#### RoadSoft-GIS: The Integrated GIS Road Management System for Michigan Counties, Cities, and Villages



Your technical support has been great. Your staff has answered every question and resolved every issue the same day we called.

- Paul Bouman, P.E., County Highway Engineer, Muskegon CRC

# Optimize Your Road Maintenance with RoadSoft-GIS

*RoadSoft-GIS 6.5* includes the Strategy Evaluation module, an evaluation and optimization tool that helps make road network maintenance decisions with just a few mouse clicks. Using this module, you can quickly see how the overall condition of your network changes as you vary investments in typical maintenance activities

#### Find the best "Mix of Fixes"

Pavement lasts longer and the overall cost of the road is less when the right fix is used at the right time. Road agencies now recognize that this means the best way to maintain a road network is to use a "mix of fixes." Using this technique, a road agency applies preventive maintenance treatments according to the condition and type of road surface being maintained. RoadSoft-GIS helps you determine the best mixof-fixes for your network. RoadSoft-GIS also gives you accurate forecasts of how your maintenance activities will affect the life and overall cost of your network.

#### **Optimize On The Fly**

The Strategy Evaluation module applies research-validated models to your network and determines how best to extend the life of your

roads while improving overall network condition. As you vary inputs, the tool shows changes to network condition "on-the-fly." You can set constraints based on budget, time, types of treatments, road type, and many other variables. What

Strategy Compare these two strategies with identical networks 😅 Open 🔚 Save 🗙 D Current Strategy Mix Of Fixes at 5 and identical budgets. On the left is an optimized "mix Strategy Definition of fixes," and on the right is a "worst first" strategy 🚠 Optimize that concentrates the whole budget on reconstruction. Asphalt-Standard: 373.428 ----- Reconstruction - 9" base, Entire Strategy 🔽 400000 Costs by Year \$334,853 2.7979 200000 \$329 132 2 7501 00000 10 🗔 400000 07 08 09 10 11 12 13 14 15 16 17 00000 Percent of Good(grn) Fair(blue) Poor(red) by Year Mill & Overlay - 3" Thick (Asp) - (\$ 49,280 / mile)
Mill & Overlay - 3" Thick (AspAS) - (\$ 29,920 / mile)
Overlay - 2" Thick (AspAS) - (\$ 29,920 / mile) 07 08 09 10 11 12 13 14 15 16 17 of Good(grn) Fair(blue) Poor(red) by Year \$134,831 3.625 \$397,890 10 6975 07 08 09 10 11 12 13 14 15 16 17 \$399,768 10.748 \$347,536 9.3437 9.4525 Lane Miles of Activity Performed by Year \$351,583 07 08 09 10 11 12 13 14 15 16 13 = BC BH. CPM 2001 Lane Miles of Activity Performed by Year 100 BH RC CPM n. Remaining Service Life of an optimized 07 08 09 10 11 12 13 14 15 16 17 "mix-of-fixes" strategy Average RSL by Year 08 09 10 11 12 13 14 15 16 17 \$100.232 77.6593 \$152,464 118.1278 Average RSL by Year \$148 419 114 9937 \$147,512 114.2911 \$163,333 126.5522 \$165 149 127.9561 132.3856 08 09 10 11 12 13 14 15 16 17 \$166,450 128.9646 10 5 07 08 09 10 11 12 13 14 15 16 17

Remaining Service Life of a "worst first" strategy.

would normally take many hours of calculation and "guesstimation" by an engineer with extensive experience can be done in seconds with this module. Of course the module is just a tool to guide a qualified engineer, but it removes the guesswork from your strategy and gives you concrete data to backup your policies. This is the kind of data that you can use to show why and how you'll improve your constituents' roads, and it takes just seconds to generate.

Learn more about the Strategy Evaluation Module and other advanced features of *RoadSoft-GIS* at the "Using *RoadSoft* to Guide Your Long-Term Road Improvement Plan" workshop, June 12-14. Call 906-487-2102 to sign up.

Michigan's Technology Development Group at Michigan Technological University publishes *RoadSoft RoundUp* four times a year. To obtain permission to reprint any articles or graphics from *RoadSoft RoundUp*, please contact the editor at the address shown below. Subscriptions are available by contacting TDG. © Copyright 2006 Michigan Technological University.

Director–Terry McNinch; Civil Engineer–Tim Colling, P.E.; Project Leader–Gary Schlaff; Sr. Software Engineers–Steve Kangas, Nick Koszykowski; Software Engineers– Mary Crane, Nancy Moore, Luke Peterson, Mike Pionke, Scott Pollins; Programmer Analysts–Chris Pinnow, Jason Poll; Editor–John Velat Technology Development Group Michigan Technological University 309 Dillman Hall 1400 Townsend Dr. Houghton, MI 49931-1295

Telephone	
Fax	
E-mail	RoadSoft@mtu.edu
Web	www.RoadSoft.org

RoadSoft RoundUp Volume 7, Number 2 3222 copies mailed this edition

Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

## Road oft RoundUp



### Join us for Breakfast, Stay for a Discussion

**RoadSoft-GIS** User Group Meeting June 20 at the newly renovated Keweenaw Mountain Lodge in Copper Harbor

Learn more about using *RoadSoft-GIS*, influence development direction, and share your questions, comments, and ideas with the developers and other users.

Date:	Wednesday, June 20	
Time:	Breakfast: 7:30 – 8:00 Meeting: 8:00 – 9:00	
Location:	Keweenaw Mountain Lodge, Copper Harbor, MI	
Breakfast is paid for by the Michigan Tech Transportation Institu You MUST register for this meeting by June 18 to attend. Call 906-487-2102 to sign-up.		
_		

All RoadSoft-GIS users from all regions are welcome



2012-784-309

Technology Development Group Michigan Technological University 309 Dillman Hall 1400 Townsend Drive Houghton, MI 49931-1295



U.S. Department of Transportation Federal Highway Administration



First Class Mail U.S. POSTAGE PAID Permit No. 2 Houghton, Michigan 49931