



SOY TRANSPORTATION COALITION

RURAL INFRASTRUCTURE: *A More Productive Path Forward*

North Dakota Agricultural Production and Rural Infrastructure

North Dakota Trends in Agricultural Production and Infrastructure

Highlights

- With no navigable waterways, North Dakota is heavily reliant on rail movements of its grain production.
- The population density of North Dakota is virtually unchanged from its level in 1930, with an average of 10 people per square mile.
- While the value of agricultural production in North Dakota increased by 1,174% from 1950 to 2007, the number of farms decreased by 52%.

Production Consumed on Farm

- Home consumption of a farm's production has changed dramatically. In 1950, the value of farm production consumed at home in North Dakota was 3.50%.
- In contrast, in 2010 just 0.08% of the value of production in North Dakota was consumed at home. This shift amounts to an even greater reliance by agricultural producers on rural infrastructure to transport farm products.

Rural Population Trends

- In 1930 there were 567,539 people living in North Dakota, with 83.4% of that population in rural areas.
- By comparison, in 2010 there were 672,591 people living in North Dakota, with 40.1% of that population in rural areas.

Agricultural Production

| | Then | | | Now | | | Change |
|--|------|------------|--------------------|------|------------|--------------------|-------------------------------|
| | Year | Quantity | Percentage of U.S. | Year | Quantity | Percentage of U.S. | Percentage Change in Quantity |
| Consolidation Trends: Number of Farms | 1950 | 66,000 | 1.2% | 2010 | 31,900 | 1.4% | -51.7% |
| Farmland Trends: Land in Farms (Acres) | 1950 | 42,700,000 | 3.6% | 2010 | 39,600,000 | 4.3% | -7.3% |
| Average Farm Size (Acres) | 1950 | 647 | 304% | 2010 | 1,241 | 297% | 92% |
| Population Trends: Population Density (Pop. per Square Mile) | 1930 | 10 | 28% | 2010 | 10 | 11% | -1.2% |
| Production Trends: Volume of Production (Million Bushels) | 1940 | 168 | 3.6% | 2011 | 550 | 3.1% | 226% |

North Dakota Agriculture and Rural Infrastructure

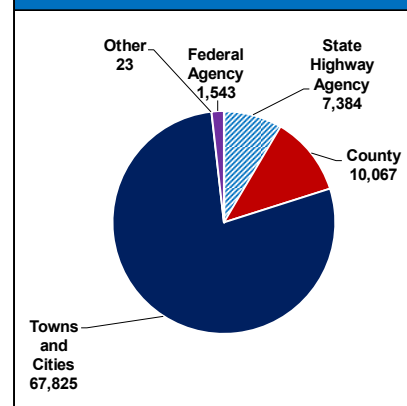
Highlights

| | |
|------------------|---|
| Roads | With 86,842 miles of road as of 2008, North Dakota accounts for 2.1% of U.S. road miles. |
| Railroad | North Dakota had 5,311 miles of railroad in 1920 (around the time of the peak rail mileage), but this mileage had fallen to 5,195 miles in 1965 and decreased even further to 3,413 freight railroad miles in 2009. |
| Waterways | North Dakota has 0 miles of inland waterways. |
| Bridges | North Dakota has 4,910 bridges, and approximately 21.3 percent of those are considered structurally deficient or functionally obsolete. |

Did you know?

- In North Dakota in 2007, there were an average of 532 soybean acres per soybean farm, while for the U.S. the average soybean area per soybean farm was 229 acres.
- Broilers are a major consumer of soybean meal. In 2007, there were 0.01 million broilers sold in North Dakota and 8,915 million broilers sold in the U.S.
- Average farm size in the U.S. increased from 213 acres in 1950 to 418 acres in 2010, while average farm size in North Dakota increased from 647 acres to 1,241 acres over the same period.
- In North Dakota in 1945, there were 23,261 grain combines, while in 2007 there were 17,586 self-propelled grain and bean combines in the state.

Miles of Road by Owner for North Dakota





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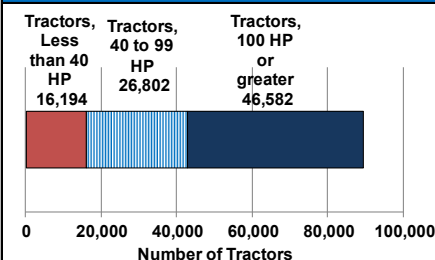
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Consolidation Trends: Fewer Farms and Larger Average Farm Size

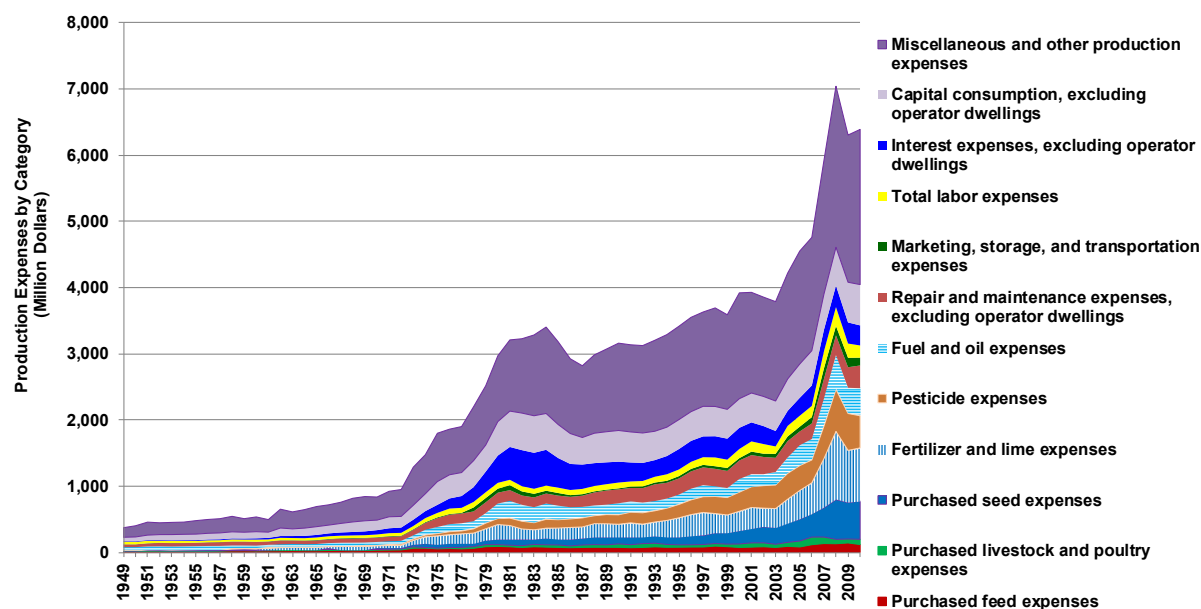
| | Then (1954) | | Now (2007) | | Change | |
|-----------------------------|-----------------|--|-----------------|--|-----------------------------------|-------------------------------------|
| | Number of Farms | Average acreage or number of head per farm for farms with production | Number of Farms | Average acreage or number of head per farm for farms with production | Percentage Change in No. of Farms | Percentage Change in Avg. Farm Size |
| Corn for Grain | 11,829 | 33 acres | 5,809 | 404 acres | -51% | 1,113% |
| Soybeans | NA | NA acres | 5,779 | 532 acres | NA | NA |
| Wheat | 63,250 | 121 acres | 12,303 | 685 acres | -81% | 467% |
| Cattle and Calves Inventory | 49,410 | 43 head | 10,508 | 172 head | -79% | 304% |
| Hogs Sold | 21,657 | 19 head | 351 | 1,925 head | -98% | 10,080% |
| Broilers Sold | 47 | 14,926 head | 75 | 193 head | 60% | -99% |
| All Farms | 61,943 | 676 acres | 31,970 | 1,241 acres | -48% | 84% |

Farm Equipment

Farm Equipment Used: Number of Tractors of Various Sizes, 2007



Farm Input Trends: North Dakota Farm Inputs by Type, 1949-2010



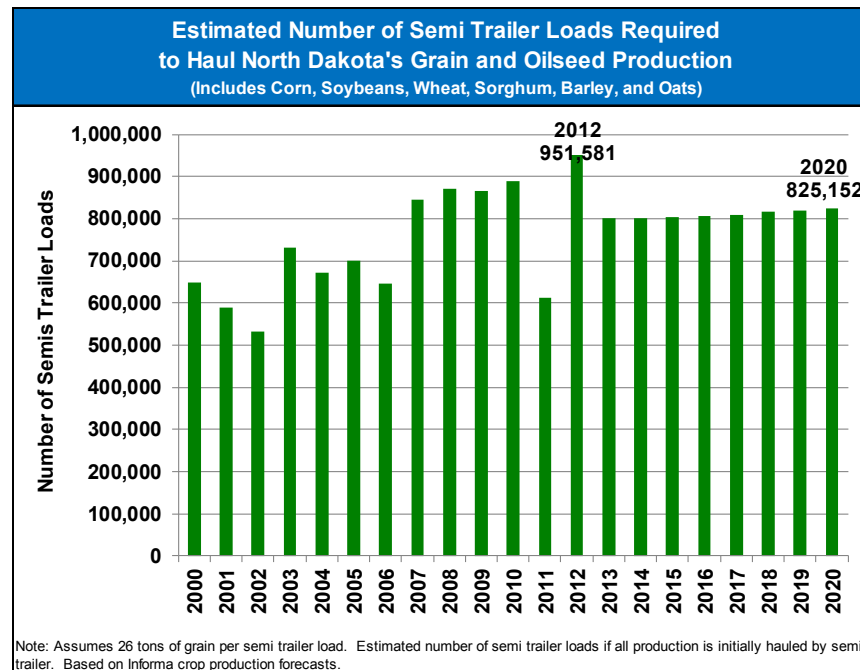


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| Rural Infrastructure Trends | | | | | | | |
|---|------|----------|--------------------|--------------|----------|--------------------|-------------------------------|
| | Then | | | Now | | | Change |
| | Year | Quantity | Percentage of U.S. | Year | Quantity | Percentage of U.S. | Percentage Change in Quantity |
| Off Farm Storage (million bushels) | 1986 | 229 | 2.5% | 2011 | 343 | 3.4% | 50% |
| On Farm Storage (million bushels) | 1986 | 901 | 6.5% | 2011 | 830 | 6.5% | -8% |
| Estimated Average Tractor Weight (lbs.) | 1950 | 6,163 | 114.3% | 2011 | 12,867 | 129.1% | 109% |
| Railroad Miles | 1920 | 5,311 | 2.1% | 2009 freight | 3,413 | 2.4% | -36% |
| Road Miles | 1940 | 7,382 | 1.3% | 2008 | 86,842 | 2.1% | 1,076% |

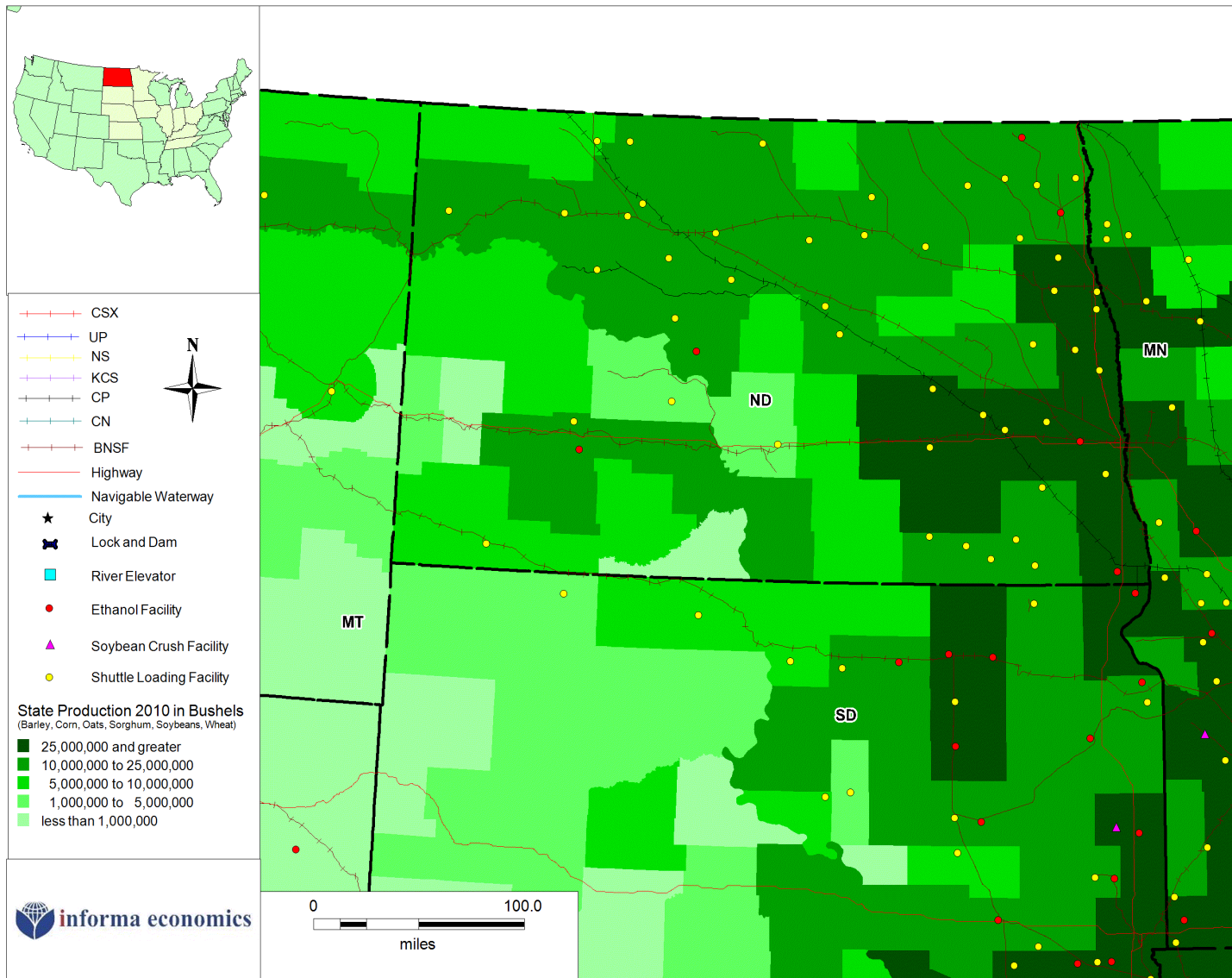




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North Dakota: Agricultural Production and Infrastructure



Infrastructure

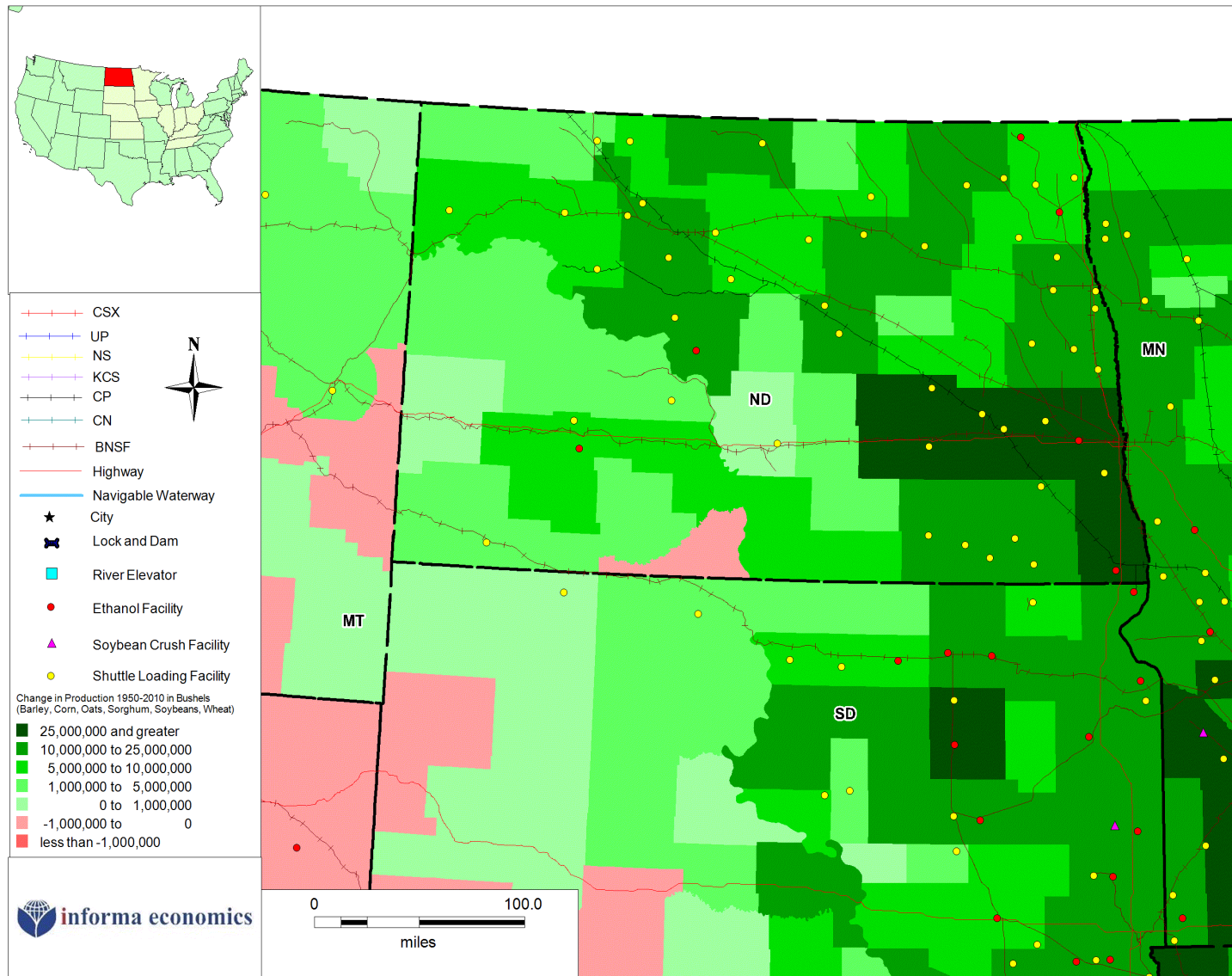
- North Dakota crop production consists primarily of wheat, corn, and soybeans.
- Crops are moved from production regions by truck or rail to elevators and processing facilities.
- North Dakota has 571 miles of interstate; 4,410 miles of rail lines; and 86,842 miles of roadways.
- North Dakota has 49 shuttle facilities; five ethanol plants; and 367 grain elevators.



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North Dakota: Change in Production from 1950 to 2010



Production

- Crop production in the state has been increasing, with exception to a south central county.
- Production of grains and soybeans in the state has increased by over 500 million bushels from 1950 to 2010.
- Since 1950, the state has been a key producer of wheat, oats, barley and corn.
- Wheat remains the predominant crop, with corn and soybeans following closely behind. The state also continues to produce barley and oats; however, oat production has declined.

Funded by the soybean checkoff