

New Title: *Transportation Performance Management Enhancement Project*

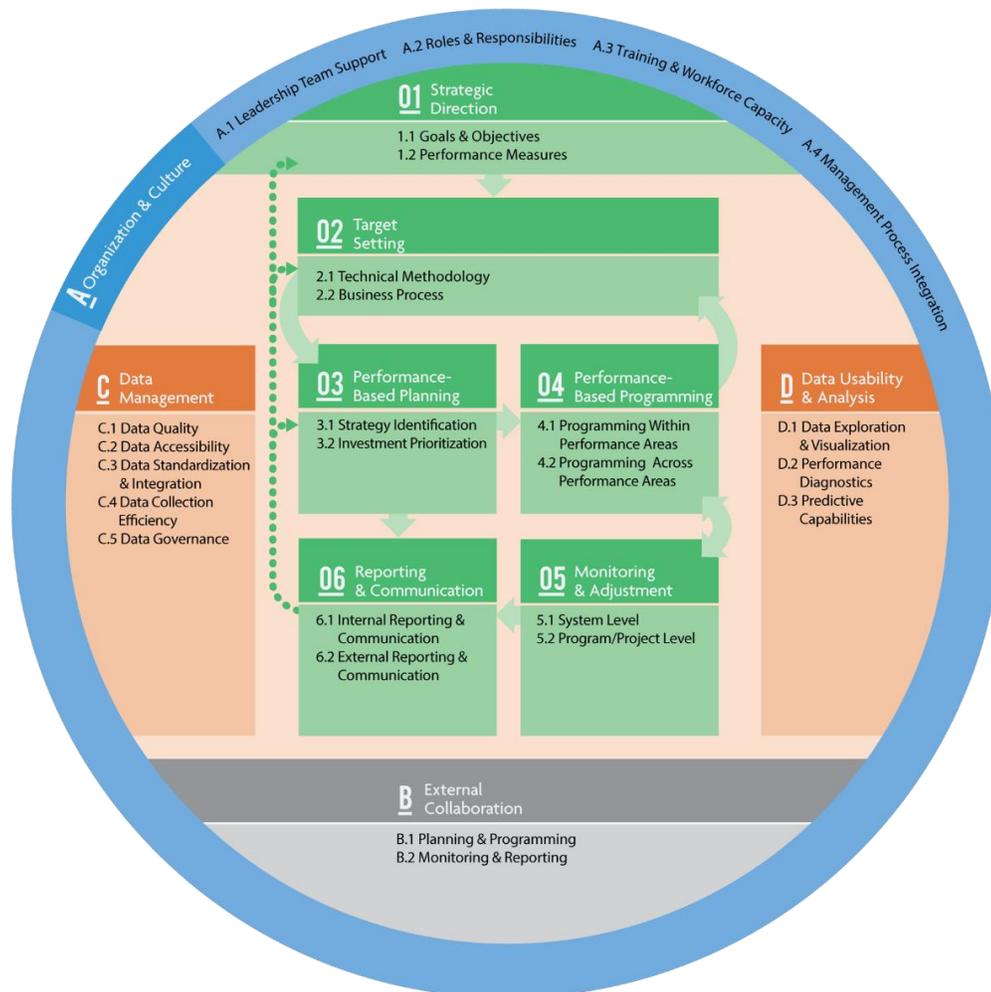
A. Objective

Develop GTC’s data management and analytical capabilities to enhance the performance-based planning and programming framework for both long- and short-range planning activities to support FAST Act requirements and regional goals.

B. Background

The Genesee Transportation Council (GTC) will seek proposals for consulting services to develop a data management plan and deploy analytical tools for the evaluation of transportation projects. The improved data management and applied analyses will ultimately underlie a decision-support system to provide guidance for transportation agencies in the nine-county Genesee-Finger Lakes Region to consider when developing their capital improvement program within a performance-based planning context.

The project Tasks are derived from the Federal Highway Administration’s (FHWA) Transportation Performance Management framework, in particular Components C, Data Management; D, Data Usability and Analysis; and 04, Performance-Based Programming.



Additional guidance is taken from NCHRP Report 806, Guide to Cross-Asset Resource Allocation and the Impact on Transportation System Performance. The report presents guidance for transportation agencies on allocating limited resources among asset classes and organizational units to provide optimal system performance.

The project is intended to build upon GTC's and the New York State Department of Transportation's data development initiatives to date and will utilize both existing and in-development tools, where appropriate and available. It is intended, to the extent technically feasible, to align the results of analytic tools into a decision-support system tool to guide GTC Board members and stakeholders in capital planning activities.

Steering Committee members include but are not limited to: the New York State Department of Transportation; the Highway Departments of Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates counties; the City of Rochester; and the Rochester-Genesee Regional Transportation Authority.

C. Tasks

The Transportation Performance Management Enhancement Project will be advanced in two phases. **Phase I** will identify appropriate data management and integration measures and requirements for deploying particular analytical tools. **Phase II** will deploy the recommended analytical and/or decision support systems. Phase I will be completed first to determine the feasibility of implementing Phase II; the decision on whether or not to advance Phase II will be dependent on the results of Phase I.

Phase I

1. Project Coordination

The Consultant will coordinate all project activities with GTC staff. GTC staff will serve as the project manager and be responsible for acting as the primary point of contact and liaison with the Steering Committee of agency partners and other stakeholders. The Consultant will be responsible for scheduling, preparing agendas and materials, leading, and developing summaries of all Steering Committee meetings.

2. Data Inventory and Management Plan

The consultant will inventory and review the available transportation sources to develop a Data Inventory and Management Plan. The Plan will be developed based on the availability of data from multiple sources and alignment with predictive tools for highways, bridges, safety and other assets/performance areas. It is intended to codify agency governance for data management, metadata generation, data preservation, and analysis to ensure that data is well-managed in the present and prepared for preservation in the future.

The consultant will facilitate a discussion with the Steering Committee and GTC staff to inventory and evaluate the maturity of processes relating to data quality, accessibility, standardization and integration, collection efficiency, and governance. The Plan will be reviewed by GTC staff and the Steering Committee to confirm the availability and access

of data for users and applications. The assessment will inform the actions to be recommended in the Data Inventory and Management Plan.

No primary data collection is anticipated for this project but GTC staff and the Steering Committee will utilize the Data Management Plan as a guide for future data collection efforts.

Deliverable: Data Inventory and Management Plan

3. Assessment of Predictive and Decision Support Tools

The consultant will assess the current predicative and decision support tools that are in use by partner agencies or available for acquisition. The assessment will be informed by the Data Inventory and Management Plan and together, both deliverables will inform the direction for implementation in Phase II and future projects.

The recommendations could include a range of actions to adopt or reconfigure available tools or to potentially acquire new tools that meet GTC's specific needs. Costs and implementation processes are to be estimated for comparison. Tools that provide the assessment of performance beyond the scope of asset management and safety such as active transportation, economic development, and public health are encouraged to be considered. GTC expects that continual review and improvement of the preferred tools will be an important and ongoing activity.

a. Predictive Tools

The consultant will review available predictive tools for the assessment of project impacts from GTC, NYSDOT, and other sources. With coordination of GTC staff and the Steering Committee, the Consultant will assess and refine a preferred set of predictive tools to assess the impacts of investments on a project or network level. The Tools shall include the ability to calculate future performance, whether based on objective or subjective information.

GTC, with the assistance of its partners, will provide technical documentation of:

- NYSDOT Enterprise Asset Management Program, including the pavement, bridge, and culvert management systems and predicative utility functions through Agile Assets;
- NYSDOT Crash Location and Engineering Analysis and Reporting (CLEAR) tool, including safety performance functions derived from the AASHTO *Highway Safety Manual*; and
- Local pavement management and condition models.

b. Decision Tools

The consultant will review available decision support tools that has the capability to conduct trade-off analyses of comparative investment scenarios across asset classes. These tools should be able to incorporate the results of the predictive models and

provide a clear means for the analyses to be communicated to the GTC Board, stakeholders, and the public.

The tools may include the Multiple Objective Decision Analysis Tool (MODAT), developed as part of NCHRP 921, or other private tools. It is preferable that the selected Tool have the capacity to be expanded to include other asset classes and investment goals as they are developed in future initiatives. Preference will be given to tools that are capable to support public involvement activities.

Deliverable: Technical memorandum, incorporating the findings and recommendations of Tasks 3.a and 3.b.

Phase II

4. Tool Implementation

Based on Steering Committee input and the findings of Phase I, the Consultant will implement the recommendations to configure existing tools or deploy new tools to meet the technical specifications of GTC and its partners.

5. Technical Documentation and Training

a. Technical Report

The consultant will develop a Technical Report that outlines the process followed in Phase II to implement the recommendations of Phase I. All technical documentation of the selected tools and respective models will be provided to GTC. This documentation may be existing documentation from the tool providers or revised to reflect tool refinements. In addition, the consultant will prepare an Executive Summary of the Final Technical Report.

b. Training Materials

The consultant will propose and provide written, video, and/or other training materials for future training purposes.

c. Training Workshop

The consultant will provide one in-person training workshop in the Rochester area for GTC and partner agency staff. GTC staff will provide arrangements to host the training.

Deliverable: Tool documentation, Training materials, and workshop facilitation

D. Products

1. Draft Data Inventory and Management Plan
2. Final Data Inventory and Management Plan
3. Draft Assessment of Predictive and Decision Support Tools
4. Final Assessment of Predictive and Decision Support Tools
5. Predictive/Decision Support Tools (TBD following Phase I)

E. Public Participation Plan

Per the GTC Public Engagement Plan, this project is classified as a Technical/Data Collection Project. Accordingly, no public input component is required. GTC staff may request an Open House or 'Data Dive' event, open to interested stakeholders and the public.

F. Schedule

Task	Timeline
Scope of Work Approval	October 2021
Release of RFP	November 2021
Consultant Selected	January 2022
Contract Completed and Signed	February 2022
Initial Project Meeting	March 2022
Draft Data Inventory	June 2022
Draft Assessment of Predictive and Decision Support Tools	July 2022
Final Data Inventory and Management Plan; Final Assessment of Predictive and Decision Support Tools	September 2022
Phase II Initiation	October 2022
Technical Documentation and Training	April 2023
Phase II Close Out	Summer 2023

G. Project Budget

Sources of Funds		Uses of Funds	
	<u>FY 2021-22</u>		<u>FY 2021-22</u>
<u>Federal Funds</u>		<u>GTC</u>	
FHWA	\$125,000	Staff	\$0
FTA	\$0	Contractual	\$125,000
Subtotal	\$125,000	Subtotal	\$125,000
<u>Matching Funds</u>		<u>Other Agency</u>	
State (In-kind)	\$0	Staff	\$0
Local (In-kind)	\$0	Contractual	\$0
Local (Cash)	\$0	In-kind Exp.	\$0
Subtotal	\$0	Subtotal	\$0
<u>Total</u>	<u>\$125,000</u>	<u>Total</u>	<u>\$125,000</u>