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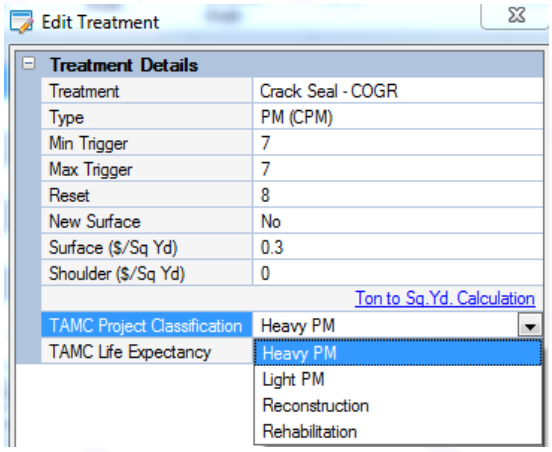
# Roadsoft® Roundup

For Roadsoft help, visit the Roadsoft Manual at http://roadsoft.org/help

# Advancing Asset Management

## TAMC Reporting Changes: Adjustments to Roadsoft

Road agencies are required to submit their current and planned treatments for both their roads and bridges to the Michigan Transportation Asset Management Council's (TAMC) Investment Reporting Tool (IRT) annually. This year, the TAMC made several changes to the IRT that impact Roadsoft. Changes include new categories for applied treatments (included in the current TAMC Class and TAMC Treatment fields within Roadsoft Version 2017.3 or older), the addition of new fields identifying whether the treatment was reactionary or under warranty, updates to cost submission, and removal of the direct data transfer feature between Roadsoft and the IRT. To implement these changes, the IRT is scheduled to be temporarily inaccessible from April 3, 2017 to April 5, 2017. Due to these changes to the IRT, the Center for Technology & Training is updating its Roadsoft software applications on April 3, 2017 to accommodate the IRT. After the IRT is back online, agencies must download and use the latest Roadsoft version (2017.4) for managing their road and bridge maintenance projects and exporting data for annual TAMC reporting.




The simplified TAMC Project Classification field and four new treatment categories are in Roadsoft version 2017.4.

### *Simplifying Treatment Categories*

For the applied treatments data in projects, each agency needs to take its own treatments and match them up with TAMC treatment categories. In Roadsoft, this process is called "treatment mapping". Mapping treatments prepares agency data for export to the IRT. Prior to the IRT update, the difficulty for agencies in mapping their treatments to the TAMC treatment categories is a result of the large number of treatment categories—over seventy—and unclear definition of the treatment categories. For the TAMC, the categories themselves do not provide readily measurable data. To achieve more measurable data and alleviate local agency concerns, a proposal to the TAMC in the fall of 2015 suggested changing the current treatment categories. The proposal identified a list of four clearly defined treatment categories. In December of 2015, the TAMC approved the proposal for the new treatment categories, which are Reconstruction, Rehabilitation, Heavy CPM, and Light CPM. These new treatment categories cover anything from removal and replacement of a majority of pavement structures to sealing isolated areas.

For agencies using Roadsoft, the two treatment mapping fields—TAMC Class and TAMC Treatments—are now combined into a single field called "TAMC Project Classification". Agencies will now report the new TAMC Project Classification treatment categories in lieu of the old TAMC Class and TAMC Treatment categories. The new treatment categories should make treatment mapping easier for local agencies and provide the TAMC with measurable data.

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**The Reactionary Project and Warranty Project fields provide agencies a way to identify whether the road or bridge project was a reaction to an unplanned event and whether the project is under a warranty.**

### *New Project Fields*

In addition to the changes to the treatment categories, the TAMC has added two new fields in the IRT. The Reactionary Project and Warranty Project fields provide agencies a way to identify whether the road or bridge project was a reaction to an unplanned event and whether the project is under a warranty. Both the Reactionary Project and Warranty Project fields are included in the Roadsoft Project Builder for road projects, and in the Local Maintenance tab for bridge projects. The Reactionary Project field identifies whether a project unplanned because not all projects are part of a three-year asset management plan. Floods, fires, and other unanticipated events may result in a project that was not found in earlier years plans. In most reactionary instances, the work that is required is not the result of the condition rating of the asset, but rather the project is in reaction to an unplanned event.

The Warranty Project field identifies whether the project has a warranty (that is not a part of the Michigan Department of Transportation program) to guarantee satisfaction and long-lasting results of the work completed. Michigan law requires road agencies to obtain project warranties on pavement projects with a cost greater than $2,000,000. Some agencies may elect to obtain warranties on smaller projects. For more information on warranties, refer to Public Act 175 of 2015.

### *Project Cost Reporting*

Project cost reporting is an important aspect to the annual TAMC reporting on both road and bridge maintenance projects. The cost data submission into the Act 51 Distribution and Reporting System (ADARS) is a requirement for all road and bridge maintenance projects so that there is an accurate record of costs across the state. The IRT system passes some data to the ADARS system; however, the IRT requirements differ between road and bridge project cost submission. Bridge project costs are required in the IRT, whereas the IRT system does not require data entry of cost information on road projects. As a result, Roadsoft does not require road project cost, but requires bridge project cost. However, if agencies enter road project costs in Roadsoft, the cost data are now included in the export going into IRT for informational purposes. Bridge project cost entered in Roadsoft will remain a part of the data export to the IRT. While all cost data is submittable to the IRT, separate submission into the ADARS system is required.

### *Moving Data Between Roadsoft and the IRT*

Due to changes in the IRT, Roadsoft no longer directly transfers data to the IRT. Roadsoft will continue to generate an export file for manual upload into the IRT. In order to provide the best data error feedback, manual data upload or manual data entry to the IRT are the only options at this time.

The clear definition and reduction of TAMC treatment categories, the two new fields to determine reactionary decisions and warrantied assets, updates to cost submission, and manual importing of project data into the IRT are all decisions made to aid agencies with their annual road and bridge project submission. The CTT has made changes to Roadsoft to accommodate the modifications coming in the IRT and to continue to provide local agencies the best solution for managing their road and bridge projects while meeting TAMC reporting requirements.

## Inventory-Based Rating System™ - Easy, Timely, & Accurate Management of Unpaved Roads

The Michigan Transportation Asset Management Council's (TAMC) 2015 annual report estimates that around 80,000 miles of Michigan's Non-Federal-aid network is paved. TAMC estimates that around half of the Non-Federal-aid network is unpaved, so approximately 40,000 miles are unpaved across the state. However, these are just estimates. The TAMC report notes that about 17,000 paved lane miles of Non-Federal-aid roads had observed ratings. For now, 40,000 miles of unpaved is only an educated guess.

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The thousands of miles of unpaved roads serve important functions to local communities across Michigan. Huron County, the rural tip of Lower Michigan's thumb, uses unpaved roads to connect local farms to tables across the state. In largely urban Oakland County, unpaved roads connect people to their homes. Tom Blust, Director of Engineering at the Oakland County Road Commission recognizes the importance unpaved roads in his jurisdiction. Blust says, "Our gravel roads handle upwards of 15,000 cars a day in large areas of the county." In fact, Blust mentioned, some constituents care so much about keeping some of their roads unpaved that they have requested that their roads remain unpaved. Some of those areas are kept unpaved for historic reasons or to preserve trees while others are kept unpaved to maintain a rural feel.

With around 40,000 miles of unpaved roads in the state connecting people to their homes and keeping Michigan's agriculture moving, local agencies need an easy, cost and time effective solution to unpaved road asset management.

### *The Asset Management Gap – Current Rating System Issues*

From low volume farm roads to high volume residential areas, many local agencies across Michigan like Huron and Oakland Counties face special unpaved road asset management challenges. Capturing road condition data is vital to asset management not just for the TAMC, but equally so at the local agency levels. Pavement Surface Evaluation and Rating (PASER) helps many agencies manage their road systems by keeping track of surface distress to determine when maintenance and construction are required. However, PASER relies solely on surface distress to determine ratings. Unpaved roads can range from dirt two-tracks to a well-maintained, major gravel travel path and road conditions can change with a single thunderstorm. These surface condition changes happen much faster on unpaved roads than on paved surfaces. Local agencies follow best practices for collecting data on pavement assessments, but their attention extends beyond paved roads.

For unpaved road management, focusing on surface condition hinders the usefulness of the most common rating systems, resulting in a gap in roadway asset management. Common rating systems fail to inform agencies on the long-term management of unpaved roads. After all, why should you collect data that does not help to develop a viable asset management plan? With the focus most rating systems put on surface distress, they cannot provide the information agencies need to do preventative maintenance. New asset management methods have shown time and again that waiting for a road to fail is not a cost effective way to maintain road networks.

TAMC recognizes the need for unpaved road assessment and established an unpaved road validation process in 2013. Validation was needed to verify unpaved roads missed in data collections before 2013 which were still labeled unpaved for federal funding purposes. To accommodate TAMC's evaluation needs, the CTT added a new feature to Roadsoft and the Laptop Data Collector (LDC) for validating unpaved roads. The establishment of unpaved road validation opened up the conversation about better methods for tracking unpaved roads, and was "a starting point," according to CTT's Research Engineer, Pete Torola, for developing a solution to begin closing the asset management gap.

The CTT developed the Inventory-Based Rating System™ (IBR) in direct response to identifying the best possible solution to close the asset management gap for unpaved roads. Discussions surrounding unpaved road validation at a steering committee meeting in 2013 lead to participation by various counties who looked at the IBR in its infancy and started giving recommendations that informed the way IBR system works and data collection occurs in Roadsoft and the LDC.

**"the IBR system lets you manage unpaved roads in the long-term instead of only telling you when to do maintenance."**

**-John Kiefer**

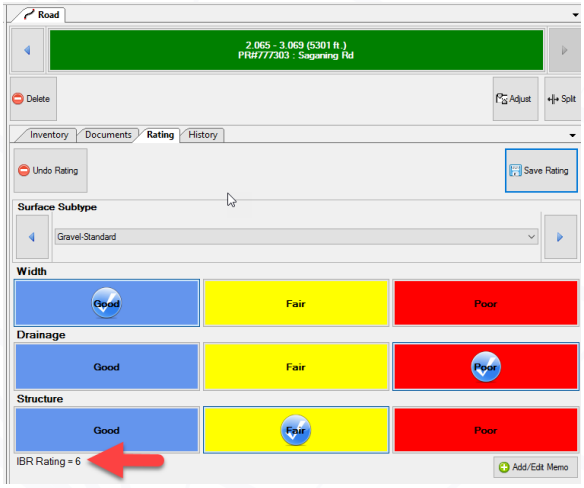
### *Inventory Based Rating System - Closing the Gap*

The IBR system for unpaved roads goes beneath surface conditions and beyond the one-dimensional analysis that paved surfaces use. According to CTT Director, Tim Colling PE, "only focusing on surface characteristics sells unpaved roads short." IBR defines a baseline condition for three inventory features of unpaved roads: Surface Width, Drainage Adequacy and Structural

Adequacy. IBR achieves an overall IBR ranking by combining the assessed good, fair, poor values applied to the three inventory features. Collings explained, "surface distress is transient" meaning that rapid changes in surface distress result in data that can become outdated in a matter of days. By focusing assessment on Surface Width, Drainage Adequacy and Structural Adequacy agencies can create long-term asset management plans for their unpaved road networks. John Kiefer PE, Research Engineer II at the CTT explains, "the IBR system lets you manage unpaved roads in the long-term instead of only telling you when to do maintenance," which will systematically shut the door on the asset management gap as local agencies adopt this new rating system.

### *Roadsoft – Making IBR Data Collection Easy*

With many Michigan agencies already using Roadsoft and the Laptop Data Collector (LDC) to rate paved roads, agencies can cost effectively collect data on unpaved roads using the same familiar tools they are already using. It is easy to adjust to using the IBR system with minimal training. Once inside Roadsoft and the LDC, agencies will find there is almost no difference between collecting PASER and IBR. The LDC automatically switches between PASER and IBR based on the defined surface-subtype for the selection. "The main thing we wanted to do was make IBR straightforward," says Principal Programmer, Luke Peterson. IBR in conjunction with Roadsoft is a "more feasible way of rating unpaved roads."




IBR is as easy to use as PASER in the LDC.

Collecting Non-Federal-aid paved and unpaved roads while using two different rating systems all from a moving vehicle without the need for fine measurement is a cost and time effective data collection solution. Local agencies have already been eager to adopt. An IBR pilot program was developed while counties, "created buy-in for IBR," said Torola. The addition of IBR to Roadsoft and the LDC made it easy for counties to recommend IBR, and several counties were happy to participate. Participating agencies included the Antrim County Road Commission (ACRC), Baraga County Road Commission (BCRC), Huron County Road Commission (HCRC), the Road Commission of Kalamazoo County (RCKC), and the Van Buren County Road Commission (VBCRC). Since the pilot, VBCRC rated all their unpaved roads using IBR and the LDC. VBCRC Account Clerk, Linnea Rader explains, "Asset management for our entire road system is imperative to efficiently use our resources". Clearly understanding the condition of any unpaved roads can make a significant difference for planning, particularly in the more rural areas. Rader elaborated that, "Rating these gravel roads with IBR provides a better way to prioritize maintenance and reconstruction efforts, similar to that of the asphalt system." For Van Buren County, IBR fills an all-too common asset management gap and Roadsoft applications made it easy.

Road systems across the state of Michigan encompass a varied range of surface types. PASER and other rating systems are incredibly valuable for paved surfaces, but it is clear that they leave a gap in network level management for unpaved roads. By creating a rating system that focuses on meaningful and measurable aspects of unpaved roads, the CTT is able to offer a way to conduct unpaved road rating with familiar software tools.

To see the ways IBR aid you in the long-term management of unpaved roads in your jurisdiction, visit our IBR webpage or email Pete Torola. IBR training is also available, and response is overwhelming. Register online now, we expect to reach event capacity quickly. If the training event reaches capacity, contact us for waiting list requests. Based on demand, another IBR training session may be opened. If you are ready to dive right into rating using the LDC, see Add Inventory-based Rating (IBR) in the LDC in the Roadsoft online help manual for instructions.