

Inventory/GIS Recommendations

Chapter six of the Two Storm Panel Report recommended municipalities, utilities, and state agencies share Geographical Information Systems (GIS) mapping with an emphasis on GIS data relating to streets and utility infrastructure. Recommendation #20 in Chapter three of the Two Storm Panel Report stated “Conduct a state-wide tree risk assessment and prioritization schedule particularly targeting hazardous trees.” There was a great deal of discussion in the Task Force meetings regarding the inventorying and assessing the quantity and quality of the trees along the roadside forest of Connecticut. The information gathered in an inventory or assessment will have great value to the utility companies, municipalities and the State of Connecticut by providing an understanding of the number and condition of trees within the public Right-of-Way. In order to relate the inventory to other features in and near the right-of-way such as transformers and property owners, these assessments should be conducted within a GIS environment.

For the utility companies, the inventory or assessment could be assimilated with outage data to determine which areas should be prioritized for trimming and other maintenance. In the long term, if the inventory or assessment is continued over time, this information could be used to validate which types of trimming practices and trimming cycles are most appropriate for a given area.

For the municipalities, the inventory or assessment provides a means to understand the anticipated costs of properly maintaining its roadside forest and correcting liabilities that could be harmful to its inhabitants. In several towns, like Milford, Norwalk and East Lyme, proactive citizens have conducted inventories with the goal of improving the condition of street trees. These efforts not only provided benefits described earlier but have provided a means to recover costs when disaster strikes. The same inventory used to improve tree conditions can be used to quickly provide FEMA with the conditions of trees damaged during a storm event.

For the state, the benefits of an assessment or inventory of trees within the state ROW are the similar as for municipalities with the additional condition that most state ROW's are critical for keeping the state up and running after a storm event. These roads must be able to be cleared quickly after a major storm occurs.

One of the benefits of implementing GIS is the ability to share geographic information in an intuitive manner. Chapter four of the Two Storm Panel Report covered many of the problems in communication and sharing of information between utilities and municipalities. Much of the confusion revolved around outage maps and where power was getting restored. This not only was a nuisance, but was potentially deadly. Utility companies should share outage information

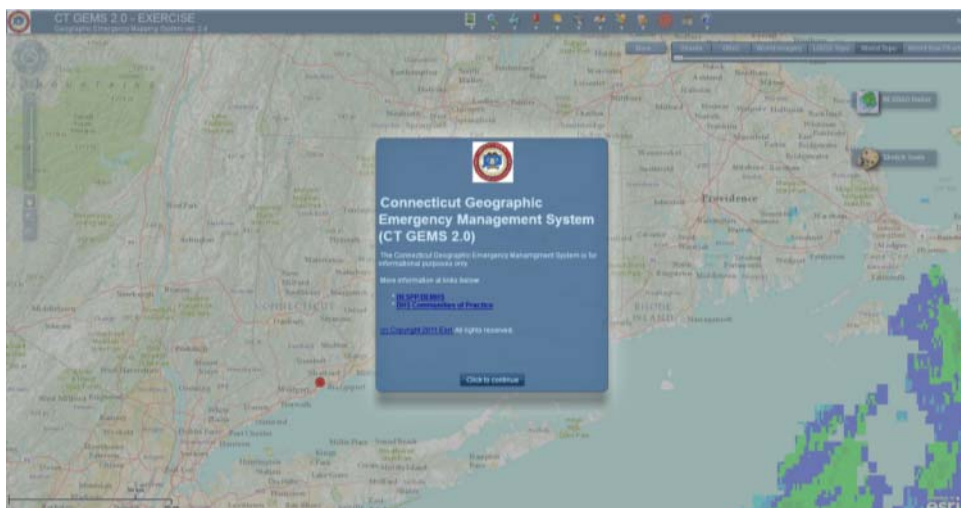
in real-time to the state and municipalities so that field personnel know where downed wires are no longer live and present eminent danger.

The major recommendations follow three themes: Coordination, data and systems. Coordination is critical because of the shared nature of the vegetation management within public rights-of-ways. As for data, Town of South Windsor Public Works Director's mantra is "You cannot manage what you cannot measure." In order to manage trees, we need actionable information to assess the problems and devise plans to properly manage those resources. Hand in hand with data are systems to help further refine the information collected the trees and disseminate that data and information to the appropriate entities that share managerial responsibilities over the care of our roadside forests.

Recommendations:

1. GIS Coordination. Like recommended in the Two Storm Panel Report, the Connecticut GIS Council (www.ct.gov/gis) should expand representation to include a broader GIS user base beyond State, Regional or Municipal Representation. This should include quasi-public agencies and private entities.
 - a. The Council should revise the Connecticut Enterprise GIS Strategic and Business plans from 2007 to accommodate Utilities and the Public Sector in those plans.
 - b. More emphasis should be placed in finalizing and updating Data Subcommittee Standards and Guidelines if necessary to accommodate additional participants on Geospatial Council.
 - c. The Council should plan for the development of interoperable systems for sharing information between the utilities, state agencies, regional planning agencies and municipalities.
 - d. The State should fund the four core framework datasets described in both the Strategic and Business plans with particular emphasis on the Statewide Orthophoto (aerial photography) and Parcel programs.
 - e. Fill empty GIS positions within state agencies when vacated, especially DEEP.
 - f. Establish GIS Coordination Unit within the Office of Policy and Management to implement policies established by the Connecticut GIS Council.
2. Aerial Photography. Continue and establish new funding mechanism to procure statewide high resolution aerial photography at minimum every four years at the specifications detailed in the digital orthoimagery data guidelines published on the CT GIS Council base map imagery subcommittee website:
<http://www.ct.gov/gis/cwp/view.asp?a=3034&q=410762>.

- a. Additional funding to insure the USDA NRCS National Aerial Imagery Program flights covering the State of Connecticut will include a Color Infrared band in addition to the natural color (RGB) bands.
 - b. Additional funding for UConn CLEAR program to classify land cover using the USDA NRCS National Aerial Imagery Program flight data for canopy coverage and other environmental conditions such as impervious surfaces.
 - c. Additional funding to expand DEEP Coastal Color Infrared aerial photography program to include complete coverage for coastal communities.
 - d. Additional funding for UConn CLEAR and or MAGIC to georeference and mosaic the various collections of historic aerial photography collections including the highest resolution 193 and 1965 aerial photos housed at the State Library.
3. Parcel Data. Continue and establish new funding mechanisms to develop a statewide parcel dataset. This also includes easements and other encumbrances on private property including electric utility easements and rights-of-way. Continue funding regional parcel development programs through OPM's Regional Performance Incentive Grant with emphasis on programs that accurately build parcel data through subdivisions and other surveyed sources. Parcel data should be developed with the specifications detailed in the Cadastral Data Standards and Guidelines on the CT GIS Council cadastral data subcommittee website: <http://www.ct.gov/gis/cwp/view.asp?a=3034&q=410780>.
- a. Encourage the Department of Transportation to translate existing paper and CAD Right-of-Way mapping to GIS format compatible with GIS parcel data.
 - b. Encourage municipalities to properly research town right-of-ways and make that information readily available for incorporation into GIS parcel datasets.
4. GIS Systems. Expand the use of existing state web-based GIS systems already in place. The Connecticut Geographic Emergency Management System (GEMS) was set up and utilized during the Statewide Emergency Preparedness Drill starting on July 29th. This tool is made available on an as-needed basis.



5. Through actions of the Geospatial Council, enable tools similar to GEMS to allow for roadside forest inventories and assessments be uniformly created, updated and maintained. This should be secure and have the ability for the tree managing participants (utilities, municipalities and the state) to create, update and maintain tree information. For many small municipalities, this would be the only resource available to conduct such activities. This system needs to be made available through standard web browsers as well as common mobile devices such as smart phones and tablets.
6. In addition to a system to maintain tree condition data, there should be a system for citizens and rate payers to provide feedback to the tree care provided by the tree stewards similar to the Town of South Windsor's Community Citizen Service Request Dashboard http://www.southwindsor.org/Pages/swindsorct_it/csr/csrdashboard. This system allows the citizens of South Windsor to submit requests for services, see current or pending Town projects, and highlight town events. This system currently provides this functionality from any computer connected to the internet but soon this functionality will be made available on certain mobile devices.

