

Final

**Minutes
Winter Maintenance Policy Coordinating Committee Meeting
AASHTO/APWA/NACE**

April 25-26, 2000
Holiday Inn Select
Bloomington, Minnesota

Attendees:

Pat Hughes, Chairman—AASHTO WMPCC (Minnesota DOT)
Lee Smithson, SICOP Coordinator—AASHTO (Loaned Staff from Iowa DOT)
Ken Kobetsky—AASHTO Staff
Paul Pisano—FHWA
John Blacker—AASHTO Subcommittee on Maintenance (Montana DOT)
Rick Nelson—Lead States Program (Nevada DOT)
Wilf Nixon—TRB Committee A3C09 Winter Maintenance (Professor-University of Iowa)
Clayton Sullivan—AASHTO Western Region (Idaho DOT)
David Gravenkamp—National Association of County Engineers (Siskyou County California)
Andy Bailey—AASHTO Southeastern Region (Virginia DOT)
Larry Frevert—APWA (Kansas City, Missouri)

Guests:

Neil Hawks—TRB
Dan Roosevelt—VA Research Council/Aurora Research Consortium

Chairman Pat Hughes called the meeting to order at 1:00 PM on Tuesday, April 25, 2000, and had everyone introduce himself.

Neil Hawks, Director, Special Programs TRB, discussed the New IDEAs (Innovations Deserving Exploratory Analysis) program. About 15% of the New IDEAs program addresses winter maintenance. The things that make IDEAs different than other research is that 1) they are unsolicited research proposals 2) technically credible but untried, 3) product driven, 4) entrepreneurial 5) high-risk, 6) low-cost (average TRB contribution has been about \$85,000). It is a cost share, proof of concept program. Started with 2.6 million in 1998 but the Federal money runs out this year. TRB is starting an orderly wind down of the program. WMPCC could help IDEA by participating on technical reviews of projects, identifying unmarketed products that are ready for proof of concept, and help look for developer. A project selection committee reviews proposals every six months, IDEA does a technical check on projects then the selection committee does a practical review and looks for practical payoff.

The similarities of ITS-56 "Snow and Ice Removal Monitoring and Management System" (SIRMMS) in Michigan and SICOP project #10 were discussed and how we can learn from each other, know who is doing what, and avoid duplication. Neil pointed out TRB's "Research in Progress Data Base" is an excellent source of current State and National research. Paul Pisano reviewed what they did in the Rural ITS program and put "Who's Doing What in Rural ITS" on a web page. One problem they had was keeping the web page current. FHWA has the software

and would provide it to SICOP if we wanted to use it. WMPCC will take this item up again tomorrow in the Future Directions portion of the meeting.

Work Plan Reports

#1 RWIS/Anti-icing Training Package (Rick Nelson)—Rick handed out the RFP and asked WMPCC to read it tonight and be ready to discuss it tomorrow.

#2—Equipment and Facilities for RWIS and Anti-icing (Rick Nelson and John Blacker)—Wilf Nixon will load up Iowa DOT and Nevada DOT anti-icing equipment pamphlets on the SICOP web page. The key to including something on the web site is that a public agency has to be using it. It is not an endorsement of the product or equipment, so an appropriate notation such as used by TRB will be used. URL code <http://www.illinois.gov/transportation>. The State Materials Engineers have a web site of what has been tested and test results which could be a guide to operating the SICOP web site. John Blacker reported the Pacific Northwest Snowfighters (PNS) have a web site. The Montana PNS representative is working on the equipment list for the PNS web site. That list will be completed in the next month or two. The Materials people use a \$1,200/year assessment to the States to keep their site running. Should SICOP be doing this as a funded project? Probably \$12,000 to \$15,000 per year would be needed. Should the Lead State Web site on Anti-icing be ported over to the SICOP web site? AASHTO currently has enough funding to keep the Lead State site operating for one more calendar year. Is there a potential for partnering with the private sector for winter maintenance web site expense or should SICOP be asking the States to provide the funding?

#3—Road Condition Information to Customer (Lee Smithson)—WMPCC asked for the concept of this project to be broadened to be more than road condition evaluated by the presence or absence of friction measured with a rolling wheel friction measuring device. Are there other methods to measure and describe road condition? Do AASHTO standards need to be developed? Can the project be separated into one part that addresses what devices or methods are available to measure winter friction or roadway condition and a second part that addresses how to communicate road conditions to the customer. Some advantages to using friction measurements are; they are objective, they can be measured, and friction measurements have been historically used on wet pavement conditions for determining when it is necessary to advise motorists and post "slippery when wet" signage. Road condition advisories such as 50% snow covered or 75% icy are subjective and do not indicate any degree of slipperiness. Condition measurements must be meaningful and expressed in language that is understood by the customer. Progress and outcomes from three studies currently underway need to be monitored and evaluated as to their applicability to this project. They are NCHRP Project 6-14 "Feasibility of Using Friction Indicators to Improve Winter Maintenance Operations and Mobility" and Aurora Projects 6.3 "Standardized Road and Weather Information Presentation" and 7.6 "Infra-red Spectral Camera Monitoring of Road Conditions".

#4—Driver Education—also rolled in #9 (John Blacker)—John has assigned two people from his staff to identify customer groups such as truckers etc and put a TWG together. About eight people will be needed for the TWG. This project should be coordinated with the human factors

people of the TRB Committee involved in this. John provided a handout at the last meeting that shows what others have done. Pat Hughes suggested John put the Project into a format like that used in reporting project #3 above and submit it out to the WMPCC for consideration. Wilf will contact TRB related Committees to get their input. Need to determine a budget for the TWG so we can go to AASHTO annual meeting in December to ask SCOH for funding.

#5—Anti-icing Chemical Specifications (Clayton Sullivan)--WMPCC is keeper of Snow and Ice Control Manual should this be in the manual? Original project came from the Minneapolis meeting where industry said Public agencies could save money if they could all agree on one specification. Problem is that even after people agree on a specification, people start adding or deleting and the standard is gone. The purpose is also to define what is acceptable in items such as heavy metals, corrosion inhibitors, gradation, etc. Scanning tours found fine gradation salt was used in Japan and Europe and resulted in quicker reaction and better retention of chemical on the roadway. A project statement for this project is needed. Some members feel WMPCC should endorse the product, while others believe we should only communicate the product is available and being used by some agencies and tell who they can get in touch with for more detail.

#6—Anti-drifting (Clayton Sullivan)--Clayton has been talking to Ron Tabler, and there is new design software that is being used to consider anti-drifting techniques (mitigate snow drifting). It was suggested WMPCC pay Tabler to come to the October meeting to discuss this. Pat Hughes asked Clayton to put together a project statement.

#7—Urban Winter Maintenance Practices Guide (Larry Frevert and Wilf Nixon)--Larry distributed a description he prepared following the November 1999 WMPCC meeting in Kansas City. He will condense this into a problem statement and recommend hiring a consultant for support. There was discussion of considering this as an updated AASHTO Snow & Ice manual expanded with an urban section to APWA satisfaction. Joint funding could be used and one manual published. Larry prefers a "stand alone" thin manual. APWA will want to sell the publication but perhaps it could be a joint APWA/NACE/AASHTO publication. Larry will explore calling a TWG to proceed.

#8—Automatic Fixed Remote Chemical Distribution Systems (Paul Pisano and Andy Bailey)—Perry Cogburn, VDOT put out a request to determine who was using what, but not much response. FHWA is planning to conduct a synthesis which will provide a listing of who is doing what and where. As soon as they finish it should be advertised on the list serve and posted on the SICOP web. Nevada is doing a research project this next year—install a system and document all the aspects of retrofitting a structure. MN DOT retrofitted a bridge, but it hardly got used last winter. VA has a fixed system on a ramp bridge, and will publish a report later this summer. PA has installed a Boschung. Need a web that posts a listing of structures that are being fitted, what was installed, experience and who to contact to get more information. Europe also has published material on this. FHWA within a few months will have a list of who is doing what and where and will publish in the SICOP web.

#9—Model Media Package (Wilf Nixon)--web page was up and running on April 21. Wilf asked each WMPCC member to check and make sure the information relating to them was

accurate. Need an electronic copy of AASHTO/APWA/NACE logos. Ken Kobetsky, Larry Frevert, and David Gravenkamp will provide these to Wilf.

#10—ITS/GPS/AVL Technology (Andy Bailey and Lee Smithson)—Both Iowa and Virginia have had a winters use on their AVL equipment and will be publishing reports this summer on the results. The cities of Indianapolis, Cincinnati, Kansas City, Colorado Springs and Aurora all have some AVL experience that should be evaluated. Andy wants SICOP to develop a check off box of what is being tried and what was accomplished. 20-7 money would be available for a synthesis. Andy said a conference at Irvin just recently looked at all this and perhaps more information would be available from that workshop. Need a matrix developed of who is doing what. The AVL survey Rod Pletan did should be updated. Should be a total applications use of the equipment to obtain a good B/C. Need to keep a pulse on the industry on what is out there, and the user of who is using it for what. Collaborate with Operations Transportation Committee (contact Dave Hensing) + TRB Committees that are working with this.

#11.—On Board Freezing Point Measurement (Wilfrid Nixon)—Iowa DOT will be performing bench tests of the chemical sensor that Wilf and Lee Smithson saw demonstrated at the PIARC meeting in Luleå, Sweden. If those bench tests are successful, the unit will be mounted on the Concept Vehicle and field tested next winter. Need to explore the option of using the IDEA program for addition testing and marketing possibilities. There may be more sensors to consider by next meeting since Graham Gilfillan is working on a similar unit in Canada. WMPCC felt that the unit had to be in the range of \$2,000 to \$5,000 to be able to afford several units for fleet application.

Detailed Discussion on the RFP for Anti-icing/RWIS Training Package

Rick explained the RFP, the generic version and what customizations can be expected. There are some gaps: 1) schedule may slide; 2) Italics need to be removed; 3) solicitation process; and 4) budget estimate so as to not limit the contractor. States contributing \$30,000 will have a seat at the table to insure they get the customization they need. Need to discuss what are the entitlements when APWA puts in \$5,000 verses Kansas City, Missouri putting in \$5,000. Can APWA/NACE sell the basic version @\$5,000 level? Who owns and maintains this package? (Probably AASHTO) The training package is to teach skills in RWIS and anti-icing. It will enhance the decision making skills of people who are using RWIS and anti-icing. Ownership is public not contractor software. Ken Kobetsky will have TRB review the RFP to be sure the correct ownership language is in the RFP. Are there other potential players that should be at the table such as snow and ice control contractors and industry representatives?

The decision was made to have Ken write a letter of solicitation to the Chief Engineers with copy to the State Maintenance Engineer at a level of \$30,000 for each state and \$5,000 for APWA, NACE and local governments. FHWA budgeted \$60,000 over a two year period, the states of Idaho, Iowa, Minnesota, Pennsylvania and Washington have previously made commitments of \$30,000 and Montana, Virginia and likely Nevada also indicated they would make the same commitment. AASHTO will provide fiscal management of the pooled funds and Howard R.Green Company will provide contract administrative support to AASHTO.

Andy moved and John Blacker seconded that WMPCC turn the responsibility of revising the RFP in accordance with the WMPCC discussion and authorize the TWG to continue with the project. TWG will be the selection committee and monitor contractor activity. A Steering committee will be formed and consist of the TWG and states contributing \$30,000. The Steering committee will evaluate the project progress at milestone points. Since the "Guide for Snow and Ice Control" will need to be in electronic version if it is to be part of the training package, AASHTO will have to authorize this change (Ken Kobetsky will pursue this). Rick discussed the need for a showcase workshop for kicking off the Anti-icing/RWIS Training package.

Other projects WMPCC members are involved in

Clayton Sullivan—the five-state effort on avalanche mitigation continues. The State of Colorado is leading the effort. PNS group is finishing gradation specs and a best buy process for chemicals. PNS is having its first snow conference in British Columbia in June

John Blacker—winter driver training, has staff working on it and looking at what other states are doing. Putting together an equipment catalogue of anti-icing equipment. California has a new maintenance guide which is very proactive. Both California and New Mexico have new maintenance engineers. What is going on in Lead States hand off to AASHTO SCOM? Montana now has 65 RWIS sites and needed to upgrade their old units with new RPUs. Use three different companies to provide Scan Casts to see the service and accuracy of each. A report will be forthcoming. Putting still cameras at several RWIS sites. All data except the SCAN Cast is available to the public. Most sites are hard wired, but do have some with cellular and radio.

Andy Bailey—starting to do customer response measurements. Outcomes include target winter service levels. There will be a measurement/benchmarking conference in June to discuss how to measure what we are doing. Very close to completing a private-public partnership for fiber optic to provide better communications for decision makers. Upgrading their web to include road condition. Dan Roosevelt discussed the test plots they monitored to determine how Ice Ban affects roadside vegetation.

Wilf Nixon--asked WMPCC members to e-mail him on any conferences and workshops and other items of interest for the SICOP web.

Paul Pisano—reviewed latest personnel changes at FHWA. Paul will replace Don Steinke on the AASHTO SCOM but uncertain who will continue on WMPCC. Should probably be Shelley Row, Don Steinke's replacement. One of the high interest items is what is the optimum level of RWIS stations needed on the road system for operations and to support high resolution projects like FORETELL. Lee Smithson needs to put a notice on the list serve that Railroad Crossings with four quadrant traffic gates have been modified and each State Maintenance Engineer needs to review the "Notice of Proposed Amendments to the Manual on Uniform Traffic Control Devices, FHWA Docket No. FHWA-1999-6298" Chapter 2B, Part 8, page 8D-3, figure 8-9 and comment on any maintenance problems this will pose. FHWA continues to document surface

transportation weather requirements, and is looking to WMPCC for feedback when material is published.

Wilf Nixon—would like to promote United States representation at the January 2002 XIth Winter Road Congress in Sapporo, Japan. Maintenance people need to be encouraged to submit abstracts for this Congress and seek funding and approval to attend. Pat Hughes has been appointed to the PIARC Committee and will be needing some help on reviewing papers for that Congress.

Larry Frevert—attended and represented WMPCC at the APWA meeting in Traverse City, Michigan. There were about 800 attendees. Wilf presented a paper. The Annual APWA conference will be in Louisville in September. Larry Frevert and Lee Smithson will be representing WMPCC, and will be joined by Ed Bosselly in making a panel presentation. Kansas City will be putting on three AVL units on this year.

Rick Nelson—Finishing their fourth thermal mapping project. Will be posted on the Nevada DOT web site. Working with California to make I-80 a smart highway corridor. Nevada has several "super highway projects (>\$200million) that brought Maintenance people into the design phase to look at snow removal considerations. Lead State has just finished a survey of RWIS and almost every state has RWIS (see Deana Gray-Fisher at Iowa DOT for more details).

Ken Kobetsky—working on the AASHTO strategic plan. The AASHTO reference book is now on line, and soon can be updated by the States. New executive director emphasis is on partnering. Working on reauthorization bill. Technology Transfer Group just formed, scope includes SHRP stuff and how to help others in deployment. The Group is made up of Chief Engineers and patterned after SICOP. Future SHRP, Ann Brach, will soon be narrowing scope and Rick is concerned that WMPCC and Snow and Ice will get left out. A3C09 has a long list of unmet needs that should be considered in Future SHRP. Ken has a new program director, Jim McDonnell plus a new administrative assistant Marty Vitale.

Pat Hughes—RWIS installation nearly complete and looking forward to the new training package. Just finished a market research report and the #1 priority is winter maintenance. Other maintenance items also ended up in several high priority areas.

Action Items

ALL PROJECT CHAMPIONS ARE TO HAVE THEIR PROJECT STATEMENTS IN A FORMAT REPORT LIKE THAT USED IN PROJECT #3

Project #1—Finalize and advertise RFP, raise the \$300000 needed to fund RFP, and award contract

#2—Put equipment on web/let people know it is there via list serve (Lee furnish Iowa booklet+equipment specs to Wilf) Need disclaimer verbage (Lee will furnish sample to Wilf) Larry moved and John seconded using up to \$7,500 for web expense (Wilf will furnish budget through October meeting).

#3—need summary report on this for October meeting of who is doing what

#4—need project Statement

#5—need project Statement

#6—need project Statement and look into bringing Ron Tabler to October meeting. Goal will be have some Green Book acknowledgements so Clayton will call Andy Mergenmeier to see what is going on and then e-mail WMPCC with his findings. May need to put together a fast acting task group. How about avalanche work—best practice? Does Rand Decker have an electronic copy to get on the web? Won't need TWG this year.

#7--by June 1 Larry will provide a problem statement for a "Local Government and Urban Conditions Supplement to the Guide for Snow and Ice Control". Then by July 15 Larry will, by working with the APWA Sub-committee on Winter Maintenance, have developed an outline and draft budget for holding a TWG during September at the APWA National Congress at Louisville. The reason for meeting in Louisville is so travel will be covered for APWA people because they will already be at the annual APWA meeting.

#8—Paul will put together a one page project statement in about a month based on the assumption that FHWA can get their contractor to conduct the scan/synthesis. Paul will share web-based database with Wilf.

#9--\$7,500, Larry, Dave, and Ken need logos for web. Every WMPCC member look at the web site and provide feed back to Wilf by May 15th.

#10—reports mid summer on Iowa and Virginia progress and post summary on web. Survey AVL participants for an update of where they are and post on list serve to identify new comers. Finish by October.

#11—monitor bench testing and put a one pager on web

Lee Smithson will draft a letter to Christine Johnson describing WMPCC, asking for a formal replacement for Don Steinke.

Future Directions

Tracking new concepts (use list serve, then post to the web site)

Soliciting ideas from users what needs to be done and prioritize that list

Have each APWA, NACE and AASHTO region representative do a survey of their region to determine needs and track research efforts

Providing input to monitoring Future SHRP (Ann Brach)

Revisit WMPCC Workshop Proceedings to determine unmet needs (prior to October meeting)

Develop proposal for future scanning tour that would coincide with PIARC at Sapporo in 2002

Should WMPCC have an exhibit at PIARC in Sapporo?

Appoint a Task force to check for travel funding sources (Lee (chair), Larry, Paul, Andy M.) explore funding opportunities to support WMPCC and speakers to Sapporo

Check with FHWA Division Offices to see if they have any speaker travel funds

Call Bob Ford and see what suggestions he has

Outreach activities for WMPCC

Lee has written papers on implementing international technology and WMPCC activities for presentation at the AASHTO Subcommittee on Maintenance summer meeting in Juneau and the 5th International Snow and Ice Symposium in Roanoke. Larry and Lee will make a panel presentation on SICOP at the Annual APWA meeting in Louisville. Lee will explore the possibility of making presentations at the Eastern and Western Snow Conferences and exhibiting the new technologies of the Concept Maintenance Truck.

Budget

Currently \$74,000 in the administrative budget now which should carry us until Annual meeting. Each project champion is to complete a project statement with expected budget.

Next meeting

The next WMPCC meeting is scheduled for October 16-17, 2000 in Idaho.

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