

FROM THE DESK OF THE DIRECTOR

By Khaled Ksaibati

2010 was a very productive year for us here at the T² Center. In addition to our regular training program, Bart, George, Mary, and I worked on several special projects which were designed to help transportation professionals around the state do their jobs more effectively. I would like to take this opportunity to summarize some of these programs/activities which might be useful to you.

Safety is First

The Wyoming Rural Roads Safety Program (WRRSP) has been implemented in half of the counties in the state. These counties identified low cost safety improvements on high risk rural roads and then they applied for federal funding through WYDOT's safety office. WYDOT will make more safety funding available for local governments next year in case your county has not been part of this program. The guide for this program can be found on our web site.

As part of our continuous efforts to improve safety on local roads, we worked closely with Matt Carlson, State Highway Safety Engineer, and Adam Larson, FHWA Safety Program Engineer, to develop the guidelines for the statewide sign

program. This program utilized historical crash data to identify high crash locations on local roads. Half of the counties have already submitted requests for signs at some of these high crash locations. We are in the process of summarizing all the requests from the counties so that WYDOT would purchase the signs and make them available to counties in the near future. The center will monitor these locations to determine the effectiveness of the program in reducing crashes.

Every Day Counts (EDC)

FHWA has been giving more attention to reducing the amount of time it takes to implement proven technologies. As part of this effort, 12 "Every Day Counts" summits were held around the country. I attended the EDC summit in Denver held on November 9th and 10th. The meeting concentrated on five specific technologies of which two might be of interest to local governments in the state Wyoming.



The Safety Edge is a simple but extremely effective solution that can help save lives by allowing drivers who drift off highways to return to the road safely. Instead of a vertical



The Safety Edge is shown here in the main photo during construction. Upon project completion, the adjacent unpaved material should be graded flush with the top of the pavement (inset photo). The Safety Edge creates a more durable pavement edge and makes recovery from any future drop-off much easier and safer.

drop-off, the Safety Edge consolidates the edge of the pavement at 30 degrees. Research has shown this “transition from on-roadway surface to shoulder and back is so smooth it defies assignment of any degree of severity”. The Safety Edge provides a strong, durable transition for all vehicles. Even at higher speeds, vehicles can return to the paved road smoothly and easily. By including the Safety edge detail while paving, this countermeasure can be implemented at a very low cost. The Safety Edge provides a more durable pavement edge that prevents



GRS Approach

edge raveling. If you have a paving project next summer, we can provide you with more information on how you can incorporate a safety edge without increasing your cost significantly.

The second technology that might be useful for local governments is the GRS-IBS technology. Instead of conventional bridge support technology,



A Cut-Away of a GRS Mass

Geosynthetic Reinforced Soil (GRS) Integrated Bridge System (IBS) technology uses alternating layers of compacted granular fill material and fabric sheets of geotextile reinforcement



Completed Bowman Bridge, Defiance County, OH

to provide support for the bridge. GRS also provides a smooth transition from the bridge onto the roadway, and alleviates the “bump at the bridge” problem caused by uneven settlement between the bridge and the approaching roadway. The technology offers unique advantages in the construction of small bridges, including:

- Reduced construction time and cost, with costs reduced 25 to 60 percent from conventional construction methods.
- Easy to build with common equipment and materials; easy to maintain because of fewer parts.
- Flexible design that's easily modified in the field for unforeseen site conditions, including unfavorable weather conditions.
- The center will be providing training on the GRS-IBS in the near future.

WCCA-WYDOT Joint Meeting

The second annual WCCA-WYDOT meeting was held in Gillette early in December. Several important topics were discussed at that meeting including the WYDOT guaranteed buyback program which enabled WYDOT to keep its heavy equipment in good working order at a very affordable cost. Counties can utilize similar programs when buying new equipment. Other topics discussed at the meeting included the automated roadway data collection system which

might help counties in documenting the conditions of their roadways over time. A long discussion took place on the importance of making sure that counties and WYDOT work together closely to improve the conditions of bridges around the state.

LPA Certification

The Center is working with WYDOT and FHWA to finalize the requirements for a new training program. The Local Project Administration (LPA) training will provide local governments with the information needed to manage projects funded with federal dollars. More information will be provided at a later date on the locations and dates of this upcoming training.

2010 was a very productive year and we are looking at providing more services to our customers around the state in 2011. More information about the programs mentioned above in addition to other programs can be obtained by visiting our web site: www.eng.uwyo.edu/wyt2.

CHECK OUT THESE NEW DVDs

Soil Classification for Roads and Engineering

This DVD (48 minutes) explains how to classify soils and demonstrates soil classification using two systems: the Unified Soil Classification System and the system used by the American Association of State Highway and Transportation Officials.

Soil and Water Relationship

Featuring animations, this CD-ROM presents soil as a system of pores. It looks at aggregates and pores containing air or water in various ratios and demonstrates the mechanisms of water retention and water movement in soil.

Sites and Soils

This DVD program (17 minutes) identifies basic characteristics and types of soils. It explains when a soil investigation is required and covers site preparation, grading, and required separation for footings.

Construction Surveying

This DVD (210 minutes) explores construction surveying. It discusses boundary and topography; grading; staking roads and sewers; laying out buildings, plumbing, and structural steel; and preparing a record drawing. The program also discusses legal issues. *(More on page 5 . . .)*

GENE WILSON RECEIVES NATIONAL RECOGNITION

Twenty five years ago, the Wyoming Technology Transfer Center began. Today, the Center continues to provide Wyoming's cities and counties with technical assistance on transportation issues. The partnership of the University of Wyoming, the Wyoming Transportation Department and the Federal Highway Department was the key to the proposal which marked the successful grant beginning of the Center. As the Director of the Center until 2003, I learned a great deal about the challenges facing local government and about the wonderful people facing these challenges. Looking back it was the joy of developing great friendships and helping to assist them with their challenges that made my tenure as Director easy.

I was honored and humbled to be recognized by the National Local Technical Assistance Program (LTAP). I received the recognition but the contributions of many people are responsible. It was easy for me to be able to do a job I enjoyed. The diversity of backgrounds and skills throughout the State and associated with LTAP on the national level provided direct

access to information sources to respond to local agencies. The workshops and other materials we developed also had nationwide application when modified to recognize local perspectives. Providing assistance to new centers and also workshop training helped us do a better job in meeting Wyoming issues. There were over 40 states that I was able to provide with workshop training primarily directed at transportation safety issues. Many good ideas were learned and shared.

The knowledge gained also helped my University of Wyoming teaching. My first exposure to the University of Wyoming was as a student in 1961. After two Wyoming Degrees – B.S. & M.S. and a few years of employment and another degree from Arizona State University, I began my University teaching career by going east to the University of Iowa. Returning to the University of Wyoming in 1974 was also easy. There is no place like Wyoming and no place would I rather be! Thanks to all who have helped Wyoming LTAP, Wyoming transportation safety and me.

Gene Wilson, past Director of the Wyoming Technology Transfer Center, at his desk surrounded by his many awards.



COUNTY ROAD FUND MANUAL UPDATE

At a joint meeting of the Wyoming County Commissioner's Association (WCCA), the Wyoming Association of County Engineers and Road Supervisors (WACERS) and the Wyoming Department of Transportation (WYDOT) held in Cody in December of 2009, WYDOT Chief Engineer, Del McOmie, suggested that an update to the County Road Fund Manual could possibly be funded through research funds administered by WYDOT's Research Advisory Committee (RAC). It was agreed that WYDOT would sponsor the project and provide input to the Wyoming county roads and standards committee.

Current members of the Wyoming county road standards committee, appointed by the Governor, include: Tom Bruce, Weston County (WCCA); Travis Conklin, Park County (WACES); Richard Ladwig, Niobrara County (WCCA); Scott Larson, Laramie County (WACES); Errol Miller, Natrona County (WCA); and Ross Turner, Lincoln County (WCCA). It is the responsibility of this committee to furnish standards for the construction and maintenance of county roads to any board of county commissioners upon request, and to advise boards of county commissioners with respect to highway construction, maintenance and improvements. The committee appointed consultant Galen Hesterberg as the "Investigator" for both Phase 1 and Phase 2 of the research study for a complete update of the manual.

The committee should meet in February, 2011 to conduct an interim review of a draft of the complete manual, with final review scheduled for April of 2011. WACERS members as well as others will have the opportunity to comment on this draft. The committee should take formal action to adopt the manual for final printing and distribution in May, 2011. WYDOT will print the manual in June and the committee will distribute the manual in July of 2011.

Design criteria and values in the new manual will be divided, first, by project types (new construction on new alignment, reconstruction on existing alignment, resurfacing or preservation on existing alignment, safety improvements) and, secondly, by work category (pavement, bridge, safety and operational). The new county road fund manual will also discuss current funding programs available for various project types and will differentiate, as necessary, between criteria for unpaved and paved roads.

The new manual will be more "procedural" and less "instructional". As an example of this, the old manual uses four pages to discuss stopping sight distance and its application on vertical curves, tables of K values, etc. The proposed tables simply say that the vertical alignment must "meet design speed," "maintain existing", etc. The practitioner has to go to the referenced design document (the Green Book, in this example) to get the appropriate values and more understanding of the application of the criteria.

NEW DVDs - continued from page 2 . . .

Stormwater Drainage System Design

This DVD program (180 minutes) discusses methods for calculating stormwater runoff. It covers stormwater pipe design and provides tips for creating water pipe systems. The DVD also introduces the Manning equation and illustrates the relationship between flow and diameter.

Stormwater Hydrographs and Their Use

This DVD (180 minutes) examines stormwater runoff hydrographs and considers their uses. It introduces hydrograph development based on mass balance and presents methods for measuring necessary parameters.

WORKSHOPS PLANNED FOR 2011

The following workshops and meetings are currently in the planning stages for 2011. Please note that some of the dates or locations may be subject to change.

Speed Management

February 8th– Cheyenne Holiday Inn
February 10th– Rock Springs Outlaw Inn



Geosynthetic Reinforced Soil (GRS) – TLN

February 16th – Laramie, Rock Springs, Gillette, Sheridan, Casper, Cheyenne



Retroreflectivity

March 8th – Riverton Holiday Inn
March 9th – Casper Parkway Plaza
March 10th – Laramie Hilton Garden Inn

Local Project Administration (LPA) Certification



16th Annual Transportation & Safety Congress

April 13 & 14, 2011 – Casper Parkway Plaza Hotel

Work Zone Traffic Control & ATSSA Flagger Certification

May 3, 2011 – Riverton Holiday Inn
May 4, 2011 – Douglas Best Western



Gravel Roads

June 6 & 7, 2011 – Casper Parkway Plaza
June 8 & 9, 2011 – Rock Springs Outlaw Inn

Concrete

October 11th – Douglas Best Western
October 12th – Riverton Holiday Inn



Asset Management

December 1st – Laramie – College of Engineering
December 6th – Buffalo Bozeman Trail Steakhouse
December 8th – Rock Springs Outlaw Inn

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Change Service Requested

Upcoming Workshops

Speed Management

Rock Springs - February
Douglas - February

Retroreflectivity

Riverton - March 8th
Casper - March 9th
Laramie - March 10th

Safety Congress

Casper - April 13th & 14th

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The national Local Technical Assistance Program mission is to foster a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and decision makers.



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