Engage in the Conversation

The Center for Technology & Training (CTT) values every opportunity to work directly with our customers. In addition to providing them with quality technical support, we believe that networking can give our Roadsoft users even more insight. Whether it is by attending Roadsoft User Group (RUG) meetings, the annual Roadsoft User Conference of the United States (RUCUS), or by calling us with questions, the CTT encourages our customers to stay up to date with current Roadsoft releases and to stay engaged not only with the CTT, but also with each other. Agency engagement is what drives the design of Roadsoft!

Roadsoft User Group Meeting

The latest RUG meeting, held via webinar on August 2, 2018, covered progress on the 2018 Roadsoft work plan and discussed possible ideas for new features and enhancements to Roadsoft for the 2019 work plan. The 2018 RUG meeting recording is available at http://mtu.adobeconnect.com/pa10y3swyog3/ for those that wish to review the meeting. After the meeting, the CTT emailed Roadsoft users a link to an anonymous survey which gave them an opportunity to voice their opinions on proposed development ideas for the 2019 Roadsoft work plan. The CTT received seventy responses to this year's survey, which is a significant increase over the fifty-seven responses received last year. The CTT would like to thank Roadsoft users for their input - user participation is vital for the future design and direction of Roadsoft!

2018 Work Plan Progress

During the RUG meeting, senior software architect Nick Koszykowski outlined the progress the CTT has made on the 2018 work plan. Highlights from the discussion include:

- Release of the new Drainage Structure Module
- Completed the Sidewalk Module conversion to .NET
- Continuing work (year two of two) on the Traffic Signal Module conversion to .NET
- Continued development of Roadsoft Mobile: Sidewalk inventory, inspections, work orders, and obstructions; Road inventory and ratings
- Module standardization: updated fonts for readability, docking improvements, context help for Culvert Module
- Preliminary work (year one) on custom reporting

Converting modules involves updating sections of Roadsoft's code from the current programming language to .NET, which is necessary to ensure the code's long-term viability. It provides an opportunity to add performance enhancements and additional features, and is an ideal time for redesigning modules for better functionality and to ensure standardization between the modules. The Traffic Signal Module is part of the more than 720,000 lines of code in Roadsoft to go through code conversion.

Senior software engineer Nancy Moore elaborated on some of the improvements made to the Traffic Signal Module during the conversion process. This includes redesigning the module to meet updated design standards; adding Work Orders, Inspections, and additional fields; and adding asset management functionality for other devices installed around traffic signals.

The new Drainage Structure Module, released earlier this year, is a new point module for recording drainage structures, such as catch basins, manholes, and headwalls. This new module assists users in organizing information about stormwater utility assets located around their roads and transportation network. Having information like this assists transportation agencies with communication, planning, and coordinating with other utility agencies for more efficient maintenance. This in turn saves agencies money and helps prevent unnecessary issues or potential conflicts between jurisdictions and agencies.

During the RUG, Koszykowski also explained the first phase of custom reporting. This phase includes initial information gathering and general planning, and Nick invites anyone interested in commenting on or submitting ideas about custom reporting plans to email the CTT at roadsoft@mtu.edu.

Roadsoft Roundup

2019 Work Plan Discussion

The CTT is finalizing the Roadsoft 2019 work plan. Koszykowski explained the preliminary development ideas under consideration by the CTT to the meeting participants before beginning an open discussion.

During the meeting, all participants were free to comment on the future Roadsoft development suggestions the CTT provided and to discuss additional ideas based on their particular needs. New ideas included developing a linear drainage structure module for sewer lines and other assets, enhancing the abilities of the Project Planning & Selection Tool, and developing a capital plan tool to encompass multiple assets. The meeting also discussed suggestions from previous RUG meetings that did not make the 2018 work plan, including additional module standardization and developing a generic point module. While not every suggestion makes the list of potential ideas for the next work plan, ideas that do not make the cut are kept for future consideration.

The CTT grouped the suggested tasks into three categories: major, maintenance, and mobile. Major tasks are highly complex in nature and require a significant amount of time to develop and complete. Maintenance tasks are quicker and less complicated; these go into the work proposal's "Maintenance & Small Enhancement Backlog" and small maintenance items and enhancements are done as time and budget permits. Mobile tasks only relate to development on the Android and iOS platforms. In the survey, participants voted on what they thought were the most important things in each category.

Proposed Major Tasks

The CTT arrived at a list of twenty-five potential major tasks for the 2019 work plan based on suggestions from the RUG meeting, ideas proposed throughout the year, and suggestions carried over from previous years. This list of twenty-five major development tasks helped the CTT gauge what Roadsoft users felt were the highest priority of new features and tasks as we plan for upcoming Roadsoft development in 2019.

- Module Standardization (add multi-edit, work orders, user-defined fields, etc for all modules)
- Project Planning & Selection Tool enhancements (enhanced reports, maps, inclusion of types)
- Continued Mobile App Development (add features and/or modules from desktop Roadsoft to the mobile app)
- Linear Drainage Structures (sewer/storm/drinking water lines)
- Traffic Count Redesign/Expansion (new fields such as: user-defined, peak hours, status, etc.)
- Capital Plan Tool (encompassing multiple modules and assets)
- Crash Reporting (enhance reporting or export options to better support the TOR spreadsheet)
- Map buffer zone (capture boundary roads in adjoining jurisdictions)
- Bicycle Facility Tracking
- Sign Inventory (stock/materials tracking)
- Point Pavement Marking Enhancement (visual schematics/visual reference)
- Include Not Certified (decertified)/Private Roads in road layer (for rating, strategy, projects, etc.)
- Enhanced Strategy Optimization
- Generic Point Module
- Map-21/FAST Act Reports & Compliance (add formulas/datasets for crash rates)
- Extended Service Life Calculator (rounding vs truncating)
- Generic Line Module
- Administrative/Permissions Controls (more granular control of user permissions)
- Crash Editing (location, crash type, other select fields)
- Crash: New Curve identification (new algorithms for identifying curved roads for crash rankings)
- Intersection Module Expansion (projects, ratings, traffic study, diagrams, related data: traffic signals, point pavement markings, etc)
- Geo Notes (addable during data collection)
- Railroad Crossing Module
- Cloud-based Document Attachments
- Custom jurisdiction subset (example: airport)

Potential 2019 Work Plan Task Items
Major Task Priority Ranking

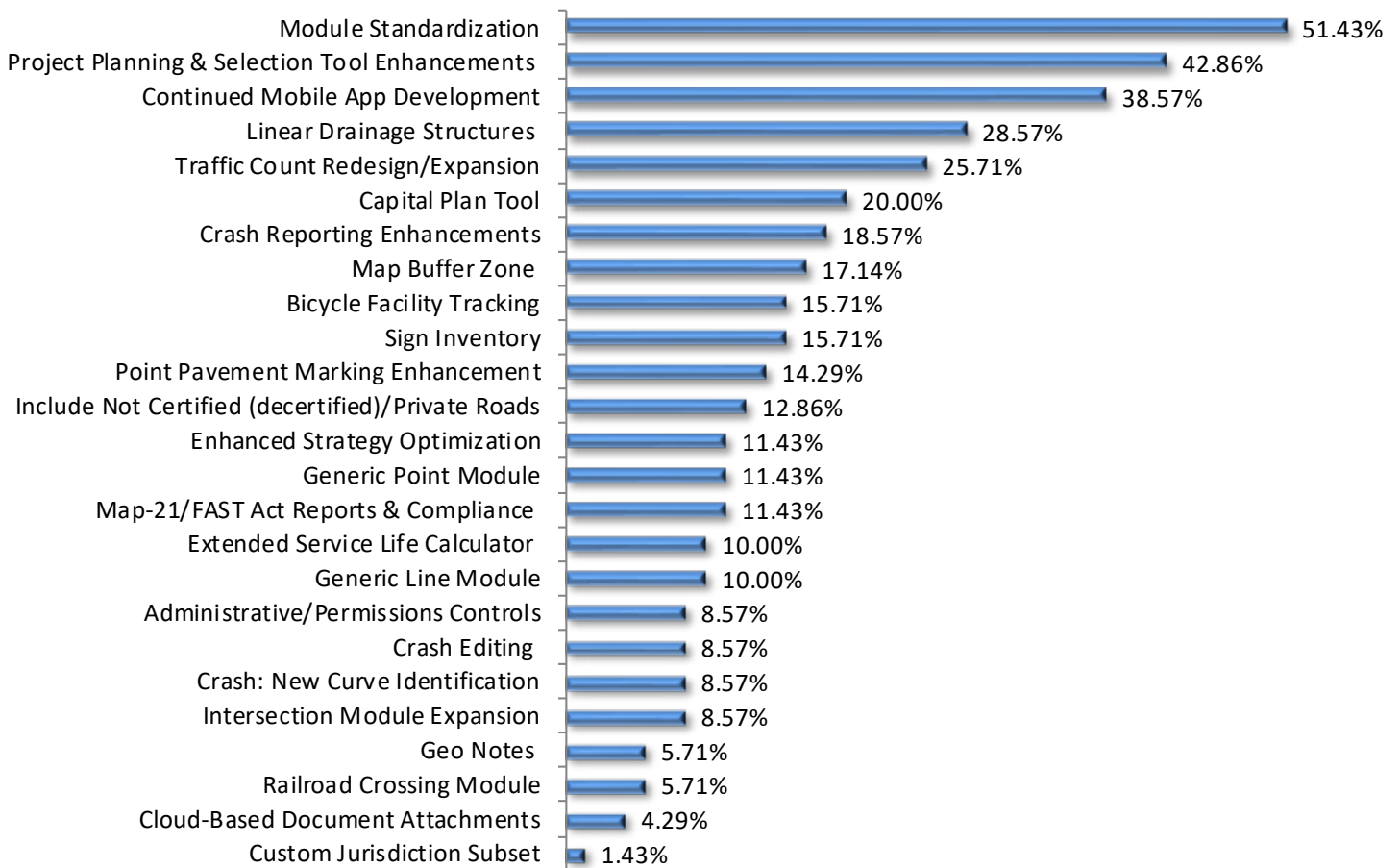| Task	Percentage
Module Standardization	51.43%
Project Planning & Selection Tool Enhancements	42.86%
Continued Mobile App Development	38.57%
Linear Drainage Structures	28.57%
Traffic Count Redesign/Expansion	25.71%
Capital Plan Tool	20.00%
Crash Reporting Enhancements	18.57%
Map Buffer Zone	17.14%
Bicycle Facility Tracking	15.71%
Sign Inventory	15.71%
Point Pavement Marking Enhancement	14.29%
Include Not Certified (decertified)/Private Roads	12.86%
Enhanced Strategy Optimization	11.43%
Generic Point Module	11.43%
Map-21/FAST Act Reports & Compliance	11.43%
Extended Service Life Calculator	10.00%
Generic Line Module	10.00%
Administrative/Permissions Controls	8.57%
Crash Editing	8.57%
Crash: New Curve Identification	8.57%
Intersection Module Expansion	8.57%
Geo Notes	5.71%
Railroad Crossing Module	5.71%
Cloud-Based Document Attachments	4.29%
Custom Jurisdiction Subset	1.43%

Figure 1 shows the rankings of which major tasks survey participants consider most important. Item ranking based on the number of responses received in the survey.

Figure 1 displays the ranking of the twenty-five major tasks based on survey responses. Based on the survey results, and the complexity of the potential tasks, the CTT considered module standardization as a major priority, Project Planning & Selection Tool enhancements as a second priority, and continued mobile app development as the third priority of the 2019 work plan proposal.

Proposed Maintenance Tasks

The CTT arrived at a list of thirteen potential maintenance tasks based on suggestions from the RUG meeting, ideas proposed throughout the year, and suggestions carried over from previous years. While maintenance tasks are not explicitly stated in the work plan, the CTT wanted to know which tasks are considered most important to Roadsoft users.

- Ability to Copy/Paste Sign & Maintenance Data Between Posts
- Routine Maintenance Filtering (from main reporting tab by twp, by legal system)
- Ability to Search by Memo Field (all modules)
- Link to Project Builder from Road Module
- Add Dates to Filter Definitions (created, modified, last run)
- Ability to Archive Culverts
- Add Date Stamp on Project Memo
- Ability to Reorder Routine Maintenance Activity Types by Job Numbers & Delete/Archive Option When Activity is Associated with a Record.

- Archived Signs/Supports Changes (add filter ability, archive date, memo field, remove map labels)
- Investigate Screen Mirroring from LDC to Tablet
- Agency level help comments associated with fields
- Ability to Archive Guardrails
- Ability to Carry Offsets Forward (last entered linear pavement marks)

Figure 2 displays the ranking of the thirteen maintenance tasks based on survey responses. Based on the survey results, and the complexity of the potential tasks, the CTT will complete these items in order as time and budget allow. Any ideas that do not make it into the 2019 work plan will transfer into the RUG meeting's work plan discussion next year.

Potential 2019 Work Plan Task Items
Maintenance Task Priority Ranking

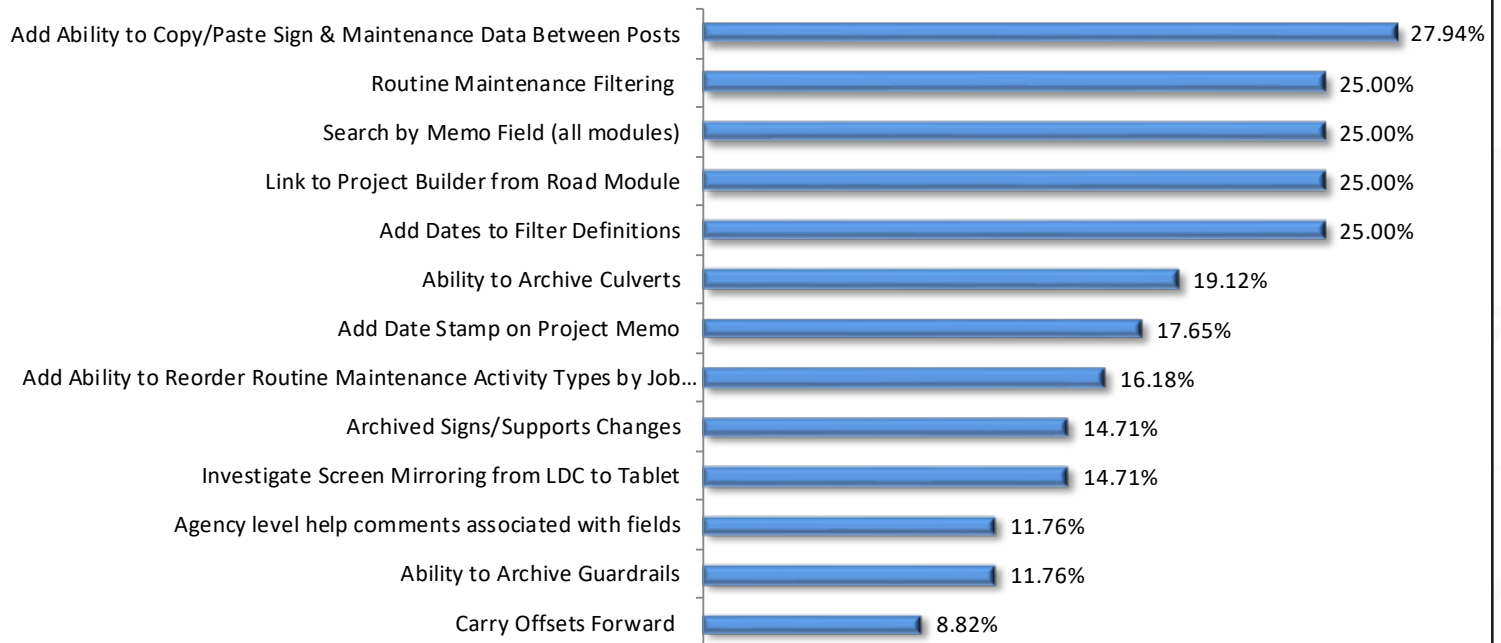| Task	Percentage
Add Ability to Copy/Paste Sign & Maintenance Data Between Posts	27.94%
Routine Maintenance Filtering	25.00%
Search by Memo Field (all modules)	25.00%
Link to Project Builder from Road Module	25.00%
Add Dates to Filter Definitions	25.00%
Ability to Archive Culverts	19.12%
Add Date Stamp on Project Memo	17.65%
Add Ability to Reorder Routine Maintenance Activity Types by Job...	16.18%
Archived Signs/Supports Changes	14.71%
Investigate Screen Mirroring from LDC to Tablet	14.71%
Agency level help comments associated with fields	11.76%
Ability to Archive Guardrails	11.76%
Carry Offsets Forward	8.82%

Figure 2 shows the rankings of maintenance tasks survey participants consider most important. Item ranking based on the number of responses received in the survey.

Proposed Mobile Tasks

Roadsoft Mobile, first released in 2015, is a mobile application available for Android and iOS devices at no cost. The application's current features include managing work orders; inspections; and maintenance for sign, culvert, and sidewalks.

The CTT plans to continue developing more features for the mobile application, and during the RUG meeting identified five potential tasks for consideration.

- Project builder (create new projects using mobile app this would also apply to LDC)
- Linear Pavement Marking Collection/Inspection
- Point Pavement Marking Collection/Inspection
- Guardrail Collection/Inspection
- Driveway Collection

As shown in Figure 3, the survey shows 37% of survey takers favor implementing Project Builder features in Mobile, along with about 18% being interested in adding Linear Pavement data collection and inspections. The CTT will give priority to Project Builder features when considering development for Roadsoft Mobile in the 2019 work plan. Any Mobile development ideas that do not make the 2019 work plan will be kept and discussed again during next year's RUG meeting.

Open Comments

There were eighteen additional comments and suggestions provided in the open comments section of the survey. We appreciate the honest feedback and the positive comments. The CTT strives to meet our customer's expectations, and we find it equally valuable to know if we are meeting them, exceeding them, or falling a bit short in places.

Of the eighteen comments provided, we felt there were a few specific comments about potential features and functionality that were worth sharing with our readers for consideration. In some cases, similar or related comments have been grouped together as the CTT response is applicable to all in the group.

Which Roadsoft Mobile Development Option Would Be Most Important To Your Organization For 2019?

- Project Builder (create new projects using mobile app this would also apply to LDC) — 37.31%
- Linear Pavement Marking Collection/Inspection — 17.91%
- Point Pavement Marking Collection/Inspection — 16.42%
- Guardrail Collection/Inspection — 14.93%
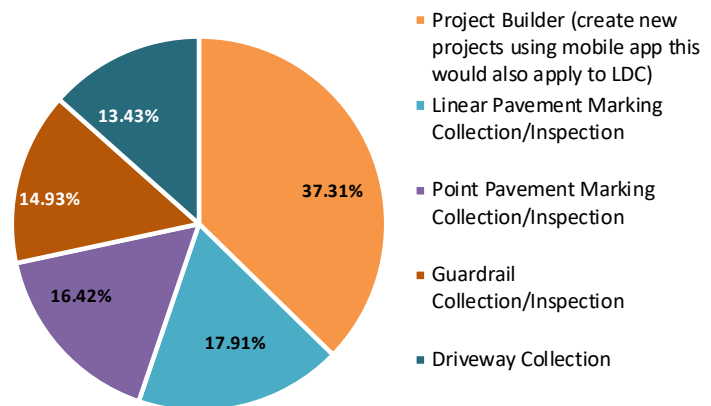- Driveway Collection — 13.43%

Figure 3 shows the rankings of which Roadsoft Mobile feature development tasks survey participants consider most important. Item ranking based on the number of responses received in the survey.

Comment: "More work to the reporting features/options for routine maintenance would be extremely helpful." and "The ability to edit sign work order numbers using a multi-edit and the ability to allow them to automatically default to the year and incremental increasing numbers."

CTT Response: The work plan for 2019 will include 'Module Standardization and Usability – Traffic Count and Work Order Functionality'. This task will focus on improving and standardizing work order functionality for all modules, and for Road, this will include Routine Maintenance.

Comment: "The deterioration curves are the key driver for the Strategy Module. Rounding rather than truncating will make a huge impact on strategies."

CTT Response: Wars have been started over less controversial ideas. With that in mind, we are looking into giving the user the flexibility to set for their database the option whether to round or truncate PASER ratings when fit to the deterioration curves.

Comment: "Combining segments to allow RC to eliminate the 1/8 mile sections permanently and to allow segments that have

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been constructed at the same time and give the same treatments at the same time to be combined into one segment." and "It would be nice to have a report that averages road segments for the same road to give a general picture of the rating."

CTT Response: As part of the 'Custom Reporting' task for the 2019 work plan, we will be looking at adding an option to Road reports that show segment details to summarize/merge like segments together. For example, if segments from milepoints 0 to 1 and 1 to 2 and 2 to 3 all have the same data, the report would display a single segment from milepoint 0 to 3.

Reminder - Roadsoft Support for SQL Server 2008 and 2008R2 Ending

As previously announced in Roadsoft Roundup Volume 17, Issue 4, Microsoft has announced that two of their products, SQL Server 2008 and SQL Server 2008R2, are reaching the end of their extended support lifecycle in July, 2019. Microsoft's blog contains more information regarding their support termination.

In response to Microsoft's extended support termination, the CTT is ending Roadsoft and MERL support for both SQL Server 2008 and SQL Server 2008R2 as of January 1, 2019.

The decision to discontinue support on SQL Server 2008 and SQL Server 2008R2 is a necessary step to ensure the safety of the systems that operate our software, and to retain the integrity of agency Roadsoft and MERL data. The initial update for Roadsoft and MERL in 2019 will no longer allow connection to SQL Server 2008 or SQL Server 2008R2.

Customers with existing databases on SQL Server 2008 and SQL Server 2008R2 (including full SQL Server and SQL Server Express) are encouraged to begin discussions with appropriate parties as soon as possible, particularly if an update or purchase of a newer version of SQL Server is necessary.

For customers using the CTT-provided SQL Server Express, the CTT will provide instructions upon request to migrate databases to a newer version of SQL Server Express (also provided by the CTT). Contact Roadsoft technical support for assistance and any questions.

Supported Versions

Software developed by the CTT supports SQL Server versions 2012 and newer.

Determining SQL Server Version

Help documentation for locating the SQL Server version is available in the Roadsoft Manual at Locate SQL Server Version. Roadsoft technical support can be reached at 906-487-2102, or via email at roadsoft@mtu.edu.

Upcoming Training

Introduction to Roadsoft: Two-Day Webinar
January 30 & 31, 2019
http://ctt.nonprofitsoapbox.com/
upcoming-events/event/821

PASER Training Webinar
February 12, 2019
http://ctt.nonprofitsoapbox.com/
upcoming-events/event/802

IBR System for Rating Gravel Roads Webinar
February 13, 2019
http://ctt.nonprofitsoapbox.com/
upcoming-events/event/806

Questions? Email ctt@mtu.edu

All upcoming CTT training events
can be viewed at
http://ctt.nonprofitsoapbox.com/upcoming-events