

Cross Asset Highway and Bridge Prioritization Tool

Scope of Work

A. Objective

Develop the analytical capabilities to undertake objective analyses of highway and bridge investments, including the tradeoffs between two asset classes to support FAST Act requirements.

B. Project Area

The study area will encompass the counties of Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates (the "Genesee-Finger Lakes Region").

C. Background

The Genesee Transportation Council (GTC) will seek proposals for consulting services to develop a Cross-Asset Highway and Bridge Evaluation and Prioritization Tool. The purpose of this project is to produce an analytic framework for the evaluation of transportation projects and 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 Study Tasks are derived from the methodology described in 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 guidance includes discussion of analytical tools to support decision-making and is supplemented by a prototypical spreadsheet-based implementation of the guide's analysis framework.

The project is intended to build upon GTC's and the New York State Department of Transportation's performance-based planning initiatives to date and will utilize both existing and in-development tools, where appropriate. 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.

D. Study Tasks

1. Study Coordination

A Steering Committee consisting of the agencies identified in Section B will guide and provide oversight to the project. GTC staff will serve as the project manager and be responsible for acting as the primary point of contact and liaison with the Consultant to ensure timely completion of all project work tasks in a quality manner.

2. Alignment of Goals, Objectives, Performance Measures of the *LRTP 2040*

The Consultant will review the Goals, Objectives and Performance Measures included in the GTC *Long Range Transportation Plan for the Genesee-Finger Lakes Region*

2040 (LRTP 2040) as well as those required by the FAST Act. The Consultant will coordinate with GTC staff and the Steering Committee regarding the availability of data sources and Tools, per Sections 3-4, for project and network-level assessment of current conditions and future forecasts. The technical memorandum may include suggestions for revisions to adopted performance measures to better align with these capacities, though the goal is to always have meaningful measures rather than easy measures.

3. 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 predict future performance, whether based on objective or subjective information. Both quantitative and qualitative post-processing and predictive modeling of available information are suggested to support and validate the predictive tools.

GTC staff will provide the *Bridge Asset Management Planning Tool*. If new tools are to be acquired, their cost is to be noted in the proposal and included in the budget. Proposals are encouraged to include tools that provide the assessment of performance beyond the scope of asset management and safety such as active transportation, economic development, and public health.

4. Data Management Plan and Schema

The consultant will review and inventory the available transportation and related sectors' geospatial and tabular data sources to develop a Data Management Plan, integrated database schema, and support the migration of the database.

The Data Management Plan will be developed based on the availability of data and predictive tools for highways and bridges. No primary data collection is anticipated for this project but GTC staff and the Steering Committee will consider recommendations for future data collection efforts in the Data Management Plan.

5. Decision Tool

The consultant, in coordination with GTC staff and the Steering Committee, will select a decision support tool that has the capability to conduct trade-off or optimization analyses of comparative investment scenarios. The Tool shall 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 Tool should have the capacity to facilitate multiple scenarios in a meeting setting.

6. Final Report

Incorporating the deliverables from Tasks D.1. through D.5., the Consultant will develop the Draft *Cross Asset Highway and Bridge Prioritization Tool* report (Draft Report). The Consultant will provide the Draft Report to the Steering Committee for review and comment with any proposed edits thoroughly discussed by the Steering Committee.

Upon Steering Committee concurrence on the edits, the Consultant will produce the Final *Cross Asset Highway and Bridge Prioritization Tool* report Report and an Executive Summary suitable for distribution to and use by decision makers and others with limited technical transportation backgrounds.

This project will not commit federal funds to specific bridges in future Transportation Improvement Programs. The performance-based, data-driven capital investment program development process developed by GTC is a nationally-recognized model and will continue to be utilized. This project will allow GTC and its member agencies to have a fuller understanding of the multivariate impacts of investment decisions in our highways and bridges and communicate the projected performance outcomes to elected officials, stakeholders, and the general public.

E. Products

1. Draft Cross Asset Highway and Bridge Prioritization Tool and Report
2. Final Cross Asset Highway and Bridge Prioritization Tool and Report
3. Draft Database Management Plan and Schema
4. Final Database Management Plan and Schema
5. Migrated Database
6. Executive Summary

F. Public Participation Plan

Per the GTC Public Participation Policy, 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.

G. Schedule

Anticipated start: January 1, 2018
 Anticipated completion: September 30, 2018

H. Project Budget

Sources of Funds		Uses of Funds	
	FY 2017-18		FY 2017-18
<u>Federal Funds</u>		GTC	
FHWA	\$254,900	Staff	\$4,900
FTA	0	Contractual	0
Subtotal	<u>\$254,900</u>	Subtotal	<u>\$4,900</u>
<u>Matching Funds</u>		<u>Other Agency</u>	
State (In-kind)	\$0	Staff	\$0
Local (In-kind)	0	Contractual	250,000
Local (Cash)	0	In-kind Exp.	0
Subtotal	<u>\$4,500</u>	Subtotal	<u>\$250,000</u>
<u>Total</u>	<u>\$254,900</u>	<u>Total</u>	<u>\$254,900</u>