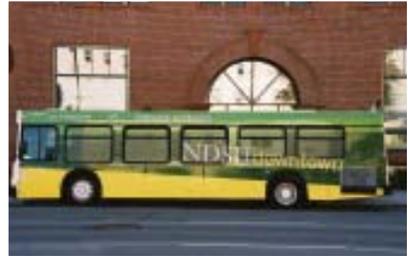


2004 ANNUAL REPORT

Upper Great Plains Transportation Institute

NORTH DAKOTA STATE UNIVERSITY
FARGO, ND



Introduction

A Renewed Vision

During the past year our Advisory Council rewrote our mission and vision statements. These documents are important because we use them to guide the decisions we make about investing our time and effort.

Strategic decisions and the transportation, mobility and business demands of our region and state had prompted us to grow in new and innovative ways that we could not have foreseen when our earlier statements were written. What we do has evolved and changed to meet the needs of the region and in ways that demanded we revisit our mission and vision statements.



Our new mission and vision statements are not a significant change in direction for us. They represent an endorsement by our Advisory Council of where we are now and where we're going. That's what this annual report is about too. It's a glimpse at some highlights of the past year or so and a look ahead to some exciting possibilities.

You'll see how we're involved with transit-related agencies across the state as we examine mobility from a statewide perspective. We've worked with businesses and transportation leaders from across the nation to hold a first-ever conference on rural transportation issues. The North Dakota Department of Transportation is a key partner as we look at ways to cut red tape for shippers. We're also helping the DOT develop the next generation of transportation engineers for the state. We're partners with the DOT and metropolitan planning agencies as they develop guidelines for using the latest in transportation technology to seamlessly aid drivers. The Federal Motor Carrier Safety Administration is working with our staff and the Department of Homeland Security to help customs officers speed commerce while improving its ability to protect our international borders.

Finally, we collaborate with universities, agencies, businesses, researchers, faculty, professionals and leaders around the world to enhance our research and educational programs here on the Upper Great Plains. We share college-credit course, workshops and seminars electronically to tap the best expertise available and provide the best possible educational experience for students and professionals.

In this report you will also find descriptions of a number of programs that are under development. You will read about some of them in future annual reports. Others will be revised, adapted and changed. And a few may never be heard of again. Only time will tell.

Our graduates and staff have the expertise and know-how to address transportation and logistics challenges anywhere. But our primary focus is on this region, its businesses, its rural areas, small urban centers and the mobility of its people and products.

Thank you for your continued interest in the Upper Great Plains Transportation Institute.

A handwritten signature in black ink, which appears to read "James Griffin". The signature is fluid and cursive, with a long horizontal line extending to the right.

Mission:

The Upper Great Plains Transportation Institute educates people, conducts research, and provides outreach in the areas of small urban and rural transportation and logistics to enhance the mobility of people, goods, and agricultural commodities.

Vision:

Excel as one of the premiere university transportation centers in the United States.

Ideas are important – People are critical

Upper Great Plains Transportation Institute

Gene Griffin, director
Denver Tolliver, associate director

Advanced Traffic Analysis Center (ATAC)

Ayman Smadi, program director
Shawn Birst, associate research fellow
John MacGowan, national program coordinator
Jon Mielke, associate research fellow
Jerilyn Swenson, associate research fellow
Mary Marquart, administrative assistant

Agricultural Transport Center

Kimberly Vachal, program director
Tamara VanWechel, associate research fellow

Department of Transportation Support Center

Kurt Johnson, program director
Dennis Jacobson, associate research fellow
Jeff Jirava, asst. student engr. center supervisor
Matt Linneman, student engr. center supervisor
Radha Manohar, research assistant
Ben Priesler, student information technology coord.

Mountain-Plains Consortium (MPC)

Denver Tolliver, program director

Small Urban & Rural Transit Center (SURTC)

Jill Hough, program director
Gary Hegland, associate research fellow
Del Peterson, associate research fellow
Jim Miller, affiliated faculty
Jon Mielke, associate research fellow
Dave Ripplinger, associate research fellow

Strategic Transportation Analysis Program

Mark Berwick, program director
Junwook Chi, associate research fellow
Mark Lofgren, associate research fellow

Tel8

Doug Benson, program director
Julie Rodriguez, associate research fellow

Transportation Safety Systems Center (TSSC)

Brenda Lantz, program director
Carl Alyea, senior software engineer
Tim Brown, senior software engineer
Chester Finnick, systems administrator
Patrick Johnson, information tech. project manager
Peggy Kaiser-Mahardy, software QA and test engr.
Susan Romero, technical writer
Kathy Short, web developer/production artist
Gary Talpers, senior software engineer
Dottie West, senior software engineer
Brad Wood, senior software engineer

UGPTI Support Staff

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Mitch Hoffart, telecommunications technician
Tom Jirik, communications coordinator
Patrick Nichols, web communications manager
Susan Peterson, administrative secretary
Bev Trittin, visual communications specialist

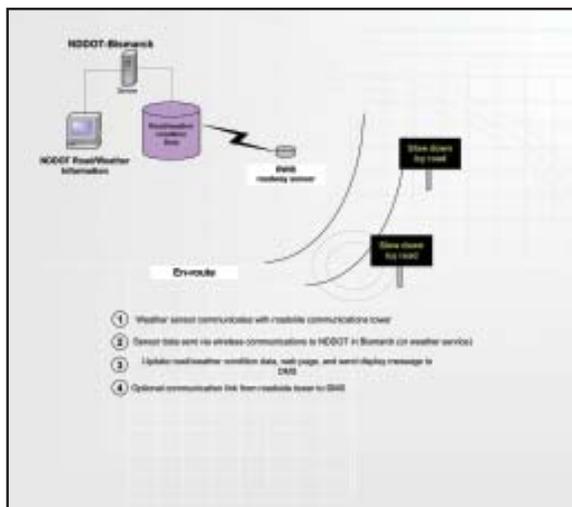
Program Highlights

Advanced Traffic Analysis Center

The Advanced Traffic Analysis Center (ATAC) enhances transportation systems in small- to medium-size cities by using advanced traffic analysis and Intelligent Transportation Systems to improve safety and mobility. The center's primary role is to support decision makers responsible for planning, operating, and funding transportation systems at the local, regional and state level. Primary efforts focus on intelligent transportation systems, traffic operations and travel demand modeling.

Highlights during the last year included:

- Completed North Dakota's Strategic Intelligent Transportation Systems (ITS) Plan. The plan identifies four main areas of potential application of ITS: travel and traffic management, commercial vehicle operations, emergency management, and maintenance/construction management.
- Completing Regional ITS Architectures for Bismarck-Mandan MPO, Fargo-Moorhead, and Grand Forks-East Grand Forks to meet federal requirements and guide future ITS deployment.
- Updated and calibrated the Fargo-Moorhead Metropolitan Council of Government Travel Demand Model, which is used to support future corridor investment plans, evaluate land use decisions and support new development.
- Sponsored training workshops on hot transportation technology topics including: ITS architecture, fiber optics, smart work zone technology and traffic simulation.
- Assisted NDSU on several safety studies and traffic circulation.



North Dakota Achieves Comprehensive ITS Plan with ATAC Help

The best Intelligent Transportation Systems (ITS) are the ones you don't notice. Traffic signal timings automatically adjust to regulate traffic flow while electronic signs advise motorists of hazards and alternate routes. Computer and telephone systems keep drivers abreast of travel conditions along their intended routes. The systems use sensors, computers and communication technologies to keep traffic flowing smoothly and efficiently.

Sometimes, those systems aren't so seamless. As traffic moves from one jurisdiction to another, for example from rural highways to city routes or across state lines, information flow can be interrupted or inconsistent. Drivers may become confused and traffic may slow to a crawl.

To avoid those situations, the Federal Highway Administration is requiring transportation planning regions nationwide to develop a Regional ITS Architecture – a plan and vision for ITS implementation and use. Regions that do not comply by the spring of 2005 will no longer receive federal highway funding for ITS projects.

“This architecture will serve as a roadmap guiding future ITS planning, detailing system requirements, coordinating agency roles and integrating functions across jurisdictional lines,” notes Ayman Smadi, director of the UGPTI's Advanced Traffic Analysis Center (ATAC).

ATAC is helping the Grand Forks-East Grand Forks Metropolitan Planning Organization, the Bismarck-Mandan Metropolitan Planning Organization, the Fargo-Moorhead Metropolitan Council of Governments and the North Dakota Department of Transportation develop architecture to meet the FHWA's requirement. The work began in 2003 and is nearly complete.

“By working with all three MPOs and the NDDOT, we were able to ensure consistency among the four regions and pool resources,” Smadi says. “As a result they were able to develop the architecture at a significant saving.”

During the process, ATAC staff met with small groups from each of the regions. Emergency personnel, traffic engineers, transit managers, law enforcement personnel and representatives from events centers attended to voice traffic concerns and issues. Their input guided the development of the architecture.

Steve Busek, an official with the FHWA in Bismarck, gave high marks to ATAC for its work with those groups. “ATAC did a good job of identifying those groups and making the process accessible to the groups that wanted to contribute. That stakeholder involvement is a key component in the architecture,” he says.

In May, ATAC sponsored an ITS training workshop. Professionals responsible for ITS in each North Dakota region were able to meet with FHWA staff members leading the implementation of ITS and related technology across the country. “That's an opportunity that would not have existed if each of these regions had been working on their own,” Smadi says.

“The beauty of having ATAC involved was the coordination of all these planning organizations and the interrelationship with the NDDOT,” notes Bob Bright, executive director of the Fargo-Moorhead Metropolitan Council of Governments. “As a result we're not all on different tangents; we are all on the same page. The implications of that are large in the long-term.”

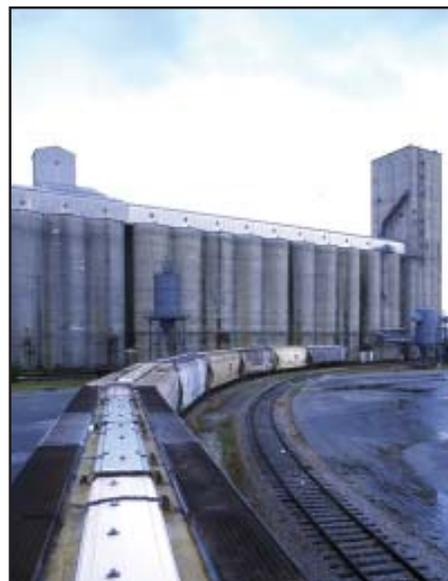
Bright says ATAC was a logical choice for the work. “They have built up the skills for this in their staff and they have consistency over time. The long-term benefits of our relationship with ATAC are worth us making the investment with them.”

Agricultural Transport Center

The Agricultural Transport Center promotes the efficient use of resources and enhances the competitiveness of agricultural products in the region. Staff members evaluate transportation industry trends, policy, and rates — all factors that are critical to maintaining product quality and helping businesses and producers reach key markets.

During the past year, staff:

- Developed information on U.S. grain market modal share (cooperatively with USDA). The information reflects changes in the competitiveness and relative efficiencies among transportation modes and provides a framework to assess public policies that affect the nation's transportation infrastructure.
- Completed willingness to pay for rural road services project. As more producers ship grain to rural processing facilities and terminal elevators, the demand on rural gravel roads becomes heavier. This study evaluates road users' willingness to pay for improvements and their perceptions of rural roads.
- Published report on non-metropolitan cities' transportation service quality indices. The research created two indices – a freight transport index and a business traveler mobility index – that are a measure of the quality of transportation in non-metropolitan areas and can be used in economic development efforts.
- Provided background to the N.D. Public Service Commission as it explored the possibility of pursuing a rail rate complaint. Researchers developed revenue-to-variable cost ratios, modal share data, and carrier market share analysis that were used in assessing North Dakota rates in the context of the criteria the U.S. Surface Transportation Board uses in its rate reviews.



Conference Looks at Rural Freight Transport Issues

The situation in western North Dakota is mirrored across the Upper Great Plains. Innovative producers and business people are exploring new opportunities ranging from a hay processing plant and new high-value crops to identity preserved crops – crops with unique characteristics that require specialized handling and shipping to keep them separate from other commodity crops.

Unfortunately, transportation can be a challenge for those innovators. “We’re very interested in learning how to move our products better,” says Chet Hill, a high value crops and agricultural diversification specialist with the NDSU Extension service in Williston. Success of an alfalfa processing plant in Tioga and expansion of the pulse crops and other specialty crops in the region will depend on transportation that meets the needs of both processors and buyers, he says.

“The Rural Freight Transportation Conference was a good opportunity for us to hear what the Midwest Shippers Association is doing, where the rail industry is going and where the ag industry is going in terms of transportation,” Hill says.

The Minneapolis conference was held in conjunction with the Midwest Specialty Grains Conference in September. It was coordinated by the UGPTI’s Agricultural Transportation Center. Other co-sponsors included the U.S. Department of Transportation, the Mountain-Plains Consortium, the USDA, the Agricultural Transport Committee of the Transportation Research Board, the Transportation Research Forum and the U.S. Midwest Shippers Association.

“Our primary goal was to highlight the economic, planning and policy issues associated with promoting efficient multi-modal export alternatives for rural economies,” says Kim Vachal, program director for the Agricultural Transportation Center. She is also chair of the Transportation Research Board’s Agricultural Transport Committee. It was discussion in that committee that prompted development of the conference.

The conference focused on financing multimodal transportation needs, making global market access competitive and identifying key policy and industry forces. Speakers included experts from the Federal Highway Administration, the Federal Reserve Bank, U.S. Army Corps of Engineers, USDA, state departments of transportation, several universities, the Port of Tacoma and private industry including railroads, consulting firms and containerized shipping companies.

“Many rural areas are doing a good job of developing new economic opportunities that build on their traditional strengths in production agriculture,” Vachal noted. “But often those opportunities require transportation services that haven’t traditionally been available in rural areas.”

As Minot and Mandan have explored the development of intermodal facilities to handle containerized shipping, Hill has participated in planning meetings. “The conference was very timely in that respect,” he says. “It provided a good summary of what’s happening in the industry and was able to bring the issues together.”

Department of Transportation Support Center

The DOT Support Center (DOTSC) provides intellectual capital to the North Dakota Department of Transportation to solve complex problems. The center also addresses regional issues within North Dakota and surrounding states. The center includes a student roadway design section supervised by on-site DOT design staff to employ, train and utilize undergraduate students in DOT design projects. The section provides real-life experience for engineering students so that upon graduation they bring valuable marketable experience to employers.

DOTSC program highlights include:

- Provided technical support for the NDDOT's strategic plan – specifically to meet the objectives of improving ride quality by 10 percent ride and load capacity by 20 percent.
- Worked on a potential expansion of the program to include a DOTSC West located at the Bismarck Junior College campus with possible collaboration with the United Tribes Technical College.
- Provided information technology support to the DOT, primarily in the conversion or updating of existing small applications.



DOT Support Center Links College and Real World for Engineers

The North Dakota Department of Transportation in cooperation with the UGPTI found an innovative way to attract potential employees. And the program gives new employees a head start on the months-long process of learning department procedures, computer programs and policies.

In January 2001, the UGPTI created its Department of Transportation Support Center to provide on-the-job training to students interested in pursuing engineering careers at the DOT. That first semester there were four students in the program. Ron Henke was the DOT engineer who coordinated the program for the DOT.

“We put them to work on all kinds of state projects,” he says. “They were involved in plan preparation, concept reports and field reviews. They worked on projects all the way from start to finish.”

“We’re finding that the engineers coming out of this program are leaps and bounds ahead of those we hire from elsewhere,” Henke says. Today there are seven to 10 students enrolled each semester.

Program director Kurt Johnson says the center has built a reputation for developing students with technical knowledge and experience. The center will be expanded to give students experience in materials testing and other areas that will give them a head start as design engineers. “We want to round out our students more and more to build a stronger selling point of experience for our students,” he says.

Henke is now a program manager for the DOT’s design division in Bismarck. Of the 25 students who have enrolled in the program since 2001, 13 have graduated and 11 have been hired by the DOT. “The program is great for students because they get to see what the work will be like.”

The DOT benefits because students gain realistic expectations and real-world experience. One graduate, Matt Linneman, moved into Henke’s position as coordinator when Henke moved to Bismarck. “After two semesters here, students who come and work for the NDDOT can get started on designs with little or no training,” Henke says.

During the summer, some of the students continue working at the center. “We have the students shadow a field engineer so they can see how to read a plan and how to help a contractor interpret that plan and get the project built,” Linneman says. Students also conduct surveys to evaluate highway condition and determine needs for safety improvements such as guardrails.

Currently, 16 projects ranging from road resurfacing to full Interstate reconstruction are assigned to the student designers under the guidance of full time DOT staff. “The best fit for us seems to be a structural overlay. Those projects have all the aspects of a full reconstruction, but they’re not quite as complicated,” Linneman says.

He notes that students also update documents detailing DOT standards for construction projects and update project plans to reflect changes made during construction. The work provides an ideal environment for learning the DOT’s design software programs – MicroStation and Geopak. Those complex programs are in use at 38 state departments of transportation around the nation, Linneman notes.

The students’ working knowledge of the software and design and construction techniques is also attracting attention from engineering consulting companies that work with the departments of transportation.

Mountain-Plains Consortium

The Mountain-Plains Consortium (MPC) conducts research, education and training on transportation infrastructure and the movement of passengers and freight. It is a competitively selected university program sponsored by the U.S. Department of Transportation attracting the nation's best talent to study transportation and develop new transportation strategies and concepts. MPC is the primary source of funding for educational efforts at the UGPTI.

The Transportation Education Program offers an interdisciplinary Ph.D. program in transportation and logistics and an interdisciplinary master's degree in civil engineering and agribusiness. Graduates are prepared for careers in wholesale and retail business, construction, consulting, and government that require complex solutions to the challenges of moving people and products.

Program highlights during the past year included:

- Conducted a distance education graduate course in Intelligent Transportation Systems to students from Wyoming, North Dakota, Colorado and Utah. Course materials were developed by 12 specialists from across the nation and the course was taught by the head of the University of Utah's traffic laboratory.
- Partnered with the Northern Plains Tribal Technology Center in Bismarck to make highway planning and safety tools available to tribal transportation planners in the region. MPC also sponsored a half-day workshop on low-volume road safety at the Tribal Workforce and Transportation Conference.
- Hosted officials of the Research and Special Projects Administration of the U.S. DOT. The visit was the first such conducted under the Federal Highway bill enacted in 1998.
- Expanded the interdisciplinary doctoral program in transportation and logistics. The program was first offered in 2002. There are now 13 students in the program.



Mountain-Plains Consortium and UGPTI Delivers Expertise

Getting people and products from point A to point B isn't usually the problem for businesses. It's getting them to point A and then to points C and D and beyond when they're needed at the least possible cost.

"People who can see the big picture continue to be in demand and we continue to expand options for students as needs change and evolve," notes Denver Tolliver, associate director of the UGPTI. In 2003, the UGPTI began offering a doctoral degree in transportation and logistics. It is working with Bismarck State College to institute an associate's degree program and with the U.S. Department of Defense to develop a program in joint military logistics and transportation.

Tolliver also directs the Mountain-Plains Consortium, transportation research and education center based at the UGPTI that also involves Colorado State University, the University of Wyoming and the University of Utah. It is one of 10 competitively selected University Transportation Centers Programs sponsored by the U.S. Department of Transportation. The universities share courses and expertise and collaborate on research.

The UGPTI began offering a transportation and logistics option for master's degree students in agricultural economics and civil engineering in 1993. Matt Titus and Joel Honeyman were among the first students to graduate with that option in 1995 while serving as research fellows at the UGPTI.

Honeyman is vice president of North American sales for Bobcat Company for the eastern half of North America. "As Bobcat has grown, so has our need for people with technical logistics capabilities," he says. That's particularly evident in North Dakota where Bobcat recently announced the development of a manufacturing support center that will be located in Bismarck's new Northern Plains Commerce Center.

Titus works for electronics retailer Best Buy as a manager in the company's supply chain group. He is helping launch the use of radio frequency identification within the company's supply chain "We believe this will be a game changing technology and have asked our suppliers to start shipping us tagged pallets and cartons in the near future, it's my job to make sure we can use those tags when that happens."

While Bobcat and Best Buy are innovative in their approach to logistical challenges, they are not unique in their demand for employees with training and experience in transportation and logistics, Tolliver says. Demand is strong for graduates from the Mountain-Plains Consortium universities.

Both Titus and Honeyman worked on research projects as part of their fellowship and subsequent employment at UGPTI. "Students continue to have the opportunity to participate in and develop applied research," Tolliver says. That experience teaches them how to approach problems, assemble and analyze information and make sound decisions.

"My education and experience were a good foundation for my career," Honeyman says. "I was trained in the kind of economic analysis that goes into making good practical business decisions." His academic, research and practical background also comes into play as he participates in an internal team at Bobcat that deals with logistics issues.

Titus agrees. "I continue to look at how to make business decisions that are optimal for the entire supply chain, not just a single link."

Tolliver notes that degree programs involve faculty from at least three colleges and 12 departments. "Logistics tends to involve complex and diverse issues requiring a variety of expertise. The interdisciplinary nature of our programs provides students with the background to address those issues."

Small Urban & Rural Transit Center

The Small Urban & Rural Transit Center (SURTC) provides transit stakeholders, users, providers, suppliers and agencies information and training on technology and improved management and operations to increase the mobility of small urban and rural residents through improved public transportation.

During the past year, staff members:

- Conducted a workshop to give transit managers, board members and other personnel practical ways to design and implement performance-tracking systems to help manage their systems and report performance to customers, policy-makers and funding agencies. The “Managing by the Numbers” workshop was offered over the TEL8 telecommunications network.
- Offered an “Introduction to Public Transit” course to a dozen students in five states via the TEL8 telecommunications network. The course featured lectures by transit experts including administrators from the Federal Transit Administration and the American Public Transportation. In addition students presented research on transit projects across the country. The course will be offered again in 2005.
- Completed a one-year study of transportation coordination among social service agencies in North Dakota, and recommended establishing a state-level coordinating council and regional coordinating councils. The DOT-commissioned study sought to find ways of using existing transportation resources more effectively to meet increasing needs for service, especially in the rural areas.
- Coordinated a bus shelter design competition for students in an NDSU architecture design class. The students created innovative shelter designs while learning about transit and related issues. The project involved input from state and local transit and architecture professionals who gained new perspectives from the students creative approaches. The winning design is expected to be constructed on the NDSU campus in 2005.



Dustin Ulmer, Gary Helgand, Dave Ripplinger, Jill Hough, Jim Miller, Del Peterson, and Jon Mielke (Not pictured: Susmit Sarker)

SURTC Helps North Dakota Assess Mobility

With a mix of local and regional transportation options including everything from cars and taxis to school buses, personal mobility in North Dakota is complicated. Add to that mix, links like airlines, Amtrak and Greyhound and the system gets even more complex.

The North Dakota Department of Transportation and the UGPTI's Small Urban & Rural Transit Center studied ways to assure that North Dakotans have more seamless and simple access to transportation. At the same time they looked for ways to reduce costs and improve efficiency.

Representatives from nearly two dozen public transportation-related organizations and agencies met with SURTC researchers and DOT staffers to discuss statewide personal mobility issues and unmet mobility needs. "We wanted to hear, first-hand, from transit providers what issues and concerns they are facing," says Jill Hough, SURTC director. Representatives identified several key issues ranging from equipment accessibility and regulatory issues to insurance and volunteer programs.

"We've been very pleased with where we've gotten in these discussions," says Jim Moench, the executive director of the North Dakota Disabilities Advocacy Consortium. The statewide organization represents 23 organizations and agencies that work with people with disabilities.

"Transportation for people with disabilities always comes up in public policy debates," he says. "When you talk to policy-makers, they are very sympathetic. The difficulty comes when it's time to decide what to do because so much information is anecdotal. This study will provide data that those policy-makers can base their decisions on."

The study addresses an initiative in the statewide strategic transportation plan adopted in 2002 by the NDDOT. That initiative calls for the development of a statewide personal mobility plan. That plan will be one of the results of the study, Hough explains.

"Without reliable rural transit programs, small communities are at a greater risk. The lack of a comprehensive statewide transit network could mean more out-migration: people moving from small North Dakota communities to larger ones, or even leaving the state," says David Sprynczynatyk, director of NDDOT.

SURTC developed a demographic profile of North Dakota to help identify current and future transit needs. Staff also reviewed other state's plans and profiled existing service providers in North Dakota. That information will provide background for developing guidelines for basic levels of service to be provided. Staff from the Center will also develop a web page to share study information and preliminary data and to allow agencies to share ideas and information. They will also recommend ways that transit providers can use technology to improve services. This technology, called Intelligent Transportation Systems, can help with management, vehicle location tracing, scheduling and dispatching as well as provide easy access to information for travelers.

"We anticipate that the mobility plan will provide North Dakota policy-makers with a guide to future mobility options," Hough says. "We've identified gaps in service, allowed stakeholders to discuss the desired level of personal mobility and identified financial and organizational resources to provide the desired mobility."

Strategic Transportation Analysis Program

The Biennial Strategic Transportation Analysis Program addresses key issues in North Dakota transportation. Each biennium, the program focuses on an economic sector important to the state with the goal of improving the competitiveness of firms through transportation enhancement in North Dakota. The 2003-2005 effort focuses on the economics of the motor carrier industry.

Program highlights include:

- Provided motor carrier cost analysis for several businesses in the state and region to help them make decisions about expanding service or whether to purchase trucks or contract for shipping.
- Provided benefit/cost analysis for North Dakota DOT doing flood mitigation efforts for Devils Lake for use in making decisions regarding road improvements and rerouting.
- Helped communities, consultants and businesses as they evaluate the potential for intermodal shipping in North Dakota.
- Analyzed the feasibility of establishing intermodal service in eastern North Dakota.



Trucking Study Seeks to Clear Red Tape

As you look down the highways that cross the plains of the northern United States and southern Canada, there are few obstacles to be seen. But if you're looking through the windshield of a truck, there's a roadblock of red tape at every state, provincial and international border. Those roadblocks may also appear at county lines, bridges and in cities.

"Each state has different regulations on everything from permits to tire spacing," notes Dave Leftwich, local government engineer with the North Dakota Department of Transportation. "It takes a lot of paperwork to haul a load of freight from the West Coast to Chicago. A need to streamline that process was identified by shippers and the DOT."

That need was so prominent that the Department included it in its strategic transportation plan issued in 2002. A first step is to compare truck size and weight regulations from North Dakota, Iowa, Minnesota, Montana, Nebraska, South Dakota, Alberta, Manitoba and Saskatchewan.

Mark Berwick, director of the UGPTI's Strategic Transportation Analysis Program, has been directing that effort at the request of the DOT. "We're looking at the permitting process and costs as well as regulations on size and weight," he says.

The researchers are also evaluating the costs to shippers based on different regulations. "The economic analysis shows some very significant savings if we can standardize some of these regulations," Leftwich says.

The effort will culminate in a conference of transportation officials, economic development professionals, law enforcement personnel, legislators and trucking firm and trucking association representatives from the seven states and three provinces in the summer of 2005. "The research we're doing will provide a baseline for that conference and the discussion of 'where do we go from here,'" Berwick says. For example, the researchers found little evidence that larger trucks were involved in more accidents in the region. That's a finding that could weigh heavily in public policy debates on truck regulation.

As part of the project, researchers are also looking at regulations within North Dakota. "Regulations and restrictions vary from one jurisdiction to another. We need to identify and address those issues as well," Berwick adds.

Berwick and Leftwich noted that the ultimate goal is to create transportation corridors across state and international borders that eliminate impediments to growth and diversity of the economy. "It's a step we can take to improve the efficiency and effectiveness of the transportation network in the Upper Great Plains," Berwick notes. "We want to come as close as we can to having a seamless transportation network."

Leftwich says the project has been a good fit with the Upper Great Plains Transportation Institute. "They have the background and the people to accomplish this kind of task. They've been very accommodating and very well prepared every time we've approached them with a question or request."

TEL8

The TEL8 interactive telecommunications network links the transportation departments in Montana, North Dakota, and Wyoming and North Dakota State University, Colorado State University, University of Utah, and University of Wyoming to increase communication and improve technology transfer and research dissemination.

Program highlights include:

- Hosted “Marketing on a Shoestring” for about 30 transit managers across the Dakotas. The program featured tips for improving funding and visibility for small urban and rural transit operations. The effort marked another event in TEL8’s collaboration with transit professionals.
- Extended reach to the district level in participating states. The network reaches 20 sites in Montana and Wyoming with another 8 sites in North Dakota scheduled to come online soon. By broadcasting to more sites, TEL8 broadens its reach and reduces the cost of professional development for participating transportation departments.
- TEL8 is changing its name and evolving to become the Transportation Learning Network. It will continue to use technology to help people work together on transportation issues in the region. Each partner will provide transportation programming, training and technology transfer to the network. Efforts will include technical training, transportation short courses, peer sessions, graduate-level classes, professional management and leadership courses and seminars.



Keeping Local Traffic Experts Appraised of Signs of the Times

As the definitive document on traffic signs and other traffic control devices in the United States, the Federal Highway Administration's Manual on Uniform Traffic Control Devices has implications for every highway and byway in the country. So when the agency issued an updated manual in 2003, professionals ranging from traffic engineers to police officers needed to know what had been changed.

Recognizing this broad interest, the TEL8 transportation telecommunication system planned an eight-hour instructional broadcast to sites across North Dakota, Wyoming, Montana, Colorado and Utah. TEL8 is located within the UGPTI.

"People would have been able to read the manual and determine the changes for themselves," noted Julie Rodriguez, TEL8 executive director. "Or they could attend our training hosted by an expert in traffic control devices and learn about the latest and greatest and the implications of those revisions and be at the top of their field."

The training was conducted by Robert Canfield, a member of the Institute of Transportation Engineers. He represents that group as a member of the National Committee on Uniform Traffic Control Devices. Topics included signs, signals, markings, railroads, school zones, bicycles, low volume roads and work zones.

More than 200 individuals from Montana alone chose to participate in the TEL8 training, notes Barbara Martin, chief of the Organizational Development Bureau at the Montana Department of Transportation. "Our people were very excited about that program." When they heard about the class, city and county employees wanted to attend and we included as many as we could," she adds.

"In a state like Montana, there are not a lot of resources for this type of training," Martin says. "TEL8 programming gives us options we wouldn't have otherwise," she says. Offering the courses electronically cuts travel costs dramatically for participating states because employees need only travel to district offices rather than across the state or region. "That's always been a big bonus of TEL8," Martin says.

TEL8 hosts training programs on technical topics as well as on time management and other professional and personal improvement topics. It also hosts information exchange meetings among transportation professionals, graduate courses from participating universities, courses from National Highway Institute and other transportation-related events and meetings.

In Montana, the Department of Transportation broadcast the TEL8 program on the Manual of Uniform Traffic Control Devices across its own video network to five sites across the state. That's what happens frequently with courses in Montana and Wyoming and will soon occur in North Dakota.

Rodriguez notes that TEL8 will be hosting more technical training offered by the Mountain-Plains Consortium, one of 10 federally sponsored university transportation centers in the nation. The consortium includes Colorado State University, the University of Wyoming, the University of Utah and North Dakota State University. It is headquartered at the UGPTI.

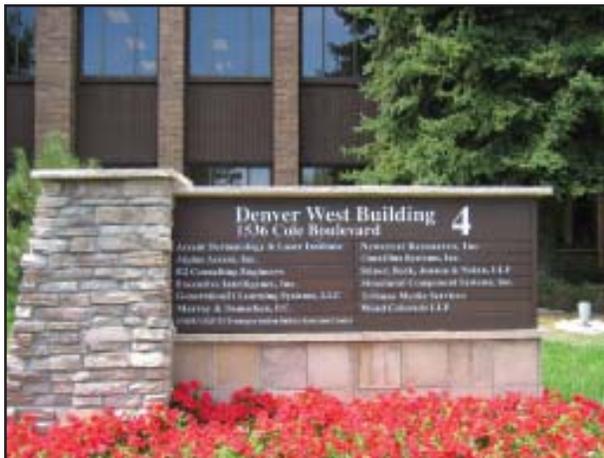
"The people here at the DOT are excited about the prospect of more technical training," Martin says. "We've been doing a better job of advertising the TEL8 courses to our people and we expect participation to increase."

Transportation Safety Systems Center

The Transportation Safety Systems Center (TSSC) based in Lakewood, Colo., develops and maintains software used by state and federal safety specialists nationwide at weigh stations and ports-of-entry for inspecting commercial vehicles. Additional software is used by safety specialists during on-site reviews of commercial carriers. In addition, the center is also extensively involved with safety-related research and analysis to improve targeting of enforcement efforts and enhance software programs.

Program highlights include:

- Continued to develop high-quality software in use by Federal and State commercial vehicle safety specialists nationwide.
- Conducted leading-edge research into the development and implementation of a driver safety indicator based on the number of traffic convictions of the drivers that companies hire. This indicator will assist enforcement personnel in the focusing of their inspection efforts.
- Conducted numerous presentations at national meetings regarding the research and software development we have completed.



Transportation Safety Systems Center new location.

TSSC Adds Tool for Border Security

As thousands of commercial vehicles cross U.S. borders daily, the U.S. Customs and Border Protection (CBP) and the Federal Motor Carrier Safety Administration (FMCSA) must balance the dual role of ensuring the nation's safety and security with providing smooth passage for goods legally entering the country.

Thanks to efforts of the UGPTI's Transportation Safety Systems Center (under contract to FMCSA), the job should be getting easier.

"Customs and Border Protection is creating one touch-point for trucking companies at the border," notes Brenda Lantz, Program Director for TSSC. Under the program, trucking companies will electronically submit a manifest of a truck's contents, as well as specific carrier, vehicle, and driver information for the shipment. "That electronic manifest will be dissected and specific data provided to other agencies legally entitled to review it, such as the Food and Drug Administration and the Transportation Security Administration," she says.

Working with Jeff Hall, the Field Systems Team Leader for the FMCSA's Information Systems Division, TSSC designed the computer interface to link the CBP information system on international transportation and trade with a FMCSA system that pulls data from state and federal sources to create a safety summary on motor carriers, trucks and drivers. Linking the two systems will give the FMCSA access to more complete border-crossing information and streamline operations for CBP, FMCSA, and trucking companies.

"By linking the two systems, CBP officers will know when a bus or truck reaches the primary inspection booth at a port of entry whether the vehicle and/or driver is cleared by FMCSA to operate on U.S. roadways," notes Lantz. "CBP personnel will have the information to help them decide whether they need to refer a vehicle or driver to FMCSA or State safety inspectors for further examination. As a result, safe vehicles and drivers will be allowed to proceed more rapidly through border ports."

The Transportation Safety Systems Center developed the FMCSA's system, called Query Central. That made the center ideally suited to create the interface with the CBP information system. "The staff here has the business knowledge and the technical background to get the job done," Lantz says. "We appreciate that we are developing solutions and not just developing software. We understand the industry and the importance of our work as it relates to U.S. safety and security."

Query Central (QC) focuses mostly on safety-related information gleaned from truck inspection and registration records across the country and in Canada and Mexico. It also accesses licensing information related to drivers, including data on driving records and violations. It is widely used by commercial vehicle inspectors across the nation.

"Integrating QC with the CBP information system was a complex undertaking. We focus on standards-based solutions and they utilize a proprietary method for exchanging data. Fortunately our team has the talent to quickly adapt to any situation," Lantz notes.

The center, based in Lakewood, Colorado, was created more than eight years ago to provide research and development expertise to FMCSA staff.

Future Direction

The UGPTI continues to evolve to address emerging transportation and mobility challenges and opportunities in the region. These issues are spurred by new technology, demographic changes and changes in the ways people live and work. Programs under development include:

School Bus Routing Program will address the challenges posed by a shrinking number of school-aged children and the growing distance between schools as districts consolidate. The program will offer expertise to school administrators, identify widespread problems and opportunities, help school districts develop bus routes to maximize efficiency and explore policy issues associated with school transportation funding.

The **Center for RFID Transportation Applications** will increase freight mobility and improve transportation system performance through research and outreach programs related to radio frequency identification (RFID) technology applications in infrastructure, fleet management, supply chain management and human mobility. Improved application of the technology to transportation will assure the region remains competitive in the global marketplace.

An associate's degree program being proposed in cooperation with Bismarck State College will help students develop technical and management skills that are needed by transportation service providers and their customers in North Dakota. It is anticipated that program graduates will either enter the work force or pursue a related four year degree at NDSU. This program will hopefully become available starting this fall and will be self-sustaining from income generated from student tuition.

The **Joint Military Logistics and Transportation Graduate Program** will be designed specifically for U.S. military and related personnel to enhance joint logistical effectiveness and efficiency. This master of science program would provide new approaches and apply evolving technology to meet the changing and complex battlefield, peacekeeping and rebuilding environments.

The **Regional Center for Freight Mobility** will develop information on the dynamics of freight transportation needs on a regional basis to develop a more efficient effective and secure freight transportation system. A regional approach will address the interstate nature of commerce and the resulting inter-jurisdictional issues. The center will be developed in collaboration with Washington State University and the University of Washington and include research and outreach on supply chain management, technology applications, logistics, and network economics and modeling.

The **Transportation Learning Network** is an evolution of the TEL8 network. It unites states and universities in a unique partnership using technology to help people work together on transportation issues in the region. Each partner provides transportation programming, training and technology transfer to the network. Efforts will include technical training, transportation short courses, peer sessions, graduate-level classes, professional management and leadership courses and seminars. The network connects the North Dakota, Wyoming and Montana departments of transportation and the four Mountain-Plains Consortium universities – Colorado State University, North Dakota State University, University of Utah and University of Wyoming.

The **North Dakota Business Logistics Research and Support Center** will enhance the competitiveness of North Dakota firms and enhance business volume by providing transportation and logistics training, analysis, and human capital. The program will generate information, promote public private partnerships, and assist in the development of public policy that improves supply chain management through increased efficiency and effectiveness. This program will meet the needs of rural businesses that are not located in major urban areas that have access to firms that supply this type of support, and are in areas where a concentration of business leads to best practices simply by being around other firms that are on the cutting edge of supply chain management.

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