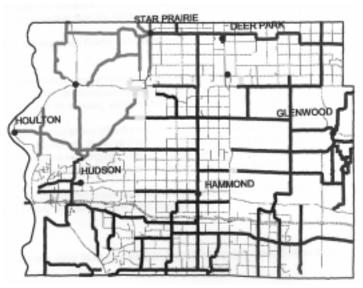## Idea Exchange

Software assesses plowing routes

For every major snowstorm, St. Croix County crews plow more than 2100 lane miles. The county's highway department recently invested in developing a detailed computer database to help them evaluate plowing routes and site a new highway garage.

Starting with the best electronic road maps from the regional planning commission, engineering consultants OSM and Associates developed a detailed database with attributes for each route segment. The highway department's management staff supplied intersection and ramp information, corrected problem segments, and refined the information until it was completely accurate.

St. Croix County plow routes will be adjusted following a computer review which revealed some minor problems.

"It took considerable effort," says Highway Commissioner Dan Fedderly. "More than 1000 nodes had to be evaluated." Nodes are map points where the electronic version of the route was interrupted. Some nodes were cul de sacs or route ends, but many others needed to be connected to produce an accurate electronic map.

At the same time, they were developing a plowing model that correctly reflected capacity at each existing shop, cycle times and average plowing speeds for each jurisdiction— township, county, state and Interstate routes. A software program compared the existing system to ideal or optimized routes. A report revealed a few problems which will be solved by some minor route adjustments.

"We knew we were short in some areas in our ability to provide the level of service desired," says Fedderly. "Now we have the foundational data and evidence to support that experience." The database and model also give St. Croix County a sophisticated tool for projecting resource needs. This will be crucial in preparing for a new four-lane from Holton to New Richmond to be completed in two or three years.

The county has already used the information to identify a location for a new facility to be built next year, and plans to use it for siting several other facilities in the following four or five years. They plan to keep the database up to date as routes are revised and roads are built, and Fedderly also hopes to integrate into it their pavement surface condition and highway improvement information.

For additional information, contact Dan Fedderly at 715/796-2227.

Handy job guidebook available

Do you ever need to figure how many tons of stone you'll need to place on a road 18 feet wide using an application rate of 15 pounds per square yard? OR how many tons of hot mix you'll need if you plan to lay down a one-inch mat over a road that is 1/4 mile long and 21 feet wide? OR how much crushed stone or sand your new stockpile can store if its base is 45 feet long and 25 feet wide? If you so, the new pocket-sized guide from the T.I.C. is just what you need. There are also hundreds of other tips and suggestions on how to do your job better. See **Resources,** pg. 6 for how to get a copy.

Do you have an idea to exchange? Have you designed a gadget or found a new way to do something that other streets and highway people can use? Let us know about it! Use the form on page 7, call, or e-mail Don Walker or Steve Pudloski.