State Transportation Innovation Council (STIC)
STIC Business Meeting

MEETING DATE: Wednesday, July 27, 2022

TIME: 9 a.m. – 12 p.m.

LOCATION: PEMA Headquarters, 1310 Elmerton Avenue, Harrisburg, PA (remote option via Webex)

ATTENDANCE: Refer to Attendance List

Welcome and Introductory Remarks

Yassmin Gramian, P.E., Secretary of Transportation, welcomed all attendees. Secretary Gramian indicated that this meeting was the first in-person STIC Business Meeting since 2019 and complimented the STIC and Technical Advisory Group (TAG) members on their ability to continue innovating virtually over the last three years. Secretary Gramian stated that various initiatives have occurred over the last few years across PennDOT, including alternative funding strategies through planning and programming, increased opportunities for equity in multimodal services, and the adaptation of driver and vehicle services to COVID-19 closures. Within the STIC, she indicated that TAGs introduced four new innovations for development, three innovations were moved to the Advancement phase of the STIC's Innovation Development Process, and four innovations were deployed.

Secretary Gramian introduced the agenda for the meeting and thanked all the outgoing TAG Leaders for their service to the STIC. She also invited attendees to explore the STIC exhibits set up for the meeting and to visit the STIC 10th Anniversary webpage, which includes articles and podcasts about the beginning of the STIC. Secretary Gramian introduced Clint Beck, P.E., Director of Programs and Performance Management for the Federal Highway Administration (FHWA) Pennsylvania Division. Mr. Beck thanked everyone for their efforts and reflected on his history with the STIC over the last 10 years. He stated that FHWA continues its focus on moving innovation forward, including supporting the STIC and funding innovations.

Outgoing TAG Leaders

Anja Walker, of PennDOT Bureau of Innovations, recognized the outgoing TAG Leaders and expressed gratitude for their two years of service during a challenging time:

Design TAG - Rachel Duda, P.E. (PennDOT District 12)
Construction and Materials TAG - Steven Fantechi, P.E. (PennDOT District 2)
Maintenance TAG - Dean Poleti, P.E. (PennDOT District 11)
Safety and Traffic Operations TAG - Ashwin Patel, P.E. (PennDOT District 6)

The TAG Leaders who were present received a drumstick and certificate, and those who could not attend will receive them in the mail. The drumstick is symbolic of their commitment to "keep the beat" of innovation going.

Incoming TAG Leaders

Ms. Walker also introduced the new incoming TAG Leaders and Assistant TAG Leaders:

Design TAG Leader - Chris Kufro, P.E. (PennDOT District 8)
Assistant Design TAG Leader - Gerald Wertz, P.E. (PennDOT District 3)

Construction and Materials TAG Leader - Kevin Keefe, P.E. (PennDOT District 8)

Assistant Construction and Materials TAG Leader - William Beaumariage, P.E. (PennDOT District 12)

Maintenance TAG Leader - Matthew Burkett, P.E. (PennDOT District 10)
Assistant Maintenance TAG Leader - Dean Schmitt, P.E. (PennDOT Operations and Performance Office)

Safety and Traffic Operations TAG Leader - Doug Tomlinson, P.E. (PennDOT Bureau of Operations)
Assistant Safety and Traffic Operations TAG Leader - Derrick Herrmann, P.E. (PennDOT District 5)

State Transportation Funding Update

Ms. Walker introduced Melissa Batula, P.E., PennDOT Acting Executive Deputy Secretary. Deputy Secretary Batula provided an update on the state budget and plans to match $4 billion in federal highway and bridge formula funding over the next five years. The budget that was passed this year reduced the amount of funding provided to the Pennsylvania State Police through the Motor License Fund for the fiscal years (FY) 2021-2022 and 2022-2023 to $500 million. This will allow more of the Motor License Fund to be used to match federal formula funding throughout the life of the Infrastructure Investment and Jobs Act (or Bipartisan Infrastructure Law – BIL).

Deputy Secretary Batula also discussed the status of the Major Bridge Public-Private Partnership (P3) Initiative, which originally proposed the use of tolls to pay for repairs or replacements of nine major bridges. Bill 382, now known as Act 84, was enacted, and it structurally changed the P3 law to allow user fees to be charged in managed lanes that are optional for drivers. Thus, tolling could be implemented when new lanes are constructed for additional capacity. The planned revenues for the Major Bridge P3 Initiative must change, but the project can still move forward under the P3 model. PennDOT is exploring funding options for the initiative that can minimize impacts to existing and future programs.

Deputy Secretary Batula also congratulated the STIC on its 10 years of innovation.

FHWA Update

Ms. Walker introduced Yathi Yatheepan, P.E., FHWA Innovation and Research Coordinator, to provide FHWA updates. Mr. Yatheepan congratulated PennDOT and the STIC on its accomplishments over the last 10 years. He stated that the Every Day Counts Round 7 (EDC-7) list is currently under final review and will be released soon. EDC-7 will start in January 2023. The due date for EDC-6 reports is July 29, 2022. Mr. Yatheepan also provided information on discretionary grant programs. This includes the FHWA Climate Challenge, which is funded by the Technology and Innovation Deployment Program through the FHWA Center for Accelerating Innovation. Municipalities and other organizations can apply for these funds, but they must go through the STIC. Other grant programs established through the BIL that are currently open include the Bridge Investment Program, Reconnecting Communities Pilot Program, and Safe Streets and Roads for All (SS4A) Grant Program.

2022 STIC Incentive Program Funding Recipients

Ms. Walker provided an update on the 2022 STIC Incentive Program and the two projects that were selected. One of the selected projects is the Temporary Pavement Marking System. Awarded $30,000, this system automates the process of placing flexible chip seal markers and temporary hard markers on the roadway. The other selected project was the RFID Tags Test Usage, which was awarded $70,000 to expand the planned pilot study. The RFID Tags can be used in a variety of ways to provide easily accessible information about transportation assets.

STIC Incentive Program Update: Augmented Reality in Transportation

Ms. Walker introduced Kelly Barber, P.E., PennDOT Bureau of Construction and Materials, to provide an update on a project funded through the 2020 STIC Incentive Program – Augmented Reality in Transportation. Ms. Barber indicated that augmented reality can be defined as a system that incorporates three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects. Five technologies are currently under review by PennDOT, including Imajion Project xR, AMA Xpert Eye, Trimble Site Vision, Reconstruct, and Datumate.

Imajion Project xR is a holographic lens, associated with a hardhat and worn by field staff, that connects field staff to other staff in the office. Office staff can see the project through the holographic lens and can interact with the field staff remotely. Field staff can view construction plans and other documents through the holographic lens. It can accommodate collaboration between multiple staff who may not be able to be on site, and the ability to use 3D modeling with the technology is being developed. Imajion Project xR has been tested during construction inspections, bridge inspections, and materials testing. AMA Xpert Eye is another wearable AR device, and it was utilized during the I-95 Betsy Ross Bridge Project for remote structural steel fabrication inspections. A pilot project is planned with District 11, and another device will be used by the PennDOT Laboratory Testing Section and the Structural Materials Section. The AMA Xpert Eye has similar functions to the Imajion Project xR.

Trimble Site Vision uses a handheld device to provide a 3D model in the field, which allows staff to walk the project prior to construction. Another technology, Reconstruct, allows for visual inspection, measurement, and mark up of drone imagery. The technology can document change over time and be tied into the project schedule. It is being piloted by District 11. Datumate utilizes drone imagery as well and can digitize field information. The company behind Datumate also has another product, DatuBIM, which focuses on construction analytics. Datumate is being piloted by District 11 on the Freedom Road Upgrade Project. Ms. Barber stated that pilot teams are continuing to evaluate the technologies and develop recommendations, and PennDOT is getting perspectives from private industry and FHWA.

Ms. Walker asked Ms. Barber if multiple technologies will ultimately be selected for wider use. Ms. Barber answered that multiple technologies will likely be selected, and early testing has shown that Reconstruct may be better for structural projects and Datumate may be better for earthwork projects. Further testing of these technologies is being conducted to determine the optimal ways to utilize them.

Digital As-Builts and Digital Delivery Directive 2025

Ms. Walker introduced Allen Melley, P.E., Chief of the PennDOT Digital Delivery Section, to discuss updates on the Digital Delivery Directive 2025 (3D2025) initiative. This digital transformation initiative aims to transition PennDOT from 2D plan sheets to 3D models. Mr. Melley defined digital delivery as building deliverables that are human-readable and machine-readable at the same time. The goal is to use digital data throughout the project lifecycle. Furthermore, digital delivery offers new ways to view, understand, and use project design data in the field and to capture as-built asset information. Digital delivery improves design quality, which reduces risk and project cost and increases construction efficiency. It also improves as-built records.

PennDOT's vision is that by 2025, construction projects will be bid using 3D technology instead of a traditional construction plan format. Even if a project is not suited for 3D models, the intent is for data to still be transferred digitally. A Five-Year Strategic Implementation Plan was developed by working with a variety of stakeholders, including internal staff, private industry, and sister agencies. PennDOT is currently reviewing existing processes, assessing current technology capabilities, planning deployment of software, and providing guidelines and training. Out of the Strategic Implementation Plan, a roadmap was created to lay out the steps needed to reach digital delivery by 2025. The roadmap started with Guiderail Digital As-Builts and a Single Project PDF, which is currently being implemented, and evolves to roadway modeling (2022-23), bridge modeling (2023-24), and drainage modeling (2024-2025), to reach the goal of digital delivery implementation by 2025. Mr. Melley stated that one of the keys to success is managing the pace of change, as well as empowering and getting feedback from pilot project teams.

The pilot study for Digital As-Builts focused on guiderail. Installation and manufacturer information, GPS coordinates, and GIS attributes were collected for the asset and imported into PennDOT maintenance databases. Six pilot projects statewide were rolled out using Digital As-Builts, and three of the projects were completed and three projects were delayed. The Single Project PDF pilot study was implemented as a step towards moving away from individual plan sheets. It allows plans to be viewed as layers on a single PDF, and it can be read on a mobile device. Three projects are in the Single Project PDF pilot study, and feedback has been positive.

A pilot study for Existing Ground Confidence Level is being conducted as well, and it seeks to augment existing ground survey accuracy and provide a greater density of point cloud data. Three pilot projects are being conducted statewide, and 3D models are being used as the legal document for earthwork and pavement structures. Cross-sections will be eliminated. Furthermore, a pilot study for bridge authoring is being conducted, and within the study each bridge will be modelled to the maximum extent possible for three pilot projects. Pilot projects will deliver 3D bridge models as the legal document for construction bidding, and these projects will be let in 2023 and 2024. A pilot study for drainage authoring is also being conducted, and drainage and subsurface utility modeling will be used to detect conflicts and eliminate the need for cross-sections. Six pilot projects are being conducted statewide for drainage authoring and are scheduled for letting in 2024.

Mr. Eric Donnell, Ph.D., Penn State University, asked if this new data would be made available for research purposes and if it would be linkable to other existing systems, such as traffic and crash monitoring systems. Mr. Melley stated that in the future much of this digital data would indeed be made available for research purposes and linkable to other systems.

STIC Innovation Update: Lane Reservation System

Ms. Walker introduced Doug Tomlinson, P.E., PennDOT Chief of Highway Safety and Traffic Operations, and the Safety and Traffic Operations TAG Leader, to discuss the Lane Reservation System innovation. Mr. Tomlinson identified the large number of work zones in Pennsylvania that can overwhelm Traffic Management Centers, demonstrating the need for a Lane Reservation System. Additionally, when work zones are implemented during peak traffic times, it can cause traffic backup, congestion, and secondary crashes. This represents a significant cost to the traveling public. The goals of the Lane Reservation System are to reduce work zone conflicts, reduce work zone congestion, improve work zone safety, and to improve traveler information. The Lane Reservation System can be compared to a restaurant reservation system, such as OpenTable. Users of the system looking for a reservation at a peak time in a popular restaurant, or a congested roadway, will often find that none are available. PennDOT originally planned to work with partners, such as the Pennsylvania and Ohio Turnpikes, on the system, partially funded by an Advanced Transportation and Congestion Management Technologies Deployment federal grant. However, due to impacts from COVID-19, PennDOT had to move forward with the system alone.

Mr. Tomlinson stated that the Lane Reservation System will combine components from other states. The system will also be built on top of the existing command-and-control software used by PennDOT's Traffic Management Centers. Conflict monitoring is an important feature of the Lane Reservation System that cannot be accomplished with existing systems. The Lane Reservation System will be able to identify the effects of different types of work zones at various days of the week and times of the days as well. Additionally, information from the Lane Reservation System will be shared with research entities, connected/automated vehicle companies, and third-party data providers.

Working groups with internal staff and meetings with external partners are being conducted to develop the system. Mr. Tomlinson said the goal is to establish a concept of operations and the Lane Reservation System's functional requirements by September 2022. The proposed deployment timeline includes design, development, and testing during the winter of 2022-2023 to prepare for the event management or "initial phase" of the Lane Reservation System in spring 2023. This "initial phase" of the system will replace some aspects of the existing Road Condition Reporting System (RCRS). A limited access version of the Lane Reservation System is planned for release in spring 2024.

Mr. Stan Caldwell, Carnegie Mellon University, asked whether the system will include non-state roads in the future. Mr. Ryan McNary, PennDOT Bureau of Operations, and project lead for the Lane Reservation System, answered that the first phase of the system will be for state routes, but the system will be built using OpenStreetMap to allow use for local roads in the future. He indicated that the concept of the system should allow all roadway managers in Pennsylvania to use it, as that will provide the Lane Reservation System and PennDOT with better information for decision-making. Mr. Todd Morris, Pennoni, asked whether the Lane Reservation System will use real-time traffic data from third-party mobile navigation applications. Mr. Tomlinson stated that the system is based on some of this technology, and the system will share information with these third-party applications. Ms. Walker asked if local municipalities are involved in the development of the Lane Reservation System. Mr. McNary stated that planning partners are involved now and that local municipalities will

be included later in the development process.

National Electric Vehicle Infrastructure Formula Program State Plan

Ms. Walker introduced Natasha Fackler, PennDOT's Infrastructure Investment Coordinator, to present on Pennsylvania's National Electric Vehicle Infrastructure (NEVI) Program Plan. Ms. Fackler demonstrated that the number of electric and hybrid vehicle registered within Pennsylvania are increasing rapidly, with the number of electric vehicle (EV) registrations tripling between March 2019 and July 2022. The NEVI Program Plan focuses on plug-in hybrids and battery powered vehicles that benefit from electric charging stations. Currently, there are over 2,800 public plugs at 1,200 locations across Pennsylvania.

Ms. Fackler stated that there are various benefits to EVs, including decreased operating costs, improved air quality, an absence of direct greenhouse gas emissions, decreased noise pollution, and the creation of new jobs in clean energy industries. The federal government is encouraging EV usage, and federal funding is available for EV charging infrastructure on the National Highway System. Furthermore, NEVI was funded through the BIL and provides Pennsylvania with $171.5 million over the next five years for EV infrastructure. The funds are to be administered by PennDOT, but first, Pennsylvania must submit a NEVI State Plan. The NEVI State Plan was due Aug. 1, 2022, and has since been published on PennDOT's website. The plan will be updated annually, with the current plan supporting allocation of federal funds for federal FY 2022 and 2023. The federal goal of the NEVI Formula Program is to create a consistent EV charging network (or alternative fuel corridor – AFC) across all 50 states, promoting interstate travel.

Three types of EV charging stations are commonplace: AC Level One, AC Level Two, and DC Fast Charge. AC Level One is characterized by a typical overnight residential charger, and they have the smallest voltage and the slowest charging time (3-5 miles of range per hour). AC Level Two are becoming more common at public places and have a quicker charging time (10-20 miles of range per hour). However, NEVI funds focus on DC Fast Charge capabilities, which accommodate the quickest charging time (80% in 20-30 minutes). Chargers qualifying for the AFC must be DC Fast Charging, publicly accessible by any type of EV, have four ports, and be within one mile of a highway and 50 miles of the next charging station. PennDOT has nominated all interstates and portions of U.S. 30, U.S. 15, Route 1, and Route 422 as an AFC. According to Ms. Fackler, PennDOT's priorities for the NEVI formula funds include building out the AFC network, ensuring charging capacity and redundancy on the AFC network, and expanding charging to other non-interstate routes that may not be designated AFCs and may serve disadvantaged communities or as emergency routes. PennDOT also aims to provide mobile charging or towing services, charging at key public destinations, charging at mobility hubs, and charging infrastructure to support heavy or medium-duty freight movement. Many of these priorities will require formal federal designation of AFC "build-out" before funds can be applied.

During preparation of the NEVI State Plan, Ms. Fackler indicated that public feedback was considered with surveys that received more than 4,400 responses. Public feedback resulted in changes to the plan, such as inclusion of a new goal to address environmental benefits and consider multiple modes of transportation for electrification. Twelve stakeholder sessions were also held with various groups, including EV charging companies, utility companies, labor and workforce groups, organizations focused on equity and inclusion, food merchants, and hospitality companies. The NEVI Plan will require continued engagement and outreach. The federal government will review the submitted NEVI State Plan and approve it by Sept. 30, 2022. Once the federal government approves the plan, PennDOT must have a process to evaluate and manage the use of the NEVI funds. The funds will be allocated through a competitive grant program initially focused on designated AFCs. The infrastructure will not be placed within PennDOT right-of-way, and PennDOT will not own the EV charging infrastructure.

Mr. Karl Singleton, City of Harrisburg, asked a question about potential funding for EV-related job training programs and opportunities for equity and inclusion in EV career paths. Ms. Fackler responded that workforce training is an allowable expense with NEVI funds, and the funds can be used to build up the EV workforce in Pennsylvania and provide safety training. No specific parameters or percentages on equity and inclusion are required for workforce training.

Mr. Caldwell asked if analysis was conducted regarding the demand for EV charging and whether those needs will be met. Ms. Fackler responded that PennDOT is tracking registration of EVs and will continue to conduct analysis on this issue. Deputy Secretary Batula added that the goal of the NEVI funds is to build an initial foundation for EV charging that will allow market forces to continue expanding EV infrastructure over time.

Mr. Tomlinson asked whether the public would need to pay for charging at these EV charging stations, and Ms. Fackler stated that the infrastructure will be operated by a third-party vendor, and the public will pay to charge at the EV charging stations.

Mr. Beck asked if there will be any restriction or preference on how electricity is supplied to these EV chargers, such as a preference for renewable energy sources. Ms. Fackler responded that renewable energy sources will be part of the criteria evaluated in grant applications.

Communications Update

Ms. Walker reminded everyone that the STIC is celebrating its 10th anniversary, and the STIC website links articles and the podcast series commemorating the event. The podcast series centers around the origins of the STIC and includes interviews with former PennDOT Secretary Barry Schoch, former FHWA Pennsylvania Division Administrator Renee Sigel, Karyn Vandervoort and Clint Beck from FHWA, and Michael Bonini from PennDOT. Ms. Walker also encouraged attendees to sign up for the STIC innovation newsletter, where the STIC shares regular updates on innovations.

Additionally, Ms. Walker informed attendees that the 2022 Build a Better Mousetrap Pennsylvania winner was the Sidewinder from South Manheim Township, Schuylkill County. The Sidewinder was a 2022 National Local Technical Assistance Program (LTAP) winner in the Innovation category as well. The Sidewinder preserves materials, saves time, and creates a more consistent fill along berms. The Build a Better Mousetrap Competition is held annually to recognize innovative inventions and improvements.

Ms. Walker shared a pre-recorded message from former Pennsylvania Secretary of Transportation, Barry Schoch. Mr. Schoch congratulated the STIC on its 10th anniversary and commended the STIC on its ability to communicate and drive innovation. Mr. Schoch also said the STIC played a role in improving the economies of investing in transportation, user safety, and roadway conditions. Mr. Schoch thanked everyone for their time and efforts.

STIC 10th Anniversary Innovation Highlights

Ms. Walker introduced Sam Gregory, an LTAP Technical Advisor, for a presentation on a past innovation that was deployed through the STIC, the Salt and Snow Management Course. Mr. Gregory stated that the Salt and Snow Management Course was developed in 2015 by LTAP, in conjunction with PennDOT and the STIC, using FHWA FY2015 STIC Incentive Program funding. The course replaced the LTAP Winter Maintenance Course. The goals of the course were to provide municipalities training on efficient and effective winter operations and on national and PennDOT best practices for salt applications. The original LTAP Winter Maintenance Course needed updates to address new technology and processes. This new course has been provided in all areas of the state and is the most requested LTAP maintenance course. Additionally, the course has worked well to train new maintenance staff after periods of high turnover in the field. Positive results of the course have been evident in an increase in anti-icing practices and use of pre-wetting material by municipalities and a reduction in salt usage. These new practices save money and improve service levels.

Ms. Walker introduced Kristin Langer, P.E., PennDOT Assistant Chief Bridge Engineer, and G. Randy Albert, P.E., District 2 Municipal Services Engineer, to present on Geosynthetic Reinforced Soil – Integrated Bridge Systems (GRS-IBS). Ms. Langer and Mr. Albert stated that the first bridge utilizing GRS-IBS was constructed in 2011 by Huston Township. GRS-IBS involves geosynthetic reinforced soil, which is comprised of layers of compacted soil and geotextile with a concrete masonry facing unit, above a reinforced soil foundation. Bridge beams and the GRS approach are placed on top of this. GRS-IBS can be constructed in 30 to 60 days at a reduced cost compared to traditional methods. A total of 36 GRS-IBS projects have been

constructed statewide, including 17 state-owned bridges. FHWA STIC Incentive Program funding was received to further the GRS-IBS innovation in 2017 and 2018. That funding was used to contract with Penn State University to research and provide recommendations to PennDOT on the current specification for GRS-IBS and how to improve or upgrade them. Penn State explored current published data and other state's specifications. Based on Penn State's recommendations, Ms. Langer and Mr. Albert proposed an annual daily traffic limit of 2,000 vehicles per day, a stream velocity limit of 15 feet/second, and a span length limit of 100 feet for GRS-IBS usage. They were not comfortable suggesting use of GRS-IBS for overpass structures in Pennsylvania yet.

Ms. Walker introduced Jason Hershock, P.E., Manager of the PennDOT Safety Engineering and Risk Management Unit, to present on High Friction Surface Treatments (HFST). The need for HFST stems from the 206,618 lane departure crashes in Pennsylvania between 2014 and 2018, which have resulted in 3,177 fatalities. HFST can be applied to an existing pavement surface, typically at roadway curves, to reduce the number of wet pavement and lane departure crashes. For HFST to be applied, the pavement must be structurally sound. The application of HFST takes about two to four hours per lane. Application involves cleaning the roadway of debris and applying a resin binder, followed by laying down a fine aggregate with a high friction coefficient. Locations are selected for HFST based on crash clusters and skid testing, and the unit cost is about $36.29/square yard. This has resulted in an average installation cost of $65,530 per location. A standard specification has been developed for application of HFST (PennDOT Pub 408 Section 659). Mr. Hershock indicated that HFST has been applied at more than 600 locations in Pennsylvania. It is relatively easy to contract for a project, and HFST can be applied around utilities and railroad crossings. HFST resulted in a benefit to cost ratio of 5.50:1 for all crashes based on 2017 crash costs. PennDOT is currently contracting with Penn State to evaluate the application of HFST at 350 locations.

Ms. Walker closed the meeting by sharing a prerecorded message from Sara Lowry, the FHWA STIC Program Coordinator. Ms. Lowry praised the work of the TAGs and communications team for the Pennsylvania STIC. Pennsylvania serves as a model of innovation for other states. Pennsylvania has actively pursued STIC Incentive Program funding since 2014 and has advanced about 13 innovations with the use of $740,000 in STIC funding. Ms. Lowry commended the STIC's efforts over the last decade, like its development of an Unmanned Aerial Systems (UAS) Strategic Plan and the expansion of drone usage to conduct bridge inspections, roadway incident management, and disaster response assistance.

The meeting adjourned at approximately 12 p.m.

The next STIC Business Meeting will be held on Nov. 16, 2022.

Attendance List

STIC Members in Attendance:

- Secretary Yassmin Gramian, P.E., PennDOT
- Aaron Hoover, APC
- Eric Donnell, Ph.D., Penn State
- Stan Caldwell, Carnegie Mellon University
- Melissa Gates, CCAP
- Susan Armstrong, PACA
- Karl Singleton, City of Harrisburg
- Carrie Fischer, MEng, P.E., WTS
- John Becker, P.E., ACPA
- Ronald Seybert, Jr., P.E., APWA
- Katie Lizza, PSATS
- Brad Heigel, P.E., PTC
- Mike Davidson, P.E., MASITE
- Joseph Szczur, P.E., Univ. of Pittsburgh (Remote)
- Nicholas Burdette, P.E., ACEC/PA (Remote)
- Bert Lahrman, DVRPC (Remote)
- John Caperilla, ASHE (Remote)
- Rodney Bender, P.E., PUC (Remote)
- Domenic Rocco, P.E., DEP (Remote)

PennDOT Leadership:

- Melissa Batula, P.E., Acting Executive Deputy Secretary
- Larry Shifflet, Deputy Secretary for Planning
- Eric High, P.E., District Executive, District 3
- Chris Kufro, P.E, District Executive, District 8
- Tom Prestash, P.E., District Executive, District 9
  Cheryl Moon-Sirianni, P.E., District Executive, District 11 (Remote)

FHWA Leadership:

- Clint Beck, P.E., Director of Programs and Performance Management
- Yathi Yatheepan, P.E., Pavement and Materials Engineer/Research and Innovation Coordinator

Absent STIC Members:

- Division Administrator Alicia Nolan, FHWA
- Ed Troxell, PSAB
- John Gibble, Army Corps of Engineers
- Amy Sturges, PA Municipal League
- John-Thomas Graupensperger, PAEP
- John Shutsa, Jr., PAAMA
- Michael Boyer, DVRPC
- John Kibblehouse, PAPA
- Mark Compton, PTC
- Andrea MacDonald, PHMC
- Alfred Uzokwe, P.E., DCNR

Follow-Up Tasks

	Item	Lead	Due Date	Status
No follow-up tasks were identified.				