SADES: Statewide Asset Date Exchange System

On the Road to High Tech Record Keeping

The 2014 Year in Review *by Stephanie Cottrell, Technology Transfer Center & SADES Training Coordinator*

Not too long ago you may remember a story about a new pilot program (SADES) that set out to establish a primary transportation inventory of assets including a maintainable condition assessment process for many state and local agencies. SADES is a unique approach to statewide asset management that efficiently utilizes modern technology and joins efforts for the common good of accurate and sustainable data collection." explains Project Manager, Christopher Dowd. Executive Director, Charles Goodspeed adds that SADES is "a partnership consisting of all public sector agencies with responsibilities related to transportation assets. It is simply an infrastructure to facilitate data management."

While the Technology Transfer Center (T^2 Center) has made asset management software packages available for over 25 years, "there were three hurdles that had to be addressed to obtain user support prior to actually creating SADES: 1. Identification of a data acquisition labor force, 2. Sustainability of the data, and 3. Appropriate data acquisition hardware." admits Goodspeed. With these obstacles identified, a bigger issue that faced the team was convincing the end users of the change. Each agency and municipality has had its own established methods of collecting data for years and the users of those methods are familiar and comfortable with them. It is difficult to persuade people who have an established system that this new one is "better"," says Dowd. Pair that with the painful fact that some agencies across the state are still not equipped with modern technology, the team had substantial barriers to climb.

Changes in technology aligned to overcome these hurdles. ESRI (a geographic information system company) software allows anyone with a smart phone or tablet to have access to the asset management database. Hardware in the form of iPads, with its economical price tag, allows portability of this software to even the most faraway places and is an affordable gateway for those agencies with little technology. The SADES program will also offer their 11 iPads at no cost for use via a sign out registration platform to all participating agencies and municipalities.

Another element that propelled the innovation of this database system was the economic downturn which forced agencies to find ways to cut costs while improving efficiency, accuracy and comprehension in the dwindling workforce. Today's need to do more for less, the shortage of tax dollars and alternatives to the hurdles -stated above- initiated the interest in SADES. In the past three years SADES has grown to include 5 state agencies, managing 2 assets (culverts and sidewalks) and by the summer of 2015, four more will be added (roads, signs, bridges and guardrails)," says Goodspeed.

A Breakdown in the Benefits of Using SADES as a Tool for Asset Management

Sustainability: This data remains stored on a shared server on the "cloud". Once it's collected, the data remains on this server and can be accessed anytime and from anywhere for any analysis purposes.

Efficiency: With the touch of a finger, the user can easily fill in the attributes using the ESRI application where the data is then instantly submitted, or uploaded, to the server on the cloud. This means no errors due to transfer of data from paper into a computer database. And there is no duplication of efforts as no two agencies are collecting the same data. Every agency involved is contributing its own assigned data towards a common goal of having a central database.

The SADES pilot team, consisting of the New Hampshire Department of Transportation (NHDOT), New Hampshire Department of Environmental Services (NHDES), Regional Planning Commissions (RPCs) and the T^2 Center, developed a plan that determined which partner would contribute which data to the project. "It was, and is, important to define each partner's role in the project so that all aspects are covered," Dowd states. Initially, the program's asset data collection focused on culverts using an established set of standard definitions and criteria, with the goal of facilitating a progressive rather than responsive approach to highway rehabilitation and maintenance. The Team wanted to be able to better capture the historical asset information of these culverts in order to plan what future repair and care needs would be. Doing so will allow for more effective budget planning for the state and municipal highway departments.

Pilot Program Outcome with A Look to the Future

The pilot Team was trained in the use of the newly established system with the iPad Mini's in May of 2014. From there, they began collecting data using 139 unique culvert attributes utilizing the host systems, ESRI ArcDesktop and ArcOnline on the newly acquired Apple iPads. "Before the pilot collection was complete, we had already begun looking at other asset data to collect," says Dowd. "In only 3 months of data collection, 1,020 culverts were inventoried throughout the entire state. Adding in historical data from NHDES we managed to populate the SADES map with 2,097 culverts in only 5 months" of the launch date.

In the months that followed this pilot's conclusion, the Team worked toward developing and expanding the assets and inventory data collection along with the ranges of criteria to include several types pedestrian infrastructure. This comprised of sidewalks, crosswalks, and down ramps. The plan for 2015 is to continue collecting more culvert data, work on launching the pedestrian assessments, and hopefully to launch two more assessments, Road Surface Management System (RSMS) and Guardrails.

Currently, the numbers look like this:

Asset	Quantity	Attributes
Culverts	2097	139
Sidewalks	1021	27
Crosswalks	336	21
Curb Ramps	-	11
RSMS	-	29
Guardrails	-	32

With the state agencies and RPCs chomping at the bit to add assets and establish more comprehensive criteria to SADES, the future of this program looks bright. Dowd shares "We'd really like to expand our reach of SADES... attaining other interested parties and investigating which assets have the strongest interest." He and Goodspeed feel strongly that this database system would benefit local municipalities as well as other state agencies.

Financial support has been granted for the next 2 years to support SADES. "SADES will continue to advance on the coat tails of hardware evolution. Software will have to be updated per hardware advances, but the nice thing about SADES is it is built in an environment that is expected to be sustainable." Goodspeed declares. By 2020, Goodspeed believes that SADES should be fully developed and a functioning part of all partners' daily tasks and responsibilities.