

1 **DRAFT MINUTES**  
2 **WINTER MAINTENANCE TECHNICAL SERVICE PROGRAM (WMTSP)**

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4 **Fall Meeting, November 14-15, 2005**  
5 **Salt Lake City, Utah**  
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7 **Attendees**

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9 Pat Hughes, Chairman—Minnesota DOT  
10 Lee Smithson, SICOP Coordinator—AASHTO  
11 Paul Pisano—FHWA  
12 Bret Hodne, City of West Des Moines, IA—APWA  
13 Greg Parker, County Engineer, Johnson County, IA—NACE  
14 John Burkhardt, City of Indianapolis, IN—TRB Winter Maintenance Committee Chair  
15 Wilfrid Nixon, University of Iowa—SICOP Web Master  
16 Rick Nelson, Nevada DOT—Lead States Program  
17 Dan Roosevelt, Virginia DOT—AASHTO Southeastern Region  
18 John Blacker, Montanan DOT—AASHTO Western Region  
19 Ken Kobetsky, AASHTO Staff  
20

21 **Guests**

22 Roemer Alfelor, FHWA  
23 James Pol, FHWA  
24

25 Chairman Pat Hughes opened the meeting with a review of the agenda. The morning  
26 would be spent on discussing WMTSP member involvement in projects and outreach  
27 outside the SICOP program. The afternoon would be spent on a review of the SICOP  
28 program, what has been accomplished since the May 2005 meeting, identifying gaps in  
29 the program, and determining what to do about those gaps. The next day would be spent  
30 in discussing and evaluating new projects, evaluation of what needs to be accomplished  
31 on existing projects, establishing priorities and target dates, and end with 2006 budget  
32 considerations.  
33

34 **Outreach & Discussion of Other Projects That WMTSP Members Are Involved In**

- 35
- 36 • NCHRP Project 6-13 has been completed and NCHRP Report 526, *Guidelines for*  
37 *Snow & Ice Control Materials & Methods*, was published in November 2004.  
38 Since NCHRP project responsibilities end with the publication of the report,  
39 WMTSP has been promoting technology transfer for this project through two  
40 means. One has been the posting of the report on the SICOP web site and  
41 notifying the 700 members on the SICOP Snow and Ice List serve that the report  
42 is available to them on the web site. The second technology transfer effort has  
43 been directed to developing storyboards for the AASHTO AI/RWIS Computer-  
44 Based Training (CBT) program. Lee distributed copies of the 86 pages of  
45 storyboards for Lessons 2 (19 pages), 3(8 pages), 4 (6 pages), 5 (19 pages), and 7  
46 (34 pages). Lee has reviewed the content of all 86 pages and worked the example

1 problems and found the package ready for distribution. Dennis Burkheimer of the  
2 Iowa DOT is doing a similar review. This additional material updates, expands  
3 and strengthens the material in the existing CBT, especially in the discussion of  
4 establishing and achieving level of service (LOS) within and after the storm.  
5 How agencies characterize LOS, how they assign LOS goals, and how they  
6 measure the performance of maintenance operations in achieving the LOS goals,  
7 are presented. Strategies and tactics for proactively achieving level of service are  
8 also presented. A 17 page unit entitled “Using RWIS to Make Treatment  
9 Decisions” was added to Lesson 7. The decision matrix for this unit was  
10 developed in the NCHRP 6-13 project but was difficult to follow. The interactive  
11 CBT pulls the student through a six step process for considering 1) Pavement  
12 temperature and trend; 2) Dilution potential; 3) Dilution potential for wheel path  
13 condition; 4) Dilution potential for treatment cycle time; 5) Dilution potential for  
14 traffic speed and volume; 6) Adjustments if the ice-pavement bond exists. After  
15 the student has mastered the skills taught in the lesson, they can launch the  
16 ‘Treatment Designer’ and put it as an icon on their desktop and run future storms.  
17 A problem surfaced at the January 2005 TRB Winter Maintenance Committee  
18 meeting with some of the chemical tables in the 526 report. Since that time  
19 follow-up communications were accomplished by e-mail but no reliable  
20 information was forthcoming, so the report stands as currently published. Since  
21 John Burkhardt chairs the Winter Maintenance Committee he will contact Joe  
22 Althouse who raised the problems and put Joe in contact with the contractor, Bob  
23 Blackburn, who wrote the 526 report to work out the problems in Table A-6.  
24 WMTSP also discussed various aspects of the report and how far should  
25 AASHTO go in presenting LOS. LOS needs to be presented making it clear  
26 AASHTO isn’t specifying any single standard, procedure or regulation, rather it is  
27 providing guidance, state of the art technologies and processes pertaining to snow  
28 and ice control for consideration and adoption by AASHTO member departments  
29 and other organizations responsible for roadway snow and ice control programs.  
30 No decision will be made on how much of the 526 report should be included in  
31 the CBT or if it will be incorporated until Lee contacts the DOTs to get their  
32 input. The was feeling that the 526 report was significant so technology transfer  
33 should get underway soon.

- 34 • NCHRP 6-15, *Testing and Calibration Methods for RWIS Sensors*. Dan reported  
35 that a discovery on this project was that the instruments did not produce the  
36 accuracy the manufacturer claimed. This was especially evident in chemical  
37 sensors. The NCHRP report will be a manual with a matrix of testing and  
38 calibration methods for RWIS surface and subsurface sensors. The matrix will  
39 include pavement temperature, surface state (ie dry, wet, frozen, depth of snow or  
40 ice), chemical concentration or freezing point, and subsurface temperature and  
41 moisture. The manual will complete NCHRP responsibilities for the project. The  
42 Aurora Consortium intends to conduct pilot tests in three regions (Virginia and  
43 Utah are confirmed, and Dan is looking for another Aurora state to participate).  
44 Feelings among WMTSP members were that RWIS sensor accuracy should be  
45 about the same as National Weather Service requirements.

- 1 • NCHRP 6-16, *Guidelines for the Selection of Snow & Ice Control Materials to*  
2 *Mitigate Environmental Impacts*. Lee distributed copies of the project  
3 background, objectives, and tasks. He also distributed the index from the latest  
4 draft report for the project. The draft has been reviewed by a panel of experts  
5 from DOTs, Ontario Ministry of Transportation, Salt Institute and other chemical  
6 vendors who supply the products investigated in the project. That review is being  
7 considered by the NCHRP staff and panel for inclusive in the final report. The  
8 report is behind schedule due mostly to the samples being tested for corrosion  
9 have not exhibited any signs of corrosion, thus no results can be made. All other  
10 areas of the project are finished. Lee estimated the final report will be distributed  
11 early in 2006. Like project 6-13, the results are complicated and WMTSP needs  
12 to determine how best to get technology transfer. The report goes well beyond  
13 the scope of the AI/RWIS CBT, although some of the material is being taught in  
14 the CBT. WMTSP needs to determine whether a separate CBT needs to be  
15 developed.
- 16 • NCHRP 6-17, *Performance Measures for Snow & Ice Control Operations*. This  
17 project is to evaluate performance measures throughout the world and evaluate  
18 the potential of the most promising measures and their applicability to different  
19 roadway classifications and storm characteristics. The project will be conducted  
20 in two phases. The first will develop a comprehensive investigation of  
21 performance measures and methods of their evaluation. The second will involve  
22 a thorough evaluation of potential measures, identification of the most promising,  
23 and development of a plan for the evaluation of the most promising measures.  
24 The contract was delayed in signing so the project is behind the original target  
25 dates. To date, the literature search has nearly been completed (subject to review  
26 and editing) and a survey has been put together and is being sent out.
- 27 • NCHRP 20-7, Task 200, *Synthesis of Vehicle Based Winter Maintenance*  
28 *Technologies*. Lee distributed background material on the project. This project  
29 started out as a synthesis on vehicle based winter maintenance technologies at a  
30 project estimated cost of \$50,000. The 20-7 selection committee added \$25,000  
31 to the original research and requested that fixed automated spray technology  
32 (FAST) be included. A panel has been selected, RFPs have been reviewed and a  
33 contract is being awarded. The project was supposed to have started in June 2005  
34 and completed by February 2006. That time frame will need to be adjusted.
- 35 • NCHRP Synthesis of Highway Practice 34-10, *Winter Highway Operations*. Dan  
36 passed out a three page review he prepared on the now published NCHRP  
37 Synthesis 344, *Winter Highway Operations*. The synthesis reports findings of a  
38 survey of a limited number of state DOTs, Canadian provincial MOTs and three  
39 Canadian cities. Of the 13 state DOTs that responded to the survey, nine are west  
40 of the Mississippi and four are east. The survey focused on capturing changes  
41 that have occurred over the 10 years since the publication of the 1994 synthesis.  
42 Dan felt much of the value of this report is what works and doesn't work for those  
43 states who responded to the survey and their reported reluctance to change. A  
44 shortfall of the report is it doesn't stress working smarter. Dan feels SICOP needs  
45 to continue efforts to promote change and smarter use of AI/RWIS. WMTSP  
46 should examine the areas of future study listed on page 29 of the synthesis which

1 is attached to these minutes of this meeting and determine how to respond to them  
2 within the four guiding principles of SICOP. WMTSP discussed several options  
3 for better dissemination which included a domestic scan to find the best practices  
4 and capturing case studies then follow the 'Lead State(s)' model to penetrate the  
5 user community. The thought was that the leading state would get credit as an  
6 accomplished state and other chief engineers will take notice as to how the lead  
7 state got there and their state didn't.

- 8 • FHWA MDSS Implementation. Paul and others who attended the MDSS  
9 Stakeholder meeting in Boulder, Colorado, October 20-21, 2005 discussed the  
10 active dialog of the meeting. It was their feeling the meeting and the MDSS were  
11 a success. Success is defined as meaning several public sector agencies have put  
12 an MDSS requirement in their winter weather services contracts and several  
13 private sector agencies have offered MDSS in their product line. Paul discussed  
14 the 8 state pooled fund that is developing their version of MDSS. The project  
15 appears to be off to a good start. Ray Murphy developed a questionnaire to  
16 determine what was needed beyond MDSS to improve snow and ice control  
17 operations. MDSS meeting presentations and version 4.0 are posted on the  
18 NCAR website. WMTSP briefly discussed whether there was a need to discuss  
19 MDSS in a future revision of the AI/RWIS CBT. Members were divided as to  
20 whether that would be an appropriate addition in the CBT. John Burkhardt  
21 attended the INDOT MDSS training program held last month in Columbus.  
22 INDOT is beginning to get some real time operations feedback for use in MDSS.
- 23 • FHWA Clarus Initiative. Paul summarized Clarus progress, benefits of quality  
24 checking and full access to the system. Project is progressing well with proof of  
25 concept in 2006 and regional deployment in 2007. Working with NOAA from  
26 test to operational system. ICC will be meeting starting at 1:00 PM November  
27 15<sup>th</sup>.
- 28 • TRB Task Force on Surface Transportation Weather, AH010T, was created in  
29 response to WMTSP and BASC report. Wilf Nixon is the Chair and Rich  
30 Wagoner, NCAR, and Rick Nelson are co-Vice Chairs. The Task Force has a  
31 three year charge to get everyone talking and working together. Task Force  
32 members have been selected and will have their first formal meeting at TRB in  
33 January 2006. The Task Force will sponsor three sessions at the annual meeting  
34 one of which is a spotlight session. The Task Force is also committed to  
35 organizing a road weather symposium sometime within the three year term.  
36 SAFETEA-LU, Section 5308 has earmarked 5 million/year for a surface  
37 transportation weather research program. The Task Force will be pulling  
38 information together world wide and learning from the weather disasters that have  
39 occurred this past year. The Task Force will be in close liaison with the TRB  
40 Winter Maintenance Committee, AHD65.
- 41 • American Public Works Association. Bret reviewed items underway for planning  
42 the 2006 Snow Conference in Peoria. Lots of participation. Will have an  
43 Equipment Expo which is new. New tracks for technical program to help people  
44 who haven't made the change to AI/RWIS make the change. There will be  
45 sessions for the beginners as well as the advanced experienced people. APWA is  
46 putting together an award program for agencies to recognize outstanding

1 performers and implementing new processes. Des Moines will host the 2009  
2 Snow Conference.

- 3 • National Association of County Engineers. Greg discussed the need to channel the  
4 information and training down to the local level. He discussed the need to be able  
5 show when governmental agencies spend sizable funds to improve winter  
6 maintenance, what are the outcomes in improved level of service, increased  
7 mobility, safety, etc. Greg also discussed the increased expectations of the public  
8 for winter mobility while reality is reduced budgets and staffing.
- 9 • PIARC 2006. Pat reported on PIARC scheduled for March 2006 in Italy. The  
10 committee that Paul and Pat are members is to identify topics for upcoming and  
11 future meetings. About 120 papers have been accepted for presentation.  
12 SIRWEC precedes PIARC and presents papers on road weather. Committee also  
13 has responsibilities feeding into the PIARC Strategic Plan. Pat made input to a  
14 survey and those results will be published. Another survey was done to identify  
15 what is happening worldwide on contracting winter maintenance. There will also  
16 be a summary of that survey. Both the Strategic Plan and the survey will be  
17 posted on the PIARC Committee's website. Wilf will contact appropriate PIARC  
18 staff to post PIARC winter maintenance material on the SICOP website. There is  
19 a need to publish the PIARC winter maintenance handbook in French. PIARC  
20 will be pulling together some of the environmental aspects of snow and ice  
21 control world wide. Need to help countries in transition by holding snow and ice  
22 control conferences in those countries. Paul distributed and showed parts of a  
23 CD-ROM, "PIARC Winter Maintenance Seminar", Riga, Latvia. In the past  
24 PIARC was at the end of a Winter Scanning Tour, so had good representation  
25 from the US, but since the Scan Tour was not picked for 2006, the US will not  
26 have the presence as in past. SICOP needs to be sharing what we are doing with  
27 others of the world and learning from them what might be applied in the US.  
28 WMTSP needs to explore the possibilities of getting two people to PIARC and  
29 SIRWEC. Lee will to put a budget together. 800 Euro=\$937US
- 30 • 11<sup>th</sup> Annual Eastern Winter Road Maintenance Symposium & Equipment Expo.  
31 AASHTO has contracted for the lodging and convention center. The New Jersey  
32 DOT is hosting the 2006 Expo at Atlantic City. They have had two meetings and  
33 conference calls. Next meeting of the committee will be December 12<sup>th</sup>. Current  
34 thoughts are the 2006 program will have three tracks, Environmental, Safety and  
35 Operations. Lee is developing the Operations track and the New Jersey DOT is  
36 developing the other two tracks. Paul is putting together a budget request for the  
37 Symposium. Need to emphasis MDSS in technical program and also get some  
38 information introduced on the SICOP program and why there is an WMTSP  
39 program.
- 40 • Winter Maintenance Technical Peer Exchange. Lee will attach a copy of this  
41 report to the meeting minutes. WMTSP discussed the need as presented on page  
42 17-18 for a National DOT Winter Maintenance Manager meeting. Aurora has  
43 funded a program item for a national meeting and would probably be receptive to  
44 partnering with others like WMTSP to coordinate such a meeting. Also since the  
45 newly created Surface Transportation Weather TF is to coordinate a national  
46 conference, there should be some coordination and collaboration among all three

1 groups for setting up this meeting. Paul passed around the index of the Technical  
2 Peer Exchange.

- 3 • Other WMTSP member input. Wilf will be going to Japan next month to discuss  
4 winter maintenance in the US.

### 7 Project Review of SICOP Program

- 9 • Deploy AI/RWIS CBT—the deployment of future updates to the CBT was  
10 extensively discussed. Some felt the CBT would get too large if NCHRP  
11 projects get added, while others felt if the revision material fits into the  
12 existing lesson material to keep that material current and relevant, the  
13 update should be inserted into appropriate lessons and a new CD ROM  
14 issued. Lee is to develop a survey and call each state DOT to determine  
15 how they are using the CBT and how they would like or don't want to  
16 have future updates made to their CBT. Since the new storyboards contain  
17 considerably more discussion on Level of Service taken from the 526  
18 report, Lee will also discuss with each state the LOS material being  
19 presented in the new storyboards. He will also obtain a copy of that states  
20 LOS policy. John Burkhardt will begin conversation with Bob Blackburn  
21 to determine how to correct Table A-6 in the 526 report if it is not correct  
22 or how to explain the apparent inconsistencies in the table. Also, since the  
23 Salt Institute published an article using the materials and Table A-6 from  
24 the 526 report, John will call Dick Hanneman to determine if he can help  
25 in solving the problem. WMTSP needs to determine if some minor  
26 changing in the Table is appropriate, or if addition research is needed to  
27 correct the problem. If additional research is needed, a statement of work  
28 needs to be prepared for 20-7 funding. Wilf and Rick will review the new  
29 storyboards that Gantek prepared for any inconsistencies. Material needs  
30 to be assembled to promote the CBT to upper management. States have a  
31 common problem getting sufficient computers to operate the CBT and  
32 reach the many operators and field supervisors in a timely manner. A well  
33 prepared brochure put in the hands of the Chief Engineers describing the  
34 CBT and the training benefits it has might be successful in securing these  
35 needed computers. Lee will prepare a draft and circulate to WMTSP for  
36 comments. AASHTO staff could then prepare the brochure for handout at  
37 SCOH meetings. The April 2005 letter from Clear Roads Consortium  
38 offering to partner with WMTSP to develop CBT training for guidance on  
39 proper snow plowing techniques, snow and ice control equipment  
40 inspection and maintenance was discussed. Lee will meet with the  
41 Consortium in December and obtain more specifics on what they have in  
42 mind and report back to WMTSP.
- 43 • Winter Maintenance Chemical Specification. At the last meeting,  
44 WMTSP agreed to wait until NCHRP 6-16 is published to see if anything  
45 else needs to be posted. Lee will check to be sure that 6-16 contractor  
46 didn't use the same A-6 table from the 526 report. Page 23 of 6-16 states

1 “Standard phase curves are available in the literature but apply to pure  
2 materials only. Many commercial materials are blends and ice-melting  
3 properties can deviate significantly when secondary active ingredients or  
4 additives are present. Phase curves developed by an independent  
5 laboratory using standard test procedures should be obtained from the  
6 manufacturer/vendor for all products being considered. If independent  
7 verification is not available, it is suggested that the phase curve for the  
8 primary active constituent be used until certified phase curves can be  
9 obtained.” WMTSP feels if the vendor doesn’t have a phase curve they  
10 should be dropped from consideration. WMTSP felt that testing  
11 procedures have improved the quality and consistency of the chemicals  
12 being used.

- 13 • Vehicle Based Equipment Integration. (now NCHRP 20-7 Task 200) Dan  
14 reviewed the original project statement and AVL will be covered under  
15 Task 200. Also the Frensor chemical detector was supposed to be tested  
16 and a report published. Dan will check to see if that has been done. Dan  
17 will continue to monitor field evaluation and use of the Haliday friction  
18 measuring device. Ohio is continuing with their Haliday devices and  
19 Virginia DOT has bought three Haliday devices which Dan will evaluate  
20 next winter if he can get them installed on trucks. Paul reported that  
21 Clarus will have a VII project which will look at capturing road condition  
22 data from vehicle braking systems and NCAR will look at correlating that  
23 to weather and road conditions New vehicle [www.vehicle-  
25 infrastructure.org](http://www.vehicle-<br/>24 infrastructure.org) is public website that has information.
- 26 • Fixed Spray Technology. (now NCHRP 20-7, Task 200) The original  
27 scope of work for this project called for BMP which has now been  
28 incorporated into Task 200. Following up from last WMTSP meeting,  
29 Dan has contacted Colorado DOT for information, but the report is still in  
30 draft form and nothing can be reported until committee has approved the  
31 report. The committee will be meeting early December. Preliminary  
32 results indicate the automatic operation of the system is not reliable. The  
33 best way seems to be is to have a camera to verify roadway conditions.  
34 The FAST system needs to be customized for each location. The purpose  
35 of this project is to obtain information on existing systems and get it  
36 posted on the SICOP website to assist people who are purchasing or are  
37 involved with maintaining systems in their agency. The report will have  
38 purchase specifications. The only information on European systems  
39 comes from PIARC papers, which haven’t addressed how reliable their  
40 systems are.
- 41 • Development of ESS Guidelines report has been published and also posted  
42 to the SICOP website. Lee made presentations at the Regional RWIS  
43 Users Group in Kansas City and to HSCOM meeting in July 2005. Lee  
44 also worked with Cambridge Systematics, subcontractor to Mixon-Hill to  
45 develop a metadata questionnaire. The questionnaire was sent to snow-  
belt states and the survey data is being compiled for use in the Clarus

1 project. WMTSP's follow-on project to pilot test the updated guidelines  
2 and provide technology transfer to state and local agencies is pending.

- 3 • Synthesis of Winter Maintenance Practices and Their Impacts to  
4 Infrastructure. John Blacker will prepare a status report for this project  
5 and send it via e-mail to the other WMTSP members.
- 6 • Promote Anti-drifting Measures with Pro-Active Design Consideration.  
7 Lee handed out a copy of the research problem statement "Four  
8 Dimension Highway Design" that was developed and presented to the  
9 HSCOM for balloting at the July 2005 meeting. Balloting results were  
10 that the problem statement did not make it into the top four that were  
11 submitted by HSCOM, so Lee gave the RSP to the Iowa DOT and they  
12 submitted it for consideration. It is on the RAC/SCOR list for balloting  
13 this Fall. Lee talked with Joe Doherty and learned that UNY Buffalo  
14 contract for the "SnowMan" expired June 1, 2005 and a new contract has  
15 not yet made it through the administrative processes. NYSDOT had  
16 nearly \$60,000 set aside for the contract. The intent is to continue the  
17 project. The project started with the Brookhaven Laboratories, who used  
18 some old coding procedures that were not compatible with the NYSDOT  
19 new design micro-workstations, so UNY Buffalo is updating and making  
20 that work compatible with the new workstations. NYSDOT has an  
21 employee that did his master's work in snow fence design, so there seems  
22 to be interest and expertise to continue on with the project. Ron Tabler  
23 will continue to be a consultant on the project. Lee will periodically  
24 monitor the progress of this project and report to WMTSP.
- 25 • Road Condition Information the work plan is to document state of the  
26 practice of winter road condition information reporting for travelers  
27 including friction. Also tied into Performance Measures NCHRP 6-17.  
28 Dan will be monitoring how the friction measurements are working and  
29 are being used in Ohio, Virginia, Wyoming, Alberta also VII, but he will  
30 basically just be monitoring what's going on. Pat asked Jim Wright to  
31 have their consultants document how the states using 511 are describing  
32 the road conditions so we can see the similarities and differences. Jim is  
33 having them put together the summary. (Action item is to pass the  
34 information from Jim on to Paul so Mixon-Hill can use it in the Clarus  
35 Initiative. Goals is to obtain uniformity in 511 reporting)
- 36 • Outreach to Local Governments. Bret is working with Russ Neiman from  
37 VA LTAP to identify outreach needs and how to address them. Small  
38 agencies are having difficulty getting training. APWA is developing a CD  
39 on how to develop a winter maintenance program. It will be a baseline  
40 CD on how to get started. It is started, but not yet finished. Bret will be  
41 speaking at the next LTAP meeting on how to get the training down to the  
42 local level. In Iowa the APWA Chapter is holding round table discussions  
43 with small town supervisors to learn who isn't getting the information and  
44 the reasons why. Feedback from these meetings may be useful to  
45 WMTSP technology transfer activities.



- 1 • Communication Standards and Winter Maintenance. Pat sent a letter June  
2 2, 2005 to John Conrad, Chair of the AASHTO Subcommittee on  
3 Operations and Management expressing WMTSP interest in the  
4 development of standards within the ITS Standards program that affect the  
5 winter maintenance community. The letter acknowledged the field-to-  
6 center standard NTCIP 1204 is well developed and moving to  
7 implementation. However, the status of the center-to-center standard is  
8 not quite so clear. The letter pointed out that there are several standards  
9 that apply to passing of weather, road condition, and maintenance data  
10 from one center to another and encouraged those who are working on the  
11 center to center standards to broaden their scope and consider all the  
12 standards that could apply, not just those currently within the ITS  
13 Standards program. The “ITS Standards Impacting the Maintenance  
14 Community” has been posted on the SICOP website. Another  
15 consideration that needs to be examined is the communications standards  
16 needed for the Clarus Initiative
- 17 • Integrated ITS Corridor. WMTSP, in an effort to better understand the role  
18 traffic management has in the integrated ITS corridor, has scheduled  
19 meetings this past year in cities that have a traffic management center  
20 (TMC) and then get a tour of that TMC. So far WMTSP members have  
21 visited TMCs in Minneapolis and Kansas City and at the end of the Clarus  
22 meeting will visit the TMC in Salt Lake City. WMTSP had hoped to visit  
23 the multimodal TMCs in Finland and Sweden on the International Winter  
24 Scan to Turino, Italy to add to their knowledge base, but that tour was not  
25 funded.
- 26 • Equipment and Facilities for RWIS and AI. AVL and FAST Handouts  
27 were prepared and Lee handed them out at the HSCOM meeting asking  
28 each state maintenance engineer to check their state and correct any  
29 information that needed to be changed or updated and return the updated  
30 sheets to Wilf so he could update the website. Wilf also put out an  
31 invitation on the SICOP list serve asking government agencies to update  
32 their equipment specifications and return to the SICOP webmaster. He got  
33 got several good responses.
- 34 • Develop Model Media Package. Wilf will post on the SICOP website the  
35 results of the material he received from his request on the list serve.

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38 **WMTSP Program**  
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- 40 • Presentation of New Projects
  - 41 • Wilf will need to revamp the web site since it got infested. Would  
42 like to make the site more subject oriented, ie, Drifting snow page,  
43 level of service page, RWIS, AI equipment, Chemicals, FAST,  
44 CBT, AVL, etc. Paul wants to be able to search the archives. Dan  
45 believes we should appoint a web site committee to meet and  
46 decide what needs to be done and get it done. Committee to be

1 Wilf, Bret, Greg and Lee. Lee to convene a monthly call. Try for  
2 first call the week before Christmas. Pat wants to be linked to  
3 PIARC if possible.

- 4 • Wilf asked if we should have a 20-7 project to write up what  
5 Canada has done on their salt management plans. WMTSP needs  
6 monitor the Canadian movement, learn from their progress and see  
7 how it fits into BMP for the US. Bret feels it is very timely to do  
8 such a summary/synthesis and take the lead to help local agencies.  
9 Example the storm water regulations have been put in place and  
10 agencies are trying to figure out how to react to them. WMTSP  
11 needs to get into the drivers seat and figure out how to be proactive  
12 rather than reactive. The Discovery magazine for December 2005  
13 has a story about road salt and stream contamination. The winter  
14 maintenance community needs to have a better understanding of  
15 how long it takes salt to work through the watershed, who is  
16 contributing to this run off and how much, etc. John said they hired  
17 a consultant to do a study for Montana. This study may be helpful  
18 as WMTSP moves forward on this problem. Pat feels we need to  
19 put this into a domestic scan and include a look at what's going on  
20 in Canada. Wilf will draft a research problem statement with a  
21 title like "Examining the Environmental Benefits and Drawbacks  
22 of Sound Winter Maintenance Practices". The Salt Institute should  
23 have some experience that would be helpful. WMTSP also needs  
24 to partner with the Environmental Subcommittee at TRB to get  
25 their suggestions.
- 26 • Need to develop a case study to show AI uses less chemical to do  
27 the same job. If material is available an AI BMP CD ROM with  
28 case studies should be developed. Need to show successful ways  
29 to implement BMP. Need to acknowledge agencies that are doing  
30 well in implementing BMP. Need to invite someone with  
31 experience in this area of marketing to help us get the story told.
- 32 • International scan was submitted, selected but wasn't funded.  
33 Maybe we should use a Peer to Peer Exchange rather than title it a  
34 'scan'. John Blacker will write up the domestic scan research  
35 problem statement. First trip is discover who is in the lead and  
36 next year be the lead state with shoulder to shoulder demo.
- 37 • The Final Report of the "Winter Maintenance Technical Peer  
38 Exchange", page 17, proposed FHWA sponsor and financially  
39 support an annual 'National DOT Winter Maintenance Manager  
40 Meeting' which would invite snow and ice managers from each  
41 DOT to share information about winter maintenance operations,  
42 learn about new research in the field, learn about new training tools  
43 and also develop a framework for a comprehensive national snow  
44 and ice removal strategy. WMTSP discussed the proposal and  
45 considering APWA has a snow conference each year, TRB every  
46 four years, the tremendous organizational effort that would be

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needed plus finding the financial support would be a difficult undertaking and would run into the same travel problems as national conferences already are experiencing. Another way to penetrate the market is to identify BMPs and offer speaking services to the local winter maintenance workshops, conferences, and roadeos. WMTSP should be able to pull together the BMPs and then go to the other experts like Deana or Ray Murphy as to how to do this. Perhaps web casting is an alternative. John Blacker feels the most effective method for them is to bring in an expert like Wilf to show them and generate the enthusiasm to want to implement. Need the TELL & SHOW to get the job done.

- John Burkhardt discussed the RSP, “Effect of Solar Loading and Radiational Cooling on Pavement Surface Temperature”. Wilf supports this because it is an identified problem and the TRB Task Force on Surface Transportation Weather will also want to weigh in with its support. Lee thought the concept was similar to Mike Adams discussion at the last Aurora meeting and this should be brought up at the next Aurora meeting for their support. Pat asked Lee to work with John Burkhardt to relate WMTSP support for this RSP.
- Dan discussed the NCHRP Synthesis 344 (see attachment to these minutes, six bulleted items) does WMTSP want to build on or pursue any of the recommendations for future study? One of the bullets is outsourcing and WMTSP discussed the need for government agencies to have a good management plan to be able to show and explain their work and the costs involved. Government should be able to do it cheaper, but the way our accounting practices are structured have great difficulty in being able to prove it with figures. British Columbia and Alberta tell us it is cheaper to contract, but one can’t always rely on the statistics that have been put together. Government needs to operate more like a business, but most agencies don’t really understand what this is or how to do it considering the institutional issues and barriers obstructing their way.
- Wilf wants to update the AASHTO Snow & Ice Guide but cautions WMTSP to be sure we know what we want to see in an updated guide before we begin.
- Discussion returned to marketing WMTSP. Paul passed out their BMPs for an example. We need to sit down with some marketing experts and figure out how to do it. Need to put together a TWG to do this. Lee will start the process at the Des Moines Aurora Dec 1-2 meeting. Need to identify what kind of things do WMTSP and Aurora want to market and how is the best way to do the marketing, i.e. BMP sheets, CD-ROM, etc?
- Reprioritization of program. Pat listed the following potential new projects on a flip chart for WMTSP consideration and action:

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- #1. Marketing AI
  - Best Practices
  - Case studies
- #2. Domestic Scan
  - Canada (Salt Management)
  - Outsourcing
- #3. Environmental-Salt Management
- #4. Update on Snow & Ice Guide
- #5. TWG-Combine with Aurora & Get Marketing Experts (5-8)

Discussion for the above items was: #1. Include this in the discussion at the next WMTSP meeting; #2. John Blacker is writing a problem statement for this proposed domestic scan to include the salt management progress the Canadians have made. Wilf has asked the Canadian Provinces for their salt management plans and will post them on the SICOP web site; #3. Wilf is preparing a draft problem statement “Examining the Environmental Benefits and Drawbacks of Sound Winter Maintenance Practices”; #4. Lee will contact Jerry Horner and discuss the possibility of the AASHTO HSCOM Snow and Ice Task Force endorsing this update and making input as to what should be in the update; #5. Lee will put this on the table for discussion at the Aurora meeting, December 1, 2005.

- Budget considerations. Ken reported both budgets are in the black. Have almost \$80,000 in SICOP Administrative budget which should be sufficient for the next year. CBT has \$185,000 balance which should be sufficient for next update. Need to look at finances for future revision and updates.

Revision date 11/30/05