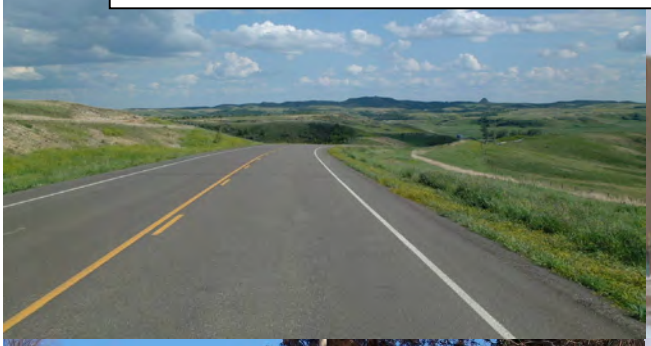
TransAction III



North Dakota's
Statewide Strategic Transportation Plan
2012

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North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

Jack Dalrymple
Governor

November 19, 2012

Fellow North Dakotans:

In 2002 and 2007, North Dakota published statewide strategic long-range transportation plans, TransAction and TransAction II. The mission, vision, goals, and initiatives outlined in these plans provided direction for the continued development of the state's transportation system.

Since those plans were published, North Dakota has seen many changes and will continue to do so as the global economy evolves. It is difficult to predict what the future will bring. TransAction III represents a collaboration of governments, private sector interests, and citizens to identify *Fundamental Values* to guide future transportation decision-making.

It takes many stakeholders working collaboratively to develop and sustain our transportation system. All levels of government and the private sector have important roles in the future of transportation in North Dakota. Effective communication and coordination is critical.

It is important to note that it would be impossible to implement any of these plans without continued input and participation of many individuals and businesses. As the plan moves forward, continued opportunities for meaningful input and participation in planning the future of our transportation system will be provided. Please continue to share your thoughts and express your suggestions. Working together we can safely move people and goods throughout legendary North Dakota.

Sincerely,

Jack Dalrymple
Governor

Francis G. Ziegler, Director
ND Department of Transportation

17/rg

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TransAction III – Preface

Today, unlike any time in its history, North Dakota is uniquely positioned. We are experiencing unparalleled growth in all sectors of our economy: agriculture, energy, tourism and manufacturing. Our population is growing as people are coming to our state seeking a brighter, more prosperous future. As a result of this growth, people and businesses are expecting more of our transportation system; both infrastructure and services. They want more four-lane highways, wider roads, greater load-carrying capacity, expanded hours of snow removal, additional rural and urban transit services; and above all, they want safe and secure transportation.

While the expectations of people and businesses have been rising, transportation revenues from traditional sources such as the federal highway trust fund have either been flat or decreasing. Higher mileage and alternative fuel vehicles, more people using public transit, increased reliance on non-motorized forms of transportation (pedestrian and bicycles), and most notably, the impact of inflation on highway construction costs have reduced the funding available to state and local governments to build and maintain their transportation systems.

During the development of this plan, people and businesses told us our transportation system should be safe, secure, sustainable, efficient, reliable and responsive. They envisioned a future transportation system that is multimodal, offering a variety of services, strategically developed and globally integrated. They identified goals, initiatives, and fundamental values to guide the development of our transportation system.

TransAction III represents the next chapter in North Dakota's ongoing effort to develop and maintain a world-class transportation system that is safe, secure, and provides efficient personal and freight mobility. ***TransAction III*** is the product of an extensive public input process that reached out to our state's transportation providers and users and we are grateful to them for sharing their ideas and input.

In the mission and vision statements found on page 4, "*North Dakota*" is broadly used, referring to all levels of government and our private sector transportation partners. As the State's lead transportation agency, the North Dakota Department of Transportation looks forward to facilitating cooperative working relationships to implement the initiatives and strategies identified in ***TransAction III*.**

TransAction III – North Dakota's Statewide Strategic Transportation Plan

At the direction of Governor Jack Dalrymple, the North Dakota Department of Transportation (NDDOT) continues as the leader of statewide strategic transportation planning. Although we have made considerable progress toward achieving a transportation system that meets both the personal and freight mobility needs of our state's residents, visitors, and businesses, there is still much to do.

Through the development of ***TransAction III***, we pledge to work with the members of the transportation community, our stakeholders, and the public to facilitate a transportation system that will be where it needs to be in comparison to where the world is going to be.

TransAction III – Purpose, Scope & Use

Purpose

1. Develop and promote a shared transportation vision
2. Develop a set of commonly agreed upon goals and fundamental values to guide future development of the state's transportation system
3. Develop broad-based support for a safe, secure, and efficient transportation system
4. Broaden the opportunities for people and businesses to be involved in the transportation planning process

Scope

The Scope of ***TransAction III*** is broad and extends to all levels of government, the public and private sectors, and surface modes of transportation. ***TransAction III*** identifies broad trends and strategic issues affecting the transportation system, and it identifies opportunities for public/private partnerships.

Use

1. Promote an understanding of transportation's importance in our daily lives
2. Increase awareness of how North Dakota's transportation system is tied to transportation systems in other states and provinces, and the world
3. Improve communication between transportation providers and consumers
4. Promote cooperation and collaboration between modes, jurisdictions, the public and private sectors, and consumers and providers of transportation
5. Provide a focus for projects, initiatives, and programs to achieve North Dakota's shared transportation vision

TransAction III – North Dakota's Transportation…

Mission

North Dakota will provide a safe, reliable,
and sustainable transportation system.

Vision

North Dakota's multimodal transportation system
is strategically developed and globally integrated.

Goals

North Dakota's transportation personal and freight mobility goals are interdependent, mutually supportive, and apply to our transportation system's infrastructure and services.

1. Safe and secure transportation
2. Sustainable and reliable mobility
3. Diversified and sufficient funding
4. Communication and cooperation
5. Strong economic growth with consideration of environmental, cultural, and social impacts

TransAction III – Fundamental Values

Since it is impossible to accurately predict all of the future events that will influence the development of our transportation system, the following fundamental values have been developed to guide decision-making in regard to developing new programs, projects, and investment strategies to address unforeseen future circumstances and conditions.

Safety & Security

Transportation safety and security is our *Number One Priority*. Reasonable efforts should be made to plan, design, build and operate a transportation system that allows travelers and freight to move safely and securely. Motorized and non-motorized forms of transportation should be equally considered. Conflicts between modes should be minimized. Safety partnerships that incorporate engineering, education, emergency medical services, and enforcement should be encouraged.

Maintainable & Sustainable

The transportation system should be strategically developed considering long-term investment versus short-term demands. The use of transportation resources should be prioritized and levels of service to be provided should be defined. The system should not be over-built or under-built. Preserving and maintaining the system should be emphasized over new construction. However, some system additions will be necessary and are vital to the well-being of our residents, economy, and quality of life. The transportation system should support other public goals such as promoting economic competitiveness; good stewardship of our cultural and natural resources, and social impacts.

Reliable & Predictable

Today's fast-paced lifestyles and globally integrated economy require a transportation system that is reliable and predictable. Technological advances, larger and more efficient equipment, the evolution of shuttle trains, and "just-in-time" manufacturing emphasize reliability and predictability of travel time and cost. Government should employ tools like Travel Demand Management to minimize congestion and invest in technology upgrades that streamline essential services to businesses and the public. Multiple modal options (highway/rail, rail/pipeline, etc.) should be promoted to improve reliability and predictability.

Accessible

Transportation infrastructure and services should be accessible to a wide variety of system users. Accessibility encompasses the ability to access and use infrastructure and services regardless of geography, disability, language, and income.

Connectivity & Continuity

The most important road to everyone is the one in front of his or her home or business. That being said, not all transportation services and infrastructure are equally important. Highways, rail lines and other services that allow access to international markets, connect key regional centers, intermodal facilities, and multiple modes of transportation should be a higher priority than neighborhood streets and railroad branchlines. Routes that provide consistent levels of service (weight or height restrictions, travel speeds, etc.) and minimal delays are vital to the state's economic competitiveness and quality of life. Coordination between the public and private sectors and across jurisdictional boundaries should be emphasized to realize more efficient projects and services.

Integrated & Multimodal

Transportation infrastructure projects and services that result in multiple uses and modes, extend limited resources, and broaden benefits should be promoted. Programs that reduce "red tape," expedite implementation, enhance modal efficiencies, harmonize regulations, and promote system efficiencies should be supported. Public/private partnerships that result in achieving mutual benefits should be pursued.

TransAction III – Initiatives & Strategies

The strategic initiatives identified in this plan provide broad direction to all levels of government and private sector entities to develop specific actions designed to reach our state's transportation goals.

Initiative 1

Strategically prioritize the use of transportation resources and define the levels of service to be provided and maintained

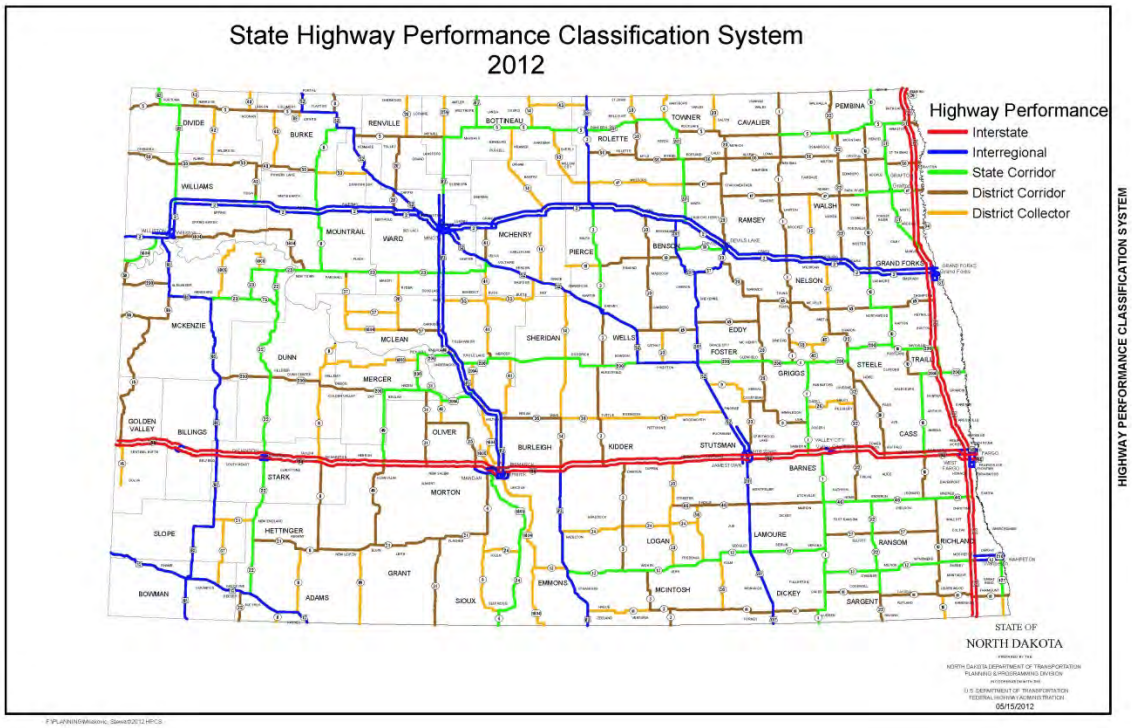
Strategy 1 *Promote an integrated, multi-modal transportation system (motorized and non-motorized)*

Strategy 2 *Periodically review and appropriately update transportation priorities and defined levels of service to be provided*

Strategy 3 *Continue to research and develop options (including funding sources) to protect, enhance and improve the transportation system - both infrastructure and services*

Strategy 4 *Develop investment strategies to guide project and program decision-making*

Strategy 5 *Develop transportation asset management programs*



Initiative 2

Enhance communication and cooperation between and within governmental units, modes of transportation, and the public and private sectors

Strategy 1 *Regularly review transportation planning, programming, and project development processes for opportunities to improve communication*

Strategy 2 *Facilitate and promote interaction between members of North Dakota's transportation community*

Strategy 3 *Communicate and cooperatively work with surrounding states and provinces to improve the safe, secure, and efficient flow of people and freight*

Strategy 4 *Expand awareness campaigns to inform the public of transportation issues (safety, funding, services, etc.)*

Strategy 5 *Communicate with and involve in the transportation planning and project development processes, Native Americans and other minorities, people with limited English proficiency, disabled individuals, low-income, elderly, immigrants and others who may be transportation disadvantaged.*

Director Ziegler and members of the Standing Rock Sioux Tribe

Initiative 3

Improve the performance of the transportation system - both infrastructure and services

Strategy 1 *Monitor key trends and issues affecting personal and freight mobility*

Strategy 2 *Improve traffic modeling and forecasting capabilities*

Strategy 3 *Upgrade and streamline the delivery of essential services (motor vehicle titling, driver licensing, etc.) to businesses and the general public.*

Strategy 4 *Support land use and transportation planning*

Strategy 5 *Develop an Access Management Program for the State Highway System*

Strategy 6 *Promote a systemic approach to enhance transportation safety and security*

Strategy 7 *Support the development of intermodal facilities and services (personal and freight)*

Strategy 8 *Promote personal mobility*

- *Expand transit coordination statewide*
- *Inventory and evaluate personal mobility within the state*
- *Consider personal mobility needs (modes and services) in all transportation plans, programs, projects and operations*
- *Explore funding and partnership opportunities to enhance non-motorized transportation*

Strategy 9 *Promote freight mobility*

- *Identify the state's strategic freight network*
- *Develop a statewide freight management plan*
- *Periodically review and evaluate the performance of priority freight corridors*
- *Continue working toward regional uniformity of truck size and weight regulations, and permitting*
- *Pursue the development of a statewide routing and permitting system for overweight and over-dimension movements*
- *Promote infrastructure (pipelines and rail) that reduces roadway impacts*
- *Improve highway load carrying capacity*

Strategy 10 *Develop personal and freight mobility performance measures*

Initiative 4

Consider safety, security, economic viability and competitiveness, environmental, cultural, social impacts, and other significant factors when developing plans, projects and programs

Strategy 1 *Examine planning, programming, and project development processes to ensure significant factors are considered*

Strategy 2 *Support the development and implementation of projects and programs that positively affect the state*

Strategy 3 *Evaluate and explore new opportunities to enhance transportation infrastructure and services*

Initiative 5

Implement appropriate new and innovative techniques and solutions that support enhanced safety, security, and mobility

Strategy 1 *Research, analyze and implement new and innovative funding options, technologies, and construction/maintenance methods*

Strategy 2 *Examine planning, programming, and project development processes to ensure appropriate geometric enhancements (roadway width, truck turning radii, passing lanes, etc.) are considered*

Initiative 6

Promote public/private sector partnerships that improve the transportation system

Strategy 1 *Define the conditions, criteria, and types of transportation initiatives that merit public/private sector partnerships*

Strategy 2 *Strengthen cooperative relationships that lead to beneficial public/private sector partnerships*

Initiative 7

Promote and actively participate in regional, national, and multi-national transportation initiatives, programs, studies, and projects

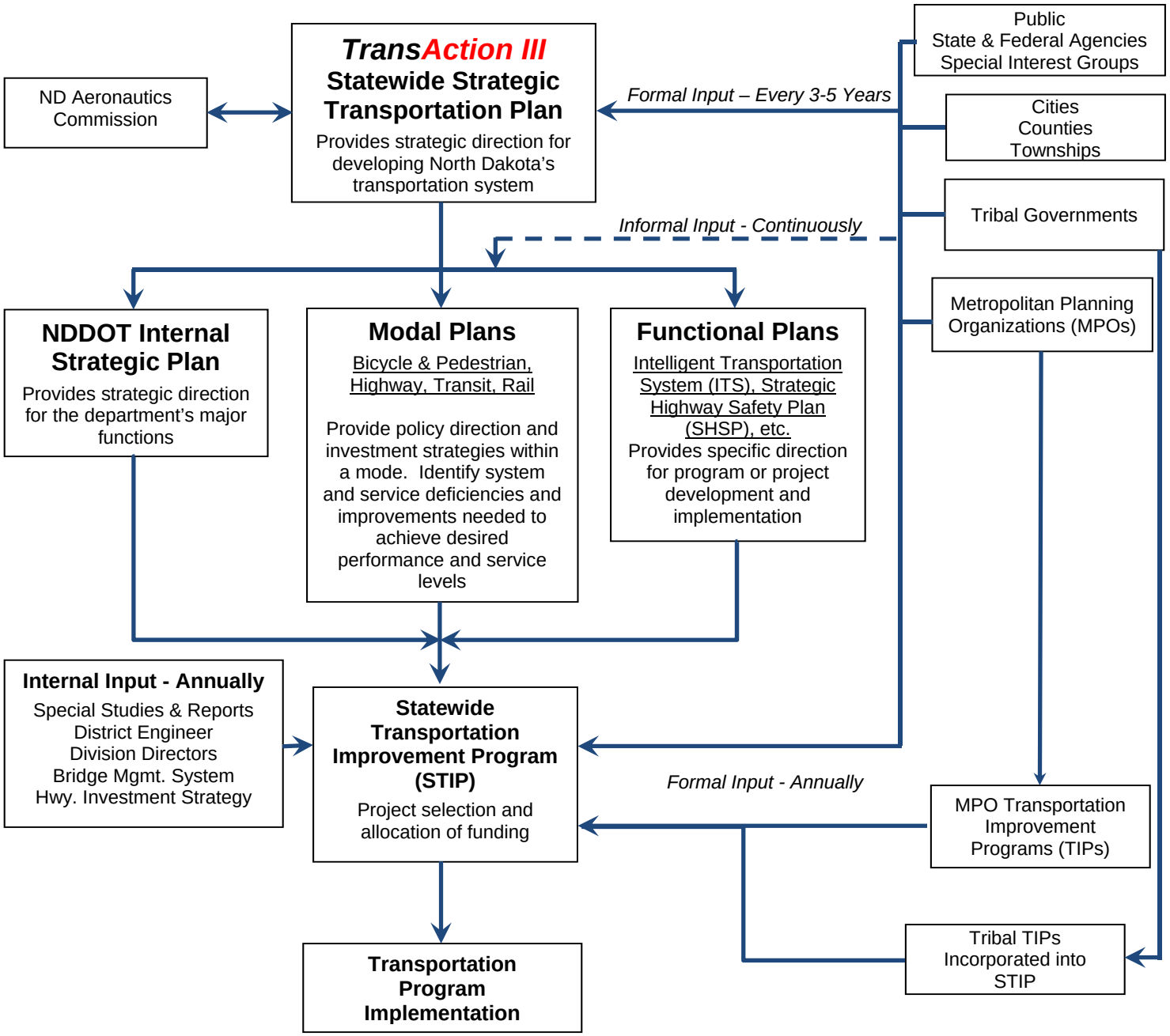
Strategy 1 *Participate in initiatives, programs, studies, and projects that strengthen the development of North Dakota's transportation system and economic competitiveness*

TransAction III – Roles & Responsibilities

The roles and responsibilities of the various members of North Dakota's transportation community have developed over many years. Some roles and responsibilities were created by federal or state legislation, congressional mandate, executive order, administrative rule, local ordinances, or by agency policy. Other roles and responsibilities have been assumed, or simply evolved over time.

TransAction III provides guidance and was developed to be applicable to all governmental entities and private sector entities within the state. Achieving the initiatives and strategies identified in ***TransAction III*** will be accomplished through a partnership of NDDOT working with federal, local, tribal governments and agencies, and members of the private sector.

Relationship of NDDOT Planning and Programming Processes



TransAction III – Implementation

TransAction III is a statewide strategic policy plan. It provides broad strategic direction and a long-range (20-year) framework for development of the state's transportation system. It provides a basis for supportive relationships between the transportation plans and programs of the federal, state, tribal, and local governments. ***TransAction III*** does not dictate action, but rather it proposes cooperative initiatives and strategies to achieve our state's transportation goals. The choice to participate in implementation of the plan remains the prerogative of individual governmental units and private-sector businesses.

Many plans that fail do so because once a plan is published people think the process is done, when in reality it is just beginning. The intent of ***TransAction III*** is to create a planning and implementation process that is ongoing and inclusive. Publishing ***TransAction III*** is the first of many steps toward developing a transportation system that provides the service and performance North Dakotans desire and are willing to support.

As North Dakota's lead transportation agency, NDDOT will use the State Planning and Research (SPR) program, Statewide Transportation Improvement Program (STIP), Highway Safety Improvement Program, and other tools such as public/private partnerships to implement ***TransAction III***. NDDOT will:

- Monitor changes affecting the transportation system.
- Seek input on transportation issues facing North Dakota.
- Communicate and work cooperatively with our stakeholders to advance priority projects and programs.

Trends Affecting Transportation

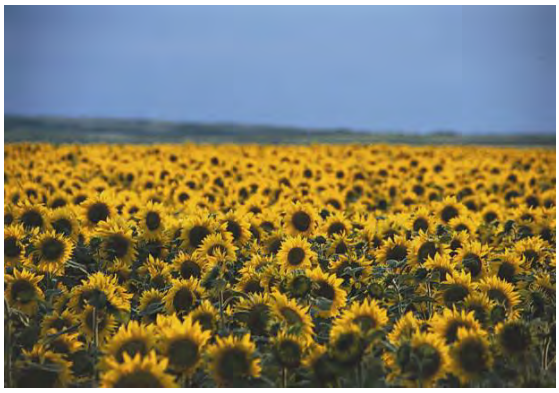
Many changes will occur over the next twenty years. Some of these changes will signal the continuation of existing trends, while other trends will signal the advent of change. In order for us to make effective transportation decisions we must continuously monitor a broad range of trends and understand the implications of these trends.

Some trends, if continued, may have favorable outcomes, while other trends may portend situations which require actions to mitigate unfavorable outcomes. Some trends present unique challenges, while other trends present unique opportunities. Some trends are capable of being influenced to affect positive change, while other trends are outside of our ability to influence. It is imperative we understand the difference, and act on those trends which we are capable of influencing in a positive manner.

The following trends appear to have important implications for our transportation system. Additional information on trends affecting transportation in North Dakota may be found at: http://www.dot.nd.gov/business/transactioniii/TransActionIII-TopicSummaries.pdf

Agriculture

Agriculture continues to lead North Dakota's economy, annually accounting for between 20 and 30 billion dollars of activity[1]. The state leads the nation in the production of several different commodities. During the past 50 years, farm numbers have dropped by half, while farm size has doubled and agricultural production has increased from 17.1 billion pound to 89.4 billion pounds, a 422% increase.



Several crops have shifted in their area of production. Cattle numbers are slightly higher today than they were in 1950, while milk cows, sheep and hogs are down significantly. While crops such as Spring Wheat and Barley continue to be important, many new crops are grown.[2] Some of these crops require containerized transportation to preserve their identity or their organic status. Finally, changes to the Farm Bill and a reduction in the acres enrolled in the

[1] The total economic impact of agriculture includes crop input costs, machinery purchase, federal subsidies, etc.

[2] Significant new crops grown include: Winter Wheat, Chickpeas, Canola, Pinto Beans, Dry Edible Beans, Black Peas, Small Red Beans, Navy Beans, Great Northern Beans, Dark Red Kidney Beans, Lentils, and Pink Beans.

Conservation Reserve Program (CRP) may have far-reaching effects on the transportation system needed to move the state's agricultural production to both domestic and foreign markets.

Energy

Oil

North Dakota has become a significant producer of several forms of energy. Currently, producing nearly 700,300 barrels per day from more than 7,350 active wells, North Dakota trails only Texas in the production of crude oil. Bringing a well into production requires about 2,300 inbound and outbound truckloads, many of which require permits since they are either overweight or over-dimension. Considering an additional 32,000 to 40,000 wells will be drilled in the state's oil producing region over the next 15 to 20 years, oil-related traffic is expected to be a long-term trend.

Wind

The first commercial wind towers were installed in North Dakota in 1997, and the first wind farms in 2003. Since then, more than 900 wind turbines with a combined capacity of 1,424 MW have been erected in the state. On average it takes about fourteen loads to transport a wind turbine's components, eight of which need to be permitted and escorted due to either their size or weight. The majority of impacts associated with a wind farm occur during the construction phase. Further wind farm development is very dependent upon the continuation of federal tax incentives.

Coal

With an 800-year supply, coal is one of North Dakota's most abundant forms of energy. Most coal mined in the state is utilized in mine-mouth production of electricity resulting in very little impact on the transportation system. Coal transload facilities such as the one located at Ardoch, North Dakota (approximately 26 miles northwest of Grand Forks) bring out-of-state coal to a central location, which is then trucked to its final destination(s). Coal transload facilities can result in significant trucks volumes on select roadways.

Ethanol & Biodiesel

North Dakota has four ethanol plants capable of annually producing 360 million gallons. The state also has one biodiesel plant which is capable of annually producing 85 million gallons. If all of the inbound corn and outbound ethanol and dry distilled grains moved by truck, a 100 million gallon plant would generate about 100 trucks per day. Most of the ethanol produced in the state is transported to out-of-state destinations via rail.

Tourism

Travel and tourism is a $4.6 billion industry in North Dakota and ranks as the state's third largest industry. Personal vehicles, including motorhomes, tour buses, Amtrak, commercial passenger air service, and bicycling are the major modes of transportation for many tourists. As North Dakota has received unprecedented national media coverage, the interest in traveling to our state has grown. Enjoying the outdoors – hunting, fishing, birding, bicycling, and accessing natural resources such as Theodore Roosevelt National Park – is the number one reason people travel to North Dakota.

Safe and secure travel is a primary concern of tourists. Active development of several new motel/hotel accommodations in the state's oil producing region is increasing the availability of rooms for tourists. Record numbers of Canadian citizens continue to visit North Dakota and expeditious processing of these visitors traveling through our state's eighteen land ports of entry is critical.

Manufacturing

Unlike the situation in many other states, manufacturing in North Dakota has been increasing for the past several years. Manufacturing accounts for nearly eight percent of the total gross state product while employing six percent of the workforce. Since 2003, manufacturing exports rose three times as fast as the state's overall economy. More than $1.3 billion of manufactured goods – 77 percent of North Dakota's total - was exported to Free Trade Agreement (FTA) partner countries.

Continued growth of North Dakota's manufacturing sector is very dependent on a transportation system that offers timely, reliable, and efficient service. Since higher-valued outbound manufactured products are often time-sensitive and rely on door-to-door delivery, they are frequently transported by truck. Many of the state's manufactured exports are best transported by intermodal containers and the availability and access to intermodal service is imperative.

Railroads

North Dakota is served by two Class 1 and five shortline railroads. These railroads operate a total of 3,634 miles of track. The state's current rail system is approximately one-third the size of the system in 1950. Currently, there are more than 3,400 public crossings, of which about 700 are equipped with automated signals.

Although the number of grain elevators on the state's rail system has dropped by two-thirds since 1950, licensed storage capacity is up more than 500 percent. Additional high speed shuttle facilities continue to be built in response to increased grain production and rate incentives provided by the railroads.

Railroads are ideally suited to transporting heavy, bulky and less time-sensitive cargoes such as many agricultural commodities, sand and gravel, and crude oil. Rail movements originating, destined for, and passing through the state have been increasing significantly. In addition to rail freight, North Dakota is served by Amtrak's Empire Builder passenger service which has recently been experiencing increased ridership. Without significant investments, some of the state's railroad mainlines are projected to reach capacity by 2035.

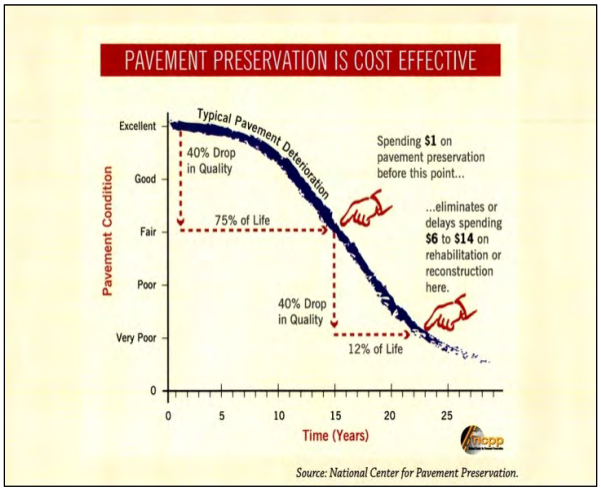
State & Local Roads

With a total system of more than 106,600 miles, North Dakota has more miles of roads per capita than any other state in the nation. There are nearly 4,300 bridges on the state's roads, of which 840 are classified as deficient. The state highway system of 7,385 miles accounts for about 6.9% of the road mileage and about 64% of the total vehicle miles traveled.

Congestion is not a problem on most North Dakota highways, but load carrying capacity is a major issue. Historically, the number of vehicle miles traveled (VMT) on the state's roads has annually grown between three and four percent. However, between 2010 and 2011, overall VMT grew by more than 9%, and statewide truck traffic grew by more than 26%. Since approximately 2008, providing service to the heavy loads associated with the oil industry has become a serious challenge. Of the 100 loads necessary to move an oil drilling rig, nearly 50 movements are either overweight or oversized and require permitting.

Transportation's Increasing Cost

During recent years the price of steel, concrete, labor, diesel fuel, and oil-based products such as asphalt have continued to rise resulting in ever escalating highway construction costs. Between 2005 and 2011, North Dakota's highway construction cost index increased by more than 90%. For example, the cost of a thin lift highway overlay increased from $80,000 to $155,000 per mile. Similar construction cost increases have been experienced in the railroad industry. In addition to construction cost increases, rural and urban transit programs, taxi services, inter-city bus lines, and Amtrak have experienced significant increases in the price of fuel. A gallon of gasoline that cost $1.89 in March of 2005 now costs more than $3.80 (September 2012).



Tribal Transportation

North Dakota's four Indian reservations are served by 369 miles of Indian Reservation Roads (IRR) and annually receive about $6M for roadway construction. Federal funding of the IRR program in North Dakota is inadequate to address local needs.

All of the state's Indian reservations have public transit programs – these services provided more than 37,000 rides in 2011. Tribal transit programs are vitally important to the state's Native American population since many tribal members live in rural areas, and are unemployed, low-income, or elderly.

North Dakota's Native American population continues to be overrepresented in traffic fatalities. Using National Highway Transportation Safety Administration funding, NDDOT annually offers its tribal

partners up to $50,000 to fund a Tribal Community Traffic Safety Program Coordinator and as of February 2012, three of the state's reservations are participating in this program.

Respect for issues related to Native American cultural resources is paramount when addressing the transportation issues on North Dakota's Indian Reservations. Effective solutions to the disproportionate motor vehicle fatality rate among Native Americans will require partnerships and innovative programs that address cultural differences.

Rail Transload Facilities

North Dakota's fast-growing economy, in particular its oil and agricultural industries, is heavily dependent on the development of rail transload facilities. These facilities receive inbound materials such as frac sand and pipe for the oil industry, fertilizer and anhydrous ammonia for agricultural uses, and coal for the region's sugar beet processing facilities. Transload facilities also handle outbound commodities such as crude oil and bulk grain shipments. A primary determining factor affecting the location of a rail transload facility is good highway access.

Land Ports of Entry (LPOE)

North Dakota has more Land Ports of Entry (LPOEs) or border crossings (18) than any state. Twelve of the state's LPOEs border Manitoba and six border Saskatchewan. Three LPOEs (Pembina, Dunseith and Portal) operate 24/7/365 and offer veterinary and Animal Plant Health Inspection Services (APHIS). The remaining 15 LPOEs have limited hours of operation and no APHIS or veterinary services. Although the Pembina,

Dunseith and Portal LPOEs never close, the US and Canadian highways leading to the ports may close due to snowstorms, flooding and other occurrences.

Pembina is the 5th largest LPOE on the US/Canada border in terms of trade, and the largest west of the Great Lakes. The total value of trade (highway & rail) passing through the Pembina LPOE in 2010 was $17.7 billion. International trade is vitally important to the nation's economy and maintaining safe, secure and efficient personal vehicle and freight flows through our LPOEs is very important.

Personal Mobility

North Dakota currently has 31 rural transit systems. The state's rural transit providers operate nearly 250 vehicles, of which 151 are equipped with a lift. In Fiscal Year 2011 rural transit providers traveled 6.2 million miles, purchased $2.9 million of fuel, and provided more than 1.3 million rides.

The state has three urban transit systems Bis-Man Transit (Bismarck/Mandan), Cities Area Transit (Grand Forks) and MatBus (Fargo/Moorhead). Urban transit programs traveled more than 2,738,000 miles in FY 2010 and provided more than 2,378,000 rides in Fiscal Year 2010.

Without transit service, many elderly people may continue driving later in life and dramatically increase health and safety risks to themselves and others. Urban and rural transit service is also critical to many low-income, disabled, and other transportation disadvantaged people.

North Dakota currently has four intercity carriers: Rimrock Stage Lines, Jefferson Lines, Standing Rock Public Transportation and New Town Bus Lines. The intercity carriers make connections with local transit services at North West Public Transit in Williston, Bis-Man Transit in Bismarck, Minot Amtrak Station, Devils Lake Amtrak Station, Cities Area Transit in Grand Forks, and MatBus in Fargo.

Amtrak (intercity passenger rail) currently stops at seven locations in North Dakota: Devils Lake, Fargo, Grand Forks, Minot, Rugby, Stanley, and Williston. Amtrak ridership has shown steady growth except during 2011, when substantial flooding interrupted service.

Intermodal Transportation

Intermodal transportation involves the movement of freight in containers that use more than one mode of transportation such as truck to rail. Intermodal transportation has the following advantages: the integrity of identity preserved commodities is maintained, cargo handling is reduced, freight security is improved, product damage is reduced, and transit timeframes are shortened.

Intermodal containers are an ideal transportation mode for many agricultural crops (peas, lentils, organically grown, identity preserved) and manufactured products (skid steers) produced in North Dakota. The Port of North Dakota, in Minot, is the state's only facility offering intermodal container service. One source of containers for this facility has been inbound shipments from China and Russia of ceramic proppants used in the oil industry.

Ideally, intermodal facilities have a balance between inbound and outbound container movements – otherwise steamship lines are reluctant to make containers available and railroad repositioning fees may make service prohibitive.

Intermodal freight service is dependent upon both the operating railroad and steamship lines. The maximum economic distance to truck an intermodal container, depending on various factors, is about 500 miles.

School Busing

Today, many students riding school buses are making longer trips (both mileage and time) than they did just a few years ago due to the consolidation of school districts. Some of North Dakota's school districts have bus routes that extend into as many as six counties and across state boundaries.

Many school districts in the state's oil producing counties are experiencing rapid growth in enrollments after years of declining number of students. The Stanley School District alone has students that have relocated from 35 different states and some foreign counties.

	1994	2011
Number of School Districts	231	183
Total Students	118,512	93,715
Cost Per Mile	$1.00	$2.23
Number of Students Transported	48,445	38,065
Transportation Cost/Student	$586	$1,243

The routes used for school busing will continue to change as schools consolidate and district boundaries change. The potential for conflict between farm machinery and oil industry traffic and school buses exists on narrow rural roads and bridges. Opportunities for improved school bus safety exist through regular dialogue between school district administrators, road authorities, law enforcement agencies, railroads, and emergency medical service providers.

Non-Motorized Transportation

Non-motorized transportation includes pedestrian, bicycling, and personal conveyance forms (wheelchairs and other assisted conveyance) used by non-ambulatory people. People use non-motorized transportation for basically the same reasons as motorized transportation; go to work, attend school and social events, run errands, access recreation, etc. Most non-motorized transportation occurs in North Dakota's urban areas and towns.

Although many people use non-motorized transportation year-round, because of our winters, non-motorized transportation tends to increase during the spring, summer, and fall months. Many forms of non-motorized transportation use infrastructure designed and constructed for motorized transportation. For example, bicyclists use city streets and rural roadways. Pedestrians and non-ambulatory people using wheelchairs and other forms of personal conveyance generally use sidewalks.

However, sidewalks are not universally available even in our state's cities. Bike paths and sidewalks are the primary types of infrastructure designed for non-motorized forms of transportation. Few roadways have pavement markings delineating pedestrian/bike paths. Many people using non-motorized forms of transportation do so to connect to public transit.

There are no dedicated sources of funding for non-motorized transportation such as fuel taxes for motor vehicle infrastructure. Since non-motorized forms of transportation often use facilities designed and built for motorized transportation, the potential

conflict between vehicle and non-motorized uses raise safety concerns. Other than some bicycling groups and advocates for people with disabilities, non-motorized forms of transportation are often under-represented in transportation planning processes.

Disasters

In recent years, record snowfalls and excessive rainfall has resulted in mud and landslides, rising lake levels, and flooding. In 2011, 90 sites on the state highway system and 208 sites on the county federal-aid system were inundated by high water levels. The estimated cost to repair the impacted roadways is $517 million. As of January 2012, North Dakota had only received $316.8 million in federal Emergency Relief (ER) funds for these events.

Since 1993, Devils Lake has risen nearly 32 feet and the lake's surface area has quadrupled. During this time, over $650 million ($454M federal and $196M state/local) has been spent on roadway grade raises in the basin. In 2011 alone, just over $230 million in grade raise projects were identified. This includes about $197 million for state highways and $33 million for county roads. A 17-mile stretch of the BNSF mainline between Devils Lake and Churchs Ferry is being raised at the cost of nearly $100 million.

Military

The military has maintained a presence in North Dakota for over 50 years. There are currently three active duty Air Force installations: Minot Air Force Base, Grand Forks Air Force Base, and Cavalier Air Force Station. In addition, the Air National Guard has a unit in Fargo at Hector Airport and a Civil Engineering Technical Services Center in Minot. The Army National Guard has several units across the state including Bismarck, Devils Lake, Fargo, and Minot. The Military's missions has changed over time depending on the nation's defense needs but currently includes: missile detection warning, air tanker refueling support, intercontinental ballistic missiles, long-range bombers, support of communities and the state in times of need, and supplementing conventional defense forces internationally.

The Military provides support for communities impacted by severe weather events and natural disasters, such as flooding in Fargo, Grand Forks, Minot, Bismarck and other communities. As the Military's mission evolves, it is imperative to continue an ongoing discussion between stakeholders to determine their transportation related needs.

The Department of Defense (DOD) through the Federal Highway Administration provides funding for the repair and maintenance of 330 miles of gravel and 1063 miles of paved Defense Access Roads (DAR) that serve as missile transport routes. In 2012 the DOD contributed $5.2M to this effort which the NDDOT was responsible for the design, award, and oversight of the projects as well as providing snow removal and sanding during the winter months.

Transportation Safety

Motor vehicle fatalities in North Dakota peaked in 1972, and then gradually decreased until 2000. Since then a slight upward trend has been noticed. North Dakota's motor vehicle fatality rate has historically been lower than the national rate. However, since 2005, the state's motor vehicle fatality rate has exceeded the national rate every year. The main factors that cause fatal crashes, however, have not changed over time. Fatal crashes occur largely due to human factors. The non-use of seat belts continues to be a significant factor in fatalities. Over the past ten years, about two-thirds of those killed in motor vehicle fatalities were unbelted at the time of the crash.

Top 3 Crash Contributing Factors – 2010

1) Alcohol/Drugs/Medications
2) Speed
3) Driving Left of Center

Engineering solutions and law enforcement programs coupled with effective and timely emergency response programs can further improve transportation safety. Safety partnerships that include multiple components (education, engineering, enforcement and emergency services) have the greatest potential to improve transportation safety. Public/Private Partnerships offer a method for safety programs to bridge the gap between modes, and the gap between governmental units and the private sector. Safety conflicts between motorized and non-motorized forms of transportation pose unique challenges. Effective solutions to the disproportionate motor vehicle fatality rate among Native Americans will require partnerships and innovative programs that address cultural differences.