

JAMES B. SORENSON

2024 AWARD FOR EXCELLENCE IN PAVEMENT PRESERVATION

SHEBOYGAN COUNTY TRANSPORTATION DEPARTMENT
HIGHWAY DIVISION

NOMINATED BY



Asphalt Materials, Inc.



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To the FP2 Awards Committee,

On behalf of Henry G. Meigs, LLC and Asphalt Materials, Inc., please accept our nomination of the Sheboygan County, Wisconsin Transportation Department - Highway Division for the 2024 James B. Sorenson Excellence in Pavement Preservation Award.

The Sheboygan County Highway Division mission statement is: "Creating Safe and Reliable Transportation – Today and Tomorrow."

This is a challenging mission to be sure. Never have the demands on local transportation networks been more taxing. Increasing traffic volumes and funding gaps are ubiquitous among agencies but are particularly impactful on local agencies. Future trends including electric vehicles, noise pollution and sustainable construction purchasing initiatives will further strain these agencies. Sheboygan County is not immune to these challenges yet has emerged as a regional leader using its research and data-driven approach for pavement management and preservation.

Sheboygan County has consistently taken a proactive approach to emerging trends in preservation and demonstrates a willingness to evolve as new technologies and opportunities arise. Intentionally addressing funding shortfalls, the county enacted a novel transportation tax nearly 10 years ago, which produces demonstrable impacts on their pavement network including triple-digit percent increases in preservation activities relative to before this tax was enacted. Investments in new equipment have allowed Sheboygan County to be more efficient internally and partner with neighboring county agencies to reduce regional treatment costs and preserve more miles of road. After all, roads don't end at the county line.

Above all, the county's preservation decision tree is rooted in education and research. In 2021 Sheboygan County built a live traffic "test track" to evaluate preservation technologies called the Sheboygan County Operational Pavement Preservation Evaluation (SCOPE). Sheboygan County also participates in a National Road Research Alliance (NRRRA) effort focusing on the preservation of life-saving centerline rumble strips.

As a partial result of these efforts, the county invests heavily in what they call "pre-preservation" treatments, including void reducing asphalt membranes (VRAM) and penetrating asphalt emulsions, which when installed at the time of construction, help extend timelines for future maintenance activities.

We thank the committee for consideration of this proposal to award the Sheboygan County Highway Division the 2024 James B. Sorenson Excellence in Pavement Preservation Award.

Very Respectfully,

Ken Schakelman

Regional Sales Manager
H.G. MEIGS

Dan Swiertz

Specialty Products
Technical Manager
Asphalt Materials

Chip Ray

President
Asphalt Materials



THE ROAD TO 30

Sheboygan County recognizes that funding streams, however innovative, will not keep pace with the standard 15-year pavement life cycles. With a stated goal of reaching a 30-year pavement life cycle, buying into the pavement preservation approach was required. The county notes that by investing in a less expensive preservation treatment instead of investing in a new surface at year 15, agencies can use savings to complete the needed improvements on other roads. Since the county owns the process “cradle to grave,” it has invested heavily in pre-preservation treatments including VRAM (approximately 15 miles in 2024 alone) as well as post-construction activities.

“We have tried various preservation products on many of our paving projects and have formulated a process that we believe will take us to our goal of reaching a 30-year pavement life cycle,” said Sheboygan County’s Director of Transportation, Bryan Olson. “Our staff has attended educational seminars that have been very helpful in our decision-making process.”

Sheboygan County believes in education and strategic implementation to broaden their toolbox of preservation options on the road to a 30-year timeline.



Sheboygan County by the Numbers

Size: 1,271 sq. miles

Population: 117,752

Municipalities: 28

Highway Division Employees:

- Full-Time: 95
- Casual: 7
- Summer Students: 5

Total Centerline Miles

Managed: 2,172

- Township: 465
- County: 451
- State: 170

Preservation Budget: \$600-900k annually + ~100k Pre-preservation annually

Annual Work for Local Municipalities & DOT:

>\$9.5m (includes paving, seal coating, tarring, drainage improvements, etc.)

Heavy Highway Building

Capabilities: construction aggregate operations, hot mix asphalt producer, asphalt paving, maintenance & preservation activities.



WISCONSIN COUNTIES

AGENTS OF PRESERVATION

It is helpful to understand the unique structure of county highway agencies in Wisconsin to fully appraise Sheboygan County's work in pavement preservation. Counties in Wisconsin can be described as "agents of the state." County-appointed officials are required to enforce state laws, maintain state records and even manage public elections. Wisconsin, however, is the only state in the U.S. that has a statute (a "routine maintenance agreement") designating the respective County Highway Agency as responsible for maintenance of State and Interstate Highways in that county and with the use of county-owned equipment, materials and labor.

Utilizing equipment already owned by each county increases the level of service each county can provide while reducing costs, particularly in a state that receives consistent snowfall events like Wisconsin. This system works so well, in fact, that the routine maintenance agreement extends beyond snow removal to pavement preservation.

The Wisconsin Department of Transportation (WisDOT) and Wisconsin County Highway Association (WCHA) established a memorandum of understanding that resulted in the 2013 Wisconsin Act 20. This effectively expanded the range of maintenance opportunities that counties may perform on WisDOT-owned facilities. The resulting agreement is called the Performance Based Maintenance (PBM) Program and includes routine preventive maintenance like crack sealing and more involved activities like chip or scrub sealing. In other words, Wisconsin counties are agents of pavement preservation in the state.

“

Sheboygan County has been an outstanding partner to Washington County in our seal coating efforts for many years. We appreciate their investment in great equipment and staff training to ensure pavement life and tax dollars are maximized in our county and among all their partners in the region. We look forward to continuing our great partnership in the future.” ”

Joshua Glass
Washington County Assistant
Highway Commissioner

**Learn more about
Wisconsin County highway
maintenance here:**





SHEBOYGAN COUNTY

A VERTICALLY INTEGRATED LEADER

Sheboygan County, like many Wisconsin counties, had a robust chip sealing program for many years prior to the PBM agreement with WisDOT. WisDOT did little regarding early-life preventive treatments leading up to the PBM program. When it became clear to WisDOT that processes such as chip sealing were required to stretch budget dollars, Sheboygan County stepped up to offer expertise.



"I knew the asphalt overlay would last longer with the proper maintenance in the future," said Bryan Olson. "I began to have conversations with our DOT Area Maintenance Specialist and his supervisor about trying to chip seal a segment STH 144. After meeting with them and showing them other completed chip sealing projects throughout the county, the DOT agreed in 2022 to chip seal a 10,000-foot segment of STH 144, which resulted in an outstanding outcome with the remaining five miles of road being chip sealed in 2023."

A similar narrative has transpired at a local municipality level. Local roads are used by nearly all motorists, yet they remain chronically undermanaged for two primary reasons: funding and access to information and resources. An innovative tax initiative proposed by Sheboygan County addresses the first. The latter is often a result of management structure at the local level, where town boards and leaders often need to wear many hats and are sometimes volunteers altogether.

Olson and his team invest significant time and resources into working with these local municipalities to improve their outcomes. Acting as a consultant to the local municipalities builds trust and removes an additional barrier between the public and the decision makers.

"The Sheboygan County Highway Department has been a fantastic partner for our town for many years," said Town of Mitchell Chairperson Jackie Veldman. "Knowing that roads are the biggest priority for my constituents, I made it my goal to learn as much as I can about them when I became Chair. I wouldn't have gotten as far as I have without the advice and support of the Highway Department."

The dividends of this effort are impressive. The amount of local municipal work completed by Sheboygan County has grown steadily since 2016, sometimes at rates of over 10% annually.

Sheboygan County is an influential leader in regional preservation activities from the interstate and state highways running through the county down to the lowest volume township roads – a case study in vertically integrated pavement preservation.

"Sheboygan County continues to be a valuable partner for the WisDOT, including completing pavement preservation strategies, striving to implement early-life and late-life, and serviceability treatments consistent with our Highway Maintenance Manual," said Northeast Region WisDOT Maintenance Supervisor Matt Ternes.



SUSTAINABLE SUCCESS THROUGH LEGISLATION

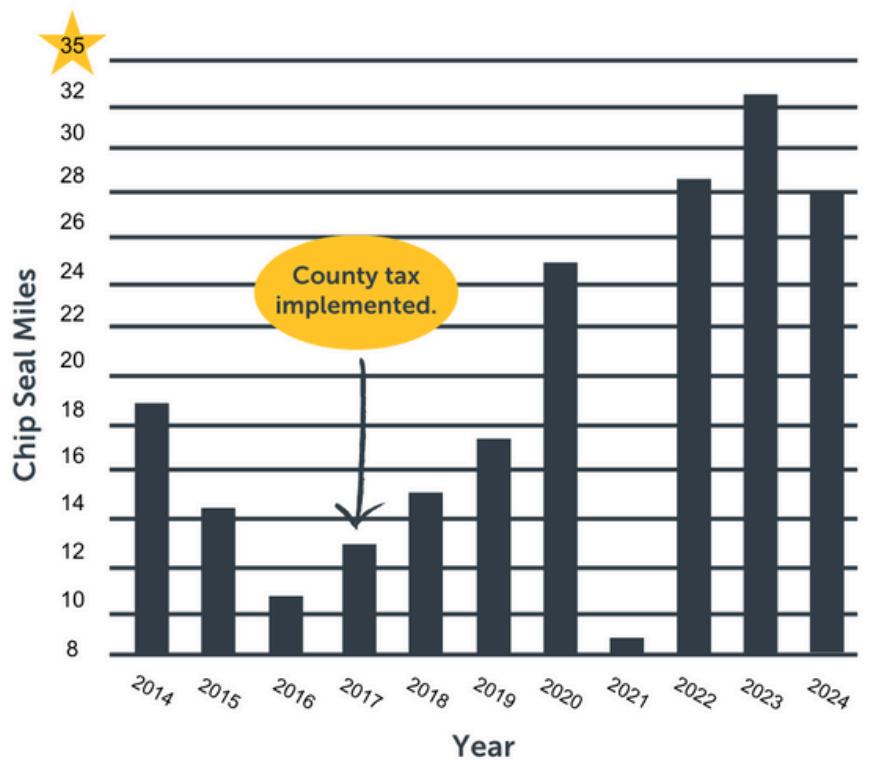
Funding is the greatest impediment to a sustainable preventive maintenance program at all levels. This can be particularly destabilizing to a program at county and local levels. In 2016, leaders within Sheboygan County, including past Transportation Director Greg Schnell, submitted a proposal to the Sheboygan County Board of Supervisors for a 0.5% county sales tax to support transportation infrastructure needs within the county. A similar initiative was voted down twice before – once in 2004 and again in 2009.

In 2023, the county was able to budget chip sealing on 32 miles of road, which is more than a 200% increase from 2016 before the tax revenue was available.

By working with the local business community, local municipalities and taxpayers, the third time was the charm. County leadership took an important step to dedicate revenue generated from the sales tax to transportation only. The results are impressive. A portion of the tax is also shared directly with local municipalities (\$1.6 million in 2023), which is put towards improving critical local infrastructure.

The tax revenues produce a more predictable revenue stream, allowing Sheboygan County to plan several years into the future with a higher level of confidence. The county's five-year plan is shared with three different county liaison committees, and the final budget goes through a public hearing in late October for the community to provide input. The feedback loop between the public and business community makes this system sustainable.

Sheboygan County aims to chip seal 35 miles per year, and since implementing the county tax in 2017, it has been trending closer to that goal .



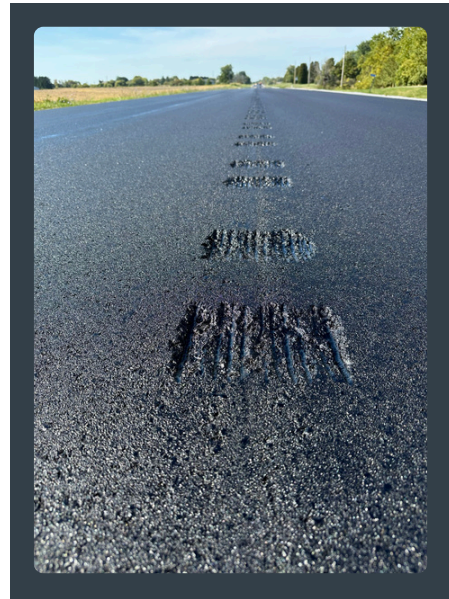


ENHANCING SAFETY WITH CENTERLINE RUMBLE STRIPS

Centerline rumble strips (CLRS) are proven technologies that save lives. Wisconsin, like many states, is using CLRS at an increasing rate, and Sheboygan County sees this is likely to continue. An ongoing research project funded by NRRRA titled “Materials-Based Methods to Improve Rumble Strip Durability” aims to identify materials that can be used to preserve the integrity of the CLRS from the time of construction. Sheboygan County eagerly agreed to participate in the project when asked.

Sheboygan County agreed to allow researchers to install two preservation treatments to a section of CTH LL that the county had planned to rebuild in 2023. Although CLRS were not originally planned for CTH LL, an exaggerated S-curve running through the project made it a suitable candidate and the county agreed. Construction took place in August and September of 2023. Sections using VRAM were installed prior to paving the upper layer, and sections using a penetrating asphalt emulsion were applied after milling of the CLRS. Control (untreated) sections will allow the county and researchers to monitor performance with time.

This was Sheboygan County’s first use of a penetrating asphalt emulsion, which is a preservation treatment designed to fill surface interconnected voids with unaged asphalt. The result is a surface-impermeable layer that also exhibits a darker color relative to untreated areas. This helps with winter snow and ice melt as well as stripe demarcation.



Learn more about this project’s construction:

[CLICK HERE](#) 





INFORMED DECISIONS THROUGH SCOPE RESEARCH

In 2020 a six-mile segment of CTH in southern Sheboygan County was budgeted for full reconstruction. Consulting with industry colleagues, the county decided to use the segment as a live-traffic, full-scale research section called SCOPE. SCOPE is built from a concept similar to MnROAD or NCAT Test Track, but SCOPE is uniquely focused on preservation at the county level. Clear signage tells motorists they are entering the research track, but otherwise the road seems like any other.



By addressing common problem areas during construction, a pavement will age and exhibit distresses in a more consistent and predictable way. Longitudinal joints, for example, are commonly one of the first areas to exhibit distress. During construction of SCOPE, Sheboygan County installed VRAM along one section, and joint adhesive along another. The benefits of such treatments were clear to the county, and VRAM has been used by the county every season since SCOPE.

“This proactive approach has led to better understanding of roadway stresses and how to better maintain our roadway infrastructure,” said Transportation Director Bryan Olson. “Using products such as VRAM, we are seeing the huge benefit of keeping our center seams together sealed from the opportunity of moisture seeping into the roadbed. Sealcoating our roads earlier is proving to help to combat the damaging effects that UV has on the roadway surfaces maintaining the structural integrity for the next 20-30 years.”

“

Sheboygan County continues to be a valuable partner for the Wisconsin Department of Transportation (WisDOT), including completing pavement preservation strategies, striving to implement early-life, late-life, and serviceability treatments consistent with our Highway Maintenance Manual.

”

Matt Ternes
Maintenance Supervisor
WisDot, Northeast Region, Green Bay



INFORMED DECISIONS THROUGH SCOPE RESEARCH

Bucking historical trends in which chip seals are applied to a pavement following 4+ years of service, Sheboygan County wants to understand if moving preservation treatments earlier in a pavement life cycle will reduce equivalent annual costs and extend the useful life of the chip seal itself. A cationic polymer modified asphalt emulsion (CRS-2P) was used to install a chip seal during the first season of service for SCOPE. A carefully selected aggregate (higher abrasion resistance and generally cleaner) was sourced as the cover material. Although a local aggregate would have been lower cost, the county believed that spending the incremental cost for premium asphalt emulsion and aggregate would be money well spent. Into the fourth season following installation, the chip seal is performing extremely well. As a result, the county now uses the same premium emulsion and high-quality aggregate on most chip seals county-wide.

A growing trend Sheboygan County has identified is waning public acceptance of standard chip seals in urban areas. Feedback from the public is a desire for a less dusty process with a lower chance (or elimination) of loose chips. Single-pass asphalt emulsion fog treatments are an option for early life preservation that the county felt might work for this scenario. The County applied two such treatments during the first SCOPE season to evaluate effectiveness and ease of use in their process. An added benefit the county noted was a darkened appearance to the pavement surface, which improves line demarcation and helps melt snow and ice during winter storm events (public feedback is also generally in favor of darker pavements). The county is gaining confidence in these treatment types and has accepted them as a viable tool for newer pavement surfaces.

Plans are in place to apply other treatment types at staggered intervals to better understand value. The goal of SCOPE is to understand how choosing “The Right Treatment at the Right Time” can reduce equivalent annual cost of the treatment and extend the pavement life in Sheboygan County, but learnings are shared among other county agencies as well.





GOING GREEN

The transportation industry is undergoing a landmark shift in how agencies and vendors purchase materials and transparency of environmental impact. Reducing carbon footprint through strategic material selection and becoming more efficient in all aspects of construction is more important than ever. Sheboygan County has a unique perspective on pavement preservation, believing that true preservation starts at the hot mix plant.

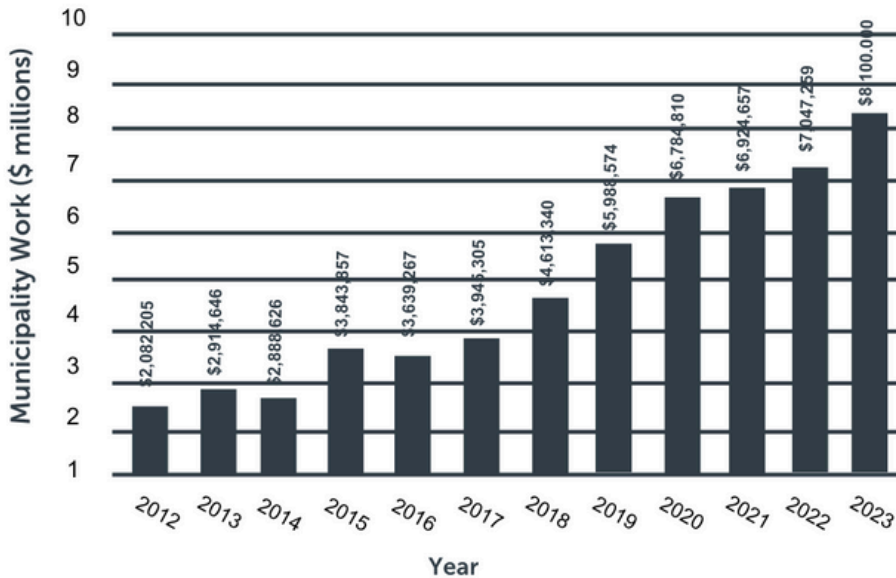
Sheboygan County is unique among Wisconsin counties in that the county owns and maintains full road construction, preservation, maintenance and reconstruction capabilities in-house. Sheboygan County is one of approximately 15 (out of 72) Wisconsin counties with a county owned and operated hot mix asphalt (HMA) plant. The county therefore owns and maintains the road from quarry to recycling, which provides a unique perspective on preservation and incentivizes the county to begin the preservation process at the time of construction.

“The start of Pavement Preservation begins with the plant/mix production. In July of 2024 we have added the necessary equipment to begin to produce Warm Mix Asphalt (WMA),” said Sheboygan County Director of Transportation, Bryan Olson. “We believe in developing a pavement preservation process from ‘Cradle to Grave.’ This starts with our crushed aggregates, which are produced by our own team. With all the preservation products that are available, it is important to have a trusted vendor that has the same preservation/sustainability goal in mind.”

“
We believe in developing a pavement preservation process from ‘Cradle to Grave.’
”
Bryan Olson
Sheboygan County Director of Transportation



In 2024 Sheboygan County hosted personnel from counties throughout the state to share best practices and discuss industry trends in preservation and paving.



Between 2021 and 2022 Sheboygan County increased its municipal work spending by more than 238%.



PUBLIC ENGAGEMENT AS A KEY TO SUCCESS



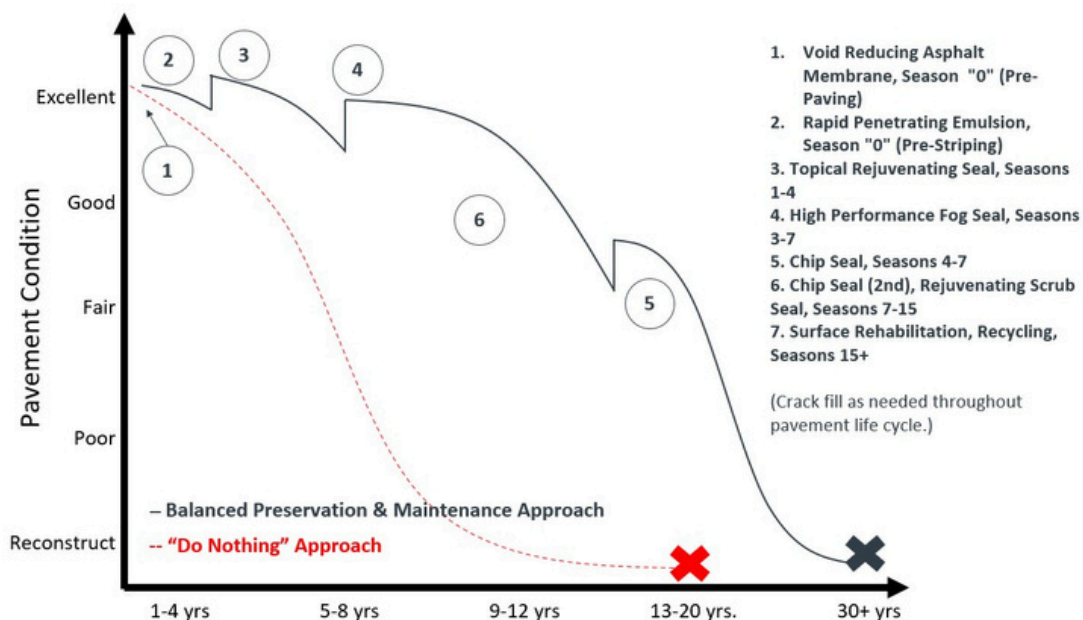
Scan here to learn more about projects & treatment information.



The county takes transparency in its intentions seriously. Sheboygan County maintains an up-to-date web page with projects and treatment information: [Highway Road Construction](#).

A printable summary of all paving, reconstruction and preservation work is also available on the website, including prominently displayed information about the 0.5% sales tax. The county holds Public Information Meetings for its larger-scale projects, and the public is invited by direct mailings. The county also publishes local newspaper advertisements for most reconstruction and bridge replacement projects. During projects portable message boards and clear signage are used to further update the public on progress and important information.

The "Road to 30" Preservation Philosophy





EMBRACING TOMORROW

LEVERAGING STRENGTHS & NAVIGATING CHALLENGES

When asked what the greatest strength of the Sheboygan County Highway Division is, Director Bryan Olson emphatically stated, "It's the dedicated team of like-minded, goal-oriented staff." Olson went on to remark that the best way to preserve and leverage this strength is "...by providing the staff with the tools and resources needed to produce and install a well-maintained road infrastructure."

Evidence shows this is happening in Sheboygan County through its innovative funding strategies, intentional public engagement program and investments in research, equipment and technologies.

Sheboygan County faces many of the same challenges other agencies face in terms of sustaining a pavement preservation program. Equipment and material costs are at an all-time high, and competitive recruitment and retention is always difficult, particularly at a local level. Yet, the Sheboygan County Transportation Department – Highway Division continues to navigate these challenges and remain exceptional stewards of perhaps the greatest public asset: our transportation infrastructure.

“

I see firsthand the collaboration and advocacy that happens throughout our State for our roads and infrastructure. However, the dedication – and success that results from it – is even more obvious when Wisconsin is compared to the rest of the Country.

Serving as Vice President for AASTHO, I see firsthand what we do differently. The biggest key is the relationship that the 72 counties have with the State of Wisconsin, which is constantly being reinforced because of our routine maintenance agreements. However, Sheboygan County is truly a leader in its level of collaboration and innovation, which I can see firsthand from all of my visits here. Every time I am here, whether it is to present at the County Board meeting, speak at a ribbon cutting or talk to the Northeast Region Commissioners and Committee members, the quality of the roads really impresses me.

Sheboygan County clearly values pavement preservation and invests in it, which is so important for our constituents. By spearheading new initiatives in the State, like its SCOPE program, the County sets an excellent example for the rest of our State.

Craig Thompson
Secretary of the Wisconsin Department of Transportation

Nominating Information:

Nominee:

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