

The Center Line

Local Technical Assistance Program

A Service for Local Transportation Agencies

North Dakota Transportation Technology Transfer Center

North Dakota State University

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WILMER NEUBERGER, Motor Grader Operator

by Vernon Monger, ND LTAP

How long should a person operate a road grader in a lifetime? Of course, it varies with all individuals, but Wilmer Neuberger began operating one in 1948 and hasn't slowed down yet. Wilmer works for the Mercer County Road Department, working from the shop at Golden Valley.

Visiting with Wilmer was most interesting. He got in his first motor grader 58 years ago at the age of 18, working for a contractor. He spent the next few years on the motor grader and cat and scraper, with an absence of two years in the army during the Korean conflict. He began his career with Mercer County in 1959. He has gone through about 6 graders during his lifetime. He says "the first one was worn out when I got into it, and I used it for four years."

Wilmer was born at Krem, in Mercer County, a town which no longer exists. His lifetime was spent within the county, with the exception of

his time in the army. He and his wife Bernice, married for 50 years, live in Golden Valley, where they raised four children, and have been blessed with 5 grandchildren.

Discussing the road maintenance activities with Wilmer, he indicated there has been such a change in equipment, making it a pleasant experience now to operate the motor grader. Years ago they got used equipment, frequently needing



repairs and resulting in lots of down time. He states, "you could get shook up pretty well in a days time." Today, since they are in the coal impact area, the county receives special funds and as a result the county road equipment is very up to date.

In the early years, Wilmer says, he parked the motor grader in his back yard. It was very

convenient to go to work, but of course, in the winter it wasn't so nice having to get the machine going out in the cold with everything froze up. About 15 years ago they built a shop in Golden Valley for him so now he has a block or so to walk to work. Everyone in the rural area

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Routing Slip

Don't file this newsletter too quickly. Read it, photocopy what you want, sign below, and please pass it on — especially to the front-line troops.

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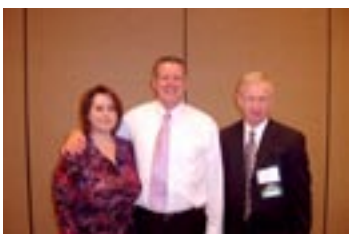
Damon Devillers, NDACE President



Rod Ness, NDACE Engineer/Superintendent of the Year



Gabriel Schell, UND, NDACE 2006 Scholarship Winner



Jon Christiansen, NDSU, NDACE 2006 Scholarship Winner

NDACE 2006 ANNUAL CONVENTION by Vernon Monger, ND LTAP

The North Dakota Association of County Engineers held their annual convention at Fargo on February 1 to 3. The conference set an all time high in attendance by county engineer, road superintendents, county commissioners, consultants and vendors with an attendance of 154, which included 27 vendors. An excellent agenda was assembled. The new federal SAFETEA-LU legislation was discussed with the group by Al Radliff, FHWA administrator for North Dakota. Dave Sprynczynatyk, North Dakota DOT director discussed the highway program at the state level and his staff discussed the various programs and project development for the locals. Jerry Krieg gave a report on the NACE convention held in April 2005, which was a very successful convention with many accolades being received from throughout the country.

Technical presentations were made on county liability issues, base stabilization, snow and ice control, overlay options, county GIS, metal and plastic pipe installations, erosion and sediment control and storm water permits.

Damon Devillers, Interstate Engineering, assumed the presidency for the coming year, replacing Trevor Christianson, Wold Engineering. Mike Aubol, Assistant Burleigh County Engineer, was elected to the executive board as 3rd Vice President.

The Engineer/Superintendent of the year selected was Rodney Ness, Burleigh County Road Superintendent. Rodney has been with Burleigh County for 25 years and been road superintendent since 1989. He has been very active in the association activities and served on the executive committee for NDACE for seven years, being president in 2003. Rodney is also active with the North Dakota Association of Counties and serves as 2nd Vice President of that group.

The LTAP Road Scholarship Program was introduced and presentations made to those in attendance. Thirty one operators received certificates for road scholar I. Dr. Donald Andersen, LTAP director, presented Road Scholar one plaques and hats to the eleven equipment operators in attendance.

Two \$1,000 scholarships were given by the association this year. Recipients were Gabriel Schell and Jon Christensen. Gabriel is a 4th year student enrolled in engineering at the University of North Dakota. He attended Valley City High School. He has worked for KLJ consultants for the past four summers. He would like to stay in North Dakota upon completion of college and pursue his engineering career.

Jon Christensen is a third year student enrolled in Construction Engineering at NDSU at Fargo. Jon attended Rolling Hills High School in Rancho Palos Verdes, California. He and his wife Sandy have two children. Jon's goal is to become a project engineer in the Grand Forks area upon completion of his education. //

[Continued from page 1.]
knew that Wilmer was responsible for blading their roads, so there were many evening phone calls letting him know about their roadway problems, which was frustrating after a long hard days work.

Some of the problems associated with the early years of his employment have all but disappeared. The old “mucker” roads were hard to maintain with no select materials used in their construction. A very limited amount of gravel was placed on them, using only pit run gravel. Also there is considerable scoria in that area and that was used on many roads, which did not hold up well. Today they are using crushed gravel, with gradation for good binding characteristics, which reduces the need for blading the roadways as frequently.

Problems Wilmer sees today are the heavier truck traffic, large wide farm machinery on the roadways and speed of the traffic. Also sign damage from wide farm machinery, particularly bridge end markers, and vandalism is prevalent.

I asked Wilmer about the LTAP training workshops. He has attended several of them and states they have been very helpful to him. While he has been on the job a long time and had good experience, he feels the workshops are especially valuable to the newer employees, learn how to do the job the right way, learning new techniques and becoming skilled in a more efficient and timely manner.

Kenny Nelson, Road Superintendent, states Wilmer has been a very dependable employee, working alone out of the shop at Golden Valley. He states Wilmer is very conscientious about his work and requires no supervision on the daily work activities.



Wilmer Neuberger, left, with Kenny Nelson, Mercer County Road Superintendent.

I asked Wilmer how much longer he was going to work. He stated he thought of quitting last fall and when he mentioned it to Kenny, he stated “you can’t quit, we need you.” So Wilmer threw up his hands and said he didn’t know. It was obvious he is still enjoying his work. Whatever you decide, Wilmer, continue to enjoy life to the fullest. //

National Work Zone Awareness Week

The seventh annual National Work Zone Awareness Week (NWZAW) was held from April 3-9, 2006. NWZAW is a national campaign intended to increase public awareness of work zone safety. The campaign also calls attention to the fact that more than 1,000 men, women, and children are killed in work zones each year.

NWZAW began with a partnership of ATSSA, the FHWA and ASHTO. Since then, other organizations have joined and encouraged local community activities to help educate the nation on work zone related injuries and fatalities. Part of this education effort is informing the public of the hazards and dangers that can be encountered and avoided when driving through a roadway work zone.



Graduates attending the graduation ceremonies.



Tim Tangen & Dennis Montz, Barnes County



Rodney Ness & Group, Burleigh County



Hettinger Co. Employees

Congratulations!

ND LTAP 2006 Road Scholar Graduates

Congratulations to all of the 2006 graduates of the North Dakota LTAP Road Scholar Program!

Graduation ceremonies were held in conjunction with the ND Association of County Engineers Convention in Fargo, ND on February 1-3, 2006. Thirty one operators received certificates for Road Scholar I. Donald Andersen, LTAP Director, presented "Road Scholar I" plaques and hats to the eleven equipment operators in attendance. Those graduates who were not able to attend received their Road Scholar I plaques and hats by mail.

The ND LTAP established the Road Scholar Program as a way to recognize the achievements of local road and highway personnel in completing a defined series of basic and elective training sessions or workshops. The program provides participants the opportunity to build a foundation of technical and managerial skills, and to receive public recognition for their achievement.

Basic workshops provide a solid base of fundamental knowledge in road technology. Elective workshops allow participants to tailor the program to their specific individual needs. There are three levels of recognition: Road Scholar I, Road Scholar II, and Road Scholar III. Each level requires the participant to complete a series of basic and elective training workshops.

A program informational and registration brochure is available from the ND LTAP Center and is distributed at all workshops. It is easy to apply for the Road Scholar Program and you can get credit for workshops you may have already attended. All you need to do is complete the short program registration form and send it to the ND LTAP Center to enroll. You can also contact us by phone, fax or email to request a program registration brochure.

List of Graduates:

2006 Road Scholar Level I

Wayne Bell, Walsh County
 Lowell Bladow, Richland County
 Mark Bobbe, Dickey County
 Fred Collins, Adams County
 Dean Erickson, Adams County
 Gerard Feist, Burleigh County
 Paul Feller, Burleigh County
 Kevin Fieldsend, Ramsey County
 Kelly Friedt, Hettinger County
 Charles Glynn, Dickey County
 Curt Johnson, Mountrail County
 Wayne Klein, Burleigh County
 Wayne Koltjes, Adams County
 Nick Kraft, Morton County
 Eugene Krambeer, Adams County
 Roy Krivoruchka, Billings County
 Dana Larson, Ward County
 Daryl Lematta, Dickey County
 Randy Levi, Adams County
 Peter Matcha, Walsh County
 Kevin Mayers, City of Casselton
 Dennis Moritz, Barnes County
 Lee Meier, Hettinger County
 Kenneth Nelson, Mercer County

Nicholas Richter, Ramsey County
 Richard Rogers, Burleigh County
 Dale Sather, City of Valley City
 Tim Tangen, Barnes County
 Richard Urvand, Nelson County
 Shane Yates, Adams County
 Mike Zimmerman, Stutsman County



Kenny Nelson,
 Mercer County



Nick Kraft,
 Morton County



Curt Johnson,
 Mountrail County



Kevin Fieldsend & Nick Richter,
 Ramsey County



Lowell Bladow,
 Richland County



Mike Zimmerman,
 Stutsman County



Wayne Bell & Peter Matcha,
 Walsh County

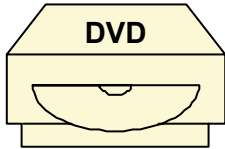
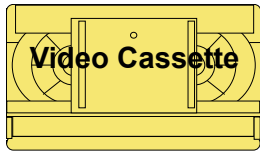


Dana Larson,
 Ward County

Interim Guidance on High Risk Rural Roads Safety Program

The Federal Highway Administration has issued interim guidance on a new set-aside provision known as the high Risk Rural Roads Program. SAFETEA-LU introduced a new set-aside provision, the High Risk Rural Roads Program, which is a component of HSIP and is set-aside after HSIP funds have been appropriated to the states. It provides \$90 million of HSIP apportionment per year for high risk rural roads (HRRR) highway safety improvement projects. Projects may be selected on any public HRRR to correct or improve hazardous road locations or features. The state's HSIP including the HRRR element, shall consider the safety needs on all public roads, whether state or locally owned. The interim guidance is available by visiting <http://safety.fhwa.dot.gov/safetealu/hrrrpattachment.htm>.

Check It Out



Videotape / DVD Library Addition

The following DVD Web video has recently been added to our library and is now available for loan. Check it out for a couple of weeks at no charge.

“Dangerous Travelers: Controlling Invasive Plants Along America’s Roadways” (26 min.)

This DVD Web video was produced by the USDA Forest Service San Dimas Technology and Development Center. It covers the best management practices to assist road maintenance crews in controlling the rapid spread of invasive plants. Highlights plant identification, inventory systems, mapping, mechanical removal, herbicide treatments, weed-free products, maintenance techniques, and cleaning of equipment. 

Safe at Any Speed

In 2005, according to new data from the National Highway Safety Administration, the rate of injuries per mile traveled was lower than at any time since the Interstate Highway System was built 50 years ago. The fatality rate was the second lowest ever, just a tic higher than in 2004.

As a public matter, this steady decline is a vindication of the repeal of the 55 mph federal speed limit law in 1995. That 1974 federal speed limit was arguably the most disobeyed and despised law since Prohibition. “Double Nickel,” as it was often called, was first adopted to save gasoline during the Arab oil embargo, though later the justification became saving lives. But to Westerners with open spaces and low traffic density, the law became a symbol of the heavy hand of the federal nanny state. To top it off, Congress would deny states their own federal highway construction dollars if they failed to comply.

In repealing the law, the newly minted Republican majority in congress declared that states were free to impose their own limits. Many states immediately took up this nod to federalism by raising their limits to 70 and 75 mph. Texas just raised its speed limit again on rural highways to 80.

This may seem non-controversial now, but at the time the debate was shrill and filled with predictions of doom. Ralph Nader claimed that “history will never forgive Congress for this assault on the sanctity of human life.” Judith Stone, president for the Advocates for Highway and Auto Safety, predicted to Katie Couric on NBC’s “Today Show” that there would be “6,400 added highway fatalities a year and millions of more injuries.” Federico Pena, the Clinton Administration Secretary of Transportation, declared: “Allowing speed limits to rise above 55 simply means that more Americans will die and be injured on our highways.”

6 We now have 10 years of evidence proving that the only “assault” was on the sanctity of the truth. Per mile traveled, there were about 5,000 fewer deaths and almost one million fewer injuries in 2005 than in the mid-1990s.

This is all the more remarkable given that a dozen years ago Americans lacked today’s distraction of driving while also talking on their cell phones.

Of the 31 states that have raised their speed limits to more than 70 mph, 29 saw a decline in the deaths and injury rate and only two – the Dakotas – have seen fatalities increase. Two studies, by the National Motorists Association and by the Cato Institute, have compared crash data in states that raised their speed limits with those that didn’t and found no increase in deaths in the higher speed states.

Jim Baxter, president of the National Motorists Association, says that by the early 1990s “compliance with the 55 mph law was only about 5% - in other words, about 95% of drivers were exceeding the speed limit.” Now motorists can coast at these faster speeds without being on the constant lookout for radar guns, speed traps and state troopers. Americans have also arrived at their destinations sooner, worth an estimated \$30 billion a year in time saved, according to the Cato study.

The tragedy is that 43,000 Americans still die on the roads every year, or about 15 times the number of US combat deaths in Iraq. Car accidents remain a leading cause of death among teenagers in particular. The Interstate Highway System is nonetheless one of the greatest public works programs in American history, and the two-thirds decline in road deaths per mile traveled since the mid-1950s has been a spectacular achievement. Tough drunk driving laws, better road technology, and such improving auto safety features as power steering and brakes are all proven life savers.

We are often told, by nanny-state advocates, that such public goods as safety require a loss of liberty. In the case of speed limits and traffic deaths, that just isn’t so.

Source: The Wall Street Journal, New York, NY, Editorial.

Note: This article was forwarded to the North Dakota LTAP Center by the FHWA as a possible newsletter article. Editorials are, by their very nature, opinions. The ND LTAP does not necessarily agree or disagree with the opinion expressed in the article.

Using Geotextiles in Pavements

Good drainage is crucial to a road's performance. Water softens the sub-grade and reduces its structural capacity. To control water infiltration into the subgrade, agencies often use subsurface drainage and ditches or pavement seals. Although an overlay seals the pavement, over time, reflective cracks will reappear. This article discusses the use of paving fabrics.

The placement of a paving fabric creates an interlayer system of a nonwoven geotextile installed over a PG Asphalt and then overlaid or chip-sealed. The system creates a water barrier and absorbs pavement stresses thereby reducing reflective and fatigue cracking. The system also restricts freeze-thaw damage due to saturation.

A pavement fabric system with an overlay is a viable alternative to an overlay or seal alone. The costs of the system vary, so a cost-benefit analysis is necessary to decide which system agencies may use.

The Problem

Moisture weakens the subbase and damages the pavement structure. A saturated base results in progressive pavement failure. A base saturated by as little as ten percent reduces the useful life of the pavement by 50 percent.

Water jetting from cracks or joints moves the subgrade material to the road surface. This creates voids under the pavement and eventual pavement failure.

Water enters the base through the groundwater from drainage ditches or from subsurface flow.

Usually these sources are secondary to rainwater entering through the pavement surface.

Paving Fabric Research

Field and laboratory research evaluated the effectiveness of paving fabrics interlayer systems in minimizing surface water infiltration through the pavement.

In the lab, a paving fabric interlayer provides improved moisture barrier properties compared to asphalt alone. Studies show that the pavements with paving fabric are less permeable than without a paving fabric. Research showed variations due to the amount and uniformity of the PG Asphalt. When using paving fabric ensure that the fabric is installed with sufficient PG Asphalt to become impermeable.

Caltrans performed extensive research on paving fabrics. Their findings show that fabric provides an increased service life equivalent to an extra 1.2 inches of overlay. This is due to the stress-absorbing function, which retards reflective cracking, and the waterproofing function.

Field studies are general agreement with those in the lab. Lower moisture levels in the pavement structure were seen as well as increased pavement strength.

Construction Procedures

1. Prepare old pavement. Fill cracks larger than $\frac{1}{4}$ inch and potholes. Remove dirt, debris, and vegetation. Shim or mill roads in poor condition.
- 2.⁷ Apply PG Asphalt. Air temperatures should be at least 50 degrees and rising. Do not apply PG Asphalt in the rain, as it will not bond to the pavement.

3. Install paving fabric over wet PG Asphalt. Overlap the edges 1-3 inches. Broom or roll to avoid air bubbles and large wrinkles.

4. Apply an overlay or chip seal over pavement fabric.

Conclusions

The following conclusions are based on the laboratory and field evaluations of the waterproofing effectiveness or a paving fabric interlayer system:

- Laboratory and field pavement cores indicate that a properly installed paving fabric interlayer system reduces the permeability of pavement. It reduces water infiltration and becomes an efficient moisture barrier and enhances pavement performance.
- Moisture levels beneath the pavement layers are lower with paving fabric. It maintains the strength of the subgrade, sub-base, and base layers, and limit damage due to saturation.
- To provide a continuous moisture barrier, use sufficient PG Asphalt to saturate the paving fabric and bond the inter-layer system. Lesser amounts of asphalt cement diminish the waterproofing effect. Evenly apply the PG Asphalt. Inspections and quality control are important.
- Consider using a paving fabric as a moisture barrier when drainage installation is not an option.

Source: Marienfeld, Mark, and Baker, Thomas, Paving Fabric Interlayer As A Pavement Moisture Barrier. <http://onlinepubs.trb.org/onlinepubs/circulars/ec006.html>

Petromat Installation Guide

Trupave Engineered Paving Mat

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The Transportation Technology Transfer Program is a nationwide partnership under the Local Technical Assistance Program (LTAP) of the Federal Highway Administration, state departments of transportation, universities, and others. The program's purpose is to translate into understandable terms the latest transportation research and technologies. This information is made available to local officials transportation personnel in towns, cities, counties and townships.

Federal support for operation of the North Dakota TTT Center at North Dakota State University (NDSU) is matched by the North Dakota Department of Transportation, NDSU, the North Dakota Insurance Reserve Fund and the ND TTT Center. Guidance for the ND TTT Center is provided by an Advisory Board composed of members representing the federal, state, local and private sector transportation community. This newsletter is designed to keep you informed about new publications, videos, innovative technologies and training opportunities that will be helpful to you and your local unit of government.

The use of product brand names in newsletter articles does not constitute any endorsement of those products by the ND TTT Center.

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