Cooperative Agreement
Between
Utah Department of Transportation
And
Utah Transit Authority

Installation, Maintenance and Operation
of a Connected Vehicle System for Bus Operations

UTA CONTRACT NO. 23-P00284

THIS COOPERATIVE AGREEMENT (the "Agreement") is entered as of _____, 2023 between the Utah Department of Transportation, an agency of the state of Utah ("UDOT") and the Utah Transit Authority, a public transit district organized pursuant to Utah Code Title 17B-2a-8 ("UTA") (each may be referred to herein as a "Party" or collectively as the "Parties").

Recitals

A. The Parties desire to continue working together to develop and advance new and innovative Connected Vehicle technologies which improve safety, mobility, and operations along roadways throughout the Wasatch Front region and UTA's transportation network.

B. UDOT and UTA desire to cooperatively deploy, operate and maintain a Connected Vehicle System (as defined below) (the "CVS") for bus operations throughout the transit district so that UDOT and UTA can benefit from the added mobility, safety and efficiency afforded by collecting, analyzing, and using Connected Vehicle Data, as further described in this Agreement (collectively the "Program").

C. The Program will be a component within UDOT's larger Connected Vehicle Data Ecosystem ("CVDE") project that UDOT has undertaken in conjunction with Panasonic North America or its successor ("Panasonic"), as it may be modified from time to time, and UTA will be a participant in the service that UDOT is providing as part of the CVDE.

D. The Parties previously entered into a Cooperation Agreement on February 12, 2015, expressing interest in developing a Connected Vehicle System which resulted in the deployment of connected vehicle technology at some of UDOT's signalized intersections and on some of UTA's buses. This Agreement supersedes the 2015 Cooperative Agreement and also supersedes and replaces any Transit Signal Priority ("TSP") related provisions in any lease or license agreements between UDOT and UTA that relate to: Bus Rapid Transit ("BRT"), Ogden Valley Express ("OGX"), and Utah Valley Express ("UVX").

E. The Parties may have previously entered into agreements related to UTA's rail operations. Those previous agreements are not impacted by this Agreement and nothing in this Agreement is applicable to rail operations.

F. UTA has developed a Transit Signal Priority Master Plan ("TSP Master Plan") which prioritizes strategic investments for TSP systems on UTA core routes and Bus Rapid Transit services in alignment with UTA's Five-Year Service Plan.

G. The Parties are entering this Agreement to identify general roles and responsibilities between them in connection with the Program and to state the terms of their arrangements.

Agreement

Therefore, in consideration of the foregoing recitals (which by this reference are incorporated into this Agreement) and the following terms and commitments, the sufficiency of which the Parties hereby acknowledge, the Parties hereby agree as follows:

1. Definitions

In addition to the terms defined elsewhere in this Agreement, key terms used in this Agreement shall include the following:

1.1 Terms

1.1.1 Cellular Vehicle-to-Everything (C-V2X): A V2X communication technology that uses the 5.9GHz radio frequency spectrum and is compliant with the Third Generation Partnership Project (3GPP) specification Release 14, using the same waveform as 4G LTE cell phones, but communicates directly, device-to-device, not through cell towers.

1.1.2 CIRRUS by Panasonic (Cirrus): A cloud-based data analytics and storage platform provided to UDOT by Panasonic as part of the CVDE.

1.1.3 Connected Vehicle (CV): A vehicle which has OBE installed to enable it to wirelessly communicate with other vehicles, the infrastructure, and other travelers within a Connected Vehicle System.

1.1.4 Connected Vehicle Data (CVD): Standardized packets of information, defined by the Society of Automotive Engineers (SAE) in their J2735 and J2945 standards, transmitted by RSUs and OBUs in the Connected Vehicle System, including:

1.1.4.1 Basic Safety Message (BSM): Information about vehicle size, position, heading, speed, acceleration, braking, windshield wiper status, outside air temperature, and other operational attributes, but specifically not including any personally identifiable information, such as make, model, color, vehicle identification number (VIN), license plate, or registration, obtained from the vehicle's electronic control unit or controller access network. As noted below, a specific vehicle identifier may be assigned to the BSM of transit vehicles to facilitate monitoring of system use, system performance, and other purposes.

1.1.4.2 Digital Roadway Geometry (MAP): Information about the roadway or intersection, including location, lane widths, lane types (turn lanes), orientation of lanes (depicted by a series of nodes), speed limit, crosswalk locations, and similar attributes.

1.1.4.3 Signal Phase and Timing (SPaT): Information about the status of the traffic signal on each leg of the intersection and the remaining time in each phase.

1.1.4.4 Signal Request Message (SRM): Information sent from a vehicle to the infrastructure requesting signal priority or preemption. This message must identify the vehicle type to indicate the type of signal priority or preemption being requested, i.e., a fire engine vs. a transit vehicle, and may include identification of a specific vehicle.

1.1.4.5 Signal Status Message (SSM): Information sent from the infrastructure to a vehicle to confirm the receipt of an SRM.

1.1.4.6 Test Message: Information sent from the vehicle containing messages for local and regional deployment use. This message may be used to identify specific vehicles, with permission of the vehicle owner, to facilitate tracking for studies of system effectiveness and similar needs.

1.1.4.7 Traveler Information Message (TIM): Information sent to a vehicle containing advisory messages about traffic conditions, incidents, obstacles, adverse weather conditions, roadway geometry, and other relevant conditions.

1.1.5 Connected Vehicle Data Ecosystem (CVDE): A statewide project UDOT has undertaken in conjunction with Panasonic to deploy a Connected Vehicle System, including hardware components, software applications, and a cloud-based data platform, known as CIRRUS by Panasonic, that collects aggregates, stores,

actualizes, and visualizes Connected Vehicle Data, System Health Data, and other types of data from UDOT sensors and systems.

1.1.6 Connected Vehicle System (CVS): A network of V2X communication devices and information technology that allows vehicles to wirelessly communicate with each other, with infrastructure (such as traffic signals), and with other travelers, using Connected Vehicle Data, to prevent crashes, improve mobility, and reduce congestion.

1.1.7 Dedicated Short Range Communication (DSRC): A V2X communication technology that uses the 5.9GHz radio frequency spectrum and is compliant with the Institute of Electrical and Electronics Engineers (IEEE) Standard 802.11p, similar to Wi-Fi, and directly communicates device-to-device.

1.1.8 Equipped Intersection: A signalized intersection which has RSE installed.

1.1.9 Equipped Vehicle: A vehicle which has OBE installed.

1.1.10 On-Board Equipment (OBE): Equipment installed in a vehicle or carried by a traveler that facilitates the generation, transmission, receipt, and processing of Connected Vehicle Data to and from another OBU or RSU. OBE may include an OBU, OPB, other computational devices, cables, connectors, antennas, and similar equipment.

1.1.11 On-Board Processor (OBP): A computer installed on the vehicle which obtains information from the TMS, processes the data, and communicates with the OBU about whether conditions will permit the vehicle to request priority.

1.1.12 On-Board Unit (OBU): A wireless communication device installed in a vehicle or carried by a traveler used to transmit Connected Vehicle Data to, or receive from, another OBU or an RSU.

1.1.13 Roadside Equipment (RSE): Equipment installed along a roadway or pedestrian pathway, usually in a traffic signal or intelligent transportation systems cabinet, on traffic signal poles, light poles, or similar roadside infrastructure, that facilitates the generation, transmission, receipt, and processing of Connected Vehicle Data to and from an OBU, the agency's operation center or a data processing platform. RSE may include an RSU, computational devices, digital switches, traffic signal controllers, cables, connectors, antennas, and similar equipment. Some RSE equipment might not be for the exclusive use of the V2X system. The RSE may also communicate System Health Data to the operation center or data platform.

1.1.14 Roadside Unit (RSU): A wireless communication device installed along a roadway or pedestrian pathway used to transmit Connected Vehicle Data to, or receive from, an OBU or other mobile devices.

1.1.15 System Health Data: Information on the operational status of RSE, OBE and other hardware in the CVS, including whether individual hardware components are powered, are on-line or off-line, are transmitting data successfully, their rates of

data transmission, the types of data being transmitted, and reporting of any error codes.

1.1.16 TMS (Transit Management System): The UTA computer system on a transit vehicle that provides information about the on-time status of the vehicle, the automatic vehicle location, passenger load, and other information.

1.1.17 Transit Signal Priority (TSP): A system that communicates between a transit vehicle and a traffic signal and can request that the signal modify the length of the green time in the direction of travel of the vehicle so the vehicle can pass through the intersection with a reduced probability of stopping.

1.1.18 UTA Transit Signal Priority Master Plan (TSP Master Plan): A document prepared by UTA that prioritizes strategic investments for TSP systems on UTA core routes and Bus Rapid Transit services in alignment with UTA's Five-Year Service Plan, which may be updated from time to time. At the time of this Agreement, the current version of the TSP Master Plan is dated December 2021.

1.1.19 Vehicle to Everything (V2X): A system where vehicles share and receive Connected Vehicle Data with other vehicles, other travelers, and the infrastructure using low-latency, direct, wireless communication technology.

2. Program Scope

2.1 Scope. The scope of this Agreement is limited to the provision, installation, operation, and maintenance of V2X equipment for UTA bus operations which is installed or otherwise incorporated as part of the Program, to governing ongoing access by UTA to Connected Vehicle Data and System Health Data within UDOT's Connected Vehicle Data Ecosystem, and to provide permissions for Transit Signal Priority (TSP). This Agreement does not address UTA's rail operations in any way. This Program makes use of elements of UDOT's CVDE to facilitate the wireless communication of Connected Vehicle Data between vehicles and the roadside infrastructure to improve safety and mobility. UDOT will collaborate with UTA on the equipment, installation, maintenance, and operation of the CVS as part of their Connected Vehicle Data Ecosystem. This Program also makes use of elements provided by UTA's TMS to assess transit vehicle performance.

2.2 Program Benefits. The Parties acknowledge that each party anticipates realizing benefits from the development of this CVS, including improved operations due to Transit Signal Priority (TSP) at equipped intersections and the generation of real-time Connected Vehicle Data on the traffic movements along streets with RSE.

2.3 Coordination of Scope. The Parties shall coordinate their CVS planning efforts and seek to find mutual agreement about the timing and funding of additional CVS installation. UDOT shall inform UTA about plans to expand the CVDE, including providing lists of proposed RSE

locations. UTA shall inform UDOT about desires to add corridors and vehicles to the CVS system, including lists of proposed vehicles to be equipped with OBE.

2.4 Applicable Corridors. This Agreement applies only to intersections along roadways owned and operated by UDOT. The Parties may enter into agreements, individually or together, with other political subdivisions or jurisdictions in Utah to provide TSP or other CVS services along roadways owned and operated by those entities.

2.5 Allocation of Expenses. All work performed under this Agreement will be performed at the expense of the Party who is designated herein as being responsible for the work.

2.6 Additional Contracts. UTA acknowledges and agrees that UDOT has additional contracts, regulations, and policies, which may change from time to time, that also govern its Connected Vehicle Data Ecosystem, and that all the same also apply to UTA's access and use of such system.

2.7 Obligations. UDOT is building the CVDE to meet a variety of safety and mobility goals based on current UDOT policies and priorities. UTA recognizes that if those policies and priorities change substantially, based on legislative or other agency re-direction, UDOT may need to terminate its participation under this agreement. In such case, UDOT is obligated to provide 90 days advance written notice and then meet and confer with UTA on the available paths forward which will prevent UTA from losing the value of the work performed under this Agreement. At a minimum, UTA shall be allowed to continue using the technology and equipment which have been implemented prior to UDOT's termination whether under license, bailment, or other appropriate method and, at UTA's election, it shall be entitled to receive an assignment of the UDOT-Panasonic CVDE technology, but only to the extent allowable under UDOT's agreements with Panasonic and other relevant service providers.

2.8 Delegation of Duties. UDOT may delegate the duties in this Agreement that are to be undertaken by UDOT to Panasonic, Panasonic's subcontractors, or to other contractors as UDOT may determine.

2.9 Regional Planning Efforts. UDOT and UTA agree that collaborative regional planning efforts are important to the success and future expansion of the Program. The Metropolitan Planning Organizations Wasatch Front Regional Council (WFRC) and Mountainland Association of Governments (MAG) plans note the need for the development of improved transit service on key corridors along the Wasatch Front. The Parties will work together on planning efforts, including potential funding opportunities, which advance and expand the Program.

3. Transit Signal Priority

3.1 Priority Capability. The CVS will provide Transit Signal Priority (TSP) capabilities at designated signalized intersections under predetermined conditions.

3.1.1 The additional green time in the traffic signal cycle which may be granted upon a request for priority may include early green or green extension.

3.1.2 The conditions which will allow a priority request to be made will be mutually agreed upon by the Parties and may change from time to time. These conditions might be corridor specific or could be dynamic based on time of day or traffic conditions. Hardware and software configurations may change to facilitate these changing conditions.

3.1.2.1 The Parties will collaboratively review the CVS performance and priority conditions as needed.

3.1.3 A variety of conditions impact whether the traffic signal will grant signal priority when a priority request is received. Receipt of a priority request does not guarantee that the request will be granted.

3.1.4 UDOT may choose to not provide priority capabilities at certain intersections along a roadway corridor that otherwise provides those capabilities due to the complexity of that intersection or other conditions.

3.2 UDOT Policy. UDOT Policy 06C-18 "Signal Pre-Emption" governs the temporary modification of traffic signal timing to provide priority to transit vehicles. This Agreement complies with the provisions of Policy 06C-18, where applicable.

3.3 UTA TSP Master Plan. This Agreement reflects the recommendations of the UTA Transit Signal Priority Master Plan, where applicable.

3.4 Authorization. UDOT authorizes UTA transit vehicles equipped with OBE and meeting the predetermined conditions to request priority at most UDOT-owned intersections. Corridors will be mutually agreed upon by UDOT and UTA during the planning stages of implementation.

3.5 Traffic Signal Timing. Signal timing modifications will be needed at intersections to facilitate TSP and during subsequent operations. These modifications will be performed by UDOT in accordance with UDOT's "Signal Timing For Connected Vehicle-Based Priority and Preemption Systems" Guidebook. UDOT will consult with UTA about the criteria used for signal timing modifications. When conditions at an intersection change, whether due to the CVS system or otherwise, UDOT will be responsible for signal timing modifications.

3.5.1 UDOT's Signal Timing Guidebook defines the process for determining how adjustments will be made when granting priority. This process allows for adjustments to be made at individual intersections based on traffic conditions along a corridor and at the intersection. Adjustments are intended to provide a balance between beneficial transit movements and impacts to other traffic. UDOT will use this Guidebook to implement TSP at intersections within the CVS. The Guidebook is subject to revision. At the time of this Agreement, the current version of the Guidebook is dated October 2022

4. Connected Vehicle System Hardware and Software

4.1 Roadside Equipment (RSE)

4.1.1 All RSE hardware and related firmware and software shall meet UDOT's specifications and requirements, shall be compatible with the CVDE, and will be approved by UDOT prior to installation.

4.1.2 All RSE installation, operation and maintenance shall be performed by UDOT, unless otherwise noted in this Agreement.

4.1.3 Modifications to traffic signal timing and related changes shall be performed as stated in Section 3.5.

4.2 On-Board Equipment (OBE)

4.2.1 All OBE hardware and related firmware and software shall meet UDOT's specifications and requirements, shall be compatible with the CVDE, and will be approved by UDOT prior to installation.

4.2.2 The entity responsible to install, operate and maintain OBE hardware will vary based on circumstances, as defined in Section 5.

4.2.2.1 When UDOT has responsibility to provide and install OBE on UTA vehicles:

4.2.2.1.1 UDOT will coordinate with UTA to schedule vehicle installations at times that will minimize disruption of vehicle use.

4.2.2.1.2 UDOT will install OBE in a manner that minimizes visual impact of the installation and otherwise does not inhibit the safe operation of the vehicle or interfere with other communication systems. All vehicle wiring modifications and installation methods will be approved by the UTA Bus Communications Supervisor or IT Director/Manager prior to installation.

4.2.2.1.3 UDOT will be responsible for any damage caused during installation.

4.2.2.1.4 UTA will provide UDOT access to UTA vehicles at reasonable times, within the limits of vehicle availability.

4.2.2.1.5 UTA will provide an indoor facility where UDOT can install OBE.

4.2.2.1.6 UTA will provide labor in an advisory capacity during installation and may observe all installation to the extent that UTA chooses.

4.2.2.2 When UTA or parties other than UDOT have responsibility to provide and install OBE, UDOT shall provide labor in an advisory capacity as needed.

4.2.3 Unless otherwise agreed, the entity responsible to provide and install OBE hardware will have responsibility for operation and maintenance of that hardware.

4.2.4 In all instances, UDOT shall be responsible for all firmware and software upgrades on OBE. UTA will cooperate and assist with these efforts.

4.2.5 UTA will provide UDOT access to UTA vehicles at reasonable times for necessary operations, maintenance, replacement, or upgrades of OBE, within the limits of vehicle availability to not adversely affect function of the bus or the UTA Maintenance work assignment of the vehicle.

4.2.5.1 UTA will provide a covered facility where UDOT can access the vehicles.

4.2.5.2 UTA will provide labor in an advisory capacity and may observe the work to the extent that UTA chooses.

4.2.6 UTA may choose to integrate the OBE and CVS with other emerging solutions and systems for technology resilience and will coordinate with UDOT to accomplish this without adversely impacting the CVS or CVDE.

4.3 Software, Data Analytics and Data Storage

4.3.1 UDOT will provide application software for Transit Signal Priority (TSP), collecting real-time Connected Vehicle Data from the vehicles, collecting System Health Data, and other functions.

4.3.1.1 UTA is under no obligation to use the systems provided by UDOT at individual locations or within the entire CVS.

4.3.2 UDOT will provide UTA access to view and retrieve Connected Vehicle Data and System Health Data in Cirrus (or a successor system).

4.3.2.1 UTA may use Connected Vehicle Data and System Health Data to monitor system performance, perform studies on effectiveness or other measures, monitor the health of system components, or other uses that UTA chooses.

4.3.2.2 UTA may share Connected Vehicle Data and System Health Data with other parties in support of UTA's efforts and purposes.

4.3.3 UDOT will provide UTA access to the on-line Central User Interface tool that allows for real-time monitoring of vehicle priority and preemption systems.

4.3.4 UDOT will collaborate with UTA to identify potential methods to monitor TSP performance and operational health. When methods are identified, the Parties will discuss options and funding for developing the methods.

4.3.5 UDOT will be responsible for all costs associated with software licensing, cloud computing and data storage, including operations and maintenance costs.

4.3.6 UTA will provide UDOT access to data streams in the Transit Management System (TMS) and elsewhere to determine transit vehicle schedule, on-time status, automated vehicle location, passenger load, and related data to facilitate the operation of the TSP system.

4.3.7 The Program will utilize the UDOT statewide Information Technology (IT) network to collect, store, use, analyze, process, and share the Connected Vehicle Data and System Health Data, to and from the RSE.

4.3.8 UTA authorizes UDOT to collect, store, use, analyze, process, and share data from UTA vehicles equipped with OBE. This data will be used to build messages that comprise Connected Vehicle Data and will be stored and shared in that context. Vehicle identification information will be removed from any data that is shared.

4.3.8.1 UTA authorizes UDOT to assign vehicle identifiers to specific transit vehicles and collect vehicle location data to facilitate monitoring of system use, studies of system performance or other reasons.

4.3.9 UTA agrees that UDOT is the owner of all Connected Vehicle Data, System Health Data, software, records and related features of the CVS. UDOT does not own the raw UTA data that is used to create Connected Vehicle Data.

4.3.10 UTA agrees that UTA's access to any data within the CVS is as a guest only. UTA does not possess any such data and will not make commercial use of such data.

4.3.11 UTA agrees to implement security measures to protect access to software and technical systems that UDOT makes available under this Agreement in at least as good a manner as UTA protects its own software and technical systems to protect against unauthorized access. UTA agrees that it will not transfer, destroy, or modify any software or technical systems, or modify data thereon, and it will not allow others to do so. UTA agrees that UDOT has the right to investigate any apparent breaches of security and take appropriate remedial action to prevent future security breaches.

4.4 System Security

4.4.1 Messages sent by V2X devices are secured by attaching a unique digital, security certificate to those messages. Verification of those certificates when the message is received ensures that the message is authentic, authorized, and has not been modified enroute. All messages sent within the CVDE must use certificates that are compatible and from the same source, or "root". Every RSU and OBU must be individually enrolled into a security credential management system, contain a secure key to manage certificates, be provisioned with initial certificates, and have certificates periodically replenished.

4.4.2 UDOT is responsible for the cost of enrolling, provisioning, and replenishing certificates for RSUs.

4.4.3 The entity paying for OBUs will be responsible for the cost of enrolling, provisioning, and replenishing certificates for OBUs, unless otherwise agreed by the Parties. The on-going cost of digital security certificates for OBUs is currently estimated to be $60 per year per device.

4.4.3.1 If OBUs are purchased and/or installed by entities other than UDOT, those entities will coordinate with UDOT prior to device procurement to facilitate the enrollment and provisioning of those devices. This coordination is necessary to

insure system-wide compatibility. UDOT may participate in the physical enrollment and provisioning activities.

5. Program Phases

5.1 Legacy Systems

5.1.1 Legacy Systems are elements of the CVDE that were installed prior to the execution of the contract between UDOT and Panasonic. These systems use DSRC RSUs and OBUs and do not include security certificates.

5.1.2 Legacy systems were provided and installed by UDOT using UDOT funds. OBE installed on UTA vehicles were provided by UDOT and installed jointly by UDOT and UTA.

5.1.3 UDOT is the owner of all Legacy Systems equipment. UTA will not transfer, damage, destroy, or modify any such equipment or allow others to do so, and UTA will promptly return to UDOT any equipment that is no longer in service.

5.1.3.1 For vehicles which are taken out of service permanently, refer to Section 6.1.5.

5.1.4 Legacy systems are operated and maintained by UDOT using UDOT funds, with assistance from UTA. When elements of these systems need to be replaced, UDOT is responsible for replacement.

5.1.5 The Federal Communications Commission has proposed to withdraw authority for the use of DSRC. The Parties agree that a current transition to replace DSRC is underway, and the parties have agreed on a reasonable plan for removal of such Legacy Systems and replacement with Integrated Systems. That process will continue until completed.

5.2 Initial Term Systems

5.2.1 Initial Term systems are elements of the CVDE that were installed or will be installed by Panasonic during the duration of the contract between UDOT and Panasonic. The Initial Term is currently scheduled to run through May 2024, but the duration may be extended.

5.2.1.1 UDOT will notify UTA ninety (90) days in advance of the end of the Initial Term.

5.2.2 Hardware, firmware, and software installed by Panasonic during the Initial Term, including OBE installed on UTA vehicles, are provided and installed using UDOT and federal grant funds.

5.2.2.1 Hardware which is installed by Panasonic during the Initial Term but paid for by UTA or other non-UDOT entities are considered Integrated Systems, not part of the Initial Term.

5.2.2.2 Hardware elements installed by Panasonic during the Initial Term are integrated into Cirrus.

5.2.3 UDOT is the owner of all RSE and OBE installed during the Initial Term. UTA will not transfer, damage, destroy, or modify any such equipment or allow others to do so, and UTA will promptly return to UDOT any equipment that is no longer in service. UTA receives a limited license right in the OBE to be used for the operation, implementation, and advancement of CVS for public transit purposes.

5.2.3.1 For vehicles that are taken out of service permanently, refer to Section 6.1.5.

5.2.4 Hardware, firmware, and software installed by Panasonic during the Initial Term are operated and maintained by Panasonic on behalf of UDOT. Panasonic is responsible for troubleshooting, repairs, and replacement.

5.3 Integrated Systems

5.3.1 Integrated Systems are elements of the CVDE that are or will be installed outside of the contract between UDOT and Panasonic or installed within that contract using funds provided by UTA or other non-UDOT entities, or installed after the end of the Initial Term.

5.3.1.1 When Legacy Systems elements, including RSUs and OBUs, are replaced and integrated into Cirrus, they become Integrated Systems.

5.3.2 UDOT is the owner of all RSE installed as Integrated Systems regardless of the source of funding for the RSE.

5.3.3 The Parties will determine which party will install OBE hardware based on funding sources and other individual circumstances.

5.3.4 UTA is the owner of all OBE installed as Integrated Systems when that OBE is funded by UTA or other non-UDOT funding sources. UDOT is the owner of all OBE installed as Integrated Systems when that OBE is funded by UDOT using state funds or federal funds awarded to UDOT. However, each Party receives a limited license right in the OBE owned by the other Party which may be used for operation, implementation, and advancement of CSV technology to the extent allowed under applicable licenses and other agreements.

5.3.4.1 The Parties may negotiate ownership arrangements other than those stated above when conditions warrant.

5.3.5 UTA will not transfer, damage, destroy, or modify any equipment owned by UDOT or allow others to do so, and UTA will promptly return to UDOT any such equipment that is no longer in service.

5.3.5.1 For vehicles that are taken out of service permanently, refer to Section 6.1.5.

5.3.6 Operations and Maintenance of RSE and OBE will be the responsibility of the Party that owns the equipment.

5.4 Post-Initial Term Systems

5.4.1 After the end of the Initial Term, elements that were installed during the Initial Term will become Post-Initial Term Systems. There are no elements of the CVDE that will be originally installed as Post-Initial Term Systems.

5.4.2 UDOT is the owner of all RSE in the Post-Initial Term Systems.

5.4.3 UDOT is the owner of all OBE that was installed during the Initial Term and becomes Post-Initial Term Systems until that equipment is replaced.

5.4.4 When OBE elements of Post-Initial Term Systems are replaced, they become Integrated Systems and become the property of UTA. UTA is responsible for the cost of replacement of these Post-Initial Term Systems.

5.4.5 Operations and maintenance of RSE and OBE will be the responsibility of the Party that owns the equipment.

6. Operations, Maintenance, and Training

6.1 Operations and Maintenance

6.1.1 The CVS and CVDE will be maintained by UDOT in a state of good repair.

6.1.2 Operations and Maintenance of CVS elements will be the responsibility of the Party so designated in Section 5.

6.1.3 UTA will continue to be responsible for routine operations and maintenance of UTA vehicles and non-CVS and CVDE systems.

6.1.4 UTA will promptly notify UDOT if the equipment or operations associated with this Program are malfunctioning or negatively impacting safety, communications, or non-Project operations. UTA and UDOT will coordinate on solutions to these issues. If the malfunction involves an element of the OBU procured or paid for by UTA, then UTA shall bear the costs of repair or correction for that specific element. If the element was procured and paid for by UDOT, then UDOT shall bear the cost of repair or correction. If UTA determines that an OBE device is interfering with safety-critical operations, UTA shall be allowed to immediately disconnect the OBE device and, if necessary, remove it from the vehicle and promptly notify UDOT. Any hardware not placed back in operation will be returned to UDOT.

6.1.5 In the event that a vehicle with UDOT-owned OBE, as defined in Section 5, is taken out of service permanently, UTA will remove the OBU and OBP, or contact UDOT to arrange for the removal, and will return those devices to UDOT. Antennas, cables, and other incidental devices are considered consumables and do not need to be removed.

6.2 Training

6.2.1 UDOT will provide training and support to UTA for installation, operations, and maintenance of OBE.

6.2.2 UDOT will provide training and support to UTA on the operation and use of the CVS, including the access and use of Connected Vehicle Data, System Health Data and any tools that may be developed to evaluate systems operations.

7. Terms

7.1 Existing Technical Agreements. UTA agrees that this Agreement is subordinate to the terms of agreements between the State of Utah and its technology providers, and that those agreements may change from time to time (the "Tech Agreements"). To the extent that any action or inaction by UTA results in a violation of the Tech Agreements, UTA agrees that UTA is responsible to remedy the violation as required under any Tech Agreement as a condition of continued access and use of the CVDE.

7.2 Existing Technical Policies. UTA agrees that the matters addressed in this Agreement may become subject to changing laws, UDOT policies, and Tech Agreements in the future, and that such changes may require UTA to take alternate or additional actions under this Agreement. UTA agrees to take actions that may be necessary to comply with the laws, policies, and contracts that apply to the subject matter of this Agreement (including any need to terminate this Agreement in the future) as a condition of continued access and use of the CVDE. In connection with the changes described in paragraphs 7.1 and 7.2, UDOT will provide as much notice of such a change as is reasonably possible and will meet and confer with UTA at UTA's request.

7.3 Responsibility for Costs. Unless otherwise specifically provided herein, each party shall be responsible for its own costs of any action done pursuant to this Agreement and for any financing of such costs. This Agreement does not obligate either party to expend any funds without that party's prior written consent. It is possible that UDOT may procure certain OBU components for use by UTA upon UTA's request. In that event, UDOT shall invoice UTA for the cost of the components and UTA shall reimburse UDOT within 30 days of receipt of the invoice. In general, if either party provides goods or services which are the responsibility of the other party, the receiving party shall reimburse the providing party on a cost-only basis for the goods and services (to the extent the expense was agreed to in advance).

7.4 Indemnification. UTA agree to defend, indemnify, and hold harmless UDOT and its employees, agents, and associates against any and all claims, liability, loss, damage, or expense arising from or relating to this Agreement and its implementation to the extent caused by or arising from UTA's negligent or willful acts or omissions and/or those of its

employees or agents. This provision will not be applied in conflict with the requirements of the Utah Governmental Immunity Act to the extent the Act applies.

7.5 Termination. UDOT and UTA agree to the cooperative deployment of a Connected Vehicle System (CVS) as described in this Agreement, including granting access to UTA to Connected Vehicle Data and System Health Data in the CVDE. Either party to this Agreement may terminate this Agreement in its entirety and without cause by giving ninety (90) days prior written notice to the other party. Either party also may terminate this Agreement without cause with respect to any vehicle, intersection, or other installation by giving the other party thirty (30) days prior written notice. Either Party may terminate this Agreement for cause if the other Party violates any requirement of this Agreement and fails to cure the violation, or commence actions reasonably designed to cure the violation, within thirty (30) days after receiving written notice of the violation.

7.6 Modifications. The failure of either party to insist upon strict compliance with any of the terms and conditions of this Agreement, or failure or delay by either party to exercise any rights or remedies provided in this Agreement, or by law, will not release either party from any obligations arising under this Agreement. This Agreement may not be modified except by a written document signed by an authorized individual representing each of the respective Parties.

7.7 Further Assurances. Each party to this Agreement agrees to undertake and perform all further acts that are reasonably necessary to carry out the intent and purposes of this Agreement and to obtain compliance with the laws or federal obligations that apply to either party, and either party may notify the other party of a need for such further acts.

7.8 Miscellaneous. This Agreement is binding upon and inures to the benefit of the Parties signing below, and it does not inure to the benefit of any third party. No party shall assign or transfer any rights, or delegate any duties hereunder, without the other party's prior written consent, and any such attempted assignment, transfer or delegation is void. The Parties agree to work cooperatively and in good faith, and before taking any legal action in connection with this Agreement, each party agrees to first advise the other of a dispute and meet in good faith in an effort to resolve it. If any notice is required in connection with this Agreement, each party shall send a written notice to the other party's Project Manager for this Agreement (UDOT's Transportation Technology Engineer; UTA's Director of Innovative Mobility Solutions) using a manner that can reasonably assure a timely and accurate delivery. This Agreement does not create any partnership, joint venture, or agency relationship. This Agreement constitutes the entire agreement between the Parties and supersedes any prior understandings, agreements, or representations, verbal or written.

7.9 Signatures. Each party represents that it has the authority to enter into this Agreement and has signed below by an authorized representative. This Agreement may be signed by counterparts.

7.10 Effective Date. This Agreement will become effective upon the signatures of all authorized representatives and remains in full force and effect unless terminated by either Party as outlined within Agreement.

DocuSigned by:
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8/8/2023

Lisa Zundel Date

Utah Department of Transportation – Traffic Management Division Director

_____

Nichol Bourdeaux Date

Utah Transit Authority – Chief Planning and Engagement Officer

_____

Jay Fox Date

Utah Transit Authority – Executive Director

DocuSigned by:
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8/8/2023

Mike Bell Date

Utah Transit Authority Legal Counsel – Assistant Attorney General