# *Quarterly Progress Report (QPR)*

# *Applications of Enterprise GIS in Transportation*

**Progress Report for Quarter 4 [July 1st 2020 – September 30th, 2020]**

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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.

Objective

* Establish a standard for sharing and publishing highway infrastructure data between stakeholders at DOTs and their Federal, State and Local partners
* Review existing practices in spatial and linear referencing data management at State transportation agencies
* Assess the extent to which the States participating in the PFS (Figure 1) have implemented standards based spatial data management practices.
* Create/update AEGIST Guidebook based on best practices in spatial data management at State transportation agencies.
* Coordinate with the PFS States to further advance the spatial data management practices at the DOTs by implementing spatial and linear referencing data management solutions and data science platforms.

Completion Status and Summary

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

Total Time, months: 60

Time Expended, months: 12

Percent Calendar Time Expended: 20%

Work Accomplished This Reporting Period

**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.

**Work Accomplished**: Following activities were performed in the reporting period:

* Monthly and quarterly progress reports development.
* Meeting with FHWA to prioritize tasks and discuss approach for creation of work plans with States.
* Reached out to PFS States (CT, TN) to discuss timing and scope of technical services that need to be provided to the States as part of the AEGIST project.
* Contact was made with CTDOT on 8/21/20, 9/2/2020 and 9/15/2020 with responses by CTDOT on 8/21/2020 and 9/15/2020 respectively. CTDOT decided to avail 50 hours of technical services for brainstorming ideas for developing a work plan.
* Contact was made with ODOT on 9/2/2020. Ohio is coordinating internally to brainstorm ideas for developing a work plan. Information was provided to Ohio on AEGIST activities, work products and type of activities being planned by other States.
* Contact was made with TDOT on 8/26/2020, 9/3/2020 and 9/15/2020 with responses by TDOT on 8/26/2020, 9/4/2020 and 9/15/2020 respectively. TNDOT decided to avail 50 hours of technical services for brainstorming ideas for developing a work plan.

**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.

**Work Accomplished:** Following activities were performed in the reporting period:

* **Task 2.1:** Biweekly discussions with NC. ID and CT on routes & intersection modeling rules and AEGIST implementation at their DOTs. Analysis of NC, AZ, ID and CT routes & intersection modeling rules and AEGIST implementation at their DOTs. Comparison of data modeling rules across these States. Discussion on MIRE compliant intersection model and developing safety and intersection data model using LRS and HPMS, MIRE events in LRS. Analysis of Pennsylvania (PA) routes & intersection modeling rules & documentation.
* **Task 2.2:** Guidebook v2.0: Preparation of content on modeling of Routes & Intersections at DOTs.
* **Task 2.ID.x: Idaho Technical Services**
* **Task 2.ID.1:** Idaho Technical Services Work Planning Idaho work planning weekly sessions to develop scope and identify deliverables. Development of work plan document with details on each activity. Compiling spatial data governance artifacts, reports and best practices to develop and document approach. Sharing artifacts with Idaho for presentation on Spatial Data Governance task at August Peer Exchange.
* **Task 2.ID.2:** Spatial data governance – Develop data catalog, dictionaries. VHB Report review.
* **Task 2.ID.3:** Conflation tool for integrating DOT LRS and BLM, USFS datasets;

**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.

**Work Accomplished**: Following activities were performed in the reporting period:

* **Deliverable 3.1.1 – Article 1**

Analysis of Safety and MIRE data from CTDOT to show impact of MIRE compliance on safety analysis & develop content for article on “Utilizing HPMS & MIRE compliant safety dataset for building econometric & machine learning models for safety analysis”.

* **Deliverable 3.2.2 – Presentations**
* **Traffic Records Forum:** Prepared presentation slides. Submitted on July 30th for review. Conducted practice sessions & delivered final presentation on August 13th.
* **National Roads Symposium** (Sept 14-15th): Review of National Roads dataset concept paper and development of responses to questions to be discussed at the forum. Present AEGIST findings on building a national roads dataset, business use cases, goals and objective so States and findings from AEGIST Virtual P2P exchange.
* **Presented AEGIST information to TxDOT**, including recordings, findings, slide-decks.

**Task 4: Peer Exchange Meetings**

**Task Objective:** Plan, organize and conduct 5 peer exchanges, one each year between 2019 and 2023.

**Work Accomplished**: Following activities were performed in the reporting period:

* **Deliverable 4.2.0 – Peer Exchange 2 (2020)**

Conducted weekly planning meetings with FHWA. Coordinated with PFS State presenters on content. Preparation of presentation slides. Scheduled & conducted practice sessions (4) with presenters. Conducted peer exchange & deliver artifacts to States

**Task 5: HPMS Remodeling Support Services**

**Task Objective:** HPMS 9.0 Remodeling Support services

**Work Accomplished**: Following activities were performed in the reporting period:

* Routes modeling – Single/Dual Carriageway and Concurrent Routes
* Intersection, Road Segment and Junctions Data Model

***Complete List of Base Period Deliverables***

Note: Deliverables on which work is complete (in green) and work is in progress (in orange).

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| --- | --- | --- | --- | --- |
| 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 (this QPR Submitted) |
| Task 1 | 1.3.5 | Quarterly Progress Report - 5 (incl. quarterly meetings) | 12/31/20 | Not Started |
| Task 1 | 1.3.6 | Quarterly Progress Report - 6 (incl. quarterly meetings) | 3/31/21 | Not Started |
| Task 1 | 1.3.7 | Quarterly Progress Report - 7 (incl. quarterly meetings) | 6/30/21 | Not Started |
| Task 2 | 2.1 | TASK 2 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 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 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 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 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 Technical Services (incl. Work Plan v1.6 with State Tasks) - MONTH 13 - OCT 2020 | 10/30/20 | Not Started |
| Task 2 | 2.7 | TASK 2 Technical Services (incl. Work Plan v1.7 with State Tasks) - MONTH 14 - NOV 2020 | 11/30/20 | Not Started |
| Task 2 | 2.8 | TASK 2 Technical Services (incl. Work Plan v1.8 with State Tasks) - MONTH 15 - DEC 2020 | 12/30/20 | Not Started |
| Task 2 | 2.9 | TASK 2 Technical Services (incl. Work Plan v1.9 with State Tasks) - MONTH 16 - JAN 2020 | 1/20/21 | Not Started |
| Task 2 | 2.10 | TASK 2 Technical Services (incl. Work Plan v1.92 with State Tasks) - MONTH 17 - FEB 2020 | 2/28/21 | Not Started |
| Task 2 | 2.11 | TASK 2 Technical Services (incl. Work Plan v1.94 with State Tasks) - MONTH 18 - MAR 2020 | 3/20/21 | Not Started |
| Task 2 | 2.12 | TASK 2 Technical Services (incl. Work Plan v1.98 with State Tasks) - MONTH 19 - APR 2020 | 4/30/21 | Not Started |
| Task 2 | 2.13 | TASK 2 Technical Services (incl. Work Plan v2.0 with State Tasks) - MONTH 20 - MAY 2021 | 5/30/21 | Not Started |
| Task 3 | 3.1.1 | Article 1 | 6/30/20 | Draft writeup, data analysis in progress |
| Task 3 | 3.2.1 | Workshop 1 - GIS-T 2021 | 4/30/21 | GIS-T-2020 replaced by GIS-T-2021. |
| Task 3 | 3.2.2 | Workshop or Presentations 2 | 12/30/20 | NY (Apr); TRF (Aug); KS (Jun); National Roads Symposium (Sep);  |
| Task 3 | 3.2.3 | Workshop 3 | TBD | Not Started |
| Task 3 | 3.3.1 | Webinar 1  | 2/11/21 | Not Started |
| 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 5 | 5.0 | HPMS 9.0 Remodeling Report and Database Design | 5/30/21 | In-Progress |