Roadsoft 2020.X - What Happens During Migration?

The Center for Technology and Training (CTT) recently released Roadsoft and the Laptop Data Collector (LDC) version 2020.3. This is a major version release for Roadsoft which contains an update to the newest framework (base map), along with other feature additions, enhancements, and bug fixes.

The base map update, the first since 2017, migrates Roadsoft from the Michigan geographic framework (MGF) version 17 to a completely new format: ESRI-based Roads and Highways. In order to keep with a similar naming convention, the CTT will refer to the new framework base map as Roads and Highways version 20 (RH v20). This migration is a significant step forward for the CTT, as well as for the Michigan Department of Transportation(MDOT); the Michigan Department of Technology, Management and Budget (DTMB); and the Michigan Transportation Asset Management Council (TAMC), as it updates the base map in Roadsoft to the modern statewide architecture. More background information about the statewide technology upgrade can be found in Roadsoft Roundup Volume 18, Number 1

What is Data Migration?

Data migration, generally speaking, is the process of moving, transforming, or converting data from one location or format to another. This migration process, as it relates to the latest release of Roadsoft, is complicated. There are numerous moving parts and different types of data being converted and migrated not only from one software release to another, but also from the previous base map to the new Roads and Highways format.

What's the Deal with Roadsoft Migration?

Historically, Roadsoft spring software releases included an update to the MGF, which required client data migration to reflect changes to the MGF such as realignments, new road

segments, etc. The spring Roadsoft releases have been made available at the end of March to coincide with the start of the TAMC road condition rating data collection, which usually starts the first Monday of April. The spring release timing is important, as for a given collection year, all agencies in Michigan need to collect and store data in Roadsoft using the same version of the MGF.

Due to the statewide technology upgrade that upgraded the base map from the Michigan geographic framework to using ESRI Roads and Highways, this migration process was put on hold between 2017 and the release of Roadsoft 2020.3. The CTT worked closely with the DTMB and MDOT to test, tweak, and generally work out the process of migrating client data forward using the new RH v20. This process involved DTMB and MDOT providing base map data that the CTT staff could use to provide a migration path that resulted in Roadsoft 2020.3. This required coordination, communication, and collaboration between all of
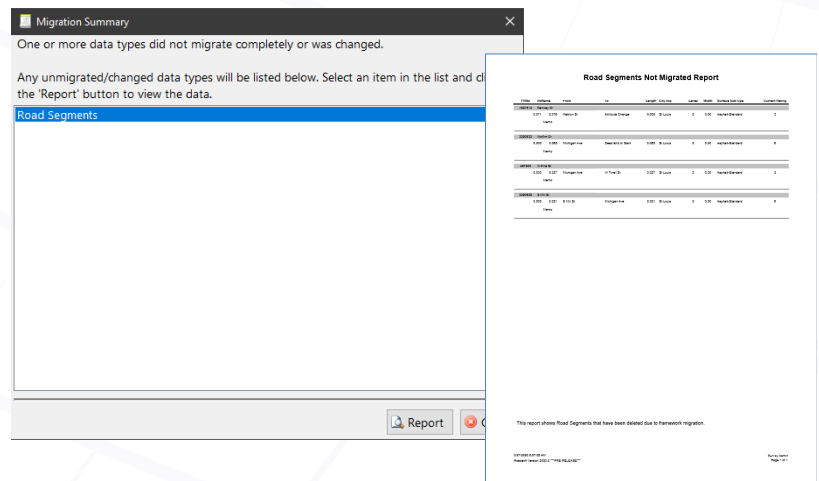
Roadsoft clients may be prompted with a message after migration. A report is available to view more details for items on the list.

the agencies. Though the process took a bit longer than initially planned, maintaining client data integrity during the migration process was crucial, so getting the process correct was the only acceptable outcome. Unlike previous Roadsoft migrations that updated the MGF, where client data was being referenced to the same base map format, this migration was exponentially more complicated due to the completely new base map and the backlog of numerous realignments, added and dropped segments, renamed segments, reclassified segments, etc.

Clients that update to the latest version of Roadsoft will be greeted with a Data Migration pop-up window when they start up the program for the first time. It is strongly recommended that existing data is backed up, and all active LDC and Mobile data should be imported prior to upgrading. More information about migration in this release can be found at https://roadsoft.org/roadsoft-ldc-update-version-20203-now-available.

I Migrated my Roadsoft Data – Now What?

Given the number of variables with this year's migration, there were bound to be items that couldn't be automatically accounted for during the migration process. Once Roadsoft data is migrated to RH v20, many agencies will end up with a report outlining any data issues on items that weren't able to be migrated. These items may range from simple things like a deleted sign, to a complete realignment such as the installation of a roundabout in place of in intersection.

Generally speaking, items that use GPS coordinates, such as culverts, drainage structures, guardrails, pavement markings, sidewalks, and most signs should migrate without an issue. If there is an issue with these types of assets, it should be fairly easy to go through the report and then browse those items in Roadsoft to see what needs to be corrected. In most cases, it might be a matter of adjusting the location slightly to account for changes to a road segment or intersection. There may be cases where asset data needs to be verified or recollected in the field, however.

Road, intersection, and traffic signal data, along with signs at or near intersections or on segments that have been realigned, may end up being a little more work to rectify. Intersection realignments, additions of roundabouts, etc. can affect numerous types of associated asset data. In some cases, signs and traffic signals, for instance, may end up all being assigned to one leg of a new

intersection or roundabout. These types of errors might be correctable from the office, but will most likely require verification or correction in the field.

The current release of Roadsoft and LDC is version 2020.4. This release addresses a few minor bug fixes and adds a couple minor enhancements. Roadsoft can be downloaded at http://roadsoft.org/downloads, and the LDC can be downloaded at http://roadsoft.org/downloads/laptop-data-collector.

Agencies that require assistance before, during, or after migration can contact Roadsoft technical support at roadsoft@mtu.edu. In compliance with Governor Whitmer's Executive Order, Michigan Technological University has limited campus access to essential personnel only. Consequently, CTT staff are working remotely until May 29, 2020 or until further notice. Any calls to the main CTT or Tech Support line will directed to voicemail. In the interim, our temporary tech support line is 906-281-0141.

RUCUS 2020 Summary

The Center for Technology & Training (CTT) hosted its fourth annual Roadsoft User Conference of the United States (RUCUS) at the DoubleTree by Hilton Hotel Bay City – Riverfront in Bay City, Michigan on January 9, 2020. The RUCUS was attended by 67 individuals representing road agencies and consultants from all over Michigan.

Conference topics included roadway asset inventory, inspection, and maintenance; using the Roadsoft Culvert, Drainage Structure, and Sidewalk Modules; safety, pavement manage-

RUCUS provides attendees with the opportunity to receive one-on-one technical support and program instruction in the Roadsoft Lab.

Roadsoft® Roundup

RUCUS is the perfect venue for sharing success stories, like this presentation from Kristin Dronchi from the Newaygo County Road Commission on how they used Roadsoft to transform the management of their culvert inventory data.

ment strategies, and project planning. The event also provided attendees with networking opportunities with other agencies and with the CTT staff. In addition to conference proceedings, attendees were also able to get one-on-one technical support in the Roadsoft Lab.

On January 8, 2020, two concurrent training sessions took place at the same venue. The "Introduction to Roadsoft" hands-on training provided an overview and instruction on using the following Roadsoft features: map interface, legends, filters, and reports; Road, Sign, and Culvert Modules; data collection using the Laptop Data Collector & Roadsoft Mobile; Safety Analysis using crash data; data management; and numerous tips and tricks.

The "Roadsoft Pavement Management" hands-on training pro-

An Introduction to Roadsoft hands-on training was held the day before RUCUS.

vided detailed instruction on using the following Roadsoft features: surface sub-types, treatments, and curve definitions; data cleanup; strategy evaluation & Optimization tool; project planning & selection tool; project builder; and the extended service life calculator.

The CTT would like to thank all the presenters and participants that made the fourth annual RUCUS a success. Sharing knowledge and hearing accounts of how our products positively impact agencies is rewarding. The RUCUS is the perfect venue for sharing these stories with a broader Roadsoft audience.

If you missed this year's RUCUS, visit the RUCUS 2020 conference page at http://roadsoft.org/rucus-2020 to view the agenda with links to session presentation slides.

RUCUS 2021

Due to the uncertainty surrounding COVID-19, planning for the next RUCUS has been put on hold for the time being. That being said, we are still looking for topics and presenters for the conference. If you are interested in sharing your experiences with Roadsoft, or have any suggestions for topics, please visit the Present tab on the RUCUS web page at http://roadsoft.org/rucus.

Roadsoft Training Moving Forward

Normally in this section of the Roadsoft Roundup, we would be announcing upcoming Roadsoft and Roadsoft-related training being offered by the Center for Technology & Training. However, given the current situation surrounding COVID-19, and the uncertainty of when in-person or face-to-face training will be allowed, we will be looking at providing more web-based and webinar-based training for the foreseeable future.

Visit http://ctt.nonprofitsoapbox.com/upcoming-events to see all upcoming CTT training events.

Agencies that have specific technical support questions or issues, or those that would like personalized training, can send a request to roadsoft@mtu.edu.

Roadsoft Programmer Spotlight

Sidona DeBrule, Technical Writing Intern
Center for Technology & Training

Senior Software Engineer Mary Crane

As part of a continuing series of spotlight articles on Roadsoft personnel, this issue highlights Mary Crane, senior software engineer for Center for Technology & Training (CTT). Normally, these articles are meant to help readers get to know the people behind the software. In this case, it will also serve as a send-off article, as Mary will be retiring at the beginning of June.

Mary has been with the CTT since 2006. She has a Bachelor of Science in Computer Science from Michigan Technological University (Michigan Tech), and came to the CTT after working in Michigan Tech's human resources and Information Technology (IT) departments. Crane says she became interested in the center after doing training for the IT department and working on retrofitting administrative software for human resources. "Here, it was a better opportunity for me to program from scratch," she said, "and then there was also travel and tech support - I enjoyed that part, too."

Crane kept busy with the technical support side of Roadsoft, as well as with software programming and analysis, working on materials for training webinars, and planning or providing in-person training at conferences or directly with agencies. She was also an integral part of planning and presenting at the Roadsoft User Conference of the United States(RUCUS). She discussed one training visit with an agency where "It was very beneficial to them." Due to the better understanding of Roadsoft processes that they gained from Crane, they were able to collect an impressive amount of data in a short time. She concluded, "So I guess the best part of training is that we see people who are benefiting from being able to use the software more efficiently."

In addition to providing training and technical assistance, she worked on software engineering. This involved both writing code and doing analysis. She explained software analysis as, "when you go to someone and ask them what they need, they don't always know what they want or don't want. A lot of it ended up being problem solving in a sense," she added, "analyze what they need, and then come up with a solution." One example she explained was "sometimes it's really simple things. We will create and test a form based on how we think they want it and how they will use it. We will test the form and make sure it works. But then we'll sit and watch them use the form, and they click and use it in an unanticipated way. Had they just told us, 'Oh I really need to have it work like this' we could have easily designed it that way. A lot of people don't want to seem like they are complaining, or to tell you that something would be better if it was different. We don't consider this complaining; we consider it feedback." Working on both the coding and support sides worked well for Crane, who says it gave her more insight into how users utilized the software and helped her figure out how to streamline the program to suit their needs.

For interests outside of work, Crane enjoys spending time outdoors throughout the seasons, including biking and snowshoeing. Her family has a hobby strawberry farm that they tend to every summer, and they often participate in the annual Chassell Strawberry Festival. Additionally, Crane enjoys sewing, baking, and spoiling her young grandchildren.

Before joining the CTT and working on Roadsoft, she wasn't aware that there was so much study, planning, and effort done by local agencies and the Michigan Department of Transportation (MDOT) to maintain the roads and roadway assets in a way that helps to keep all of us safer while traveling.

Mary stated "I have especially enjoyed learning about all that's involved, and with talking with many of you on the phone or visiting with you in person at your agencies. I'd like to express a special Thank You to those of you who stepped up to share your experiences at the annual RUCUS conference, the staff I've worked with on special projects with MDOT Traffic & Safety and the CSS Investment Report Tool (IRT), and all the new friends I've made at agencies outside of Michigan. I've enjoyed working with all of you. Keep up the great work – and keep on Roadsofting!"

Well said Mary! The CTT staff, along with all of the Roadsoft clients that she's worked with and assisted over the years, are going to miss her greatly and we all hope the best for her in the future.

Roadsoft Tips & Tricks

One of the most popular parts of the Roadsoft User Group of the United State (RUCUS) conference are the numerous Tips & Tricks segments sprinkled throughout the agenda. Senior Software Architect Nick Koszykowski initially came up with the idea as a way to kill time and fill in gaps that sometimes arise when you have numerous presentations scheduled over the course of an entire day. His time-filler turned into one of the most enjoyed and requested portions of RUCUS.

In an effort to get some of Nick's ideas out to a broader audience, we're starting a new Tips & Tricks feature in the *Roadsoft Roundup*. Here are a couple suggestions to make life easier in Roadsoft.

Tip #1: Quick Map Navigation

A large portion of data collection in Roadsoft revolves around the Map tab, where users access and manage their assets. This means users spend quite a lot of time on this tab, so knowing the best ways to navigate around it can save considerable time.

The simplest way to navigate the map is using the scrolling bars on the right and bottom sides of the map (make sure you have the correct scroll bars, as other sections in the window may also have scrolling bars). Click the arrow buttons or drag the bar to move in straight lines across the map. Another way is to select the Pan Map button 🖐 from the Map tab toolbar. This allows you to click and drag your view around the map.

There are also several shortcuts that can help with quickly switching between map modes for moving around the map, zooming in and out, and selecting assets.

- Pressing the A key activates Select Mode, allowing you to select assets from the map to work with in the asset tabs and various Roadsoft tools.
- Pressing the S key activates Pan Mode, which allows you to click and drag in order to look around the map.
- Pressing the D key activates Zoom Mode, which allows you to click and drag on the map in order to zoom in and out from the spot selected. Click and drag down will zoom in, click and drag up will zoom out. In addition, if your mouse has a control wheel, you can use the wheel to zoom in and out regardless of the tool that is selected. Roll the mouse wheel up to zoom in, and roll the mouse wheel down to zoom out.

Another quick tip for the Map tab is to make sure the scale bar located at the bottom-right corner of the map is set for your preferred units. Right-clicking on the scale allows you to use different units of measurement including feet, miles, meters, kilometers, or yards. The default is typically in meters.
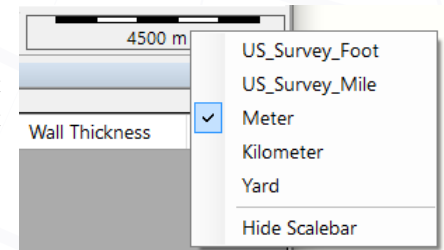

Right-clicking on the scale bar in the lower-right corner of the map will allow you to select your preferred units.

Tip #2: Right-click Everywhere!

Nearly every list, tab, tool, and feature in Roadsoft has some extra functions you can access by right-clicking on it. Sometimes the right-click options are a shortcut to commands that are also located elsewhere on the screen, but there are occasionally functions that can only be accessed through a right-click menu.

For example, lists often have options for selecting and deselecting multiple entries at once in their right-click menus. And right-clicking on the Selection Information section of the Map tab allows you to focus the map on selected assets, manage which assets are selected, and export information without going through the Main Menu options.

Generally speaking, you can try right-clicking just about anywhere in Roadsoft. If there is a right-click menu available, it will appear. Otherwise, nothing will happen - it doesn't hurt to try!
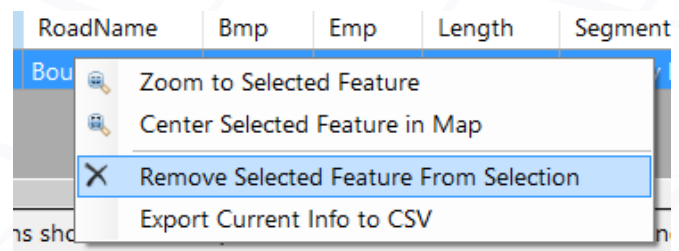
Right-clicking on an asset in the Selection Information list will bring up a menu with additional options.