

Date: December 30, 2014

Agreement Number: G10AC00240

Project title: Building a Business Case for Shared Geospatial Data and Services to Support Transportation Planning in North Carolina

Final report

Organization: North Carolina Center for Geographic Information and Analysis; 20322 Mail Service Center, Raleigh, NC 27609-0322; <http://www.cgia.state.nc.us/>

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Collaborating Organizations: North Carolina Interagency Leadership Team (NC ILT), North Carolina Geographic Information Coordinating Council (NC GICC)

Executive Summary

This project did not complete the expected deliverables of the return on investment (ROI) templates during the performance period. Training in the implementation of the GITA ROI templates and methodology was successfully completed, however, CGIA staff and ILT participants had different expectations from the project in terms of time commitments and level of effort. The ILT is being reinvigorated in the second half of 2014, and the effort to complete the ROI for the Lenoir County pilot will be reassessed.

Project Narrative

The North Carolina Interagency Leadership Team (NC ILT) is a working group of eleven federal and state agencies involved in the transportation planning process. The ILT has developed a process known as MERGER to streamline the initial assessment of routing alternatives and to process environmental permitting issues that involve federal and state agencies. The elimination of routing alternatives earlier in the transportation planning process provides two key benefits: avoiding costly field work, and reducing the timeframe dedicated for initial assessment which reduces the overall project timeline. The collaborative approach to assess and improve environmental permitting also provides similar benefits of efficiencies in costs related to field work and improved timelines. Reducing the timeline for planning components in the process can reduce the overall timeline of realizing a project by months or even years for larger projects. These efficiencies have significant cost savings opportunities for bonding and making resources available to increase the number of projects that can be supported.

GIS datasets provide a key foundation for the MERGER process in both planning efficiencies and environmental permit processing. In 2009, an ILT working group identified thirty-one (31) key layers for a pilot evaluation in Lenoir County, North Carolina. CGIA was tasked by the ILT to lead the development of these key layers for utilization in the MERGER process. During this data development effort, CGIA applied for the FGDC funding to use the results of the pilot project to establish the ROI for the Lenoir County pilot project, and support the business case for expanding the development and on-going maintenance of the layers on a statewide basis.

CGIA staff hosted the GITA trainer and other CAP recipients in May 2010. The completion of Lenoir County pilot data was prioritized for the remainder of the 2010 calendar year. Conversations between CGIA and ILT participants focused on the concern of the level of effort for ILT participants to generate the granularity and volume of material necessary to complete the GITA ROI spreadsheets. CGIA generated streamlined collection materials with the goal of minimizing impacts on ILT participants. Simultaneous to this process, CGIA was short staffed across all client projects by one position for a period of twenty-three (23) months and two positions for eleven (11) months. Also during this time, the ILT did not meet for a significant duration through calendar 2013 to account for membership changes related to a change in executive administration teams after the 2012 general election.

As of summer 2014, the ILT is reforming based on participations from new representative of state agencies. During preliminary discussions, the ILT intends to maintain GIS as a core focus area. CGIA will continue to advocate for the completion of the Lenoir County ROI study, and will amend this report as appropriate to reflect progress in this area. It is expected the ROI will support the business case for developing and maintaining GIS data layers that are key to the MERGER process and also have significant contributions toward secondary uses and value to the GIS stakeholder community over and above the utility in the MERGER process. Between the pending activities of this project (G10AC00240) and a related CAP project to support business case development of the statewide point address data layer known as AddressNC (G12AC20110), CGIA hopes to demonstrate ROI tools and methodologies can be effective in establishing funding channels to support the equitable responsibility for justifying resources key GIS data layers that are used across multiple business applications and stakeholder groups.

Feedback on Cooperative Agreements Program *(to be completed for the final report)*

This funding area was the first year that CAP funds were made available for work in the area of ROI. Although research on specific concepts was done ahead of the proposal submission, hindsight clearly shows CGIA underestimated in communicating the level of effort that would be required from partners to complete an ROI and business case development of this magnitude. The expectation of completing an entire process running from ROI education, development of materials from numerous stakeholder groups, and synthesis of ROI documents into a business plan is a significant undertaking that requires commitment of in-kind resources beyond the CAP program matching requirements.

The training received from the GITA contractor was comprehensive and valuable. In general, the GIS community has not historically embraced the principles of net present value as a strategy for business case foundation. Most business cases related to geospatial technologies and datasets are formulated to establish relevance of the outcomes irrespective of external business factors. The foundations provided by the GITA methodology present the opportunity for the business case of geospatial

technologies to be presented and on equal footing and consideration with other social programs and public sector responsibilities.

In the area of program management, the performance period for work in this area needs to be commensurate with the scope of work proposed by the recipient organizations. Even with optimal circumstances, CGIA would have been hard pressed to complete the proposed work within the original twelve month timeframe.

The methodology presented by GITA is sound, comprehensive, and scalable. Adapting this methodology across a collection of organizations as represented by the ILT presents two distinct challenges. The first challenge is adapting the input information from numerous participating organizations. There are distinct steps in the knowledge transfer, normalization of input information, and analysis that only became evident after the startup of the project. The second challenge is developing a comprehensive ROI analysis across multiple units where there is a continuum of internal perspectives on the value of ROI: some organizations have comprehensive internal methodologies that are baselined and monitored throughout the process, while others may do initial ROI at the outset of the project, but are not monitored, or ROI may be disregarded in the internal project selection or prioritization process.