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| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | Smart Salting Tool  Salt Savings Calculation Data Entry Form |

Instructions: The Smart Salting Tool allows you to enter your current winter maintenance practices and determine future Best Management Practices that can be integrated into your maintenance routines and determine the amount of salt and money savings that can be achieved**.** Use this form and the *Level of Service form* to collect data from the most recently completed winter maintenance season for input into the Salt Savings assessment.

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| **General** | Current |  |
| How many salting events did you encounter? |  | events |
| How many anti-icing events did you encounter? |  | events |

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| **Purchase of salt** | | |
| How much bulk salt did you purchase? |  | tons |
| How much salt/sand mix did you purchase? |  | tons |
| ***Note:*** *We understand that you may not purchase salt/sand mix; but mix it yourself. If that is the case, put zero (0). "Bulk salt" refers to rock salt, stockpile-treated salt, and bagged products.* | | |

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| **Storage of salt** | | |
| How much bulk salt was stored over the winter? |  | tons |
| How much bulk salt remained after the winter? |  | tons |
| How much salt/sand mix was stored over the winter? |  | tons |
| How much salt/sand mix remained after the winter? |  | tons |
| ***Note:*** *Storage only applied to bulk products, not bagged or liquid products. "Stored over the winter" refers to: 1) Leftover material from previous season; and 2) New purchase in selected winter maintenance operations season. "Remained after winter" refers to remaining amount at end of selected winter operations season.* | | |

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| **Liquid usage** | Current – adds to 100% | |
| Deicing (liquid applied during or after the storm): |  | % |
| Anti-icing (liquid applied before the storm): |  | % |

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| **Cost information** | Current | |
| Cost for dry rock salt: |  | per ton |
| Cost for liquids: |  | per gallon |
| ***Note:*** *Consider all the different liquids you use and how much of each you use to come up with an average cost per gallon.* | | |

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| **Sidewalks – What % of your deicers are spread with:** | | |
| Small vehicles (gators): |  | % |
| Push spreaders: |  | % |
| Hand spreading: |  | % |
| Other method(s): |  | % |

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| **Parking lot maintenance information** | Current | Future |  |
| How much area do (or will) you salt? |  |  | sq. foot |
| How much area do (or will) you anti-ice? |  |  | sq. foot |
| Typical anti-icing rates (for parking lots): |  |  | gal/1000 sq. foot |

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| **Sidewalk maintenance information** | Current | Future |  |
| How much area do (or will) you salt? |  |  | sq. foot |
| How much area do (or will) you anti-ice? |  |  | sq. foot |
| Typical anti-icing rates (for sidewalks): |  |  | gal/1000 sq. foot |

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| **Road maintenance information** | Current | Future |  |
| How many single lane miles are (or will be) salted? |  |  | miles |
| How many salted lane miles are overlapped by more than one route? |  |  | miles |
| How many single lane miles do (or will) you anti-ice? |  |  | miles |
| Typical anti-icing rates (for roads): |  |  | gallon per mile |

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| **Accuracy: Calibrate** | Current | Future |  |
| How many granular vehicles do you calibrate? |  |  | trucks |
| How many "gator"/small vehicle granular spreaders do you calibrate? |  |  | gators |
| How many "gator"/small vehicle granular spreaders do you **not** calibrate? |  |  | gators |
| How many push granular spreaders do you calibrate? |  |  | push spreaders |
| How many push granular spreaders do you **not** calibrate? |  |  | push spreaders |
| How is the blast button set? |  |  | lbs. |

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| **Accuracy: Controllers** | | | |
| How many of each type do you have? | Current | Future |  |
| Electronic controls (closed loop): |  |  | trucks |
| Electronic controls (open loop): |  |  | trucks |
| Manual: |  |  | trucks |
| ***Note:*** *Closed loop = Auger or conveyor sensor communicates with controls. Discharge is a steady rate as truck speed varies* | | | |

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| **Before Winter: Level of Service** | Current | Future |  |
| What % of your salted parking lots must be snow/ice free? |  |  | % |
| What % of your salted sidewalks must be snow/ice free? |  |  | % |
| What % of your salted roads must be snow/ice free? |  |  | % |
| What % of your salted parking lots are designed for reduced salt use? |  |  | % |
| What % of your salted sidewalks are designed for reduced salt use? |  |  | % |
| What % of your salted roads are designed for reduced salt use? |  |  | % |
| ***Note:*** *Design features that include texture for traction, dark colored, crowned, sloped, covered, sub base influenced for warmth, chip seal, pavement overlay, etc. allow for reduced salt use.* | | | |

| **Efficiency: Deicers** | Current | Future |  |
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| For roads, what % of the time do you use the below methods for deicing? | | | |
| Straight liquid |  |  | % |
| Slurry (> 30 gallons/ton) |  |  | % |
| 16 - 30 gallons/ton (pre-wet) |  |  | % |
| 7 - 15 gallons/ton (pre-wet) |  |  | % |
| 4 - 6 gallons/ton (i.e.; pretreated stockpile) |  |  | % |
| 4 - 6 gallons/ton (on-site mixed stockpile) |  |  | % |
| Dry salt |  |  | % |
| Sand/salt mix |  |  | % |
| Other |  |  | % |
| ***Note:*** *The entries in each column, i.e., "Current" and "Future” must sum to* ***100%.*** | | | |

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| For parking lots, what % of the time do you use the below methods for deicing? | Current | Future |  |
| Straight liquid |  |  | % |
| Slurry (> 30 gallons/ton) |  |  | % |
| 16 - 30 gallons/ton (pre-wet) |  |  | % |
| 7 - 15 gallons/ton (pre-wet) |  |  | % |
| 4 - 6 gallons/ton (i.e.; pretreated stockpile) |  |  | % |
| 4 - 6 gallons/ton (on-site mixed stockpile) |  |  | % |
| Dry salt |  |  | % |
| Sand/salt mix |  |  | % |
| Other |  |  | % |
| ***Note:*** *The entries in each column, i.e., "Current" and "Future” must sum to* ***100%.*** | | | |

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| For sidewalks, what % of the time do you use the below methods for deicing? | Current | Future |  |
| Straight liquid |  |  | % |
| Slurry (> 30 gallons/ton) |  |  | % |
| 16 - 30 gallons/ton (pre-wet) |  |  | % |
| 7 - 15 gallons/ton (pre-wet) |  |  | % |
| 4 - 6 gallons/ton (i.e.; pretreated stockpile) |  |  | % |
| 4 - 6 gallons/ton (on-site mixed stockpile) |  |  | % |
| Dry salt |  |  | % |
| Sand/salt mix |  |  | % |
| Other |  |  | % |
| ***Note:*** *The entries in each column, i.e., "Current" and "Future” must sum to* ***100%.*** | | | |

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| **Efficiency: Salt-sand Mix** | Current | Future |  |
| How much salt is mixed into your winter sand? |  |  | % |
| ***Note:*** *You should have a sand option ready if it is too cold for melting.* | | | |
| What is your most common salt-sand application rate? |  |  | lbs/mile |

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| **Reduced Waste: Equipment** | | | |
| How many V-boxes and dump trucks do you have in your fleet? | Current | Future |  |
| V-box: |  |  | trucks |
| Dump truck: |  |  | trucks |