Public Works Management System Software Update

By Bob Strobel, UNH T² Software Project Manager

The UNH T² Ctr. has been developing software for public works since the 1990s. Software packages to manage roads, road signs, drainage and equipment have been distributed. The last major update was in 1998. That will change in October when we release the new PWS Suite.

For the last two years, the UNH T² Ctr. has been working on software updates. There have been a few major changes. First, we've added new technology. This includes an easily understood, map-based interface to locate assets, such as roads, signs, and culverts. All modules use the same map interface.

Second, we've combined all of the earlier programs into one program. PWS Suite includes drains, roads, signs and a generic data collection package, which is set up by the user to collect specific information. Now, there is only one screen that displays all of the collected information for their roads, signs, drainage and others.
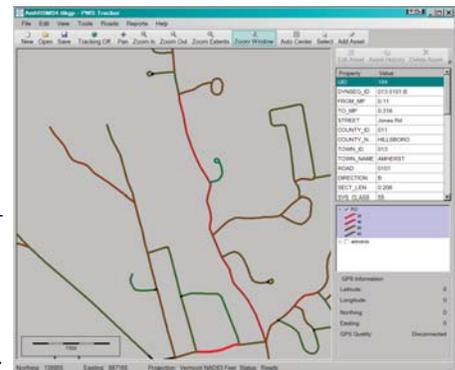
Several towns have provided real-world testing of the program for us. South Berwick, ME had students collect data on their drains and road signs for three summers. They reported that asset collection for drainage items, such as catch basins or manholes, took an average of 45 seconds each in the downtown area and less than two minutes each in rural areas.

Amherst, NH used the roads component of the PWS Suite to collect information on their public works infrastructure. Two summer interns collected road condition surveys in one week for 108 miles of roadway. This project took three weeks less than scheduled.

When compared to the other software products Amherst has used, Dave Demeo (UNH Civil Engineering student) said, "I did not start using the software until August. After using it for a few days, I wish I had it all summer. I had been using an outdated version of ArcView for the previous two months and struggled. From what I have seen and experienced with the two systems, it is apparent how user friendly PWS Tracker actually is."

Part of the decision to move to a map-based interface was to greatly reduce data entry. Geographic Information System (GIS) software is becoming more common. Most road inventory data has already been collected by some public agency (RPC, DOT or state GIS warehouse) and simply needs to be imported into PWS Suite then verified.

To assist in plotting assets, likely asset locations can be found using the map layers. For example, display the stream network on the road map where a stream crosses a road, usually some type of structure will exist. Display the road network on the map and road intersections should have signage. Add an item by clicking on the map and filling out the user-friendly form that pops up.

In the past, the UNH T² Ctr. programmed the following management systems: Road Surface (RSMS), Sign Inventory (SIMS), Drains (DrainMS), and Municipal Equipment (MEMS) with funding from the Federal Highway Administration (FHWA). Therefore, we were able to distribute the software for a very small fee ($25). The funding for that program is no longer available, so a public-private partnership between the UNH T² Ctr. and PWS Solutions (pws-solutions.com) was created to bring the updates to life.

The PWS Suite is affordable with an introductory price for municipalities of $559. The UNH T² Ctr. will provide free technical assistance for users. During the development of the partnership a few false starts occurred. However, the end is in sight and I look forward to teaching classes on the software (see www.t2.unh.edu/training).