

# Town of Concord GIS Needs Assessment Update

## Executive Summary

The Town of Concord GIS Program has become one of the most respected of its kind in New England. This was no accident. The Concord GIS Committee has worked hard over the past several years to continually expand the program and ensure that GIS in Concord had the support it needed to succeed. In addition, a great deal of credit is due to the Town's leadership, including the many boards and committees that have supported GIS and the Town Manager who has set the bar high for GIS in Concord.

The purpose of this Needs Assessment, or Needs Update, was to review the GIS Program in the Town of Concord from the technical perspective and from the perspective of the end users. Needs change. Technology changes. Therefore, it can be assumed that a Needs Update might find several areas where improvement can be realized.

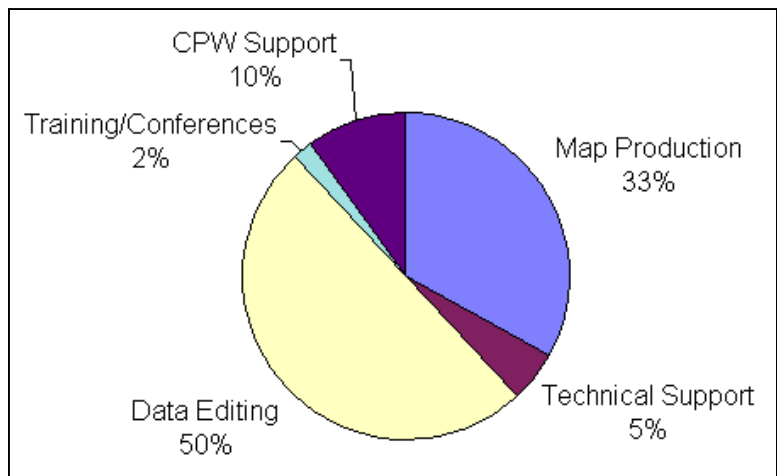
This study certainly did find areas for improvement. Working closely with the GIS Committee, and especially with the Town's GIS Coordinator, PeopleGIS was able to define a future for the Concord GIS that truly fits the community's direction and intentions for its staff and their use of technology. But know this: not all of our recommendations involve technology. Many of our concepts and ideas revolve around the Town's approach to GIS and the role of the GIS Coordinator. With these recommendations in-place, we believe that Concord will raise the level of their program significantly and continue to provide leadership throughout New England in regards to municipal GIS programs.

### The Role of GIS Coordinator

To date, the GIS Coordinator has been focused on the technical aspects of the GIS Program, including Data Maintenance and Map Production that have accounted for 83% of his time (see Figure 1).

If you remove the 10% of his time spent in support of CPW operations (which focused on tasks outside the GIS Program), this left only 2% of his time for Training and Conferences and 5% of his time for Technical Support.

This last category is the single most important finding in our study. On average, the GIS Coordinator has been spending only 2 hours per week supporting end-users.



**Figure 1. Historical Breakdown of GIS Coordinator Role in Concord**

The net result of this approach is that the data in Concord is very up-to-date, but we have found end-users that are frustrated with the system. While we did not find serious levels of frustration, we did find this situation being the primary impediment for system growth and vision. Technically, Concord's GIS Program is state-of-the-art. As an organization, we recommend that Concord's GIS Program take a new direction.

We recommend that we change the role of the GIS Coordinator to be "people-focused". We know that GIS is a technology, and that information management is a technical industry. But we feel strongly that the success of an entire GIS program is largely determined by the success of each individual in the program. In order for individuals to achieve their potential with GIS, they need support.

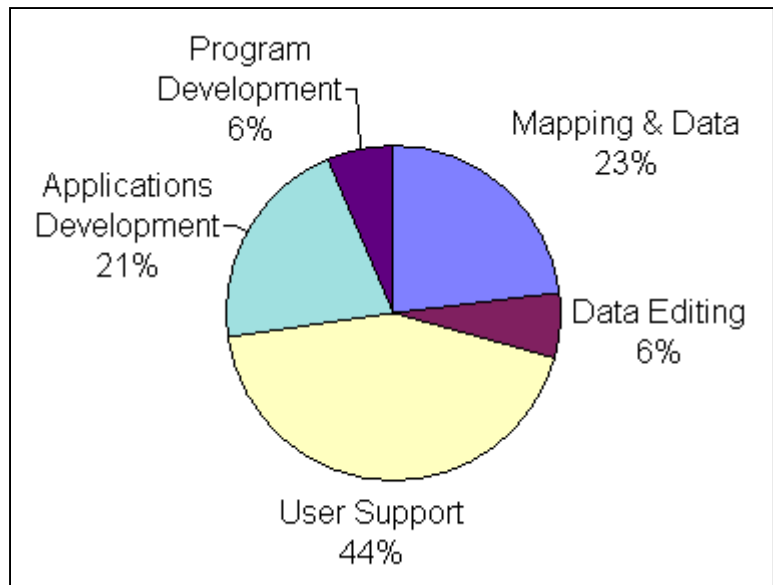
End-users need technical training when the program begins, routinely scheduled training that they can plan around, and opportunities for training support for acute situations that arise due to work demands.

End users need to know enough about the technology they are using in order to ask constructive questions.

End users need to have someone to go to with their questions, concerns, and curiosities (curiosities are often responsible for the best ideas for program growth and expansion). Additionally, end-users need to know that their questions, concerns, and curiosities will be heard, documented, and considered by program leaders. Otherwise, why bother?

End users need to know that the GIS Program has direction, vision, goals, and the necessary levels of support for success.

Lastly, and likely most importantly, end users need to feel that the GIS Program is built for them. Imagine if everyone in Concord felt that way. How successful would each individual be then?



**Figure 2. Proposed Breakdown of GIS Coordinator Role in Concord**

### Summarized Recommendations

We can summarize our recommendations as follows:

- *We are recommending a new GIS Program website directed at all staff users of the GIS in Concord. This website will be the home for the GIS Program, providing pages for questions, prepared maps, instructions, news on all program developments, schedules for training, access to support, and more.*
- *We are recommending a new concept called Wednesdays with Matt. This concept provides all staff with the opportunity to spend time with the GIS Coordinator on*

*Wednesday of each week. The Coordinator will plan for this day each week and the staff will know that this day is set aside for their needs each week.*

- *We are recommending that the GIS Committee change form. We recommend an Executive Committee to consist of 3-4 individuals that have formed the Committee in years past, to meet quarterly and address all decision making. We also recommend the formation of a General GIS Committee that is open to all staff as members-at-large.*
- *We are recommending that effort be expended towards the formation of a partnership with the Schools in Concord to provide students with learning opportunities and exposure to the growing field of spatial sciences, to provide the Schools with management tools and possible curriculum opportunities, and to provide the Town with potential resources for data collection and creation through school programs and internships.*
- *We are recommending that the Town and CMLP increase their level of partnership by sharing resources, software, and vision. CMLP is interested in web GIS technology and database technology that the Town already possesses and can share.*
- *We are recommending a regional GIS database to be developed for those departments that require mapping and information beyond the border of the community.*
- *We are recommending that the GIS Program consider the Town's desire to implement document management and permit tracking systems as "partner programs" to the GIS Program. These new systems should be intimately tied to the GIS as they are considered, designed, and implemented.*
- *We are recommending the development of a Master Address Table to provide for a stable and consistent address inventory/source for all departments.*
- *We are recommending a variety of databases be integrated into the GIS Program:*
  - *Dogs Database*
  - *Census Database*
  - *Posted Roads*
  - *Utility Customers*
  - *Life Support Citizens*
  - *Traffic Counts*
  - *Curbside Collection Subscribers and Barrel Collection Points*
  - *Registered Irrigation Sprinklers*
- *We are recommending a variety of mapping layers be added to the GIS Program:*
  - *New Town-wide Aerial Photography*
  - *Updated Planimetrics*
  - *2-ft Contours*
  - *Zoning Buffers*
  - *Student Mapping to Support*
  - *Hanscom Air Force Base Mapping*
  - *Enhanced Bridges Map Layer*
  - *Enhanced Railroad Crossings Layer*
  - *Bus Routing*

- *We are recommending a variety of applications be added to the GIS Program:*
  - *Staff WebGIS*
  - *CPW WebGIS*
  - *Police Dept Mapping Application*
  - *Fire Dept Mapping Application*
  - *Dispatch Application*
  - *Error Reporting*
  - *Natural Resources WebGIS*
  - *CMLP WebGIS*
  - *Complaints Tracking WebGIS*
  - *Mapbooks Application*
  - *CMLP/COA/Public Safety Emergency Support WebGIS*
  - *PDF Maps*
  
- *We are recommending a variety of multi-media additions to the GIS Program:*
  - *GeoPhones*
  - *Linked Sewer Video*
  - *Town-wide Virtual Tour Photos*
  - *Vision Building Photos*
  
- *We are recommending that the Concord parcel mapping be updated to the new MassGIS Standards for Parcel Mapping Level II.*
- *We are recommending that the drainage system mapping be updated and completed with tools that also allow for system mapping maintenance. We recommend that these new tools also be used to maintain the sanitary sewer system mapping going forward.*
- *We are recommending that the kiosks be updated to versions of the WebGIS to promote the public's use of the WebGIS from their homes.*
- *We are recommending a structured and consistent training program, including:*
  - *Quarterly Training Events to provide for continued education.*
  - *WebGIS Training Events to maintain familiarity with the WebGIS and maintain understanding as site functionality grows.*
  - *Individual Training for those who learn better this way.*
  
- *We are recommending a new laptop for the GIS Coordinator as an additional means of promoting mobility and enabling the Coordinator to "bring the GIS to the users".*

While many of these recommendations focus on data, it should be noted that all GIS Programs continually add data and mapping layers. For the most part, it is clear that the majority of the needs for change in Concord revolve around the recommended focus on end-users and their success with the GIS.