



# THE MILE MARKER

## MIX OF FIXES

Ever wonder what it takes to maintain our roadway system? Many road agencies across the country, including SCRC, have developed different ways of treating the existing pavement to extend the life of our roads. This planned treatment of our roadway system is also called preventative maintenance. Preventative maintenance does not include patching potholes, rather attempting to prevent the potholes from ever forming. The goal of preventative maintenance is to protect the pavement by decreasing the rate at which the road deteriorates, while adding between 5-10 years to the pavements service life and using the most cost-effective pavement treatments in order to do so.

The common misconception of road maintenance is that the best practice is fixing the worst roads first. While this is the ideal strategy for road maintenance, it is also the most expensive, and is very difficult for road agencies to afford. Instead, the most common practice is to use a "Mix of Fixes," which aims at treating as many miles of road as funding allows for. The premise for the "Mix of Fixes" strategy is to keep our good roads good, because the longer we can keep a road in good condition, the lower the yearly maintenance costs are. As the condition of a road deteriorates, the cost of maintaining that road increases.

In the engineering world, roads can be rated either good, fair, or in poor condition. Roads that are in poor condition are usually past the period of time where preventative maintenance will be most effective. Because of this, we try to focus on the good and fair rated roads in order to keep them or upgrade them to good condition. The most common treatment for a good rated road is to crack seal. Cracks can start showing on a road as soon as a year or two after the road was constructed; this is because of the harsh winters that are prevalent in Michigan with the multiple freeze/thaw cycles that we see in a year. Crack sealing is the most cost-effective treatment and keeps water from getting below the pavement surface. Roads that are within the fair condition rating can be maintained using multiple different treatments; including single or double chip seals, fog seals, micro-surfacing, cape seals, and scrub seals among many more. Chip seals are the most common treatment that the Saginaw County Road Commission uses to keep our good roads good.

SCRC chip sealed close to 150 miles this year, and that number is on the rise. A paving program designed for micro-surfacing and treating our good and fair roads is also coming soon, and we hope to place new hot mix asphalt (HMA) on as many roads as possible every year.

## FROM THE MANAGER'S DESK

Well, the time has come! The trucks have already been out plowing and the holidays are right around the corner. Although the winter time is when our maintenance department is most recognized, this summer our whole team was able to accomplish a great amount of work. With the additional funding that was received we were able to improve an EXTRA 39 miles of road!



Our crews will be out around the clock this winter making sure our roads are safe. The dedication that comes from the employees here at the Road Commission goes without saying and I am very grateful to be able to lead this team! Wishing everyone health and happiness for 2019!

Great job team!

*Dennis*

## PRIME PLOW

SCRC is proud to launch Prime Plow for Winter 2018/19 but first, let's look back a little more than a decade ago in SCRC's history. The first AVL units were installed in 2007 on five front line trucks. By 2008, we had installed AVL units on our entire plow fleet. The installation of the GPS boxes, antennas, and sensors were very labor intensive. The product of all the hard work was the ability to track our plow trucks location and plow/spreader activity across the county on an online map. The advantages included real time location of our fleet and instant verification of treatment activity. Active trucks would leave a breadcrumb trail showing the location where they had plowed/salted. During a snowstorm, the map would become cluttered with many different breadcrumb trails, data flowing in every minute. The AVL system began to age over time and maintenance of the AVL equipment and of the map had become grueling tasks.

Knowing the value of the information that was being collected we decided to combat our aging AVL system with more efficient technology and introduce a more user-friendly map. Our new AVL units are simple "plug and play" devices from Verizon. It only takes minutes to install and the location of our fleet updates every 15 seconds!

We also have two different maps to meet the needs of the public and our organization. The public map specifies the priority of every road in Saginaw County. It also indicates on the roadways that we maintain if we have plowed them within the last 36 hours. Our internal users not only can see the location of our fleet in real time but also review statistics on treatment activity. Another exciting feature is the ability to view a live weather radar while simultaneously viewing truck locations on the map.

Our new Prime Plow AVL system has replaced Compass Track that served us for the last decade.

## SAFETY CORNER

I would like to take this time to congratulate all the employees of SCRC on their safe work practices. 2018 showed our lowest number of lost days due to work related injuries with two days total. This is a fantastic number and the lowest I have seen since being involved with the safety department. Hats off to all of you!

In October, SCRC held its annual safety training day and this year it was time to renew the certifications of all employees for First Aid, CPR and AED with instruction from MMR. Hubbard Supply attended the safety training and allowed employees to use their safety accounts to purchase items directly without having to pay upfront and submit receipts for reimbursements.

As a gift from our Managing Director, SCRC purchased safety (ANSI Class II) tee shirts for all employees. In addition, we changed our safety glasses to Bouton Optical "FogLess 3sixty," with the employees having the choice of two styles, both in clear and tinted. Our hard hats have changed as well! Any new hat issued will be a lime green color which will keep our employees from blending into the color of our equipment to improve their visibility, thereby preventing accidents.

If you have any item of concern, please contact any one of the members of the safety committee, you can also contact me directly at my office (989) 399-3754 or cell (989) 737-3226. All items brought to the safety committee will be kept in strict confidence. Safety is the responsibility of each and every one of us, we need to look out for each other, and point out unsafe practices to our fellow employees so that we may all go home safe to our families.

Remember: **Safety is as simple as ABC...Always Be Careful**

## RAILROAD CROSSINGS

In November 2017, we were notified by MDOT that we had three rail crossings selected for the "Local Surface Grade Crossing Grant" program. This is a program through MDOT in which the State of Michigan covers 60% of the costs and the rail road company is responsible for 40% of the costs to cover improvements to the railroad right-of-way. Any improvements outside of this area are the responsibility of the road commission and we worked with the contractors to insure the smoothest approaches possible for the traveling public. The crossings that were chosen are as follows:



S. River Rd. near Ederer in James & Thomas Twp. This crossing is owned and operated by Lake State Railway Company and SCRC spent \$8,595.00 for improvements.



W. Michigan/St. Andrews in Saginaw Twp. This crossing is owned and operated by Huron & Eastern Railway and SCRC spent \$6,952.00 for improvements.



Williamson Rd. between Sheridan & King in Bridgeport Twp. This crossing is owned and operated by Huron & Eastern Railway and SCRC spent \$11,729.00 for improvements.

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### WHAT ARE THEY DOING?

Mitch Weaver, a Fixed Maintenance department employee of SCRC is permanently patching holes on the Dixie Highway with a road patching Dura Maxx machine known better in house as the "snorkel machine."

The "snorkel machine" is a one-person operated machine that is used to fix potholes. Unlike cold patch that is expensive (\$89 ton in 2018) and temporary, the snorkel machine is a cost saving measure that has proven results. The machine is cost effective in that it is a one employee machine, has its own traffic controlling arrow board and saves the county from repeatedly having to go back and fix the same pothole time after time.

The process in which the "snorkel machine" works is to drive up to a pothole or large crack in the roadway and first blow the area clean of any dirt or debris. The second step is to put a tack layer of HFRS2 emulsion down. The third step is to then put down a mixture of H1 stone (small limestone) and emulsion filling the pothole or crack. The fourth and final step is to then cover the stone emulsion mix with dry stone only, so that the motoring public can drive on the corrected area without delay. The Saginaw County Road Commission has two "snorkel machines" that operate from mid-March until mid to late November weather dependent on temperatures being above 38 degrees.



### 2018 Maintenance Update

Summer accomplishments were above average this year! Good weather, project coordination, equipment availability and employee dedication are the biggest reasons. All phases of seasonal activities were completed with countywide chip seal leading the way with 150 miles of chip seal completed by early August.

Last month the SCRC completed its annual winter preparedness equipment inspections. This involves running each piece of equipment through a very detailed check list. The inspections went well with the biggest issue being a hydraulic hose that blew during inspection. The entire team worked hard at getting the equipment ready and their efforts were shown throughout the inspection.

Now here we are with the summer and fall months in the rear view mirror and the beginning of the winter season. We all are aware of the impacts snow storms can have with motorist safety, user delay and overall cost for materials and equipment. On the surface, it may seem that winter maintenance on our roadways is nothing more technical than shoveling the snow on your driveway, but that is far from the case. We now have 1900 actual responsibility miles to maintain in Saginaw County. To obtain and maintain passable conditions as we travel across our emergency, primary, & local routes, significant planning, communication, coordination and cooperation is required. Most people think that applying more salt to burn off the snow is always the answer, but salt is only there to break the bond between the snow/ice and pavement so that it can be easily bladed off. Overall weather conditions, temperature, wind speed and multiple other variables come into play when deciding if we should: apply salt, NOT apply salt, apply salt and sand mix for non-curb areas, pre-wet with brine, or anti-ice before the storm. Our garage staff relies on their experience and multiple weather forecasts to develop a plan of attack prior to each winter event. We also will utilize a prime plow map that will show us what roads have been plowed throughout the storm.

Snow removal is one of SCRC's core functions, and without the help and dedication of our complete SCRC staff we would not be ready to go when mother nature decides to send us winter weather. The number one goal of our snow fighters is to keep the roads open and safe, even if it is on the weekend or involves being away from their families during the winter holidays.

If you get a chance, please share your appreciation with our employees for their efforts to keep your family and friends safe in some of Michigan's worst weather conditions. Respect a snow plow operator as if you would any other emergency vehicle, not necessarily pulling over to the curb, but stay back from the truck, don't pass, and allow them room to clear the roadway making it safer for all.

Thank You!

*Dan Medina*, Director of Maintenance