# *Quarterly Progress Report (QPR)*

# *Applications of Enterprise GIS in Transportation*

**Progress Report for Quarter 10 [Jan 1st, 2022 – Mar 31st, 2022]**

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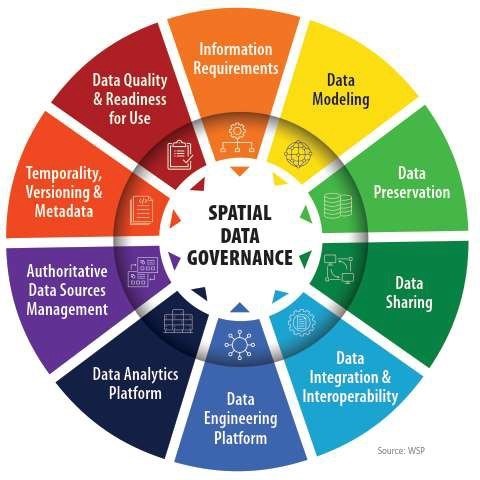
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Description automatically generatedWSP Technical Lead: Abhishek Bhargava (abhishek.bhargava@wsp.com)

Background

The Pooled Fund Study (PFS) on Applications of Enterprise GIS in Transportation (AEGIST) was initiated by FHWA in 2018. During Phase 1 of this study, a guidebook was developed for transportation agencies in the United States, with the primary objective of documenting guidance on how spatial and linear referenced data should be managed by States. Phase 2 of this PFS was initiated in October 2019. This phase will span over 5 years (October 2019 – September 2024), during which the objectives outlined below would be accomplished.

Objectives

* Establish a standard for managing and governing data in spatial and linear referencing systems at transportation agencies, including but not limited to routes, intersections, interchanges, roundabouts, road segments, roadway characteristics, infrastructure assets, model inventory of roadway elements (MIRE), HPMS data items and ARNOLD road network.
* Develop guidance for States for modeling spatial transportation data, especially linear referencing system (LRS) data. Importing, exporting & conflating road network and roadway characteristics data across DOT LRS and Federal, State and Local data systems.
* Conduct a series of webinars, workshops, peer exchange meetings and provide consulting services to the States participating in the pooled fund to develop national standards in data modeling and management; enhance existing enterprise GIS systems at these agencies.
* Update the AEGIST Guidebook that was prepared in Phase 1 by documenting best practices, patterns, and similarities across agencies in managing spatial data using enterprise data systems, including but not limited to Asset Management Systems, Traffic and Safety Systems, Project Planning and Programming Systems, Design and Construction Systems, and GIS and Linear Referencing Systems (LRS).
* Collaborate with States to enhance and develop spatial data management systems, processes, platforms to establish a structured and systematic approach for management of spatial data. This would involve establishing spatial data governance systems, business rules, applications, tools and platforms for:
  + Spatial Data Modeling
  + Spatial Data Integration and Engineering
  + Spatial Data Analytics

Completion Status and Summary

Project Time Frame: October 1, 2019 to September 30, 2024

Total Time, months: 60

Time Expended, months: 30

Percent Calendar Time Expended: 50%

Percent Complete for Tasks & Sub-Tasks:

|  |  |  |
| --- | --- | --- |
| **Base Period of Performance** | | |
| **Tasks** | **Sub-Tasks** | **Percent Complete** |
| Task 1: Project Management | 1.  Quarterly Meetings & Technical Tasks Planning | **100%** |
| 2.  Monthly and Quarterly Status Reports |
| Task 2: Technical Services | 1.   Connecticut - **54%** | **53%** |
| 2.   Idaho - **62%** |
| 3.   Tennessee - **62%** |
| 4. California - **46%** |
| 5. Pennsylvania - **38%** |
| 6. Ohio - **38%** |
| Cross-Agency Activities: Guidebook Development – **67%** |  |
| Task 3: Workshops, Webinars, Presentations | 1. Webinar: Data Governance 2. Workshops: GIS-T 2021 3. Presentations 2020 and 2021 4. Flyers, Events Site | **100%** |
| Task 4: Member State Meetings | 1.  Member State Meeting 1 – 2019  2. Member State Meeting 2 – 2020 | **100%** |
| Task 5: HPMS 9.0 Recommendations | Road Network Data Architecture  Data Modeling Standards, Use Cases, Topology | **100%** |

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| --- | --- | --- |
| **Performance Period 1** | | |
| **Tasks** | **Sub-Tasks** | **Percent Complete** |
| Task 1: Project Management | 1.  Quarterly Meetings & Technical Tasks Planning | **42%** |
| 2.  Quarterly Status Reports |
| Task 2: Technical Services | 1.   New Mexico – **0%** | **4%** |
| 2.   Washington – **0%** |
| 3.   Florida – **0%** |
| 4. North Carolina – **10%** |
| 5. Kansas – **10%** |
| Cross-Agency Activities: Guidebook Development - 0**%** |
| Task 3: Workshops, Webinars, Presentations | 1. Workshops: GIS-T 2022 and GIS-T-2023 2. Presentations 2022 and 2023 3. Flyers, Events Site Updates | **0%** |
| Task 4: Member State Meetings | 1.  Member State Meeting 1 – 2022  2. Member State Meeting 2 – 2023 | **0%** |

Work Accomplished This Reporting Period: Jan – Mar, 2022

**Task 1: Project Management**

**Task Objective**: Perform project management activities, which include conducting monthly status meetings, developing quarterly status reports, creating project work plan, managing project resources, schedule, deliverables and communication with all stakeholders.

**Activities**:

1. Prepared and delivered AEGIST Quarterly Report #9 for the period Oct – Dec, 2021.
2. Conducted quarterly meeting with PFS States on March 17, 2021 to share updates on AEGIST activities.
3. Technical services discussions held with following PFS States: Tennessee, California, Pennsylvania, Ohio, North Carolina, Kansas. Updated technical services plan based on the backlog grooming and sprint planning discussions.

**Task 2: Technical Services**

**Task Objective:** Provide technical services to PFS States by completing various agency-specific and cross-agency activities identified in the work plan.

**Activities**:

1. **Tennessee** 
   * Task 2.TN.1:Updated the Strategic Roadmap document, particularly the sections on road network data modeling using data from authoritative data sources. Also updated section on publishing the road network data model to enterprise and the section on Design to GIS data migration.
   * Task 2.TN.2:Reviewed the scope of this task and discussed BIM-GIS data exchange process.
2. **California:** Provided technical services for following task:
   * Task 2.CA.1: Updated following data and application architecture report with following information about the California Roads Data Sharing (CaRS) program.
     + Chapter 1: Updated information about benefits of CaRS Program to local agencies
     + Chapter 2: Edited the CaRS program charter and gathered comments from Caltrans, Merced
     + Chapter 4: Executed geoprocessing tools to compare Merced and Caltrans Roads datasets.
     + Chapter 5: Researched and developed application architecture options for CaRS execution
3. **Pennsylvania:** Provided technical services related to following tasks:
   * Task 2.PA.1: AEGIST work planning. Discussed/updated scope of following activities:
     + 2.PA.6: PennDOT Digital Delivery Plan. As part of scope development, identified opportunities for AEGIST support for the year 2022 based on PennDOTs 5-year strategic Digital Delivery plan.
     + 2.PA.12: Discussed next steps for Data governance system implementation, and documented recommended activities in scope document for review and approval by stakeholders
   * Task 2.PA.6 : BIM Digital Delivery – Conducted pilot to establish how data would be migrated from design to GIS-based road information systems
   * Task 2.PA.7: Speed Limit Data extraction from PDF and Excel files using Artificial Intelligence and Natural Language Processing techniques.
   * Task 2.PA.10: State and Local Roads Data Modeling – Submitted agenda to host workshop for PennDOT and NG911 Roads Data modeling and integration. Reviewed documentation and implementation of PEMA GIS Data Hub for NG911. Reviewed data modeling rules alignment in NG911 and Pennsylvania Roads manual. Discussed data management and collaboration portal for road centerlines data management and governance at the Statewide level.
   * Task 2.PA.12: Data Governance System setup at Pennsylvania DOT – Developed data portfolio, applications portfolio, data dictionary and provided recommendations on next steps.
   * LRS Capability/Administration Levels
4. **Ohio**
   * Task 2.OH.2: Continued development of strategic roadmap. Updated activities associated with:
     + 2.OH.1.1: HPMS, MIRE and ARNOLD – Developed Administration levels for Road Centerlines Management.
     + 2.OH.1.8: LRS Data Architecture Management & Administration Workflows – Development Administration Levels for LRS Database architecture administration
     + 2.OH.1.4: Roadway Inventory: Bike lanes, Turn lanes, Conflation of Assets to LRS/GIS – Researched industry practices in management of Bike lanes, Turn lanes,
     + 2.OH.1.6: BIM Design and Construction Data to Asset Management (As-Builts Handoff) – Conducted pilot to investigate how design data can be migrated from design system to linear referencing system.

Conducted monthly end-of-sprint meetings with ODOT team to review updates to strategic roadmap and discuss the technical activities in the roadmap.

1. **North Carolina**
   * Task 2.NC.1: Performed following Intersection model development activities
     + Updated code to create nodes and edges (Road Segments) from NCDOT ALRS Routes data.
     + Updated code for creating intersection points from the junctions data
     + Added MIRE data fields to Road segments (edges) and Intersection point feature classes.
     + Reviewed updates coming in Esri Roads and Highways v3.0 to align geoprocessing tools for intersection model development with latest software features that will be available to be NC upon upgrade
2. **Kansas**
   * Task 2.KS.1: Performed following Intersection modeling activities
     + Migrated the code updates made for NC Intersection modeling to Kansas development environment for development of nodes, edges and intersection features. Utilized updated code to Recreated Nodes and Edges (Road Segments) from Kansas LRS Routes data, Kansas NG911 data
     + Reviewed rules for modeling of Intersection Legs automatically using the location of intersection features such as crosswalks, junctions.
   * Task 2.KS.3: Added new task to scope. This task involves calculating intersection AADT data for each of the intersection legs using the AADT and Intersection Manager feature classes in the Kansas ALRS database.

**Task 3: Marketing and Communication**

**Task Objective:** Webinars and Workshops will be held, and Articles will be presented in conferences and other industry forums to communicate information about the activities of the project, especially the technical work products developed as part of the project.

**Activities**:

1. **Task 3.1.x – AEGIST Articles**
   * **Task 3.1.1 - Article 1**: Updated article by adding information about the various authoritative data sources that can be used to build the topological road network data model for publication.
   * **Task 3.1.4 - Article 4:** Added information on Pennsylvania and California pilots to this article on **“***Enterprise GIS Application for**Modeling and Conflating Federal Lands Management Agency, DOT LRS and Local Agency Roads data*
   * **Task 3.1.5 - Article 5:** Added information on **“***LRS Administration Levels and Maturity Model”*. Developed preliminary draft of administration levels for road centerline administration activities. Presented draft set of administration levels at AEGIST Quarterly meeting in March 2022.
2. **Task 3.2.x – AEGIST Workshops & Presentations**
   * **Task 3.2.3:** GIS-T Workshop 2022 Planning and Presentation preparation in coordination with Bentley, Esri and Rizing Geospatial.
   * **Task 3.2.4: AEGIST Presentations (2022):** Prepare and deliver presentations; or submit presentation abstracts for
     + Provided an update on AEGIST Activities at TRB on Jan 11th (at the conference) and on Jan 25th (virtually), at the TRB AED40 committee meeting.
     + On Jan 13th 2022, delivered presentation at TRB 2022 on: Highway Safety Analysis using MIRE Compliant Intersection and Road Segment Data Modeling, using the content developed for AEGIST Article 2 on ***“****Enterprise GIS Application for Spatial Safety Performance Functions Calibration and HSM-based Safety Analysis”.*
     + On Feb 1st, 2022, presented AEGIST Technical Services activities being conducted for PFS States to FHWA Mobility Data Plan team.
     + On March 31st, 2022, presented AEGIST Road Network data model for MIRE Compliance and Highway Safety Analysis, for FHWA Office of Safety.
     + Prepared One-Page Flyer and presentation deck for Gloria Shepherd to reflect how AEGIST helps various stakeholders at State DOTs and how investment in AEGIST helps FHWA assist State DOTs in deploying enterprise GIS applications.

Work Planned for Next Reporting Period: April – Jun 2022

**Task 1: Project Management**

**Task Objective**: Perform project management activities, which include conducting monthly status meetings, developing quarterly status reports, creating project work plan, managing project resources, schedule, deliverables and communication with all stakeholders.

**Activities**:

1. Prepare and deliver AEGIST Quarterly Report #10 for the period Jan – Mar, 2022.
2. Task management meetings held with following PFS States: Idaho, California, Tennessee, Pennsylvania, Ohio, Connecticut, North Carolina, Kansas, New Mexico, Florida. Update technical services plan document based on backlog grooming and sprint planning activities with each of the participating States.
3. Prepare for PFS States quarterly meeting in June/July 2022.
4. Update AEGIST website <https://gisintransportation.com/> to publish events and AEGIST presentation material.

**Task 2: Technical Services**

**Task Objective:** Provide technical services associated to PFS States by completing various agency-specific and cross-agency activities identified in the work plan.

**Activities**:

1. **Connecticut** 
   * Task 2.CT.1: Update FME workspace by grouping the transformers and adding comment for other developers to understand how the workspace is organized. Re-share FME workspace with CT and request new/updated data for testing FME workspace that was developed for data QA/QC. Review results of FME workspace testing.
2. **Idaho**
   * Task 2.ID.1: Plan technical services work to be accomplished for Idaho during Base Period and Performance Period 1. Idaho has added additional funding for technical services. Review how this funding will be distributed towards activities that will be completed in each of the performance periods. Prepare plan and scope of work for each of the performance periods.
   * Task 2.ID.2: Review Data Governance framework developed and work accomplished. Create road network data governance roadmap.
   * Task 2.ID.3: Update and validate approach for roads data conflation process as well as the geoprocessing tool for Idaho LRS and Federal Lands data conflation.
3. **Tennessee**
   * Task 2.TN.1: Review and update TDOT Strategic Plan document, by adding roadmap activities associated with BIM deployment and Design-GIS data exchange.
   * Task 2.TN.2:Execute following activities as part of Design-GIS data exchange pilot
     + Develop a design test file using Bentley Open Roads Designer v10.10 (ORD)
     + Review Bentley ORD workspace configuration and compare with TDOTs GIS/LRS system configuration
     + Coordinate with Bentley and Esri to determine which software version and features will be key to successful migration of design data to GIS (ArcGIS Pro).
4. **California**
   * Task 2.CA.1: Continue development of data and application architecture document as follows:
     + Chapter 1: Update scope of CaRS Project, taking into consideration additional services hours requested from Caltrans.
     + Chapter 2: CARS Charter: Setup discussion between Caltrans and Merced to discuss roles, responsibilities of personnel in All Roads Working Group (ARWG)
     + Chapter 4: Add data quality assessment results from 1Integrate. Review 1Integrate data assessment results to determine how Caltrans and Merced roads data will be conflated
5. **Pennsylvania**
   * Task 2.PA.1: Technical Services Planning - Identify the activities that will be in scope vs. ones that will not be in scope (deferred scope) for the AEGIST technical services to PennDOT.
   * Task 2.PA.6: BIM-GIS Data Exchange Pilot to support PennDOT Digital Delivery Plan - Prepare and update scope of BIM-GIS data exchange pilot for review by PennDOT Digital Delivery team.
   * Task 2.PA.7: Speed Limit Data Modeling & Quality using Routes, Signs, Curves Data & Spatial Rules

Extract data from PDF and excel documents and integrate it with PennDOT RMS road segments feature class to develop a geospatial roads data model.

* + Task 2.PA.10: NG-911/e911, RMS and National Road Network (NRN) Data Modeling Alignment & Maturity - Prepare and deliver presentation on PEMA NG911 and PennDOT Roads data integration at the PA GIS Conference on June 15th.
  + Task 2.PA.12: LRS Capability/Administration Levels Model - Develop the LRS administration levels document taking into consideration PennDOT road network data modeling practice and rules.
  + Task 2.PA.14: Data Governance for Building Information Modeling (Better Information Management)
  + Task 2.PA.15: Pavement Construction History - Develop scope of pavement construction history task.

1. **Ohio**
   * Create one-page visual representation of Ohio Strategic Roadmap activities
   * Prepare executive summary of Ohio Strategic Roadmap activities. Map activities to strategic goals and business use cases.
   * Discuss roles and responsibilities associated with implementing each of the strategic roadmap activities.
   * 2.OH.1.7: Data Quality Framework Development - Review of Ohio data quality rules and comparison with NCDOT data quality rules.
   * 2.OH.1.4: Roadway Inventory: Bike lanes, turn lanes, conflation of assets to LRS/GIS: Review of Montgomery County rules, as well as USDOT equity action plan requirements for developing bike and pedestrian network requirements.
2. **Kansas**
   * Task 2.KS.1: Intersection Modeling
     + Merge intersection data from Safety Business Unit excel sheets, Cyclomedia Intersection database and Intersection Manager
   * Task 2.KS.3: Intersection AADT Model development
     + Create tool to generate Intersection Leg AADT feature class using the AADT Event features, LRS features, and events associated with Intersection.
3. **North Carolina**
   * Task 2.NC.1: Coordinate with NCDOT and VHB to align the intersection data modeling work being done as part of AEGIST and NCDOTs project with VHB. Provide AEGIST data model specifications to VHB for intersection modeling
4. **Washington**
   * Task 2.WS.1: Develop scope of work for technical service activities at Washington State. Conduct meetings with stakeholders at Washington DOT to understand existing Washington State systems and data. Review Washington State processes, data and business rules shared by Washington and take this information into consideration when developing scope for AEGIST technical services activities.

**Task 3: Marketing and Communication**

**Task Objective:** Webinars and Workshops will be held, and Articles will be presented in conferences and other industry forums to communicate information about the activities of the project, especially the technical work products developed as part of the project.

**Activities**:

1. **Task 3.1.x – AEGIST Articles**
   * **Task 3.1.5 - Article 5:** Continue to develop the LRS Administration levels for AEGIST Article 5 on **“***LRS Administration Levels and Maturity Model”*.
2. **Task 3.2.x – AEGIST Workshops & Presentations**
   * **Task 3.2.3:** Conduct GIS-T Workshop 2022.
   * **Task 3.2.4:** Prepare and deliver presentations; or submit presentation abstracts for
     + Deliver following AEGIST presentations
       - Spatial Data Governance: Presentation to and discussion with following PFS States North Carolina, Pennsylvania, (April 11th)
       - AASHTO GIS-T Conference (April 21st)

**Complete List of AEGIST Deliverables**

**Note:** Deliverables on which work is complete (in green) and work is in progress (in light yellow).

| Task | D# | Deliverable Name | Due Date | Status |
| --- | --- | --- | --- | --- |
| Task 1 | 1.1.0 | Kick-off Meeting | 10/30/19 | Completed. |
| Task 1 | 1.2.0 | Work Plan Version 1: Cross-Agency Tasks, Deliverables & Schedule | 4/30/20 | Completed. Submitted to FHWA and PFS States. |
| Task 1 | 1.3.1 | Quarterly Progress Report - 1 (incl. 3 monthly reports and quarterly meetings) | 12/31/19 | Completed. Submitted to FHWA. Email sent to PFS States. |
| Task 1 | 1.3.2 | Quarterly Progress Report - 2 (incl. 3 monthly reports and quarterly meetings) | 3/31/20 | Completed. Submitted to FHWA.  Email sent to PFS States. |
| Task 1 | 1.3.3 | Quarterly Progress Report - 3 (incl. 3 monthly reports and quarterly meetings) | 6/30/20 | MPR for April, May, June published.  QPR-3 (April-June) published. |
| Task 1 | 1.3.4 | Quarterly Progress Report - 4 (incl. 3 monthly reports and quarterly meetings) | 9/30/20 | MPR for July and August prepared. QPR-4 Prepared. |
| Task 1 | 1.3.5 | Quarterly Progress Report - 5 (incl. quarterly meetings) | 12/31/20 | QPR-5 report prepared. QTR meeting held in Dec 2020 |
| Task 1 | 1.3.6 | Quarterly Progress Report - 6: Jan-Apr 2021 (incl. quarterly meet) | 4/31/21 | QPR-6 prepared. QTR Meeting (Mar 2021) |
| Task 1 | 1.3.7 | Quarterly Progress Report - 7: May-July 2021 (incl. quarterly meet) | 7/30/21 | QPR-7 Completed and Submitted.  Quarterly meeting held. |
| Task 1 | 1.3.8 | Quarterly Progress Report - 8: Aug-Sept 2021 (incl. quarterly meet) | 9/30/21 | QPR-8 Completed and Submitted.  Quarterly meeting held. |
| Task 1 | 1.3.9 | Quarterly Progress Report - 9: Oct-Dec 2021 (incl. quarterly meet) | 12/30/21 | QPR-9 Completed and Submitted.  Quarterly meeting held. |
| Task 1 | 1.3.10 | Quarterly Progress Report - 10: Jan-Mar 2022 (incl. quarterly meet) | 3/31/22 | QPR-10 Completed and Submitted.  Quarterly meeting held. |
| Task 2 | 2.1 | TASK 2 Base Period Technical Services (incl. Work Plan v1.1 with State Tasks) - MONTH 8 - MAY 2020 | 5/30/20 | Work Plan v1.1 has Caltrans Tasks.  May 29th PFS States Presentation. |
| Task 2 | 2.2 | TASK 2 Base Period Technical Services (incl. Work Plan v1.2 with State Tasks) - MONTH 9 - JUN 2020 | 6/30/20 | Work Plan v1.2 has CA, GA, ID Tasks.  June 16th PFS States Presentation. |
| Task 2 | 2.3 | TASK 2 Base Period Technical Services (incl. Work Plan v1.3 with State Tasks) - MONTH 10 - JUL 2020 | 7/30/20 | Work Plan v1.3 with ID Task updates. Weekly work planning with Idaho. |
| Task 2 | 2.4 | TASK 2 Base Period Technical Services (incl. Work Plan v1.4 with State Tasks) - MONTH 11 - AUG 2020 | 8/30/20 | Work Plan v1.4. Tasks 2.1, 2.2, 2.ID.1 |
| Task 2 | 2.5 | TASK 2 Base Period Technical Services (incl. Work Plan v1.5 with State Tasks) - MONTH 12 - SEP 2020 | 9/30/20 | Work Plan v1.5 with ID Task updates.  Tasks 2.1, 2.2, 2.ID.2 and 2.ID.3 |
| Task 2 | 2.6 | TASK 2 Base Period Technical Services - MONTH 13 - OCT 2020 | 10/30/20 | Work plan activities at ID, TN, CA and Tasks 2.1 and 2.2. |
| Task 2 | 2.7 | TASK 2 Base Period Technical Services - MONTH 14 - NOV 2020 | 11/30/20 | Work plan activities at ID, TN, CA and Tasks 2.1 and 2.2. |
| Task 2 | 2.8 | TASK 2 Base Period Technical Services (incl. Work Plan v1.6 with State Tasks) - MONTH 15 - DEC 2020 | 12/30/20 | Work Plan v1.6 with updates for ID, CT, TN and CA. Continued Tasks 2.1 and 2.2 |
| Task 2 | 2.9 | TASK 2 Base Period Technical Services - MONTH 16 - JAN 2021 | 1/20/21 | Technical Services to ID, TN, CA, PA, CT, OH and Cross-agency Tasks 2.1 & 2.2. |
| Task 2 | 2.10 | TASK 2 Base Period Technical Services - MONTH 17 - FEB 2021 | 2/28/21 | Technical Services to ID, TN, CA, PA, CT, OH and Cross-agency Tasks 2.1 & 2.2. |
| Task 2 | 2.11 | TASK 2 Base Period Technical Services - MONTH 18 - MAR 2021 | 3/20/21 | Technical Services to ID, TN, CA, PA, CT, OH and Cross-agency Tasks 2.1 & 2.2. |
| Task 2 | 2.12 | TASK 2 Base Period Technical Services - MONTH 19 - APR 2021 | 4/30/21 | Technical Services to ID, TN, CA, PA, CT, OH and Cross-agency Tasks 2.1 & 2.2. |
| Task 2 | 2.13 | TASK 2 Base Period Technical Services - MONTH 20 - MAY 2021 | 5/30/21 | Technical services to 11 States and for Cross-agency Tasks 2.1 & 2.2. |
| Task 2 | 2.14 | TASK 2 Base Period Technical Services - MONTH 21 - JUN 2021 | 6/30/21 | Technical services to 11 States and for Cross-agency Tasks 2.1 & 2.2. |
| Task 2 | 2.15 | TASK 2 Base Period Technical Services - MONTH 22 - JUL 2021 | 7/30/21 | Technical services to 11 States and for Cross-agency Tasks 2.1 & 2.2. |
| Task 2 | 2.16 | TASK 2 Base Period Technical Services - MONTH 23 - AUG 2021 | 8/30/21 | Technical Services to 8 States as listed in the quarterly report. |
| Task 2 | 2.17 | TASK 2 Base Period Technical Services - MONTH 24 - SEP 2021 | 9/30/21 | Technical Services to 8 States as listed in the quarterly report. |
| Task 2 | 2.18 | TASK 2 Base Period Technical Services - MONTH 25 - OCT 2021 | 10/30/21 | Technical Services to 6 States as listed in the quarterly report |
| Task 2 | 2.19 | TASK 2 Base Period Technical Services - MONTH 26 - NOV 2021 | 11/30/21 | Technical Services to 6 States as listed in the quarterly report |
| Task 2 | 2.20 | TASK 2 Base Period Technical Services - MONTH 27 - DEC 2021 | 12/30/21 | Technical Services to 6 States as listed in the quarterly report |
| Task 2 | 2.21 | TASK 2 Base Period Technical Services - MONTH 28 - JAN2022 | 1/30/22 | Technical Services to CA, TN, PA, OH, NC, and KS summarized in this report. |
| Task 2 | 2.22 | TASK 2 Base Period Technical Services - MONTH 29 - FEB 2022 | 2/30/22 | Technical Services to CA, TN, PA, OH, NC, and KS summarized in this report. |
| Task 2 | 2.23 | TASK 2 Base Period Technical Services - MONTH 30 - MAR 2022 | 3/30/22 | Technical Services to CA, TN, PA, OH, NC, and KS summarized in this report. |
| Task 2 | 2.24 | TASK 2 Base Period Technical Services - MONTH 31 - APR 2022 | 4/30/22 | Not Started |
| Task 2 | 2.25 | TASK 2 Base Period Technical Services - MONTH 32 - MAY 2022 | 5/30/22 | Not Started |
| Task 2 | 2.26 | TASK 2 Base Period Technical Services - MONTH 33 - JUN 2022 | 6/30/22 | Not Started |
| Task 2 | 2.27 | TASK 2 Base Period Technical Services - MONTH 34 – JUL 2022 | 7/30/22 | Not Started |
| Task 2 | 2.28 | TASK 2 Base Period Technical Services - MONTH 35 – AUG 2022 | 8/30/22 | Not Started |
| Task 2 | 2.29 | TASK 2 Base Period Technical Services - MONTH 36 - SEPT 2022 | 9/30/22 | Not Started |
| Task 2 | 2.30 | TASK 2 Base Period Technical Services - MONTH 37 - OCT 2022 | 10/30/22 | Not Started |
| Task 2 | 2.31 | TASK 2 Base Period Technical Services - MONTH 38 - NOV 2022 | 11/30/22 | Not Started |
| Task 2 | 2.32 | TASK 2 Base Period Technical Services - MONTH 39 - DEC 2022 | 12/30/22 | Not Started |
| Task 2 | 2.33 | TASK 2 Base Period Technical Services - MONTH 40 - JAN 2022 | 1/30/23 | Not Started |
| Task 2 | 2.34 | TASK 2 Base Period Technical Services - MONTH 41 - FEB 2022 | 2/30/23 | Not Started |
| Task 2 | 2.35 | TASK 2 Base Period Technical Services - MONTH 42 - MAR 2022 | 3/30/23 | Not Started |
| Task 2 | 2.36 | TASK 2 Base Period Technical Services - MONTH 43 - APR 2022 | 4/30/23 | Not Started |
| Task 2 | 2.37 | TASK 2 Base Period Technical Services - MONTH 44 - MAY 2022 | 5/30/23 | Not Started |
| Task 3 | 3.1.1 | **Article 1**: Road Network Publication Data Model with Topology, Temporality, Routable Network Rule | TBD | In-Progress |
| Task 3 | 3.1.2 | **Article 2:** Enterprise GIS Application for Spatial Safety Performance Functions Calibration and HSM-based Safety Analysis | TBD | In-Progress |
| Task 3 | 3.1.3 | **Article 3:** Engineering, processing and integrating spatial Traffic and Safety Data using Cloud | TBD | In-Progress |
| Task 3 | 3.1.4 | **Article 4:** Enterprise GIS Application forModeling and Conflating Federal Lands Management Agency, DOT LRS and Local Agency Roads data | TBD | In-Progress |
| Task 3 | 3.1.5 | **Article 5:** LRS Administration Levels and Maturity Mode | TBD | In-Progress |
| Task 3 | 3.2.1 | Workshop 1 - GIS-T 2021 | 4/30/21 | GIS-T Workshop 2021 Delivered |
| Task 3 | 3.2.2 | AEGIST Presentations (2020) | 12/30/20 | **Following Presentations Delivered:**  NY (Apr); TRF (Aug); KS (Jun); National Roads Symposium (Sep); Esri RHUG (Oct), AEGIST Modeling & Standards (Dec). |
| Task 3 | 3.2.3 | Workshop 2 – GIS-T 2022 | 5/30/22 | Prepared content and presentation deck for the GIS-T 2022 Workshop |
| Task 3 | 3.2.4 | AEGIST Presentations (2021) | 12/30/21 | Completed delivery of following 2021 Presentations:   1. USDOT Presentation on April 2nd. 2. Presentations to new PFS States: WV, DC 3. Provided AEGIST Overview to Colorado.Presentation at NaTMEC on Jun 23rd. FHWA NRN Presentation on Aug 31st. 4. Presentation Slides for FHWA Safety Group on AEGIST-MIRE activities. 5. FLMA Presentation on Nov 9th. |
| Task 3 | 3.2.5 | AEGIST Presentations (2022) | 12/30/22 | Following presentations have been delivered in 2022, as of this quarter:   1. TRB AEGIST Update at AED40 Committee Meetings (Jan 11, 25) 2. USDOT Mobility Plan Business Group Update (Feb 1) 3. AEGIST Intersection and MIRE data model presentation for FHWA office of Safety (Mar 31st) 4. Presentation Draft and Flyer for Gloria Shepherd (Mar 31st) |
| Task 3 | 3.3.1 | Webinar 1: Data Governance | 2/11/21 | Webinar delivered on Feb 11th, 2021 |
| Task 3 | 3.3.2 | Webinar 2: AEGIST Activities associated with Spatial Data Modeling, Integration and Analysis | TBD | TBD |
| Task 4 | 4.1.0 | Peer-Exchange 1 - 2019 | 12/30/19 | Completed. |
| Task 4 | 4.2.0 | Peer-Exchange 2 - 2020 | 12/30/20 | Aug 25th-26th Peer Exchange Conducted. |
| Task 4 | 4.3.0 | Peer-Exchange 3 – 2021 | TBD | Not Started. Likely to be moved to 2022. |
| Task 5 | 5.0 | HPMS 9.0 Remodeling Report/Article Database Design | 5/30/21 | Delivered report on Road Network Publication Data Model for FHWA and PFS States Review completed between July-Sept. Comments Addressed.  Coordinate with FHWA to determine next Steps on publication to be determined. |