



# McHenry County Division of Transportation *Celebrating 100 Years, 1913-2013*



Each month this year, a new article celebrating the 100 year anniversary of the McHenry County Division of Transportation will be featured in the Northwest Herald. The second article, printed on February 26th, covered snow operations at the MCDOT. Watch for the third article on pavement preservation to be published at the end of March.

## Snow Operations at the MCDOT

Since man began traveling down roads and walkways, snow and ice has been an obstacle for motorists and pedestrians. From the time when people first used sleighs then transitioning to motorized vehicles, roads and walkways needed to be cleared for safe travel. While so many things have changed in snow and ice removal, the basic concept of removing snow and ice by moving it off the road or sidewalk with a blade is still the number one method across the globe. Let's look at some of those changes and how the MCDOT has evolved through the years.

By the time you have learned of a snow event on TV, through the newspapers or the internet, chances are the MCDOT has already been planning a course of action to how we are going to tackle the event for a couple of days. It was not always this way.

As recently as a couple of decades ago, the standard operating procedure for most Snow Operations in the United States and here in McHenry County was to wait for the snow to fall or the ice to build up on the roads, and then dispatch staff to clear the roads and treat them with a sand and salt mixture. This reactive approach to clearing roads made traveling more difficult for the public and the job of the plows even tougher. We knew there was a better way to do it not only for the traveling public but for the environment as well.

The first thing MCDOT wanted to do was to create proactive process which began with better weather forecasting. In the early 1990's the MCDOT began using contracted weather services. These weather services concentrate on the road, specifically pavement temperatures, which is obviously much different than what you see on the news. The equipment used to measure this is a Road Weather Information System (RWIS). The RWIS site is a mini weather station constantly transmitting real time information back to the MCDOT and also ties into a national system which helps make accurate predictions. When the MCDOT started using data from RWIS locations, they were nearby but none in McHenry County. The MCDOT has since installed several at various locations throughout the County to provide key data closer to home.

Now that we have information about an upcoming snow event, the MCDOT then has to determine the best course of action. Depending on the weather conditions (air temp, air moisture, pavement temp, etc), the equipment that will be needed is prepped, loaded and ready to go typically a day ahead of the storm.

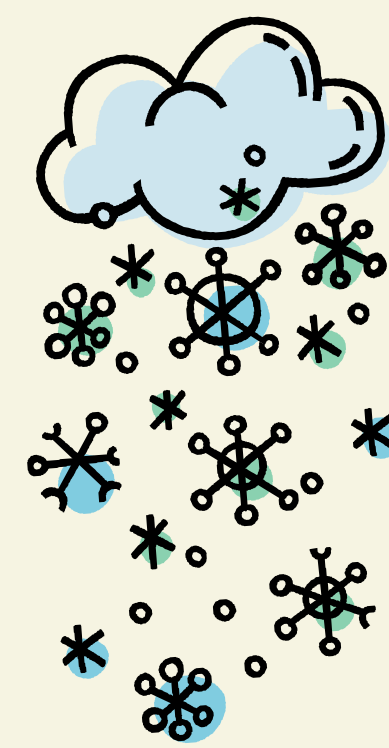
One of the newest tools we have for snow fighting is pretreatment. Applying certain chemicals before the storm starts can act similar to putting a spray on a frying pan when you cook. You may have even seen trucks applying liquid to the road, making those brownish lines you see and wondered why they were there. This "anti-icing" pretreatment is a method that was refined and enhanced making it a practical snow fighting tool right here in McHenry County at the Division of Transportation. When the snow begins to fall, the anti-icing prevents the snow from becoming packed which can make plowing very difficult. Anti-icing is also environmentally friendly. With the melting process started, the plow that comes by later can now use less salt. Another environmentally friendly aspect of anti-icing is that it contains sugar and salt. The sugar we use is a byproduct from food processing (recycling) and helps the salt stick to the road.

Now that it's started to snow, plowing operations continue as you might think but our innovations don't stop. The salt we use is pretreated itself. It doesn't look white but instead has a brownish-orange color (or sometimes blue as in the latest shipment). Pre-treating and pulverizing the salt prevents it from bouncing as much when it is spread staying where we want it, on the road. Then to top it off, all these processes are applied using computers. Computers monitor the speed of the plow truck and can then adjust the amount of salt that is spread to help conserve salt. All these tools give the plow operators the latest technologies so that they can perform their duties in the safest and most efficient manner.

Once the event is over, you may think that the MCDOT can relax. This is far from true. All of the unused materials on the plows are returned and restocked. The trucks are serviced and cleaned as washing the trucks can extend the life of the plows by 30%. We then get ready for the next event.

Over the last ten years, the MCDOT has developed many new processes for winter operations. The MCDOT has been a pioneer in the Winter Operations field and has received national and international acclaim and openly shares our successes with other government agencies.

So the next time that you see those big beautiful fluffy snowflakes start to fall, and you are snug in front of your fireplace, think of what is going on behind the scenes at the MCDOT to assure that you will be able to safely get where you need to go. When it does snow, give yourself two things, more time and more space to those around you. Please drive safely.



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