Vol. 32, No. 1 – Winter 2018/2019

The Bridge

A quarterly newsletter from Michigan's Local Technical Assistance Program

Photo: Courtesy of RCKC Archives

Old tires might now have a new purpose in a rubberized chip seal. One Michigan local agency joins with researchers to lay one of the first rubberized chip seals and to watch how it performs.

Where the Rubber Meets the (Rubber) Road in Kalamazoo County

John Velat, Director
Center for Rural and Tribal Resilience

Inside

Michigan's Local Technical Assistance Program

Over 300 million tires are discarded every year in the US, posing a tremendous economic and environmental burden. Yet, much of the rubber used to manufacturer tires—eight pounds of it—remains in the tire at disposal even when the tire has been fully utilized according to its original purpose. This presents an opportunity for finding innovative ways of using the rubber from scrap tires as a raw material in other products, and it's an opportunity being leveraged in Michigan through a university/state/county/private partnership.

When added to asphalt and concrete mixes, rubber can provide improved rutting resistance, flexibility, durability, and reduced noise—all properties that are very desirable in our roads and other paved surfaces.[1,2,3] Of course, the added bonus of recycling and re-purposing used tires makes for a compelling combination that road owners and environmental agencies are happy to see.

Like all road owners, the Road Commission of Kalamazoo County (RCKC) is eager to find asphalt that is proven to last longer and is willing to try new technology, techniques, and materials to have long-lasting asphalt roads. To find such a pavement, the RCKC is willing to work with researchers and manufacturers to try new techniques and technologies even if they might be more difficult and expensive. "You need to try new applications out in the field in order to understand the application and to validate it for future performance, and you also need support of agency leadership", explained RCKC Managing Director Joanna I. Johnson.

The RCKC joined forces with researchers at Michigan Technological University (Michigan Tech), the university's commercial partners, and the Michigan Department of Environmental Quality (DEQ) in a 2018 road paving project involving re-use of scrap tires. With a DEQ matching grant of $221,964 and splitting costs with the researchers, the $443,928 (estimated) project required an estimated $137,000 contribution from the RCKC.

Michigan Tech asphalt researcher Zhanping You, PhD, said that he was happy to work with RCKC to evaluate how rubberized asphalt and chip seals would perform in the field. Professor You noted, "States are promoting the use of scrap tires, and there are many ways to use them, but instead of burning or land-filling them, I think construction material is a good use of scrap tires." For the evaluation, the RCKC project will nip in to the 300-million-tire discard, using 7,500 scrap tires in test materials applied to W Avenue from the Schoolcraft Village limits to Portage Road in Schoolcraft Township. The overall length of the project was approximately three miles. The road has four test sections consisting of conventional and hot-rubber chip seal sections and conventional and hot-rubber overlay sections. Test sites give real-world comparisons of the new and traditional materials.

The mix design and application processes were developed in cooperation with commercial manufacturing partners at Michigan Tech's labs and produced at conventional asphalt and chip seal emulsion plants. The test sections are under close observation and evaluation until September 2019 and will remain in place until repair or replacement is necessary in the course of normal operations and maintenance.

▸ Rubber Road, page 7

Letter from the Editor

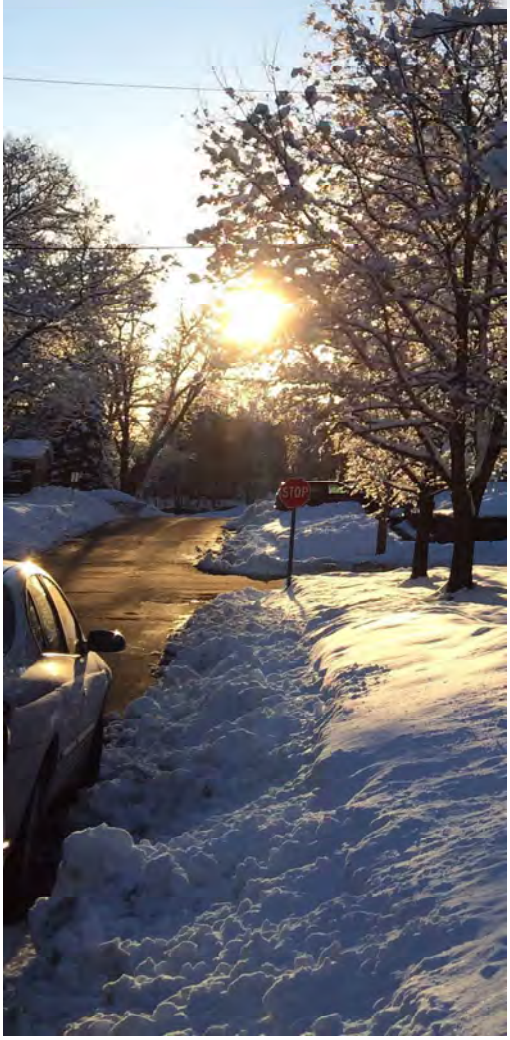
Sitting at the registration table at this year's County Engineers' Workshop, I am writing this letter to you, half-listening to the presenters. The one visual piece in front of the registration table offering me inspiration is a poster designed by Sarah, CTT's technical writing intern: *Great Ideas Challenge—Shining a spotlight on local agency innovations for a brighter Michigan future.* In this time and space, our plea for your great idea submission collides with a number of you presenting on ideas you have had, how you have acted on those ideas in your agency, and the innovators who lead or acted on your ideas. This workshop and many of our conferences and training events, I would contend, are forums for great minds. Even when we are talking about trials and test sites or the leaders or staff who made ideas come to life at these forums, the discussion is centered on the idea.

Here, I am surrounded by those who Eleanor Roosevelt might have called "great minds". Roosevelt was once quoted as saying, "Great minds discuss ideas. Average minds discuss events. Small minds discuss people." Similar to our training events, the Michigan LTAP newsletter *The Bridge* strives to be a forum for great minds: for the discussion of your ideas and for highlighting those who have brought those ideas to life.

This particular issue of *The Bridge* looks at one idea for building more durable roads. Researchers at Michigan Technological University collaborated with the Road Commission for Kalamazoo County to test the idea of using finely-ground recycled tire rubber in asphalt and chip seal. This issue also examines ideas for managing transportation assets. Many in our readership participated in a pilot culvert data collection project last year to look for more efficient and effective ways of maanaging this valuable asset. We review this pilot project in these pages. And, many of our readers will be affected by three 2018 amendments to Public Act 51. We explain the implications of this legislation and the challenges and benefits you may face. Finally, we highlight one agency leader implementing both longstanding and innovative ideas to manage her local agency's road most effectively: Sheryl Soderholm-Siddall.

And, the inspiring poster? Ideas are best when shared, suggests George Bernard Shaw. Shaw once explained the way ideas work by saying, "If you have an apple and I have an apple and we exchange these apples then you and I will still each have one apple. But, if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas." Yes, the Great Ideas Challenge is one way you can share your ideas and have a chance to win prizes. Other opportunities to share ideas are submitting suggestions for article topics conference presentations. You can submit article topics by e-mailing us at ctt@mtu.edu or suggest presentation topics using the Present tab on our conference pages at ctt.mtu.edu. We hope to hear from you!

Victoria



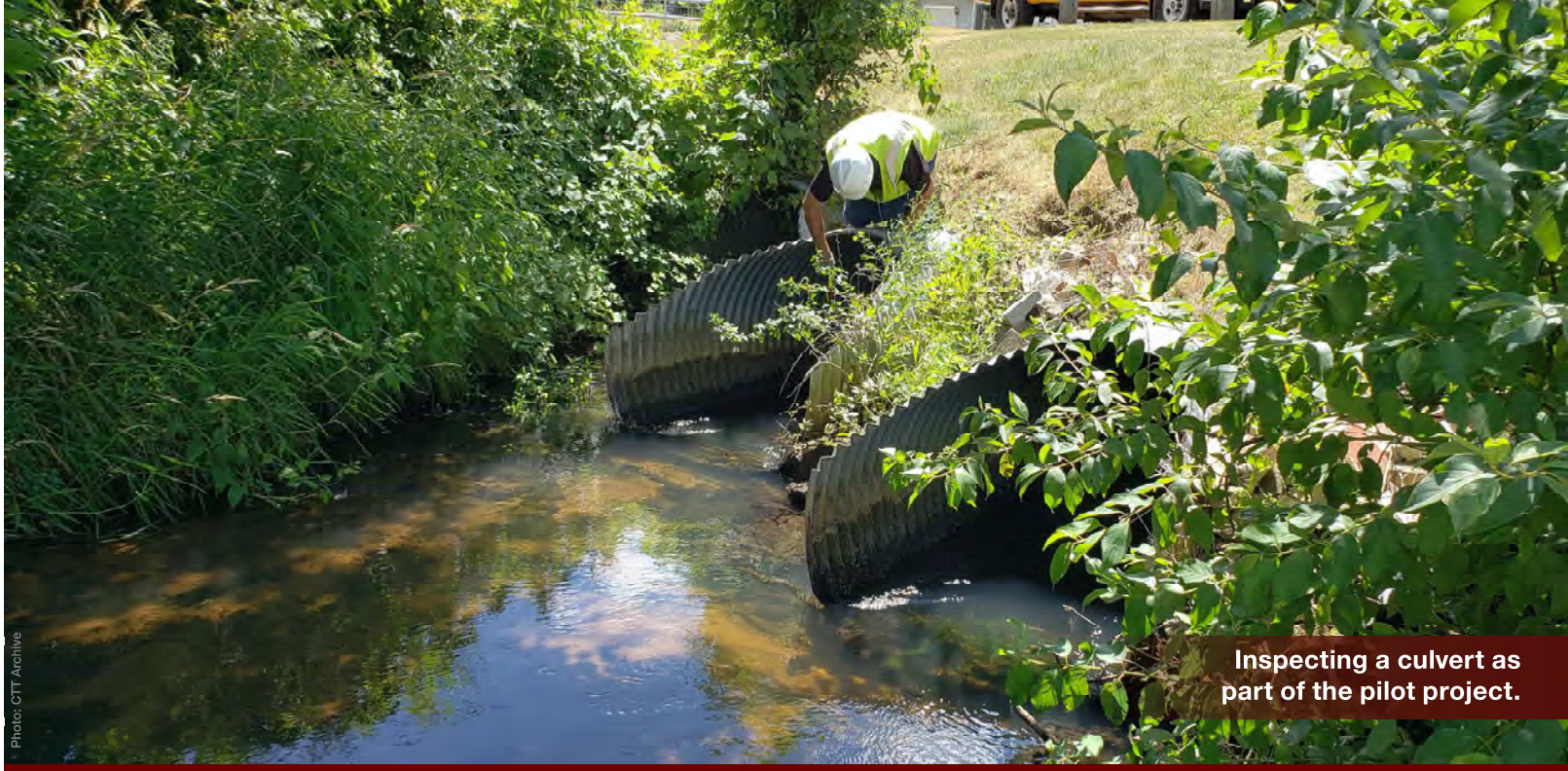


Photo: CTT Archive

Inspecting a culvert as part of the pilot project.

Better Not Forgotten:
A Look at Michigan's Culvert Assets and the Pilot Attempt at Tracking Them

Victoria Sage and Scott Bershing, Technical Writers
Center for Technology & Training

"Some things are better left forgotten," so they say. But, what things are those? And, how do we know?

In terms of road structures, road users readily remember the asphalt or concrete surfacing that perceptibly affects their ride. It's also easy for them to remember shoulders and ditches since a big portion of their driving time is spent looking at signage in that direction. But, if you asked a road user about their last recollection of a culvert, chances are they might pause for a moment before recollecting—*if they even can*—when and where they saw it and its condition.

All too often, culverts are one of those parts that function in the background of the road structure, almost completely out of sight from road users. However, when they malfunction, they can cause problems, even to the point of disrupting entire road networks.

Culverts, noted the City of East Tawas' manager Brent Barringer, are an "asset area that had been ignored". Recognizing culverts as being a forgotten asset, the Transportation Asset Management Council (TAMC) sought ways to effect a change.

The TAMC Bridge Committee received $2 million for the purpose of 'unearthing' the status of culverts in Michigan. The funding was to be used in fiscal year 2018 through House Bill 4320 (S-3) - Supplemental Appropriation Adjustments to evaluate the location, type, and condition of local-agency-owned culverts in Michigan.

The TAMC Bridge Committee teamed up with the Center for Technology & Training (CTT) to initiate, launch, and complete the culvert data collection pilot project in less than a fiscal year.

Pilot What?

Why do a pilot collection of culvert data? What was its purpose? By conducting a pilot collection of culvert data, the State and the TAMC could learn valuable information about their culvert assets.

Therefore, the 2018 pilot culvert data collection aimed to estimate the total number of culverts in the state as well as basic characteristics that commonly affect cost to maintain or replace those culverts, such as material, size, and depth. It also sought to ascertain the overall condition of those culverts using a standardized rating system. Further, the pilot collection hoped to yield information about estimated benchmarks of agency labor (time and materials) for both finding and collecting culvert inventory and condition data on a dollar-per-mile or other production-rate basis.

Until 2018, inventory informaton and condition assessments of culverts had not been tracked on a formal level. "We began inventorying our culverts in Roadsoft three years ago," explained Jerry Olman, environmental coordinator for Ottawa County Road Commission. Their inventory, however, was only in initial stages and lacking formal ratings.

"It's an opportunity to take a proactive look at our culverts," said Barringer, referring to the pilot culvert data collection.

Project Planning

Lots of unknowns affected the earlier stages of the pilot, from the unknown number of culverts that agencies would be identifying and evaluating and the unknown number of participating agencies to how fixed funds would be distributed equitably among the variable number of participating agencies. More importantly, the pilot project team had to define what exactly classifies as a culvert for the pilot collection and to establish a common assessment system agencies could use for their culverts.

Since bridge inventories should include structures that span 20 feet or more, participating local agencies would collect data on culverts with spans between 1 and less than 20 feet.

Better Not Forgotten

Want to go to Miami but can't afford to fly? If

▸ continued on next page

Better Not Forgotten (continued from Page 3)

▶Michigan's local agencies could place their culvert pipe end to end, they could create a pipeline for you to travel from Houghton, Michigan, to Miami, Florida! That's because, according to estimates from the pilot, they own 7.3 to 9.2 million feet (1,389 to 1,756 miles) of culvert. From another perspective, Michigan roads pass over an estimated 178,939 to 213,649 local-agency-owned culverts, playing a role in the critical drainage system for the roads they support.

In other words, our state is sitting on culverts with an estimated replacement value in excess of $1.48 billion for the locally-owned culverts. The replacement value for these culverts suggests that this asset is better not forgotten.

Of the inventoried culverts, 69.2% received a condition assessment. For Barringer's team, assessing the condition led to the discovery that they "needed an inventory management plan as most of [their] culverts had not been maintained since installation". Despite little attention being given to the State's culvert assets, the majority of the culverts inspected for the pilot were considered good or fair, with 27.0% rated at 8 (good) or better and 67.2% rated at 6 (fair) or better on a 1 (failed) to 10 (new) scale.

Of the inventoried culverts, most (69%) were corrugated steel pipe, followed by concrete (21%), and plastic (5%). Most (88%) of the inventoried culverts were circular, with a majority of those (90%) spanning 48 inches or less. Of the circular culverts, 36% had cover of 24 inches or less and 49% had cover between 25 and 72 inches.

The road surface type over the culverts was most commonly asphalt pavement (66%) followed gravel surfacing (28%). The road surface type significantly influences replacement costs since restoration is a major expense.

While estimating agency costs (time and materials) necessary to find culverts and collect inventory data is difficult due to a wide variation in labor rates, culvert density, and culvert cover, making some assumptions on crew size, pay, benefits, and overhead yields an estimated $39.02 per mile for county road agencies' labor cost and $69.17 per mile for cities and villages' labor cost. The pilot collection indicated benchmark estimates of 17 minutes to inventory a culvert and 25 minutes to inventory and assess. The pilot team was able to break down these estimates more specifically by urban density and by geographic location in the state in Table 7-7 of their report.

A Good Starting Point

The speed with which participating agencies collected inventory and condition data suggested that Michigan's local agencies already use tools and business processes that enable efficient and effective asset data collection. In fact, participating agencies demonstrated this dexterity in logging asset features and assessing assets by collecting high-quality asset inventory and condition data on nearly 50,000 culverts in only three months!

"This was a test of our program's structure and relationships in coordination across multiple levels of governance and agencies," noted Roger Belknap, coordinator for the Michigan TAMC. For more than 15 years, the Michigan Department of Transportation, the TAMC, and the CTT have been working closely together to provide agencies with tools like Roadsoft, which facilitates collection, storage, and analysis of inventory and condition data for assets ranging from roads and signs to sidewalks and culverts. They have also been providing agencies with training opportunities on asset management and condition assessment using systems like the Pavement Surface Evaluation and Rating (PASER) system and the Inventory-based Rating System™. These tools and trainings set the stage for the efficient and effective data collection during the pilot effort.

For the culvert pilot, the CTT worked closely with the Michigan Department of Technology, Management and Budget (DTMB) Center for Shared Solutions (CSS) to make data collection for culverts more efficient. They deployed additional Roadsoft functionality enabling users to upload culvert data directly to CSS.

If, as a state, we choose to ensure that culverts are not forgotten, integrating culvert data collection into Michigan's process will require significant time and financial commitment. To complete the initial data collection of local agency culverts, Michigan local agencies would need to invest over 131,000 collection team hours and an estimated $10 million. To add condition assessment data to this, an estimated annual cost of $2.1 to $2.25 million would see 1/5 of local agencies' culverts being rated each year. A five-year cycle would achieve a full culvert system assessment.

Many participants indicated their intent to use the data they gathered to advance their culvert asset management programs. Many also indicated they plan to use the condition assessments to add to or create a maintenance plan for addressing culverts in need

Photo: CTT Archive

Collecting culvert inventory data as part of the pilot project

of replacement. "This project helped [us] to complete the process and apply a rating to each culvert, so this gives us a good starting point for future evaluation and replacement," said Olman.

Of special note, several participants said they intended to continue collecting inventory and condition data on the culverts in their network even though the pilot project is concluded.

Barringer commented on the value of the pilot collection, saying, "It's important to strategize and plan infrastructure operations and maintenance independently of mandated regulatory requirements." He points out that culvert assets should be given "similar time and effort" as other vital systems like sanitary sewer and water distribution systems.

"We've learned a lot from the effort and have a good source of information for future asset management efforts for culverts," Belknap observed.

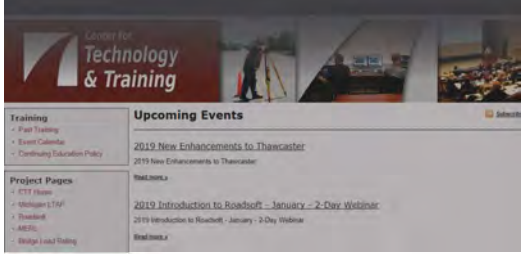
The report is available on the TAMC website: https://www.michigan.gov/documents/tamc/TAMC_2018_Culvert_Pilot_Report_Complete_634795_7.pdf. ■

Training Events

The Center for Technology & Training offers a series of trainings for learning principles of asset management and building asset management plans:

- **Transportation Asset Management Workshop**
- **Pavement Asset Management Plan Workshop**
- **Bridge Asset Management Plan Workshop & Webinar Series**
- **Transportation Asset Management for Local Officials**
- **PASER & IBR System Training**

...and more! Visit ctt.mtu.edu/training for more information.



Of Legos, Lincoln Logs, and the Law:
Building Success at Washtenaw CRC with Sheryl Siddall

Sarah Lindbeck, Technical Writing Intern
Center for Technology & Training

Legos, Lincoln Logs, and law. Many details come together over our lives to make up who we are, and these three things make up who Sheryl Soderholm Siddall, a licensed professional engineer in Michigan, is today.

"I was in the construction management area of civil engineering at the University of Michigan," recalled Siddall of her undergraduate days. "The contract side of it fascinated me." So, after earning her bachelor's degree, she went on to obtain her juris doctorate, her interest in the law having been piqued by an attorney speaking in one of her classes about the use of contracts in construction management.

Following graduation, Siddall worked at several small law firms and for the Southeast Michigan Council of Governments (SEMCOG). She says her experience at SEMCOG was important to her later career because it enabled her to learn a lot about state and federal funding, which is important for piecing together the different funding sources that make a road project happen. However, around that time, Siddall realized something: "I didn't particularly enjoy practicing law," she said.

But, the Lego-building, Lincoln-Log-constructing days of her childhood had had an influence. From a young age, Siddall wanted to be an engineer, she says. "I always enjoyed building things as a kid playing with my Legos and Lincoln Logs; that's where it all started," she explained. "And, I [also realized I still tended] to prefer putting things together and building things more than doing litigious activities."

This realization prompted her to "return to my original roots on the side of the engineering". She reflected, "I have been very happy with that decision." Siddall began working with the Washtenaw County Road Commission (CRC) 21 years ago, earned her license as a professional engineer in Michigan, and has been moving up the ranks ever since.

When she joined Washtenaw CRC, she started in their traffic and safety engineering department, then oversaw design and construction, and finally served as director of engineering for seven years before assuming her current position as managing director in June 2018. Washtenaw CRC maintains approximately 1,649 miles of certified public roads in the Ann Arbor area and is contracted by the Michigan Department of

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Main Street (Whitmore Lake)

Jackson Road (Scio Township)

Holmes Road (Ypsilanti Township)

▶Transportation (MDOT) to maintain 598 lane-miles of state highways.

As an engineer, Siddall worked on the construction of a boulevard along Jackson Road in the Ann Arbor area. She handled the third phase of a roughly $14 million construction project. "It incorporated water and sanitary on behalf of Scio Township, and I was the project engineer so I oversaw everything through both the design and construction phases of that project." Notably, Washtenaw CRC also maintains about 80 miles of gravel primary roads. In fact, approximately half of this large Michigan county's roads are unpaved.

Siddall noted, "I've been able to support my staff as director of engineering and now as managing director." She's been behind Washtenaw CRC staff who are focusing on innovations in roundabout development and intelligent transportation systems. One staff member, for example, has been determining the most appropriate design and size for a lot of Washtenaw County's intersections and has been "right sizing" them. The road commission has built what they call "compact, urban roundabouts". Another staff member working under Siddall is researching connected and automated vehicles and has been working with some of the automotive suppliers in the area and the America Center for Mobility. "I've been very proud of the work that he's done," noted Siddall, who has been fostering innovation in the road commission's traffic safety sector.

Openness and transparent decision-making—both internally and externally—are "critical in an organization as a way of doing business", according to Siddall. Internally, Siddall oversees Washtenaw's 130 staff members. She believes transparent decision-making is vital for employees to feel valued and respected as a contributing member of the team. Externally, she recognizes that community engagement is a core aspect of Washtenaw County's culture, so she expects to be held accountable for every decision the road commission makes. For this reason, she puts effort into providing outreach to the public before a project or operation measure begins and encouraging input where possible. "If we are in the design phase of a project and there's an opportunity for input, we try to reach out [to the community]," she explained. "If we are doing an operations activity, we try to explain why we're doing things, like boom mowing."

Siddall and her staff worked closely with the community in order to fund a project on Textile Road. The project involved paving a two-mile section of a gravel primary road. Washtenaw CRC and the township collaborated to gather both state and federal funds to pave the road and add a non-motorized facility alongside it. Other projects have used funds from a four-year road millage passed in 2016. Siddall said, "It's been a key component in us being able to do some of our preventive maintenance work." She pointed out that passing the millage involved "a lot of coordination between our road commission, our county board, and the cities and villages within Washtenaw County."

Siddall feels a sense of satisfaction when she gets to "step back with a group of people I work with and we know we did our job well". "Trying to bring people together and have them headed in the same direction can certainly be a challenge," she explained. "But, if you see a project that was well executed and functioning well or if you see roads that have been well cleared after a mammoth snow storm, those are the most rewarding parts of the job."

When she's not on the job, Siddall gets wrapped up in a cook-and-run cycle. "I like to cook," she explained, "And, I like to run because I like to cook." Another pastime of hers is gardening.

Siddall has come to believe that the key to managing the CRC successfully is "knowing what you don't know, and not being afraid to ask questions". She added that many of her staff at the CRC have more knowledge and experience in their particular areas of expertise than her. "I don't need to be an expert in everything – I just need to know who the expert is," she pointed out. As managing director of Washtenaw CRC, Siddall believes her success in leading Washtenaw CRC is due to working constantly with others to achieve the best possible product. ■

"It's the little details that are vital. Little things make big things happen."

– John Wooden

Rubber Road (continued from Page 1)

Professor You, who has been leading the Michigan Tech team, said that the "RCKC has a really good staff to work with". He noted that the RCKC is really good at road maintenance and have done extensive amounts of work with chip seals using their own crews, not only because they have expertise but because they are pretty innovative and like to try newer technologies". Professor You's team analyzed samples of the paving materials and will observe the test sites for noise reduction, weather resistance, rutting resistance, and traffic loading.

> "If innovation goes really wrong, we learn what not to do, which is equally as important as project success."
>
> – Joanna Johnson, Director, Road Commission of Kalamazoo County

Relative size of the rubber granules used in Kalamazoo County's rubberized chip seal

Rubberized asphalt is not new, but most experience with this material is in warmer climates. Professor You says rubber technology has been successfully used in warmer areas. "It has been used extensively for 20 to 30 years because people had the idea that rubber as a polymer can provide elasticity," he explained. This elasticity reduces cracking, as expected. Typically, pavements that are flexible enough to reduce cracking are more prone to rutting. However, Professor You and others have been documenting reduced rutting with the use of more elastic asphalt pavements containing rubber.[4]

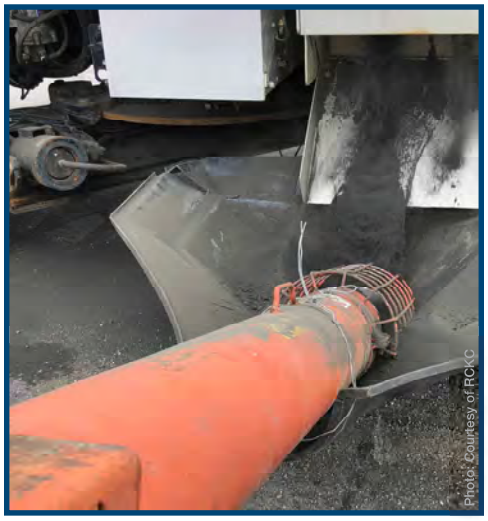

Photo: Courtesy of RCKC

Rubber granules passing through the auger conveyor for loading into the asphalt distributor

"Today, most of the rubber projects are pretty successful, especially in southern climates like Arizona and California." But, the products developed for the RCKC test are new, and this is the first use of these materials and processes in the US.

Roads in Kalamazoo County face common Michigan-environment-related challenges: temperatures vary between subzero lows and triple-digit highs, and precipitation can be significant at times. These challenges and other environmental influences affect the service life of pavements. Professor You thinks that rubberized pavements can work in colder climates, and RCKC's experience will benefit others who are exploring new rubber technology in paving projects in all climates. "Pavement will always crack in colder climates," he explained. "But, maybe some materials can reduce that cracking—I think rubber can help reduce cracking because it's pretty elastic."

Professor You affirms the level of cooperation that the field work has demanded. "We need to make the rubber surface more reactive so it can bind with asphalt really well," he explained. "We found [an asphalt manufacturing] partner who was willing to produce the materials, treated with lime and some other proprietary chemicals, to make the rubber into coffee-ground-sized rubber granules, and to add those into the asphalt…in their asphalt recycling heater." Both rubberized and conventional materials were applied using existing equipment and techniques, but with some adjustments for the chip seal application to allow for the thicker and stickier properties of the rubberized binder. In the paving process, the RCKC already shared some complications and successes. They noted in a press release that the rubberized chip seal was difficult to apply properly with the asphalt distributor whereas the rubberized thin overlay was successfully placed at high temperatures using a typical paving process.

The potential benefits to the RCKC, the public, and all road users is another road preservation tool that may provide longer lasting roads and provide future reduced operational costs. If these new technologies can be more economical and used nationwide, that will translate into millions of tires that aren't going into landfills, which will benefit the public, landfill operators, transportation agencies, and the environment. "Innovation does not come without complications and learning opportunities", said Johnson, who is hoping the research can yield a paving material that can address some of her agency's pragmatic concerns. "If innovation goes really wrong, we learn what not to do, which is equally as important as project success." ■

Photo: Courtesy of RCKC

Loading rubber granules into the material hopper

RESOURCES

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4. Chen, S., Gong, F., You, Z., Sousa, J., Ge, D. 2019. ***1903022 Development of a New Asphalt Mixture Containing Reacted and Activated Rubber and Reclaimed Asphalt Pavement via Superpave Mix Design and Marshall Mix Design.*** Transportation Research Board. TRB Annual Meeting Online 2019 & Archived Meeting Content. Available: **https://tinyurl.com/trb-zyou1903022**

Rubber Road (continued from Page 7)

Test strip in Kalamazoo County as part of the chip seal research project

Photo: CTT Archive

Amendments to Public Act 51:
How PA 323, 324, and 325 Will Affect You

Michigan Transportation Asset Management Council

Michigan's Public Act (PA) 51 received amendments in 2018: PA 323, PA 324, and PA 325.

In the wake of 2018 legislative changes, it's business as usual for local road-owning agencies with less that 100 certified miles according to the 2017 PA 51 Mileage Certification. These agencies simply need to continue working with their planning organizations to collect road and bridge condition data. And, they also need to continue reporting investment activities through the Investment Reporting Tool, commonly called the IRT, and the Act 51 Distribution and Reporting System, or ADARS. But, aside from paying a bit more attention to coordinating with other infrastructure agencies on construction projects, these local road-owning agencies won't see too many changes to their current practices.

However, local road-owning agencies with 100 or more certified miles now have a new responsibility. The 83 county agencies and 39 cities that meet this parameter, when considered with the Michigan Department of Transportation, oversee 92% of road mileage in Michigan; so, their impact on Michigan's road network is the greatest. Therefore, these local agencies are being called upon by the legislature to produce asset management plans that comply with key items in the public act.

"The basis of asset management is the use of data-driven decision-making to invest most effectively to improve or sustain infrastructure condition," explained Joanna Johnson, chair of the Michigan Transportation Asset Management Council (TAMC) and director of the Road Commission of Kalamazoo County, in a letter to local road-owning agencies last year.

Bob Slattery, director of the Department of Public Works for the City of Burton, said, "Every agency can benefit from using the principles of asset management—it has been proven to be the most cost-effective way to manage roads."

An asset management plan effectively outlines an agency's strategy, in terms of level of investment for desired level of service, for maintaining and/or improving road, bridge, culvert, and/or signal assets. "Having a formal, adopted plan," explained Slattery, "adds credibility to staff's project selection and budgeting decisions today, and serves as a 'road map', if you will, for future improvements."

Johnson noted that "Michigan's local road-owning agencies have, for many years, been doing the substantial work of annually collecting data to assess the condition of Michigan's federal-aid roads and all bridges". She emphasized, "We continue to appreciate all of…[these] efforts." Over the next 10 months, Johnson and the TAMC will be drafting an asset management plan template that local road-owning agencies can use to pull their condition assessment data into a plan that fulfills PA 51 requirements. Up till now, the TAMC has offered a sample asset management plan on the Support page of its website, michigan.gov/tamc.

PA 51 revised the TAMC's scope as well to make them responsible for developing, collecting and evaluating the asset management plans. So, not only will the TAMC offer the new asset management plan template and a digital template that integrates with Roadsoft in October 2019, but they've also shared submission schedule detailing the one-third of local road-owning agencies that will submit each year beginning in 2020 and continuing over three years.

The template will assist local agencies in drafting a compliant asset management plan for transportation-related assets. The

▸ continued on next page

Amendments to PA 51 (continued from Page 9)

▶state has laid out seven key items for every transporation asset management plan:

1) Asset inventory, which includes location, material, size, and condition of assets in a format that is consistent with government accounting standards and conducive for digital mapping
2) Performance goals, which includes desired condition and performance of assets as set by the local agency and, when applicable, consistent with the National Highway System performance goals
3) Risk of failure analysis, which includes identification of critical assets' probability and criticality of failure as well as contingency plans
4) Anticipated revenues and expenses, which includes a description of revenue sources as well as anticipated receipts, infrastructure repair and replacement expenditures, planned improvements, and capital reconstruction
5) Performance outcomes, which includes determination of how a local agency's investment will achieve desired levels of service and both condition and performance goals, the steps necessary to meet or achieve those goals, and explanations for any gaps between the investment strategy and goals and the achieved asset conditions and performance
6) Coordination with other entities, which includes a description of neighboring jurisdictions and utilities as well as plans developed between those asset owners to minimize duplication of effort for preserving and/or maintaining infrastructure
7) Proof of acceptance, which is issued by the local agency's governing body.

While the plans are intended to include not just roads and bridges but also culverts and signals, inclusion of culverts and signals is not required at this time. The TAMC will be working toward standardized methods and implementable collection processes for these two assets. After the TAMC has established these methods and processes, culvert and signal assets will be required in a local road-owning agency's asset management plan.

Slattery, who is also a member of the TAMC, acknowledges that these plans "require [a] level of sophistication" that could challenge the resources of some local road-owning agencies. Nonetheless, he points out that, over the years, the State and TAMC have provided these agencies with many tools to make asset management planning easier—Roadsoft, the Pavement Surface Evaluation and Rating (PASER) system resources, the TAMC dashboards, interactive maps, and training events. He called the Pavement Asset Management Plan Workshop, offered by the Center for Technology & Training on behalf of the TAMC, a "very helpful, if not indispensable," training for local road-owning agencies developing asset management plans.

The asset management plans collected by the State will be the key benchmarking tool in a two-fold evaluation. First, are local road-owning agencies engaging in the appropriate level of asset management planning? Are they identifying condition and performance goals and levels of service, and are they establishing investment strategies to meet those goals? The TAMC, with MDOT's concurrence, will gauge these agencies' asset management planning by the completeness of their asset management plans and by whether the plans align with the state's minimum requirements.

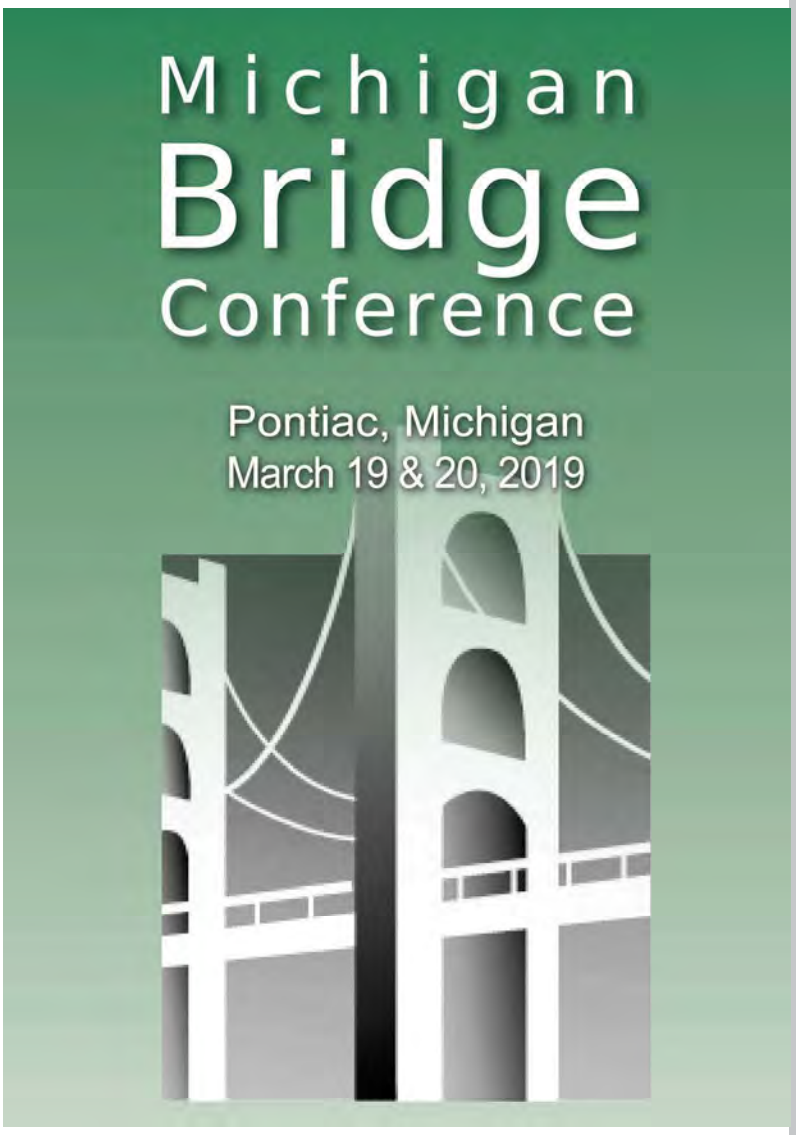
Second, are local road-owning agencies acting on their stated plans? Are they taking the necessary steps and enacting the necessary strategies to achieve their stated condition and performance goals? The TAMC, with MDOT's concurrence, will determine if these agencies are meeting their goals and will provide notification to non-compliant agencies at least six months in advance of any sanctions. This evaluation, however, will not begin until 2025.

Reflecting on benefits that may be realized through this amended legislation, Slattery said, "The state requirement provides the impetus, if not the funding, \to develop a detailed plan, coordinated with other agencies, formally adopted and submitted."

Johnson offered local road-owning agencies reassurance, saying "The goal of the TAMC will be to continue providing the tools and practices that local road-owning agencies need to be successful. ■

Collecting data on culvert assets during a statewide pilot effort

Photo: CTT Archive



Center for Technology & Training

Michigan's Local Technical Assistance Program

The Center for Technology & Training (CTT) is a part of the Department of Civil & Environmental Engineering at Michigan Technological University in Houghton, Michigan. The mission of the CTT is to develop technology and software, coordinate training and conduct research to support the agencies that manage public infrastructure. In support of this mission, the CTT houses Michigan's Local Technical Assistance Program, which is part of a national effort sponsored by the Federal Highway Administration to help local road agencies manage their roads and bridges. For more information, visit ***www.ctt.mtu.edu***.

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About LTAP

The Local Technical Assistance Program (LTAP) is a nationwide effort funded by the Federal Highway Administration and individual state departments of transportation. The goal of the LTAP effort is to foster a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and decision makers.

Steering Committee

The LTAP Steering Committee makes recommendations on, and evaluations of, the activities of Michigan's LTAP.

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Upcoming Events

Register at ctt.mtu.edu/training

2019 PASER Training
Webinars: Feb 12, Feb 21, Mar 13, Apr2
Classroom: Feb 26 – West Branch, Feb 27 – Saginaw, Feb 28 – Okemos, Mar 26 – Grand Rapids, Mar 27 – Kalamazoo, ~~Mar 28 – Dearborn~~, Apr 9 – Gaylord, Apr 10 – Escanaba, Apr 11 – Marquette

2019 IBR System™ Training
Webinars: Feb 13, Mar 14

Special Topics in Roadsoft: The Sidewalk Module
Webinar: Feb 13

Writing and Presentation Skills Workshop
Feb 21 – Lansing

2019 Michigan Bridge Conference
March 19 & 20 – Pontiac

2019 Materials Acceptance Process Seminar
~~Feb 20 - Taylor~~; ~~Mar 27 – Okemos~~; Apr 10 – Stanton

2019 Construction Pedestrian Facilities for Accessibility
~~Feb 26, Mar 12, Apr 23 – Okemos~~; Apr 11 – Gaylord

Mark Your Calendar: 2019 Highway Maintenance Conference
May 1 – Bellaire
Pre-conference workshop: Apr 30 – Bellaire

Mark Your Calendar: 2019 Spring Transportation Asset Management Conference
May 22 – Gaylord