

## **CONTENTS**

<b>Transportation Analysis</b>	<b>2</b>
<b>Ova Selected</b>	<b>4</b>
<b>Hough Completes Doctorate</b>	<b>5</b>
<b>DOT Support Center</b>	<b>6</b>
<b>ATAC Traffic Simulation</b>	<b>8</b>
<b>MPC Short Course</b>	<b>9</b>
<b>TEL8 Honors McCarthy</b>	<b>10</b>
<b>Student Profiles</b>	<b>11</b>
<b>Student Spotlight</b>	<b>13</b>
<b>Field Systems Group</b>	<b>14</b>

## **UGPTI director studies European transportation workforce development**

The Upper Great Plains Transportation Institute at North Dakota State University is at the forefront of finding solutions to challenging issues in transportation. UGPTI director Gene Griffin will be the academic representative on a 10-member study panel chosen and sponsored by the U.S. Federal Highway Administration and the American Association of State Highway and Transportation Officials studying European transportation issues.

Griffin will have site visits in Sweden, Germany, France and the United Kingdom, meeting with transportation officials from government, private and academic areas. Because transportation agencies in the United States are grappling with how to hire and retain technical and administration workers, and how to train/retrain those workers to meet changing needs, the panel will investigate European solutions and failures in the same arena.

Griffin and other team members will create a final report with national impact from their visits with public and private highway agencies in Europe. Of particular interest will be how those agencies build and maintain a technical and non-technical staff.

Transportation has become a high tech business, according to Griffin, and finding qualified people to fill positions is more and more difficult. The number of engineering students in the United States has not kept pace with the growing demand. Although there has been a slight upswing in the number of undergraduate engineering students in the U.S., most of the increase is in computer engineering. The number of science and engineering graduate students in the U.S. has fallen for the fifth consecutive year.

Human capital will also be a study topic, focusing especially on the career goals of incoming students and how their needs can be met in the transportation profession. Transportation agencies in the U.S. have shifted from a new construction mode to system preservation, with much of the planning, design and construction work outsourced. This reduced opportunities for hands-on work by engineers and technicians.



## Research shows continued challenge for agriculture and transportation

North Dakota producers face challenges particular to rural states filling the grocery shelves of the nation and the world. With farms spread over great areas and the state equidistant from both coasts, cost effectively moving grain to international markets includes analysis of many factors.

### *Shuttle equipped elevators have opportunities*

Shuttle trains offer the most competitive rail rates. In the 1999-2000 crop year, approximately 69 percent of all North Dakota grains and oilseeds transported to export and domestic markets moved by rail.

But shippers must meet criteria including volume, transaction and operational commitments. And, discussions with grain companies and railroads suggest 12 to 15 million bushels are needed annually for a shuttle facility to work. Savings for an elevator in central North Dakota shipping wheat to Portland, Ore., are significant. With a shuttle train, cost per bushel is \$1.06 compared to \$1.21 a bushel for a unit train.

In the Upper Great Plains Transportation Institute study, using 10 possible shuttle facilities, two percent of the elevators might originate up to 32 percent of the average annual production of wheat, barley and corn. The market share of state production translates to an average 16.5 million bushels per facility.

To operate 10 shuttle facilities, 135 million bushels, or 20 percent of the state's annual grain production, would need to be used. Dedicated land needed in the estimated shuttle facility draw areas would be 22,751,000 acres, fully 45 percent of North Dakota's land area. Wheat alone needed in the estimated area would be 121,478,000 bushels or 38 percent of the state's annual wheat production.

Together, this reflects the imminence of redistribution of bushels within the local elevator industry. Using this potential concentration of bushels, the implications for local roads, short line railroads, bridge infrastructure, local processors, local communities and the North Dakota elevator industry will all have challenges.

### *Heavy loading rail grain cars impact state*

Using shuttle trains to transport grain means elevator reallocation and different shipping arrangements. Compounding the decision process is the fact that since 1980, there have been more than 1,200 miles of rail line abandoned in North Dakota. Eased abandonment regulations and increased shipment sizes contributed. The current trend of shuttle train shipment, with a shift to 286,000 pound cars, is likely to lead to further rail abandonment.

Larger rail cars can create efficiency for railroads including reduced car and locomotive ownership costs; reduced labor costs; reduced fuel, car and locomotive maintenance costs and increased system capacity. Shippers average about 3-cents per bushel savings for wheat shipped in 286,000 pound cars.

Because of the savings available to railroads on mainline routes, there has been a major shift to the 286,000 pound cars since the early '90s. While less than one percent moved in 286,000 pound cars in 1993, by 1998, 28 percent did.

Using larger cars affects the rail lines in place. Light-density branch lines comprise nearly 2/3 of all North Dakota route mileage. More than half of these branch line miles have rail in place that is less than 90 pounds per yard. Simulations performed in the study suggest lines that have track, which is less than 90 pounds per yard are not likely to be viable under a switch to 286,000

pound cars. These lines perform poorly even at very low speeds. Moreover, a slow speed operation is not likely to be a viable long-run alternative since the opportunity costs associated with locomotives and cars are high.

Thus, railroads will face a future decision on whether to upgrade many of these lines or whether to abandon them.

To the extent rail abandonment occurs in the future, impacts in affected communities may include:

- increased shipper transportation costs, and a resulting reduction in producer income
- reductions in gross business volume and personal income
- increased highway maintenance costs
- decreased economic development opportunities

However, rate savings passed on to producers as a result of shipping in larger sizes and larger cars may offset the impacts of reductions in personal income and gross business volume to some extent. Moreover, in areas where shuttle facilities are built, and where larger rail cars are used, shippers and communities will benefit from the changes.

### ***Importance of intermodal service to future commodity processing and marketing***

The use of intermodal transportation is increasing in the United States with container intermodal shipping an important option for competing in the global and domestic market. The distance to a loading facility is an important part of making intermodal shipping economically feasible. For North Dakota shippers, current loading facilities are in Dilworth and Minneapolis, Minn., and Billings, Mont.

North Dakota's intermodal shipping is decreasing according to the Public Use Waybill. Typically drayage to an intermodal loading facility is 100 miles or less. Potential sites for a North Dakota facility are being explored.

The food industry's increasing demand for identity preserved commodities, along with the agriculture community pursuit of value added ventures, provides economic opportunity for North Dakota farmers and businesses. Transportation for a portion of North Dakota commodities will continue to change from unit trains to either truck or container. For export and long domestic less-than-trainload shipments a rail or intermodal option may lessen transportation costs making North Dakota products more competitive.

Partnerships between private and public sectors for building and operating intermodal facilities has worked in other states. This partnering as an economic development tool in North Dakota could serve to strengthen existing business and provide transportation options.

### ***Logistical factors influencing the success of value added processing facilities***

North Dakota's competitiveness in adding value to raw commodities depends on logistics methods and business practices employed by the firm. Factors that need to be considered include location importance, labor climate, transportation availability, markets, product characteristics, taxes and economic development incentives, supplier network, land, utilities costs and infrastructure, and company preference.

(Transportation continued on page 15)

## Kiel Ova selected for Eno leadership development conference

Things have been exciting for Kiel Ova since December. He began full-time as a transportation research engineer and associate research fellow at the Upper Great Plains Transportation Institute. He defended his thesis: Evaluation of Transit Signal Priority Strategies for Small-Medium Cities.

**“This selection shows how strong our transportation curriculum is and the reputation of the UGPTI”**

He has now been selected to attend the Eno Transportation Foundation leadership development conference in Washington, D.C., as an Eno Fellow. He was chosen as one of only 20 top students in the country.

Ova calls this “a great opportunity to learn exactly how things happen in Washington and how those decisions eventually affect our lives.” This area of transportation is one he has a special interest in pursuing. His career plans include getting involved in the administrative aspects of transportation development.

He lauds the civil engineering education he’s received at North Dakota State University. “This selection shows how strong our transportation curriculum is and the reputation of the UGPTI,”

he says. Others attending the five-day conference are from schools in California, Colorado, Pennsylvania, Massachusetts, Texas, Indiana, Arkansas, Washington, Virginia, and Ova’s home state, Montana.

Dr. Ayman Smadi, Ova’s mentor and director of the Advanced Traffic Analysis Center, called Ova a student who “demonstrated exceptional academic achievement and professional maturity. He shows a great understanding of the complexity and diversity of transportation issues and an outstanding level of professionalism.” Ova worked with Smadi for two years as an undergraduate and two years as a graduate student.

In that ATAC work, Ova’s thesis on transit signal priority grew a spinoff in St. Cloud, Minn. St. Cloud implemented some of the concepts studied in his thesis. With the St. Cloud system already installed, he has the opportunity to test the accuracy of the model used in his thesis to a real world application.

Two other NDSU students were previously chosen for the Eno Leadership Development Conference. Brenda Lantz, who is director of the Motor Carrier Field Systems Program, and Joel Honeyman, who is with Bobcat/Ingersoll-Rand.

The Eno Transportation Foundation is a nonprofit organization dedicated to improving all modes of transportation – ground, air and water. It was founded in 1921 by William Phelps Eno with the goal of improving traffic control and safety. Since then, the Foundation’s activities have evolved in response to changes in transportation and society.



## Hough completes doctoral coursework with planning and policy option



Through an exhilarating, exhausting, exciting 16 months, Jill Hough devoted herself to doctoral program

coursework at the University of California, Davis, in transportation technology and policy. Returning to North Dakota State University in December 2000, Hough left the California classroom to continue her research work at the Upper Great Plains Transportation Institute.

The UCD program is well known for its interdisciplinary education addressing transportation, environmental, economic and social problems facing this nation and the world. The program has two primary sections. With Hough's background in economics, she chose the planning and policy option. The other track would have been a technology emphasis for students interested in the engineering side of transportation.

Hough has a strong interest in public transportation and plans to write her dissertation on the political feasibility of bus rapid transit. Bus rapid transit is developing a new prominence in

the United States as the Federal Transit Administration is helping support several demonstration sites. BRT is similar to a light rail system but operates with buses at considerably less cost.

There are various hybrids of BRT with exclusive right-of-way, attractive vehicles, stations for rapid boarding, signal priority, state-of-the-art customer service, seamless transfers and supportive land use policies. BRT systems can make use of any or all of these characteristics.

Her coursework, which concluded Dec. 15, included several courses, but a few were travel demand modeling, geographic information systems and public transportation. Her major professor was Dr. Debbie Niemeier in the Department of Civil and Environmental Engineering.

"The experience at UCD was invaluable and a great learning opportunity. I'm very appreciative of UGPTI and NDSU for extending this opportunity to me to study at UCD and learn in that academic environment," she said. She enjoyed the experience of UCD with its 25,000 students.

Her work at the UGPTI has assisted county officials in making decisions about the economic impact and benefits of gravel and paved roads in rural areas. Public transportation for rural transit of people with special needs and how to improve those services, and making the best use of scarce resources are two of her Institute areas of research.

Hough earned both bachelor and master of science degrees in agricultural economics from North Dakota State University.

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Director (cont. from page 1)

Civil engineers have been the backbone of transportation development and planning. Today, civil engineers must also have co-workers skilled in computer engineering, high-tech electronics, regional planning, environmental protection, federal regulations, accounting, management, communications, marketing, economics and other areas.

## Support Center portal between campus and DOT

“Hey, Ron, how do I do this?” is the question of the day in the new Department of Transportation Support Center at North Dakota State University. Up to seven engineering students work with drafting and design for roadways in North Dakota. They use the same professional engineering software used by DOTs across the country. They’re learning what it’s like to be a transportation engineer.

The Upper Great Plains Transportation Institute, through this new DOT Support Center, has high hopes – both for the practical work students can do in the Center and for the future of having engineers involved in transportation. The North Dakota DOT and the UGPTI have long enjoyed a productive working relationship.

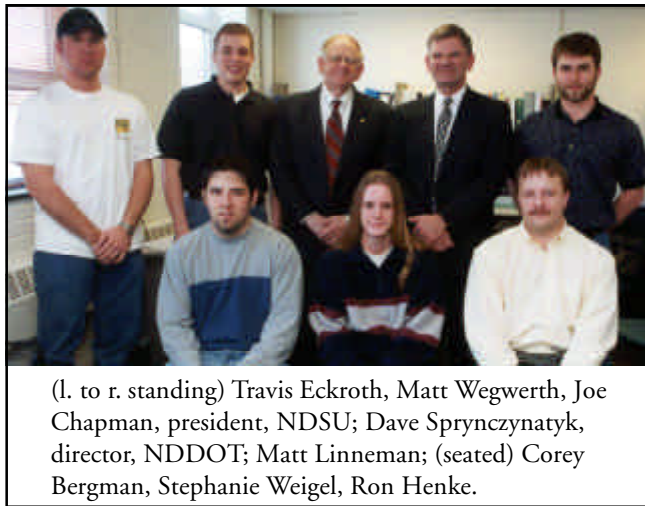
Transportation engineers are in short supply and this program may encourage students to look at transportation issues as a career. Dennis Jacobson, director of the Center, lists four main goals for the Center:

- To expose young engineers to transportation as a career field
- To develop better engineers who have real-world experience on actual DOT projects
- To develop positive relationships between engineering and computer information systems students and the NDDOT
- To develop joint NDSU and NDDOT research projects utilizing the core competencies of each organization

Ron Henke, who brings 10 years of experience with the NDDOT to the DOT Support Center, is the hands-on answer man for the students. He’s there while they work through Microstation CAD drafting and GEOPAK civil design packages.

The students begin with drawings for intersections, figuring out dirt quantities, doing vertical and horizontal adjustments – real world work they’ll do when they graduate. They’ll add surveying and further research, part of the practicality that builds the program itself.

(Continued on next page)



(l. to r. standing) Travis Eckroth, Matt Wegwerth, Joe Chapman, president, NDSU; Dave Sprynczynatyk, director, NDDOT; Matt Linneman; (seated) Corey Bergman, Stephanie Weigel, Ron Henke.

### Ron Henke

Ron Henke comes to the new Department of Transportation Support Center with a decade of credentials with the North Dakota DOT. For seven years he worked in Bismarck, N. D., doing design work and then transferred to the Fargo District office where he worked the past three years. His construction management degree is from North Dakota State University and he has one semester remaining on his work for his degree in construction engineering.



Students learn to use professional manuals, including the American Association of State Highway and Transportation Officials. Manuals show what goes into a set of plans and how to meet standards. According to Henke, this is critical to learning organization and how to manage drawings.

Getting experience in the DOT Support Center enhances employability for the graduates. They also learn the team concept of construction – critical to success in the field. Jacobson points out

that work in the office and work in the field don't always intersect and engineers have to be able to make needed adjustments and on-the-spot technical innovation.

The partnership of the NDDOT, North Dakota State University students, faculty and staff, and the transportation professionals at the UGPTI creates an innovative education program of academic assets meeting pressing issues in transportation.



(l. to r. standing) Craig Schnell, VP-academic affairs, NDSU; Gene Griffin, director, UGPTI; Grant Levi, NDDOT; Dennis Jacobson, director, DOT Support Center; (seated) Joe Chapman, president, NDSU; Dave Sprynczynatyk, director, NDDOT.

# ATAC traffic simulation system aids \$17 million project

The Advanced Traffic Analysis Center's continuous support to the North Dakota Department of Transportation and the city of Fargo will be evident this summer. ATAC is analyzing the impact for an eight-mile I-29 construction project through the metropolitan area. In the summer of 2001, 3.7 miles of the highway are scheduled for reconstruction in the multi-year project costing \$17 million. The complex project includes lane expansion, adding underpasses and rebuilding an overpass. Using traffic simulation, ATAC is evaluating traffic operations through the construction area, as well as the detour routes in the metropolitan area.

This highway reconstruction covers the busiest stretch of highway in North Dakota. Tens of thousands of motorists and businesses will be affected.

Last summer ATAC researchers gathered field data using the Traffic Data Collection System (TDCS) at several locations in the I-29 corridor. The TDCS is a mobile unit developed by ATAC staff. It consists of two



video cameras with pan/tilt devices mounted on a 42-foot telescopic mast, video detection equipment and other computer equipment. The system allowed ATAC to analyze traffic volume, speed and driver behavior. A traffic simulation network was constructed to replicate the entire system, including traffic volume, road geometry and traffic control devices.

Through this research, the NDDOT and city of Fargo will receive valuable information on different diversion routes, traffic control and traveler information strategies. Traveler information is an incredibly important component, according to Shawn Birst, who is a transportation engineer with ATAC. "As travelers are better

informed before they enter a construction area, they can make better decisions," he said.



"When drivers are informed about alternate routes, there is less potential for congestion

and accidents in a construction area."

The traffic analysis by ATAC will also provide the NDDOT with information they need for incentive and disincentive payments to contractors. This summer, ATAC staff will continue gathering data to see how people are using alternate routes and evaluate traffic flow and driver behavior through the corridor.



## MPC short course a hit!

While TEL8 videoconference classes prove themselves accessible and educational, the first Mountain-Plains Consortium short course proved to be a standout. In January, Dr. Peter Martin, with solid support from his colleague Dr. Joe Perrin, from the University of Utah Civil and Environmental Engineering Department prepared 89 students for the professional engineers examination.

He credits the successful blend of videoconferencing and web accessibility as the keys to successful distance learning. Graduate courses have had web-based support for about five years. For this class, the appeal of having e-mail, chat rooms and online resources available enhanced the offering.

It helps when the professor is energized. "I enjoy short courses, the challenge and excitement," Martin says. "It's easy to be jaded after 16 years of teaching and I'm grateful to have something new."

That something new created mounds of work, making a chalk and notes lecture into material that can work for electronic media and web-based dissemination. Martin calls the challenge fun. "For me, it means taking a chance to change and expand, to take a risk. It's not as safe as

doing the same thing. I'm a natural communicator and this is much like broadcasting with cameras and an audience," Martin noted. "It's outside the cocoon."

Videoconference students have a personal contact that in many ways exceeds the regular classroom according to Martin. Students have access through the

### **"I enjoy short courses, the challenge and excitement"**

virtual office. On Saturday mornings he chats with students from his home computer, still in his pajamas.

He credits part of the enrollment in the prep course for the professional engineers examination to the availability factor. Some students cannot travel to conventional university settings for classes. With locations in several Department of Transportation offices and through Mountain-Plains Consortium universities, people's educational and professional needs can be met with little or no travel required.

Martin also teaches courses in intelligent transportation systems through TEL8, as well as other graduate courses. More

students can be served through videoconference classes, making each MPC school better able to use its teaching assets.

Julie Rodriguez calls the growth in videoconference classes exciting and challenging, too. Some fancy footwork was needed to have 13 sites on 12 phone lines for Martin's exam-prep class. "It was all worth it, though. And things will be smoother next time," she adds.

These courses, demanded by DOTs, are reinforced by success Rodriguez says. "This continues to strengthen the relationship among DOT and MPC sites," according to Rodriguez.

As faculty continue to develop new ways to teach transportation courses, meeting the needs of students spread across the region, technology continues to be implemented for successful education.

## TEL8 honors Kathy McCarthy

A satellite tips its panels and people throughout the TEL8 network receive information. At least that's how life was in 1995 when the network went online. Now the network is video-conferenced on a private network. While the technological changes in TEL8 have been rapid as the electronic communications world expanded, one thing in TEL8 stayed constant.

Kathy McCarthy, honored recently by TEL8, served as the mistress of organization. She was the executive secretary from day one. In thanking her for dedicated service to TEL8, Doug Benson, executive director, said, "We have long recognized the significant contribution Kathy made to TEL8 and the important role she played in its development. TEL8 presented her award with appreciation for all she has done and for the critical role she played in making TEL8 a success."

Then he added the statement that really said it all: "We will miss Kathy and her good humor and thoughtfulness. She made TEL8 a much more pleasant place by being a part of us."

The Board of Directors of TEL8 relied heavily on McCarthy as the system grew. She was the center of fiscal management of a 10-site, six-state teleconference network, the only national network of its kind focused on transportation.

She was there for the major reconfiguration of TEL8 from a satellite system to a land-based transmission medium, helping smooth the transition. McCarthy managed accounting, network programming and network scheduling.

While being part of the creative team for the blossoming TEL8, McCarthy added organization of national events for a congressional field hearing with the Secretary of Transportation's office and the videoconference delivery of the Transportation Research Board's Annual Meeting to the western United States.

McCarthy continues as a vital part of the Upper Great Plains Transportation Institute, working as administrative manager of the Institute and the Mountain-Plains Consortium. She maintains all financial accounting records for the programs and is the office manager. The TEL8 assignment has moved to Mary Marquart.

From her perspective, McCarthy notes her enjoyment of the TEL8 network. "I met lots of people from the region and visited sites. Learning about videoconferencing was interesting and educational," she said.

McCarthy joined the Institute in 1990 and has more than 20 years of experience in the secretarial field. She attended Interstate Business College, Fargo.

# Student Profiles

## Mark Vizecky

Dennis Jacobson visited an Introduction to Structures class and made an offer too good to resist. Mark Vizecky became one of the starting seven in the new DOT Support Center at North Dakota State University. Operated through the Upper Great Plains Transportation Institute, the Center is giving Vizecky an opportunity to meld theory and practice.

“We’re actually doing work that has a realistic chance of being completed. It’s not just theoretical,” Vizecky says. He’s working on a mine and blend project between Portland, N.D., and the junction of Hwy. 200. They’re figuring out how much aggregate to churn with the existing road surface to build, widen and repave the road. Add in curve adjustments for speeds changing from 55 m.p.h. to 65 m.p.h. and Vizecky has an engineering challenge.

One draw to Jacobson’s talk was the chance for Vizecky and the others to work with Microstation and GEOPAK, standards in DOT work. “We’re getting excellent experience,” the junior says, adding, “It’s amazing what the two programs together can do.” The Sigma Phi Delta member is serious about engineering and using his education wisely, even considering the Peace Corps.

The Cottonwood, Minn., native rejected the University of Minnesota engineering program as just too big. He wanted to have real teachers, not graduate assistants, and that is what he’s had at NDSU. Now, the DOT exposure makes him doubly glad of his choice. He’s interested in both geotechnical and environmental work, and in how they are applied in transportation. At the DOT Center he faces challenges that give him a realistic idea of the transportation and design elements.

Ron Henke, he says, has created an atmosphere that is relaxed, professional and serious. Henke’s work with the students reflects his knowledge of CAD and Microstation, something Vizecky calls “phenomenal.” Henke even did some program beta testing.

To get people interested in transportation, Vizecky calls the DOT Center “the best thing they could do. It integrates students into the program. There’s no other way to get hands-on experience. This integrates the classroom into real life. North Dakota is tapping an unused resource.” Blending the educational resources of the University and the needs of the DOT were

goals Jacobson and Henke held high in developing the Center.

With Henke on site, the program is feasible. With Jacobson’s expertise added, students have “an excellent resource right on campus,” Vizecky says.

“It’s unbelievable all the places you can go in transportation,” Vizecky has learned. Henke “seasons each of us differently, encouraging different aspects. That way when we rotate to another project we’ll have someone on the team with expertise. It’s cross-training. When we learn from teaching by doing, it solidifies in our minds.” Henke, Vizecky says, is on his “A” game.

Vizecky had been working for the city of Moorhead, Minn., on a pavement management program before Jacobson’s classroom recruiting visit. “This is a really good deal. I’m exponentially glad I left the other job because this is broadening my horizons,” concludes Vizecky.

**“It’s unbelievable all the places you can go in transportation”**

(Student Profiles continued on page 12)

## Stephanie Weigel

Interested in transportation for years, Stephanie Weigel was delighted when she found out about the North Dakota Department of Transportation Support Center at North Dakota State University. Operated through the Upper Great Plains Transportation Institute, Weigel found an instant and perfect fit.

The 21-year-old senior, a graduate of West Fargo (N.D.) High School, is a civil engineering major whose first project involves her in the most expensive, extensive project through the city of Fargo on I-29 and adjoining streets and avenues.

She wanted experience in her field of study – real hands-on stuff. Her project has been to design the construction phasing and signing for phase one and two of the I-29 project for the summer of 2002. Weigel smiles a bit nervously when she says, “Traffic flow in that corridor is all up to me.” Her meeting to present her plan with DOT officials was daunting for a rookie.

Weigel smiled broadly after a meeting with DOT officials where they accepted her design with only a few suggestions.

Ron Henke, who works directly with the students in the DOT Center, “checks everything for us.

### **“Traffic flow in that corridor is all up to me”**

I’m pretty sure things are OK,” she says. She likes the collaborative work style Henke encourages. “This is a really good learning experience,” Weigel says, adding, “They’re great to work with, really helpful. Ron is just on the other side of the partition.”

She spent a couple of weeks working on the phasing part of the project. She was given an overhead map of the area so she could make decisions about cross hatching the work area. When approved by the DOT, work on the signage begins. She has a special interest in that corridor

because she has to find alternate routes too. NDSU is on the north side of town and her home is on the south side. It’s a real-life transportation issue for her.

Her computer program of choice is Microstation. Working with Microstation and in the DOT Center reaffirms for her she made the right career choice. “Traffic has always interested me,” she says.

“I’ve been fascinated by the design of the road, the layers and lifts of the road. Of course I didn’t know that’s what they were until I entered engineering.”

Last summer she worked on a survey crew near Minot, N.D. Because she likes outside work, when she works at the campus DOT this summer they plan to find ways for her to be outside on sites as well as doing design work.

# Student Spotlight

## International business class really international

When Dr. John Bitzan walked into his International Business 310 class he didn't know a standout student would become an assistant. George Eristavi is enrolled at North Dakota State University in a program sponsored by the American Councils for International Education.

The program is for students from past Soviet countries to study in the United States. For undergraduates only, the yearly program is competitive. Eristavi is from Georgia. Bitzan's class also had students from Germany, France and Sweden. When questions arose on how culture affects business, the discussion had great contributions from the international sector.

A business administration major, Eristavi is interested in civil aviation and the airline industry. He is a junior at the Georgian Aviation Institute, a school of about 3,000 students. He needed an internship and Bitzan needed help with research. The two team on a statistical analysis of the Uniform Rail Costing System for Class I railroads. They estimate the variable costs of rail operation from 1989 through 1999 and match reports to make sure data is appropriate.

Eristavi never expected to be doing anything like this. His main interest in transportation has always been aviation. Planted on terra firma in North Dakota for an academic year is a change in many ways.



For him, the opportunity to work with the professionals in the Upper Great Plains Transportation Institute is wonderful. "This environment is unusual for a student. I'm working with real professionals and I've learned so much. I'm really glad I'm doing my internship here," Eristavi says.

His train study has already taught him a geographical distinction from Georgia. "Trains can be long here because they don't have mountains to climb," only one of the many differences he notes. Georgia is also warmer than

North Dakota with an average temperature of 14 degrees centigrade. In addition to clothing, he's learned about different stresses temperature extremes cause in transportation.

A believer in higher education, Eristavi is "glad" he met Bitzan, calling him a wonderful professor and now, friend. He didn't expect his classes to be so interesting. "Here the University provides everything for students to do their work – computers and libraries. It's a good place," he says.

Eristavi is from the capitol of Georgia, Tbilisi. His father is a programmer in information management systems in the Department of Science and Technologies. His mother is a lecturer, who holds a Ph.D. in "Cinema and Sound", at the Georgia Institute of Theater and Georgian Jazz Academy. An older brother is a painter and has the number one rated radio music broadcast.

When he returns to Georgia, he'll have one year of academic work to complete and then a thesis, probably on airline strategic alliances. Eristavi says he'll take good memories of the courteous and friendly people he's met here back with him. But he won't miss the weather.

## Motor Carrier Field Systems Group

Improving the safety of our nation's highways is receiving extensive exploration through the Motor Carrier Field Systems Program (MCFSP) work of the Upper Great Plains Transportation Institute.

There are seven interrelated roadside, investigative and analytical software programs used by specialists nationwide, all developed and used through the field systems program. These systems are considered critical to the mission of the Federal Motor Carrier Safety Administration. They are steadily updated and refined to reflect regulatory, enforcement policy and computer technology changes.

Researchers invest a considerable amount of effort to further enhance the efficiency and effectiveness of its software programs.

Focusing on developing and maintaining software systems used by federal and state motor carrier safety specialists, as well as private industry professionals, the MCFSP emphasizes four areas of exploration for future development:

1. Researchers are working toward wireless communication solutions for the software systems that will allow users to send and receive data from any location.
2. A second development will be to further enhance the various software programs to be web-based in order to operate smoothly across a variety of systems, as well as to provide the user easy access to relevant information.
3. A third goal is to explore the use of voice-recognition technology in the software systems. This would allow for much faster and easier entry of data.
4. The final area for emphasis into the future is to continue the research into methods to improve the data and algorithms that make up certain components of the software and to search for further areas where improvements can be made.

For information regarding specific software programs developed through the FMCSA Field Systems Group refer to its web site at <http://fmcsa-fsg.dot.gov/> or contact Brenda Lantz at [brenda\\_lantz@ndsu.nodak.edu](mailto:brenda_lantz@ndsu.nodak.edu).



Labor issues in rural areas may be foremost. A determination of the skill level for the available labor pool is important. Also can the community provide the support necessary to provide quality of life for the workforce. Quality of life includes things like healthcare, housing availability, education, and recreation opportunities.

Transportation and utility infrastructure may rule out otherwise desirable locations. Access to highway and rail facilities along with gas, electric, and communication availability may eliminate many locations.

Company preference may come into play for business ventures. Economic development issues along with community and state development may play a role.

### ***Research continues***

While North Dakota and other Plains states deal with many of the same challenges, UGPTI researchers continue to create knowledge about shuttle trains, heavy rail cars, intermodal facilities and location analysis. Data gathering and evaluation of information for producers, shippers and consumers helps create opportunity and allay misfortune.

## **Check out our websites!**

The Upper Great Plains Transportation Institute website currently features the preliminary results of the North Dakota Grain and Oilseed 1999-2001 Biennial Strategic Transportation Analysis. The report includes information on shuttle trains, heavy rail cars, intermodal facilities and location analysis.

The ATAC site ([www.atacenter.org](http://www.atacenter.org)) has information on the VISSIM Basic Training Course to be held in Bloomington, Minn., June 18-20.

Mountain-Plains Consortium and TEL8 courses and information are also listed. You can visit the sites at [www.mountain-plains.org](http://www.mountain-plains.org) and [www.tel8.org](http://www.tel8.org).

Information on people and programs for the entire Institute is on the [www.ugpti.org](http://www.ugpti.org) site.