

Generating Public Involvement in Transportation

Upper Great Plains Transportation Institute
North Dakota State University

March 2008

North Dakota's Transportation Inventory

Infrastructure

- Roadways
- Railroads
- Airports

Personal Mobility

- Automobiles
- Buses
- Taxis
- Rail

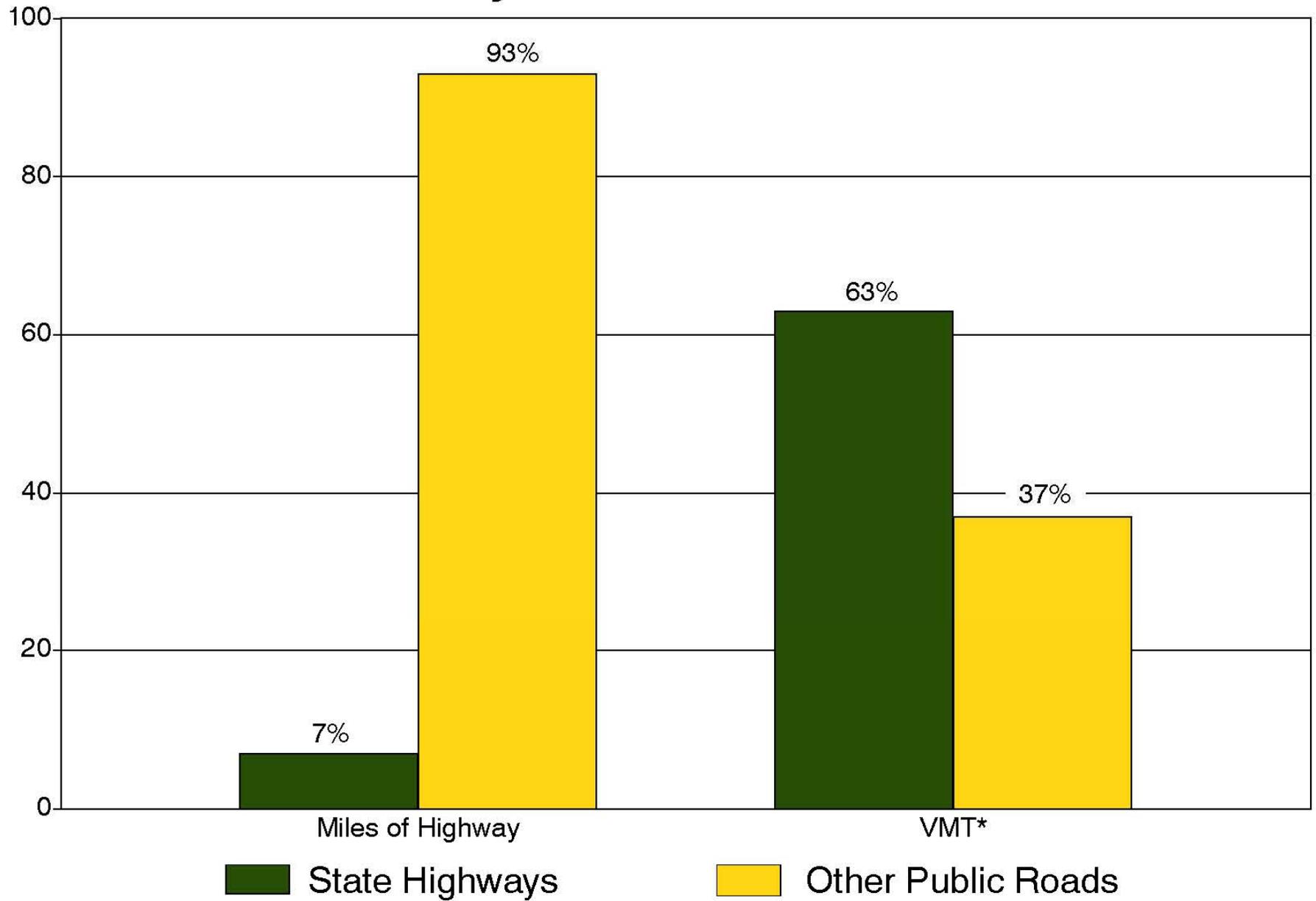
North Dakota Roadways

Interstate	571 miles
Other National & State Highways	6,814 miles
County Roads	19,043 miles
Other Rural (Township) Roads	56,509 miles
City Streets	3,860 miles
Trails	<u>19,827 miles</u>
TOTAL	106,624 miles

North Dakota has more miles of road per capita than any other state.

Percent

System Size vs. Use



*VMT - Vehicle Miles of Travel

North Dakota Bridges

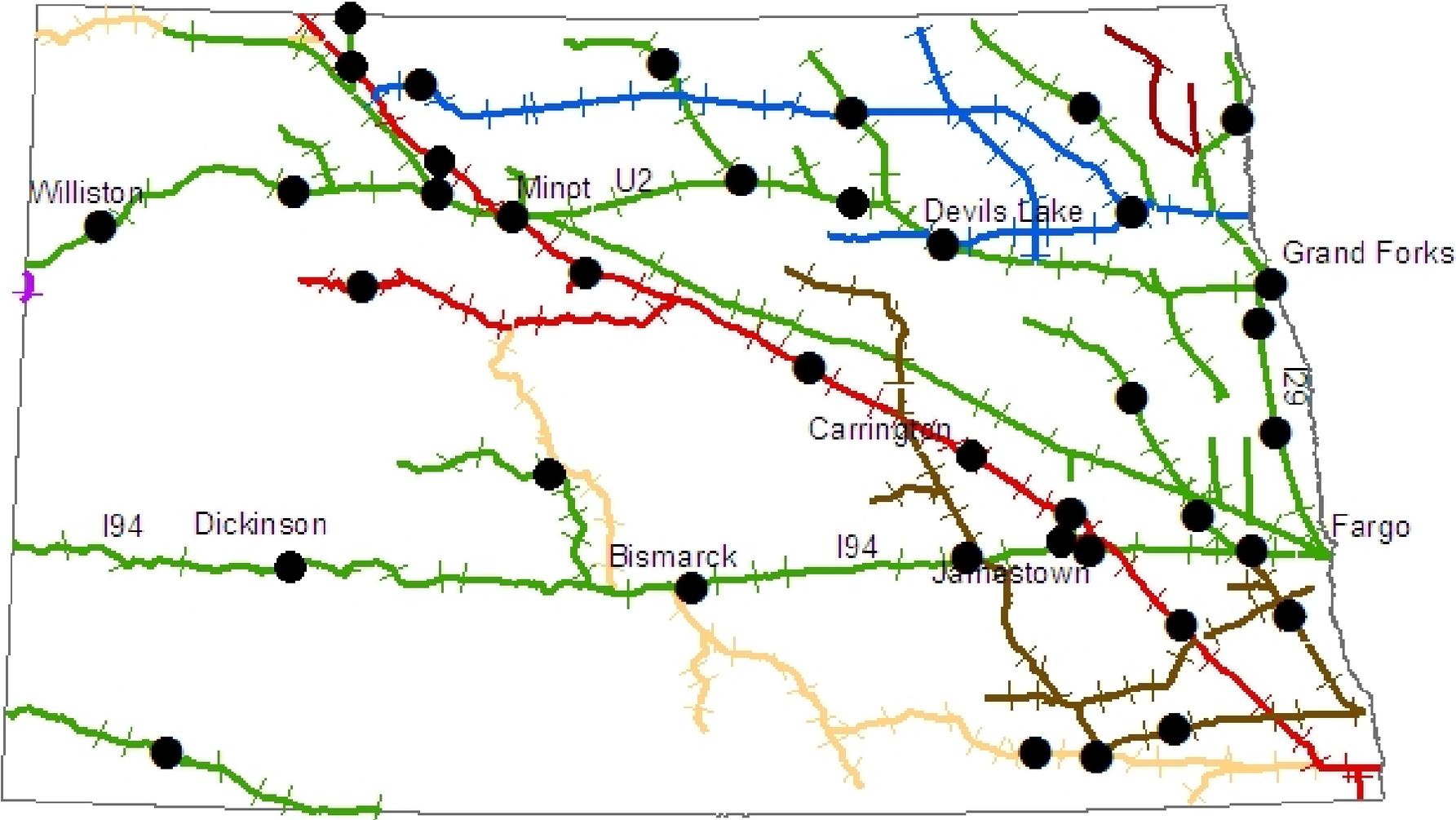
System	Number	Deficient*	% Deficient
State	1,712	32	2%
Urban	96	5	5%
County	<u>3,218</u>	<u>717</u>	22%
Total	5,026	754	15%

* A structurally deficient bridge is not necessarily unsafe. The term means that the structure has girders, piers, or abutments which warrant attention.

North Dakota Transportation Facts

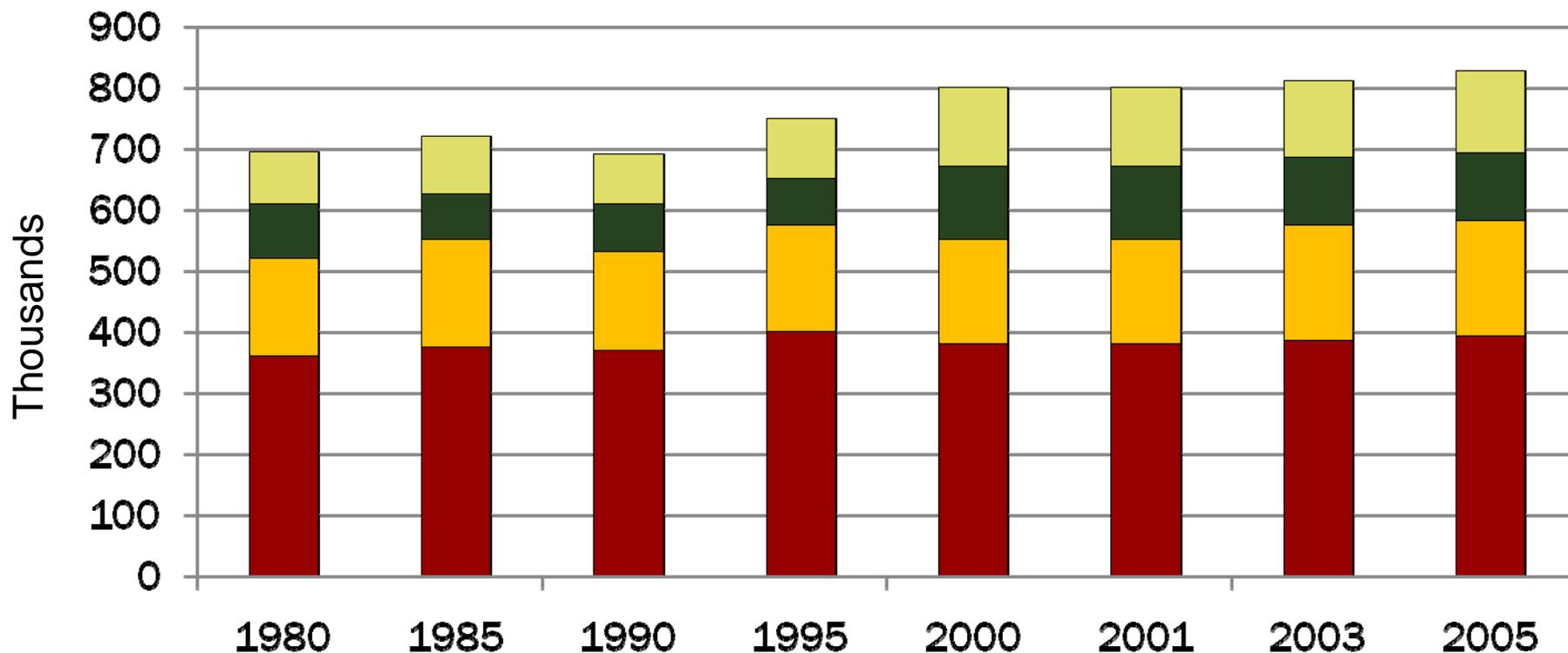
	1950	2007
Paved State Highways	2,100 miles	7,400 miles
Paved County Highways	2,800 miles	6,800 miles
Load Limit (on State Highways)	73,280 GVW	105,500 GVW
Crop Production	17 billion pounds	57 billion pounds

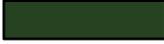
North Dakota Shuttle Elevators



● 100+ Car and Shuttle Elevators

Vehicle Registrations – 1980 to 2005

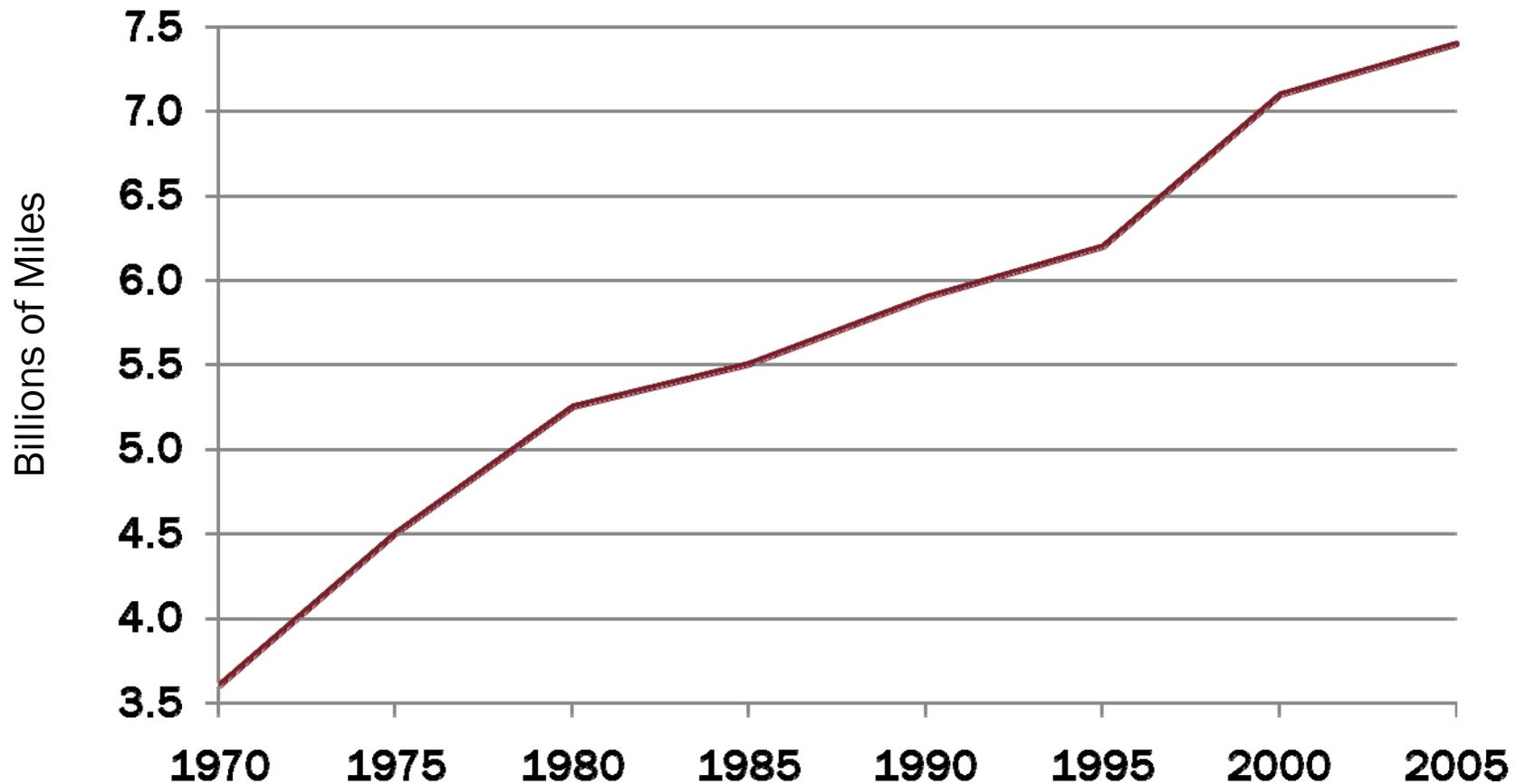


	2003	2005
 Cars	384,064	388,399
 Pickups	194,000	194,507
 Trucks	113,838	115,408
 Others*	128,152	142,740
Totals	820,054	841,054

*motorcycles, buses, motorhomes, snowmobiles, and trailers

Source: North Dakota Transportation Handbook, NDDOT, December 2006.

North Dakota Vehicle Miles Traveled – 1970 to 2005



Vehicle miles of travel on North Dakota's system increased steadily from 1970 to 1999, then leveled off from 1999 to 2003, and increased again in 2004 and 2005.

U.S. Roadway Usage

Total Freight Shipments

Projected to double by 2020

Truck Shipments Connected
to International Trade

3.8 billion VMT in 2002
7.0 billion VMT by 2015

Urban Traffic

Up 45% since 1993

Rural Traffic

Up 23% since 1993

Figure 2-3. Estimated Average Daily Truck Traffic: 1998



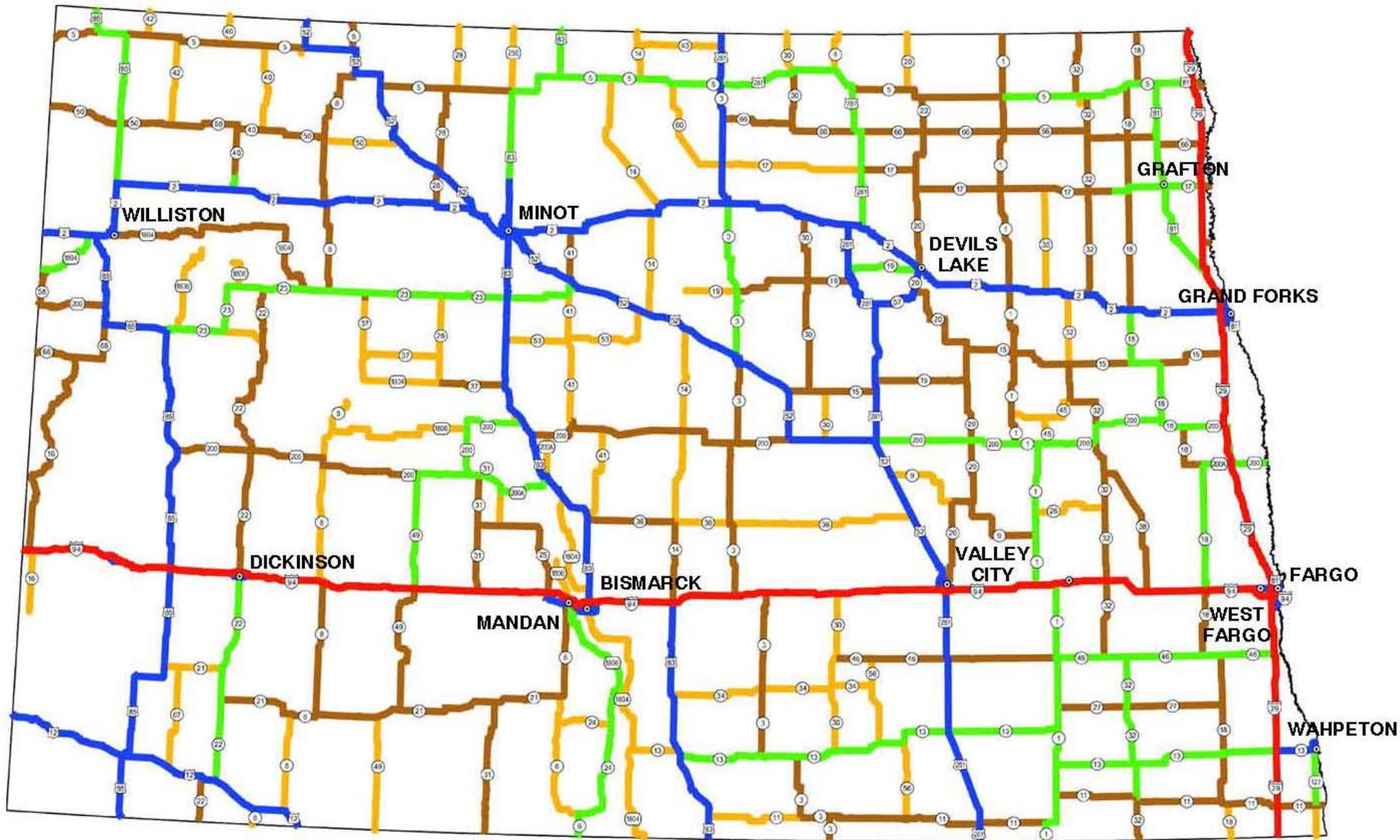
Figure 2-4. Estimated Average Daily Truck Traffic: 2020



Continued Growth

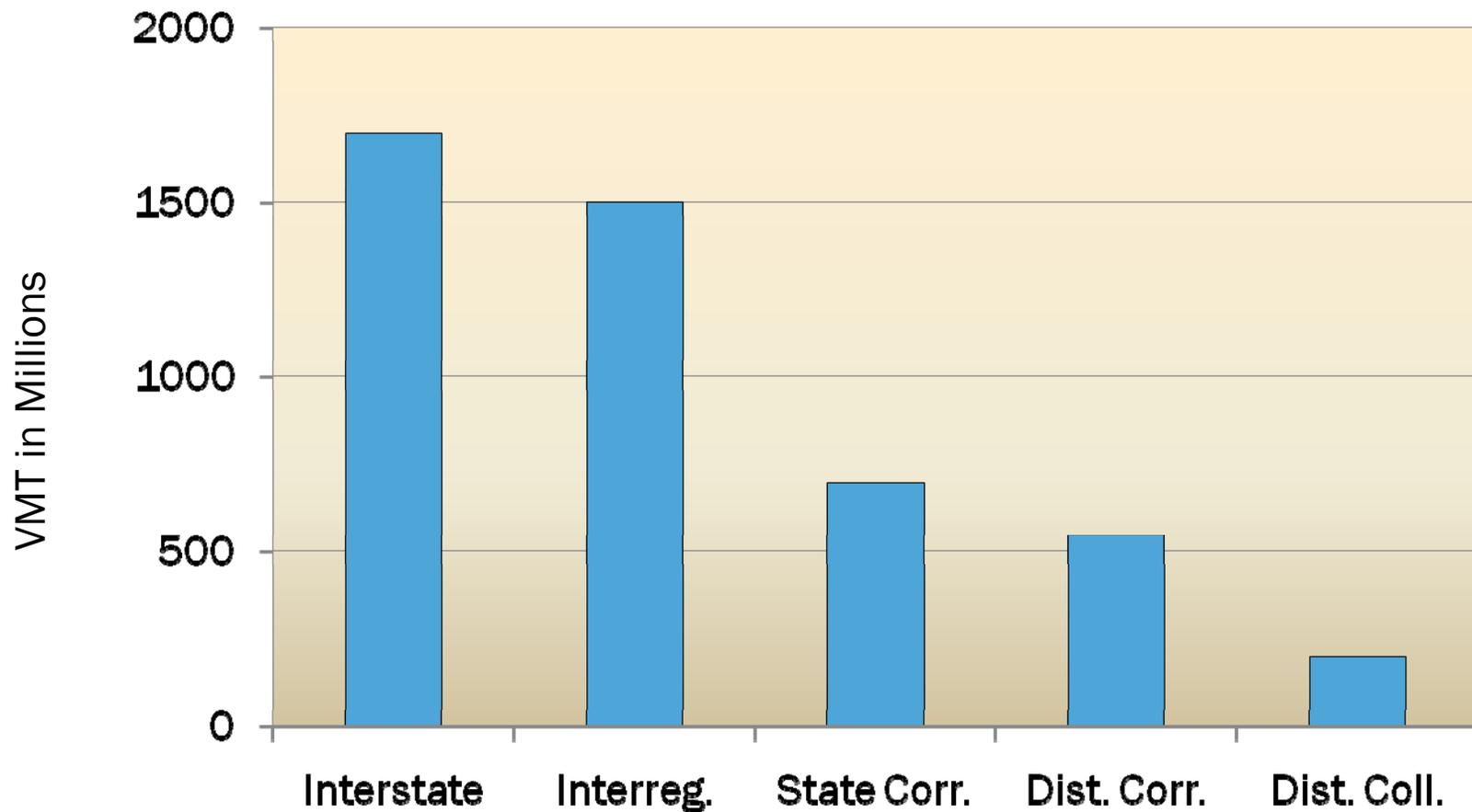
- + Population
- + GDP
- + Foreign Trade
- + Commodity Flow
- + Truck Traffic

State Highway Performance Classification System



Data taken from the North Dakota Transportation Handbook, NDDOT, December 2006.

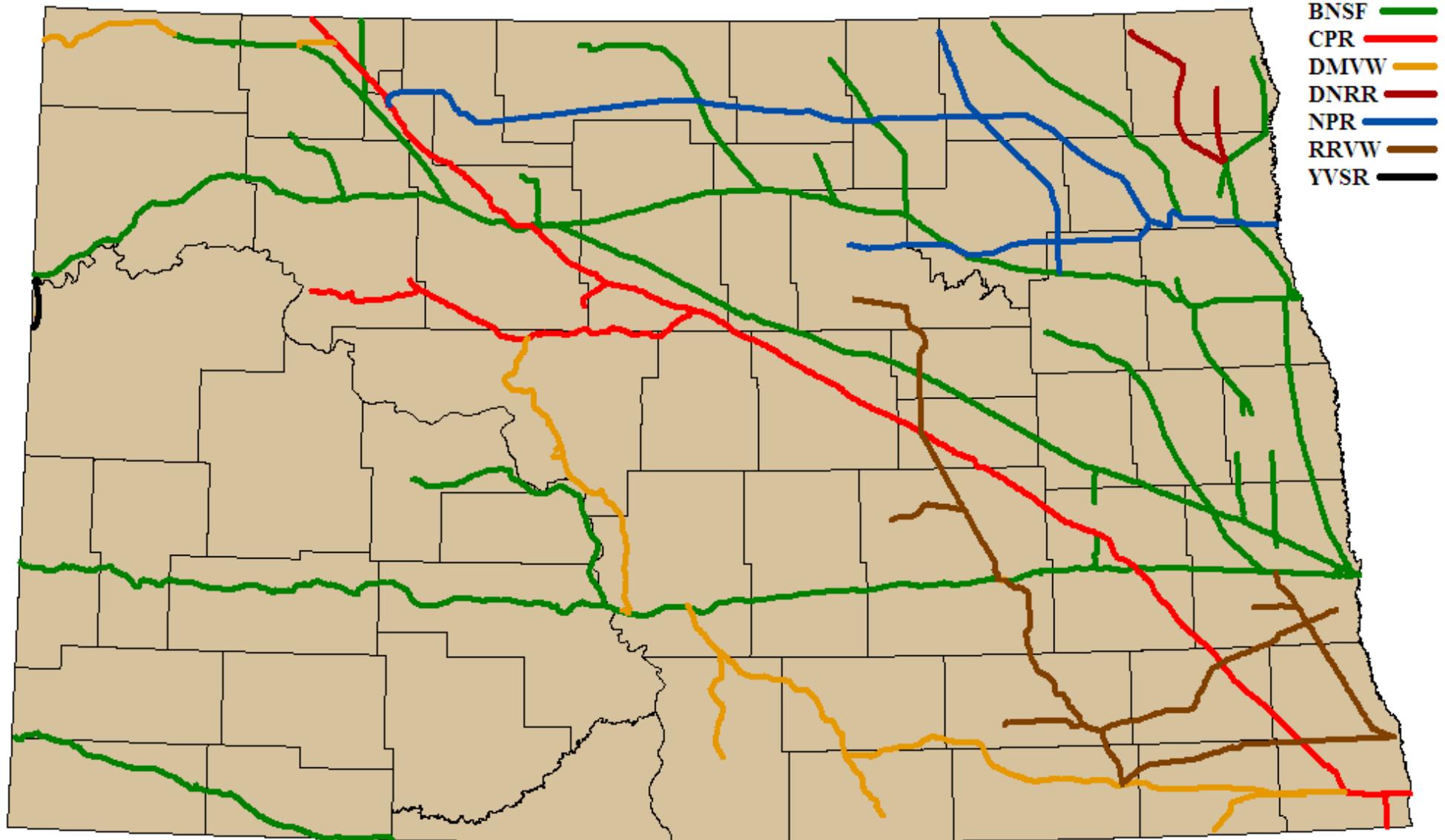
State System – Vehicle Miles Traveled (VMT) in 2005



Highway Classification System Data

	Top 3 Levels	Bottom 2 Levels
State Lane Miles	52%	48%
Cities	48%	52%
State Population	92%	8%
County Seats	43	9
Vehicle Miles Traveled	84%	16%

North Dakota Railroads



ND Railroad Mileage -- 2005

Railroads	Main - line	Branch- line	Total
BNSF	1,107	675	1,779
CPR	353	92	445
DMVW	-	399	399
DNRR	-	71	71
NPR	-	434	434
RRVW	-	428	428
YSVR	-	9	9
Total	1,460	2,105	3,565

SOURCE: North Dakota Public Service Commission. Taken from North Dakota Transportation Handbook, NDDOT, December 2006.

North Dakota Rail Shipments – 2005

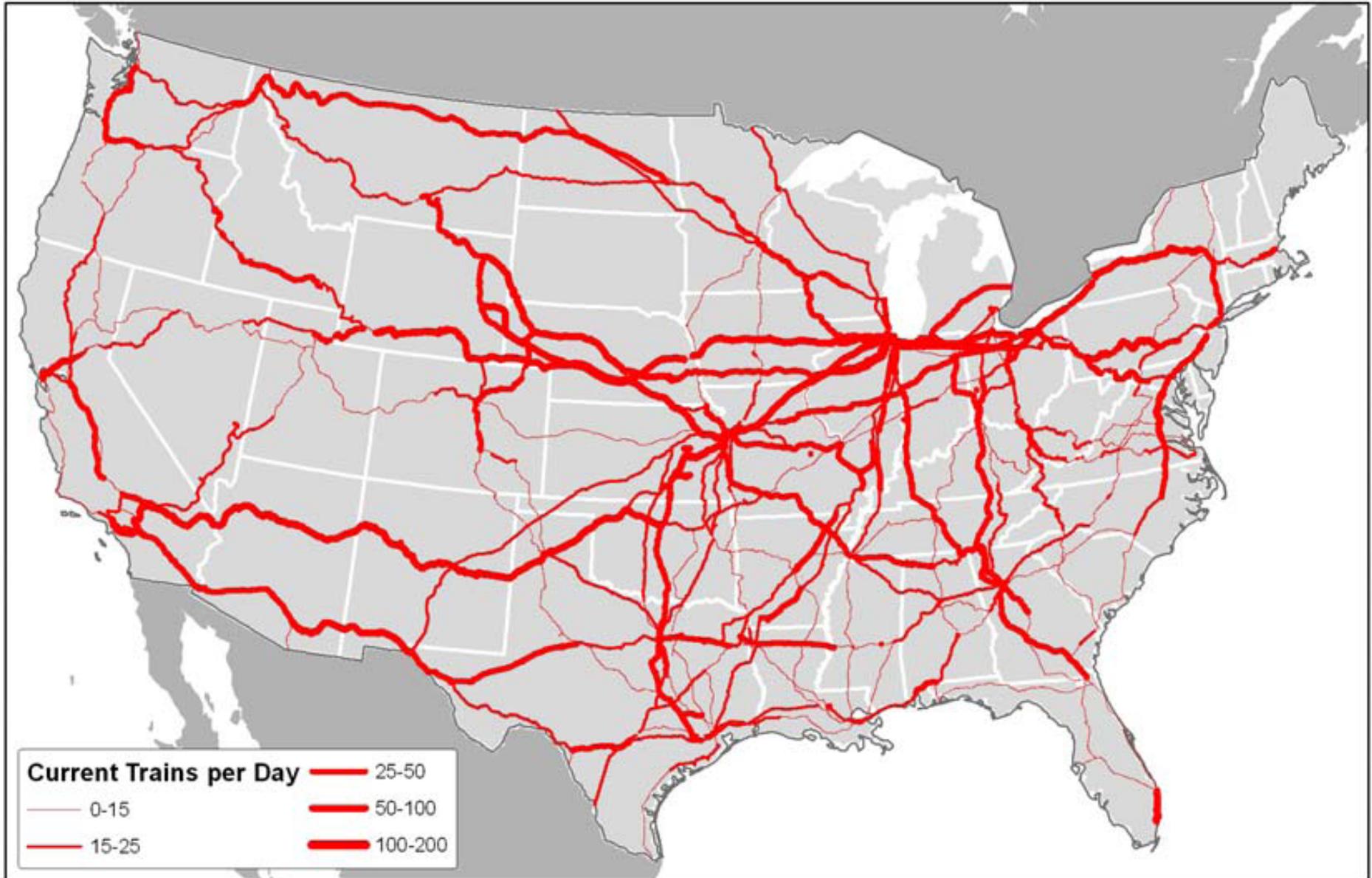
Tons

Est.
Carloads

Freight Originated in ND	22.7 M	210,000
Freight Terminated in ND	9.1 M	85,000
Total	31.8 M	295,000

Current Corridor Volumes by Primary Rail Freight Corridor

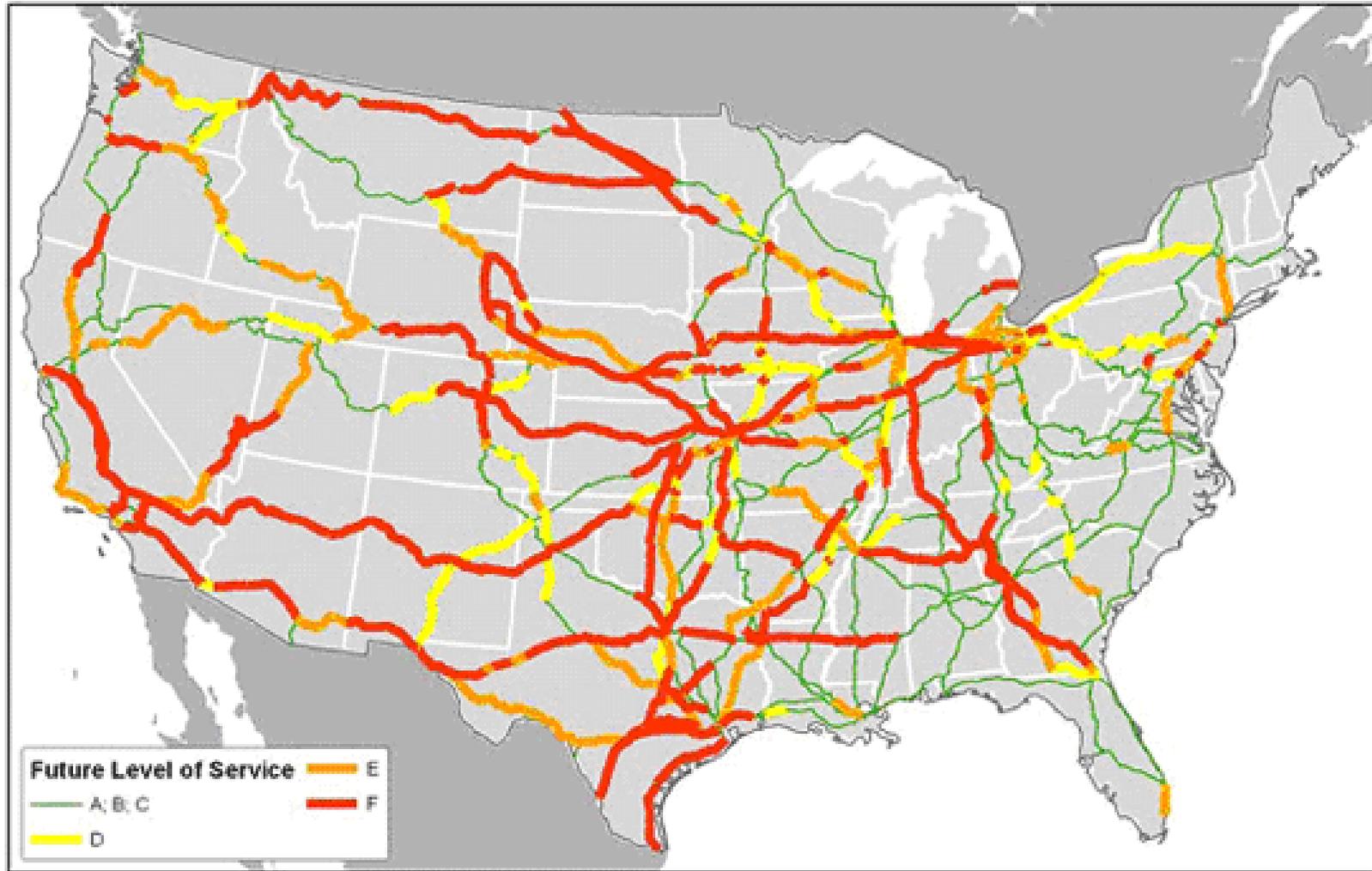
2005 Freight Trains and 2007 Passenger Trains per Day



Source: Cambridge Systematics, Inc.

Note: Volumes are for the 85th percentile day.

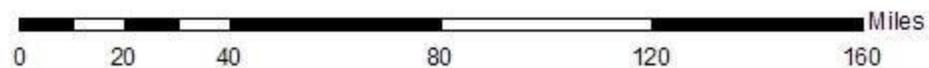
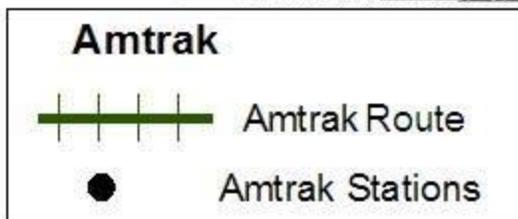
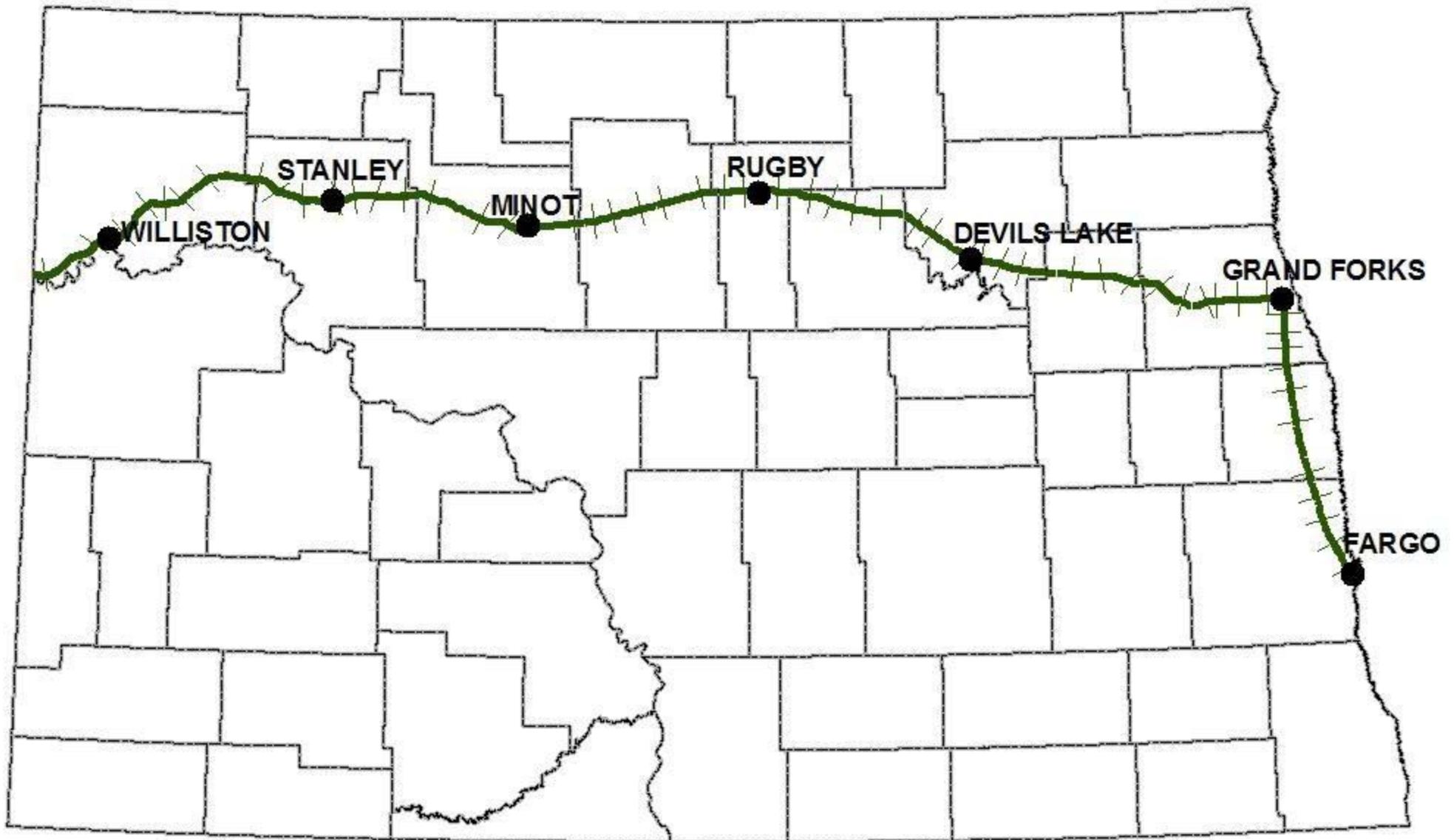
Projected 2035 Train Volumes Compared to Current Train Capacity



This map identifies the relationship between projected freight train volumes on an 85th-percentile day in 2035 with the theoretical capacity of individual rail sections, assuming that no additional capacity expansion occurs before that time. Levels of Service A, B, and C are all considered to be under capacity; Levels of Service D, E, and F are considered to be nearing capacity, at capacity, and over capacity, respectively.

Source: National Rail Freight Infrastructure Capacity and Investment Study prepared for the Association of American Railroads by Cambridge Systematics, Inc.

North Dakota Amtrak Service



Amtrak Ridership – 2003 to 2006

Amtrak serves North Dakota with two long-distance east/west daily trains called the Empire Builder. It follows a route from Chicago-Minneapolis/St. Paul through North Dakota to Seattle/Portland.

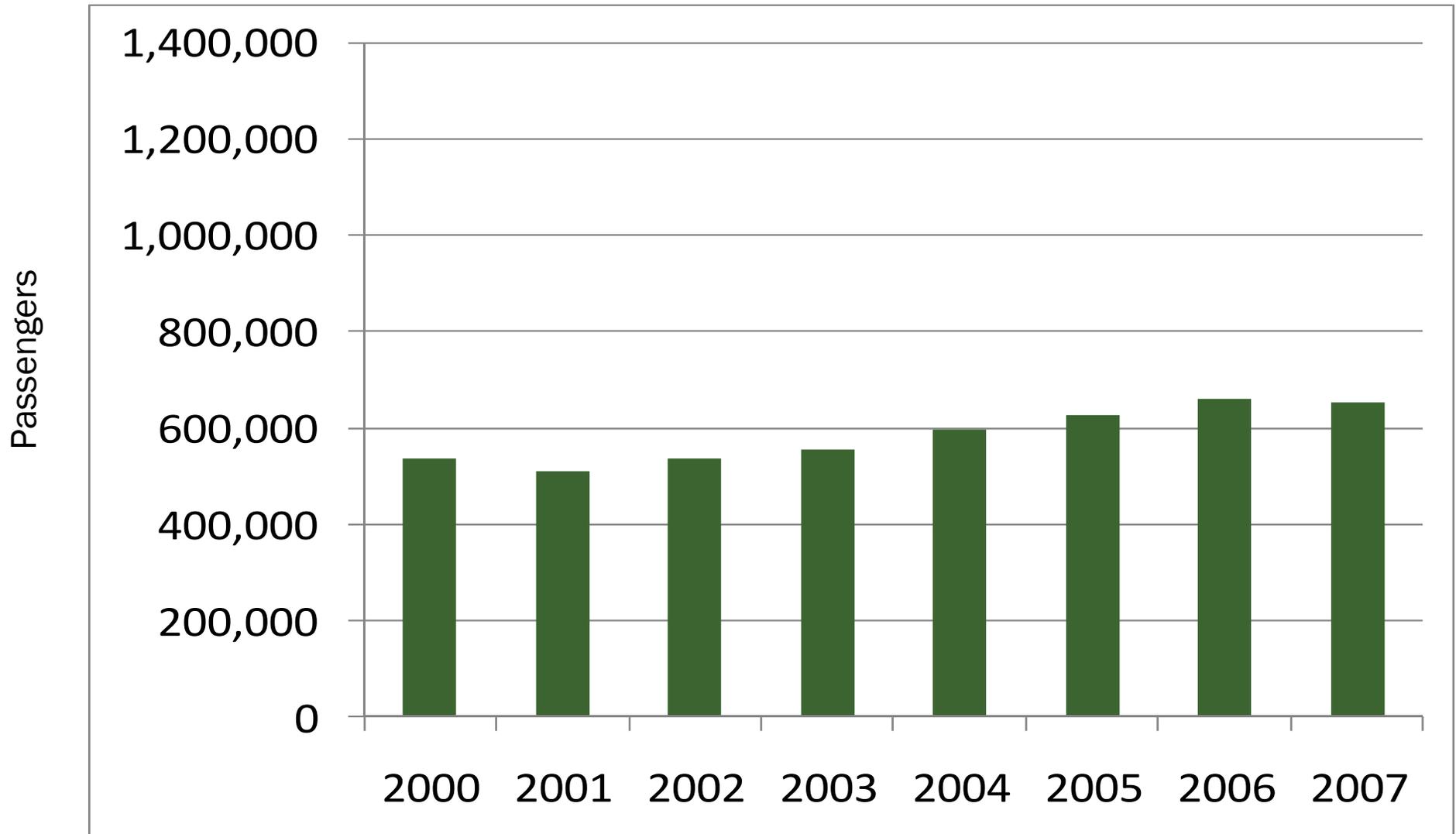
ND Boardings On/Off

City	FY2003	FY2004	FY2005	FY2006
Devils Lake	4,726	4,834	6,039	6,272
Fargo	13,869	15,456	18,812	22,771
Grand Forks	13,024	14,638	17,847	19,574
Minot	27,493	29,511	33,314	35,829
Rugby	4,940	5,533	6,272	5,975
Stanley	2,678	2,688	2,694	3,018
Williston	16,196	16,659	19,504	21,300
Total	82,926	89,319	104,482	114,739

North Dakota Aviation Facts

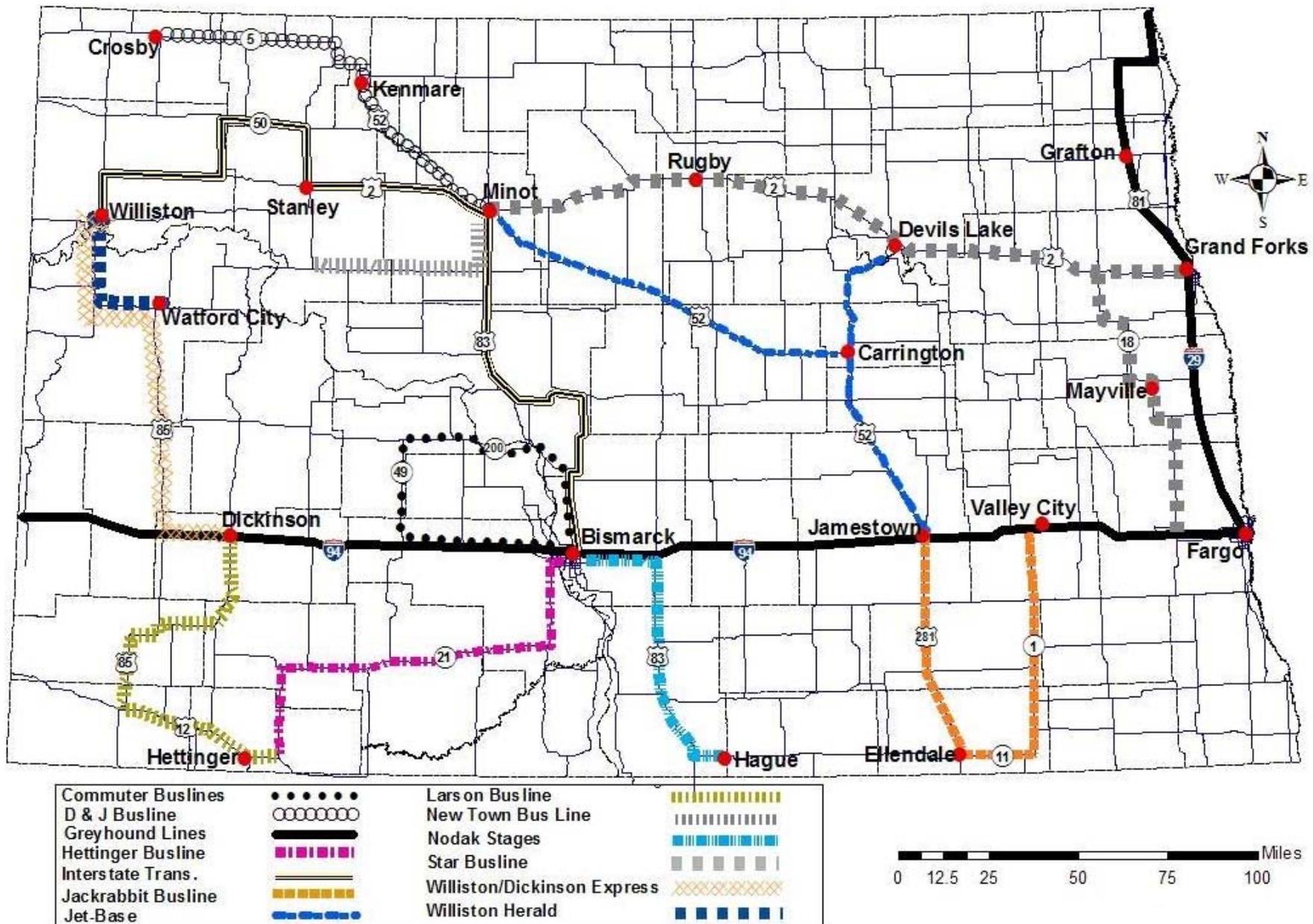
Commercial Airports	8
General Aviation Airports	90
Rural Private Grass Airfields	220
North Dakota Based Aircraft	1,600
Licensed Pilots	2,500
Commercial Airlines Serving North Dakota	6
Daily Commercial Flights at ND Airports	92
North Dakota Spraying Businesses	158
Tons of Air Freight Flown Annually to ND Airports	100,000

North Dakota Airline Boardings

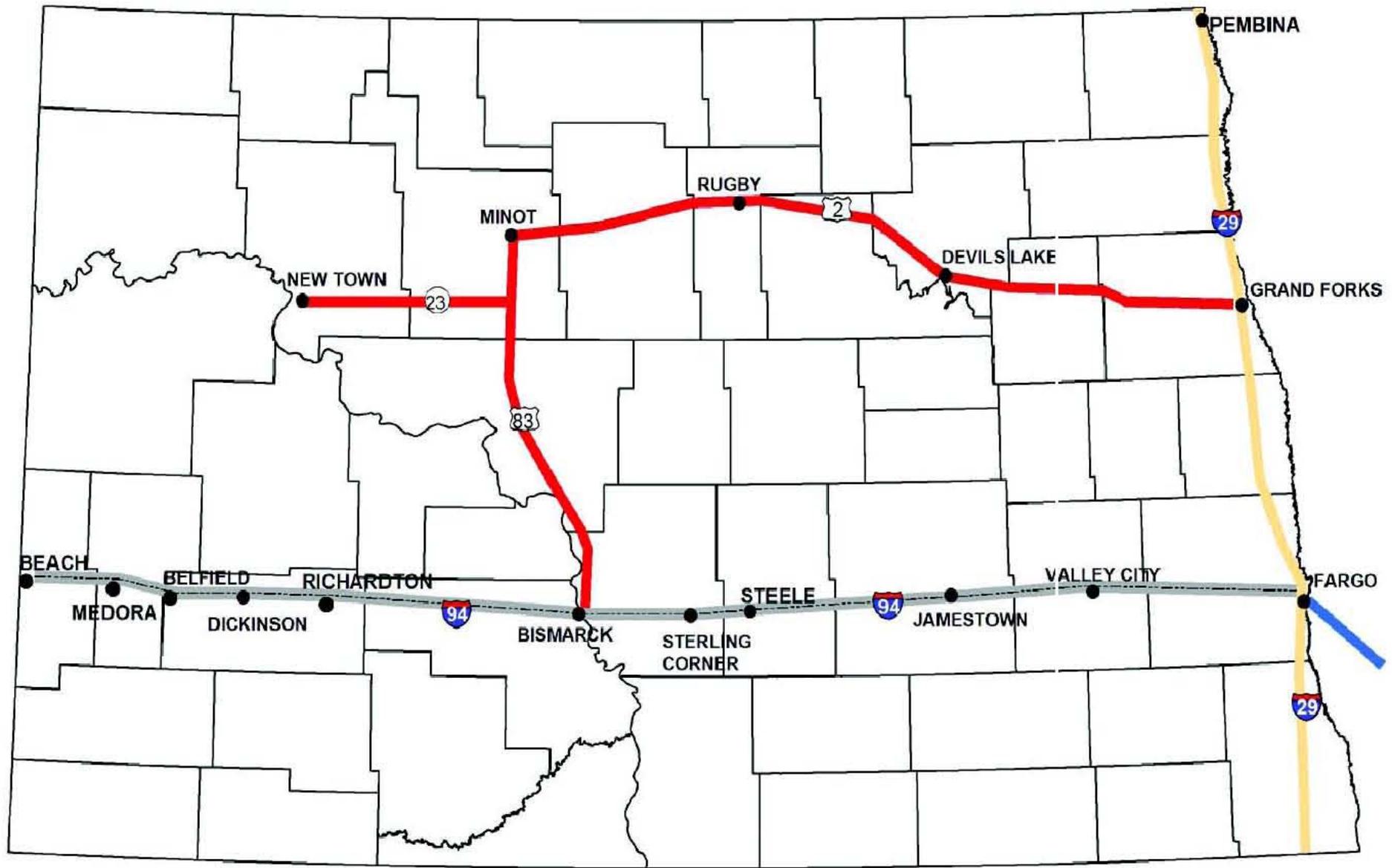


SOURCE: ND Aeronautics Commission
Gary R. Ness, Executive Director
(701) 328-9650
www.nd.gov/ndaero

North Dakota Intercity Bus Service - 1981

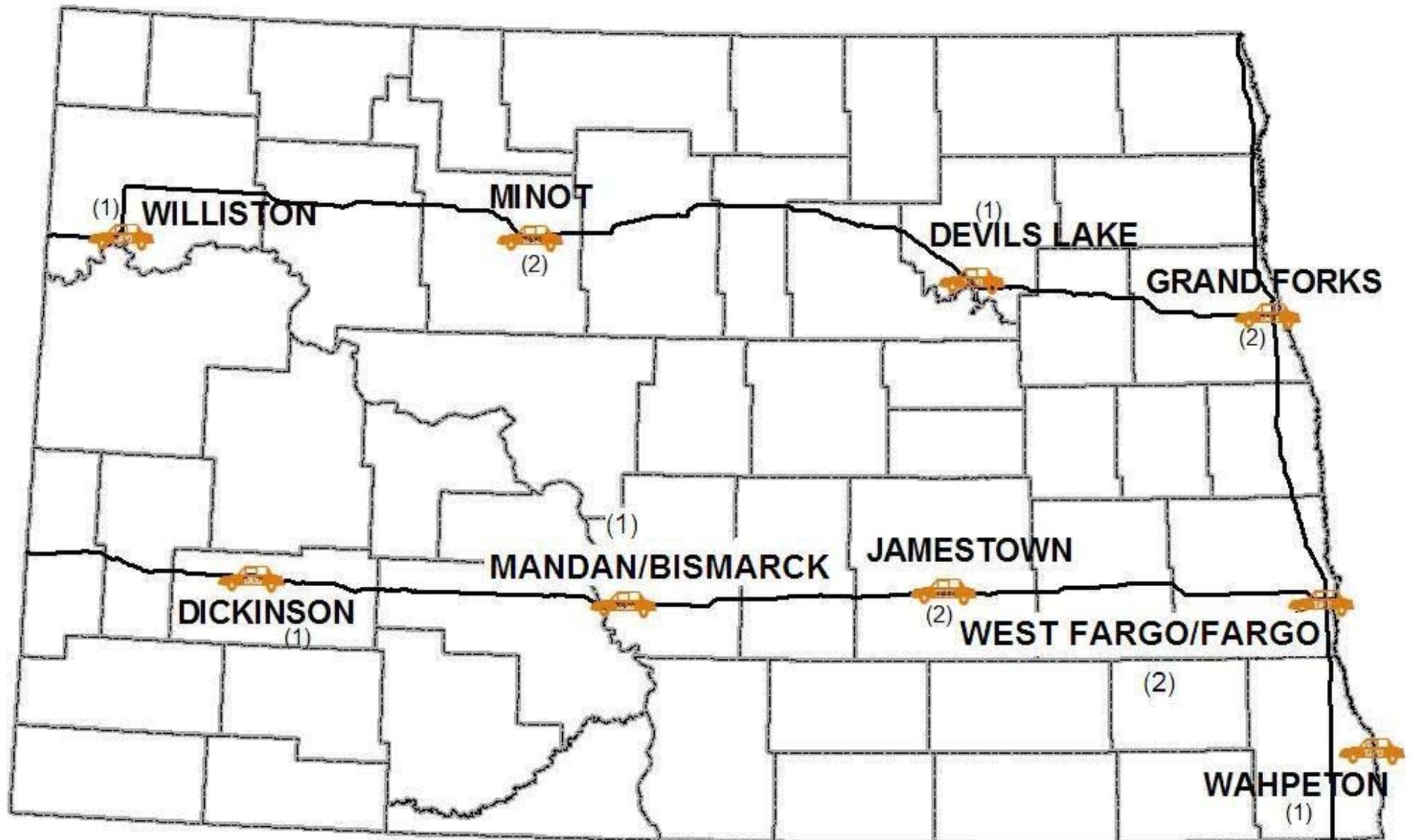


North Dakota Intercity Bus Service – 2006



— Jefferson Bus Line — Rimrock Stages — New Town Bus Line — Greyhound Bus Line

North Dakota Cities with Taxi Service



0 15 30 60 90 120 Miles



NORTH DAKOTA TRANSIT FACTS

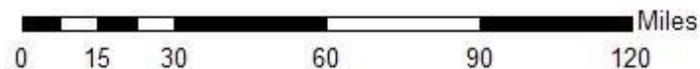
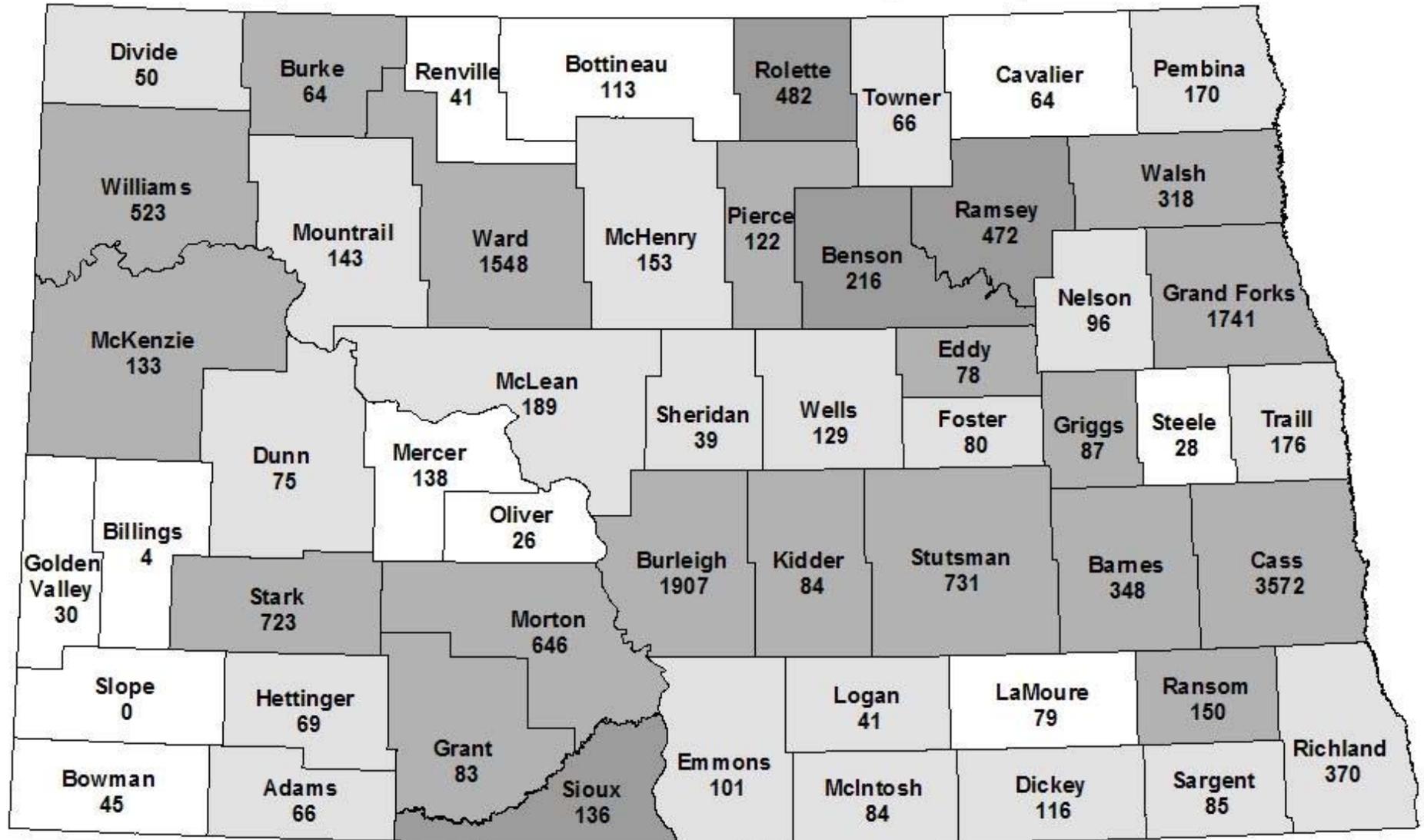
	2003-04	2005-06
Fixed Route Bus Systems (Bismarck Fargo, Grand Forks & Minot)	4	4
Urban & Rural Dial-A-Ride Services	40	39
Rides Provided	1.7 million	2.4 million
Cost/Ride	\$5.17	\$4.49
Fare/Ride	\$.92	\$.80
Subsidy/Ride	\$4.25	\$3.69

North Dakota Households Without Vehicles

North Dakota Households Without Vehicles		17,030
Average Residents/Household		2.41
Estimated Individuals Without Direct Vehicle Access		41,000
Percent of State Residents Without Direct Vehicle Access		6.5%
Estimated Non-Driver Trips per Day		2.6
Estimated Need for Transportation by Individuals Without Vehicles		106,600/day

North Dakota Households Without Vehicles by County

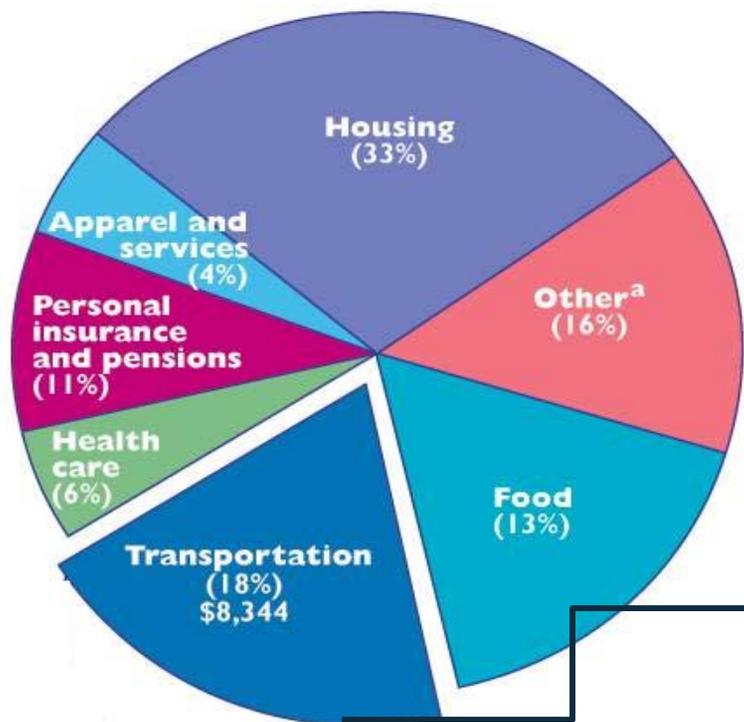
(persons without vehicle below county name)



School Buses

- Approximately 200 school districts in North Dakota
- All but about a dozen small districts provide transportation services
- Over 100,000 state residents are school age (K-12); over 40% ride buses
- Approximately 2,300 school buses in North Dakota
- Buses traveled 23.6 million miles in 2003 at a cost of \$1.35 per mile

Average Household Expenditures on Transportation - 2005



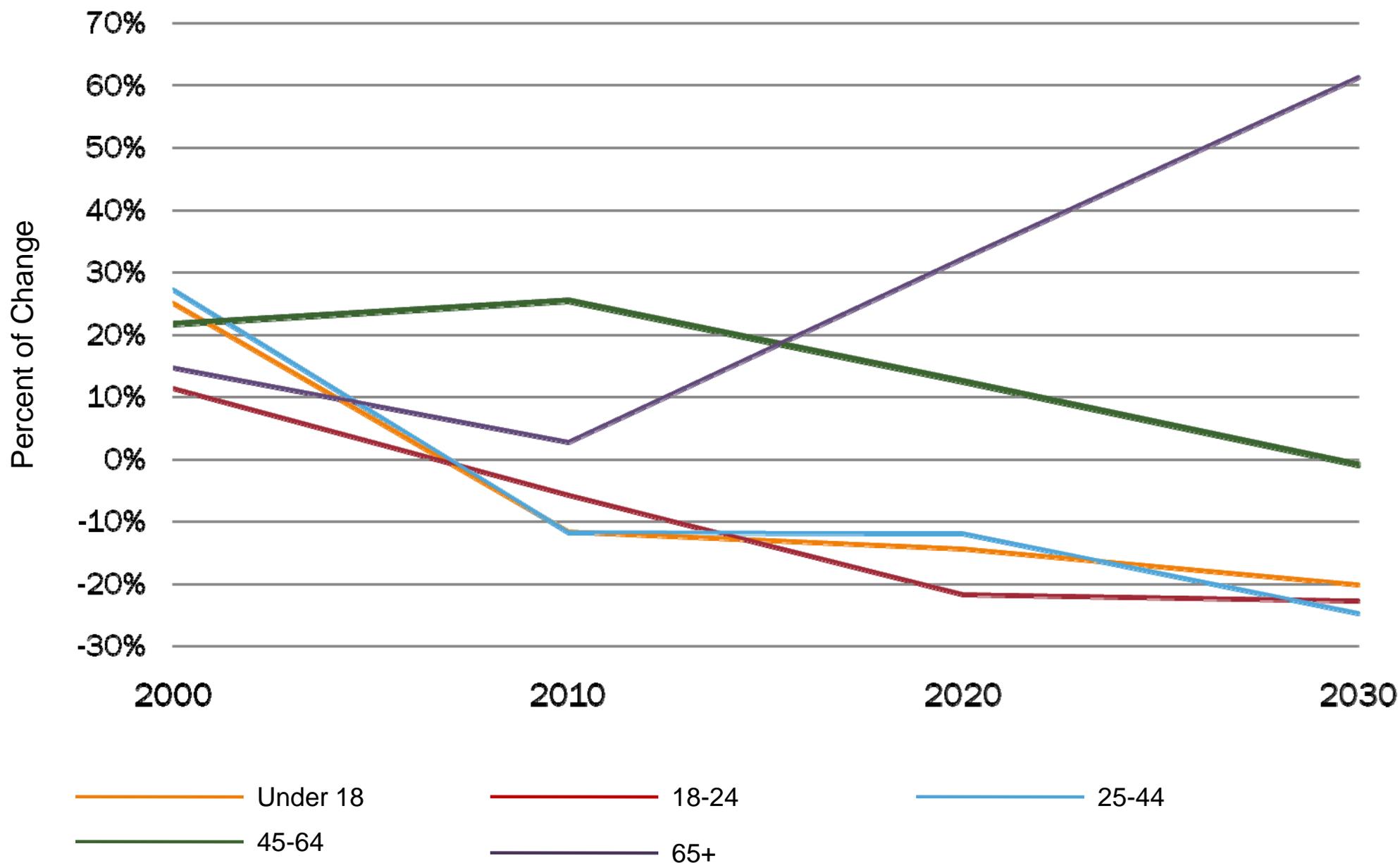
Private vehicle expenditures	=	\$7,896
Vehicle purchases	=	\$3,554
Gasoline and motor oil	=	\$2,013
Other vehicle expenditures	=	\$2,339
Public transportation expenditures	=	\$448
Airline fares	=	\$285
Mass transit fares	=	\$52
Ship fares	=	\$42
Taxi fares	=	\$24
Intercity train fares	=	\$19
Intercity bus fares	=	\$12
Location transportation on out-of-town trips	=	\$11
School bus	=	\$3

^a Includes entertainment, personal care products and services, education, tobacco products and smoking, and miscellaneous.

Note: Numbers do not add to totals due to rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2005; and personal communication, November 2006.

North Dakota Population Trends



Source: U.S. Census Bureau, Population Division, Interim State Population Projections, 2005

Summary Considerations

- Roadway usage in ND has increased dramatically (vehicles & tonnage) & further increases are anticipated
- Rail congestion may be expected in the future
- Airline travel in ND is increasing
- ND transit provides 2.4 million rides annually
- ND's senior population will increase by 60% over the next 20-25 years
- Transportation is of major importance