

1 **Final Minutes**
2 **Joint Meeting of Aurora & AASHTO Winter Maintenance Technical Service Program**
3 **Wednesday, December 5, 2007**
4 **Crowne Plaza Hotel at Union Station**
5 **Indianapolis, IN**
6

7 **Aurora Attendees**

8
9 Max Perchanok, Chair, Ontario MOT
10 Mike Adams, WI DOT
11 Chris Albrecht, ISU/CTRE
12 Kirk Carpenter, IN DOT
13 Diana Clonch, OH DOT
14 Joe Doherty, NYSDOT
15 Tina Greenfield, IA DOT
16 Dawn Gustafson, MI DOT
17 Bill Hoffman, NV DOT
18 Dean Kernan, IL DOT
19 Mike Kisse, ND DOT
20 Curt Pape, MN DOT
21 Ralph Patterson, UT DOT
22 Kevin Petty, NCAR
23 Dan Roosevelt, VA DOT
24 Lee Smithson, AASHTO
25 Jack Stickel, AK DOT&PF
26 Jeff Tilley, UND
27

WMTSP Attendees

Rick Nelson, Chair, NVDOT
John Burkhardt, IN DOT, TRB rep
Dennis Burkheimer, IA DOT
Bret Hodne, WDSM, IA, APWA rep
Bill Hoffman, NV DOT, HSCOM rep
Mike Lashmet, NYSDOT
Wilf Nixon, U of IA
Greg Parker, IA Co Engr, NACE rep
Paul Pisano, FHWA
Dan Roosevelt, VA DOT
Lee Smithson, AASHTO

Guests

Dennis Belter, Chair, Clear Roads, IN DOT
Bill Hyman, SHRP 2
Tom Maze, ISU/CTRE
Charles Meyer, AASHTO

28 Rick Nelson opened the meeting with introductions and a review of the agenda.
29

30 **SHRP 2 PROGRAM OVERVIEW**

31
32 Bill Hyman, Senior Program Officer, SHRP 2 TRB, made a power point presentation,
33 “Relationship of Reliability and Other Research Programs to Weather”. The purpose of the
34 presentation was to acquaint Aurora and WMTSP members with the SHRP 2 program and for
35 Bill to understand the Aurora and WMTSP programs. Bill provided an overview of the SHRP 2
36 program, its governance, structure, described the four focus areas of Safety, Renewal, Capacity,
37 and Reliability, projects under contract, and those being developed. Bill spent time on
38 Reliability Performance Measures, travel time index, planning time index, buffer time and buffer
39 index. Questions from the audience concerned how weather and the messages were being used
40 for snow conditions. One of the members of the Clear Roads Consortium explained a project
41 they had underway called “Ice and Snow, Take It Slow”, where the emphasis is slow down and
42 travel more safely. Bill discussed a graph showing “Effects of Incidents and Weather on
43 Reliability” for Route 520 in Seattle.
44 He then discussed the Research Program focused on reliability. There were four themes: 1).
45 Data, metrics, analysis and decision support; 2) Institutional change, human behavior and
46 resources needs; 3) Incorporating reliability in planning, programming and design; and, 4) Future

1 needs and opportunities. Bill also discussed Safety, Renewal and Capacity. During the
2 discussion of the focus areas it was apparent that there was a need to emphasize the importance
3 that atmospheric and road weather have on each of the areas. A copy of Bill's power point is
4 attached to these minutes. More detailed program briefs can be found at
5 <http://www.trb.org/shrp2> .
6

7 **REVIEW AND EDITING OF THE NATIONAL PEER EXCHANGE RESEARCH** 8 **STATEMENTS** 9

10 The remainder of the meeting was spent in a group discussion of each of the 27 research
11 needs statements that were shown in the draft of the "2007 National Winter Maintenance
12 Peer Exchange Final Report". These 27 research needs statements were a consolidation
13 of the 70 one line statements that were recorded during the focus group discussions at the
14 Peer Exchange. A preliminary title is shown in bold face all capital letters, then several
15 one line statements or questions appear under the preliminary title. These one line
16 statements or questions were taken verbatim from the recorders meeting notes. These
17 minutes attempt to capture the various points of discussion that will aid in the
18 development of a comprehensive research problem statement.
19

20 **1. GUIDELINES FOR ANTI-ICING AND DEICING**

21 How to determine the proper timing and frequency of anti-icing and deicing?
22 Develop anti-icing, deicing and pre-wetting implementation guidelines
23 Are the FHWA TE-28 anti-icing guidelines accurate, appropriate, effective?
24

25 The discussion began by asking is this a technology transfer problem or a research
26 problem? Wilf Nixon believes even though there may be a few details that could be
27 improved upon, there is generally sufficient research on the subject for an agency to
28 implement an anti-icing program. It is mostly a matter of education and the willingness
29 of the agency to change. Perhaps developing a Best Method Practice process would add
30 more credibility and acceptance. There is also some reluctance to try new methods
31 because of the legal implications, especially if something fails, so that needs to be
32 considered. Some do not understand that the TE 28 application rates are for anti-icing
33 conditions and were not intended for deicing. In deicing where the road condition has an
34 ice/pavement bond, the NCHRP Report 529 provides the guidance for more appropriate
35 treatment strategies. Several people commented that while the current research covers
36 most situations, there are some conditions that aren't covered in the storm scenarios and
37 more research to increase the number of weather events would be helpful as well as add
38 value to the basic research. Dan Roosevelt feels the rest of the country is counting on
39 organizations like Aurora, Clear Roads, TRB and WMTSP to provide the needed
40 guidelines and technical assistance and to get anti-icing into standard practice. He felt we
41 needed to look at and appreciate the lack of knowledge we see reflected in these three
42 statements and determine what needs to be done to fill that void. Dan would like to see
43 us concentrate on the top five research problem statements, do them well and see if there
44 is time and resources available to then start on the remaining ones. Dean Kernan feels his
45 people need both the best practice guidance and help in selecting the correct chemical.
46 Wilf Nixon feels perhaps we need to develop a step by step program for people to follow.

1 He sees merit with the Iowa DOT approach which uses a set of laminated cards in the cab
2 of each truck. Mike Kisse pointed out that implementing anti-icing also brings a problem
3 that needs attention which is being able to purchase the equipment to do the step by step
4 program. Bret Hodne has asked field folks why they aren't using the anti-icing
5 technologies, and finds that just changing overwhelms them (the needed training, new
6 equipment, doing things differently, and additional facilities, etc). Rick commented that
7 MDSS does an excellent job with the technical side by pulling all the sciences together.
8 Paul Pisano discussed the value from the lessons learned last winter from the Maine
9 study. While the MDSS did a good job of putting the sciences together, those sciences
10 did not cover all situations. We are learning more as additional field evaluations are
11 analyzed, and as new chemicals and equipment become available. Updates and revisions
12 will be the name of the game to optimization. Mike Adams feels another project is
13 needed to study the barriers to implementation. Wilf discussed some the weaknesses of
14 MDSS that must be investigated and the science deepened so that the treatment strategies
15 can be modified. Paul feels that the "Maine Lessons Learned" will help guide the
16 process. There was general feeling that this problem is much broader than what Clear
17 Roads should be expected to handle and the project should be assigned to SICOP. Rick
18 Nelson agreed that SICOP would take the lead on this project. He felt we should go to
19 agencies that claim they can't get the desired results and learn why. There might be
20 problems with the treatment strategies or it may be something else in the system, but we
21 need to understand the problem before trying to come up with the solutions. Bret pointed
22 out when he finds a problem he also finds they don't understand dilution curves and other
23 basics of anti-icing. Jack Stickel suggested that the Rural ITS scheduled for September
24 2008 would be a good place to put in a workshop since they will have a varied audience
25 of state and local governments participating. Rick Nelson wrapped up discussion on this
26 project by summarizing that SICOP would take the lead, this would likely be an
27 overarching project resulting in the need for other more specialized projects that might
28 end up coming back to Clear Roads or Aurora for help.
29

30 **2. STAFFING**

31 Synthesis of unconventional staffing strategies to meet increasing demands
32 Developing Tools for Outreach
33 Meeting increasing training challenges
34 Synthesis of retaining trained personnel
35 Synthesis of innovative methods to compete with industry
36

37
38 John Burkhardt gave a summary of the projects and asked for any other additions that
39 need to be considered. Diana Clonch points out that these are reoccurring issues with
40 both state and local governments. The only staffing guidelines she has found are in the
41 SICOP Snow and Ice Guide. Rick Nelson pointed out that downsizing and fleet
42 reductions are moving government to outsourcing to help fill the gaps during
43 emergencies and storms. Bret Hodne feels that local governments need data to show how
44 they compare with other agencies and be sure their needs are in line with other public
45 agencies. The project fits well into a synthesis project and fits into two Transportation
46 Research Board (TRB) Maintenance Committees missions and scopes. The synthesis

1 needs to also consider what type of post high school or college career path training is
2 needed. Testing is an important part of the training program. It would be helpful for
3 maintenance personnel to know what percentage of typical maintenance budget dollar
4 and time allocation gets put into the training effort so that they can compare to others.
5 Pay is also a consideration to be able to attract both permanent and temporary personnel.
6 How to keep the people will be an important item to include. Are there data on how
7 much it costs to bring people on board, get them trained, only to lose them in six months
8 or a year? How does pay compare with others in the region? The synthesis needs to also
9 look at how to provide training to contractor personnel if the work is outsourced. Max
10 Perchanok felt separate synthesis are needed, one for staffing and the other for training.
11 There is a responsibility to keep the others informed as the research problem statement
12 gets developed so more than just one agency is listed on the funding request to help
13 emphasize the importance of the project. John summarized the discussion by agreeing
14 that the TRB Winter Maintenance Committee (AHD65) which he chairs would take the
15 lead on this project. He and Lee Smithson will collaborate with and involve the TRB
16 Committee Maintenance and Operations Personnel (AHD15) in the development of this
17 project. The Winter Maintenance Committee Scope addresses the issues of the training
18 needs of snow-fighting personnel, performance measures, and level of service. The
19 Maintenance and Operations Personnel Committee's Scope addresses, "...personnel
20 policies of the various transportation organizations relative to maintenance and
21 operations; the salaries and wages of positions in such groups; and the selection and
22 training of maintenance and operations personnel."
23

24 **3. LOS DETERMINATION**

25 Road prioritization formula for winter maintenance LOS

26 Case studies on ensuring consistency in winter maintenance practice across state borders

27 Establish seamless boundaries for winter information across states

28 Develop a national LOS to better transition motorists across boundaries without sudden
29 change in conditions

30 FHWA should develop pilot or demonstration projects of seamless operations. This
31 would include LOS, winter messages, RWIS, and other technologies.

32 Develop a road prioritization formula to determine LOS and see if it can be used
33 nationwide.
34

35 Discussion began on this project noting there were two NCHRP projects going on which
36 might have some applicability and guidance so need to be considered to avoid duplicative
37 efforts. The NCHRP Project 06-17, "Performance Measures for Snow and Ice Control
38 Operations" is finished and the draft report is being reviewed. Also NCHRP 20-74A,
39 "Development of Service Levels for the Interstate Highway System" will begin soon.

40 The project scope does include some winter maintenance. The project includes a
41 literature review, and the various performance measures being used. The 511 Coalition
42 progress needs to be included in this process. The attendees felt this should become a
43 SICOP project. Rick Nelson agreed and felt it should be assigned to the AASHTO
44 HSCOM Snow and Ice Task Force. Bill Hoffman, Snow and Ice Task Force leader was
45 tasked to take the lead and start by calling Andy Lemer, NCHRP Project Manager and
46 request that a WMTSP member be included on the panel of the NCHRP 20-74A project.

1 One outcome should be a set of definitions for road condition description or maybe a
2 template that would include elements that a state could plug into in developing a level of
3 service.
4

5
6 **4. FUNDING**

7 Determine staffing and funding for core maintenance activities
8 Identify long-term impacts of not funding maintenance fully for summer and winter
9 activities
10 How do we establish appropriate dedicated funding levels for maintenance?
11

12 Attendees felt this project was a good fit for TRB Maintenance Committees. The
13 Maintenance and Operations Management Committee (AHD10) with a committee scope,
14 “This Committee is concerned with all aspects of managing the maintenance and
15 operations of highway transportation facilities” would be a logical first contact. John
16 Burkhardt and Lee Smithson will attend the AHD10 Committee meeting in January 2008
17 and discuss the possibilities of them taking the lead for this project. Probably need a
18 synthesis to look at states (like Washington and Kansas) who have had success in
19 convincing their management and the legislature to staff and fund the longer term
20 maintenance needs.
21

22
23 **5. COMMUNICATION WITH PUBLIC AND LEGISLATORS**

24 Develop tools to manage and communicate LOS, expectations and costs associated to
25 urban, sub-urban and rural routes
26 Best practices for balancing politics and performance
27 Synthesis of how to effectively relay and communicate winter maintenance budget’s
28 needs to upper management and legislature
29 How to most effectively communicate performance measures and associated costs to
30 internal staff, operators and stakeholders
31 Inform stakeholders of the critical activities and impacts of maintenance on daily lives
32

33 Attendees felt this project needs to be guided by public relations people to apply their
34 expertise to this research. Charles Meyer will talk to Sunny Schust, AASHTO Director of
35 Communications and Publications since she is also the AASHTO Staff to the AASHTO
36 Public Affairs Committee and see if this is a good fit.
37

38
39 **6. VEHICLE TO CENTER COMMUNICATION**

40 Seamless wireless communication for transferring data from vehicle to maintenance
41 garage
42 Development of standards for in-vehicle equipment
43 Innovative solutions for real-time vehicle-to-center data communications
44 Develop standard specifications for components and communications
45

1 Dennis Belter led the discussion on this project. Attendees felt this is more than just
2 communication, it is using the basic maintenance truck as a source of road condition
3 information, reporting current maintenance activities such as snow and ice control
4 operations, fleet location for emergency management and incident response operations,
5 etc. Minnesota has the goal equipping an area for MDSS field testing and eventually the
6 entire fleet to see where it can take them (asset management, stockpile replenishment,
7 time sheet reporting, etc). This project needs to be coordinated with the VII test
8 evaluations and MDSS. Is the cost of real time communication worth the investment?
9 The issue of communications standards should be coordinated through the NTCIP
10 meetings. Curt Pape has attended some of the NTCIP meetings says that there is a lot of
11 vendor posturing at these meetings so progress is slow. One of the vendors at the 2007
12 National Winter Maintenance Peer Exchange pointed out that Europe has common
13 standards that should be evaluated as a model in the U.S. The SICOP web site has a
14 posting of AVL being used in the U.S. The SEMSIM link also has an updated list of
15 AVL contacts. Clear Roads is similar to Aurora when RWIS was just entering the winter
16 maintenance arena, they are the voice and the advocate. Dennis Belter, Chair of Clear
17 Roads, felt that Clear Roads is the appropriate leader for this project.
18
19

20 **7. PERFORMANCE MEASUREMENT**

21 Develop standardized performance measure for snow and ice
22 Develop a state winter severity index as a tool to compare materials use and costs
23 Feedback of customers' expectations on winter maintenance
24

25 John Burkhardt led the discussion for this project. The discussion began with a look at
26 work that has been done in this area. Wilf Nixon has developed a storm index, Aurora
27 has worked in this area and IN DOT is working on a winter index. TRB Winter
28 Maintenance Committee (AHD65) should take the lead for this project and include
29 Aurora in the discussion of the project. Consider moving Individual Rank #4 into the
30 LOS Determination Group Rank #3 or establishing a strong collaboration link. NCHRP
31 funded a workshop on Performance Measures. The results from that workshop did not
32 get much visibility, but might have some use in this project. Note on #4 "Develop
33 standardized performance measure for snow and ice" was #4 overall indicating it is very
34 important, so AASHTO Snow and Ice Task Force should take the lead on that. Aurora
35 can help on Individual Rank #36 and possibly find some funding. Individual Rank #59
36 should have a strong collaboration link to Group Rank #5, Communication with Public
37 and Legislators.
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41

42 **8. WEATHER AND RWIS EDUCATION**

43 Develop more training on how to use RWIS and weather forecasting to help decision
44 making
45 Improvement for chloride sensor for integration into the decision making process

1 Develop a way to educate more forecasters about what maintenance needs in a forecast
2 and how to speak our language
3 Develop a plan for improving forecasts
4 Training for maintenance personnel to interpret forecasts
5 Training for how to use technologies
6 Education about microclimates
7

8 Max and Tina led the discussion for this project. This will be an Aurora project and
9 likely needs to have a brochure developed to cover the various offerings. FHWA has two
10 web-based training programs being developed by NOAA which will address Individual
11 Rank #47. These will be completed in early 2008. FHWA is developing a web-based
12 version of the old NHI course.
13
14

15 **9. SALINITY SENSOR**

16 Develop on-vehicle salinity sensor
17 Develop better in-pavement chemical sensor
18

19 Max and Tina led the discussion for this project. This will be an Aurora project, but the
20 on-vehicle portion of the project may need to be a joint program with Clear Roads. Dan
21 Roosevelt felt that the states should be surveyed to see if the states have an interest in
22 purchasing and using on-vehicle chemical sensors and if so, at what price and how many?
23 Aurora should determine the need, develop the specification and search for a vendor to
24 develop and sell a sensor that would not be copyrighted.
25
26

27 **10. LIGHT PRECIPITATION FORECASTING AND SENSING**

28 Improvements in sensing and forecasting of ice, freezing rain and frost conditions
29 Developing improved and affordable precipitation sensor
30 Improvements in forecasting of low-elevation weather conditions
31
32

33 Max and Tina led the discussion for this project. This will be an Aurora project. Aurora
34 already has a project 2007-04 "Development and Demonstration of a Freezing Drizzle
35 Algorithm" under way (10% complete).
36
37

38 **11. CONCEPT VEHICLE**

39 Develop next generation concept vehicle and optimized plow design
40 Optimize the ergonomics for snowplow operators
41 Determine the ideal lighting for snowplow to see and be seen
42 Optimization of the in-vehicle driver interface and how this information is presented
43

44 Dennis Belter led the discussion for this project. Clear Roads will be the lead, but there
45 is a question as to the amount of money needed for a project. There currently is some

1 funding available from the Concept Vehicle Pooled Fund that would at least get the
2 project started.

3
4
5 **12. POST STORM MEETINGS**

6 Need literature search needs to be conducted and analyzed to determine what type of
7 information is most valuable to document and share
8 Develop best practices in winter maintenance performance
9

10 Dennis Belter led the discussion for this project. This will be a Clear Roads project for a
11 literature search and synthesis. The AASHTO AI/RWIS CBT has some material on the
12 importance of the post storm meetings and items that should be considered in the
13 meetings.
14

15
16 **13. FIELD TESTING**

17
18 Build a test facility to provide objective data regarding the effectiveness of various winter
19 maintenance treatments. Need national test center which would establish a rigid set of
20 research guidelines, protocols and procedures which would make results more accurate.
21 Pursue objective testing to verify the effectiveness of innovative maintenance treatments.
22 Standardized tests for winter maintenance equipment
23

24 Rick Nelson led the discussion on this project. It will be a SICOP project. The project is
25 a commitment to continuous improvement and would imply highly instrumented facilities
26 are required. Joe Doherty believes the project should be a consortium of testing facilities
27 i.e. CRREL, Blacksburg, NDSU, WTI, etc, and building on the capabilities of the
28 existing experience and physical facilities base. Another idea that should be explored is a
29 single location to coordinate the testing with multiple partners to perform the tests and
30 evaluations. Wilf emphasized the importanace of a location that has guaranteed winter
31 weather, such as Canada. ASTM might be a business model to examine since they
32 administer many tests at multiple contractor sites. Study would begin with a survey of
33 what sites and capabilities are already available. Next we need to determine what testing
34 needs are required.
35

36
37 **14. CHEMICALS AND REFREEZE**

38 Conduct extensive laboratory and field tests on different deicing products to determine
39 under what conditions the product caused slipperiness on the roadway surface and then
40 determine optimum application rates for pre-wetting and anti-icing.
41 Investigate what factors influence refreezing on the road.
42 Investigate refreeze due to over application and some easy-to-use rules to help
43 practitioners properly use phase diagrams
44

45 Dave Wells, reported that the Pacific Northwest Snowfighters at their November 2007
46 meeting agreed to taking the lead for this project.

1
2
3 **15. CONSISTENT DESCRIPTIONS OF ROAD CONDITIONS**

4 Develop standard ratings and descriptions for road conditions
5 Develop acceptable dynamic messages for snow and ice
6

7 Rick Nelson led the discussion for this project. This will be a SICOP project. The 511
8 Coalition pooled fund met and agreed on their descriptions for use on 511. Pete Costello
9 and Jim Wright should be contacted to review what has been accomplished and what
10 needs to be done to get the various levels of government to adopt standard descriptions
11 for road conditions and dynamic messages for snow and ice related road conditions.
12

13
14 **16. COST BENEFIT FOR EQUIPMENT**

15 Develop a standard method to measure the cost/benefit of adding different components
16 like wings, guidance systems, GPS, additional sensors, etc and determining expected
17 service life of the new equipment
18 Determine the true cost of data collection and determine the pay back
19

20 Dennis Belter led the discussion for this project. This will be a Clear Roads project.
21
22

23 **17. TRAINING**

24 Develop methodologies for evaluating training efforts
25 Determine the state of the practice for using driving simulators, how are they being
26 implemented into the training system, can results be measured and is there a pay off
27

28 Dennis Belter led the discussion for this project. This will be a Clear Roads project and
29 will focus initially on the L3 driving simulators currently being used by several state
30 DOTs. So far Arizona State University has completed an evaluation project for the
31 Arizona DOT and Iowa State University has completed an evaluation project for the Iowa
32 DOT. It was suggest that the Washington DOT may also have completed a training
33 evaluation study.
34
35

36 **18. PEER EXCHANGE**

37 Is there support for another peer exchange?
38

39 Attendees of the Peer Exchange completed a feedback survey that strongly supported
40 another Peer Exchange. Attendees at the Aurora/WMTPS meeting also supported a
41 future Peer Exchange possibly in 2009 or 2010. Frequency and funding have not been
42 solved. Each consortium needs to discuss this at their next meeting and decide on
43 frequency and scope needed and the amount of funding they might be able to provide.
44 SICOP will take the lead for coordinating this effort.
45
46

1 **19. ENVIRONMENTAL**

2 Develop guidelines for BMPs to achieve attainment in areas of concern
3 Need a tool to provide or ensure funding is available to cover salt/sand stockpiles and
4 secondary containments for liquids
5

6 This project was originally assigned to Pacific Northwest Snowfighters. This project
7 needs to be coordinated with efforts currently underway at AASHTO's Center for
8 Environmental Excellence. NCHRP 25-25, Task 29 was completed this past fall. The
9 purpose of this work was to create and test a process for identifying best practices from
10 "Environmental Stewardship Practices, Procedures, and Policies for Highway
11 Construction and Maintenance Compendium" and to establish recommended procedures
12 for updating the Compendium on an ongoing basis. Chapter 8 of the Compendium is
13 titled, "Winter Operations and Salt, Sand and Chemical Management". AASHTO is in
14 the process of evaluating the recommendations from this NCHRP study. PNS and
15 WMTSP need to coordinate with the appropriate staff at AASHTO and collaborate on
16 how to proceed with this project.
17

18
19 **20. REDUCING CORRISION**

20 Synthesis of best practices for reducing corrosion on winter maintenance equipment and
21 use of corrosion resistant materials, coatings, etc and their cost effectiveness
22

23 Pacific Northwest Snowfighters agreed to take the lead on this project.
24

25 **21. BLADE INSERTS**

26 Investigate alternative blade inserts and determine a method to evaluate and compare
27 different blades and blade design to determine their wear
28

29 Dennis Belter led the discussion for this project. This is a Clear Roads project and will
30 be considered at their January 2008 meeting.
31

32
33 **22. CHEAP FRICTION**

34 Develop low-cost, simple friction measuring device or other methods to determine
35 slipperiness and transmit that information to users to assist in decision making
36 Pilot evaluation of virtual pavement sensors and on-board friction devices
37

38 Max Perchanok led the discussion on this project. Aurora already has a similar project
39 underway, Project 2007-02, "Cold Weather Testing of Halliday Unit" and will take the
40 lead on this project.
41

42
43 **23. COLLISION AVOIDANCE**

44 Investigate collision avoidance systems for snowplows
45

1 Dennis Belter led the discussion for this project. This will be a Clear Roads project. NV
2 DOT is exploring this technology with heads-up display, but it is very expensive.
3
4

5 **24. HIGH-DEF IMAGING/SENSING OF ROAD CONDITIONS**

6 Explore use of highly detailed satellite imagery in winter maintenance operations
7

8 Max Perchanok led the discussion on this project. This will be an Aurora project. This
9 project may have some relation to Group Rank #10 which is also an Aurora project.
10

11
12 **25. FORECAST ACCURACY**

13 Develop measures of forecast accuracy
14

15 Max led the discussion on this project. This is an Aurora project. Wilf believes there
16 should have an impact factor which would consider even if it is not accurate but does not
17 cause operational impairment versus an inaccurate forecast that does result in operational
18 problems and has a great impact.
19
20

21 **26. BOILERPLATE LEGAL LANGUAGE**

22 Develop boilerplate language for data sharing because concerns over litigation have
23 slowed down the ability of states to share data
24

25 Rick Nelson led the discussion for this project. Paul reported that Mitretek did a search
26 of state DOT web sites to determine what data they are providing. FHWA has been
27 speaking with the National Conference of State Legislature, and they are willing to do a
28 scan of current State laws regarding data sharing along with related work about data. A
29 contract has not yet been finalized, but FHWA is moving in that direction. Paul will send
30 some additional material for consideration. This will be a SICOP project.
31
32

33 **27. SNOWFENCES**

34 Best practices for snow fences, including cost benefit considerations, guidelines for
35 various types of live snow fence, understanding political challenges, etc
36

37 Dennis Belter led the discussion for this project. This will be a Clear Roads project. The
38 computer-based training program “Blowing Snow Mitigation” is nearly completed. It
39 will contain the latest blowing snow research and input from a Technical Working Group
40 that has considerable experience in living and man made snow fences and blowing snow
41 mitigation. The CBT needs to be evaluated to see if it fulfills the requirements of this
42 proposed research need statement
43
44

45 Revision date May 2, 2008

1 **Draft Minutes**
2 **AASHTO Winter Maintenance Technical Service Program (WMTSP) Committee**

3
4 **Thursday, December 6, 2007**
5 **Crowne Plaza Hotel at Union Station**
6 **Indianapolis, IN**

7 **Attendees**

8
9 Rick Nelson, NV DOT, AASHTO Region 4, Chair WMTSP
10 John Burkhardt, IN DOT, TRB Winter Maintenance Committee Chair
11 Dennis Burkheimer, IA DOT, AASHTO Region 3 representative
12 Joe Doherty, NYSDOT, AASHTO Region 1
13 Bret Hodne, City of West Des Moines, IA, APWA representative
14 Bill Hoffman, NV DOT, AASHTO HSCOM Snow & Ice Task Force Leader
15 Mike Lashmet, NYSDOT, AASHTO Region 1
16 Wilfrid Nixon, U of Iowa, SICOP List Serve Webmaster
17 Greg Parker, Johnson County Iowa Engineer, NACE representative
18 Paul Pisano, FHWA
19 Dan Roosevelt, VA DOT, AASHTO Region 2 representative
20 Lee Smithson, AASHTO SICOP Coordinator
21

22 **Guests**

23 Charles Meyer, AASHTO HQ
24 William Hyman, TRB, SHRP 2 Program
25 Tom Maze, Iowa State University, CTRE
26

27 Chairman Rick Nelson opened the meeting with introductions and a review of the agenda. No
28 additional items were added to the agenda.
29

30 **Outreach & Discussion of Outside Project That WMTSP Members Are Involved In**

- 31 • NCHRP 6-17, “Performance Measures for Snow and Ice Control Operations” is nearing
32 completion. WMTSP needs to review the research results and products coming from the
33 project and determine next steps to possibly field testing some of the more promising
34 performance measures and technology transfer. Bill Hoffman will head up the effort by
35 getting the report distributed to WMTSP members and obtaining their feedback.
36 • “AASHTO Maintenance Manual for Roadways and Bridges 2007” was distributed on
37 November 6, 2007. Major winter maintenance revisions include 1.1.4.9 Snow and Ice
38 Control; 7.2.3 Weather Management Systems; 7.3.2.4 Weather and Road Weather
39 Information; 7.3.2.5 Traveler Information; 7.3.2.6 Emergency Response; 7.3.2.7
40 Communications Infrastructure; and 7.3.2.8 Emerging Technologies. WMTSP members
41 were encouraged to read these revisions.
42 • FHWA MDSS/MODSS—Paul Pisano reported that the major accomplishment is NCAR
43 has finished Version 5 of MDSS and it is posted on the NCAR website at
44 http://www.rap.ucar.edu/projects/rdw_x_mdss/products/. The E-470 demo provided
45 considerable input to the revisions. Some of the major revisions include that NCAR
46 removed the SYNThERM model and put in the Environment Canada METRo model.

1 The MDSS display has been revised, and an alert generator has been added.
2 Unfortunately FHWA wasn't able to get a benefit/cost from Maine study this year, but
3 they did get considerable lessons learned. South Dakota is still working on the report.
4 FHWA will be working with the City of Denver to get a benefit/cost study organized
5 during the coming winter. The anticipated schedule will be to put an evaluation plan
6 together this winter and gather data next winter. AASHTO TIG is developing a video
7 and brochure for outreach. Consultant Bill Dye is working on a development guide.
8 Dennis Burkheimer said that Iowa would like to run the Federal model, but needs more
9 guidance on how to do this. Paul felt that Bill Mahoney could provide that guidance.
10 FHWA held a February 2007 MODSS Workshop and got good information from
11 maintenance, but only limited input from those in traffic management. The CONOPS
12 will be modified and will feed in information from stakeholder meetings. FHWA is
13 working on cost sharing to support the plan.

- 14 • FHWA Clarus Initiative got the regional demonstrations going. Mixon-Hill has the
15 regional effort systems up and running and have 8 states on line. Want to learn what the
16 three regions can do with the system. The cooperative agreements have been awarded
17 and the drafts are due later this month. Next will be RFP opportunities for the private
18 sector to support the regions. FHWA would like to have a couple of contractors
19 involved. Cambridge Systematics and Mixon-Hill have been working with other states to
20 get them involved in Clarus.
- 21 • Other FHWA Initiatives VII work is ongoing to see what information can be obtained
22 from vehicles. FHWA has been working closely with the Michigan VII effort. Things
23 are on hold now while the new RITA Administrator defines what the federal focus and
24 support should be. Draft guidelines are being field reviewed and will soon be released.
25 Work is progressing on how to couple weather and traffic models. Lynn Goodwin is
26 working on Best Practices to post on the web site. FHWA is developing a web based
27 version of training. FHWA is also working on a CBT to educate weather forecasters and
28 another for field personnel on using weather in the decision making process. Paul e-
29 mailed his latest Road Weather Management Program (RWMP) Roadmap dated August
30 27, 2007 to members of WMTSP and would like our input. Paul is working on the
31 RWMP beyond 2011 when the SAFETEA-LU funding expires. Paul feels both MDSS
32 and the ESS guidelines are ready for prime time (move from research to operations).
33 Dennis Burkheimer feels a partnering meeting of weather providers and their users would
34 be useful to develop a better understand each other. FHWA is exploring in similar effort
35 on how to build a better relationship between the local NWS offices and the users.
- 36 • Aurora Dan provided background on Aurora and its mission and purpose. To date
37 Aurora has 25 completed projects and 27 projects underway. Project highlights included:
38 The Ontario Ministry of Transportation's project, Using RWIS to Trigger Spring Load
39 Restrictions is nearing completion and will be used to support Clarus; The project to
40 update SHRP H-350 and 351 manuals and conduct a thorough benefit/cost analysis of
41 RWIS technology is 40% complete; Aurora will help market the idea of national testing
42 facilities and have a small amount of money to support that effort; and, An Aurora
43 member, Curt Pape, has developed a ESS monitoring system and is updating it to be able
44 to input the data into an on line system with the hope that it may be a standard template
45 for use nationwide.

- 1 • Clear Roads Dennis Burkheimer provided a handout describing Clear Roads purpose,
2 identifying their 14 state members, providing details on their completed project,
3 “Synthesis of Best Practices for Eliminating Fogging and Icing on Winter Maintenance
4 Vehicles” and the four research projects underway. Bill Hoffman praised the Clear
5 Roads National Winter Safety Campaign and discussed how NV DOT had built on that
6 effort. NV DOT director hosted a public relations event and has been speaking to their
7 operators encouraging safety. Their governor proclaimed December as Winter Driving
8 Safety month. NV DOT has PSAs to fill 40 to 50 spots appearing each month. Bill said
9 it was easy for NV DOT to take the Clear Roads packet and develop these promotions.
10 NV DOT is paying for the spots (\$100,000) and broadcasters feel they will get about a 45
11 to 1 return on their investment. Clear Roads plans to advertise in January for bids on the
12 Winter Concept Vehicle Pooled Fund to conduct research on optimum multiple snow
13 plow design. Next Clear Roads meeting is January 28-30, 2008 in Denver. This will be
14 their project selection meeting.
- 15 • TRB Winter Maintenance Committee John Burkhardt, Chair of TRB Winter Maintenance
16 Committee reviewed some of the TRB annual meeting highlights as they relate to winter
17 maintenance activities. The Winter Maintenance Committee will sponsor two technical
18 paper sessions and co-sponsor two other sessions with the Surface Transportation
19 Weather Task Force. The Winter Maintenance Committee will sponsor the 7th
20 International Symposium on Snow Removal and Ice Control Technology in Indianapolis
21 on June 17-19, 2008. The Winter Maintenance Committee has submitted research
22 problem statements in the past two years but none have made it into the funded range.
23 Both ranked low in the HSCOM ratings during the first year, but have moved up to 5 and
24 6 in this years. Will be considered by RAC and SCOR later this year.
- 25 • TRB Task Force on Surface Transportation Weather Wilfrid Nixon, Chair of the TRB
26 Task Force reported that the Task Force life of three years will end in April 2008, so he
27 will be asking for full committee status after that. The scope of the Task Force is very
28 multidiscipline and covers a broad range of sciences to be brought together for
29 transportation applications. The Task Force will sponsor two technical paper sessions at
30 the TRB annual meeting and one spotlight session entitled, “Integrating Climate Change
31 and Weather into Seamless Multimodal Transportation Systems Operations”. There was
32 a good reponse of papers for the 4th National Conference on Surface Transportation
33 Weather: Improving Transportation Through Weather Information to be held in
34 Indianapolis on June 16-17, 2008. Sympo.
- 35 • American Public Works Association Bret reported Larry Frevert is now president of
36 APWA and trying to move things forward in the winter maintenance arena. Bret stepped
37 down from Chair of Winter Maintenance Committee and Mark DeVries is now the chair.
38 Mike Lashmet will be appointed to that APWA Committee. Kathy Schaffer, LTAP in
39 Minnesota is also on the Committee. The APWA Snow Conference will be held in Des
40 Moines in 2009. WMTSP needs to consider attending and presenting at that Conference.
41 The APWA Snow Conference held in Minneapolis in 2007 had 1,800 people from state
42 and local governments attending. APWA would like to get more people interested in
43 hosting the snow conference. Jan Olander from the Swedish National Road
44 Administration visited the West Des Moines maintenance facility and was very interested
45 in the chemical blending systems that are being used. Bret will speak on winter
46 maintenance operations in Sweden in January 2008. Sweden is experiencing problems

1 with residual chemistry. The level of service on their higher classification roads is open
2 with good traction all the time. Sweden is also evaluating some agricultural byproducts
3 and sugar for use in snow and ice control operations. They have had good success with
4 slurry salt. Bret was impressed with the success of the Peer exchange in Columbus in
5 2007, and would like for us to consider holding the next National Winter Maintenance
6 Peer Exchange in Des Moines in 2009 in conjunction with the APWA Snow Conference.

- 7 • National Association of County Engineers Greg Parker reported that the new NACE
8 president elect is Susan Miller, who is the Freeborn County Engineer in Minnesota. She
9 is very interested in the training programs and a supporter of the AASHTO AI/RWIS
10 CBT. NACE provided a letter of support for the proposed 2009 International
11 International Technical Scanning proposal.
- 12 • Report on National Winter Maintenance Peer Exchange Dennis Burkheimer reviewed
13 Section 5 Attendee Survey Results of the draft Winter Maintenance Peer Exchange Final
14 Report. A total of 84 (nearly 100% of attendees) people responded to the survey. A
15 majority of the respondents gave the Peer Exchange excellent ratings in organization and
16 usefulness and provided many ideas for developing an even better future exchange.
- 17 • Report on 12th Eastern Snow Expo—Lee reported that nearly 700 people registered for
18 the Expo. Attendance at the three technical tracks (Track 1 Environmental and Safety
19 [150]; Track 2 Management and Operations [75]; Technology & Research [75]). The
20 first sessions started with a total of 300 attendees (9:00 am to 10:00 am), then dropped to
21 250 (10:30 am to 11:15 am), then to 180 (1:15pm to 2:00pm) and 115 (2:15pm to
22 3:30pm). AASHTO needs to come up with ways to pull attendees to technical sessions.
23 Pacific Northwest Snowfighters uses a drawing for prizes at the end of each session to
24 attract people to attend. Also AASHTO had a shortfall in the range of \$15,000 to
25 \$20,000. Need to evaluate whether a small registration fee needs to be charged or
26 preserve the free to all registration. Discussion by WMTSP was that currently all
27 conferences and workshops have some registration fee so it would seem appropriate to do
28 the same with the Snow Expo. The Snow Expo technical session speakers generally are
29 the same as one would see in the workshops sponsored by the various university
30 Transportation Centers and those registration fees be in the \$500-\$700 range. Even the
31 low cost local events seem to be about \$100 for a one day event.
- 32 • Report on 3rd National Surface Transportation Weather Symposium Lee and Paul
33 reported that 130 people attended the Symposium. The Symposium theme was
34 “Improving Commerce and Reducing Deaths and Injuries Through Innovative Weather-
35 Related R&D and Applications for the Surface Transportation System”. Paul was a
36 panelist for a session entitled, “Observation Data Requirements for Surface
37 Transportation” and Lee was a panelist for a session entitled, “Research to Operatons:
38 The Pathway to Operational Implementation”. Lee contacted several of the speakers and
39 used them for speakers in the TRB Annual meeting Spotlight Session 295, “Integrating
40 Climate Change and Weather into Seamless Multimodal Transportation Systems
41 Operations” and Spotlight Session 494 “Implementing Vehicle Infrastructure
42 Integration”.
- 43 • Other WMTSP member input Wilfrid Nixon reported on a winter conference he attended
44 in England. The UK have interest in the MDSS and liability is a big issue with them.
45 Paul Pisano reported that a Winter Services Committee of PIARC is being formed. Rick
46 Nelson will be the AASHTO representative, and Paul is being considered for the FHWA

1 representative. A call for papers will be coming in Sept 08 and this will be a great
2 opportunity for WMTSP members to write a paper and present at the 2010 13th
3 International Winter Road Congress being held in Quebec City, February 8-11, 2010..
4 More information can be found at website <http://www.piarcquebec2010.org/accueil.asp>.
5

6 **Project Review of SICOP Program**

- 7 • CBT Revisions & Development—the AASHTO AI/RWIS CBT was updated with new
8 content to provide technology transfer for two major research projects, NCHRP 6-13,
9 “Snow and Ice Control: Guidelines for Materials and Methods” and NCHRP Project 6-
10 16, “Guidelines for the Selection of Snow and Ice Control Materials to Mitigate
11 Environmental Impacts”. This update was titled Version 2 of the AI/RWIS CBT and
12 distributed on July 9, 2007. Since many employees had already completed all or portions
13 of Version 1, the program recognized that progress and asks the student if he or she wants
14 to take the entire course or just the updated content. Also a separate CD-ROM entitled
15 “Selecting Snow & Ice Control Materials to Mitigate Environmental Impacts” containing
16 additional technical material from the NCHRP 6-16 specifically designed for managers
17 and personnel responsible for chemical selection and purchasing was distributed with
18 Version 2. Also a CD-ROM entitled “Equipment Maintenance” was distributed with
19 these which was the first in a series of additional interactive training materials that
20 AASHTO and Clear Roads are jointly developing. Then in August the second
21 AASHTO/Clear Roads CBT entitled “Proper Plowing Techniques” was distributed.
22 Several DOTs have responded that these new interactive CBTs were easy to use, taught
23 some new material, reinforced other material they were already teaching and will be a
24 valuable addition to their State’s training materials. Two other CBTs “Deicing” and
25 “Blowing Snow Mitigation” are nearing completion and the outline for the last CBT
26 “Policy Management” is being developed.
- 27 • ESS Guidelines Implementation & Evaluation should be published about March 2008
- 28 • Promote Anti-drifting Measures With Proactive Road Design Considerations
29 (SNOWMAN) Joe reviewed the background for the SNOWMAN project to develop a
30 CADD Expert System for Blowing Snow that would run on NYSDOT’s Microstation
31 CADD software to do passive blowing snow control design. Progress to date is SUNY
32 Buffalo has delivered software and provided training and the software is up and running.
33 Since the NYSDOT Program Manager did his master’s degree on blowing snow at
34 SUNY Buffalo, this contributes to the success of the project. The program appears to be
35 working fine and providing reasonable results. Next step will be to make some
36 presentations in New York to promote the system. Bill Hyman pointed out that SHRP2
37 has a project that would be interested in looking at SNOWMAN for
38 incorporation/consideration. As soon as Joe gets the final report he will be sharing that
39 with AASHTO to see if they would be interested in the SNOWMAN software.
- 40 • Road Condition Information Dan provided a handout that outlined the purpose of the
41 project which was to document the state-of-the-practice of winter road condition
42 reporting for travelers and promote the development of friction measurement to the point
43 where it can be shared in real time with travelers. Dan continues monitoring ongoing
44 tests and evaluations involving friction measurements. The only two pilot projects are in
45 Ohio and Ontario. Ohio has 35 trucks in use and feeding that information back to the
46 garage for decision making. Ontario has a small number of trucks (8 or 9) and putting

1 that on a traveler information system, but not using it in the operational decision making
2 process. Dan continues his monitoring of the Vehicle Infrastructure Integration (VII) Use
3 Case committee. One of the deliverables in this work will be a synthesis of the state-of-
4 the-practice of winter road condition information for travelers. WMTPS would like to
5 collaborate with ENTERPRIZE and Dan plans to contact John Whited, who actively
6 participates in the ENTERPRIZE work, about how to proceed with this project. VII
7 program appears to be moving on incorporating traction information from the
8 automobiles braking system in the road condition determination. Rick asked if there is
9 overlap in some of the projects. Dan feels there isn't overlap and that SICOP was set up
10 to find these technologies, watch for overlap and promote those ready for
11 implementation. Dan feels the Halliday unit is a good unit, but it costs \$25,000, and it
12 limits that unit to a particular function. SICOP should be focused on finding enough
13 scientific base to endorse the process as a performance measure, especially for contract
14 maintenance. Wilf believes it goes beyond that since the information can be used as a
15 record to be preserved for future reference. Dan discussed two Aurora projects that are
16 related to this project. The Aurora project 2006-04, "Evaluation of Viasala Spectro
17 Pavement Sensor which is 80 % complete and the 2007-02 project "Cold Weather
18 Testing of the Halliday Road Grip Unit" which is 25% will add more knowledge to the
19 measuring road condition investigations. A technical paper and presentation for these
20 projects is planned for June 2008 7th International Symposium on Snow Removal and Ice
21 Control being held in Indianapolis.

- 22 • Outreach to Local Government Bret reported that APWA is working on a snowplow
23 operator certification program. APWA is heavily into the certification program for
24 various segments of the public works sector. APWA had a summit on training needs and
25 some of the good ideas coming out from it were; providing more computer-based
26 interactive training to better meet the abilities of the incoming people; also since travel
27 expense is an issue there is no travel required for the web-casts and CBT training. UNI is
28 finishing a web based system for APWA. APWA is sponsoring 18 web-casts in 2008.
29 The Salt Institute and APWA has a program available for pulling bits and pieces from
30 their training packages that can be used by others in their presentations. Bret envisions
31 that regional training events could be sponsored by APWA in an effort to get more
32 training to local governments. Also developing a training program that would evaluate
33 where the person is to sort out what training would be appropriate. Supervisors might be
34 the trainers and the operators bring in their own equipment might be a model to consider.
35 The IA DOT developed a CBT training program that they use in conjunction with their
36 driver simulator that might function very well as a multi-use with local governments to
37 train county and city people who might be able to eventually purchase a driver simulator
38 that could be shared. FHWA has made the MDSS and Clarus web-casts available for
39 downloading. Several hundred people have downloaded these web-casts.
- 40 • Communications Standards & Winter Maintenance Paul reported that the 1204
41 committee standards have been balloted. Brenda Boyce from Mixon Hill has been
42 participating in their meetings. Paul sent the white paper "ITS Standards Impacting the
43 Maintenance Community to their communication professionals and they thought the
44 paper under simplified the process.
- 45 • Integrated ITS Corridor Paul reported that the TMC self evaluation guide was completed
46 and would be published by January 2008. The International Technology Scan Proposal

1 that submitted for FY 2009 is titled, “Improved and Integrated Technologies in Multi-
2 modal Transportation Operations, Safety and Mobility”. One of the primary focuses of
3 this proposed scan is to examine how the countries of Norway, Sweden and Finland have
4 merged new technologies into their system applications across country boundaries and
5 improved their operations, safety and mobility. The heavily instrumented Highway E-18
6 is the world leader in implementing automated traffic operations, system management
7 and traveler information. This scan was proposed by the AASHTO Subcommittee on
8 Maintenance and the Subcommittee on Systems Operations and Management.

- 9 • Domestic Scan Lee reported that the “Winter Maintenance Operations” domestic scan
10 that was proposed by Pat Hughes, then chair of AASHTO WMTSP has been selected for
11 2008. Another scan “Best Management Practices in Snow and Ice Control” submitted by
12 Joel Allen, of Caltrans was also selected. These two scans will likely be combined into
13 one domestic scan. Paul reported that FHWA has proposed \$50,000 in their budget for
14 support.
- 15 • Proposed 2009 International Scan Lee reported that the FY 2009 proposed scan entitled
16 “Improved and Integrated Technologies in Multi-modal Transportation Operations,
17 Safety and Mobility” was submitted on September 26, 2007. A copy of the proposed
18 scan was distributed to WMTSP. The selection committee has not met to evaluate and
19 select the scanning tours for 2009.
- 20 • Update AASHTO Guide for Snow & Ice Control Lee reported that updating of the Guide
21 has been approved using NCHRP 20-7 funding. NCHRP is developing the project.
- 22 • Support for future National Winter Maintenance Peer Exchange Dennis reported that
23 attendees at the Peer Exchange strongly supported having another Peer Exchange,
24 probably in the next year or two. Next steps will be to approach Clear Roads and Aurora
25 to see if they will be able to provide any financial assistance.
- 26 • Update on NCHRP Project 25-25 Dennis Burkheimer and Lee Smithson worked on the
27 “Reduced Salt Working Group” of the NCHRP Project 25-25, Task 29. The final report
28 from that project is in publication and should be distributed this winter. The title will be
29 “Best Practices Library from the Environmental Stewardship Practices in Construction
30 and Maintenance Compendium”. The original Compendium of “Environmental
31 Stewardship Practices, Procedures and Policies for Highway Construction and
32 Maintenance” was produced under NCHRP 25-25 (4) in September 2004. The objective
33 of Task 29 is to design and test a process to screen and update the Compendium
34 consistent with the goal of creating and continually updating a library of Best
35 Stewardship Practices. WMTSP will need to carefully study the report when it is
36 distributed and offer our services to AASHTO in screening Best practices for Chapter 8
37 “Winter Operations and Salt, Sand and Chemical Management”.

38 39 **WMTSP Program**

40
41 The WMTSP program for 2008-2012 was revised July 17, 2007 at the AASHTO Highway
42 Subcommittee on Maintenance (HSCOM), Snow and Ice Task Force meeting and approved by
43 Resolution 08-01 on July 19, 2007 at the AASHTO HSCOM Business Meeting. The Four Year
44 Program and the Resolution are attached to these minutes. New projects for WMTSP came from
45 the Joint Meeting of Aurora and AASHTO WMTSP meeting, on December 5, 2007. Additional

1 material can be obtained from the Minutes of that meeting and the “2007 National Winter
2 Maintenance Peer Exchange Final Report”.

- 3 • New projects from peer exchange
 - 4 ○ GUIDELINES FOR ANTI-ICING AND DEICING—Dan feels a synthesis
5 would bring the material together and identify who is doing what; the Domestic
6 Scan will identify best practices and package them in exportable material, Wilf
7 says that will help, but the feedback he gets from the field people is “things are
8 different here so it won’t work”, so we need a more generic approach of how
9 you put a program together, such as the equipment, training and materials
10 needed. Dan feels TE-28 plus the Blackburn expansion in NCHRP Report 526
11 provides the material that is needed and now all we need to figure out how to
12 change the people who won’t change. Wilf however feels the TE-28 Guide
13 doesn’t cover all the conditions ie what to do if the storm begins with rain, but
14 that is due to the fact that the Guide just couldn’t cover all the conditions. Wilf
15 feels that training aids like the laminated cards that are in the Iowa DOT trucks
16 is a surprisingly powerful breakthrough. Dennis believes there is a possibility
17 that the descriptions as listed in the Peer Exchange work sheets don’t really get
18 to the basic problem, so a survey of the attendees may be needed to determine
19 what they were actually looking for. Wilf agrees that we don’t need the
20 synthesis, the reason people aren’t doing it won’t be solved with more
21 information in a practices synthesis. Therefore, we need to determine the cause.
22 It is more than just the technology, it is cultural and possibly institutional things.
23 Dennis has a person at the Iowa DOT who is good at putting surveys together
24 that could help us. Bret wondered what motivated people to rank this that high?
25 Wilf followed up on Bret’s question and agrees that we need to find out why
26 this is so high? Bill believes we need to look to the states that have successfully
27 implemented AI and document how they did it and what it required on a step by
28 step basis. We need to ask the people who posed these questions do they need
29 to see photos of side by side comparisons, a show me presentation? Rick feels
30 we need a Guidebook such as MSTOP developed with boxes and structured to
31 pull the person through the process. A group consisting of Wilf, Dennis and
32 Rick will get together and form a work plan to address this research problem.
 - 33 ○ FIELD TESTING—the Peer exchange attendees felt there was a strong need for
34 a national test facility that could be used for testing materials, methods and
35 equipment used in winter maintenance. Having a national test center would
36 establish a rigid set of research guidelines, protocols and procedures which
37 should make the results more accurate. WMTSP felt we need to start by
38 assembling a list of existing facilities and their capabilities. Then develop a
39 detailed description of what we want the facilities to do, examine the overlap
40 and unmet needs between facilities. Wilf will head up this effort.
 - 41 ○ CONSISTENT DESCRIPTIONS OF ROAD CONDITIONS—there is a need to
42 develop standard ratings and descriptions for road conditions and develop
43 acceptable dynamic messages for snow and ice. The 511 coalition has met and
44 agreed on their descriptions for use on 511. Bill Hoffman will lead this effort
45 and will be calling Jaci Vogel and Lee as needed.

- 1 ○ FUTURE PEER EXCHANGES—there was support for another peer exchange.
2 The frequency and sources of funding have not been decided. This effort will
3 be lead by Dennis Burkheimer.
- 4 ○ BOILERPLATE LEGAL LANGUAGE—needs to be developed for data
5 sharing because concerns over litigation have slowed down the ability of states
6 to share data. Mitretek completed a search of state DOT web sites to determine
7 what data they are providing. FHWA has been working with the Coalition of
8 States on this problem. Paul Pisano will lead this effort.
- 9 ○ LOS DETERMINATION—there are several related projects currently
10 underway that need to be examined to avoid duplication and determine what
11 gaps still exist.
- 12 ○ COMMUNICATION WITH PUBLIC AND LEGISLATORS—this effort needs
13 to be guided by the public relations people of the DOTs to apply their expertise
14 to this research. This proposal needs to be discussed with the AASHTO Public
15 Affairs Committee. Charles Meyer will discuss this with Sunny Schust,
16 AASHTO Director of Communications and Publications for suggestions and an
17 evaluation if this might be a good project for the PA committee
- 18 • Evaluation of Existing Projects—existing projects are covered in the WMTSP Four Year
19 Program 2008-2012.
- 20 • Budget Considerations—since Ken Kobetsky was unable to attend the WMTSP meeting,
21 detailed budget data was not available. Rough approximations would indicate that
22 replenishment of the SICOP Administrative fund would be needed in late 2008 or early
23 2009. There was discussion about the need to provide funding for the “care and feeding”
24 of the existing computer-based training programs. There will be a need to incorporate
25 new material to keep the training materials current with emerging materials, equipment,
26 practices, and environmental considerations. The current practice has been to ask for
27 replenishment funding for the administrative fund when the remaining balance drops
28 below \$50,000. The projects are funded based on project cost estimates and started when
29 contributions received pass a specified threshold amount. It was suggested that perhaps
30 the Winter Maintenance Program should evaluate using an annual contribution model
31 similar to that used by Aurora and Clear Roads since the Program qualifies for SPR
32 funding. Lee will follow through and discuss this with Ken.

33
34 WMTSP discussed when and where the next meeting should be. It was decided that since we
35 need to meet once a year with our parent subcommittee it should be July 14-17, 2007 with the
36 HSCOM meeting in Monterey, California

37
38 December 17, 2007 Draft