CASE STUDY

Trapeze™

Laramie County School District

Managing transportation for a medium sized school district in a large geographical area

"...and the technical support from Trapeze staff is the best aspect of all."

Jon Enell, Routing Coordinator
Laramie County School District Transportation Department

BUSINESS PROBLEM

The Laramie County School District, based in Cheyenne, Wyoming, has been using ESRI-based mapping software for several years to manage school facility planning tasks. So it was natural to choose an ESRI-based product to manage their school transportation needs. At the time, they chose an earlier version of Trapeze-Smartr, then known as version 4, which utilized ESRI's ArcView version 3. This was important so that the school district only needed to manage one set of map data for all the departments within the county-wide school district.

As ESRI released their new generation of mapping or GIS software in 2002 known as ArcGIS, Laramie County upgraded their Smartr software to version 9 in 2007 which was then re-engineered from the ground up to take advantage of all the new features in ArcGIS.

Students throughout the Laramie County School District lived in a combination of both urbanized and rural areas. The winter time brought harsh weather conditions which made many of the roads impassable where school buses normally drove on to pick up and deliver students in the rural areas. These conditions posed unique challenges to the managers in the district's school transportation department.

SOLUTION

Jon Enell, routing coordinator for Laramie County School District's transportation department, continued to manage bus stop information, student assignments and bus route data which was originally setup with the older version of Smartr. New reports in version 9 of Smartr made it easier for Enell to provide student route assignment rosters to both bus drivers and school sites.

Aside from the other day-to-day tasks that Enell used Smartr for, the task of identifying "snow areas" within Laramie County was progressing. The school district mapped and created a single layer of regions that made up these different snow areas. These different regions were determined on how often the county dispatched snowplows to the various areas, the number of students affected and the remoteness of the regions. Typically, the urban areas, being in one region, were not as affected since the streets were frequently plowed, so bus service didn't need to be cancelled inside town. Depending on the severity of a snowstorm, school district staff would make a quick decision on which of the regions they would not serve with school bussing.

After staff from the district's facilities department determined or updated these regions using ArcGIS in their own office, they would copy the map layer to Enell at the transportation department. Enell would load the new layer into his copy of ArcGIS for use with Smartr. Custom database fields can easily be setup in Smartr. So a special field was created to record which snow area each bus stop was located in. Then, a standard tool in the ArcGIS software was used to update each bus stop record with the snow area it is located in. After each bus stop is assigned a snow area number, then the routes, schools and students serviced by that bus stop could all be easily identified. Smartr now made it a snap for transportation staff to inform parents whether or not school buses would be able to pick up their children and bus drivers were informed which portions of their routes would not be serviceable.

Incidentally, another type of severe weather that the Laramie County School District commonly experiences is tornados. When a tornado roars through a section of the district, the bus stops in that area are immediately identified on the map using ArcGIS. Since Smartr stores the most up-to-date phone number of each student, a list of students assigned to bus stops in the tornado zone would be instantly created and sent to the district office. There, an automated phone system initiated phone

SNAPSHOT

Service area:	1,906 square miles
Total students:	12,868
Students transported:	approximately 4,500
Number of buses:	102
Number of schools:	32—26 elementary, 3 middle and 3 high

calls informing parents that their children were not delivered to their normal bus stops and are currently being kept safely at school.

RESULTS

Bus routing for the following winter will now be more effective that it is easier to make decisions on which areas will not receive bus transportation. In previous winters, the school was cancelled for the entire school district which meant that no student attended school for the affected days. This meant that the school district lost valuable funding.

As the school district's on-going needs for performing tasks to better deal with Wyoming's harsh winters, Enell was always able to contact the technical support staff at Trapeze to quickly devise a new way to use the Smartr software and address a new concern or idea that someone inside the district had. "There are so many ways to look at my transportation data now with Smartr as compared to just a few years ago, and the staff at Trapeze made it easy for me to do just that," claims Enell.

Enell continues that "a picture is worth a thousand words. Being able to visualize students, bus routes and stops in relation to any other type of map data that I have available to me from other departments or agencies is extremely useful. I would recommend that any school district that is planning to purchase a bus routing software system to be sure that it has the ability to display ESRI industry standard map data in their system such as Trapeze's Smartr."

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