

**MINUTES**  
**WINTER MAINTENANCE TECHNICAL SERVICE PROGRAM (WMTSP)**

**Spring Meeting, May 11-12, 2005**  
**Chesterfield, MO**

**Attendees**

Pat Hughes, Chairman—Minnesota DOT  
Lee Smithson, SICOP Coordinator—AASHTO  
Paul Pisano--FHWA  
Bret Hodne, City of West Des Moines—APWA  
John Burkhardt, City of Indianapolis—TRB Winter Maintenance Committee Chair  
Wilf Nixon, University of Iowa—SICOP Web Master  
Rick Nelson, Nevada DOT—Lead States Program  
Dan Roosevelt, Virginia DOT—AASHTO Southeast Region  
Joe Doherty, New York State DOT—AASHTO Northeast Region  
Ken Kobetsky, AASHTO Staff

**Guest**

Tim Jackson, Missouri DOT—representing Clear Roads

Chairman Pat Hughes opened the meeting at 8:00 AM with a review of the agenda. The morning would be spent on the outreach projects that WMTSP members are involved with and report back on current status of those projects. The afternoon would be spent on a review of the SICOP program, what's being accomplished, identifying gaps in the program, and deciding what to do about those gaps. The second day would be spent in discussing and evaluating new projects, deciding what needs to be accomplished in the next year, budget status and the proposed International Winter Maintenance Scan.

Ken Kobetsky presented the latest news on the re-authorization.

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

- NCHRP Project 6-13, *Guidelines for Snow & Ice Control Materials & Methods*. NCHRP has published the 56 page report (NCHRP 526, November 2004) and distributed it through its normal distribution list. Wilf will post a link on the SICOP web which will link viewers to the TRB website so they can view a PDF file of the report. Joe Althouse from Dow Chemical raised questions at the TRB Winter Maintenance Committee meeting, January 2005 in Washington DC about the data in Table A-6. John Burkhardt will contact Joe to get details of the problem and Lee will contact Bob Blackburn, the report author and project consultant, and Amir Hanna, project manager at NCHRP to determine how serious the problem may be and how to resolve the issues. Wilf talked with Dewey Amsler who worked on the project with Bob Blackburn and learned that Dewey felt there may need to be a revision to the report. Dewey wrote a

summary article of the report for the Salt Institute which appears in the Summer 2004 Salt Institute's Newsletter which may be the basis of the new material for the CBT. A follow up article was written in the Winter 2005 issue which elaborates on the issue. These issues need to be resolved before WMTSP proceeds to develop additions to the AI/RWIS CBT to include the new guidelines in the instructional materials. Pat Hughes appointed Rick, Wilf, John and Lee to resolve the technical problems, determine the best practices, best pedagogical approach, and put a plan together so WMTSP can decide at their Fall meeting how to proceed.

- NCHRP 6-15, *Testing and Calibration Methods For RWIS Sensors*. Dan, panel member for this project, gave the background for the project and explained the objective of the research is to develop practical guidelines for testing and calibration methods for reliable operation of RWIS sensors in field deployments to ensure that the sensor is providing an accurate representation of actual conditions at the installed site. Field testing was finished by Spring 2005 in Minnesota, Nevada, and Pennsylvania. Final report is due June 1, 2005. Since the product of this research is a manual, *Guidelines for Testing ESS Sensor*, Dan has proposed a project for the Aurora 2005-2006 program to pilot test the guidelines in up to three Aurora member states and publish the results and findings. The project would create six kits for testing ESS, train the states on how to use the equipment, develop software/forms that can be used to record the test data, and document the results of the pilot states experience with use of the guidelines. Dan recommends that WMTSP monitor the Aurora project before deciding if something further needs to be done.
- NCHRP 6-16, *Guidelines for the Selection of Snow & Ice Control Materials to Mitigate Environmental Impacts*. Lee reported that the contractor is progressing well on this very complicated project. It is anticipated a draft final report will be ready for the panel in fall 2005. Lee may be able to give WMTSP an idea of the tech transfer process at the fall WMTSP meeting. WMTSP discussed the quantity and complexity of the material and want to evaluate whether it could be incorporated into the CBT or should it be a stand alone training package.
- NCHRP 6-17, *Performance Measures for Snow & Ice Control Operations*. Pat discussed the importance of this project since we are seeing more outsourcing in the US and states are beginning to use performance measures in their contracts. Pat chairs the panel for this project. The project administration has started with a contract being issued which is in the process of being signed. There will be four phases of work to the research which will include all levels of highway maintenance. They will be exploring the international setting for experience in putting together an evaluation tool. The project will develop a plan for field testing promising methods and measures for performance assessment for different roadway classifications and winter storm characteristics. WMTSP will probably need to look for states and counties to do the field testing.
- NCHRP 20-7, Task 147, *Design Guidelines for the Control of Blowing/Drifting Snow*. Although the update for this project has been finished and posted on the SICOP web site, WMTSP felt the material should have higher visibility in the design community. Wording like "When designing a roadway in an area that is

subject to blowing and drifting snow, please see (insert an appropriate reference)” should be inserted into the AASHTO’s “Green Book”, *A Policy on Geometric Design of Highways and Streets*. Joe will talk to Phil Clark to see if this reference could be considered for the next Green Book revision.

- NCHRP 20-7, Task 200, *Synthesis of Vehicle Based Winter Maintenance Technologies*. This project was submitted by Jerry Horner, Snow and Ice Task Force Chair, AASHTO Highway Subcommittee on Maintenance and was funded by the 20-07 Panel. The panel allocated \$75,000 for the project. The study will develop a guidance document on winter maintenance technologies including automated vehicle location (AVL) and associated technologies and fixed automated spray technology (FAST) for use by states to evaluate which technologies might be applicable to their particular environment. An advisory panel has been formed and candidate consultants have been identified. It is expected that a consultant will be selected in early May and the project will start in June 2005.
- NCHRP Synthesis of Highway Practice 34-10, *Winter Highway Operations*. The final report is in the NCHRP office for final review. Dan has discussed the project with the contractor and feels the report, due to such a low survey response rate, will just be a snapshot in time as to what a few are doing and probably won’t be a best practices document. Dan suggested that he, Wilf and Rick get a copy of the report and after a review, make suggestions to WMTSP on appropriate means to get technology transfer.
- FHWA MDSS Implementation—Paul Pisano discussed the status of the MDSS project and distributed a map showing how the states are involved in MDSS. There will be one more stakeholder meeting this fall, October 20-21, 2005 in Boulder. FHWA defined success as being achieved when the private sector companies integrate MDSS components into their product lines and the state DOTs require MDSS in their request for proposals for winter weather forecasting services. The Iowa DOT has included a phased implementation of MDSS in the mandatory requirements of their weather forecasting services 2005-2006 RFP specifications. Virginia DOT is planning to have MDSS in their specifications. Two vendors are positioning themselves to be able to provide MDSS. Some time in the near future the question of who will be the keeper of the software needs to be resolved. WMTSP will need to evaluate the possibility of providing training via a new CBT or integrating into the existing AI/RWIS CBT.
- FHWA Claus Initiative—Paul Pisano reviewed progress and importance of the Clarus project. The second meeting of the Clarus Initiative Coordinating Committee (ICC) was held March 2 and 3, 2005 in Las Vegas. This meeting focused on refining the Concept of Operations, especially in reviewing the use cases and application areas. There were also updates on the Canadian RWIN program, VII program, NTCIP 1204 and 1301, and NOAA Surface Weather Program and ISOS Committee. Next meeting is being planned for November 16 and 17, 2005 in New Orleans.
- Proposed TRB Task Force on Surface Transportation Weather—Wilf Nixon distributed a Scope Statement and reported the progress being made on forming the Task Force. So far the scope of the Task Force has been approved as well as

the leadership which includes Wilf as the Chair, Rick Nelson and Rich Waggoner (NCAR) as Co-Vice Chairs. Wilf distributed a call for papers titled “New Technologies, Techniques and Tools for Surface Weather Transportation”, for the 2006 TRB annual meeting. Both the Scope Statement and the Call For Papers illustrate the work of this Task Force is very cross cutting.

- 2005 Midwest Snow & Ice Workshop—Dan and Lee reported on this workshop which was held in Kansas City, Kansas on April 19 and 20, 2005. The Workshop was attended by state DOT maintenance employees who use RWIS in their daily operations so presentations on the results of NCHRP 6-13, “Guidelines for Snow & Ice Control Materials & Methods”, NCHRP 6-15, “Testing & Calibration Methods for RWIS Sensors”, Aurora Program’s, “Laboratory & Field Studies of Pavement Sensors” and FHWA’s, “Road Weather Information System Environmental Sensor Station Siting Guidelines” generated considerable interest. Care must be taken not to overwhelm field people with data inconsistencies and research details from these projects and provide them guidance simple enough to understand and implement. Overviews of the national programs and initiatives (National Road Weather Policy, FHWA Clarus and MDSS, and the Aurora Program) were of interest to the attendees and they expressed appreciation for being kept informed of on-going work and forthcoming technologies.
- American Public Works Association—Bret reported APWA’s emphasis is getting the training out to the field. They are working closely with LTAP, the Salt Institute and others in an effort to make this happen. He is disappointed that there are still many areas that are not taking advantage of these proactive winter maintenance opportunities. The APWA Snow Conference is making more time available for networking which if the proactive champions will relate their successes to those who are less progressive will help with the change process. He feels this will help convince agencies to do more training, encourage the use of the AI/RWIS CBT and help promote the benefits of anti-icing. Need to keep identifying the barriers and understand how to effectively deal with them.
- Other WMTSP member input
  - Dan Roosevelt handed out a copy of the Aurora projects and discussed results of the 2001-04 project (now completed), “Pavement Temperature Sensor Accuracy”, 2004-01 project (90% complete), “Hot Plate Snow Gauge Demonstration”, and 2004-02 project (80% complete), “Laser Road Surface Sensor”.
  - Paul discussed the Hi-Tech Freeze Free project and circulated a draft final report. The seven sites in Maryland, Wisconsin, Minnesota, North Dakota, Oregon, and California were so different, a group evaluation was not possible. FHWA will post the report on their website, but probably won’t publish the report in hard copy. He also distributed information on two new sensors Vaisala has developed. Spectro is a non-invasive road surface state sensor and Cyclo is a non-invasive road surface temperature sensor. He also distributed information on the Institute of Transportation Engineers professional development course, “Fundamentals of Road Weather Management”. He informed WMTSP that PIARC will be publishing an updated Snow and Ice Handbook which has expanded in

scope and participation. The previous Handbook had information from 14 countries and the new one has 20 countries. Paul furnished them information on the United States.

- Rick reported that the 511 Committee met in April and will put together a report on lessons learned from the initial deployment.

### **Project Review of SICOP Program**

- Deploy AI/RWIS CBT—Rick is concerned that the AI/RWIS may get too large and encourages future additions stay focused on AI and RWIS. There is also a problem that the field employees can't get access to a computer to operate the CBT. State DOTs are selling their used computers for \$50 to \$75 and most of those computers would be capable of running the CBT. Pat suggested that WMTSP develop a brochure to tell the successes of the CBT and work into the brochure the message that the major hurdle most field locations face is getting a computer for the field worker. Somehow WMTSP needs to get this message to the Standing Committee on Highways so the top management is aware that the opportunity to use these low cost computers is being missed. The need to set up a CBT User Group was discussed. Result was not to pursue at this time, the users are getting their problems solved by calling the consultant and to continue that process and discuss further at the fall 2005 WMTSP meeting.
- Winter Maintenance Chemical Specifications—there continue to be problems with field experience not matching laboratory test results. After discussing the problems WMTSP decided to wait until the results of NCHRP 6-16 are published and then determine, by SICOP List-Serve Survey, if the need for this project still exists. The PNS White Paper posted on the SICOP web site provides guidance for establishing regional user groups and the NCHRP6-16 report will provide guidelines for selection of snow and ice control chemicals and abrasives based on their constituents, performance, environmental impacts, cost and site-specific conditions. The combination of these two elements may fill the intent of this project which is “to make proactive winter maintenance chemical specifications easily accessible to the fraternity of winter road maintainers and to maintain dialog amongst regional anti-icing bodies to ensure uniform specifications and test methods”.
- Vehicle Based Equipment Integration—a listing of known agencies that are working AVL systems into their winter operations is posted on the SICOP web site. This information is nearly two years old and further progress has been made on integrating AVL into maintenance operations. It is still difficult for a state DOT to determine the advantages, cost-benefits, and the service-benefits of the multitude of technologies that are available. Members of WMTSP developed and submitted a research problem statement for a synthesis to be developed that would enable states to evaluate which technologies might be applicable to their particular location, staffing and vehicle inventory. NCHRP under the 20-7 program funded the project as Task 200 in the 2005-6 programs. The original problem statement addressed only vehicle mounted technology, however the panel added \$25,000 to the original \$50,000 requested and recommended the

study be broadened to develop a guidance document to include fixed automated spray technology. For those technologies in operational use, the synthesis will document the state-of-the-practice, including net value derived from its implementation. Surface friction measurement using physical contact with the surface was not included in the synthesis project since that was covered in the NCHRP 6-14 project. Dan prepared a handout which updated WMTSP on the continuing field evaluations on friction measuring equipment that are underway. The Ohio DOT evaluated six Haliday Technologies Road Friction Units last winter and has ordered 26 more units. All units will be GPS coordinated. Their project is still in the evaluation stage and not an operational tool. Ohio would like to do research into how to use friction in their operations. Other states that are also evaluating the Haliday Units include Washington DOT purchased two units, Virginia DOT purchased three units, Wyoming purchased one unit and the Province of Alberta has leased one unit. The Finnish National Road Administration is using friction as a performance measure for its contract snow and ice control operations.

- Fixed Automated Spray Technology—Dan passed out an update on this project and discussed the status with WMTSP. A matrix has been posted on the SICOP web listing FAST units in operation. The matrix lists the unit make, year, number and type of system installed, contact person, chemical application, and notes on operation, etc. The matrix is two years old and needs to be updated. Colorado DOT is doing a research project to compile data from existing fixed anti-icing systems. Dan will monitor progress on this project and request permission to post the results of the project on the SICOP web. As reported in the above project, the NCHRP 20-7 program, Task 200 has funded a synthesis to include FAST systems.
- Development of ESS Guidelines—Dan passed out an updated project report and discussed the project. FHWA completed the first part of this project when they published the “Road Weather Information System Environmental Sensor Station Siting Guidelines” in April 2005. The next step is to gather metadata from the 2,500 sites and enter that into a national data base. Part of this will be accomplished in a contract that FHWA has with Mixon-Hill. Paul will check their contract and determine how much of that data gathering and metadata data base building is covered and what is left to be accomplished. A question yet to be answered is after the data base is developed, where should it be housed and who should keep it current. WMTSP needs to develop a follow-on project to pilot test the updated guidelines and also to provide technology transfer to state and local transportation agencies.
- Synthesis of Winter Maintenance Practices and Their Impacts to Infrastructure—neither project champion was able to attend the WMTSP meeting so no progress report was made.
- Promote Anti-drifting Measures with Pro-Active Road Design Considerations—Joe reported that SUNYBuffalo is working on the “SnowMan” project, but no deliverables are ready to report. The project schedule provides for deliverables one year from the signing of the contract which was accomplished in January 2005. SnowMan is envisioned to be capable of analyzing the terrain and predict

where the blowing and drifting snow problems will occur. Lee passed out a draft research problem statement which would promote proactive anti-drifting measures in road design that was developed by the Iowa DOT titled “Four Dimension Highway Design”. The research would involve the development of roadway construction and design guidance for the following weather attributes and incorporate them into design models:

- Managing winds, blowing dust, blowing snow, fog, smoke, and other weather phenomenon
- Accommodating winter maintenance
- Accommodating runoffs from rain and snow
- Profiling roadways to take advantage of solar radiation
- Use of fencing, berms, vegetation, and landscaping

Wilf thought the proposed TRB Task Force on Surface Transportation Weather would be interested in supporting the research problem statement. Phil Clark of NYSDOT is very active on the Technical Committee on Geometric Design of Highways, so Joe and Lee will work on getting the Design community connected with the Maintenance community to build support for the project and avoid duplication with other projects such as SnowMan.

- Road Condition Information—Dan handed out a status report entitled “Use of Road Condition Data for Traveler Information”. This project has activity underway in three areas. 1). WMTSP to promote validation of Phases I and II projects recommended by NCHRP 6-14, *Feasibility of Using Friction Indicators to Improve Winter Maintenance Operations and Mobility*. That report can be viewed at [http://gulliver.trb.org/publications/nchrp/nchrp\\_w53](http://gulliver.trb.org/publications/nchrp/nchrp_w53). In Phase I a proposed simple scenario is to be tested in a pilot study and the collected data found to affect road surface condition, including traffic, temperature, and pavement type is to be used to develop prediction models of friction measurements and testing protocols to evaluate the effectiveness of traction control systems (TCS) in predicting winter maintenance friction. In Phase II, a test is to be conducted to validate a more comprehensive proposed scenario. Field testing and calibration of the friction indices developed through modeling and TCS technologies are to be carried out during this testing period. Considering WMTSP limited resources promotion is being accomplished by encouraging the efforts of other states as reported in the first paragraph on page 6 of these minutes in the “Vehicle Based Equipment Integration” project. WMTSP will continue to liaison with and monitor the progress of Ohio, Washington, Virginia, and Wyoming DOTs and the Province of Alberta in their evaluation of the Holiday Units. WMTSP will try to attend the World Road Association (PIARC) symposiums and meetings and maintain contact with the Finnish Road Administration’s use of different friction measurement equipment in their performance specifications. This effective coordination will put WMTSP in a position to support the DOTs if they need assistance through NCHRP or the pooled fund process to help implement this cutting edge technology into the ITS/Winter Maintenance arena. 2). WMTSP needs to work with the ITS and 511/CARS communities to document the state-of-the-practice of reporting (text, colors and symbols) winter road condition information for travelers and follow-on

with an evaluation of the most promising techniques. The WMTSP project was put on hold last year awaiting the outcome of an Aurora and Enterprise Consortiums project to develop web site icons. The Aurora/Enterprise project concluded with a report entitled, “Weather Information Dissemination Guidelines, Surface Transportation Weather Service (STWS) Interface Specification”. The report identified the user needs and requirements related data exchanges between STWS and external centers and defined guidelines for the XML communication of weather and surface information. Unfortunately, there are no standards defining how this information exchange should take place, so WMTSP needs to encourage the development of a national standard. Rick reported that the 511/CARS states in the western US have developed a color system, however most states already have their own web site symbols, colors and text standards, so the project for WMTSP is to determine how to proceed with getting uniformity in road condition information and reporting. Pat Hughes will talk to Jim Wright and see if their 511/CARS contractor can put together information on what 511 states are using for colors, wording, etc. on their 511 web sites. WMTSP also needs to be sure any standards will meet the ADA 508 requirements. 3) WMTSP will continue to monitor progress in the Vehicle Infrastructure Integration Use Case Committee. This project is led by the ITS Joint Program Office at FHWA in coordination with the vehicle manufacturers, to explore using dedicated short-range communications to send data between vehicles and roadside. This might have application in the first project listed in 1) on the preceding page since it might be possible to monitor the TCS and down link that information to traffic management centers to be used in determining real time surface traction.

- Outreach to Local Governments—Bret reported that since Steve is rotating off WMTSP, he will take the lead in refining the proposals in the white paper distributed at the last meeting and take the lead in forming a task force to work on deployment and outreach to local governments.
- Communication Standards and Winter Maintenance—WMTSP needs to examine what the NTCIP Group has developed in the 1301 standards and evaluate if weather is sufficiently covered or is a separate weather standard needed? There are 12 that need to be examined because weather is briefly addressed in each one. Since time keeps moving on, WMTSP believes a letter from AASHTO needs to be sent to Dean Martin stating that weather is extremely important and needs careful consideration. WMTSP will form a letter for Valerie to send from AASHTO. Pat will work with WMTSP in writing that letter and sign it as the Chair. The white paper “ITS Standards Impacting the Maintenance Community” seems to be a good educational piece to help people understand the complicated standards process.
- Integrated ITS Corridor—in an effort to better understand how integrated ITS impacts maintenance operations and responsibilities, this meeting was scheduled in the Chesterfield, Missouri location so WMTSP could discuss our program with the Missouri DOT Traffic Management Center (TMC) located in Chesterfield and learn first hand what integrated ITS technologies they are using. A similar meeting was held in December 2004 in the Minnesota DOT TMC. In both meetings WMTSP program briefings were held and a tour of the TMC was



conducted. Both TMCs are using advanced ITS technologies and have deployed cameras, variable message signage, speed monitoring, and have incident management, enforcement personnel and maintenance personnel collocated on the operations floor of the TMC. Neither TMC were using proactive management techniques such as WMTSP saw in the TMC in Japan. WMTSP involvement in Clarus and MDSS will likely produce opportunities for proactive traffic management concurrent with the proactive winter maintenance being implemented. WMTSP needs to develop a relationship with a group of TMCs to discuss possible applications for these emerging technologies. Rick will try to attend the ITS Congress being held this fall in San Francisco and will keep WMTSP informed on new technologies and applications he finds there.

- Equipment and Facilities for RWIS and AI—WMTSP is satisfied that this project is working as intended to provide the winter maintenance community an easy access to specifications used by various transportation agencies. Wilf will put out an invitation on the List Serve to update the existing specifications and post new specifications as applicable. The SICOP web site also has a link to the Aurora Consortium web site and calls attention that they have a collection of specifications for RWIS specifications and RFPs for value added meteorological forecast services.
- Develop Model Media Package—Wilf received considerable written material and videos from the request he made on the List Serve. He will form a Technical Working Group to review the material and decide the best approach to effectively utilize the materials for state and local agencies.

### **WMTSP Program**

- Evaluation of Existing Projects
  - Deployment & Updating AI/RWIS CBT
    - Development of additional lessons—discussed an April 4, 2005 letter from Clear Roads Consortium to partner with WMTSP to develop additional lesson modules for: Overview of available deicing chemicals and prewetting materials; Guidance on proper plowing techniques; Equipment inspection and maintenance; and Mitigation methods for blowing snow. Decision was to partner with Clear Roads, but need to determine which lessons are appropriate for AI/RWIS that might be added to existing CBT, but develop a new CBT for those that are not pure AI/RWIS subjects. Lee and Tim will communicate this to Clear Roads and keep WMTSP advised on recommended direction for the partnership.
    - Keep scenarios fresh and applicable—add new scenarios that are under development and then re-evaluate at the fall meeting.
    - Evaluate the need and feasibility of setting up a user group—Lee will contact Steve Gannon and discuss the usefulness and cost of setting up a user group or a chat room. Will discuss further at the fall meeting.

- MDSS—need to evaluate what elements of MDSS need to be included in the existing CBT and how much should be put into a separate CBT. Will discuss further at the fall meeting.
  - Winter Maintenance Chemical Specifications
    - User needs—Wilf will post a message on the List Serve advising readers what is available on the SICOP Web and asking for their feedback on how well WMTSP is meeting our goal “to make proactive winter maintenance chemical specifications easily accessible to the fraternity of winter road maintainers and to maintain dialog amongst regional anti-icing bodies to ensure uniform specifications and test methods”. The purpose is to determine how successful the original project has been and determine if State and Local agencies need additional assistance with the development of specifications.
    - Need to evaluate how to effectively provide technology transfer for NCHRP 6-16 “Guidelines for the Selection of Snow & Ice Control Materials to Mitigate Environmental Impacts”. Lee serves on the NCHRP 6-16 panel and will have review material well before the final report is published. Lee will involve Wilf in his review of the contractors report so they can begin dialog between them in an effort to have a recommendation ready for WMTSP at their fall meeting.
    - Corrosion impact—this subject is important, but not well understood. WMTSP needs a briefing on what AASHTO NTPEP can help with.
  - Vehicle Based Equipment Integration & Fixed Automated Spray Technology—both of these projects have been rolled into NCHRP 20-7, Task 200. Guidance for the 20-07 Panel was to develop a guidance document on winter maintenance technologies (including FAST systems) for use by state to evaluate which technologies might be applicable to their particular environment. For those technologies in operational use, the synthesis will document the state-of-the-practice, including net value derived from its implementation.
    - AVL matrix posted on SICOP web site—Dan will contact the vendors and ask them for a list of users and their e-mail addresses so WMTSP can keep the matrix current.
    - FAST—Wilf needs to post the Hi-Tech Report on SICOP web site. Also Wilf will contact Colorado DOT and try to get an electronic copy of their report for WMTSP review. Subject will be discussed further at the fall meeting.
  - Development of ESS Guidelines—WMTSP need to develop a follow-on project to pilot test the guidelines and also to provide technology transfer to state and local transportation agencies. Also need to coordinate with FHWA on conducting a quality inventory of metadata and developing exposure indices. Immediate action is required to forward the ESS Guideline Report to the Snow and Ice Task Force asking them at their July

2005 meeting to endorse the report to the state DOTs and have them use the guidance found in the report for preparing their future RWIS contract specifications.

- Synthesis of Winter Maintenance Practices and Their Impacts to Infrastructure—need report from project champions at fall meeting.
- Promote Anti-drifting Measures with Pro-Active Road Design Considerations—Lee will work with AASHTO staff to develop a fold out brochure promoting design consideration. He will also coordinate the development and processing of a research problem statement entitled “Four Dimension Highway Design” by organizing champions and building support in the design community. He will also prepare a letter to the AASHTO Highway Subcommittee on Design asking for their consideration and support at their summer meeting.
- Road Condition Information—Pat will ask Jim Wright to have PBS&J prepare a summary on how states are displaying road information on 511. WMTSP will discuss the results at the fall meeting and decide what can be done to promote more uniformity.
- Outreach to Local Government—Bret will take the lead to work with the new NACE representative and follow through with the recommendations in the white paper. Bret will prepare a list of steps to be taken and send the list to Lee. Will discuss further at the fall meeting.
- Communication Standards and Winter Maintenance—WMTSP drafting a letter about center to center communications and advance traveler information standards to send to John Conrad, Chair of the AASHTO Highway Subcommittee on Systems Operation and Management. Rick believes there will be considerable information on 511 and CARS reporting at the ITS meeting and will gather as much information as possible to bring to the fall meeting.
- Integrated ITS Corridor—Rick believes there will be new materials at the ITS conference which he can bring to WMTSP for the fall meeting. If the proposed Winter Maintenance Scan is approved, Pat will contact Jan Olander at the Swedish National Road Administration to set up a field visit and briefing.
- Equipment and Facilities for RWIS and AI—Update the existing specifications and add new specifications to web site as necessary. Also prepare a handouts for AVL, FAST, and Specification Listing to be distributed at the Highway Subcommittee on Maintenance meeting in July and ask attendees to update their specifications as needed and add new specifications they are using that aren’t listed.
- Develop Model Media Package—Wilf will post on the SICOP web the results of the material he received from his request on the List Serve. He will also make another request to see if there are more examples for consideration. He will advise the AASHTO Administrative Subcommittee on Public Affairs of the posted materials.

- Presentation of New Projects
  - 10<sup>th</sup> Eastern Winter Road Maintenance Symposium & Equipment Expo—FHWA is transitioning most of their involvement in this symposium to AASHTO. AASHTO's Trindal Stanke, Deputy Director of Meetings and Member Services has assumed responsibilities for meeting facilities and Lee has been working with the Connecticut DOT on developing the technical program. These responsibilities will carry forward to future symposiums. This year's symposium is being held in Hartford, Connecticut on September 7-8, 2005. Next year the symposium will be held in Atlantic City, New Jersey.
  - Improving visibility and understanding of WMTSP
    - Meet with AASHTO Highway Subcommittee on Systems Operations and Management to discuss using advance technologies in operations. Lee will call John Conrad and discuss the possibilities.
    - Partnering with APWA at the North American Snow Conference in St. Paul, MN, April 22-25, 2007—Bret has responsibilities for this conference and will discuss this with the appropriate APWA staff.
    - Presentations at the AASHTO Highway Subcommittee on Maintenance—Lee will be doing a presentation on the WMTSP program and TRB/NCHRP research in progress.
    - Ask for advice from the Administrative Subcommittee on Public Affairs—Lee and Ken will follow through on this.
    - Develop a brochure or newsletter—Lee and Ken will follow through on this.
  - Outreach to the Spanish Community—there are 500 copies of the AASHTO Guide to Snow and Ice Control in Spanish in Argentina. WMTSP needs to determine a way to ship and distribute them to areas of the US that could use them. Lee and Paul will work on this.
  - Budget considerations—35 state DOTs, APWA and NACE responded to the solicitation for SICOP funding which put nearly \$150,000 in the SICOP administrative budget. Several states which ordinarily respond to the solicitation are processing their monies. The response to the request was very gratifying and shows confidence in the progress WMTSP has made in improving winter maintenance operations technology.
  - Proposed 2006 Winter Operations and Safety Abbreviated Scan—a copy of the proposal was distributed and discussed. The joint AASHT/FHWA International Technology Scanning Program Committee will be meeting later this month to select which scans will be performed in 2006.