

# The Center Line

North Dakota Local Technical Assistance Program • North Dakota State University • A Service for Local Transportation Agencies

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Winter 2007

## NEW LOCATION AND FACES FOR ND LTAP

North Dakota's Local Technical Assistance program has a new address and a new staff.

The Upper Great Plains Transportation Institute (UGPTI) at NDSU took over management of the program in January. The program's headquarters was moved to Bismarck. The changes were driven by a desire to have the program located close to and affiliated with the NDDOT. The center was previously managed by the NDSU Civil Engineering Department.

"The Upper Great Plains Transportation Institute has considerable experience in outreach and training activities as well as long-standing relationships with the NDDOT and other transportation organizations and agencies," noted Gary Berreth, the new director of the ND LTAP. "At the same time the Institute has collaborative programs within NDSU that will allow us to continue to tap resources there."

The LTAP offices are now located at 515 ½ E. Broadway, Suite 101, Bismarck, ND 58502-1774. Contact the office by calling (701) 328-9855 or toll free at (800) 726-4143. The fax number is (701) 328-9866. The ND LTAP website is undergoing a gradual update to reflect the changes in the program. Visit the site at [www.ND.LTAP.org/](http://www.ND.LTAP.org/) for more information.

Berreth is an associate research fellow with the UGPTI and has been involved in launching the institute's Rural Transportation Safety and Security Center. He retired from the NDDOT in 2005 as an administrative transportation engineer in the Office of Operations. He has more than 38 years of experience in

transportation engineering, with most of that experience with the NDDOT.

David Levi is the new LTAP program manager. Levi was previously with the NDDOT. For the past 20 years, his career focus has been to provide technical services to both DOT employees and local government agencies. Those services included development of departmental construction and maintenance specifications, construction of department facilities, development of maintenance equipment specifications, engineering studies and evaluation of truck size and weight issues as well as other efforts. He earned an associate degree in civil engineering technology from the N.D. State College of Science in Wahpeton, ND.

Denise Brown is the new LTAP administrative secretary. She has more than 15 years of administrative experience. She was previously with Sheridan County as deputy auditor and most recently with the Office of Management and Budget as payroll specialist. She is a member of the National Managers Association and is pursuing her bachelor's degree in business administration from the University of Mary.

Jody Bohn, academic program coordinator for the UGPTI, will provide administrative support from UGPTI offices in Fargo. She has more than 21

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years of experience in the U.S. Army in financial and human resources management.

ND LTAP circuit riders Vernon Monger and Russell McDaniel will continue in that capacity, providing an important point of contact with road managers and workers at the county and municipal level.

(New Location cont. on page 3)



(L to R) Gary Berreth, Jody Bohn, Russ McDaniel, Denise Brown, Vern Monger, Dave Levi

## 2007 NORTH DAKOTA ASSOCIATION OF COUNTY ENGINEERS ANNUAL CONVENTION

Dave Levi – ND LTAP

The North Dakota Association of County Engineers (NDACE) held its 57<sup>th</sup> Annual Institute Jan. 31 to Feb. 2 at the Fargo Holiday Inn. Approximately 150 county representatives from counties, consulting engineer firms and industry attended the convention.

The Annual Institute is an opportunity to advance county engineering and management by providing a forum for exchange of ideas and information aimed at improving the county engineering profession. The association is aware of the need to be ever-vigilant to changing technologies and ideas to improve the way they serve their communities.



(L to R) Ken McCoy and Duane Dobitz, Hettinger County; Don Andersen, previous ND LTAP Director; Kerry Johnson, Barnes County; and Mike Zimmerman, Stutsman County

NDACE President Damon Devillers welcomed everyone to the session and introduced the speakers. Francis Ziegler, Director of the North Dakota Department of Transportation, provided an overview and status report of the transportation-related legislation and budget issues being addressed in the legislative session.

Al Radliff, FHWA Division Administrator, provided a status report of federal legislation and the current funding challenges facing the transportation industry.

Tiffany Busby presented an update of the North Dakota Association of Counties (NDACO) scholarship fund. She stated the scholarship fund currently has a balance of \$56,000. She also provided information regarding the Institute of Local Government (ILG) program and the educational and professional

development opportunities the North Dakota Association of Counties offers through the ILG program.

Rachelle Vetter of the NDSU Extension Service gave an excellent presentation on "Balancing Your Roles as a Leader." Her presentation focused on balancing demand placed on individuals as employees on the job with demands placed by their families. She talked about time management, how to address the clutter in your life, how to say no, how to prioritize tasks, and provided insight on how to respond to difficult situations.

Don Andersen, ND LTAP director (retired), presented the awards to the

2006 Road Scholar Graduates. The Road Scholar Level 1 participants receiving awards were Darryl Wehner, Scott Cooke, Raymond Kilwein, Ed Krank, and Mike Reiss, City of Dickinson; Chuck Morman, Morton County; Rodney Mueller, Ron Herner, Jerry Frey, Ken McCoy, and Duane

Dobitz, Hettinger County;

Jason Kraft, Ramsey County; Brian Walter, Ward County; Tory Nissen, City of West Fargo; and Kerry Johnson, Barnes County. The Road Scholar Level 2 recipients were Nicholas Richter, Ramsey County; Mike Zimmerman, Stutsman County; and Duane Dobitz, Hettinger County.

Dave Leftwich, Errol Behm, and Blane Hoesel representing the Local Government Division of NDDOT, addressed the County Transportation Programs and the policy and procedures required to comply with the project development regulations.

Stan Taylor, Caterpillar, Inc., gave an excellent presentation on ground engaging equipment and identified maintenance requirements on the high wear parts.

At the evening banquet, Jerry Krieg of Kadrmas, Lee & Jackson, PC, was presented with an award for the "North Dakota County Engineer of The Year." Jerry was instrumental in planning the 2005 National Association of County Engineers conference in Bismarck and co-chaired this successful event.

Also presented at the banquet were two \$1000 Scholarships; one to Emily Huettl and the other to Eric Lee, both students at North Dakota State University studying Civil Engineering. In addition, the Association held a fund raising event that raised \$6,285 for the NDACE Scholarship Endowment fund.



Don Andersen, Civil Engineer, NDSU, and Tim Schulte, NDACE

Don Andersen, the founder of ND LTAP, was recognized by Tim Schulte, NDACE President, for his outstanding contributions to NDACE through his work with LTAP. Don was presented with an award from NDACE thanking him for his 22 years of service.

Gary Berreth, the new director of ND LTAP, and Dave Leftwich, NDDOT Local Government Engineer, presented Dr. Don Andersen with two prints for his 22 years of service to the ND LTAP Program.

The 2007-2008 NDACE elected officers are:

President – Tim Schulte, Richland County Engineer, Wahpeton  
Vice-President – Chuck Glynn, Dickey County Highway Supt., Fullerton  
Secretary/Treasurer – Dana Larsen, Ward County Assistant County Engineer, Minot  
1<sup>st</sup> Year Director – Kerry Johnson, Barnes County Highway Supt., Valley City

(Convention continued on page 3)


## USING GEOTEXTILES IN PAVEMENTS – ANOTHER OPINION

Dave Levi, ND LTAP

The winter, 2006, edition of the Center Line addressed the benefits of using a paving fabric to create an interlayer system of geotextile fabric and asphalt to reduce reflective and fatigue cracking. The intent is to create a water barrier to reduce the intrusion of water into the sub-grade to help maintain the structural capacity of the roadway.

Please note that the studies cited were completed in areas of the country that are much warmer than the upper Midwest. The North Dakota Department of Transportation (NDDOT) conducted a research project to study the use of the paving fabrics and found that paving fabric did not reduce the reflective cracking significantly. As a result, the NDDOT determined that the use of paving fabrics is not cost effective here.

My observation is that the cracks open a little wider in North Dakota and the fabric is not elastic enough to overcome our cold temperatures. If you want to stop water intrusion into pavements in the upper Midwest, your best bet is a good crack pouring/sealing program.

You can view a copy of NDDOT's paving fabric study at: [http://www.dot.nd.gov/materials/research\\_project/nd9402abstract.pdf](http://www.dot.nd.gov/materials/research_project/nd9402abstract.pdf) 

(Convention cont.)

2<sup>nd</sup> Year Director – Mike Rivinius,

Wold Engineering, P.C., Bismarck


3<sup>rd</sup> Year Director – Mike Zimmerman,

Stutsman County Highway Supt.,  
Jamestown

Past President – Damon DeVillers,

Interstate Engineering, Wahpeton

National Director – Keith Berndt, Cass  
County Engineer, Fargo

**Tim Schulte, president of NDACE**  
**also contributed to this article.** 

## CULVERT END STRAIGHTENER

Vernon Monger – ND LTAP




Culvert ends have a tendency to get bent inward from various means such as ice flow, trash and mowing equipment. This reduces the effective flow of water through the culvert and, during periods of high flow, could create other flooding problems. The ends should be opened up (straightened) to again get the most effective flow in the culvert.

With this in mind, Todd Miller and Mel Schmidt from the Stark County (Richardton shop) built a hydraulic scissor jack that can be inserted into the culvert and then open up the indented areas. They got the plans from the Idaho LTAP center. Todd states the plans were very detailed and they had no problem in following them.

Todd states they had much of the material on hand as salvage. They did have to purchase a small amount of iron and have a channel milled into it, which was the biggest cost. They had a used hydraulic pump available. Total cost was around \$150.00. Time to build it was approximately two days.

The design was made to repair metal culverts between 12 inches and 24 inches. However, larger culverts can be repaired by using planking on the top and bottom of the jack.


There is no need to “reinvent the wheel” so to speak. There are many of these gadgets available in many of our shops. We have been doing the “You Show Us” at our annual “Local Roads Coordinators Conference,” where many of these new ideas come up. We bring this to everyone's attention now, so if you have something to share with others we can get it printed up and advertised in our newsletter.

Credit for the scissor jack design is given to the Idaho LTAP and the design team that assembled the jack. More information is available on the web site. 

(New Location cont.)

Last fall, the UGPTI and the American Road and Transportation Builders Association (ARTBA), based in Washington, D.C., were awarded a contract to operate the LTAP clearinghouse. The Clearinghouse serves as a repository and source of training and technical material for the 51 LTAP centers and seven Tribal Technical Assistance (TTAP) centers across the country.

“There are some real opportunities for synergy between these programs,” Berreth notes. “Our involvement in the Clearinghouse will give us national perspective and expose us to a broad variety of technical training and outreach programs. We’ll be able to put the experience to use almost immediately at the local level in North Dakota.”

“Conversely, our close working relationship with the NDDOT and other local agencies, our previous involvement in applied training and outreach programs, and depth of experience in transportation research will allow us to make contributions to these programs that will benefit transportation professionals across the country.” 





## RAMSEY COUNTY BRIDGE REPLACEMENT PROGRAM


Vernon Monger – ND LTAP

Ramsey County is doing a bridge replacement program for replacing many of their deficient bridges on the township road systems. North Dakota counties are responsible for structures on township roads. All the structures being replaced have load ratings under 20 ton. They are being replaced with metal culverts. A few of the structures being replaced are on the bridge replacement program for low sufficiency ratings, however, most of the structures are under 20 feet in length. An engineering investigation was done on each to determine their load rating capacity. Most of the roads are necessary only to keep the section line open for farming access.

Kevin Fieldsend, County Highway Supervisor, states that they had over 50 structures under 20 feet in length. With the low load ratings on the structures they weren't safe for moving farm equipment and grain trucks. The size of the existing bridge opening was determined and through a limited hydraulic analysis the approximate drainage pipe sizes were determined. The local water board and the township supervisors also were involved in the decision.

Kevin states the work is being done with their road department crews. Sufficient manpower and equipment was available to handle a few each year. Any specialized equipment needed is provided by a rental agency. They do approximately 5 to 7 structures each year, depending on other work activities of the department. To date they have done 22, including one low-water crossing.

The landowners are very pleased with the replacement drainage structures. It provides more flexibility in getting their farm equipment to and from the fields, without having a bridge to cross. Also with no structure ton limits hauling grain from the field is less restrictive. The landowners are very receptive to providing the necessary fill materials.

Kevin states they will continue doing five to seven structure replacements each year until the project is completed. 

# Open House

**UGPTI Bismarck Campus**

**June 18, 2007**

**1:00 - 4:00 P.M.**

*Home of the ND LTAP Program  
Mark your calendars!*



# NORTH DAKOTA DOT EQUIPMENT OPERATOR TRAINING ACADEMY

Vernon Monger – ND LTAP

The North Dakota Department of Transportation (DOT) held their first equipment operators training academy at Camp Grafton, near Devils Lake. The one week session was held on Oct. 16 for 21 of their 32 employees with limited road department experience.

Camp Grafton is located adjacent to Devils Lake and is the training grounds for the North Dakota National Guard. It was made available to the DOT to conduct training. As can be seen in the photos, sufficient space is available for conducting the hands-on training of major equipment. They also had lodging and meals on site.

The DOT brought their equipment to the site, namely trucks, motor graders, loaders, dozers, and miscellaneous smaller equipment such as tractors and mowers. The equipment was available for “walk around” discussion and physical hands-on operation.

The morning sessions were “classroom” training discussing various subjects such as equipment safety, roadway safety, work zone signing, winter operations and review of general department operating policies. The afternoon

session was equipment operation in the field. The operators were divided into groups of eight and each group worked on one piece of equipment all afternoon. The four groups then rotated to a different piece of equipment each day. Instructors were department superintendents, road foremen and other specialty personnel from throughout the DOT organization.

Chris Padilla, DOT Maintenance division, was responsible for organizing the training session. He states it was a major effort in organizing the weeks activities and coordinating all the events, however, all things fell into place relatively well and it was well worth the effort. Students selected to attend had less than three years’ experience with the department. Chris states there was some hesitancy by the students, but when they completed the session they were very glad to have attended and gained additional knowledge of their equipment operator responsibilities. Also associating with their counterparts throughout the state was beneficial.

Jerry Horner, Maintenance and Engineering Services Engineer, states they were very satisfied with the organization of the event. The goal was

(Training Academy cont. on page 7)



North Dakota DOT Equipment Operator Training Academy Class. Do you recognize any faces?

## WINTER SAFETY TIPS

Good common sense with the right attitude keeps snowfighters safe. They are the ones who clear the roads of snow and ice during winter months, not only for emergency situations, but also for those traveling the roadways.

### BEFORE THE SNOW

Dry runs before the snow flies alert snowfighters to changes on their routes. New driveways or culverts, low hanging wires or tree branches, new curbs or guardrails, all need to be noted because they won't be as identifiable.

Good preparation means marking obstacles so they can be seen during a snowstorm. Those trees that have grown may need a few branches taken off.

### WHEN WINTER ARRIVES

The following checklists are good reminders for snowfighters:

#### Crew Safety

- Adequate sleep or rest
- Multi-layers of warm clothing
- Hard hat, safety vest, safety shoes/boots, gloves
- First Aid Kit
- Thermos/lunch box
- Survival kit: flashlight/extra batteries, ice scraper/snow brush, jumper cables
- Tool kit, flares/reflectors, traffic control flags, shovel, sand, fire extinguisher

#### Material Safety

- Materials Safety Data Sheet for chemical information with emergency procedures
- Remain in truck cab when truck is being loaded (unless you're the loader operator)

#### Vehicle and Equipment Safety

- Pre-trip inspection of truck – check fluid levels, tire tread & inflation, brakes, windshield wipers & blades, heater, defroster
- Clean windows and mirrors

- Check all lights
- Back-up alarm, plow flags & warning signs on rear of truck
- Radio communications
- Full fuel tank
- Final walk around inspection
- Safety belt

#### Facilities Safety

- Good housekeeping
- Well-lit facility

#### Operations Safety

- Know your truck & equipment
- Know safe backing rules; circle of safety (Note: backing accidents number more than any other type of accident in our road maintenance operations.)
- Backup alarm standard equipment
- When spreading material & running with truck bed up, the bottom of the truck bed should not be higher than the top of the cab.
- When changing plow blades, raise the plow and block it securely.
- To unclog a spreader, turn off engine and all power to the spreader.
- Relieve all pressure in the hydraulics and then use a tool to unclog (Even though all power is off, the reserve pressure in the hydraulic lines can still turn the auger as it is freed. Using a tool to unclog prevents the habit of sticking your hands in hazardous places.)
- Defensive driving & obey traffic laws
- Wear your safety belt
- Do not speed
- Keep adequate stopping distance
- Be aware of fatigue
- Know your own limitations
- Keep cool. Anger clouds judgment

Professional snowfighters provide the vital service to maintain a safe transportation system. Think safe and act safe to be safe.

Courtesy of the Salt Institute at: [www.saltinstitute.org/snowfighting](http://www.saltinstitute.org/snowfighting)

## COMING EVENTS

### ND LTAP Events

#### Culvert Installation and Maintenance

April 4, 2007  
Oakes, ND

April 11, 2007  
Stanley, ND

#### Asphalt Pavement Repair

April 24, 2007  
Dickinson, ND

April 25, 2007  
Carrington, ND

### COMING FALL 2007

Bridge Maintenance  
Winter Road Maintenance

### APWA Click, Listen & Learn

<http://www.apwa.net/Education/CLL/>

## OTHER EVENTS

### NACE Annual Conference 2007

April 22-26, 2007  
Milwaukee, WI

### Looking for your ideas and news articles

Contact Dave Levi at  
(701) 328-9857 or  
[dave.levi@ndsu.edu](mailto:dave.levi@ndsu.edu)  
to share your ideas and  
articles for the upcoming  
editions of The Center Line.



## APWA CELEBRATES NATIONAL PUBLIC WORKS WEEK MAY 20-26

Public Works: Moving Life Forward will be the theme for the 2007 National Public Works Week as hundreds of agencies begin preparations for the annual celebration of public works.

National Public Works Week (NPWW) is a celebration of the tens of thousands of men and women in North America who provide and maintain the infrastructure and services collectively known as public works.

National Public Works Week is observed each year during the third full week of May. Through NPWW and other efforts, APWA seeks to raise the public's awareness of public works issues and to increase confidence in public works employees who are dedicated to improving the quality of life for present and future generations.

For more information: <http://www.apwa.net/About/npww/> Contact: Jon Dilley (800) 848-2792 (phone) (816) 472-1610 (fax) [jdilley@apwa.net](mailto:jdilley@apwa.net)

## CHOOSING AND USING THE RIGHT WORK GLOVE

Work gloves cannot prevent hand injuries; only safe and conscientious work practices can do that. But choosing the right work glove for the job can help protect you from unnecessary injury and disability if an accident should occur. When protective handwear is required for the job you perform, make sure that the gloves you use fit well, are comfortable to wear and are rated to guard against the particular hand hazard you face.

### Disposable Gloves

Disposable gloves, usually made from light-weight plastic, can help guard against mild irritants. (These gloves are often used for food-handling operations.)

### Fabric Gloves

Gloves made of cotton or fabric blends are generally used to improve your grip when handling slippery objects. They also help insulate your hands from mild heat or cold.

### Rubber Gloves

Although commonly called "rubber," these gloves may actually be made of rubber, neoprene, poly vinyl alcohol or vinyl. These gloves help protect hands from corrosives such as organic acids and petroleum-based products.

### Leather Gloves

These gloves are used to guard against injuries from sparks or scraping against rough surfaces. They are also used in

combination with an insulated liner when working with electricity.


### Metal Mesh Gloves

These gloves are used to protect your hands from accidental cuts and scratches. They are used most commonly by persons working with cutting tools or other sharp instruments.

### Aluminized Gloves

Gloves made of aluminized fabric are designed to insulate your hands from intense heat. These gloves are most commonly used by persons working with molten materials.

Although these are the most common types of work gloves, many gloves are designed to protect against specific hazards. For instance, workers exposed to radiation hazards wear specialized lead-lined gloves. It's also important to remember that your work may require that you use additional hand protection other than gloves which may include approved barrier creams, forearm cuffs, hand pad, mittens, or finger cots. Your supervisor can help you determine the appropriate protective handwear for your particular job, but only you can make them work – by wearing them.

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(Training Academy cont.)

for the equipment operators to return to their duty stations with increased knowledge and improved skills that will make them safer and more efficient on the job, and Jerry believes that was accomplished. The plan is for this type of training to be an annual event, perhaps even extending it to a two week period in the future.

My observation was that this was very well organized with each operator having the opportunity to run the equipment and getting the benefits of the instructor's observations on improving the operators skills. The students showed great interest and enthusiasm for the session.

At our LTAP advisory committee meeting we have discussed the need for "equipment hands-on" training for local road and street department operators.

Is this type of training something that could work for our local governments? Since we are all individual road and street departments the mechanics of organizing something such as this may be more difficult than the DOT approach. It is worthy of some thought as to how we can provide hands-on training at a reasonable cost for our equipment operators. We are interested in receiving ideas from our road and street department personnel regarding this. 



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