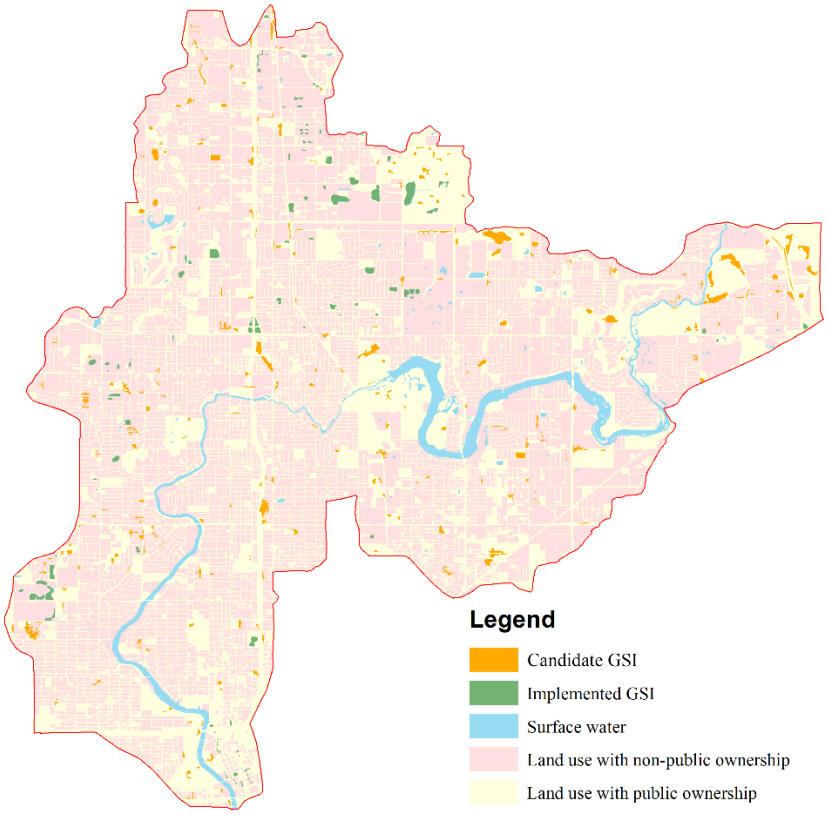
Grant Deliverables and Reporting Requirements for UTC Grants

UTC Project Information	
Project Title	Spatial Sustainability Assessment of Green Stormwater Infrastructure for Surface Transportation Planning, Phase II
University	University of South Florida
Principal Investigator	Qiong Zhang Qing Lu
PI Contact Information	qiongzhang@usf.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT: $61,031 USF: $30,721
Total Project Cost	$91,752
Agency ID or Contract Number	Sponsor Source: Federal Government CFDA #: 20.701 Agreement ID: 69A3551747119
Start and End Dates	Start date: 12/1/2017 End date: 9/30/2018
Brief Description of Research Project	Transportation authorities are responsible for managing the stormwater runoff that carries pollutants from the transportation-adjacent land and vehicles. The proper stormwater management approach like green infrastructure can help control flooding and the runoff pollutants that may impair water environment and threaten the ecosystem and human health. Furthermore, green infrastructure that can be applied at different spatial scales and decentralized arrangements, have been adopted and implemented in the transportation infrastructure design. However, such implementation is project-based without analysis at system level or sewer scale. A framework is needed to design and evaluate the integration of green stormwater infrastructure in transportations planning at systems level. The overall goal of the proposed project is to develop a modeling framework integrating hydrological simulation, water quality modeling, life cycle assessment (LCA) and cost analysis (LCCA) that can be used for design and planning for surface transportation with spatial implementation of green infrastructures. The phase II of the project was completed in the second year with the deliverable of

	an integrated hydrological and water quality modeling for scenario analysis of combination of transportation planning and green infrastructure design using Tampa as a case study area.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	Phase II of the project is completed. The figures below show the candidate green stormwater infrastructure (GSI) sites, the potential runoff reduction with the implementation of candidate GSI, and the potential environmental impact reduction due to the improved nutrient removal associated with the implementation of candidate GSI.  Figure 1. The candidate GSI in the study area.

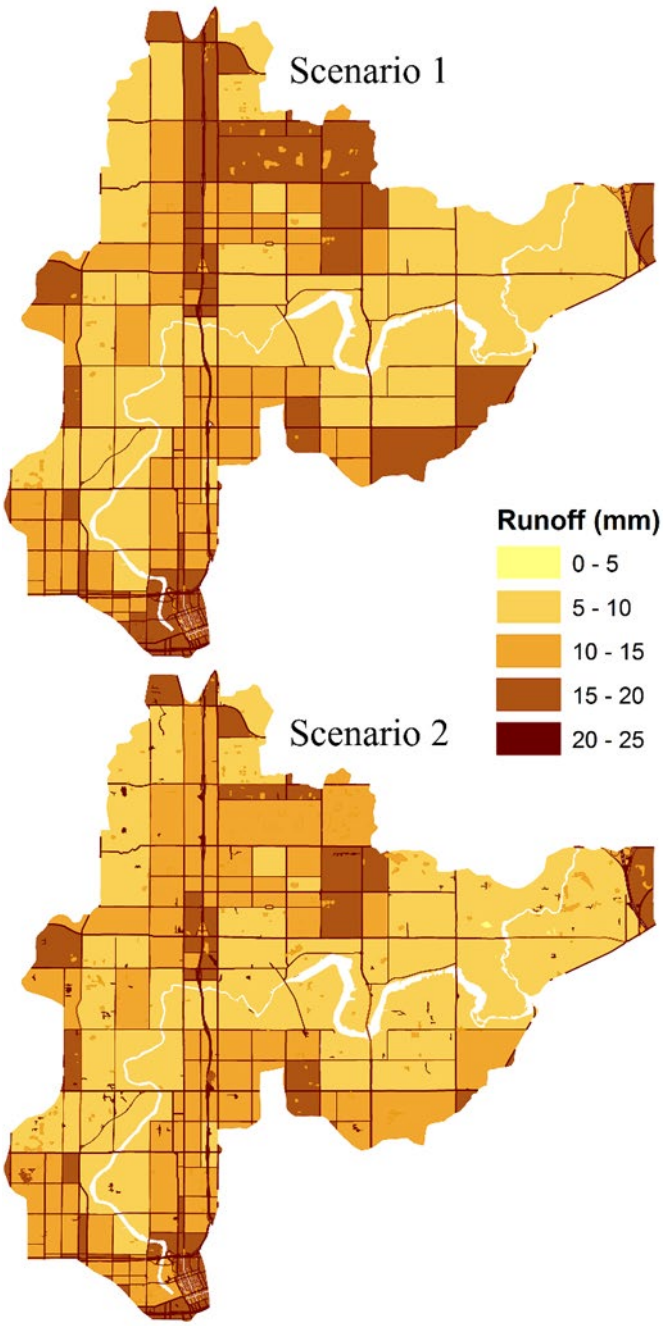
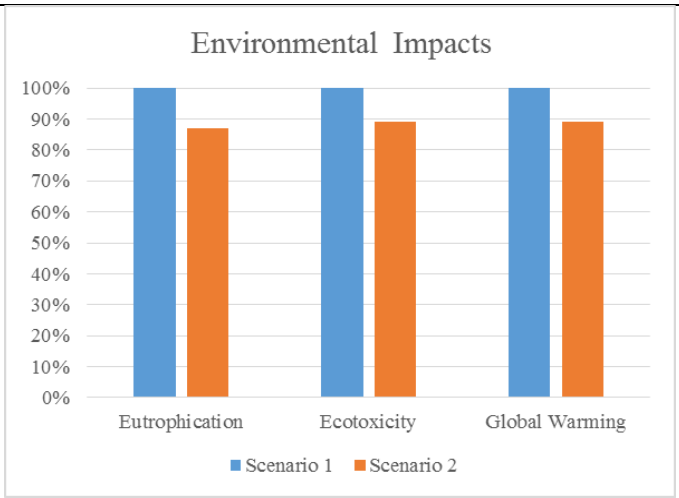


Figure 2. The runoff simulated for Scenarios 1 (implemented GSI only) and 2 (both implemented and candidate GSI).

	 Figure 3. The normalized environmental impacts evaluated for the two scenarios.
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • Reports • Project website	http://ctech.cee.cornell.edu/final-project-reports/