

**Winter Maintenance Technical Service Program - SICOP
3-Year National Strategic Winter Maintenance Plan
2018-2020**

(Proposed Adoption January 2018)

Introduction

The AASHTO Winter Maintenance Technical Service Program – SICOP functions within a framework defined by the 3-Year National Strategic Winter Maintenance Plan (“Plan”). This Plan calls out strategic issues identified by member states that are important for the delivery of their winter maintenance mission. While the SICOP technical service program rarely funds research projects directly, the Winter Maintenance Policy Coordinating Committee (WMPCC), SICOP’s steering committee, is tasked with identifying promising concepts and emerging technologies both internationally and domestically that will address the strategic initiatives in the Plan, insure the necessary research is conducted to determine if they are suited to advance the state of the practice in winter maintenance, and if so, promote and assist in implementation.

Program Goals:

AASHTO Administrative Resolution 3-94: Establishment of Winter Maintenance Program, laid the groundwork that created SICOP and evolved into AASHTO’s Winter Maintenance Technical Service Program – SICOP. The program goals identified for Winter Maintenance Program are:

1. Sustain or improve levels of winter maintenance service with significant cost/benefit improvements;
2. Provide an enhanced level of environmental protection; and
3. Increase the safety of driving under winter conditions.

In order to meet those goals there are several underpinning activities that occur with respect to all the strategic initiatives. These activities have been determined to be so fundamental they provide the foundation for the Plan.

- Build and maintain relationships with other AASHTO Subcommittees and entities interested in winter maintenance,
- Promote international and national research and assist in technology transfer,
- Promote international and domestic winter maintenance best methods,
- Provide technical assistance,
- Explore and Integrate sustainability into winter operations, and
- Work to strengthen workforce development.

Strategic Approach

During 2016 the winter maintenance community was canvassed to identify issues facing them regarding the delivery of their winter maintenance mission. Venues like the FHWA Road Weather Management Stakeholder meeting - Atlanta, GA, the National Winter Maintenance Peer Exchange – Minneapolis, MN, and the “Top-10” activities that constitute a world class winter maintenance program were utilized to compile an initial list of strategic issues. This list was then submitted to the SICOP member states for the top-5 issues facing their winter maintenance program. The top results were debated among the SICOP steering committee resulting in the selection of the strategic initiatives for this Plan.

The Plan is designed to run concurrently with the 3-year technical service program review cycle conducted by AASHTO leadership. The Plan is a strategic document centered on pressing issues important to states participating in SICOP. Once adopted, the Plan will provide focus areas for the next 3-year period. During the period and at the conclusion, there will be products that will be produced.

The champions spearheading each strategic initiative are the key to the success of the Plan. They provide dimension and definition in how to approach the issue and the products to be produced.

Strategic Initiative 1: Optimal snow plow route planning	
<i>Strategies</i>	<i>Outputs</i>
<p>There are several commercial route optimization programs in existence that have been developed for municipalities and delivery companies. These do not take into consideration the dynamic nature of snowplowing. Not all roads perform similarly; some are warmer or colder than the norm leading to extra or minimal effort to reach a desired level of service.</p> <ul style="list-style-type: none"> - NCHRP Project on ... - Clear Roads Project on ... 	<ul style="list-style-type: none"> - Summary document on findings - Webinar - Presentation at TRB Committee meetings - ...
Strategic Initiative 2: Performance management for winter maintenance	
<i>Strategies</i>	<i>Outputs</i>
<p>Performance management of winter maintenance operations is crucial for internal management of the activity as well as transparency for the public and elected officials. There have been many</p>	<ul style="list-style-type: none"> - Summary document on findings - Webinar - Lectern presentation at TRB - Presentation at TRB Winter

<p>studies conducted associated with winter maintenance performance measures however....</p> <ul style="list-style-type: none"> - Promote NCHRP 14-34 Project on Performance Measures - Promote Clear Roads project 15-04 - <p>...</p>	<p>Maintenance committee meeting</p> <ul style="list-style-type: none"> - ...
<p>Strategic Initiative 3: Effective use of Automated Vehicle Location technologies for internal and external applications</p>	
<p><i>Strategies</i></p>	<p><i>Outputs</i></p>
<p>Winter maintenance fleets have been instrumented for many years with Automated Vehicle Location (AVL) and GPS technologies. These data have been utilized for fleet management and most recently as a tool for traveller information. There are many other uses for this data that</p> <ul style="list-style-type: none"> - Case studies of best practice - NCHRP 20-7 synthesis of applications - ... 	<ul style="list-style-type: none"> - Summary document on findings - Webinar - Presentation at TRB committee meetings (<i>which ones?</i>) - ...
<p>Strategic Initiative 4: Connected vehicles in winter maintenance</p>	
<p><i>Strategies</i></p>	<p><i>Outputs</i></p>
<p>Winter maintenance fleets have been utilizing connected vehicle technology for some time. How to utilize their mobile observations and what are the implications and applications of CV technology in winter maintenance.</p> <ul style="list-style-type: none"> - Case studies - NCHRP 20-7 Synthesis on applications - Domestic Scan - ... 	<ul style="list-style-type: none"> - Case studies from states who have best practices - Summary document of findings - Domestic Scan report - Present findings at TRB Winter Maintenance committee meetings
<p>Strategic Initiative 5: Weather responsive traffic management to improve mobility during weather events</p>	
<p><i>Strategies</i></p>	<p><i>Outputs</i></p>
<p>Weather is a significant contributor to</p>	<ul style="list-style-type: none"> - Case studies from states who

<p>non-recurrent congestion. Congestion during winter operations complicates the delivery of services as well as increased risk to motorists.</p> <ul style="list-style-type: none"> - NCHRP research project to ... - Case studies of best practice ... <p>...</p>	<p>have best practices</p> <ul style="list-style-type: none"> - Summary document of findings - <i>Opportunity for an article in Routes Roads or Traffic Technology?</i> - Present findings at TRB committee meetings (<i>what committees ?</i>) - Webinar on best practices or model states
<p>Strategic Initiative 6: Liquid chemical use in winter operations</p>	
<p style="text-align: center;"><i>Strategies</i></p>	<p style="text-align: center;"><i>Outputs</i></p>
<p>Liquid chemicals have proven to be a valuable tool in winter operations. Pre-wetting solids and direct application of liquids are effective in achieving desired levels of service under a variety of conditions from moderate to severe storms. ...</p> <ul style="list-style-type: none"> - Case studies of best practice - NCHRP research project to ... - Clear Roads project ... 	<ul style="list-style-type: none"> - Case studies from states who have best practices - Summary document of findings - Present findings at TRB committee meetings (<i>what committees</i>) - Webinar on best practices or model states
<p>Strategic Initiative 7: Winter operations in moderate weather zones for resiliency</p>	
<p style="text-align: center;"><i>Strategies</i></p>	<p style="text-align: center;"><i>Outputs</i></p>
<p>Planning for and conducting operations in moderate weather zones is a difficult proposition. Balancing the need for specific equipment and materials against the probability of events and the range of events from snow/ice to flooding can place strain on budgets.</p> <ul style="list-style-type: none"> - NCHRP research project to ... - Case studies of best practice ... <p>...</p>	<ul style="list-style-type: none"> - Case studies from states who have best practices - Summary document of findings - Present findings at TRB committee meetings (<i>what committees</i>) - Webinar on best practices