

Chloride Pollution Prevention BMP's	Examples & Resources
<p><b>A. <u>Training/Certification Programs</u></b></p> <ol style="list-style-type: none"> <li>1. Train Municipal Staff</li> <li>2. Train Private Contractors</li> <li>3. Train Property Managers</li> <li>4. Model contracts for private operators</li> </ol>	<p>Minnesota <a href="https://freshwater.org/wp-content/uploads/2019/10/Asleson-RoadSaltSymp2019-2.pdf">https://freshwater.org/wp-content/uploads/2019/10/Asleson-RoadSaltSymp2019-2.pdf</a></p>
<p><b>B. <u>Legislation/Ordinances</u></b></p> <ol style="list-style-type: none"> <li>1. Laws to protect operators, property owners, and managers hiring certified applicators from liability</li> <li>2. Identify a Code of Practice for the environmental management of road salt</li> <li>3. Model local ordinances <ol style="list-style-type: none"> <li>a. Occupational Licensure for Winter Maintenance Professionals</li> <li>b. Deicer Bulk Storage Facility Regulations</li> <li>c. Land Disturbance Activities</li> <li>d. Parking Lot, Sidewalk and Private Road Sweeping Requirements.</li> </ol> </li> </ol>	<p>AdkAction (Adirondack region, NY) <a href="https://www.adkaction.org/project/reducing-road-salt/">https://www.adkaction.org/project/reducing-road-salt/</a></p>
<p><b>C. <u>De-icing with reduced amounts of rock salt</u></b></p> <ol style="list-style-type: none"> <li>1. Understand how much is needed, and adjust based on weather &amp; site conditions</li> <li>2. Document and track how much salt is being used.</li> </ol>	<p>Virginia <a href="https://www.deq.virginia.gov/SaMS.aspx">https://www.deq.virginia.gov/SaMS.aspx</a></p>
<p><b>D. <u>Upgrade winter maintenance equipment</u></b></p> <ol style="list-style-type: none"> <li>1. Purchase newer snowplows with electronic controllers &amp; sensors regulating the amount of salt spread</li> <li>2. Calibrate equipment</li> </ol>	<p>American Association of State Highway and Transportation Officials, Snow and Ice Pooled Fund Cooperative Program <a href="https://sicop.transportation.org/about-sicop/">https://sicop.transportation.org/about-sicop/</a></p>
<p><b>E. <u>Use brine/pre-wetting/anti-icing strategies</u></b></p> <ol style="list-style-type: none"> <li>1. Purchase anti-icing equipment</li> </ol>	<p>Cary Institute (NY) <a href="https://www.caryinstitute.org/news-insights/report/road-salt-problem-solution-and-how-get-there-report">https://www.caryinstitute.org/news-insights/report/road-salt-problem-solution-and-how-get-there-report</a></p>
<p><b>F. <u>Test alternative deicers</u></b></p>	<p>Connecticut <a href="http://www.ctcase.org/reports/WinterHighway2015/winter-highway-2015.pdf">http://www.ctcase.org/reports/WinterHighway2015/winter-highway-2015.pdf</a></p>
<p><b>G. <u>Develop municipal salt management plans</u></b></p> <ol style="list-style-type: none"> <li>1. Review existing road maintenance operations</li> <li>2. Inventory salt supplies</li> <li>3. Identify salt vulnerable areas</li> <li>4. Set goals to achieve salt reductions</li> <li>5. Plan for winter conditions</li> <li>6. Adopt weather forecasting and Road Weather Information Systems.</li> <li>7. Use Maintenance Decision Support Systems software (MDSS), to help optimize snowplow routes</li> <li>8. Learn and follow appropriate application rates</li> </ol>	<p>DuPage River Salt Creek Workgroup (Illinois) <a href="https://drscw.org/">https://drscw.org/</a></p>
<p><b>H. <u>Road design</u></b></p> <ol style="list-style-type: none"> <li>1. Vegetation or snow fences to prevent snow from coming onto the road</li> <li>2. Permeable pavers reduce salt needed by preventing ice formation.</li> </ol>	<p>Lake George, NY <a href="https://fundforlakegeorge.org/threats/salt">https://fundforlakegeorge.org/threats/salt</a></p>
	<p>Maryland <a href="https://mde.maryland.gov/programs/Marylander/Pages/roadSalt.aspx">https://mde.maryland.gov/programs/Marylander/Pages/roadSalt.aspx</a></p>
	<p>US DOT Road Weather Management Program <a href="https://ops.fhwa.dot.gov/weather/weather_events/snow_ice.htm">https://ops.fhwa.dot.gov/weather/weather_events/snow_ice.htm</a></p>
	<p>New Hampshire <a href="https://www.des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/index.htm">https://www.des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/index.htm</a></p>
	<p>APWA Brine Fact Sheet <a href="https://www.apwa.net/MYAPWA/About/News_Media/Public_Works_Fact_Sheets/MyApwa/Apwa_Public/About/News_Media/Public_Works_Fact_Sheets.aspx?hkey=9d123d48-ebc7-48bc-940c-692cda8c1730">https://www.apwa.net/MYAPWA/About/News_Media/Public_Works_Fact_Sheets/MyApwa/Apwa_Public/About/News_Media/Public_Works_Fact_Sheets.aspx?hkey=9d123d48-ebc7-48bc-940c-692cda8c1730</a></p>

<b>Chloride Pollution Prevention BMP's (cont.)</b>
<p><u><i>I. Change Salt storage practices</i></u></p> <ol style="list-style-type: none"> <li>1. Under permanent roofs on impermeable pads</li> <li>2. Capture and reuse salt-laden stormwater runoff for brine production</li> </ol>
<p><u><i>J. Educate private citizens regarding safe salt use reduction</i></u></p> <ol style="list-style-type: none"> <li>1. Water softener rebate program (upgrade to on-demand or metered system to reduce salt use.)</li> <li>2. Sidewalk/driveway salt reduction &amp; alternatives</li> </ol>
<p><u><i>K. Set up revolving loan program</i></u></p>

<b>Examples &amp; Resources (cont.)</b>
<p>Indiana MDSS  <a href="https://www.in.gov/indot/files/MDSSReportWinter08-09.pdf">https://www.in.gov/indot/files/MDSSReportWinter08-09.pdf</a></p>
<p>Federal Highway Administration MDSS  <a href="https://ral.ucar.edu/projects/maintenance-decision-support-system-mdss">https://ral.ucar.edu/projects/maintenance-decision-support-system-mdss</a></p>