

Iterative Project Report for Programs & Multi-Year Phased Projects

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GENERAL INFORMATION

Program/Project Name: Traffic Monitoring Program (TMP)

Agency Name: Department of Transportation

Project Sponsor: Scott Zainhofsky

Project Manager: Leila Thompson

PROGRAM DESCRIPTION

The Traffic Monitoring Program is a multi-year initiative focused on transforming business processes, core technology applications, employee safety, and customer services related to providing traffic data. This will be accomplished through a multi-stage “roadmap” considering the following elements:

- Replacing aging data software
- Developing a Traffic Monitoring Strategic Plan (TMSP), considering:
 - o first & foremost, the needs of our customers, including:
 - North Dakota Department of Transportation (NDDOT) Design Division
 - NDDOT Materials and Research Division
 - NDDOT Programming Division, Traffic Operations Section
 - external customers’ needs have been determined to be narrower than the above internal-customer needs
 - o the safety devices and procedures we provide our team members
 - o the data-collection equipment we use (both permanent and portable)
 - o the vehicles we drive to deploy the equipment
 - o alternate data sources
 - o where and how we gather the data
 - o data quality control and assurance procedures
 - o among others
- Procuring and integrating multi-modal probe data
- Initial implementation of the Traffic Monitoring Strategic Plan, within the Program budget constraints.

This Program was established in January 2023 to more efficiently and effectively manage the multiple traffic data related projects appropriated for the 2021-23 biennium. Due to its extreme age, the funding needed to replace the current Traffic Data Editing and Analysis (TDEA) software is highly uncertain. Additionally, effectively managing a network of permanent field sensors and short-term portable count locations, both geographically disbursed across all of North Dakota, requires a perpetual program of investments and optimization decisions that will never be “completed.” Additionally, NDDOT has a long-standing history of recurring funding that may be used for this ongoing program management. Therefore, combining the special appropriations for the traffic data related projects in the current biennium allows the Executive Steering Committee (ESC) to maximize the benefits and minimize the costs in establishing a world class traffic monitoring program for the citizens of North Dakota.

The Program projects are as follows:

- Traffic Data and Editing Analysis (TDEA)
- Traffic Monitoring Strategic Plan (TMSP)
- Multi-Modal Probe Data (MMPD)
- Initial implementation of the Traffic Monitoring Strategic Plan (ITMSP)

BUSINESS NEEDS

TDEA:

1. Replace the current outdated Traffic Data Editing and Analysis system with a COTS or SaaS solution.
2. A system capable of handling the collection of multi-modal (bicycle, pedestrians, vehicles) traffic data.
3. Efficiently report mandated information to the Federal government
4. Reduce IT support required to generate reports for a specific business purpose when needed by staff.

PROGRAM FORMAT

Program Start Date: January 6, 2023

Budget Allocation at Time of Initial Start Date: \$3.5 Million

How Many Projects Expected at Time of Initial Start Date: Four: TDEA, TMSP, MMPD, and ITMSP

Phase Approach Description: Projects will be executed sequentially and /or concurrently based on available resources.

Estimated End Date for All Projects/Phases Known at Time of Initial Start Date: TDEA: 10/30/2024, TMSP: TBD, MMPD: TBD and ITMSP: TBD.

PROGRAM ROAD MAP

The program road map shows the high-level plan or vision for the program/projects/phases. It is intended to offer a picture of the lifespan of all the effort that is expected to be required to achieve the business objectives.

Project	Title	Scope Statement	Estimated Months Duration	Estimated Budget
TDEA	Traffic Data and Editing Analysis	This project is part of the Department of Transportation (DOT) Traffic Monitoring Program (TMP). The project will deliver a new traffic data editing and analysis (TDEA) application to manage historical storage, viewing, editing, processing, reporting, analyzing, and importing/exporting of all traffic/weigh-in-motion (WIM) information.	22	\$1,000,000.00
TMSP	Traffic Monitoring Strategic	This project will produce a strategic plan including a long-term vision for the multi-modal traffic data services provided and an implementation plan (with planning-level cost and resource estimates) to achieve that vision.	TBD	TBD

Notes:

PROJECT BASELINES

The baselines below are entered for only those projects or phases that have been planned. At the completion of a project or phase a new planning effort will occur to baseline the next project/phase and any known actual finish dates and costs for completed projects/phases will be recorded. The iterative report will be submitted again with the new information.

Project/Phase	Project/Phase Start Date	Baseline End Date	Baseline Budget	Funding Source	Actual Finish Date	Schedule Variance	Actual Cost	Cost Variance
TDEA	12/01/2022	10/30/2024	\$1,000,000.00	State Highway Fund				
TMSP	12/01/2022	TBD	TBD	State Highway Fund				

Notes: The TMSP project was placed on hold from February 10, 2023, until July 3, 2023, due to resource constraints.

OBJECTIVES

Project	Business Objective	Measurement Description	Met/Not Met	Measurement Outcome
TDEA	1. By acquiring a new TDEA system, we will be able to expand traffic data storage, analysis and reporting to include multi-modal traffic data.	1. Immediately after implementation, new TDEA system will have the capability to store, analyze, and report on multi-modal traffic data. Traffic data personnel will verify capability by entering a recent sample of multi-modal traffic data in the system.		
	2. Utilizing a portable device, our field crew will be able to report collected field data in real-time.	2. Immediately after implementation, Traffic Data personnel will verify the new system reduces (and ideally eliminates all) manual data entry steps and reduces the number of steps requiring manual intervention and intermediate manual process starts.		

Project	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
	3. Reduce the time required to and reduce or eliminate manual data entry for uploading Federally mandated data by implementing an automated process.	3. During the April 15, 2025, reporting period, the NDDOT – Planning/Asset Management, Roadway Data Section (Roadway Data Section or Roadway Data) personnel will verify the new system produces accurate and properly formatted federal reports and is capable of appropriately interfacing with the federal reporting system. The mandated data will be uploaded via an automated process.		
	4. Obtain a new TDEA reporting module to generate standard and custom (i.e., specific business purpose) reports.	4. Immediately after implementation, Traffic Data personnel will create various reports, including unique, business-necessary reports that currently would (and/or do) require ad hoc assistance from NDIT. More than one of the tested reports currently requiring NDIT support should be producible from the system without NDIT or ongoing vendor support.		
TMSP				

KEY LESSONS LEARNED AND SUCCESS STORIES

A lessons learned effort is performed after each project or phase is completed. This process uses surveys and meetings to determine what happened in the project/phase and identifies actions for improvement going forward. Typical findings include, “What did we do well?” and “What didn’t go well and how can we fix it the next time?”

Project	Key Lessons Learned and Success Stories
TDEA	

KEY CONSTRAINTS AND/OR RISKS

TDEA	Cost, schedule, scope, and quality are often in conflict during projects. The sponsor elected to prioritize as follows: <ol style="list-style-type: none">1. Quality2. Cost3. Schedule4. Scope
TMSP	TBD