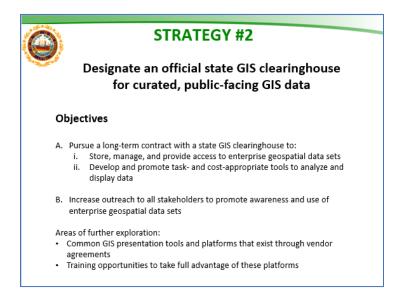# Pre-Proposal to New Hampshire GIS Committee
Agency Map Viewers Pilot Project
February, 2018

The New Hampshire GIS Technical Advisory Committee (GTAC) is proposing a 24-month, multi-agency collaboration to pilot test the development of a scalable, statewide infrastructure that will support a collection of standardized agency map viewers. The proposed activity is being submitted for consideration under the DoIT capital budget for Enterprise GIS, as it aligns with Objectives A.ii. and B. within Strategy #2 of the GIS Committee's Action Plan (see figure below).

Background:

Over the past three decades, multiple state agencies have been actively developing and managing essential spatial data assets to meet their internal business needs and functions. A number of the larger agencies are now at various stages of implementing solutions to share these data sets for both internal and public access. Other agencies have limited or no capacity to provide access.   Creating a single, centralized environment for standardized map viewers will reduce redundancies and increase efficiencies in the cost, management and sharing of the state's data holdings.

Purpose:

The purposes of the proposed pilot project are to 1) reduce redundancy, introduce standardization, and enhance effectiveness among the agencies currently developing and hosting web-mapping environments; 2) establish the foundation that will allow agencies who are presently lacking the necessary resources to build the required capacity; and 3) enhance access to and utilization of the state's significant spatial data assets. Overall, we seek to gain knowledge and understanding of the requirements to develop, host, and manage a centralized web hosting environment that serves multiple state agencies as well as the public. The results of this pilot effort will provide direction and guidance in the subsequent development of a state plan for centralized web mapping hosting and sharing.

Project Activities:

The project seeks to develop the full governance structure and infrastructure required to test a collaborative web-mapping application model. It will do so by engaging in the following activities:

- Survey state agencies to establish current needs/capabilities/skill sets with respect to geospatial data management, data publishing, and current/planned on-line mapping tools
- Design and deploy agency mapping site(s) that address current and future business needs, and that provide public access to enterprise data sets managed by NHDOT and NHDES
- Establish recommended standards for:
  - Map publishing, including map content, data layer naming, and metadata, as well as stylistic elements
  - Minimum data quality characteristics
- Establish governance structure and documents to address:
  - User management (names, roles, credentials) for the anticipated   named user accounts
  - Software management (versioning)
  - Site publication environment (development, test, production environment)
  - Data hosting (where/who publishes enterprise map services)
- Provide training and technical support to named users participating in the pilot

Project Approach:

The project will be conducted by a working group comprising staff from the NH Department of Transportation, the NH Department of Environmental Services, and UNH GRANIT. The group will conduct the activities outlined above based on a 2-agency collaborative model that is expandable and scalable, and one that will accommodate other interested state agencies as well as regional and local jurisdictions in the future.

The proposed activities will be completed by a working group that includes the following:

> Glenn Davison, NHDOT
> Jim Irwin, NHDOT
> Ali Skinner, NHDOT
> David Justice, UNH GRANIT
> Hamilton McLean, NHDES
> Fay Rubin, UNH GRANIT
> Kristen Svendsen, NHDES
> Dongmei Wang, NH DoIT

Primary responsibilities of the working group will include:

Working Group
- Actively participate in the development of governance structure documents content, review and approve documents
- Produce pilot web mapping applications in Geocortex and ArcGIS Online environments

GRANIT

- Facilitate working group meetings and format working group content into draft documents for review and approval
- Provide Geocortex hosting environment
- Provide technical support and research support to the web map application development teams

The working group will identify a set of web mapping applications that 1) address individual as well as cross-agency business requirements; and 2) rely on data that is developed and maintained by one or both of the participating agencies.   Applications may range from mapping tools to streamline NHDES permitting processes, to applications that provide access to the stream crossings database that is being developed collaboratively by NHDOT, NHDES, and NH Fish & Game. The web mapping applications will be developed using two technologies – ArcGISOnline (AGO) and Geocortex. The AGO environment is a product of Esri, and is a current statewide standard that meets many basic agency web mapping needs. The Geocortex environment, a software framework developed by Latitude Geographics (http://www.latitudegeo.com/), provides enhanced features and capabilities, including custom workflow processes, and the opportunity to offer more advanced functionality within a streamlined user interface. Both environments are presently being utilized within the state – AGO by state agencies, and both AGO and Geocortex by GRANIT as well as NHDES.

The participating state agencies will continue to access AGO through existing licensing. The proposed Geocortex Essentials license will be hosted on UNH GRANIT server(s), and will be configured to manage users allocated across two (or more) state agencies. The shared license will be installed on up to 3 servers, corresponding with development, testing, and production environments. Data published via the web mapping sites will be managed and hosted by the participating agencies.

NHDES and NHDOT will each identify two staff members who will manage the development, testing, and deployment of agency-specific viewers. These lead staff will participate in both formal Geocortex training classes and an Esri-sponsored AGO workshop, and will thereafter assume responsibility for working with additional agency staff to build internal capacity. The primary roles of GRANIT staff will be to 1) install, host, and manage the software on UNH servers, and 2) provide first-level technical support to the NHDES and NHDOT lead staff as they construct and manage agency sites. GRANIT staff will liaise with Latitude Geographics as necessary to resolve technical issues. GRANIT will also participate in the working group, with emphasis on establishing the governance structure and to a lesser degree, assisting with the surveys described above.

Funding Requirements (subject to modification as scope is finalized)

The estimated budget for completing the project is presented below.

Personnel (inclusive of fringe)	$97,192
Software Licensing	$32,400
Training	$14,345
Technical Support	$4,600
Travel	$907
Subtotal	$149,444
Facilities & Administrative Costs (35.2%)	$52,604
Total	**$202,049**

Notes:

1) The personnel components represent only the participation of GRANIT staff, as state agency partners have committed to actively participate in the project without additional staff funding. The proposed figure includes:
    a. Project Manager (Rubin), 3.25 months
    b. Senior Analyst (Justice), 5.5 months
2) Software licensing is based on a quote provided by Latitude Geographics (8/29/2017), and includes:
    a. Geocortex Essentials, $12K/year for 2 years
    b. Geocortex Analytics, $7K purchase with 20% maintenance fee in year 2
3) Training is based on a quote provided by Latitude Geographics (8/29/2017), and includes:
    a. Essentials - Getting Started (2 NHDOT, 2 NHDES)
    b. Essentials – Refresher (1 UNH)
    c. Developing Workflows - .NET (2 NHDOT, 2 NHDES)
    d. Developing Workflows – Workflow 5 (2 NHDOT, 2 NHDES, 1 UNH)
4) Technical support includes 10 hours of technical support per agency per year (for a total of 40 hours) from Latitude Geographics.