



MINUTES

Clear Roads 2008 Technical Advisory Committee Kickoff Meeting:

Pooled Fund Project #TPF-5(092) - Test and Evaluation of Materials, Equipment and Methods for Winter Highway Maintenance

Monday, Tuesday and Wednesday, January 28 - 30, 2008

Colorado A&B at Courtyard by Marriott Denver - Cherry Creek

Attendees:

Dennis Burkheimer, Iowa DOT	Mike Lashmet, New York DOT	Rudy Persaud, FHWA – D.C.
Shane Larson, Illinois DOT	Diana Clonch, Ohio DOT	Leland Smithson, AASHTO
Dennis Belter, Indiana DOT	Lynn Bernhard, Utah DOT	Colleen Bos, CTC & Assoc.
Paul Brown, Massachusetts DOT	Allen Williams, Virginia DOT	Bill Hoffman, Nevada DOT
Tim Croze, Michigan DOT	Mike Sproul, Wisconsin DOT	Philip Anderle, Colorado DOT
Farideh Amiri, Minnesota DOT	Cliff Spoonemore, Wyoming DOT	Larry Schneider, Ft. Collins, Dept of Public Works
Tim Jackson, Missouri DOT		

Materials Distributed:

Agenda	Planning for Future Meetings
Clear Roads budget	Aurora Operating Procedures on "Friends" status
Carbide Blade Wear Quarterly Report	Clear Roads Operating Procedures
Carbide Blade Wear project List of Criteria for Field Testing Location	NCHRP 06-17 – Performance Measures for Snow and Ice Control Operations
Evaluating Deicing Chemicals Quarterly Report	Winter Maintenance Peer Exchange Final Report:
Evaluating Deicing Chemicals Survey on Testing Priorities	Attendee Survey Results
Effectiveness of Deicing Materials Quarterly Report	Mn/DOT Winter Maintenance Highlights
Research Proposals for 2008	Determining Effectiveness of Deicing Material and Procedures – Clear Roads Update
Proposal Ranking Sheet	Effectiveness of Anti-icing Strategies – Clear Roads Update
RFP Development Outline	Computer Based Training Program Update
Peer Exchange Problem Statements	

Monday January 28, 2008

Welcome and Meeting Objectives

Chairperson Dennis Belter kicked off the day with introductions of all attendees and a review of objectives:

- to get updated on current Clear Roads research and
- to select new projects for RFP development.

Several guests joined the Clear Roads members for the winter meeting, including Bill Hoffman (Nevada DOT), Larry Schneider (City of Fort Collins) and Philip Anderle (Colorado DOT). Unfortunately, Paul DeJulio and Adam Padilla were unable to attend due to snow removal duties.

Dennis noted that we got comments from vendors who would like to see the results of our product evaluation surveys. Colleen will get in touch with Vendors we are evaluating to let them know what we are doing and also let them know that they can view the feedback on-line once the evaluations are in.

>>Action Items

- *CTC & Associates:* Colleen will follow up with the vendors listed on the product evaluation Web page and let them know about our product evaluation process.

Carbide Insert Snowplow Blade Wear Project Update

Tim Croze and Lynn Bernhard reviewed the project goals and status for the group: coming up with tests to predict carbide blade wear, including both laboratory and field tests.

- Task 1 is completed and Task 2 is getting underway. Currently we are trying to identify the field test location, so the field test requirements were reviewed as well. Clear Roads also needs to come up with the blades.
- The group agreed that the testing can take place on dry pavement.
- Farideh Amiri agreed to check to see if they can provide the field testing location. Wyoming will also check to see if they could provide the test location. Utah could also be a back up, although it would be a longer travel distance for the researchers.

>>Action Items

- *Farideh Amiri:* Check on the availability of Minnesota for field testing.
- *Cliff Spoonemore:* Check on Wyoming as another option for field testing.

Standardized Procedures for Evaluating Deicing Chemicals Update

Shane Larson reviewed the goals and status of this project. The goal is to develop a set of standardized lab tests so that we can evaluate the latest and greatest deicing chemicals being sold.

- The researchers have completed Task 1 and are moving to Task 2. Task 2 includes a survey to determine what characteristics should be tested. The researchers and subcommittee members are looking for feedback on the survey itself before we send it out to a broader group to solicit responses.
- Colleen and Shane would like feedback on the survey by Monday, February 4, 2008. We'd like to get the survey out before the end of winter so that we gather responses while winter is still on people's minds. The group agreed that the survey should go out to Aurora, PNS, SICOP, and the Snow and Ice Listserv so we can ensure we get a broad array of responses.

>>Action Items

- *All:* Get back to Shane and Colleen by Monday, February 4, 2008 to give feedback for the survey.
- *CTC & Associates:* Let Xianming Shi know that we would like to see the survey get broadly distributed for a maximum feedback.

Calibration Accuracy of Manual and Ground-Speed-Controlled Salters Update

Dennis Burkheimer reviewed the goals of the project: Clear Roads wanted to understand the effectiveness of the ground-speed control systems that were being sold, so the goal was to test and evaluate the accuracy of manual and ground-speed-controlled spreader systems.

- The draft final report has been reviewed and approved by the subcommittee and there are just a couple of issues in the report that needed to be resolved, such as making changes to the way regression analysis figures were bolded in tables. Final report should be done by the end of February.

- Diana Clonch and Duane Amsler are doing a presentation on this project at the APWA conference. Dennis would also like to Diana to do the Podcast that was requested by The Winter Maintenance Podcast: www.wintermaintenance.com.
- Dennis Burkheimer noted that there were two deliverables from the initial project, an Implementation Manual and a PowerPoint presentation, that were dropped from the project early on. Blackburn and Associates could develop guidelines for calibration and how to make the whole system work properly if we want to fund that. The group tentatively approved the additional funds to finish the project, pending final review on the second day of the meeting when the group would review all proposed projects (This was ultimately approved.)

>>Action Items

- *CTC & Associates*: Schedule phone call with the subcommittee to develop the description, timeline and budget for the Implementation Guide and Power Point.

Determining Effectiveness of Deicing Materials and Procedures Update

Farideh Amiri reviewed the objectives of this project.

- The work plan and data collection forms have been reviewed and revised. The team met on December 12 at the Alexandria truck station. The testing is underway and they are collecting data. The final report should be ready by the summer meeting.
- It was noted that ideally we should get the two deicing project researchers together to share information.

>>Action Items

- *CTC & Associates*: Discuss sharing information with the two researchers and facilitate their communication.

Snowplow Design Project Update

Dennis Burkheimer provided an update on this project. The goal was to develop a different type of blade with multiple edges on it. The idea is to remove as much snow and ice as possible in a single pass. The three edges are a regular carbide blade, a rubber blade for slush, and a scarifier blade for snowpack. The design also adjusts to the contours of the road and causes less damage to the paint, etc.

- The new design (Version 5) was tested against a regular blade in multiple conditions using sand, not snow. The improvement is dramatic from the first version to the latest.
- The next steps are on-line presentations; working with Indiana, Ohio, Minnesota and Wisconsin for testing. There will be a pre-bid meeting in February and then an RFP out in March to develop prototypes, one for each state to test for next winter. The plan is to award it to as many vendors as possible to get more competition, so multiple awards are expected.
- The operators that have used them are very pleased with the results.

Computer Based Training Update

Lee gave an update on the activity with this project since the last meeting:

- July 9th, 2008 the Version 2 came out. Two important studies were included in Version 2, NCHRP 6-13, "Snow and Ice Control: Guidelines for Materials and Methods" and NCHRP 6-16, "Guidelines for the Selection of Snow and ice control Materials to Mitigate Environmental Impacts." Over 100 storyboards were added to Version 2.
- Two new CD-ROMs "Selecting Snow and Ice Control Materials to Mitigate Environmental Impacts" and "Equipment Maintenance" were distributed on July 9, 2007. An additional new CD-ROM "Proper Plowing Technique" was distributed August 31, 2007. It contained 179 storyboards, plus quizzes.
- The "Deicing" CBT development is nearly done in a beta version. The "Blowing Snow Mitigation" CBT is nearly complete. The "Winter Maintenance Management" CBT outline is in draft form. Anticipated completion is late spring or early summer.

- Lee noted that he is looking for feedback from Paul Brown, Diana Clonch, Shane Larson, Mike Lashmet, Allen Williams and Paul DeJulio by February 15th on the latest CBT outline.
- The group discussed the value of a module for supervisors that track's each person's progress with the training topics. (In a later discussion, the group agreed to fund the module for supervisors.)

>>Action Items

- *Paul Brown, Diana Clonch, Shane Larson, Mike Lashmet, Allen Williams and Paul DeJulio:* Remember to send Lee feedback on the CBT outline.

International Scan Tour Proposal Update

The proposal submitted was not selected for a 2009 European Scan Tour. Eventually we should hear why we were not selected. Once we hear, we can submit it for 2010 and see if we can address the negatives and create a successful proposal. The last tour to this area was conducted in 1998 and an updated tour is needed especially to focus on communications standards and intermodal transportation. Clear Roads members should also talk to the AASHTO Research Advisory Committee members to promote the research issues that we are concerned about, such as communications standards and intermodal transportation.

>>Action Items

- *All:* Talk to RAC members and promote the issues we'd like to see addressed, such as communications standards and intermodal transportation.

Winter Safety Campaign Update

Dennis Burkheimer reviewed the history of the development of the winter driving safety logo and the overall campaign, including its introduction at the National Winter Maintenance Peer Exchange in August 2007, the FHWA endorsement, and the local and state rollout of the campaign. He also previewed some presentations that will be made this year.

The group discussed various ways to promote the message, including developing a PSA at the request of the PIO's, producing public relations give-away materials and coordinating a national give-away promotion. Dennis noted that we do have a proposal for funding PSAs. We also considered the potential for finding a partner like the National Insurance Institute.

The members discussed the concern from the Michigan Farm Bureau about the use of the slow moving vehicle sign that Michigan DOT developed to promote the program. We also discussed the importance of making sure people don't confuse it with a warning of ice and snow ahead. The group agreed that we should put a note on the Web site to remind folks that it's not a traffic control device but is meant for public relations usage.

>>Action Items

- *CTC & Associates:* Contact the National Insurance Institute to see if they are interested in getting involved.
- *CTC & Associates:* Add a note to the Clear Roads Web site about the logo's intended use.

Web site/ PR Subcommittee

Although Clear Roads is pleased with the current Web site, Dennis Burkheimer suggested the need for a subcommittee that can give input and guidance on the development of Web content, marketing and communications (including presentations at conferences).

Lee Smithson, Paul Brown, Tim Croze, Colleen Bos and Kim Linsenmayer will be members of the committee. Dennis Burkheimer noted that folks from PIO offices might also be willing to help out.

Technology Transfer/Implementation

Paul Brown led a discussion on technology transfer and the importance of implementation of our research projects.

- Clear Roads' focus is on doing practical research, so any project with a long report as the result needs to also have the "reader's digest" version or something that is easily usable. If we require these types of deliverables as part of our contract, then we'll always have usable materials to help with technology transfer.
- The other issue to consider is funding for researchers who can present the output of the research projects. We need to write this into the RFP, like an implementation plan.
- Options we discussed for technology transfer included: executive summaries, user guides (cheat sheet), Power Point presentations, videos, media CDs (summary, full report, Power Point, or video) and presentations at selected conferences or meetings (travel included).
- There were no objections to including this in our RFPs and projects moving forward. It can be a separate work task so that we understand the costs involved.

>>Action Items

- *CTC & Associates*: Ensure that technology transfer options are addressed in all RFPs moving forward.
- *Lee Smithson*: Help put Colleen in touch with resources from NCHRP or Iowa DOT to provide insight on the best way to handle the options.

Research Project Proposals: Discussion and Selection

Title	Description	Estimated Cost	Estimated Duration	Proposer	Notes
Nation-wide System for Snow/Ice Condition Reporting	Develop a set of winter weather roadway condition ratings, complete with descriptors and pictures, that can be used by all states to advise the public of roadway conditions.	\$25,000	15 months	Allen Williams, VA DOT	<ul style="list-style-type: none"> • We have a more mobile society, yet we have different condition ratings systems from one state to the next. We need a more consistent system. • Bill Hoffman notes that Snow and Ice Task force at the national level (peer exchange) has also identified the idea of a consistent system of road condition signs. • SICOP is already taking the lead on this issue and Clear Roads can be involved as well. No funding is needed at this point, but the group would like to support SICOP. • Clear Roads will also send a letter of support to SICOP conveying our interest in and support for the project. • Total Asset management contracts are becoming more common performance standards for snow removal and ice control is a difficult area to address. • Performance standards are valuable whether you contract out or not but would provide a good starting point for contracting. • Current NCHRP project 6-17 and 20-74A are both related to performance standards. • SICOP is taking the lead on this process already. Clear Roads will commit \$35,000 for the future implementation and technology transfer, if the current studies have enough content. • Subcommittee to review NCHRP 6-17 and 20-74A: Cliff Spoonemore, Lee Smithson, Dennis Burkheimer, Allen Williams and Tim Croze. • Last year this was discussed and this year Cliff talked to the University of Wyoming, which is interested and has an idea for a wireless alarm system. His District 1 is willing to help the University or another group on field testing. • The project was not funded this year.
Performance Standards for Snow Removal and Ice Control	Develop a set of performance standards that can effectively be used in managing performance based Snow Removal and Ice Control Contracts.	\$35,000	15 months	Allen Williams, VA DOT	<ul style="list-style-type: none"> • Total Asset management contracts are becoming more common performance standards for snow removal and ice control is a difficult area to address. • Performance standards are valuable whether you contract out or not but would provide a good starting point for contracting. • Current NCHRP project 6-17 and 20-74A are both related to performance standards. • SICOP is taking the lead on this process already. Clear Roads will commit \$35,000 for the future implementation and technology transfer, if the current studies have enough content. • Subcommittee to review NCHRP 6-17 and 20-74A: Cliff Spoonemore, Lee Smithson, Dennis Burkheimer, Allen Williams and Tim Croze. • Last year this was discussed and this year Cliff talked to the University of Wyoming, which is interested and has an idea for a wireless alarm system. His District 1 is willing to help the University or another group on field testing. • The project was not funded this year.
Moldboard alarm system to maximize carbide blade wear	Develop a moldboard alarm system that would provide snow plow operators a warning that the plows carbide blade inserts have reached their usable life.	\$100,000	24 months	Cliff Spoonemore, WYDOT	<ul style="list-style-type: none"> • Last year this was discussed and this year Cliff talked to the University of Wyoming, which is interested and has an idea for a wireless alarm system. His District 1 is willing to help the University or another group on field testing. • The project was not funded this year.

Near Snow Fence options or alternative uses	Determine if current snow fence approach is the best or only snow fence that can be used to fight near snow drifting problems or if a fence with different porosity or design layout could be used to effectively fight near snow.	\$5,000 for a Synthesis \$100,000 for a Study	3 Months for a Synthesis 18-24 months, for a Study.	Cliff Spoonemore, WYDOT	<ul style="list-style-type: none"> • Overpass interchanges are a problem area and there is a need is to determine the correct porosity to avoid a leeward drift around the snow fence, following up on Tabler's research. • Perhaps start with a synthesis report to find out what else is out there, especially getting away from the 50% porosity level. • The project was not funded this year.
National Driver Education training curriculum	Develop driver education curriculum and materials to support a short course on winter driving safety for new drivers.	\$150,000-200,000	2 years	Dennis Burkheimer, IOWA-DOT	<ul style="list-style-type: none"> • Looking at the work zone training programs, it seemed like something similar was needed for winter driving. • The cost would be developing the curriculum package; each state could decide how they want to buy into it or roll it out. Implementation would be a critical aspect though. • Partnership opportunities were discussed • This project was not funded this year.
National Winter Maintenance Testing facility (Proving Grounds)	Establish a reliable winter research facility that could be highly instrumented to provide very high quality research results.	Unknown but this is very likely a project that would best be funded through Aurora, PNS, FHWA or SICOP.	Unknown	Dennis Burkheimer, IOWA-DOT	<ul style="list-style-type: none"> • A new facility could build upon one of the established testing facilities or start from scratch. • It's definitely important to find a location that is cold enough and provides repeatability. • Some concerns about ending up with a sole source research group if you invest at one location. • This project was not funded this year. • Paul Brown, Tim Croze, Dennis Burkheimer and Bill Hoffman would like to form a subcommittee to try to talk to some partners about potential funding.
Time released salt	Develop an encapsulating agent that could be added to salt that slows the activation process of the salt.	\$150,000	3 years	Dennis Burkheimer, IOWA-DOT	<ul style="list-style-type: none"> • Ideally a coating so that half your salt (uncoated) melts immediately. The other half that is coated melts an hour later. • This project was not funded this year.
Development of Public Service Announcement (PSA) for, Ice and Snow ...Take it slow" media campaign	Create one or two 30-second Public Service Announcements.	75,000		Dennis Burkheimer, IOWA-DOT	<ul style="list-style-type: none"> • The idea for this proposal is to work with the group of PIOs to come up with a theme and then hire a group to do the production. • Getting it aired may be a significant cost as well; however, we are not addressing that aspect. • Project funded at \$100,000. • Project Champion: Dennis Burkheimer. • Subcommittee: Mike Sproul.

National Specifications or Standards for fleet communications to support GPS/AVL	Develop a common standard or specification that allows agencies to purchase a variety of different sensors that all use a common communication protocol and data format to make it possible to plug-and-play new sensors into the GPS/AVL system with little effort.	\$150,000-200,000	1 year	Dennis Burkheimer, IOWA-DOT	<ul style="list-style-type: none"> • Currently, these GPS/AVL systems do not share information with each other well. • One approach is to adopt specifications that each state can use for purchasing, which would effectively force the industry to support those specifications. • Europe has draft specifications and it is certainly a starting point. • \$50,000 is allocated for Phase 1, which includes a literature search, survey and recommendations for how to develop standards for NDGPS/AVL standards. • Clear Roads will decide on Phase 2 based on results of Phase 1 (as a separate project). • Project Champion: Dennis Burkheimer. • Subcommittee: Diana Clonch, Rudy Persaud, Farideh Amiri, Tim Jackson.
Effective Anti-icing Strategies	Develop a Guideline of Best Practice for Anti-icing for Winter Maintenance.	\$100,000 to 150,000	18 to 24 months	Paul Brown, Mass Highway	<ul style="list-style-type: none"> • There is a discussion about whether an update to TE-28 is needed or whether this is an implementation issue, since there are hundreds of municipal groups all looking separately at these issues. • SICOP is already taking the lead on this issue and Clear Roads can be involved as well. No funding is needed at this point, but the group would like to support SICOP. • Paul Brown, Linda Taylor, Paul DeJulio and Allen Williams will offer their expertise to SICOP. • Clear Roads will also send a letter of support to SICOP conveying our interest in and support for the project.
Cost-Benefit analysis of winter maintenance practices, equipment and operations	Develop a standard method to measure the cost/benefit of adding operational components, GPS, RWIS Stations, Wings, Guidance systems. The standards will address expected service life and life cycle costs.	\$100,000-150,000	1 year	Paul Brown, Mass Highway	<ul style="list-style-type: none"> • There is a need some type of tool that looks at the cost/benefits of different operational components, a formula or plug and play approach to show the amount of savings for certain materials or activities. • The goal is to have data so that expenditures can be justified. • FHWA has attempted this previously. • \$150,000 is allocated for this project. • Project Champion: Paul Brown. • Subcommittee: Lynn Bernhard, Linda Taylor, Mike Lashmet. (There is also a suggestion to check with Paul Pisano and Pat Kennedy – FHWA.).

Friction and anti-icing surface treatment study	Evaluate friction and anti-icing surface treatments to determine how long the products last and the life cycle cost.	Unknown, but perhaps vendors would donate product \$10,000 per state	5 Years	Mike Sproul – Wisconsin DOT	<ul style="list-style-type: none"> • Clear Roads members get lots of calls from sales people about the latest new products. • We would ask the Vendors donate product to allow us to do side-by-side testing that we would monitor over time. • This project was not funded this year.
Safe Winter Driving Campaign – Focus Groups	Determine the best method to get out a national message concerning winter safety.	\$10,000 per state	3-4 months	Mike Sproul – Wisconsin DOT	<ul style="list-style-type: none"> • Clear Roads has the national winter driving safety campaign, but this project would focus on determining how to best spend your money. • We could do a survey in 2 or 3 states to find out what worked best. • This would be separate from the PSA project, because we know PSA's are effective. • This project was not funded this year.
The true costs/benefits of anti-icing	Develop a report on the costs/benefits of anti-icing.	Unknown	3-4 months	Mike Sproul – Wisconsin DOT	<ul style="list-style-type: none"> • Currently the counties do not see a need to change their practices and cost/benefit information is needed to help encourage change. • This related to Paul Browns Cost/Benefit proposal, so it was removed from the list for ranking.
The use of sand for winter maintenance	Develop a report that shows the real costs associated with using sand as well as the outcomes.	Unknown	3-4 months	Mike Sproul – Wisconsin DOT	<ul style="list-style-type: none"> • There are always questions about sand, and it's hard to get away from sand; it would be helpful to get a definitive answer on the use of sand. • An article was mentioned by Don Walker about the effectiveness of sand. See the Salt Institute Web site for information. • Have CTC conduct a TSR for this.
Development of a standard storm severity index and snow and ice removal performance standard.	Develop an automated method to calculate storm severity indexes and performance measures after each winter event.	\$200,000	18-24 months	Shane Larson, Illinois DOT	<ul style="list-style-type: none"> • Weather severity index is nearly completed. It will be available for Aurora states and can be made available to non-Aurora states. • This also relates to the previous proposal on national snow and ice reporting, so we will take it off the list for ranking.

>>Action Items

- *CTC and Associates*: Find out if we can send the RFPs out in a broader way, ie., Listservs, etc that get a broader audience.
- *CTC and Associates*: Work with Dennis Belter to develop two letters of support for the Anti-Icing Best Practices and Nationwide Snow and Ice Reporting projects to send to SICOP.
- *CTC and Associates*: Work with the subcommittees to develop RFPs for the national specifications or standards for fleet communications to support NDGPS/AVL; cost-benefit analysis of winter maintenance practices, equipment and operations; and the development of Public Service Announcement for, Ice and Snow ...Take It Slow" media campaign.
- *Cliff Spoonemore, Lee Smithson, Dennis Burkheimer, Allen Williams and Tim Croze*: Review NCHRP 6-17 and 20-74A when they come out and provide recommendation on whether there is enough content to justify funding an Implementation Guide.
- *Paul Brown, Tim Croze, Dennis Burkheimer and Bill Hoffman*: Form a subcommittee to talk to partners about funding for a National Winter Maintenance Test committee.
- *Dennis Burkheimer*: Act as project champion for the development of Public Service Announcement (PSA) for, Ice and Snow ...Take It Slow" media campaign.
- *Mike Sprout*: Work with Dennis Burkheimer as subcommittee for the development of Public Service Announcement (PSA) for, Ice and Snow ...Take It Slow" media campaign.
- *Dennis Burkheimer*: Act as project champion for the national specifications or standards for fleet communications to support NDGPS/AVL project.
- *Diana Clonch, Rudy Persaud, Farideh Amiri, Tim Jackson*: Participate on the subcommittee for overseeing the national specifications or standards for fleet communications to support NDGPS/AVL project.
- *Paul Brown, Linda Taylor, Paul DeJulio and Allen Williams*: provide their expertise to SICOP on developing a Guideline of Best Practice for Anti-icing for winter maintenance.
- *Paul Brown*: Act as project champion for the cost-benefit analysis of winter maintenance practices, equipment and operations project.
- *Lynn Bernhard, Linda Taylor, Mike Lashmet*: Participate on the subcommittee for overseeing the cost-benefit analysis of winter maintenance practices, equipment and operations.

Peer Exchange Problem Statements

Dennis gave an update on the results of the Winter Maintenance Peer Exchange. Attendees overwhelmingly would like to do it again, and SICOP is suggesting that it should happen every other year. Total cost was \$61,000; Clear Roads and Aurora provided \$21,000. WTI completed the final report, which looks good.

The 70 problem statements were consolidated and assigned to each group. SICOP did additional review and did some reassigning. Then the Clear Roads subgroup got together and determined how Clear Roads would proceed with each one we were assigned. Several of the problems turned into Clear Roads research proposals or were addressed in other ways, but we felt the items below required consideration by the group.

Topic	Research Needs Statements	Subcommittee comments	Comments by full Clear Roads TAC
Guidelines for anti-icing and deicing	<ul style="list-style-type: none"> Determine when and at what rates deicing materials should be applied to the roadway to maximize effectiveness. Develop anti-icing, deicing and pre-wetting implementation guidelines. Test the FHWA TE-28 anti-icing guidelines to determine if they're still accurate, appropriate, effective. 	<ul style="list-style-type: none"> Linda and Paul have a proposal related to research on this topic as well. 	<ul style="list-style-type: none"> Paul Brown submitted this as a research proposal. We agreed to support SICOP's efforts to pursue this project.
Concept Vehicle	<ul style="list-style-type: none"> Develop the next generation concept vehicle and optimized plow design. Optimize the ergonomics for snowplow operators. Optimize the in-vehicle driver interface. 	<ul style="list-style-type: none"> We'd be able to gain additional insight for this project from participation in scanning tours. 	<ul style="list-style-type: none"> The Scanning tour is not going to happen, so that's not an option for pursuing this. CTC could do research on the individual bulleted items listed and we can post it on the Clear Roads Web site and give WTI a link to our site. The group agreed that CTC can follow up on this and see what we can find and post on the Web.
Post-storm meetings	<ul style="list-style-type: none"> Capture and document the importance of post storm meetings. Capture and document best practices in winter maintenance performance (e.g. post storm assessment). 	<ul style="list-style-type: none"> The first step should be synthesis report on the practices. Request a TSR through WisDOT Research. 	<ul style="list-style-type: none"> There is the feeling that most states have some type of a post-storm meeting approach. Perhaps we can send one out as an example. Version 2 of CBT may also have an example and we could refer them to the specific CBT for guidance. Have CTC do a synthesis report (TSR) as noted.
Training	<p>Understand the state-of-the-practice for using driver simulators as a training tool. Determine effectiveness of training efforts.</p> <ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Request a TSR through WisDOT Research for compiling state feedback on driver simulators. 	<ul style="list-style-type: none"> 2 published reports from Arizona and from CTRE that we should link into the Web site. Have CTC do a synthesis report (TSR) as noted.
Blade Inserts	<p>Investigate alternative blade inserts.</p>	<ul style="list-style-type: none"> Seems related to the Carbide Blade project already under way. 	<ul style="list-style-type: none"> Some parts of this being addressed with the Carbide Blade project that is already underway.
Collision Avoidance	<p>Investigate collision avoidance systems for snowplows.</p>	<ul style="list-style-type: none"> Request a TSR through WisDOT Research. 	<ul style="list-style-type: none"> Have CTC do a synthesis report (TSR) as noted.

>>Action Items

- *CTC & Associates*: Follow up on concept vehicle issues, post information on the Clear Roads Web site and send links to the research to WTI to post as well.
- *CTC & Associates*: Produce Transportation Synthesis Reports on Post Storm Meetings, Driver Simulators as a Training Tool and Collision Avoidance systems.

Clear Roads Budget

Colleen Bos provided an overview of the Clear Roads budget, including amounts committed and obligated, amounts contracted, and estimated planned expenses. It was noted that Clear Roads had \$14,000 in additional funds available due to the Peer Exchange refund and \$10,000 that was never used for the winter driving safety campaign.

RFP Development

The group worked together to outline the scope and contractor requirements for the RFPs that will be sent out for funded projects: cost-benefit analysis of winter maintenance practices, equipment and operations; and national specifications or standards for fleet communications to support NDGPS/AVL (Nationwide Differential Global Positioning System/Automatic Vehicle Locator).

>>Action Items

- *CTC & Associates*: Draft the RFPs and work with the Clear Roads subcommittees to finalize each one.

Planning for Future Meetings

The group discussed the options presented for expanding the time available for future meetings, as well as looking at the timing of meetings.

- The group agreed to stay with the January and June schedule for the meetings but will add an additional day to each meeting.
- The group also gave consensus that they prefer to travel the evening before the meeting starts rather than traveling in the morning and starting the meeting at mid-day.
- June 24 – 26th, 2008 was selected for our next meeting, assuming the timing works out with WisDOT in terms of getting the RFPs out and getting responses back in time.
- The meeting will take place in Madison, Wisconsin.

>>Action Items

- *CTC & Associates*: Colleen will confirm that the timing is feasible for the RFPs and the June meeting.

Clear Roads Membership on ASTM Standards Committee for Deicing Chemicals

Dennis talked to the committee chair (Morton Satin – Salt Institute) of the ASTM Standards Committee for Deicing Chemicals to see if a Clear Roads person could become a member. The answer was yes and we would like Paul Brown to join the committee. The group approved funding for the \$75 fee for membership.

>>Action Items

- *CTC & Associates*: Follow up to make sure Paul's membership fee is paid.

Tracking module for the CBT Software

We talked about doing the tracking portion of the CBT software for all 5 modules. It would cost \$5,000 for a fundamental tracking module. The group agreed to fund the module.

Clear Roads Membership Rules & “Friends” status

Dennis Belter led a discussion on how to handle a situation where a current member cannot pay for a year of membership.

Everyone agrees that if you don't pay, you can't vote. We would allow them to send in proposals, but we might opt to not pay for travel if they were not needed for a particular meeting. For each year, you need to be paid up through the previous year. However, the group felt that the Chair and Vice Chair could figure it out on a case-by-case basis as it came up.

The next question was how to handle vendors and other visitors who are not contributing but may want to attend. We reviewed Aurora's policies on this subject for insight. The group asked the Chair, Vice Chair and CTC to come up with an outline for these categories to present at the summer meeting.

>>Action Items

- *Colleen, Dennis and Paul:* Come up with options for handling vendor participation at meetings to present at the summer meeting.

Round Robin Reports

The group received updates from Iowa, Missouri, Wyoming and New York. The group agreed that this information sharing should be a high priority in the planning of the summer meeting. Colleen notes that with the additional time allocated for meeting, we should easily be able to do this.

>>Action Items

- *Dennis Burkheimer:* Send Power Point of Iowa Updates to Colleen for distribution to the entire TAC.

Next Meeting

The next face-to-face meeting will take place in Madison, Wisconsin, June 24-26th, 2008. A representative from WisDOT's Purchasing group will need to be present to oversee the scoring and selection of proposals for the new research projects. Colleen will investigate meeting locations and get back to the group with additional details.