



## MINUTES

### Clear Roads 2006 Summer Meeting:

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

**Tuesday and Wednesday, June 20 and 21, 2006**

**Hilton Madison Monona Terrace**

#### Attendees:

Tom Martinelli, Wisconsin DOT	Dennis Belter, Indiana DOT	Tim Jackson, Missouri DOT
Dennis Burkheimer, Iowa DOT	Linda Taylor, Minnesota DOT	Tim Croze, Michigan DOT
Diana Clonch, Ohio DOT	Wayne Lupton, Colorado DOT	Shane Larson, Illinois DOT
Bob Blackburn, Blackburn & Assoc.	Ed Fleege, Blackburn & Assoc.	Duane Amsler, Blackburn & Assoc.
Kim Linsenmayer, CTC & Assoc.	Pat Casey, CTC & Assoc.	
Rudy Persaud, FHWA – D.C.	Kathy Gifford, WisDOT Purchasing	

#### Materials Distributed:

Agenda	List of potential topics for computer-based training
February 2006 meeting minutes	Blackburn PowerPoint presentation
Budget	CTC & Associates PowerPoint presentation
Clear Roads Operating Procedures	CTC draft report for anti-fogging survey project
Marketing update	

#### Meeting Objectives

The group met to review proposal scores and select a vendor, hear updates on research projects underway, plan for future research and marketing efforts and share state experiences.

Two new members joined Clear Roads just in time for this meeting: Shane Larson from Illinois and Wayne Lupton from Colorado.

#### Proposal Scoring and Next Steps

Before beginning the discussion on the proposal scores, Rudy Persaud was excused from the meeting. Kim Linsenmayer (administrator and note taker) and Kathy Gifford (WisDOT Purchasing) were the only non-voting members present for the proposal discussion.

Prior to this meeting, each TAC member had received, reviewed and tentatively scored four proposals in response to the Clear Roads RFP on developing a test method for de-icer performance. Kathy Gifford led a discussion of the scores, giving TAC members an opportunity to adjust their scores if desired.

At the close of the discussion, Kathy tallied the scores and factored in the cost for each proposal to arrive at a final score. Ed Fleege's team received the highest score, and the TAC discussed next steps for contracting. The group agreed that a follow-up conference call would be needed to clarify a few items in the proposed work plan. Kim agreed to arrange the call after the required waiting period had passed following the notification of an intent to award.

Linda Taylor will be the Project Champion for this project, acting as the key point person for the investigator, approving invoices and tracking progress. Shane Larson, Tim Croze and Dennis Burkheimer agreed to serve on this project's subcommittee to provide support and guidance in monitoring the progress of the project. This subcommittee will participate in the planned conference call with the investigator to finalize the work plan.

Below are the items identified for discussion with the investigator:

- Clarify slipperiness index and use of handhelds.
- Discuss possibility of adding data collection on additional storms to the pilot test.
- Discuss pushing up the timing of the pilot test to October.

#### **>Action Items**

*CTC & Associates*: Set up conference call with Ed Fleege and Clear Roads subcommittee to discuss work plan and prepare for contract.

#### **Budget**

Kim provided an overview of the Clear Roads budget, including amounts committed and obligated, amounts contracted, and estimated planned expenses. Thanks to the addition of Illinois and Colorado, more money is available for use in 2006 and beyond.

The group discussed the following options for using the additional available funds in 2006:

- Consider covering the cost of additional equipment for the new project on de-icer performance such as handhelds for recording road conditions and speed sensors. The group agreed that these purchases would be considered for the project but not as part of the contract with the investigator.
- Consider funding additional research projects or related activities yet this year. The group agreed that it would be best to hold this money until early 2007 when they will propose new projects. This will allow for one or more larger research projects to be launched next year.
- Consider designating a set amount of money for implementation of research projects. Members are very interested in following through with the implementation on all completed Clear Roads projects but didn't set aside a set amount of money at this time. For now, implementation will be addressed on a project-by-project basis.
- Consider setting aside a small amount of money to fund efforts associated with a winter maintenance campaign (see topic below). The TAC set aside no money for this at the meeting, deciding to see what existing material and concepts could be used and what work could be accomplished within each DOT public affairs office.

#### **>Action Items**

*CTC & Associates LLC*: Update budget to include \$20,000 planned for 2007 winter maintenance conference

#### **Snowplow Design Project**

Dennis Burkheimer provided an update on the status of the snowplow design project being conducted by CTRE. The Charette in April resulted in proposed design ideas and plans for building prototypes. A plow that has multiple blades (carbide, slush, etc.) working independently will be built. It will be installed on a front-mount Frinke Reversacast plow in Indiana and it will also be installed on a standard underbody plow attached under a trailer in Iowa. Each state will test the new plow this winter.

Iowa DOT is contributing the salt spreader, tanks and tractor (may have to spend \$3000 for a used one).

Once this project progresses further and all the expenses are planned for, additional research opportunities (regarding carbide blade and sensor testing) may be possible with remaining funds. The plows should be operational by November 1<sup>st</sup> and may possibly make it to the 2007 winter conference in Columbus.

The Charette participants would really like to see the plows in person when they're done. Dennis Burkheimer will investigate the use of video and Web conferencing to allow for a visual experience without the travel costs.

#### **>Action Items**

*Tom Martinelli*: E-mail TAC information from Force America about their sensor technology.

## Computer-Based Training Update

Tom passed out minutes from a January 2006 meeting on the computer-based training. Clear Roads has committed funds to the project as well as people to serve on the committees that will provide technical guidance to the developers.

Lee Smithson is going to the AASHTO Subcommittee on Maintenance meeting in July and will try to get support for developing more lessons. He will also seek the approval to solicit additional funds from state DOTs. Wayne will attend this meeting as well.

To support Lee's interactions with the AASHTO subcommittee, Dennis Burkheimer will put together a letter to Lee outlining Clear Roads' priorities for the topics to be covered in new modules. The TAC agreed to the following prioritization of topics:

1. Plowing techniques (lots of materials to support this. Lee already told Steve to start looking at the videos)
2. Equipment maintenance
3. Deicing materials
4. Policy management
5. Mitigation for blowing snow

The letter to Lee will also suggest the formation of technical groups to guide the projects, the development of each new module independently to result in a suite of training models that users can pick and choose from, and guidance on resources to use when beginning work. The TAC reviewed a list of potential resources at the meeting, and this list will be used as a starting point. Linda and Shane also have training materials on snow and ice control, equipment maintenance and plowing and will pass these on for reference.

### >Action Items

*Dennis Burkheimer:* Develop and send letter to Lee Smithson with input from Tom Martinelli and Wayne Lupton.

*All TAC members:* Look for any relevant training materials in your states that could be used in developing the new modules.

## Marketing and Recruitment

Kim updated the TAC on CTC's activities related to marketing Clear Roads and increasing membership.

- CTC's winter maintenance e-newsletters have been very well received and are proving to be a useful resource for winter maintenance professionals.
- CTC has confirmed a spot in the October issue of *Better Roads* for an article regarding the needs and solutions discussed in the anti-fogging/anti-icing synthesis project. CTC is drafting the article over Tom Martinelli's name and will submit it to *Better Roads* in July.
- CTC plans to send letters/flyers to research administrators in Snow Belt states about membership and to work with TAC members on contacting winter maintenance engineers in these states.

Dennis Burkheimer pointed out that Dick Hanneman, the president of the Salt Institute, is always looking for people to write articles related to deicing. We could contact their newsletter editor about opportunities for submitting articles.

In terms of recruiting additional states, the group discussed the pros and cons of expanding the size of Clear Roads. The TAC agreed that more states (and therefore more funding) is still a goal so that Clear Roads can take on more and bigger projects moving forward. The group will need adjust processes for handling the research projects and meetings as the TAC size increases.

Suggested states to contact about joining Clear Roads:

- Aurora states not in Clear Roads
- Washington
- Idaho
- Nebraska is interested but currently lacks funding resources.
- Pennsylvania
- New York
- Virginia (Dan Roosevelt is the contact.)
- New Hampshire
- New England states

Kim will put together letters and a potential list of recipients for the TAC to review.

**>Action Items**

*CTC & Associates:* Develop a list of potential states to contact and ask the TAC for input on the names of the technical contacts in the states. Draft letters to technical representative and to research administrators talking about Clear Roads and encouraging participation.

**Research Project Closure Steps**

Kim led a discussion of how the TAC would like to approach the closure of each Clear Roads research project in terms of implementation planning, report distribution, etc.

- At the close of project, the project champion and investigator will complete a short implementation form to capture implementation opportunities and plans at the end of a project. Kim will send the TAC members a draft form to review and edit.
- Each Clear Roads report will be printed with a standard report cover. Kim will develop a design for review and approval by the TAC.
- Subcommittee members assigned to a project will have a role in reviewing the final report for each project, looking for implementation opportunities and reporting to the full committee.
- CTC will write a two-page summary of each research project for posting on the Web site and distributing at winter maintenance meetings. Kim will draft a layout and format for the TAC to review.

**>Action Items**

*CTC & Associates:* Draft an implementation form for review by the TAC.

*CTC & Associates:* Draft a Clear Roads report cover for review by the TAC.

*CTC & Associates:* Draft a two-page research summary layout for review by the TAC.

**Operating Procedures**

With the addition of new members and projects to Clear Roads, this meeting was a good time to revisit the Operating Procedures and discuss how best to grow the group while keeping members involved and satisfied.

Below is a summary of the comments discussed:

- The group needs to start delegating more. It's no longer possible to have each representative involved in the decision-making for every research project. Subcommittees made up of two or three representatives and the Project Champion will be created to oversee research projects moving forward. They will handle issues that arise with the project and provide updates to the rest of the TAC.
- It would be good to adjust our annual timeline so that RFPs can get out earlier. The team decided to meet in January, working around the TRB meeting. Also, they'll meet for two full days instead of one and a half to allow more time for fleshing out the goals and research expectations for the projects selected for funding.
- With more members it will be harder to coordinate everyone's schedules. Each representative is to select an alternate in their organization who will attend meetings and vote on Clear Roads issues when they are unavailable.
- Linda Taylor suggested limiting the number of pages that can be submitted in a proposal to force researchers to be as clear and concise as possible.
- Kim will invite TAC members to submit research proposals in October in anticipation of the January meeting.
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**>Action Items**

*CTC & Associates:* Contact TAC members about their availability for a January meeting.

*CTC & Associates:* Send the problem statement form to TAC members and request project ideas late summer.

*CTC & Associates:* Look into reimbursing TAC members for airline purchases at the time of purchase as opposed to waiting until the meeting has taken place.

**Winter Safety Campaign**

Dennis Burkheimer led a discussion about developing a national winter safety campaign to encourage the public to driver more slowly in bad weather and around plows. This would be similar to the Give 'em a Break campaign during summer construction and could include printed posters, Web site notices, message signs, etc.

TAC members agreed to review materials already developed in their states for potential use in a national effort. For example, WisDOT printed posters a few years ago with the theme Snow...Slow. The message could be rotated after a few years. The campaign may also include messages about DOT ability to maintain level of service.

TAC members also decided to take advantage of the PR resources within their states, both in the development of materials and in the coordination between states.

Dennis Burkheimer agreed to be the project champion for this project, and the TAC set aside \$10,000 in the Clear Roads budget in case some funding is needed. It's unlikely that a campaign could be in place by the 2006/2007 winter, so the group is targeting 2007/2008. Dennis will talk to Dena, Iowa's PR person, first about what approach to use in coordinating with other states. Then he will pass on what other states have for winter campaign materials. Mike Goetzman is the PR contact in Wisconsin and Kevin Hutnik is the contact for Minnesota.

As a side note, Acuweather is working on a Web site that allows users to enter a zip code and get a winter severity index back.

Rudy suggested comparing the number of accidents that happen in the winter versus the summer to get a sense of the impact of weather conditions on crash rates.

#### **>Action Items**

*Dennis Burkheimer:* Contact Dena in Iowa's PR group about helping to coordinate a winter safety campaign.

*All TAC members:* Send Dennis examples of materials from previous winter safety campaigns in your states.

*CTC & Associates:* Add a \$10,000 line to the budget for potential use on the winter safety campaign.

#### **Winter Maintenance Conference Update**

Dennis Burkheimer updated the group on plans for the 2007 winter maintenance conference to be hosted by Clear Roads, Aurora, FHWA, SICOP and possibly the Pacific Northwest Snowfighters group. He plans to send out a tentative agenda for the meeting, along with a meeting proposal document he put together for a presentation to PNS.

Ideas for the conference:

- Hold the meeting in Columbus, Ohio, piggybacked on to the AASHTO Eastern States Snow Conference in September 2007.
- Two representatives from each state would have their travel costs reimbursed. Ideally one representative would represent the RWIS side of things and the other representative would have the materials and equipment focus.
- Give each state 15-20 minutes to talk about activities in their states.
- The meeting would last for two days following the one-day Eastern Snow Conference.
- Vendors would be involved in some capacity.
- Gather ideas for research prior to the meeting and prioritize them during the meeting.
- Hold roundtable discussions along with the presentations to give people a chance to talk.
- Ask Snow and Ice list for topics?
- Give representatives from Aurora, Clear Roads and SICOP opportunities to promote their programs and highlight their research activities.

Diana, Lee, Dennis and Paul will be having conference call soon to kick off the planning effort. The planning committee for this event will include volunteers from Clear Roads, Aurora, FHWA—every organization sponsoring the event.

#### **>Action Items**

*CTC & Associates:* E-mail TAC agenda ideas (like agenda used for the national AASHTO Research Advisory Council meeting).

#### **Open Discussion**

The group spent quite a bit of time discussing the challenges of tracking and controlling salt usage, handling the increasing price of salt and storing salt.

Wisconsin is very pleased with its two installations of an anti-icing overlay. They have been monitoring one installation that's been in place for three years and receives one application of liquids once a month instead of twice a week. A second installation has been through only one winter but looks good so far. There have been no crashes on these spots since the overlays have been installed. Wisconsin also mentioned the use of the first Cargill "AccuBrine" salt brine maker.

Colorado uses large quantities of mag chloride provided by Envirotech. They have a new product call Apex with a new chemical in it (no agricultural products) that works great and avoids the phosphates and ammonia in ag products. Colorado is currently researching fixed spray systems as alternatives to mag chloride applications.

### **Calibration Project Update**

Blackburn and Associates presented the results of their work to date on the project Calibration Accuracy of Manual and Ground-Speed-Controlled Salters. Below are a few highlights:

- Blackburn and Associates' recommended protocol for calibration will be available this fall for distribution.
- Phase II (yard study) of the project has begun and is going well. The manufacturers involved have been very helpful and interested in the project.
- Manual controllers are used even less than was previously thought. Only two states (Washington and Tennessee) are actively purchasing manual controllers for use on state highways. As a result, the research team will gather performance data on manual controllers by operating ground speed controllers in manual mode.
- The research team may need to return to Ohio to retest a controller. The one they tested already was very old and the calibration was significantly off.

### **Anti-Fogging Survey Project Update**

CTC & Associates presented the draft final report for the project Synthesis of Best Practices for Eliminating Fogging and Icing on Winter Maintenance Vehicles, highlighting study findings and possible next steps. The TAC had few comments about the report content at the meeting and planned to fully review the report in the days following the meeting. The group did spend some time discussing ways to share the results nationally and to conduct organized field-testing of the products and strategies identified in the report:

- Indiana is buying the Shaker wipers and will test them this year.
- Iowa is looking at purchasing Slap wipers.
- Minnesota is currently testing Slap wipers.
- Everyone will use a standard form for recording findings so that they can be compared easily.
- Kim will add the final report to the Clear Roads Web site when complete, along with the test results form. Through the site, listservs and report distribution people will be invited to share their experiences with anti-fogging and anti-icing strategies.

#### **>Action Items**

*CTC & Associates:* Create a draft form for recording the results of product testing.

*CTC & Associates:* Send reminder e-mail to the TAC with a deadline (two weeks) for reviewing the draft final report.

*All TAC members:* Review draft report and send comments to Kim.

### **Next Meeting**

The next face-to-face meeting will take place in St. Louis, Missouri in January. Kim will send out an e-mail requesting availability.