

An Open Road Objective

As cost for salt increases and local governments and the public become more aware of the adverse effects chlorides have on the environments, policies regarding snow removal is changing. Safety is still the number one concern on everyone's mind. But after that, people are asking, "How can we save money? How can we still have safe streets, but protect our environment?"

There are two basic types of service when it comes to snow removal: an open road objective and a bare pavement objective. An open road objective is where snow removal programs are targeted at allocating sufficient personnel, equipment, and materials so that roads are passable with a reasonable amount of inconvenience and still provide safe driving conditions. An open road objective is where the goal is to remove snow through mechanical and chemical techniques until no snow remains on the road. Municipalities often use a combination of the two objectives, concentrating on removing snow and ice as much as possible on major roadways while maintaining side streets passable and safe, but often still with snow on the pavement.



City of Naperville snow plows.



Salt dome used for storage.

The Village of Lisle has recently moved away from a bare pavement policy for all streets. Salting to obtain bare pavement is still used in specific areas including downtown, schools, major streets and hills and curves. Lisle has used a variety of methods to inform its residents of this switch, including postings on their website, articles in local newspapers and HOA newsletters. All roads are still salted after an ice storm. Ray Peterson, the Director of Public Works says, "People have adjusted to towns not having bare pavement on many of their roads. Drivers appear to have slowed down."

The Village of Itasca also has an open road objective. Itasca's policy states that "streets should be passable with a reasonable amount of inconvenience, based upon actual storm conditions, and should provide a safe driving surface, if reasonable driving caution is taken considering weather conditions." Salting begins when precipitation starts to accumulate on road surfaces and cause unsafe driving conditions.

A road completely clear of snow is not necessary to allow for safe transportation as the above examples demonstrate. An open road objective allows for the reduction of salt usage, which saves money and helps to reduce chlorides in our local waterways.

The Carol Stream Experience (continued from page 1)

The above experimentation could also help reduce the chloride levels in the local waterways even with the increasing snow amounts and plowing events.

The Public Works Department accomplishes this higher salinity anti-icing solution by mixing their own brine at the Public Works center then stores it in two 3,000 gallon tanks. The Public Works Department also pretreats the road salt with Geomelt, a beet juice by-product, that increases the melting range of salt.

Choosing Alternative Deicing Products By Dan Bounds, CDM

For wintertime roadway deicing, alternatives to conventional road salt have been typically sought after due to the damaging effects of salt on paving surfaces and other materials. Alternative products are also chosen to reduce harmful effects on pets that might walk through areas treated with deicing chemicals. With better understanding and rising concerns over the impacts of conventional salt on area surface water quality, alternative products are being sought that contain lower levels of chlorides, or even no chlorides.

Municipal deicing programs have been looking at alternative products for some time due to their potentially better deicing performance that can be achieved through prewetting conventional salt techniques, through anti-icing of pavement ahead of winter storm events, and through totally replacing conventional salt usage. Some alternative products have had price points that have made their use in place of conventional salt cost prohibitive. But with dramatic rises in the price of conventional salt over recent years, alternative reduced-chloride products are being looked at as potentially more economical.

As the DuPage River Salt Creek Workgroup is seeking to reduce chloride water quality concentrations and achieve water quality standards in the water bodies within the Workgroup area, the Workgroup has gathered some information on the use of alternative products throughout the area. In 2006 / 2007,



DuPage County Department of Transportation anti-icing operations.

the Workgroup distributed a questionnaire about current deicing practices to about 80 municipalities and public works agencies; 39 responses were received. The questionnaire included a section asking about the use of alternative deicing products currently being used. Responses indicated 34 public agencies use liquid calcium chloride as an alternative conventional salt. Three agencies use magnesium chloride. Additionally, the following reduced or non-chloride alternative products were reported as being used:

- Carol Stream uses GEOMELT® 55 (a liquid non-chloride)
- Downers Grove and Lisle use potassium acetate (a liquid non-chloride)
- DuPage DOT uses calcium magnesium acetate (CMA; solid non-chloride) in parking garages
- Elmhurst and Hanover Park also use CMA
- Naperville uses urea (solid non-chloride) and CMA
- Glen Ellyn uses ClearLane® (a solid corrosion-inhibited chloride product)

A brief summary of alternative deicing products has been developed that can be considered for chloride reduction by agencies performing roadway deicing. It is available at www.DRSCW.org. The summary contains details on the chloride content, deicing performance, and estimated cost data of several reduced-chloride alternatives to conventional road salt.



Anti-icing liquid at the City of Naperville Public Works Department.



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DuPage River Salt Creek Workgroup

Letter from the President

Dear Members,

Welcome to the Chloride edition of the DuPage River Salt Creek Workgroup (DRSCW) newsletter. There has been a lot of snow removal and anti-icing activities going on in our service area. With the rising cost of salt and the decrease in supply, we have seen an increase in alternative snow removal procedures in the area. Our first article is written by Mike Scaramella, Street Superintendent, about how the Village of Carol Stream is using a higher salinity brine in anti-icing operations and having much success. Dan Bounds from CDM will give us a tour of alternative deicing products being used in the service area and lastly, DRSCW staff discusses open road versus bare pavement policies and the experience of local municipalities with these policies.

An IEPA public hearing was held on January 28th regarding the new TMDLs for the East and West Branches of the DuPage River and Salt Creek. The TMDLs are in Phase I and the Workgroup will work with IEPA to provide comments and additional data before Stage III.

Membership continues to grow and I'd like to welcome our newest member, Conservation Design Forum, as an associate member. Welcome and we look forward to working with you. Once again, I'd like to thank all of the members for their active support and participation and making the commitment to improve our local waterways.

Dennis Streicher
President DRSCW

The Carol Stream Experience by Mike Scaramella, Village of Carol Stream

The Village of Carol Stream has employed anti-icing procedures for several years and is having great success. Anti-icing, which should not be confused with pre-wetting or pre-salting, is done before a snowfall starts to prevent the bond between snow and pavement from forming. This has helped minimize the use of salt and expedites plowing operations, producing a cost savings and an environmental benefit by reducing chlorides in the local waterways. Carol Stream has adopted the procedures of anti-icing as a maintenance technique during the active snow season.



Carol Stream applying anti-icing before predicted snowfall event.

Carol Stream is experimenting this year by increasing their salinity of the salt brine to 25-26% versus the industry practice of a 23% solution. Street Superintendent Mike Scaramella says the jury is still out on the over all outcome, but preliminary results are showing a reduction of 100 to 150 pounds of road salt per lane mile, with no adverse affects of causing black ice. They are also testing the use of this solution with their pre-wetting operation with positive success.

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DuPage River Salt Creek Workgroup

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