 will include a new project partner:

- **ICF International, Inc. (ICF) – Deployment Management.** ICF is an advisory and digital services provider that helps clients solve their most complex challenges, navigate change

and shape the future. ICF will manage the design, deployment, and testing of the ST-CTN system. In addition, ICF will lead the project outreach.

Phases 2 and 3 will also include the following deployment subcontractors:

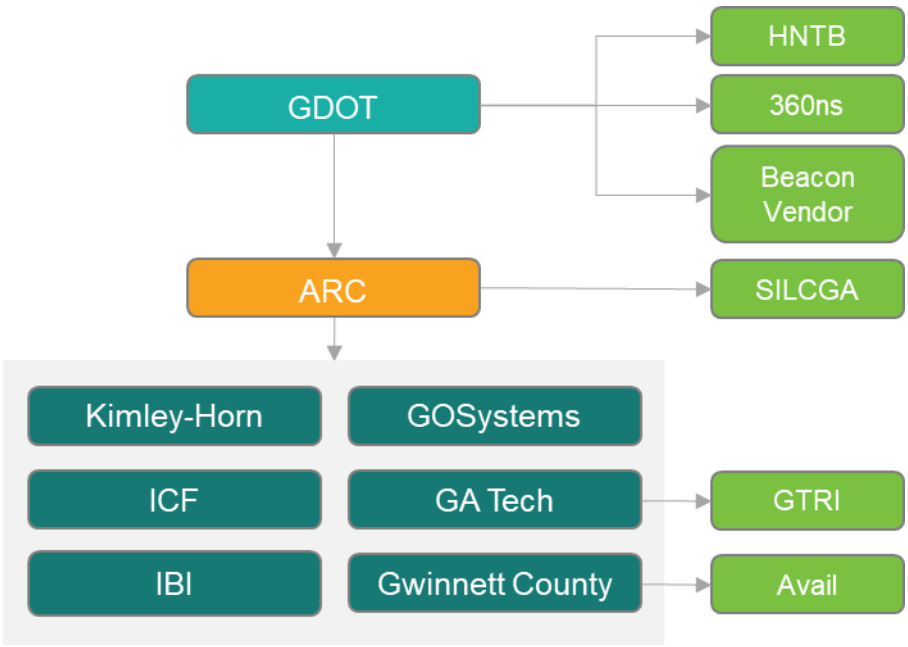
- **Georgia Tech Research Institute (GTRI)** is the nonprofit, applied research division of GA Tech. GTRI will support the migration of the STM Platform subsystem to a production environment, including migrating the system to a cloud environment.

- **Avail Technologies (Avail)** is a developer delivering comprehensive solutions for transit operators. Avail will lead the integration of the Connection Protection application.

- **HNTB Corporation (HNTB)** is an employee-owned infrastructure solutions firm. HNTB will support GDOT with financial and project administration. In addition, HNTB will develop and administer the procurement of the beacons to support indoor navigation.

- **360 Network Solutions, LLC (360ns)** is an intelligent transportation and mobility solution provider. 360ns will manage the deployment and integration of CV applications currently being deployed within Gwinnett County.

The organizational structure of the partners, how their respective contracts will be administered and how funds will flow through organizations is shown in **Figure 5**Error! Reference source not found.. The teal box represents the prospective prime recipient of USDOT funds, GDOT. ARC (shown in the orange box) will be the primary subcontractor with GDOT and will administer contracts with project partners, KHA, ICF, IBI, GOSystems, GA Tech, and Gwinnett County (turquoise boxes). Deployment subcontractors (green boxes) are shown with their associated contract administrator. In addition, the ATL and project Stakeholders, including training partners, will provide critical support to the ST-CTN project through an informal capacity.



Source: ARC, 2022

Figure 5. Phase 2/3 Governance Structure

The team structure will be adapted in Phases 2 and 3 to reflect the change in lead agency and the shared responsibilities between GDOT and ARC, as shown in **Source:** ARC, 2022

Figure 6. The team structure is comprised of the following key elements.

- Agreement Sponsors –USDOT personnel responsible for the successful delivery of the Complete Trip – ITS4US Deployment Program. Agreement Sponsors will provide the ST-CTN team financial support, programmatic expectations and direction, and technical expertise.
- Executive Management Team (EMT) – comprised of the key personnel responsible for the successful delivery of the ST-CTN project, including collaborating with USDOT Agreement Officer (AO) and Agreement Officer Representative (AOR); actively managing the project; leading coordination and engagement with Stakeholders, including end users; ensuring the safe, efficient, quality development, deployment, and implementation of the ST-CTN project. The EMT will report to the Agreement Sponsors.
- Co-Project Management Lead (CPML) – responsible for the quality and timely provision of required project management artifacts and for tracking project progress against target performance throughout the project lifecycle. The CPMLs are responsible for risk tracking and risk mitigation. Alan Davis will serve as the lead CPML, responsible for the financial administration of the contract. The CPMLs will report to the Agreement Sponsors.
- Quality Assurance Engineer (QAE) – responsible for reviewing documents for quality and accuracy. The QAE will report to the CPMLs.
- Co-System Deployment Lead (CDL) – responsible for managing, scheduling, controlling and monitoring the system development team. The DL will work with the EMT to coordinate all activities including training, outreach, performance measurement and

marketing with the efforts undertaken by the System Development organization. The CDLs will report to the CPMLs.

- Systems Engineering Lead (SEL) – provides technical support and guidance to systems engineering and software development teams on processes, integration, and technology design, development, integration, and deployment strategy. The SEL will report to CPMLs.
- Product Owner – responsible for working with the development team to define User Stories and prioritize the Backlog to streamline the execution of program priorities while maintaining the conceptual and technical integrity of the features or components for the team. The Product Owner is accountable for maximizing the value of the product resulting from the work of the Development Teams.
- Community Coordinator Lead (CCL) – responsible for engaging community groups and individuals. The LDL will report to the CDLs.
- Local Deployment Lead (LDL) – responsible for managing local deployment activities. The LDL will coordinate on-site activities such as testing and demonstrations. The LDL will report to the CDLs.
- Project Support Team – responsible for implementing the systems engineering and Agile process to design, develop, integrate, and deploy the ST-CTN system. The Project Support Team will report to the EMT. The Development Teams within the Project Support Team will report to the SEL. Deployment subcontractors include those partners that will be added to the team to perform distinct activities, including travel training partners who will assist in training end users on system functionality

Source: ARC, 2022

Figure 6. Phases 2 and 3 Team Structure

The following sections provide an overview of partnership status and partnership deployment activities.

2.1 Partnership Status Summary

The ARC is the contract recipient ("lead agency") for Phase 1. The Project Director, Project Management Lead, and Concept Development Lead are ARC employees. ARC entered into several sub-agreements with many of the partners listed below in **Table 2**. The sub-agreements are tailored to each ST-CTN partner for Phase 1, documenting the corresponding scopes, schedules, and budgets.

Table 2 describes the current status of project partnerships. In addition, Phase 1 letters of intent from institutional partners are provided in the **Appendix B**.

Table 2. Partnership Status Summary Phase 1

Organization	Role	Status
Institutional Partnerships		
USDOT ITS JPO	Phase 1-3 Funding Agency & Oversight	Phase 1 Contract w/ARC & 2 Modifications Executed
ARC	MPO Project management, concept development, and concept collaboration	Phase 1 Contract w/USDOT & 2 Modifications Executed
The ATL	ATL RIDES/OTP integration	Sub-Agreement with ARC executed
GDOT	CV integration	Sub-Agreement with ARC executed
Gwinnett County (Gwinnett County Transit and Gwinnett County DOT)	System development and local agency deployment	Sub-Agreement with ARC executed
Business Partnerships		
KHA	Concept development and production management	Sub-Agreement with ARC executed
GOSystems	System development	Sub-Agreement with ARC executed
Georgia Institute of Technology (GA Tech)	STM Platform development	Sub-Agreement with ARC executed
IBI Group (IBI)	ATL RIDES system and mobility app development	Sub-Agreement with ARC executed
Local Partnerships		
SILCGA	Community outreach coordinator	Sub-Agreement with ARC executed
disABILITY Link	Concept Development, Stakeholder	No Formal Agreement
Tools for Life	Concept Development, Stakeholder	No Formal Agreement
Center for Pan Asian Community Services (CPACS)	Concept Development, Stakeholder	No Formal Agreement

Organization	Role	Status
Georgia Department of Education	Concept Development, Stakeholder	No Formal Agreement
Gwinnett County Schools	Concept Development, Stakeholder	No Formal Agreement
Georgia Department of Health	Concept Development, Stakeholder	No Formal Agreement
GA Department of Behavioral Health and Developmental Disabilities	Concept Development, Stakeholder	No Formal Agreement
Southeastrans	Concept Development, Stakeholder	No Formal Agreement
Other Supporting Partnerships		
Complete Trip – ITS4US Deployment Program Partners	Support	N/A
Industry Partners	Support	N/A
Central Institutional Review Board (IRB)	Support	N/A

The ST-CTN project team will be restructured for Phases 2 and 3. GDOT will be the Phase 2/3 applicant and prospective Phases 2 and 3 recipient. This proposed restructuring has been contemplated for some time, and progress regarding this decision was kept under observation as an action item by the ITS4US Program Manager and Contracting Officer's Representative (COR) during Phase 1. Under this proposed restructuring, ARC will maintain any and all commitments that have been documented in Phase 1 deliverables, as well as support GDOT in its fiduciary/administrative role, to the extent that the "*Complete Trip – ITS4US Program Phases 2 & 3 Notice of Funding Opportunity (NOFO) Q&A*" provides and as approved by GDOT.

Table 3 describes the status of project partnerships for Phases 2 and 3 of the ST-CTN project. It is expected that all agreements will be executed immediately upon award of Phase 2/3. All project partners and deployment subcontractors have been involved with the development of the NOFO response and have provided concurrence with the Phase 2/3 budget and their respective roles and responsibilities. Therefore, it is expected that execution of agreements will progress swiftly. In addition, Phase 2/3 letters of commitment from project partners are provided in **Appendix C**.

Table 3. Partnership Status Summary Phases 2 and 3

Organization	Role	Status
Institutional Partnerships		
USDOT ITS JPO	Phase 1-3 Funding Agency & Oversight	Phase 2/3 Grant to be executed with GDOT.
GDOT	Phase 2/3 Recipient/Agency and CV integration	Phase 2/3 Grant to be executed with USDOT.

Organization	Role	Status
ARC	MPO Project management, concept development, and concept collaboration	Phase 2 Inter-governmental Agreement with GDOT. Draft developed and in legal review. To be executed upon Phase 2/3 award.
The ATL	ATL RIDES/OTP integration	Phase 2 Letter of Commitment Signed.
Gwinnett County (GCDOT and GCT)	System development and local agency deployment	Phase 2 Sub-Agreement with ARC. To be executed upon Phase 2/3 award.
Business Partnerships		
KHA	Concept development and production management leads	Phase 2 Sub-Agreement with ARC. To be executed upon Phase 2/3 award.
GOSystems	System development lead	Phase 2 Sub-Agreement with ARC. To be executed upon Phase 2/3 award.
IBI Group	ATL RIDES system and mobility app development lead	Phase 2 Sub-Agreement with ARC. To be executed upon Phase 2/3 award.
GA Tech	Technical innovation lead	Phase 2 Sub-Agreement with ARC. To be executed upon Phase 2/3 award.
ICF Inc.	Management support and system integration	Phase 2 Sub-Agreement with ARC. To be executed upon Phase 2/3 award.
Local Partnerships		
SILCGA	Community outreach, participant training, and recruitment	Phase 2 Sub-Agreement with ARC. To be executed upon Phase 2/3 award.
disABILITY Link	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
CPACS	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Tools for Life	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Georgia Department of Education	Provides outreach and system testing	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Gwinnett County Schools	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Georgia Department of Health	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
GA Department of Behavioral Health and Developmental Disabilities	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Southeastrans	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.

Organization	Role	Status
Georgia Vocational Rehab	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Bobby Dodd Institute	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
The Exceptional Foundation of Atlanta	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Spectrum Autism Support Group	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Georgia Council on Developmental Disabilities	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Bennett's Place	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
The Arc Georgia	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Creative Enterprises	Stakeholder, Training partner	Phase 3 Formal Agreement TBD During Phase 2, Year 2.
Other Supporting Partnerships		
Complete Trip – ITS4US Deployment Program Partners	Support	N/A
Industry Partners	Support	N/A
Central Institutional Review Board (IRB)	Support	N/A

2.2 Deployment Partnership Coordination Activities

The ST-CTN project team engaged in coordination efforts throughout Phase 1 of the Complete Trip – ITS4US Deployment Program with members of the project team, institutional and business partners, and project stakeholders. **Table 4** provides a summary of the partner roles contributed during Phase 1 key deliverables. All partners were engaged throughout the process and consensus was gained prior to submittal of documentation.

Table 4. Phase 1 Partner Roles in Plan Development, Updates, and Implementation

Organization	ConOps	DMP	SMP	PMESP	SyRS	PTSEP and Outreach	ICTDP
Institutional Partnerships							
USDOT ITS JPO	Direction, Walkthrough Participation, and Review	Direction/ Review	Direction/ Review	Direction/ Review	Direction, Walkthrough Participation, and Review	Direction/ Review	Direction/ Review
GDOT	CV Technical Expertise, Walkthrough Participation, and Review	CV Data Information and Review	Review	Review	CV Technical Support, Walkthrough Participation and Review	Review	Technical and Administrative Information and Review
ARC	Production, Management, Walkthrough Participation, and Review	Production, Management, and Review	Production, Management, and Review	Production, Management, and Review	Production, Management, Walkthrough Participation and Review	Production, Management, and Review	Production, Management, and Review
The ATL	Walkthrough Participation and Review	Review	Review	Review	Walkthrough Participation and Review	Review	Support
Gwinnett County (GCDOT and GCT)	CV Technical Expertise, Walkthrough Participation, and Review	CV Data Information and Review	Review	Review	CV Technical Support, Walkthrough Participation and Review	Review	Technical and Financial Information and Review
Business Partnerships							

Organization	ConOps	DMP	SMP	PMESP	SyRS	PTSEP and Outreach	ICTDP
KHA	Production, Walkthrough Participation, and Review	Production and Review	Production and Review	Production and Review	Production, Walkthrough Participation, and Review	Production and Review	Production and Review
GOSystems	Production, Walkthrough Participation, and Review	Production and Review	Production and Review	Production and Review	Production, Walkthrough Participation, and Review	Production and Review	Production and Review
IBI Group	ATL RIDES Technical Information, Walkthrough Participation, and Review	ATL RIDES Technical Information and Review	ATL RIDES Technical Information and Review	ATL RIDES Technical Information and Review	ATL RIDES Technical Information, Walkthrough Participation, and Review	ATL RIDES Technical Information and Review	ATL RIDES Technical Information and Review
GA Tech	STM Technical Information, Walkthrough Participation, and Review	STM Technical Information and Review	STM Technical Information and Review	STM Technical Information and Review	STM Technical Information, Walkthrough Participation, and Review	STM Technical Information and Review	STM Technical Information and Review
Local Partnerships							
SILCGA	End User Focused Information, Walkthrough Participation, and Review	End User Focused Information and Review	End User Focused Information and Review	End User Focused Information and Review	End User Focused Information, Walkthrough Participation, and Review	End User Focused Information and Review	End User Focused Information and Review

The following section describes the coordination efforts and agreements that were reached during the main deployment elements of the program.

2.2.1 Concept of Operations (ConOps)

The ConOps was developed with support from all partners including end users, infrastructure owner operators (IOO), and system developers. All ST-CTN project partners who will support design, deployment, and operations during Phases 2 and 3 are in agreement and are aligned with the deployment concept and project goals. Engagement with end users was primarily focused on user need interviews conducted virtually with end users and members of the ST-CTN project team. End users were also invited to portions of the ConOps Walkthrough, specifically related to user needs, to ensure that the correct needs and rationale had been captured by the ST-CTN project team.

Coordination and engagement with IOOs and system developers occurred throughout the creation and review of the ConOps document. This primarily occurred through a series of focused tech team work sessions and direct, small group meetings. These project partners were critical in helping the ST-CTN project team understand the existing conditions and limitations of their systems as well as providing realistic expectations for the effort required and ability of each partner to implement the proposed ST-CTN system. IOO and system developer partners reviewed the ConOps document in multiple stages prior to submittal to the USDOT to ensure that the proposed system was feasible and accurately defined. Specific focus on stakeholder roles, funding, and operational impacts was provided by the IOOs and system developers.

2.2.2 Performance Measures and Targets

The Performance Measurement and Evaluation Support Plan (PMESP) was developed with support primarily from system developer partners. Coordination with these partners was needed to help identify the data needs and evaluation methods that will be utilized to analyze the performance of the proposed ST-CTN system. Performance measures were developed with inputs from system developer and IOO partners to ensure that the performance measures were directly tied to the stated goals and use cases of the ST-CTN project. Performance measure targets were reviewed by IOO and system developer partners to ensure that the targets were reasonable and verifiable with the anticipated data sets within the deployment timeline.

2.2.3 Operational Changes

As described in the ConOps, changes to roles and responsibilities and operational changes to IOOs and system developers are expected as a part of the deployment of the ST-CTN system. The Configuration Manager will be responsible for monitoring these changes as the concept is refined during project design and deployment throughout Phase 2. The Configuration Manager will identify and share these anticipated operational changes with the EMT who will manage expectations and ensure that required operational changes are realistic. IOOs and system developers provided input to the expected operational changes to ensure that they would not impact the existing operations and functions of each agency or organization. Significant operational changes are not expected due to the deployment of the ST-CTN system because existing operations will be maintained for key subsystems such as the ATL RIDES, STM Platform, and CV applications through their respective programs. Functionality expansion and integration may require minor operational changes which will be better understood and defined during Phase 2. Furthermore, final review of the ConOps, including these items was provided by IOOs and

system developers who were impacted by the proposed system to ensure commitment and ownership of the intended operational procedures required to support the ST-CTN system.

2.2.4 Governance Framework and Processes

The governance framework and project processes were outlined in the Phase 1 ST-CTN project application. The framework and processes were refined, formalized, and documented within the PMP. During the development of the PMP, the EMT was established as the core team responsible for the delivery of the project. The EMT worked closely with project team partners throughout the development and production of the ST-CTN concept. The Phase 1 ST-CTN governance structure is illustrated in **Figure 5**. The partnership structure will be changing slightly in Phases 2 and 3 with GDOT being the prospective recipient but the processes put into place will remain the same.

The governance processes utilized during the Phase 1 concept development included focused work sessions, pointed meetings, interviews, and regular communication, which will remain the same during Phases 2 and 3:

- **Bi-monthly USDOT team meetings** – Key personnel and the deputy project manager (DPM) met with USDOT on a bi-monthly basis to discuss task and deliverable status, project action items, risk, and developments.

- **EMT weekly meetings** – The EMT met weekly to discuss project and task status and upcoming activities. This included a discussion of potential items to discuss with USDOT partners during the bi-monthly ARC project team meetings.

- **Technical team work sessions** – Technical team work sessions were held weekly during key development activities to focus on specific tasks or elements of the ST-CTN system. These work sessions served as the primary mechanism for IOOs and system developers to provide input and guide the development of the ST-CTN concept. In addition, the technical team work sessions allowed partners to gain a sense of project ownership, develop partner relationships, and foster commitment for the project.

- **Stakeholder interviews** – In addition to technical development, the EMT worked directly with stakeholders through interviews and focused meetings throughout the development of Phase 1. As mentioned previously, these stakeholders were critical in providing input and direction about needs of end users.

- **Project team meetings and coordination** – Significant and consistent coordination through small group meetings, emails, phone calls, and instant messages were utilized by project team members to communicate project needs and developments.

2.2.5 Data Sharing Agreements

The ST-CTN will generate and utilize a significant amount of data that will be ingested and shared by partner agencies. As described in Section 4 of the ITS4US Phase 1 DMP, the ST-CTN project team will establish a Data Governance Board to create and implement data sharing policies and champion the accessibility of data. Each data set will be assigned an owner, steward, and in some cases a federal sponsor. Access levels to data sets are being put in place to ensure that personally identifiable information (PII) data is not misused or shared with unauthorized persons or external networks.

Due to the scale and different types of data sets that are being used and generated, coordination between project partners and data owners was critical in establishing policies and procedures for sharing access to the data sets. This coordination occurred primarily through internal team meetings. Data Owners were provided a preliminary draft of the DMP and other documents that established such policies in order to approve of or provide input on proposed policies.

Data sharing agreements will be formalized during Phase 2 of the ST-CTN project once privacy and security policy and processes are designed. Updates to the DMP will be made in Phases 2 and 3 as needed. It is anticipated that existing regional data sharing agreements and structures may be leveraged to maintain similar existing governance structures.

2.2.6 Financial Agreements

Coordinating the financial agreements for all phases of the ITS4US project has required extensive and ongoing efforts with all project partners to ensure that the project proceeds as intended. Much of the coordination for this effort took place during internal team meetings which were held prior to the application of Phase 1. Phase 2 and 3 activities include local match funding by project partners and were discussed and reviewed in detail during development of the ICTDP.

3. Partnerships and Agreements

Section 2 describes the project team structure and the ways in which the ST-CTN partners have been engaged to collaboratively develop and deliver this project. Section 3 provides additional details regarding formal agreements that have been put in place and describes what agreements each partner will need in the future to support this project.

3.1 USDOT Phase 1 Contract

The following sections provide a summary of the documentation and financial agreements that have been implemented to support the USDOT Phase 1 contract with the ST-CTN project team.

3.1.1 Changes in Organization from Phase 1

The ST-CTN project team will be restructured for Phases 2 and 3. GDOT will be the Phase 2/3 applicant and prospective Phases 2 and 3 recipient. GDOT will serve as the lead CPML and a POC. GDOT and ARC will execute an Inter-governmental Agreement. ARC will subcontract with ST-CTN project team partners. The reasons for restructuring the partnership are to alleviate the financial and administrative responsibilities and shift them to a more resilient agency. GDOT's administrative competencies and financial resources are why the partnership has chosen for it to become the lead agency, especially in light of the upcoming Phase 2/3 activities (technology design, testing, deployment, and maintenance). In addition, GDOT's hands-on engagement and fiscal management during Phases 2 and 3 will maximize the potential for scaling the ST-CTN deployment to other jurisdictions within metro Atlanta and throughout the State of Georgia.

3.1.2 Documentation

On January 6, 2021, a cooperative-research agreement was executed between USDOT and ARC for Phase 1. The contracting instrument is a firm-fixed price contract, requiring ARC to furnish all equipment, materials, and personnel necessary to provide the ITS JPO, with non-personal services for the ST-CTN effort. The proposed budget and final obligated funding amount for Phase 1 is $1,337,184.54. There was no other funding required to meet the Phase 1 requirements. The original period of performance was from 01/15/21 to 01/14/22. The contract consisted of 14 tasks, whereby the schedule for each task and the sequencing of the corresponding deliverables were prescribed by the ITS JPO.

A contract modification was fully executed on March 2, 2021 to change the COR, extend the period of performance for Phase 1 (from 01/14/22 to 02/21/22), and to update the deliverables schedule. A second contract modification was executed on January 19, 2022 to update the deliverables schedule and extend the period of performance (from 02/21/22 to 06/15/22). The cause behind both contract modifications was due to unforeseen delays that occurred within the federal government, most notably changes in the federal administration.

3.1.3 Financial Agreements

Table 5 provides a summary of ST-CTN project cost per phase and funding source. The total Phase 1 project cost is $1,337,184.54. This does not include all of the planning, development, and maintenance costs of the pre-existing/on-going ST-CTN initiatives described in the IPFP Introduction. The federal share of this cost is 100% and there are no matching funds provided. The total Phase 2 project cost is $6,659,000. The total Phase 3 project cost is $3,405,000. The federal share of Phase 2 and Phase 3 cost is 80% and there is a requirement that the ST-CTN project team match 20% of the funds.

Table 5. ST-CTN Project Cost Summary

Phase	Total Cost	Federal Share	Match
Phase 1 – Concept Development	$1,337,184.54	$1,337,184.54	-
Phase 2 – Design and Test	$6,659,000	$5,327,200	$1,331,800
Phase 3 – Operate and Evaluate	$3,405,000	$2,724,000	$681,000
ST-CTN Project Total	$11,401,184.54	$9,388,384.54	$2,012,800

Gwinnett County, GDOT, and GOSystems partners have committed to providing labor services to the ST-CTN project as cost share during Phases 2 and 3 of the project. This consists of 100% allocation of Gwinnett County DOT's estimated labor, 100% of GDOT's estimated labor, and 40 hours per year of GOSystems' estimated labor.

GDOT and the ST-CTN project team are committed to seeking and securing cost share funds through pursuit of their respective funding processes as well as non-federal grant and private philanthropic partnership opportunities. The following resources are being pursued in local and state budgetary discussions:

Atlanta-Region Transit Link Authority (ATL) Regional Transit Plan. ATL is currently completing their 2022 ATL Regional Transit Plan (ARTP) which includes a call for projects to be considered for the ATL's Priority Investment List, an annual list of near-term high performing projects submitted to state leadership in September for funding consideration. The team has already submitted ST-CTN to the 2022 ARTP for consideration of state match funding. Any State match funding awarded from the ATL's Priority Investment List is statutorily limited to transit capital projects. Decisions on projects to be included in the 2022 Priority Investment List will be made by August 2022 and state funding allocation decisions will be made by Spring 2023 with the final passage of the state budget.

GDOT State Budget. GDOT handles funds from many sources including the GA gas tax, Transit Trust Fund, and Transportation Trust Fund. The state's fiscal year begins July 1. Budgets are decided for a 3 FY period but are also subject to change as projects are often delayed and shift out to later years. The budget is revisited every winter and finalized in spring following the passing of state budgets in legislative session.

Gwinnett County Budget. Gwinnett County handles funds from several sources including the County Capital Budget and numerous grants. The County's fiscal year begins January 1. The County's budgeting process begins in March and concludes when budget adoption takes place during the first meeting of the Board of Commissioners in January.

3.2 Institutional Partnerships

As a regional effort, many institutions have partnered for the ST-CTN deployment. One of the major advantages of this project is that it incorporates current and ongoing projects from multiple agencies to fulfill a common goal. **Table 6** contains a list of the agencies that are either IOOs or have a vested interest in the success of this deployment and its regional expansion. All the institutional partners have been engaged since the initial application period of the Complete Trip – ITS4US Deployment Program and are committed to maintaining their involvement beyond the USDOT required maintenance period.

Table 6. List of Institutional Partners

Institutional Partner	Nature of Support	Deployment Phase
USDOT/ITS JPO	Phase 1-3 Funding Agency & Oversight. USDOT/ITS JPO will serve within the roles of AO and AOR.	1, 2, 3
GDOT	State DOT, CV Integration Lead, Ph 2/3 Recipient. GDOT will serve within the role of CPML.	1, 2, 3, Post-Deployment
ARC	MPO, Project Management, Concept Development, and Concept Collaboration, Ph 1 Recipient. ARC will serve within the roles of CPML, CDL/Product Owner, and Agency Outreach.	1, 2, 3, Post-Deployment
The ATL	State Transit Authority, ATL RIDES/OTP Integration. The ATL will serve as a critical stakeholder.	1, 2, 3, Post-Deployment
GCDOT	Local DOT, System Development and Local Agency Deployment. GCDOT will serve within the role of LDL.	1, 2, 3, Post-Deployment
GCT	Local Transit Operator, System Development and Local Agency Deployment. GCT will serve as the Local Transit Lead (LTL).	1, 2, 3, Post-Deployment

3.2.1 Technical Services

Several of the institutional partners on the ST-CTN project team will be providing their technical services in Phase 2 of the project. The scope of these agreements, as well as originator of the agreement (prime) and the recipient of the agreement (sub) are detailed in **Table 7** below.

Table 7. Institutional Partner Technical Services Agreements – Phase 2

Procuring Agency	Performing Entity	Description & Scope of Agreement
GDOT	ARC	Intergovernmental Agreement (IGA) between GDOT and ARC: GDOT will be the lead agency for Phases 2 and 3, ultimately responsible for the success of the ST-CTN design, deployment, operations, and evaluation. GDOT will serve as the financial administrator and will rely on ARC to provide management for the project. ARC will support GDOT by continuing to provide management of the project but will rely on GDOT for financial administration, so ARC will be a direct subcontractor to GDOT. ARC to serve as "prime" consultant to GDOT for the provision of consultant services and project management support; GDOT will Design, Build, Test for USDOT acceptance including software development, CV integration, operations, technology and data maintenance, and training and outreach.
ARC	GCDOT	Sub-agreement between ARC and GCDOT: Design, Build, Test for USDOT acceptance including software development, CV integration, operations, technology and data maintenance, and training and outreach
ARC	GCT	Sub-agreement between ARC and GCT: Design, Build, Test for USDOT acceptance including software development (connected transit and Connection Protection), integration, operations, technology and data maintenance, and training and outreach

Additionally, all institutional partners will be providing technical services through Phase 3 of the program and beyond. These agreements are listed in **Table 8**.

Table 8. Institutional Partner Technical Agreements Phase 3 and Post Deployment

Procuring Agency	Performing Entity	Description & Scope of Agreement	Deployment Phase
GDOT	ARC	Service level agreement (SLA) specifications/parameters on CV data to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach	Phase 3 and Post Deployment

Procuring Agency	Performing Entity	Description & Scope of Agreement	Deployment Phase
ARC	GCT	SLA specifications/parameters on operations to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach	Phase 3 and Post Deployment
ARC	GCDOT	SLA specifications/parameters on CV data feeds to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach	Phase 3 and Post Deployment
ARC	The ATL	SLA specifications/parameters on transit data feeds to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach	Phase 3 and Post Deployment

3.2.2 Documentation

The primary documentation of the agreements between institutional partners are in the form of project contracts. This is outlined in more detail in **Section 3.2.3**. Additionally, an IGA will be entered into between GDOT and ARC to specify each agencies responsibilities within Phase 2 and 3 of the Complete Trip – ITS4US Deployment Program.

3.2.3 Financial Agreements

Financial agreements to complete Phase 1 are documented in the sub-agreements with each of the ST-CTN partners. Financial agreements with prospective Phase 2 and 3 partners are pending USDOT ITS JPO notice to proceed. All current and anticipated financial agreements are listed below in **Table 9**.

Table 9. Institutional Partner Financial Agreements

Institutional Partner	Phase 1	Phase 2	Phase 3	Post Deployment
USDOT/ITS JPO	Funding Agency & Oversight	Funding Agency & Oversight	Funding Agency & Oversight	N/A
GDOT	Sub-Awardee to ARC	Grantee	Grantee	Operations and Maintenance
ARC	Contractor	Sub-Grantee to GDOT	Sub-Grantee to GDOT	Operations and Maintenance
ATL	Sub-Awardee to ARC. Concept Development Support.	No Formal Agreement. Stakeholder Support.	No Formal Agreement. Stakeholder Support.	Operations and Maintenance
Gwinnett County (GCDOT and GCT)	Sub-Awardee to ARC. Concept Development Support.	Subcontractor to ARC. Integration Support.	Subcontractor to ARC. Deployment Support.	Operations and Maintenance

3.3 Local Partnerships

Local partnerships, including local advocacy groups and community organizations, are a critical type of stakeholder partnerships for the program. Advocacy groups are well educated on the challenges faced by their members, have engaged members who may want to participate in the project, and have experience working collaboratively with state and local government agencies.

The ST-CTN project team includes the SILCGA as a partner and Community Outreach Coordinator Lead. However, we have engaged with many other local agencies and advocacy groups to get feedback on the project concept and will also be including many of them as training partners in Phase 3. **Table 10** below details the list of organizations we have or will be working with on this project. It is anticipated that local partners other than SILCGA will be engaged intermittently throughout Phase 2 to ensure development is progress consistent with end user needs. During Phase 3, it is anticipated that local partners will be more engaged and provide training through their existing travel training programs.

Table 10. List of Local Partners

Local Partner	Nature of Support	Deployment Phase
SILCGA	Community outreach, participant training, and recruitment coordination	1,2,3, Post-Deployment
disABILITY Link	Concept Development, Stakeholder, Training Partner	1,2,3, Post-Deployment
Tools for Life	Concept Development, Stakeholder, Training Partner	1,2,3, Post-Deployment
CPACS	Concept Development, Stakeholder, Training Partner	1,2,3, Post-Deployment
Georgia Department of Education	Concept Development, Stakeholder	1,2,3, Post-Deployment
Gwinnett County Schools	Concept Development, Stakeholder, Training Partner	1,2,3, Post-Deployment
Georgia Department of Health	Concept Development, Stakeholder, Training Partner	1,2,3, Post-Deployment
GA Department of Behavioral Health and Developmental Disabilities	Concept Development, Stakeholder, Training Partner	1,2,3, Post-Deployment
Southeastrans	Concept Development, Stakeholder, Training Partner	1,2,3, Post-Deployment
Georgia Vocational Rehab	Stakeholder, Training Partner	2,3, Post-Deployment
Bobby Dodd Institute	Stakeholder, Training Partner	2,3, Post-Deployment
The Exceptional Foundation of Atlanta	Stakeholder, Training Partner	2,3, Post-Deployment
Spectrum Autism Support Group	Stakeholder, Training Partner	2,3, Post-Deployment
Georgia Council on Developmental Disabilities	Stakeholder, Training Partner	2,3, Post-Deployment

Local Partner	Nature of Support	Deployment Phase
Bennett's Place	Stakeholder, Training Partner	2,3, Post-Deployment
The Arc Georgia	Stakeholder, Training Partner	2,3, Post-Deployment
Creative Enterprises	Stakeholder, Training Partner	2,3, Post-Deployment

3.3.1 Documentation

The primary documentation of the agreements between local partners and institutional partners are in the form of project contracts. These are outlined in more detail in **Section 3.3.2.** Since there are many local partners interested in offering training on the system within their organization's current operations, we will be formalizing agreements closer to the time that the training will begin.

3.3.2 Financial Agreements

Table 11 below details the list of financial agreements with local partners, both agreements that have been fully confirmed and agreements that are still being determined. As formal agreements are solidified, it will be determined which organizations will require financial agreements. Funds have been allocated within the budget which are intended to provide financial support for these efforts on a case-by-case basis depending on the agency requirements, i.e. including ST-CTN training require renting a larger space, additional training materials are required, etc.

Table 11. Local Partner Financial Agreements

Local Partner	Phase 1	Phase 2	Phase 3	Post-Deployment
SILCGA	Concept Development Support	Outreach, Training, and Recruitment Support	Outreach, Training, and Recruitment Support	Outreach, Training, and Recruitment Support
disABILITY Link	N/A	N/A	Training Support	Training Support
CPACS	N/A	N/A	Training Support	Training Support
Tools for Life	N/A	N/A	Training Support	Training Support
Department of Education	N/A	N/A	Training Support	Training Support
Gwinnett County Schools	N/A	N/A	Training Support	Training Support
Georgia Department of Health	N/A	N/A	Training Support	Training Support

Local Partner	Phase 1	Phase 2	Phase 3	Post-Deployment
GA Department of Behavioral Health and Developmental Disabilities	N/A	N/A	Training Support	Training Support
Southeastrans	N/A	N/A	Training Support	Training Support
Georgia Vocational Rehab	N/A	N/A	Training Support	Training Support
Bobby Dodd Institute	N/A	N/A	Training Support	Training Support
The Exceptional Foundation of Atlanta	N/A	N/A	Training Support	Training Support
Spectrum Autism Support Group	N/A	N/A	Training Support	Training Support
Georgia Council on Developmental Disabilities	N/A	N/A	Training Support	Training Support
Bennett's Place	N/A	N/A	Training Support	Training Support
The Arc Georgia	N/A	N/A	Training Support	Training Support
Creative Enterprises	N/A	N/A	Training Support	Training Support

3.4 Business Partnerships

Business partnerships are formal relationships with public, private, or non-profit entities to provide services, expertise, or products to the procuring agency. Within this section, business partnerships are split into two sections: technical services and vendor partnerships.

Table 11 provides a summary of business partnerships and the nature of their support for the ST-CTN deployment. The deployment phase (1-3, post-deployment) in which their support will be given is provided.

Table 12. Business Partnerships

Business Partner	Nature of Support	Deployment Phase
KHA	Concept development and production	1, 2, 3
GOSystems	System development and engineering	1, 2, 3
IBI Group	ATL RIDES system and mobility app development	1, 2, 3
GA Tech	STM development, data collection, performance measurement	1, 2, 3
ICF Inc.	Project management, production, system deployment	2, 3

3.4.1 Technical Services

Technical services business partners are entities that provide technical expertise, such as engineering, program management support, or other services to support the project. **Table 13** provides a description of the technical services agreements anticipated to be required for the development of the ST-CTN system during Phase 2 of the deployment.

Table 13. Business Partner Technical Service Agreements – Phase 2

Prime	Sub	Description and Scope of Agreement
ARC	IBI	Pending Phase 2/3 award. Sub-agreement between ARC and IBI: Design Build Test for USDOT acceptance including software development (ATL RIDES), integration, operations, technology and data maintenance, and training and outreach
ARC	GA Tech	Pending Phase 2/3 award. Sub-agreement between ARC and GA Tech: Design Build Test for USDOT acceptance including software development (STM), integration, operations, technology and data maintenance, and training and outreach
ARC	ICF	Pending Phase 2/3 award. Sub-agreement between ARC and ICF: Design Build Test for USDOT acceptance including software development, integration, operations, technology and data maintenance, and training and outreach
ARC	KHA	Pending Phase 2/3 award. Sub-agreement between ARC and KHA: Design Build Test for USDOT acceptance including - Documentation support, technical support
ARC	GOSystems	Pending Phase 2/3 award. Sub-agreement between ARC and GOSystems: Design Build Test for USDOT acceptance including - ST-CTN system engineering - Standards Participation

Table 14 provides a description of the technical services agreements anticipated to be required for the development of the ST-CTN system during Phase 3 of the deployment.

Table 14. Business Partner Technical Service Agreements – Phase 3

Prime	Sub	Description and Scope of Agreement
ARC	GA Tech	Pending USDOT approval to proceed to Phase 3. Service Level Agreement (SLA) committing Georgia Tech to provide data via STM Dynamic Data Broker into ST-CTN, operations readiness testing, Operations and Maintenance, warranty for services provided in Phase 2
ARC	IBI	Pending USDOT approval to proceed to Phase 3. Service Level Agreement (SLA) committing IBI to provide ST-CTN app development, operations readiness testing, Operations and Maintenance, warranty for services provided in Phase 2
ARC	ICF	Pending USDOT approval to proceed to Phase 3. Service Level Agreement (SLA) committing ICF to provide ST-CTN system deployment, warranty for services provided in Phase 2

Prime	Sub	Description and Scope of Agreement
ARC	KHA	Pending USDOT approval to proceed to Phase 3. Service Level Agreement (SLA) committing to provide ST-CTN system technical support, warranty for services provided in Phase 2
ARC	GOSystems	Pending USDOT approval to proceed to Phase 3. Service Level Agreement (SLA) committing GOSystems to provide ST-CTN system engineering, warranty for services provided in Phase 2

3.4.1.1 Documentation

The primary documentation of the agreements between technical services business partners and institutional partners are in the form of project contracts. These are outlined in more detail in **Section 3.4.1.2.**

3.4.1.2 Financial Agreements

Table 15 below details the list of financial agreements with technical services business partners.

Table 15. Technical Services Business Partner Financial Agreements

Business Partner	Phase 1	Phase 2	Phase 3	Post-Deployment
KHA	Management and Production Support	Production and Outreach Support	Production and Outreach Support	N/A
GOSystems	Concept Development and Systems Engineering Support	Systems Engineering Support	Systems Engineering Support	N/A
IBI Group	Concept Development Support	System Development and Integration Support	System Deployment Support	N/A
GA Tech	Concept Development Support	System Development and Integration Support	System Deployment Support	N/A
ICF Inc.	N/A	Management and Technical Integration Support	Management and System Deployment Support	N/A

3.4.2 Vendor Procurement

Vendor business partners sell products (e.g., devices, applications) to the procuring agency which will be part of the integrated solution deployed. Vendor products are procured after concept development to ensure the product meets the community's needs and fits the program vision.

The ST-CTN project team will seek a vendor business partner to provide a turn-key indoor location accuracy solution that will be capable of supporting indoor navigation for the ST-CTN system. This solution has been referred to as 'location beacons' or 'beacons' throughout the ST-CTN project documentation. Preliminary conversations with vendors that provide this service have been conducted to gain an understanding of their products, requirements, and scale of cost.

It is anticipated that a request for proposal (RFP) will be developed by the ST-CTN project team and issued by GDOT early in Phase 2. GDOT has engaged their partners and issued a task order for development and management of the vendor procurement process.

3.4.2.1 Documentation

Traditional procurement documents will be developed during Phase 2 to solicit potential vendor business partners capable of providing a beacon solution to support indoor navigation. The procurement solicitation will be developed based on the ST-CTN Phase 1 ConOps, System Requirements Specifications (SyRS), DMP, Enabling Technology Readiness Assessment (ETRA), Safety Management Plan (SMP), and Human Use Approval Summary (HUAS) as well as the ST-CTN Phase 2 Systems Architecture Document (SAD), Systems Design Document (SDD), Data Privacy Plan (DPP), DMP, Comprehensive Acquisition Plan (CAP), and Comprehensive Installation Plan (CIP).

3.4.2.2 Financial Agreements

It is expected that financial agreements will be executed between the Phase 2/3 Recipient, GDOT, and the selected vendor business partner after the procurement has been awarded in Phase 2.

3.5 Other Supporting Partnerships

The ST-CTN project team will rely on the support of a multitude of other partnerships, both locally and nationally. The following partnerships are expected:

- **Central Institutional Review Board (IRB)**. The ST-CTN project team will be supported by the Central IRB who will review all human subject research activities as described in the HUAS.

- **Complete Trip – ITS4US Deployment Program Partners.** The ST-CTN project team has solicited and received support from other industry partners, including other teams participating in other Complete Trip – ITS4US Deployment Program.

- **Industry Partners.** The ST-CTN project team continues to receive support and interest from other potential partners throughout the region and State. As the project progresses, a record of all support and interest from industry partners will be maintained by the Site Outreach Lead.

It is expected that this support as well as other supporting partnerships will continue during Phases 2 and 3 of the ST-CTN project.

4. Risk Assessment

This section describes the lessons learned from the team's participation in Phase 1 of the project and the anticipated risks and mitigation strategies for institutional, financial, and partnership related issues.

4.1 Lessons Learned

Entering into Phase 1 of the ITS4US – Complete Trip Deployment Program was new territory for most of the ST-CTN team. The process has been both rewarding and humbling. This section outlines some of the lessons learned, both good and bad, from this experience.

Coordination x10

The most important aspect of a successful project for our team has been the thorough coordination and cooperation of every team member. Successful coordination required a great deal of relationship building, and not an insignificant amount of time dedicated to meeting and gaining consensus. However, this effort, especially in the concept development stage, has led to a cohesive team, concept, and plan to move forward.

Staff Resources

While a thorough analysis of the Phase 1 requirements was used to determine schedule in the proposal process, more time for document production was needed than originally intended. Especially due to the complex nature of the project and program, it was difficult to delegate much effort to junior staff or generally staff outside of the core team. Risks relating to staff changes and onboarding new team members is a priority moving into Phases 2 and 3.

Schedule

The ST-CTN team has been incredibly efficient given the requirement to time ratio for Phase 1. The team's success in completing deliverables on time stems from the excellent coordination of the overall team and especially the Executive Management Team. Having full cooperation from team members allows for the most effective use of everyone's time and trusting each team member to do their part has allowed for on time deliverables throughout Phase 1. Additionally, it was decided early in the project to commit to submitting all deliverables on the Friday before the deliverable due date. This commitment helped to cushion the schedule when necessary. Budget and effort assumptions on Phases 2 and 3 have benefited from the team having worked through Phase 1.

4.2 Risks and Mitigation

The risks and mitigation strategies were created using the overall lessons learned from Section 4.1 and are described in **Table 16**. Risks will be tracked within the Risk Management Registry (developed during Phase 1 and submitted to USDOT monthly) throughout Phases 2 and 3 to

ensure that any institutional, financial, or partnership related risks impacting the successful delivery of the ST-CTN project are avoided or mitigated efficiently.

Table 16. Institutional, Financial, and Partnership Related Risks and Mitigation Strategies

Risk Title	Description	Mitigation
Resource Allocation	Time and staffing allocation have the potential to impact the outcome of the ST-CTN project. It is possible that over the four plus years of the project deployment, staffing changes or other commitments will hinder the successes of the ST-CTN project.	The ST-CTN project team will implement the following activities to mitigate potential resource limitations during Phase 2 and 3: • Clearly define system requirements with partner concurrence. • Clearly define roles and responsibilities within the framework of system requirements. • Develop schedules with partner concurrence. • Monitor, track, and report resources throughout to identify any potential issues early so that they may be addressed efficiently.
Data Sharing	The ST-CTN system depends on data from a significant number of sources as described in the DMP. It will be critical that data be shared efficiently and effectively to ensure proper operations of the ST-CTN is maintained.	The ST-CTN project team will establish a data governance framework that will define roles and access levels for project data sets, ensuring that data is shared between partners efficiently, ie. well organized, defined, and accessible to those who need it. In order to mitigate potential data sharing issues, the ST-CTN team will: • Ensure that data owners have a role in defining and governing data sharing agreements. • Clearly define the data sets that are needed for the project to be successful. • Define activities that are outside of standard data sharing agreements to protect the integrity of the data set.

Risk Title	Description	Mitigation
Budgetary Overruns	Phase 2 and 3 of the ST-CTN deployment will occur over a three and a half-year period. It is possible that partners will deplete their funding working on specific issues or items generated from the deployment and not be able to continue at a satisfactory level, impacting the ST-CTN project outcomes.	The ST-CTN project team will continue to coordinate with partners to make sure that all are able to fulfill the project objectives within their programed budget. The ST-CTN team will: • Establish clear budgets for the remainder of the project. • Establish clear boundaries of effort that is to be expended on the project. • Monitor and track budget burn rates to identify potential issues as early as possible.
System Design Complexity	The ST-CTN project is heavily reliant on multiple inputs of raw and processed data. It is possible that over the course of the project, partners will stop supporting specific aspects that the system is reliant on. This lack of support could cause impacts to the outcomes of the ST-CTN project.	When defining the system for the ST-CTN project, the project team was careful to choose well supported system elements to mitigate the risk that they would be discontinued. When possible, open-source elements were used to decrease the likelihood of this outcome even further. The ST-CTN project team will: • Regularly inquire about any upcoming support changes for system dependent processes. • Identify backup data flows or data sources if discontinuation of original sources or processes has been identified. • Will expand this risk to each individual dataset upon final design to ensure the level of mitigation effort is guided by risk likelihood by dataset.

Risk Title	Description	Mitigation
Staff Turnover	Throughout the course of the ST-CTN project, it is possible that key team members or support personnel will change positions within partner agencies or companies. It is also possible that key team members will change roles. New team members may not have the institutional knowledge or experience to move forward with the ST-CTN projects, impacting the outcome.	Additional support personnel from each agency have been identified and will be on-boarded if necessary due to staffing changes, to support the project. The ST-CTN has been diligent in its documentation and engagement with the project team, creating clear action plans for deployment to be used by all partners should key personnel change. Shared project documentation such as a participant database of contact information, on-board information, and a knowledge management transition plan will be developed as a mitigation strategy for staff turnover.

5. Operations and Management Concept

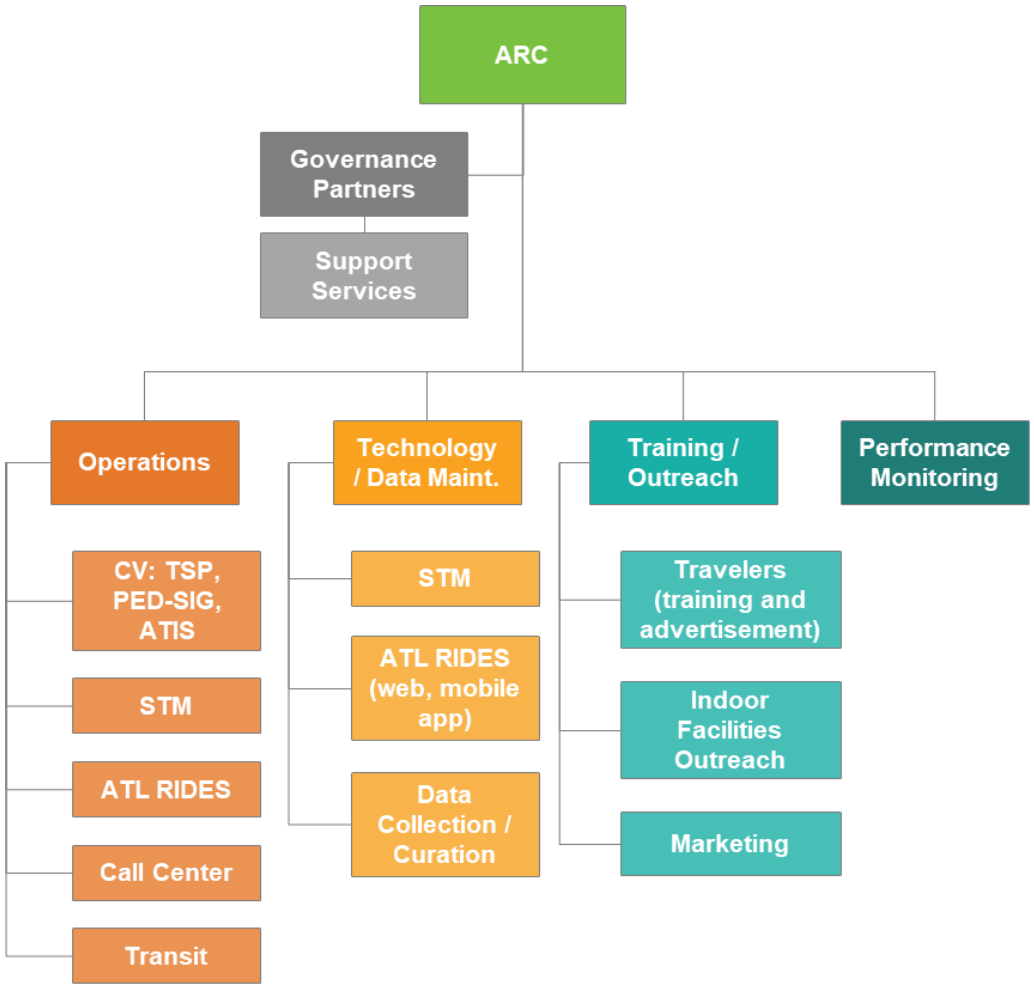
The ST-CTN project team is committed to operating and maintaining the ST-CTN system for a minimum of five years after the completion of Phases 1, 2, and 3 of the Complete Trip – ITS4US Deployment Program. In addition, the ST-CTN project team is committed to expanding the coverage of the system to support more end users throughout the region and State. The operations and management concept has been developed to support these commitments. The following sections describe the anticipated ST-CTN operations and management concept - deployment. It is anticipated that this concept may evolve during Phases 2 and 3 of the ST-CTN project as operations and management expectations are refined and further established.

5.1 Post-Deployment Governance Structure

The Post-Deployment Governance Structure will change significantly from the original structure used in Phase 1, seen in **Figure 5**, and the structure used in Phases 2 and 3. As the owner/operator of the ST-CTN navigation application and as the region's MPO, ARC will lead and convene the governance partners and hire supporting services for sustained operations and maintenance of the application. This is illustrated in **Figure 7** below.

The governance partners will include most of the Institutional Partners listed in **Table 5** including ARC, GDOT, the ATL, and Gwinnett County. Each of the governance partners will maintain and operate any of the infrastructure, data, or systems of which they have ownership.

For any system wide decisions and changes, ARC will convene the Governance Partners to make decisions. In the future, local jurisdictions will be added as Governance Partners as they join and expand the system.



Source: ARC, January 2022

Figure 7. Post-Deployment Governance Structure

Currently, ARC anticipates that the only support services required to maintain and operate the system will be for the navigation application itself. Funding for maintenance will be allocated in the Transportation Improvement Program (TIP). This will be competitively procured by ARC after the completion of Phase 3. All other owner operators have already planned and committed to maintaining their respective subsystem responsibilities through other projects. Additionally, ARC will be able to aid owner operator maintenance activities through the TIP if necessary. Maintenance costs and concrete funding mechanisms will be explored in more detail in Phase 2.

5.2 Post-Deployment Operations & Management

The ST-CTN project team is developing, designing, and implementing the ST-CTN system such that it may be managed, operated, and expanded post-deployment. Partnerships and the governance structure will shift during Phase 2 to prepare for long-term sustainability and potential future expansion of the ST-CTN system. The governance structure is again expected to further evolve during post-deployment as described in **Section 5.1**.

It is anticipated that ARC will manage and operate the post-deployment system with the support of governance partners and hired support services. It is envisioned that operations and management responsibilities will be fulfilled as follows for each of the post-deployment management and operational components as shown above in **Figure 7**:

- **Operations.** The sustained operations of the key elements supporting the ST-CTN functionality include:
    - ATL RIDES will continue to be operated and maintained by the ATL through a general services contract. Should the application be replaced or abandoned during the five-year commitment or beyond, the code that supports the ST-CTN system will be available through open-source and will be used to sustain the ST-CTN system.
    - Transit Service will be provided by the partner agencies that are utilizing the system through their existing funding mechanisms. For agencies to realize the full benefits of the ST-CTN system, their current operations will need to be modified to accommodate TSP and the inclusion of connection protection to be utilized by the system.
    - Call Center operations will be administered through the local partner agency providing the ST-CTN functionality. A regional call center is being considered and would be capable to support multiple agencies utilizing the ST-CTN system.
    - STM will be released in open-source format and is anticipated to be operated and maintained through a support services contract.
    - CV (TSP, Mobile Accessible Pedestrian Signal System (PED-SIG), Advanced Traveler Information System (ATIS)) applications will be maintained by Gwinnett County (or other local agency as expansion occurs) within their existing operations and maintenance budgets allocated for CV applications.
- **Technology / Data Maintenance.** The continued maintenance of technology and data will be critical to the successful operations and management of the ST-CTN system. It is envisioned that the data governance structure that is developed within Phase 2 will be integrated within the existing regional data governance structure. This evolution is expected to be a smooth transition as many of the data sets that support ST-CTN operations are currently maintained through this existing structure.
- **Training / Outreach.** The continued training and outreach will be conducted by ARC and Gwinnett County (or other local agency as expansion occurs). It is envisioned that trainings will be conducted similar to that which is planned during Phase 2 and Phase 3 as a 'train the trainer' process. It is expected that training materials that are developed during Phase 2 will be leveraged during the sustained operations of the system. In addition, it is expected that continued outreach will be conducted to encourage further use of the existing ST-CTN system as well as potential expansion. This includes outreach to indoor facility owners within the deployment area to encourage expansion of the indoor routing network available within the ST-CTN system. Additionally, ARC will continue to work with training partners as they build the ST-CTN system into their standard training schedule.

- **Performance Monitoring.** It is expected that the performance management dashboard (PMD) developed during Phase 2 will be utilized by ARC and their governance partners, to monitor the performance of the system. It is anticipated that the dashboard will be configured to provide automated performance measures and will not require significant resources to maintain. It is expected that minimal PMD maintenance will be performed through a support services contract administered through ARC.

5.3 Post-Deployment Partnerships

Section 3 of this document provides lists of the various institutional, technical services, local, and financial partnerships contemplated for the post-deployment phase. These partnerships will be necessary to cover operations, technology/data management, training/outreach, and performance monitoring for the ST-CTN system. System expansion and on-going maintenance will be led by the governance structure provided in **Section 5.1** of this document.

During Phases 2/3, ARC will leverage the regional transportation planning process to provide regional policy guidance regarding geographic expansion of the ST-CTN within metro Atlanta. Regional coordination will also be necessary for on-going maintenance of the ATL RIDES OTP application, and associated maintenance of GTFS-realtime and GTFS-Pathway data from all transit providers in the region. The on-going CV1K, will also be in place to ensure the expansion of the CV network in the region.

Each of the governance partners will maintain and operate any of the infrastructure, data, or systems of which they have ownership. This will be accomplished through the use of service level agreements (SLAs) and existing organization models. **Table 17** provides a summary of those SLAs that will be pursued to sustain operations post-deployment.

Table 17. Institutional Partner Technical Agreements Post-Deployment

Procuring Agency	Performing Entity	Description & Scope of Agreement
ARC	GDOT	SLA specifications/parameters on CV data to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach
ARC	GCT	SLA specifications/parameters on operations to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach
ARC	GCDOT	SLA specifications/parameters on CV data feeds to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach
ARC	ATL	SLA specifications/parameters on transit data feeds to be determined at the end of Phase 2; operations, technology and data maintenance, and training and outreach

Most of the regional coordination and on-going investment commitments will be addressed by the following pre-existing mechanisms that ARC manages or plays a significant role in as the MPO: the Transportation Improvement Program (TIP) project selection and prioritization process; the

Unified Planning Work Program (UPWP); the regional transit FTA formula funding sub-allocation policy; and the recently established GDOT-ARC Joint Data Purchasing Program. ARC is committed to leveraging the regional process to support the ST-CTN Governance and will commit resources necessary to sustain and expand the ST-CTN beyond the post-deployment phase.

6. Americans with Disabilities Act (ADA) Transition Plans

The ADA requires all public entities to conduct self-evaluations to identify barriers in programs, activities, services, facilities, and procedures that prevents persons with disabilities from access. Title II of the ADA defines a public entity as, "1) Any State or local government; 2) Any department, agency, special purpose district, or other instrumentality of a State or local government; or 3) Certain commuter authorities as well as AMTRAK." The self-evaluation includes an evaluation of policies and practices as well as an assessment of facilities and infrastructure owned or maintained by the agency. Plans of Title II entities with 50 or more employees are required to meet the regulatory requirements for ADA Transition Plans found at 28 CFR 35.150(d). Transit agencies falling under FTA's oversight are not required to develop an ADA Transition Plan and instead follow the transit-specific requirements in the DOT ADA Regulations at 49 CFR Parts 37 and 38.

The ST-CTN project is located within Gwinnett County. Gwinnett County completed an ADA Transition Plan after a self-evaluation was conducted in 1994 and 1995. Gwinnett County has continued to address non-compliant infrastructure needs since this time and has recently created and hired a dedicated position, ADA Coordinator, to focus on the county's compliance with the Americans with Disabilities Act. Gwinnett County department policies and procedures are currently under review. The updated self-evaluation is scheduled to be completed by the end of 2022 with facility assessments beginning in 2023 and identified barriers being added to an updated transition plan after completion. It is a current practice of all divisions who plan and manage facility construction to work with contracted architects to examine facility ADA needs and ensure those upgrades are included in the scope of each project. Gwinnett County also has dedicated funds to address any ADA improvements that may be brought to the County's attention by its citizens. This work will be augmented by the data collected for ST-CTN.

Additionally, this project will target transit users on Gwinnett County Transit (GCT). GCT has completed a Comprehensive Transit Development Plan in 2018 called Connect Gwinnett: Transit Plan. This plan includes current needs and future projects. Data and findings from ST-CTN will also be added into future plans.

Table 18 below shows ST-CTN partner compliance with Title II. All partners involved in this project are committed to enhancing accessibility through their work and are also committed to providing accessible facilities and nondiscriminatory hiring practices. The Atlanta Regional Commission is currently compiling its self-assessment and will be writing an ADA Transition Plan upon its completion. ARC's ADA Transition Plan will be complete by 3rd Quarter 2024. Any potential partners, including the stakeholders and potential training partners listed in **Section 303.3** have not been included in **Table 18** since these partnerships have not yet been solidified. However, all future partners will be asked to demonstrate compliance or plans for compliance with Title II upon contracting with ARC for this project.

Table 18. ST-CTN Partners ADA Title II

Organization	Subject to ADA Title II Regulations	Self-Evaluation	ADA Transition Plan (TP) or Other Plan	Date of Current Plan or Most Recent Update
Gwinnett County	Yes	Yes	ADA TP	1995 (to be updated in late 2022)
Gwinnett County Transit	Yes	Yes	Other Plan	2018 https://www.gwinnettcounty.com/static/departments/transportation/pdf/Connect_Gwinnett_Recommendations_Report_102518.pdf
GDOT	Yes	Yes	ADA TP	2018 https://www.dot.ga.gov/PartnerSmart/EEO/ADAPlan-2018-Small.pdf
ARC	Yes	No	ADA TP	To Be Completed 2024
ATL	No	N/A	N/A	N/A
SILCGA	Yes	Yes	State Plan for Independent Living (SPIL)	2020 https://www.silcga.org/spil/
GaTech	Yes	Yes	ADA TP	2016 (to be updated in 2022) https://facilities.gatech.edu/node/4291
ICF	No	N/A	N/A	N/A
IBI	No	N/A	N/A	N/A
KHA	No	N/A	N/A	N/A
GOSS	No	N/A	N/A	N/A
GTRI	No	N/A	N/A	N/A
360ns	No	N/A	N/A	N/A
Avail	No	N/A	N/A	N/A

Appendix A. Acronyms and Glossary

Acronyms

ADA – Americans with Disabilities Act

ARC – Atlanta Regional Commission

ATIS – Advanced Traveler Information System

ATL – Atlanta-Regional Transit Link Authority

ATL RIDES – Atlanta Rider Information and Data Evaluation System

CDP – connected data platform

ConOps – Concept of Operations

COR – Contracting Officer Representative

CPACS – Center for Pan Asian Community Services

CV – connected vehicle

CV1K – Regional Connected Vehicle Infrastructure Deployment Program

C-V2X – Cellular Vehicle to Everything

CVTMP – Connected Vehicle Technology Master Plan

DMP – Data Management Plan

DPM – deputy project manager

DRSB – Deployment Readiness Summary Briefing

EMT – Executive Management Team

ETRA – Enabling Technology Readiness Assessment

FHWA – Federal Highway Administration

FTA – Federal Transit Administration

GA Tech – Georgia Institute of Technology

GCDOT – Gwinnett County Department of Transportation

GCT – Gwinnett County Transit

GDOT – Georgia Department of Transportation

GOSystems – GO Systems and Solutions

GTFS – General Transit Feed Specification

HUAS – Human Use Approval Summary

ICTDP – Integrated Complete Trip Deployment Plan

IGA – Intergovernmental Agreement

IOO – infrastructure owner operator

IPFP – Institutional, Partnership, and Financial Plan

IRB – Institutional Review Board

ITS – Intelligent Transportation Systems

IVR – integrated voice response

JPO – Joint Program Office

KHA – Kimley-Horn and Associates, Inc.

LEP – limited English proficiency

MPO – metropolitan planning organization

NOFO – Notice of Funding Opportunity

OSS – open-source software

OST – Office of the Secretary

OTP – Open Trip Planner

PED-SIG – Mobile Accessible Pedestrian Signal System

PII – personally identifiable information

PMD – performance management dashboard

PMESP – Performance Measurement and Evaluation Support Plan

PMP – Project Management Plan

PTSEP – Participant Training and Stakeholder Education Plan

RSU – roadside unit

SILCGA – Statewide Independent Living Council of Georgia

SLA – service level agreement

SMP – Safety Management Plan

ST-CTN – Safe Trips in a Connected Transportation Network

STM – space time memory

SyRS – System Requirements Specifications

TIP – Transportation Improvement Program

TSP – transit signal priority

UPWP – Unified Planning Work Program

USDOT – U.S. Department of Transportation

Glossary

Advanced Traveler Information System (ATIS) – a system that collects, aggregates and disseminates transportation information, such as traffic, transit, weather, and connected vehicle data. This data is aggregate into data environments allowing for the dissemination of this information to travelers via mobile devices. [ATIS]

Americans with Disability Act (ADA) – An act to "provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities." The act provides enforceable standards to address discrimination against individuals with disabilities and requires public facilities to be readily accessible and usable by individuals with disabilities [ADA].

Cellular – Vehicle to Everything (C-V2X) – A connected vehicle platform that works over the cellular network to provide vehicle-to-vehicle, vehicle-to-infrastructure, and vehicle-to-pedestrian communication. It is similar to DSRC but uses the cellular network instead of a short-range spectrum. It is a 3GPP standard describing a technology to achieve the V2X requirements. C-V2X is an alternative to 802.11p, the IEEE specified standard for V2V and other forms of V2X communications. [CVTMP]

Connected Vehicle (CV) – A vehicle (car, truck, bus, etc.) that is equipped with a wireless communication device (1). A CV uses any of the available wireless communication technologies to communicate with other cars on the road (vehicle-to-vehicle [V2V]), roadside infrastructure (vehicle-to-infrastructure [V2I]), and other travelers and the cloud. [CAV]

Connected Vehicle Technology Master Plan (CVTMP) – a plan that sets out to develop and improve economic viability and quality of life, address the needs and challenges to motorized and

non-motorized modes, establish guidelines for deploying technology, and have broad applicability to Gwinnett, other local jurisdictions, and across the state—to set the standard for implementing CVs. [ConOps]

General Transit Feed Specification (GTFS) – A data specification that allows public transit agencies to publish their data to be consumed by a variety of transit-related applications. This data includes schedule, fare, and vehicle position which can be used to predict arrival times and display real-time information [GTFS].

Mobile Accessible Pedestrian Signal System (PED-SIG) - A mobile application system that exchanges information between roadside or intersection sensors and mobile devices carried by a pedestrian. The system is used to inform impaired pedestrians when to begin traversing a crosswalk and how to remain within the crosswalk. [CAV]

Personally Identifiable Information (PII) – Information on an individual's identity such as name, address, identifying number, telephone number, email address, etc.

Regional Connected Vehicle Infrastructure Deployment Program (CV1K) – the program deploying interoperable CV technologies at signalized intersection through the Atlanta region using Dedicated Short-Range Communications (DSRC) and C-V2X technologies to deliver safety and mobility-based applications. [ConOps]

Roadside Unit (RSU) – A transportation field device that performs the data exchange between OBUs, MUs, and other infrastructure elements. [CI]

Transit Signal Priority (TSP) – A part of a signal system that allows transit agencies to manage service by prioritizes buses and granting their right of way based on schedule adherence or passenger loads. [CAV]

Appendix B. Phase 1 Institutional Partner Letters of Intent

Russell R. McMurry, P.E., Commissioner
One Georgia Center
600 West Peachtree Street, NW
Atlanta, GA 30308
(404) 631-1000 Main Office

March 1, 2022

U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Georgia Department of Transportation - Letter of Commitment

The Georgia Department of Transportation (GDOT) is committed to deliver the most effective and efficient transportation system – one focused on innovation, safety, sustainability, and mobility. The Department's vision is to boost Georgia's competitiveness through leadership in transportation.

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. GDOT is pleased to have the opportunity to participate in Phase 1 of the Complete Trip - ITS4US Deployment Program with the Atlanta Regional Commission (ARC) team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County.

GDOT is committed to leading Phases 2 and 3 of the ST-CTN project. GDOT is committed to partnering with ARC and Gwinnett County to secure cost share funding resources.

GDOT is looking forward to working collaboratively with our stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN system.

Sincerely,

Digitally signed by Alan Davis
DN: C=US, E=aladavis@dot.ga.gov, O=Georgia Department of Transportation, OU=Traffic Operations, CN=Alan Davis
Date: 2022.03.01 16:29:51-05'00'

Alan Davis, PE, PTOE
State Traffic Engineer
Georgia Department of Transportation

Atlanta Regional Commission

February 21, 2022

U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: **Atlanta Regional Commission - Letter of Commitment to the USDOT Complete Trip - ITS4US Deployment Program**

The Atlanta Regional Commission (ARC) is committed to implement an effective and efficient transportation system – one focused on innovation, safety, sustainability, and mobility. The Department's vision is to boost Georgia's competitiveness through leadership in transportation.

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. ARC is pleased to have the opportunity to have led Phase 1 of the Complete Trip - ITS4US Deployment Program with the rest of the ST-CTN team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County.

ARC is committed to providing project management, deployment, and implementation services during Phases 2 and 3 of the ST-CTN project. ARC will partner with GDOT and Gwinnett County to secure cost share funding resources.

ARC is looking forward to working with the project stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN system.

Sincerely,

John M. Orr

John M. Orr, AICP
Managing Director
Transportation Access and Mobility Group

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International Tower
229 Peachtree St. NE | Suite 100
Atlanta, Georgia 30303

GWINNETT COUNTY
DEPARTMENT OF TRANSPORTATION
446 West Crogan Street, Suite 410 | Lawrenceville, GA 30046-2440
O: 770.822.7400
GwinnettCounty.com

March 3, 2022

U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Future Participation of Gwinnett County in Phases 2 and 3 of the USDOT Complete Trip - ITS4US Deployment Program

Gwinnett County is highly supportive of projects that improve mobility and accessibility and recognizes the tangible and intangible benefits of providing complete trips for all travelers. The County has completed multiple projects and has several ongoing projects as well as planned projects for the future to leverage technology, utilize innovation, and improve travel through multimodal connections.

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. Gwinnett County is pleased to have the current opportunity to participate in Phase 1 of the Complete Trip - ITS4US Deployment Program with the Atlanta Regional Commission (ARC) team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project. The ST-CTN project will provide a method to share detailed information and step-by-step navigation tailored for each user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County. The County intends to participate in Phases 2 and 3 in order to realize the benefit of the ST-CTN project.

As Gwinnett County proceeds into budget discussions for 2023 and beyond, local funding assistance for the ST-CTN project will be considered for Phases 2 and 3. Gwinnett County will seek to partner with ARC and the Georgia Department of Transportation to identify cost share funding resources through various funding processes, non-federal grants, and private philanthropic partnership opportunities. The following resources are options at the local and state-level that are under discussion:

- Atlanta-Region Transit Link Authority (ATL) Priority Investment List
- State Capital Budget
- Gwinnett County Budget

Gwinnett County is looking forward to working collaboratively with our stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN project.

Sincerely,

Lewis Cooksey, P.E., Director
Gwinnett County Department of Transportation

ATLANTA-REGION TRANSIT LINK AUTHORITY

January 28, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Safe Trips in a Connected Transportation Network (ST-CTN) Application to USDOT Complete Trip – ITS4US Program Phase 2

Dear Secretary Buttigieg,

On behalf of the Atlanta-Region Transit Link Authority (ATL), I am pleased to offer this letter of support for the Georgia Department of Transportation (GDOT) and Atlanta Regional Commission's (ARC) application to secure funding under Phase 2 of the U.S. Department of Transportation's (USDOT) Complete Trips – ITS4US Program. The ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. The ATL was thankful for the opportunity to participate as a project partner during Phase 1 of the ITS4US Deployment Program, helping the team develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ATL looks forward to continuing to support the GDOT and ARC led team as the project moves into development and deployment.

The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County. The project builds off a transit focused open source regional multi-modal trip planning application ("ATL RIDES") that the ATL is about to deploy in partnership with ARC and eight regional transit operators. Both the current ATL RIDES platform and future enhancements through the ST-CTN project will rely on General Transit Feed Specification (GTFS) data for transit trip planning. Through the ATL RIDES project, the ATL has worked with regional operators to improve the quality of their GTFS feeds, including procuring a web-based platform to host, evaluate, edit, maintain, and archive GTFS feeds from all regional operators.

High quality GTFS data is critical to both public and private sector transit trip planners. The regional GTFS data currently hosted by the ATL will be used to support ST-CTN and its transit trip planning capabilities. As the Atlanta region's Designated Recipient of FTA funds, the ATL also relies on GTFS data to apportion certain federal formula funds to operators. As such, the ATL is committed to providing ongoing GTFS data hosting and maintenance capabilities for all regional transit operators throughout the

Office of the Executive Director
Atlanta region Transit Link Authority
245 Peachtree Center Avenue, Suite 2200 / Atlanta, GA 30303

deployment of the ST-CTN project and beyond. The ATL will continue working with regional operators to improve and maintain their data feeds.

ATL appreciates the opportunity to support this exciting initiative for the region. Thank you for offering this new opportunity and for considering metro Atlanta's application to the USDOT's Complete Trip – ITS4US Program.

Sincerely,

Christopher Tomlinson
Executive Director

Office of the Executive Director
Atlanta region Transit Link Authority
245 Peachtree Center Avenue, Suite 2200 / Atlanta, GA 30303

Statewide
Independent Living
SILCGA Council of Georgia

February 16, 2022

U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: The Statewide Independent Living Council of Georgia. Letter of Commitment

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. The Statewide Independent Living Council of Georgia (SILCGA) is thankful for the opportunity to participate in Phase 1 of the Complete Trip - ITS4US Deployment Program with the Atlanta Regional Commission (ARC) team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County.

SILCGA is currently providing planning and design input and leading community outreach. SILCGA is committed to supporting the ST-CTN project during Phases 2 and 3 of the program. SILCGA is looking forward to working collaboratively with our stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN system.

Sincerely,

S. Simmons

Shelly Simmons
Executive Director

315 West Ponce de Leon Avenue • Suite 660 • Decatur, GA 30030 • T: 770.270.6860 • F: 404.835.1546
www.silcga.org

Georgia Tech Research Corporation

9 March 2022

U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

Subject: Research Entitled "Safe Trips in a Connected Transportation Network Phase 2 & 3"

The Georgia Tech Research Corporation is pleased to endorse the subject proposal as part of an effort led by the Atlanta Regional Commission and the Georgia Department of Transportation. The Georgia Tech team will be led by Dr. Randall Guensler of the School of Civil & Environmental Engineering.

Please don't hesitate to contact us with any questions.

We appreciate the opportunity to submit a proposal for this effort and look forward to hearing from you soon.

Sincerely,

Christopher D'Urbano

Christopher D'Urbano
Division Manager

Georgia Tech Research Corporation
926 Dalney Street
Atlanta, Georgia 30332-0415
Phone: 404-894 4819
gtrc.gatech.edu

Kimley»Horn

January 11, 2022

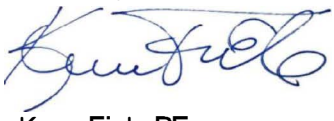
U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: *Kimley-Horn & Associates, Inc. Letter of Commitment*

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. Kimley-Horn and Associates, Inc. is thankful for the opportunity to participate in Phase 1 of the Complete Trip - ITS4US Deployment Program with the Atlanta Regional Commission (ARC) team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County.

Kimley-Horn and Associates, Inc. is currently providing technical services and leading deliverable production. Kimley-Horn and Associates, Inc. is committed to supporting the ST-CTN project during Phases 2 and 3 of the program. Kimley-Horn and Associates, Inc. is looking forward to working collaboratively with our stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN system.

Sincerely,



Kenn Fink, PE

kimley-horn.com 817 West Peachtree Street, NW, The Biltmore, Atlanta, GA 30308 404 419 8700

GO Systems and Solutions LLC

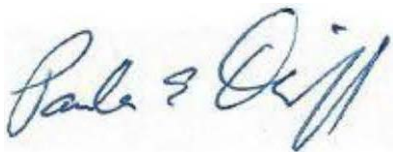
U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: **GO Systems and Solutions LLC Letter of Commitment**

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. GO Systems and Solutions LLC (hereafter referred as GOSystems) is thankful for the opportunity to participate in Phase 1 of the Complete Trip - ITS4US Deployment Program with the Atlanta Regional Commission (ARC) team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's preferences and needs along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County.

GOSystems is currently leading technical and systems engineering services and providing 508c document support. GOSystems is committed to supporting the ST-CTN project during Phases 2 and 3 of the program. GOSystems is looking forward to working collaboratively with our team members, stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN system.

Sincerely,



Paula Okunieff

President, GO Systems and Solutions LLC

Address: 43 Jamaica Street, Boston, MA, 02130-3837; *Mobile: 617.983.3364*

IBI GROUP
21 Custom House Street – 3rd Floor
Boston MA 02110 USA
tel 617 450 0701
ibigroup.com

February 15, 2022

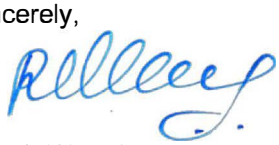
U.S. Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: IBI GROUP PROFESSIONAL SERVICES (USA), INC. LETTER OF COMMITMENT

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. IBI Group Professional Services (USA), Inc. is thankful for the opportunity to participate in Phase 1 of the Complete Trip - ITS4US Deployment Program with the Atlanta Regional Commission (ARC) team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County.

IBI Group Professional Services (USA), Inc. is currently providing technical services, including software architecture and design. IBI Group Professional Services (USA), Inc. is committed to supporting the ST-CTN project during Phases 2 and 3 of the program. IBI Group Professional Services (USA), Inc. is looking forward to working collaboratively with our stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN system.

Sincerely,



Ritesh Warade
Director
IBI Group

IBI Group Professional Services (USA) Inc. is a member of the IBI Group of companies

3 March 2022

U S Department of Transportation
ITS Joint Program Office
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: *ICF. Letter of Commitment*

The USDOT Complete Trip - ITS4US Deployment Program supports independent mobility for all travelers through innovative partnerships, technologies, and practices. ICF is thankful for the opportunity to participate in Phase 2 and 3 of the Complete Trip - ITS4US Deployment Program with the Atlanta Regional Commission (ARC) team to develop the Safe Trips in a Connected Transportation Network (ST-CTN) project concept. The ST-CTN project will provide detailed information and step-by-step navigation tailored for user's specific needs, along with a range of other features geared to improve trip efficiency and safety with a focus on supporting underserved communities within Gwinnett County

ICF is committed to supporting the ST-CTN project during Phases 2 and 3 of the program including providing program management, outreach, agile development and data services. ICF is looking forward to working collaboratively with our stakeholders and partner agencies to ensure the successful design and deployment of the ST-CTN system.

Sincerely,

Jeff Ang-Olson
Vice President
Transportation

2550 S. Clark Street. 12th Floor
Arlington, VA 22202
T: +1.571.842.4500

Appendix C. Phase 2/3 Partner Letters of Commitment

Atlanta Regional Commission

July 29, 2020

Secretary Elaine Chao
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Submission of Atlanta Regional Commission (ARC) Letter of Intent for the Complete Trip - ITS4US Deployment Program

Dear Secretary Chao,

The Atlanta Regional Commission (ARC) is excited to submit a letter of intent to participate in the United States Department of Transportation's (USDOT) Complete Trip – ITS4US Program. The *Safe Trips in a Connected Transportation Network Project* will combine innovative initiatives and services together to create a more complete trip (e.g., door-to-door) for travelers with disabilities and older adults. This program includes a broad partnership of governmental and non-governmental organizations to deliver an innovative project that improves the quality of life for vulnerable groups.

Among the project outcomes, the project team will expand the functionality of the ATL Rides Open Trip Planner, by integrating connected vehicle infrastructure (i.e., pedestrian safety and transit signal priority), machine learning, predictive analytics, and pedestrian infrastructure condition data. Travelers will have the capability to navigate around challenging infrastructure, improve the reliability for multimodal connections, and provide safer conditions for vulnerable road users and groups. Close attention was given to ensure the project team includes community-based organizations that are experienced in conducting specialized outreach and training to ensure that deployed technology meets the needs of all users.

The Complete Trip - ITS4US Deployment Program comes at a time when several technology initiatives have been accomplished or are getting underway in the Atlanta region. Each of these initiatives were either conceived from or are entirely supportive of the recently completed 2020 Regional TSMO Strategic Plan & ITS Architecture update (with major contribution from Kimley-Horn Associates):

- The ARC/Georgia Department of Transportation (GDOT) Connected Vehicle Program ("CV1K") will deploy 1,000 dual-mode Dedicated Short Range Communication (DSRC) and Cellular Vehicle-to-Everything (C-V2X) roadside units by 2023.
- The Gwinnett County DOT recently began implementing a 2019 Connected Vehicle Technology Master Plan.
- The Atlanta-Region Transit Link Authority (ATL) is developing a regional Open Trip Planner application ("ATL Rides"), supported by a FTA 2020 IMI grant award.

Other regional stakeholders are well positioned to support the successful implementation of the program, if selected. The Georgia Institute of Technology (Georgia Tech) has completed several

atlantaregional.org
International Tower
229 Peachtree St, NE | Suite 100 Atlanta, Georgia 30303

achievements with pedestrian sidewalk inventory data collection and Real-Time Data and Space-Time Memory (STM) algorithms for use in real-time trip planning. The Statewide Independent Living Council of Georgia's (SILCGA) State Plan for Independent Living calls for "increased mobility options for people with disabilities." The Center for Pan Asian Community Services (CPACS), a community-oriented NGO, provides FTA-funded transit services for patrons traveling to and from Gwinnett County. CPACS riders are often challenged with limited English proficiency and include older adults. CPACS also shares trips with Gwinnett County Transit.

In the spirit of the Regional Policy Framework: "Ensuring a Comprehensive Transportation Network: Incorporating Regional Transit and 21st Century Technology," ARC appreciates the opportunity to be a part of this exciting initiative for the region. Thank you for offering this new program and for considering metro Atlanta and the State of Georgia for possible inclusion in the inaugural cycle of the USDOT's Complete Trip - ITS4US Deployment Program.

Sincerely,

Douglas R. Hooker
Douglas R. Hooker (Jul 29, 2020 09:32 EDT)

Doug Hooker
Executive Director
Atlanta Regional Commission
International Tower
229 Peachtree Street NE, Suite 100
Atlanta, GA 30303

cc: Russell McMurry, Georgia DOT Commissioner
Chris Tomlinson, Atlanta-Region Transit Link Authority Executive Director

Letter of Intent ITS4US ARC

Final Audit Report 2020-07-29

Created:	2020-07-29
By:	Michael Alexander (malexander@atlantaregional.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAGMjkMYNCEQnFS8YKWXlFo2W7rG0znyRj

"Letter of Intent ITS4US ARC" History

Document created by Michael Alexander (malexander@atlantaregional.org)
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2020-07-29 - 12:42:31 PM GMT

Email viewed by Douglas R. Hooker (dhooker@atlantaregional.org)
2020-07-29 - 1:32:07 PM GMT- IP address: 98.251.31.233

Document e-signed by Douglas R. Hooker (dhooker@atlantaregional.org)
Signature Date: 2020-07-29 - 1:32:45 PM GMT - Time Source: server- IP address: 98.251.31.233

Signed document emailed to Michael Alexander (malexander@atlantaregional.org) and Douglas R. Hooker (dhooker@atlantaregional.org)
2020-07-29 - 1:32:45 PM GMT

Adobe Sign

Russell R. McMurry, P.E., Commissioner
One Georgia Center
600 West Peachtree Street, NW
Atlanta, GA 30308
(404) 631-1000 Main Office

July 23, 2020

The Honorable Elaine L. Chao
U.S. Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Secretary Chao:

On behalf of the Georgia Department of Transportation (GDOT), I am pleased to offer this letter of intent to partner with the Atlanta Regional Commission (ARC) under the United States Department of Transportation's (USDOT) Complete Trips – ITS4US Program. The ITS4US grant opportunity comes at a time when several technology initiatives have been accomplished or are in progress. GDOT has already deployed over 600 dedicated short-range communication (DSRC) roadside units and in partnership with USDOT will deploy another 1,000 over the next few years. Additionally, the ARC/Georgia Department of Transportation (GDOT) connected vehicle program will deploy 1,000 dual-mode, DSRC + C-V2X roadside units by 2023. The Atlanta-Region Transit Link Authority (ATL) is developing a regional Open Trip Planner application ("ATL Rides"), thanks to FTA's 2020 IMI grant award. Gwinnett County DOT recently began implementing its 2019 Connected Vehicle Technology Master Plan. Each of these initiatives also are entirely supportive of ARC's recently completed 2020 Regional TSMO Strategic Plan & ITS Architecture update.

Furthermore, the Georgia Institute of Technology (Georgia Tech) has made several accomplishments with pedestrian sidewalk inventory data collection and Real-Time Data and Space-Time Memory (STM) algorithms for use in real-time trip planning. The Statewide Independent Living Council of Georgia's (SILCGA) State Plan for Independent Living calls for "increased mobility options for people with disabilities." The Center for Pan Asian Community Services (CPACS), a community-oriented NGO, provides highly-regarded, and FTA-funded transit services for commuters traveling to and from Gwinnett County, whose riders are often challenged with limited English proficiency, or are older adults. CPACS also shares trips with Gwinnett County Transit.

The Safe Trips in a Connected Transportation Network project will bring innovative initiatives and services together to facilitate a more complete trip (e.g., door-to-door) for

travelers with disabilities and older adults. The team will expand the functionality of the ATL Rides Open Trip Planner, by integrating connected vehicle infrastructure (i.e., pedestrian safety and transit signal priority), machine learning, predictive analytics, and current pedestrian infrastructure condition data. This will assist travelers with navigating around inadequate infrastructure, improve multimodal connection reliability, and provide safer conditions for vulnerable road users particularly for vulnerable groups. The project team includes community-based organizations that are experienced in conducting specialized outreach and training to ensure that the deployed technology meets the needs of all users.

GDOT appreciates the opportunity to be a part of this exciting initiative for the region. Thank you for offering this new program and for considering metro Atlanta and the State of Georgia for being included in the inaugural cycle of the USDOT's Complete Trip – ITS4US Program.

Sincerely,

Andrew Heath, PE
State Traffic Engineer

ATLANTA-REGION TRANSIT LINK AUTHORITY

July 27, 2020

Secretary Elaine Chao
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Atlanta Regional Commission Letter of Intent USDOT Complete Trip ITS4US Program

Dear Secretary Chao,

On behalf of the Atlanta-Region Transit Link Authority (ATL), I am pleased to offer this letter of intent to partner with the Atlanta Regional Commission (ARC) to secure funding under the United States Department of Transportation's (USDOT) Complete Trips – ITS4US Program.ARC's proposed Safe Trips in a Connected Transportation Network project will bring innovative initiatives and services from across the region together to facilitate a more complete trip (e.g., door-to-door) for travelers with disabilities and older adults. Specifically, the project will integrate regional trip planning software with connected vehicle infrastructure (i.e., pedestrian safety and transit signal priority), machine learning, predictive analytics, and pedestrian infrastructure condition data. ATL supports the project given its promise to assist travelers with navigating around inadequate infrastructure, improve multimodal connection reliability, and provide safer conditions for vulnerable road users.

The ITS4US grant opportunity comes at a time when numerous technology initiatives in the metro Atlanta region are getting underway or already deployed. With the support of a Federal Transit Administration (FTA) Integrated Mobility Innovation (IMI) Program grant, the ATL is developing an open source regional multi-modal trip planning application ("ATL RIDES") that also supports integrated mobility payment options and a connected data environment. ARC and the Georgia Department of Transportation's (GDOT) connected vehicle program ("CV1K") will deploy 1,000 dual-mode, DSRC + C-V2X roadside units by 2023. Gwinnett County DOT recently began implementing its 2019 Connected Vehicle Technology Master Plan. Each of these initiatives are also entirely supportive of ARC's recently completed 2020 Regional TSMO Strategic Plan & ITS Architecture update.

Furthermore, the Georgia Institute of Technology (Georgia Tech) has made several accomplishments with pedestrian sidewalk inventory data collection and Real-Time Data and Space-Time Memory (STM) algorithms for use in trip planning. The Statewide Independent Living Council of Georgia's (SILCGA) State Plan for Independent Living calls for "increased mobility options for people with disabilities." The Center for Pan

245 Peachtree Center Avenue, Suite 2200 / Atlanta, GA 30303

ATLANTA-REGION TRANSIT LINK AUTHORITY

Asian Community Services (CPACS), a community-oriented NGO, provides highly-regarded and FTA-funded transit services for commuters traveling to and from Gwinnett County, specifically focusing service on older adults and limited English proficiency populations. CPACS also shares trips with Gwinnett County Transit.

The ARC led project team will expand the functionality of the ATL RIDES multi-modal trip planner by integrating with the CV1K programas well as Georgia Tech's STM algorithms and sidewalk inventory data. Coordination with transit providers and community-based organizations that are experienced in conducting specialized outreach and training will help ensure that the deployed technology meets the needs of all users.

ATL appreciates the opportunity to be a part of this exciting initiative for the region. Thank you for offering this new opportunity and for considering metro Atlanta's application tothe USDOT's Complete Trip – ITS4US Program.

Sincerely,

Chris Tomlinson
Executive Director
Atlanta-Region Transit Link Authority

245 Peachtree Center Avenue, Suite 2200 / Atlanta, GA 30303

Georgia Tech Research Corporation

Georgia Institute of Technology
Office of Sponsored Programs
Contract Administration
Atlanta, Georgia 30332-0420 U.S.A.

Secretary Elaine Chao
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

July 31, 2020

RE: Atlanta Regional Commission Letter of Intent USDOT Complete Trip – ITS4US Program

Dear Secretary Chao,

On behalf of the Georgia Institute of Technology (Georgia Tech), I am pleased to offer this letter of intent to partner with the Atlanta Regional Commission (ARC) to secure funding under the United States Department of Transportation's (USDOT) Complete Trips – ITS4US Program. The ITS4US grant opportunity comes at a time when several technology initiatives have been accomplished or are getting underway. The ARC/Georgia Department of Transportation (GDOT) connected vehicle program ("CV1K") will deploy 1,000 dual-mode, DSRC + C-V2X roadside units by 2023. The ATL is developing a regional Open Trip Planner application ("ATL Rides"), thanks to FTA's 2020 IMI grant award. Gwinnett County DOT recently began implementing its 2019 Connected Vehicle Technology Master Plan. Each of these initiatives also are entirely supportive of ARC's recently completed 2020 Regional TSMO Strategic Plan & ITS Architecture update.

Furthermore, Georgia Tech has made several accomplishments with pedestrian sidewalk inventory data collection and Real-Time Data and Space-Time Memory (STM) algorithms for use in real-time trip planning. The Statewide Independent Living Council of Georgia's (SILCGA) State Plan for Independent Living calls for "increased mobility options for people with disabilities." The Center for Pan Asian Community Services (CPACS), a community-oriented NGO, provides highly-regarded, and FTA-funded transit services for commuters traveling to and from Gwinnett County, whose riders are often challenged with limited English proficiency, or are older adults. CPACS also shares trips with Gwinnett County Transit.

The *Safe Trips in a Connected Transportation Network* project will bring innovative initiatives and services together to facilitate a more complete trip (e.g., door-to-door) for travelers with disabilities and older adults. The team will expand the functionality of the ATL Rides Open Trip Planner, by integrating connected vehicle infrastructure (i.e., pedestrian safety and transit signal priority), machine learning, predictive analytics, and current pedestrian infrastructure condition data. This will assist travelers with navigating around inadequate infrastructure, improve multimodal connection reliability, and provide safer conditions for vulnerable road users particularly for vulnerable groups. The project team includes community-based organizations that are experienced in conducting specialized outreach and training to ensure that the deployed technology meets the needs of all users.

Georgia Tech appreciates the opportunity to be a part of this exciting initiative for the region. Thank you for offering this new program and for considering metro Atlanta and the State of Georgia for being included in the inaugural cycle of the USDOT's Complete Trip – ITS4US Program.

Should additional information be desired, please do not hesitate to contact Dr. Guensler at (404) 894-0405 regarding technical matters, or the undersigned at (404) 385-2174 for administrative and contractual matters.

Sincerely,

Terry L. Stout
Special Assistant to VP for Research

GWINNETT COUNTY
BOARD OF COMMISSIONERS
75 Langley Drive | Lawrenceville, GA 30046-6935
(O) 770.822.7000 | (F) 770.822.7097
www.gwinnettcounty.com

July 23, 2020

Secretary Elaine Chao
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Atlanta Regional Commission Letter of Intent USDOT Complete Trip – ITS4US Program

Dear Secretary Chao,

On behalf of Gwinnett County, I am pleased to offer this letter of intent to partner with the Atlanta Regional Commission (ARC) to secure funding under the United State Department of Transportation's (USDOT) Complete Trips – ITS4US Program. The ITS4US grant opportunity comes at a time when several technology initiatives have been accomplished or are getting underway. Gwinnett County DOT recently began implementing its 2019 Connected Vehicle Technology Master Plan. The ARC/Georgia Department of Transportation (GDOT) connected vehicle program ("CV1K") will deploy 1,000 dual-mode, DSRC + C-V2X roadside units by 2023. The Atlanta-Region Transit Link Authority (ATL) is developing a regional Open Trip Planner application ("ATL Rides"), thanks to FTA's 2020 IMI grant award. Each of these initiatives also are entirely supportive of ARC's recently completed 2020 Regional TSMO Strategic Plan & ITS Architecture update.

Furthermore, the Georgia Institute of Technology (Georgia Tech) has made several accomplishments with pedestrian sidewalk inventory data collection and Real-Time Data and Space-Time Memory (STM) algorithms for use in real-time trip planning. The Statewide Independent Living Council of Georgia's (SILCGA) State Plan for Independent Living calls for "increased mobility options for people with disabilities." The Center for Pan Asian Community Services (CPACS), a community-oriented NGO, provides highly-regarded, and FTA-funded transit services for commuters traveling to and from Gwinnett County, whose riders are often challenged with limited English proficiency, or are older adults. CPACS also shares trips with Gwinnett County Transit.

The *Safe Trips in a Connected Transportation Network* project will bring innovative initiatives and services together to facilitate a more complete trip (e.g., door-to-door) for travelers with disabilities and older adults. The team will expand the functionality of the ATL Rides Open Trip Planner, by integrating connected vehicle infrastructure (i.e., pedestrian safety and transit signal priority), machine learning, predictive analytics, and current pedestrian infrastructure condition data. This will assist travelers with navigating around inadequate infrastructure, improve multimodal connection reliability, and provide safer conditions for vulnerable road users particularly for vulnerable groups. The project team includes

community-based organizations that are experienced in conducting specialized outreach and training to ensure that the deployed technology meets the needs of all users.

Gwinnett County appreciates the opportunity to be a part of this exciting initiative for the region. Thank you for offering this new program and for considering metro Atlanta and the State of Georgia for being included in the inaugural cycle of the USDOT's Complete Trip – ITS4US Program.

Sincerely,

Charlotte J. Nash, Chairman
Gwinnett County Board of Commissioners

Statewide Independent Living Council of Georgia
SILCGA

July 28, 2020

Secretary Elaine Chao
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Atlanta Regional Commission Letter of Intent USDOT Complete Trip – ITS4US Program

Dear Secretary Chao,

On behalf of the Statewide Independent Living Council of Georgia (SILCGA), I am pleased to offer this letter of intent to partner with the Atlanta Regional Commission (ARC) to secure funding under the United States Department of Transportation's (USDOT) Complete Trips – ITS4US Program. The ITS4US grant opportunity comes at a time when several technology initiatives have been accomplished or are getting underway. The ARC/Georgia Department of Transportation (GDOT) connected vehicle program ("CV1K") will deploy 1,000 dual-mode, DSRC + C-V2X roadside units by 2023. The ATL is developing a regional Open Trip Planner application ("ATL Rides"), thanks to FTA's 2020 IMI grant award. Gwinnett County DOT recently began implementing its 2019 Connected Vehicle Technology Master Plan. Each of these initiatives also are entirely supportive of ARC's recently completed 2020 Regional TSMO Strategic Plan & ITS Architecture update.

The SILCGA State Plan for Independent Living calls for "increased mobility options for people with disabilities." Our partnership with ARC on this project speaks directly to that goal. Furthermore, Georgia Tech has made several accomplishments with pedestrian sidewalk inventory data collection and Real-Time Data and Space-Time Memory (STM) algorithms for use in real-time trip planning. The Center for Pan Asian Community Services (CPACS), a community-oriented NGO, provides highly-regarded, and FTA-funded transit services for commuters traveling to and from Gwinnett County, whose riders are often challenged with limited English proficiency, or are older adults. CPACS also shares trips with Gwinnett County Transit.

The Safe Trips in a Connected Transportation Network project will bring innovative initiatives and services together to facilitate a more complete trip (e.g., door-to-door) for travelers with disabilities and older adults. The team will expand the functionality of the ATL Rides Open Trip Planner, by integrating connected vehicle infrastructure (i.e., pedestrian safety and transit signal priority), machine learning, predictive analytics, and current pedestrian infrastructure condition data. This will assist travelers with navigating around inadequate infrastructure, improve multimodal connection reliability, and provide safer conditions for vulnerable road users particularly for vulnerable groups. The project team includes community-based organizations that are experienced in conducting specialized outreach and training to ensure that the deployed technology meets the needs of all users.

SILCGA appreciates the opportunity to be a part of this exciting initiative for the region. Thank you for offering this new program and for considering metro Atlanta and the State of Georgia for being included in the inaugural cycle of the USDOT's Complete Trip – ITS4US Program.

Sincerely,

Executive Director

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