

Traffic Counts

Traffic Signals

(dependent on data

source & format)

Crash Data



GIS-based Asset Management System



**Optimize** Maintenance



### Center for Technology & Training

Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us Roadsoft is a software suite designed for collecting, storing, and analyzing data associated with transportation assets. Built on an optimum combination of database engine and GIS mapping tools, Roadsoft provides a quick, smooth user experience and almost unlimited data-handling capabilities.

Roadsoft was developed and is supported by the Center for Technology & Training, which is part of the Department of Civil & Environmental Engineering at Michigan Technological University.

### **Types of Data**

Roadsoft manages a variety of data associated with transportation systems. Specific types of data include:

- Roads
- Signs
- Bridges
- Culverts
- Driveways
- ......

- Guardrails
- Drainage Structures
- Intersections
- Pavement Markings
- Sidewalks

- Features
- **GIS-Based Map Interface** provides a clear visual representation of the roadway assets in the database. Using map layers, you can easily display or hide specific types of data and you can adjust colors, sizes, and shapes to customize the view.
- Laptop Data Collection uses a GPS connected to a laptop with the Laptop Data Collector utility to provide a convenient way to collect and maintain accurate data for your Roadsoft database while outside of the office.
- **Mobile Data Collection Application** is an application for mobile devices available for Android and iOS devices. Mobile allows you to manage inventory information and activities such as work orders, maintenance, and inspections while on-site or on the go.
- **Inventory of Assets** includes detailed data for pavements, signs, and other roadway assets in your jurisdiction.
- Asset Management Analysis Tools enable you to create and implement efficient and effective construction and maintenance strategies to maximize the return on your transportation investment.
- **Data Mining and Report Generation Capabilities** provide summaries of specific data in the database, and enhance understanding for yourself and between you and the other transportation stakeholders in your jurisdiction.

### **Getting Started**

Roadsoft software, technical support, and training is available to agencies worldwide under license agreement. For more information, visit our website at www.roadsoft.us, or call 906-487-2102.

5-2022-US

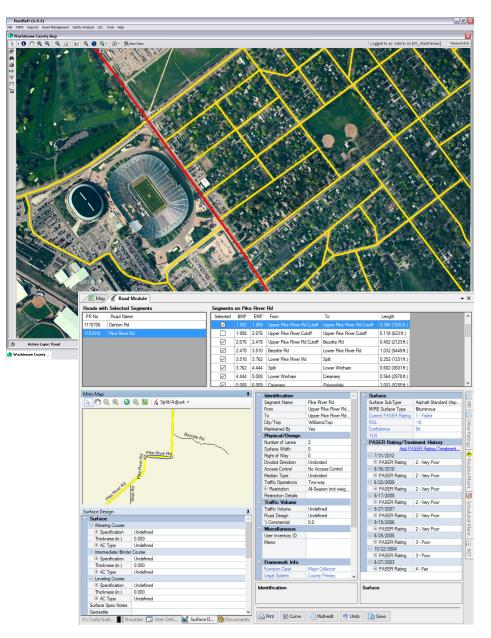
# **GIS-Based Map Interface**

### **Data Layers**

When you make a data layer visible in Roadsoft, items associated with that layer appear on the GIS map. Making multiple layers visible simultaneously provides a clear view of the physical relationship between different types of data on the map.

A *Geographic Information System* (GIS) is the technology used to organize, analyze, and view data from a spatial perspective. A GIS map organizes information into layers that allow you to display different types of data simultaneously. In Roadsoft, each layer of the map is connected to data in the database. When you select an item on a layer, the system makes available the database records associated with that item.

Roadsoft uses an integrated database, which means the data for all of the layers are interconnected between multiple tables. This integration of data establishes relationships between different types of data and aids in complex data analysis.



### Center for Technology & Training

Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us

# **Laptop Data Collector**

### **Collecting Data**

With the Laptop Data Collector (LDC) and a lowcost GPS, you can collect data from the passenger seat of a moving vehicle. As you travel along a road, the GPS communicates your position to the LDC, which grabs the asset nearest you, and then opens all associated database records. You enter the data you need and then move on. It all happens real-time at the pace you set for yourself.



#### Center for Technology & Training

Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us The time required to collect and enter data is often the highest hurdle standing between you and a useful information management system. How can you get over this hurdle? The Roadsoft Laptop Data Collector (LDC) will give you a boost.

The LDC, a mobile data collection utility designed specifically for entering data into Roadsoft, enables you to enter pavement, signs and other asset information from the passenger seat of a moving vehicle. To get started, simply install it into a laptop, load the appropriate map and data files, attach a low-cost GPS, and you're ready to go. It's easy to use, convenient and proven.



### Easy to Use

The passenger seat of a moving vehicle is a difficult place to use software. The Roadsoft development team understood this fact, which is why they designed the LDC unlike other pieces of software. "Plug-and-play" communication with the GPS, fields that fill in automatically, and extensive use of keyboard shortcuts make the LDC amazingly easy to use in the office or on the road.

### Convenient

The LDC uses the same map files as Roadsoft, but requires only a small piece of the main database, which makes data transfer and synchronization simple, quick, and convenient. The LDC connects easily to any GPS that meets NMEA 0183 requirements. In fact, the less expensive GPS units work best because they don't include proprietary security features like many of the more expensive units.

### Proven

Since 2003, almost 300 local and regional agencies in Michigan and the Michigan Department of Transportation have used the LDC to collect Pavement Surface Evaluation Ratings (PASER) on the State's federal aid and local road networks, logging over 250,000 miles of data collection travel.

*"The Laptop Data Collector is efficient and easy to use; rating roads is a breeze. It's obviously designed with the end-user in mind."* 

Vince - GIS Coordinator and Transportation Planner



# **Mobile Data Collection**

### On Site or On the Go

With Roadsoft Mobile and a smartphone or tablet, you can take Roadsoft with you anywhere. Roadsoft Mobile allows your work crews to look up asset conditions and scheduled work plans wherever they are, even when they're at the work site or traveling to or from the office.

Roadsoft and Roadsoft Mobile exchange data through the Cloud, allowing everyone to keep up to date with the latest changes to the database.



Center for Technology & Training

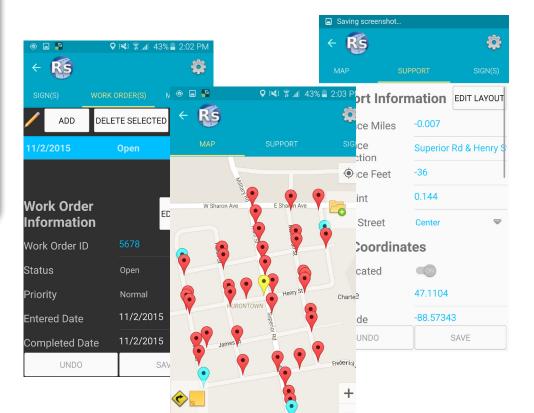
Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us Agency work crews need to be able to plan ahead when preparing for the day. Being able to check the latest condition of their assets is an important part of planning, because it allows crews to see what assets require work, what kind of work those assets need, and to gather the necessary materials for that work. The Roadsoft Mobile application is a useful tool that allows users to view and update asset information wherever they may be.

Roadsoft Mobile is an app available for both Android and iOS devices. It can be used on any mobile device with a functioning GPS. Mobile allows users to create and manage assets and asset activities such as work orders, inspections, and maintenance.

Upload data from the desktop Roadsoft software to the Cloud, and then it can be downloaded into Mobile while out at a work site, worked with, and the updated data can be downloaded back to desktop Roadsoft.

Currently Mobile is available for the Culvert, Road, Sidewalk, and Sign Modules, though more modules may be added over time. Combined with Roadsoft desktop software, Mobile provides maintenance personnel with a powerful set of tools to enable asset management on the go.



# **Inventory of Assets**

### Foundations

Establishing an inventory of assets for an asset management system is like pouring footings and laying block before building a house. It requires a significant investment of time, money, and effort, and most if it is buried and out of sight when you're finished.

Like a foundation for a beautiful house, an inventory of assets for an asset management system provides a solid base on which to build more visible, exciting, and valuable structures.



#### Center for Technology & Training

Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us You're probably responsible for several different types of roads, thousands of signs, miles of guardrails, and many other valuable assets within your jurisdiction. Wouldn't it be nice to know that you're doing everything you can to manage and maintain these assets at an optimum level of effectiveness? Millions of dollars worth of transportation assets are wasted every year within roadway systems across the U.S. simply because people are overwhelmed by all the information.

How can you manage it all so it makes sense? Roadsoft can help.

Roadsoft enables you to build and maintain a complete, detailed inventory of transportation assets for your jurisdiction. With Roadsoft you never have to wonder or guess; you'll know exactly what you have, where it is, and what to do to keep it working well. The bottom line: you'll enjoy a clearer view of your bottom line.

The Roadsoft database enables you to build and maintain an inventory of roads, signs, culverts, guardrails, pavement markings and other assets. For each type of asset in the database, Roadsoft stores the following basic information:

- Location along a road using a linear reference or GPS coordinates
- Physical description
- Construction, maintenance, inspection, and rating information

In addition to the basic information, Roadsoft stores the following additional information for specific types of assets:

- Curb and gutter, shoulders, and traffic counts for roads
- Sign retroreflectivity
- Approaching and departing terminals for guardrails, along with individual records for beams, blocks, and posts
- Culvert entrance and exit structures, depth of cover, and skew angle
- Application date for pavement markings
- Much more contact the Center for Technology & Training at (906) 487-2102 for more information

"The more information I add, the more powerful and useful Roadsoft gets!"

Matt - Engineer Technician



# Pavement Management and Analysis Tools

### A Mix of Fixes

Historically, our roads have been managed with a "worst first" strategy, and reconstruction has been the preferred maintenance activity. But experience has taught us that carefully administered preventive maintenance activities go a long way toward extending the life of our roads.

The Strategy Evaluation and Strategy Optimization features and Project Planning & Strategy Tool use pavement deterioration curves, statistical analysis functions, and other mathematical optimization tools to determine specific combinations of maintenance activities that provide the greatest return on your investment.

### Center for Technology & Training

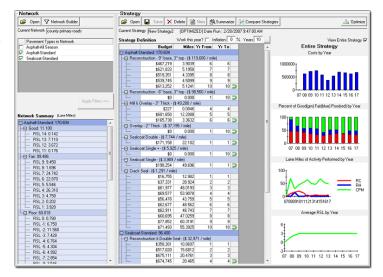
Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us Different types of pavement deteriorate at different rates, and different maintenance activities affect the service life of the pavement differently. Everything costs money and everyone is being forced to do more with less. Plus, political pressures associated with managing roads are steadily increasing. The process of finding the perfect combination of maintenance activities is mind boggling in its complexity.

How can you figure it all out; and how can you possibly explain it to anyone?

Roadsoft's Strategy features cut through the confusion. The *Strategy Evaluation* and *Strategy Optimization* tools. To begin, you enter current pavement condition values using the Pavement Surface and Evaluation Rating (PASER) system and define the performance of different types of construction and maintenance activities. Then you enter the amount of money you have available in your budget and the construction and maintenance activities that you want to consider. With a few mouse clicks you can generate a plan

that combines construction and maintenance activities to maximize service life across the network of roads being analyzed. The evaluation and optimization features help you to make the most of all your resources. Not only that, but the software creates a plan that is clear enough to explain to whomever else needs to know.



Then you use can the *Project Planning and Strategy Tool* to compare road segments in the selected network and identify ideal candidates for the construction and maintenance activities proscribed by the Strategy Evaluation and Strategy Optimization tools to. First, you select a group of roads from an existing Roadsoft strategy or filter. Next, you assign road segments to activities, and as you assign roads in recent years the Project Planning Tool will update the estimated PASER ratings of those roads later on in the plan, helping you to manage your road conditions long-term. Then you can export a plan into the Project Builder to finish creating a road maintenance plan.

"The strategy evaluation and optimization tools help us generate pavement management plans that our decision-makers understand. We're able to apply the right fix in the right place at the right time."

Brian - County Highway Engineer

# Detailed Reports, Data Mining, and Exports

### **Real-Time Results**

It has been raining hard for hours and snow is melting fast this Spring day. Two major rivers in your jurisdiction are near flood stage. You know from experience that any bit of debris that restricts the flow of water under the roads that cross these rivers can cause serious flooding.

You open the Roadsoft report and filter tool. Within minutes you print a detailed report that lists every culvert along the two swollen rivers. With the report in hand, your maintenance crew heads out to inspect the river crossings. They clean two culverts that are nearly clogged with branches and debris. Together you avoid a minor disaster.



Roadsoft reports provide a simple, clear summary of the status of specific information in the database. Roadsoft includes over 50 default reports, and allows an almost unlimited number of custom reports using the extensive data mining capabilities. You can also export the data from generated reports for use in other database programs and export the entire GIS file for use in other GIS applications.

Select Christe ov Haber to V         Prove       Note       Note       Note       Note         Prove       Data Note       Data Note       Data Note       Data Note         Prove       Data Note       Data Note       Data Note       Weak       Weak         Prove       Data Note       Data Note       Data Note       Weak       Weak       Data Note       Weak         Prove       Data Note       Data Note       Data Note       Data Note       Weak       Weak       Data Note       Weak       Data Note	p 🖄 Culve	ert Module																- ×		
DD100       Vieldend Law 17       Image: Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       Under Start Pro       Under Start Pro       Under Start Pro       Under Start Pro         Image: Start Pro       <	th Selected	Culverts			Select															
Current Part of Base      Current Part				_			int Invento											^		
Default and and the set of t	W Hubbard	d Lake Trl																		
Landing Concepted Surf Por Undered          Under Rever University         Univ																				
Image: Interview       Image: Interview <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																				
																		_		
Control Designed Designed Part      Control Designed Designed						2.157		Corruga	sted Steel Pipe	Undefi	rined									
Control Designed Designed Part      Control Designed Designed				Culver	t inventory					-	(Detines)	delet.		West C	<b>.</b>	Charac	- C			
Bit Loom         Bit Loom           Windex Ration         Windex Ration         Diversion           Windex Ration         Windex Ration         Diversion           Windex Ration         Windex Ration         Diversion           Previous         Previous         Previous           Previous         Previous         Previous           Diversion         Previous         Previous         Previous           Diversion         Previous         Previous         Previous         Previous           Previous         Diversion         Previous         Previous         Previous         Previous           Diversion         Diversion         Previous         Previous         Previous         Previous         Previous           Previous         Diversion         Previous         Previous         Previous         Previous         Previous         Previous           Previous         Diversion         Previous         Previous         Previous         Previous         Prev		12 -	4			ation				ΠŁ		viainten	ance	work Ore	sers /	stream	1 Surveys	-		
Reference st       If Indexp Result Rev Mickel Labe 12         Indexp Result Reports       Image: Control Report Rep				-					Edit Location											
Culvert Reports         Product Options       Product Options         Output Heading       Options       Product Options         Output Heading       Options       Options       Options         Product Options       Options       Options       Options         Output Heading       Options       Options       Options         Product Options       Options       Options       Options       Options         Product       Options       Options       Options       Options       Options         Product       Options       Options       Options       Options       Options       Options         Product       Options       Options       Options       Options       Options       Options       Options       Options         Product       Options       Optio	W Hube	ert Rd (14.409)									10/15/201	5						lete Rating		
the second of a second of				Ref				sh Rd & W Hubbard	Lake Trl	_	-	_	_				Del	ete Hating		
at Hane: et Prentory Report et Report					Cu	ulvert l	Reports							~						
at Hane: et Prentory Report et Report	ating			~	- Report	t Optio	ns					I DA P	review		1					
en invertory Report en inv	-							.0												
ded Report of each Duvet	enort			~				5				🔯 E	xport							
Cutor Schbadrg       Define Change Report Headman         Prime       Define         Operation       Define         Prime       Define         Define       Define <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td></td>								0												
Cater Foter       Defre Change React Hasking         Preside       Operator Value:         Control       Data Induit:       Operator Value:         Control       Data Induit:       Operator Value:         Control       Data Induit:       Value:       Operator Value:         Data Induit:       Value:       Operator Value:       Operator Value:         Data Induit	ach Culvert											1 📼 s	ave Opti	ions						
Image: Control Poder       Default Poder       Default Poder       Default Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: Control Poder       Image: Control Poder         Image: Control Poder       Image: Control Poder       Image: C							ang						elete Or	ptions						
r Balder: Operation: Operator: Value: Control Control Contro					Custom	rooter			Define /Chance P	Renort	Headings									
Open is Save is Delete if Clear       Image: Save is Delete if Clear       Image: Save is Delete if Clear       Image: Save is Delete if Clear         Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear         Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is D									creatie/criatige h	лароп	rieduings									
Open is Save is Delete if Clear       Image: Save is Delete if Clear       Image: Save is Delete if Clear       Image: Save is Delete if Clear         Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear         Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is Clear       Image: Save is Delete is D																				
Open i save i belet i clar       i clar         Vertified       i clar         i clar       i clar     <																				
Open i save i belet i clar       i clar         Vertified       i clar         i clar       i clar     <																				
Open i save i belet i clar       i clar         Vertified       i clar         i clar       i clar     <						_														
Alvert																				
Aired         Operator:         Value:           ed         Image: Construction of field in the fi	e 😑 Delet	te 🛛 🥥 Clear																		
End field       Operator:       Value:         edd       0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																				
Culvert Inventory Report     Culvert Inventory Report     Culver Development     Culve				~																
ed de la				×	Operator:	Value:														
Fill contained       Control				^						<b>v</b>	C Add									
Note Science       >=         00       Culvert Inventory Report         Culvert Inventory Report         PRE       Table Built       Type       Page       Waterway       Description: Description:       Description: Built Built					$\diamond$	Ľ.,														
Note     Note     Note     Note     Note     Note     Note       Distance     Culvert Inventory Report       PRIME     Culved Defined     Type     Bage     Waterray     Enterney     Enterney     Enterney     Enterney       PRIME     Culved Defined     Type     Bage     Waterray     Enterney     Enterney     Enterney     Enterney       PRIME     12     Press     Type     Bage     Waterray     Enterney     Enterney     Enterney       PRIME     12     Press     Type     Bage     Waterray     Enterney     Enterney     Enterney       PRIME     12     Press     Type     Bage     Waterray     Enterney     Enterney     Enterney       Press     11     17     Bage     Waterray     Enterney     Enterney     Enterney     Enterney       Press     11     10     Congate Statifies     Up     Down     None     80 in     30 in											Group:									
Distance       Distance <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th>Cuby</th><th>art Invent</th><th>on/ Reno</th><th>rt</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>							Cuby	art Invent	on/ Reno	rt										
Cuberto         Distance Cuberto         Distance Mark         Distance Cuberto         Extension         Extension         Extension         Distance Mark         Despite of #of Mark         Bage         Tatarnay         Extension         Extension         Distance Mark         Distance         Distance M							Cuive	at invent	лу керо											
PR the 1248/22         Rade Name: DeCost Rd           Intervention: Samith Rf &D/Cost Rd         2.29         V1/500         Congeted State Figs         Original         Walkso Dies         None         None         2         0           Description:		Distance						Entrance		Size Dia	Ht/ am.			Depth of	#of	Skew	Inland Lakes and Streams Act	s Wetland s Protrection		
Description:         0.259         101500         Congate Shell Pie         Conjute         None         30 0 m         30 m         10 0 m         2         0           Description:         0.409         101500         Congate Shell Pie         Conjute         None         30 0 m         30 m         30 m         10 0 m         2         0           Description:         0.409         101500         Congate Shell Pie         Conjute         None         None         30 0 m         30 m         30 m         10 0 m         2         0           Description:         0.409         101500         Congate Shell Pie         Occupant Shell Pie         None         None         None         30 0 m         30 m         24 0 m         2         0           Description:	Culvert ID	from Int: Date	Built T	Туре	Shape		Waterway	Structure	Exit Structure	Wid	dth Length	Span	Rise	Cover	culverts	Angle	Act	Act		
0.259         11/150         Congated Statel Pie Cincuter Washing Key Malana Cincut To Deversion         Name         Name         Name         20.01         30.01         30.01         30.01         10.01         10.01         2         0           Description: Memory         Marcine         Up         Deversion         Name         Name         Name         30.01	: 1724922	Road Name: 1	DeCost Rd																	
Description:         None         20 mm         20 mm         20 mm         20 mm           Description:         Interaction:         Up:         Down         20 mm         20 mm         20 mm           Description:         Interaction:         Up:         Down         20 mm         20	ntersection: Sa	avmill Rd & DeCost P	Rd																	
Best Financia         Up:         Dever:         30 0 m         30 m         10 m           Description:		0.259 1/1/	1900 Corrugate	and Steel Pipe	e Circular		Wallace Creek		None						2	0	False	False		
Description:					Road Elevation			Down:		38.0	lin 36ft			18.0 in						
Memo:	Description:				-iven devation	. up:		wown:												
0.49         11/150         Concepted Siles Pipe         Visitado         Maria         2         0           Description:	Memo:																			
Read Elevation:         Up:         Down:         30 cm         30 fm         34 cm           Description:	ntersection:																			
Interrelation         Up:         Down:           Mama:         -		0.409 1/1/1	'1900 Corrugate	red Steel Pipe	e Circular		Wallace Creek	None	None						2	0	False	Fabe		
Description:           Margescience           Margescience           Margescience           Description:           Description:           Description:           Operation:           Operation:           Operation:           Operation:           Operation:           Operation:           Operation:           Operation:           Operation:           Operation:          Operation:					Road Elevation	n: Up:				38.0	in 36ft			24.0 ft						
Mare readion:           0.529         11/1500         Concigated Statel Pier Pro. Mrin         Walkace Crede         None         20         2         0           Bearrystein:         20         30.01         30.61         24.01         2         0           Description:         Bearrystein:         2         0           Description:         30.01         30.61         24.01         2         0           Marcine: Elsus Rive: Rd         Description:         2         0           Marcine: Elsus Rive: Rd         Cincute:         Viriation: Cincute:         Viriation: Cincute:         None:         30°         44°         39°         30°         41°         30°         0           Marcine: Cincute:         Undelter More:         None:         30°         47°         30°         6           Marcine: Cincute:         Undelter More:         30°         47°         30°         47°         30°         30° <td <<="" colspan="2" td=""><td></td><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td>	<td></td> <td>4</td> <td></td>			4																
0.529         11/1500         Conuçated Stell Piçe         Piçe Arcin         Walliou Creat         None         2         0           Rote Elevelion: Up:         Down:         30.0 in         36 ft         24.0 in           Memo:           Memo:           Memo:         -         Down:         30.0 in         36 ft         24.0 in           Memo:         -         -         Down:         Down:         -         -           Memo:         -         -         Down:         Down:         -         <																				
Read Education         Up:         Down:         30 0 in         36 R         34 0 in           Description:         Windt Education         Up:         Down:         30 0 in         36 R         34 0 in           Memo:         Total States:         E Biol None Rd         Down:         30 in         36 R         36 R           PRIN:         172:001         Route Black Rive: Rd         Herreduction:         40 in         40 in         30 in         46 R         36 P         2 0           April:         1/14         V1/1500         Congred Stell Pipe Cincide:         Up of drived         None         30 in         46 R         30 0 in         2 0         36 P         2 0         30 in         48 R         30 0 in         2 0         30 in         4 R         30 0 in	atersection:																			
Invert Elevation:         Up:         Down:           Memo:		0.529 1/1/1	1900 Corrugate	and Steel Pipe			Wallace Creek		None	20.0	lin 36#			24 0 in	2	0	False	False		
Memo: PR No. 17201 Road Name: E Buis Rive Rd Intersection: Ager Smith Rd & E Buis River Rd -0.114 91/100 Concepted Stell Pipe Circular Undefined None None 30° 40° 30° 2 0 Read Elevation: Up: Down: 30.0 in 43 ft 20.0 in Interd Elevation: Up: Down: 30.0 in 43 ft 20.0 in Description: Manis: PRII: 0.17207 Road Name: Elevan Rd					Invert Bevation	n: Up:		Down:			oott			and and						
PR No: 1720201 Read Name: E Bud River Rd Intersection: Alge Smith Rd & Block Niver Rd 0.114 11/11000 Comgated Steel Pipe Circular Undefined None None 20* 40* 38* 2 0 New Read Elevation: Up: Down: 20.01n 43 tt 20.01n Description: Description: PR No: 1727227 Read Name: E biever Rd	Description:	c																		
Intersections: Ager Smith Rd & Elleval River Rd -0.114 91/1900 Corrugated Steal Pipes Circular Undefined None None 30° 40° 30° 2 0 Rave Elevanders: Up: Down: 30.014 43 ft 30.010 DeverySection: Manus: PRifile: 17/2707 Radel Name: Elevand Rd		Road Name: 1	E Black River R4																	
0.114 11/1500 Consigned Steel Pipe Orscalar Undefined None None 30° 44° 35° 2 0 Read Estavation Up: Down: 30.014 431 30.014 Invert Banation: Up: Down: Manos: PRIM: nr. 172207 Read Name: Extensir Rd																				
Read Elevation: Up: Down: 20.0 in 481 20.0 in Invert Elevation: Up: Down: Description: Mano: PR No: 172727 Road Name: Elevar Rd	au section. Ag						I and the state			~					•		E.c.			
Invert Benation: Vp: Down: Description: Maxie: PRIM: n: 17227 Read Name: ElsewarRd		-0.114 1/1/1	1900 Corrugate	red Steel Pipe	Road Elevation	a: Up:	Undefined	Down:	None	30 30.0	,- 48' Jin 481t			36" 38.0 in	2	0	Fabe	False		
Memo: PR No: 1722027 Road Name: E Dewar Rd					Invert Elevation	n: Up:														
PR No: 1727207 Road Name: E Decar Rd		¢																		
		Road Name: 1	E Dewar Rd																	
Intersection: F 41 & E Dewar Rd																				
	and appendix F 4																	False		
Road Elevation: Up: Down: 22.0 in 54ft 38.0 in			1900 Corrugate	and Steel Pipe	a Pipe Arch		Undefined	Pipe End Sect	on Pipe End Section	1 22° x	134" 54"				2	90	False	False		
Invert Bevation: Up: Down: 34.0 in																				
Description.																				

#### Center for Technology & Training

Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us



#### Streamline Sign Maintenance

Does your sign maintenance process involve a lot of paper? How are you assured that work orders done on the fly are accurately documented in the system?

Roadsoft Mobile combined with Roadsoft desktop software allows for streamlined paperless workflow for adding and completing sign work orders, maintenance, and inspections. You set up your crews with the data they need for the day, they access the data on their phones or tablets, and they submit the completed work before you see them back at the shop. An urgent repair comes up after the crews are out? No problem. Work orders can be added on the fly in Roadsoft Mobile so the data is captured immediately.

# RS

### Center for Technology & Training

Michigan Technological University Dept. of Civil, Environmental, and Geospatial Engineering Houghton, Michigan

906.487.2102 roadsoftus@mtu.edu www.roadsoft.us

# **Sign Management Tools**

The Roadsoft sign module includes tools and features that help you to create a location-based sign management system for your agency.

In addition to features for creating and maintaining a detailed inventory of signs and supports, the module includes features for inspecting and recording sign and support condition information, including retroreflectivity.

### **Key Features**

- Laptop Mobile Data Collection with the Roadsoft Laptop Data Collector (LDC) provides a practical, time-efficient way to establish an inventory of your signs and collect physical condition and retroreflectivity data.
- **Roadsoft Mobile** for Android and iOS enables the managements of sign data, as well as the creation and completion of sign work orders, maintenance, and inspections on the go right from a tablet or smartphone.
- **Sign Inspection and Management** features provide a convenient way to create and track condition, maintenance and retroreflectivity records. Work orders provide a means for clearly communicating with your maintenance crew, and also establish a solid audit trail to help resolve future data or legal problems.
- **User-Defined Priorities** allow you to adjust the level of urgency for specific types of signs and maintenance tasks to ensure that the most important work is completed first.
- **The Sign Library** is pre-loaded with a complete set of signs, based on the Federal MUTCD. The Sign Viewer/Loader utility allows you to customize the default library with any unique signs your agency uses.



*"Working for a rural county with limited resources, I appreciate the power and simplicity of the Roadsoft sign module. Without it, I would not be able to keep up with the inspection and maintenance of our 3,200 road signs."* 

Harold - Road Commission Superintendent

### **Building a Better Toolbox**

The Center for Technology & Training is committed to providing agencies with the right tools for the job of maintaining roads on a tight budget. That can mean creating new features in Roadsoft like the Drainage Structure Module or updating and upgrading existing features like the Traffic Signal module.



# **New Features**

### **Traffic Signal Module**

The Traffic Signal module is now available to agencies outside of Michigan. A single intersection can have multiple devices installed around it, such as traffic signals, streetlights, electric poles, and cameras. The Traffic Signal Module is useful for inventorying and monitoring important data about these assets, including their locations, specifications, and maintenance information. While road agencies may not always be the responsible party for traffic signal maintenance, having data on them is still useful when planning work near traffic signals.

Key Traffic Signal Module Features include:

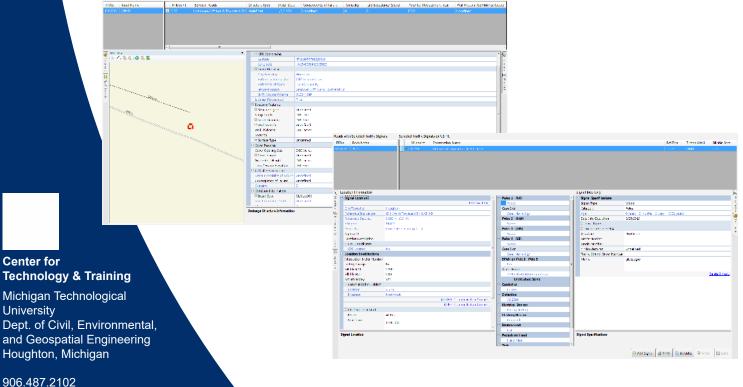
- Includes location, inventory, and user-defined fields
- Has new tabs for managing work orders, inspections, and documents
- Generate detailed traffic signal reports

### **Drainage Structure Module**

The new Drainage Structure Module provides agencies with the ability to identify, locate, and manage drainage structure assets.

The Drainage Structure Module will allow agencies to:

- Locate manholes, catch basins, inlets, headwalls, etc. both on and off a roadway
- Track work history, inspection data, and perform reporting through a customizable reporting system
- Import data from shapefiles



roadsoftus@mtu.edu www.roadsoft.us

Printing paid for by the Center for Technology & Training