

NEW ENGLAND TRANSPORTATION CONSORTIUM QUARTERLY PROJECT PROGRESS REPORT

A. PROJECT NUMBER AND TITLE:

NETC 20-2 Current Status of Transportation Data Analytics and A Pilot Case Study Using Artificial Intelligence (AI)

B. PRINCIPAL INVESTIGATOR(s) & UNIVERSITY(s):

Yuanchang Xie, PhD, PE, University of Massachusetts Lowell

C. WEB SITE ADDRESS (*If one exists*):

None

D. START DATE (*Per NETC Agreement*):

5/5/2021

E. END DATE (*Per NETC Agreement*):

3/31/2023

F. ANTICIPATED COMPLETION DATE:

12/31/2023

G. PROJECT OBJECTIVES:

- (1) Provide clear and comprehensive picture to the six New England state DOTs regarding their data assets, data needs and emerging data sources, modeling and workforce needs, and data collection, analysis, utilization, storage, and sharing practices related to traffic operations;
- (2) Provide strategic and practical recommendations to prepare New England DOTs for future data-driven transportation system analytics; and
- (3) Conduct a pilot case study of using AI techniques to analyze existing multi-source data for improving traffic operations and safety.

H. REPORT PERIOD:

3rd Quarter, 2022

I. ACCOMPLISHMENTS THIS PERIOD:

- The team proposed several topics for Phase II research. After meeting with the project TC, we narrowed the scope down to two topics and prepared two statements of work for the TC to vote on. Finally, the project TC decided to choose the “Vehicle trajectory data collection and modeling” topic and approved the statement of work.
- The team has been working with the NHDOT to identify data collection sites. We have identified one high-risk site on NH Route #3 near the White Mountains Regional School.
- The team received the sensors needed for this research and has been testing them on UMass Lowell campus.

- As mentioned in the previous quarterly report, we would like to request a ***no-cost extension*** for this project. The TC approved our request to extend this project to 12/31/2023.

J. PROBLEMS ENCOUNTERED (If any):

None

K. TECHNOLOGY TRANSFER ACTIVITIES:

None

L. STATUS BY TASK:

Task	Description	% Complete
Task 1	Review of Current Data Collection and Utilization Practices	100%
Task 2	Assessment of Data Needs, Emerging Data Sources, and Data Processing and Analytics	100%
Task 3	Recommendations	100%
Task 4	Case Study	5%
Task 5	Draft Final Report	Not started
Task 6	Final Report	Not started

M. PERCENT COMPLETION OF TOTAL PROJECT:

46%

N. ACTIVITIES PLANNED FOR NEXT QUARTER:

The team will finish testing the sensors and start the field data collection.

O. FINANCIAL STATUS:

As of: *October 12, 2022*

Total Project Budget: \$200,000.00

Total Expenditures: \$27,395.88

Note: This report should not require more than 2-3 pages & should be e-mailed to the NETC Coordinator so as to arrive no later than three (3) working days after the end of each calendar quarter.