

APPENDIX 1:
AASHTO's Interoperability Resolution

AASHTO's Interoperability Resolution

As approved by the AASHTO Board of Directors on November 16, 1997

POLICY RESOLUTION PR-14-97

TITLE: COMMERCIAL VEHICLE ELECTRONIC SCREENING INTEROPERABILITY

WHEREAS, the American Association of State Highway and Transportation Officials (AASHTO) has a long history of leadership in issues dealing with commercial vehicle operations (CVO); and

WHEREAS, many AASHTO member states have long relied on Weigh Stations/Ports of Entry (WS/POE) screening systems to ensure the safe and legal operations of commercial motor vehicles, and a number of other states are now developing new fixed and mobile electronic screening systems for safety, CVO credentials, size and weight, toll collection, and other functions; and

WHEREAS, a number of AASHTO member states have assumed national leadership roles in the development of Intelligent Transportation Systems (ITS) for CVO; and

WHEREAS, a number of AASHTO member states have shown their ability to plan, develop and operate electronic screening systems in the preclearance of safe and legal vehicles and in electronic toll collection with increased efficiency benefits to both the states and the motor carrier industry; and

WHEREAS, the use of fixed and mobile site screening systems is rapidly expanding, and a variety of electronic screening systems have been implemented or proposed within the United States; and

WHEREAS, a significant part of the motor carrier industry is an interstate activity requiring coordination between states.

NOW, THEREFORE, BE IT RESOLVED that AASHTO states as its policy, and urges its individual members to concur, that interoperability between CVO electronic screening systems is essential for effective management of CVO systems; and

BE IT FURTHER RESOLVED that AASHTO adopts, and urges participating states to collectively and individually adopt, the following principles of CVO electronic screening and interoperability:

- 1) Ongoing motor carrier participation privileges shall be predicated upon successfully meeting specific preclearance criteria established by the respective states, or by a consortium of states which, at a minimum, will include but not limited to safety, current registration and other credentialing requirements, payment of all highway use tax and toll obligations, and maintenance of acceptable liability insurance, where applicable.
- 2) Enrolled carriers will be subject to at least quarterly review by each state/system to verify that the carriers continue to meet the enrollment criteria.
- 3) Electronic screening and passage at fixed and mobile sites will be contingent upon enrollment of the carrier, and meeting all requirements established by the state or consortium of states.
- 4) All states/systems commit to the concept of a single transponder. Motor carriers may initially obtain a transponder from the system operator or equipment vendor of their choice that

meets the ITS CVO interoperability standards. If a motor carrier enrolls in one system and chooses to participate in another state/consortium system, the original enlisting jurisdiction will convey the unique electronic screening system identification (ID) codes to the second screening systems upon written authorization from the motor carrier. No state/system will be required to grant screening privileges to vehicles that do not meet their enrollment criteria, nor to read and retain the electronic screening ID codes from vehicles belonging to any motor carriers who have not chosen to participate in their screening system.

- 5) Each state/system will make its own independent determination of the specific uses, if any at all, for which the electronic screening event data will be used in supporting regulatory and/or enforcement responsibility within their state system. State/systems will publish and disclose their individual policy in their regard. Motor carriers will have the option to participate in the program available in each state/system.
- 6) Each state/system will determine the individual pricing rates, if any, for electronic screening program and activities (e.g. enrollment, transponders, events, data exchange, etc.) transpiring within their boundaries. States/systems will publish and disclose such pricing arrangements where such exist. Motor carriers will have the option of participating in the electronic screening programs available in each state/system.
- 7) Each state/system commits to work with all other electronic screening systems, particularly in regards to principles (4), (5) and (6), so as to create only one needed point of contact for each motor carrier, and ensure the concept of interoperable systems.
- 8) Each state/system supports the Commercial Vehicle Information Systems and Networks (CVISN) concept and its efforts to develop an open national information system architecture and data exchange standards.

BE IT FURTHER RESOLVED that AASHTO urges its member states, individually and collectively, to use all available forums to ensure the necessary details are developed to implement the above eight (8) principles; and

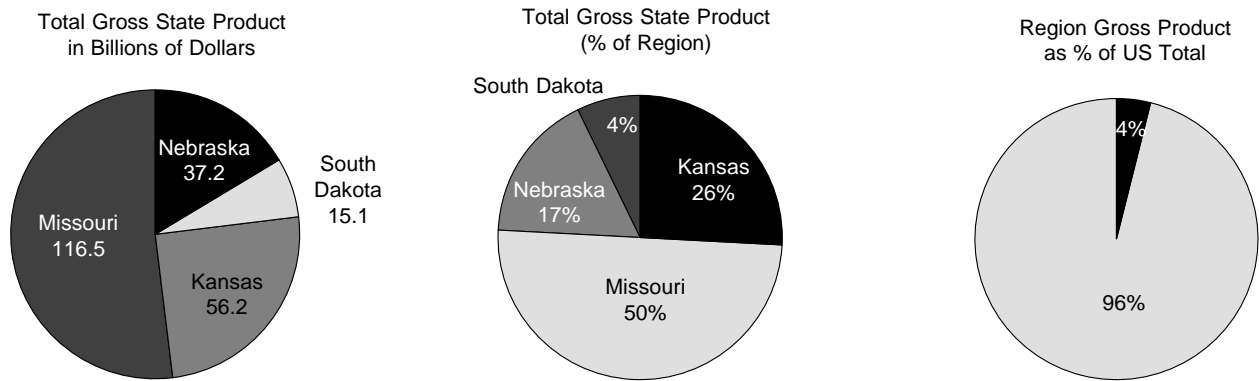
BE IT FURTHER RESOLVED that AASHTO supports and adopts the concept of national interoperability for electronic screening systems, and the architecture for open national information systems based on interoperable hardware and software standards.

APPENDIX 2 (A–B):

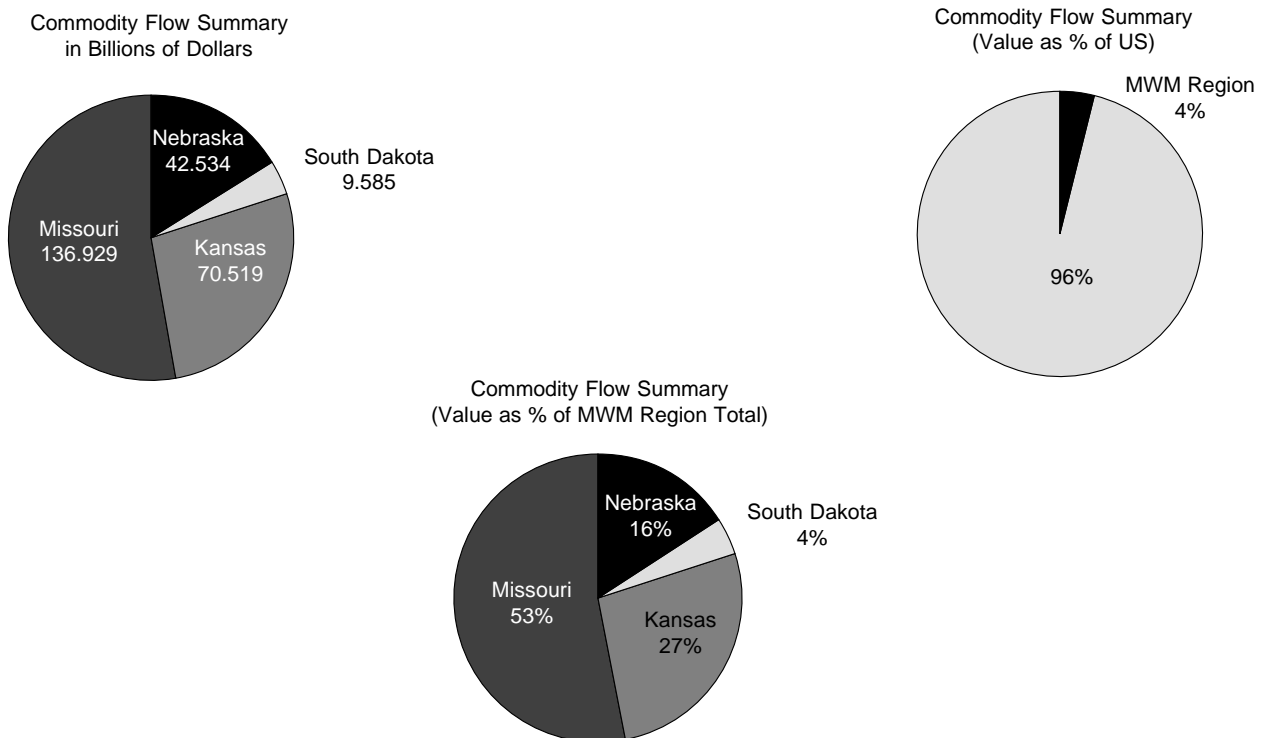
Graphs and Tables

An Overview of the Midwestern States' Commodity Flow, Highway Network, and Motor Carrier Registration

The US Bureau of Economic Analysis, in its most recent "Survey of Current Business" report, estimates that Kansas, Missouri, Nebraska, and South Dakota have a gross "regional" product of \$220.1 billion. This figure represents 3.67 percent of the United States gross domestic product. The details of the individual gross state product (value in billions of dollars and percent of Midwest Mainstreaming region total [MWM]) are shown in the charts below. ²

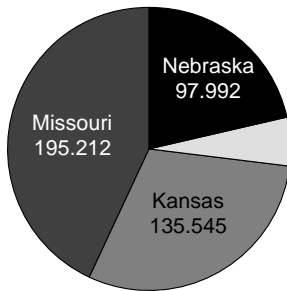


The four states produced commodities with a total value of \$260 billion, which was 4.44 percent of the national total of \$5.85 trillion (1993 Commodity Flow Survey).

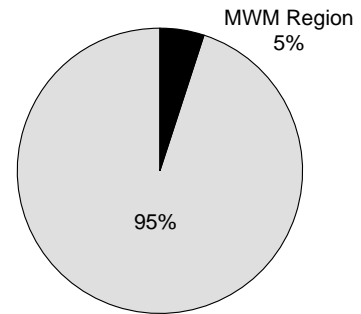


The total weight of these commodities was 454 million tons, 4.69 percent of the US total of 9.7 billion tons in 1993.

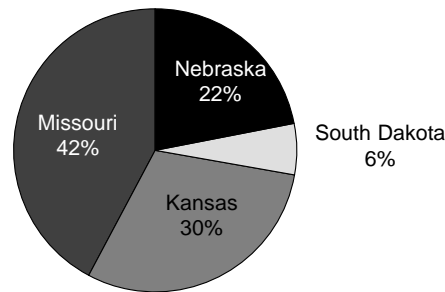
Commodity Flow Summary
(Million Tons)



Commodity Flow Summary
(Tons as % of US Total)

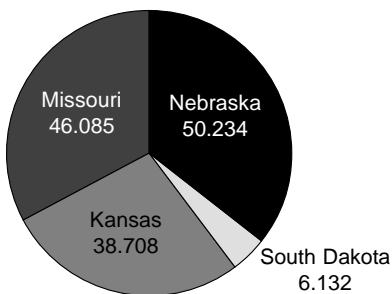


Commodity Flow Summary
(Tons as % of MWM Region Total)

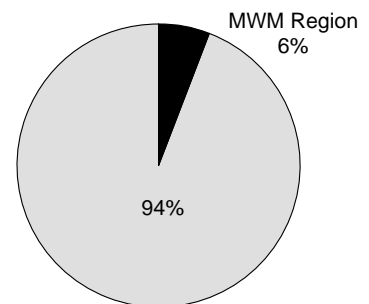


These commodities covered 1.41 billion ton-miles, 5.83 percent of the US total of 2.42 trillion in the same period. These figures are depicted in the charts below.

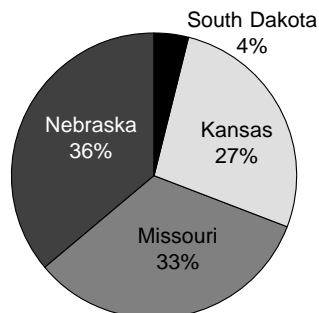
Commodity Flow Summary
(Ton-miles in Billions)



Commodity Flow Summary
(Ton-miles as % of US Total)



Commodity Flow Summary
(Ton-miles as % of MWM Region Total)



Commodity Movement by Trucks

Of the commodities originating in the region, 76.98 percent of the **total value** was transported by truck. This was modestly higher than the national average of 75.3 percent. The percentage of **tons** was 74 percent compared to the national average of 65 percent. The 39.8 percent **ton-miles** traveled compared to the national average of 36 percent. The details of the state figures are in the table of commodity movement by trucks in Appendix 2(d).

Destination of the Commodity

The information on the destination of the commodity is drawn from the classification data reported by the United States Census Bureau. *Region*, classified in the Commodity Flow Survey as West North Central, includes the four states of the consortium together with Iowa, Minnesota, and North Dakota.

In terms of **dollar value**, 48.53 percent of commodities have both origins and destinations within the region. In terms of **tonnage**, 70.18 percent of the commodities originating within the region remained within it. In terms of **ton-miles**, 21.73 percent of the commodities originating within the region remained within it.

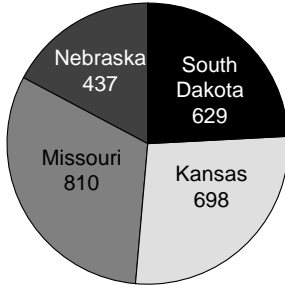
The figures for the individual states can be seen in the table of destination of the commodity in appendix 2(e). The most telling are **percent tons**. Kansas sends 67.5, Missouri 70.4, Nebraska 64.1, and South Dakota 78.7 of the commodities to destinations **within** the region. While regional, most commerce is interstate. For the four states in the region, commodities that passed through, neither originating nor terminating within the state, accounted for more than 50 percent of the commodity flow.

These figures emphasize the importance of regional coordination. Success of the Mainstreaming program and, ultimately, successful deployment of ITS/CVO technology within the four member states depends on the support of the motor carrier industry, which operates predominantly on a regional basis. Through regional coordination, the consortium can consider state requirements from the perspective of the motor carrier. Also, because the majority of the commodities is interstate rather than intrastate, electronic screening processing requirements is most efficiently set at the truckshed level.

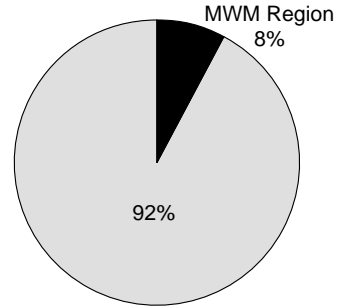
The Highway Network

Within the four states, 2,574 miles of interstate highway and 11,487 miles of other principal arterial roads are classified as rural. This information is depicted in the charts below.

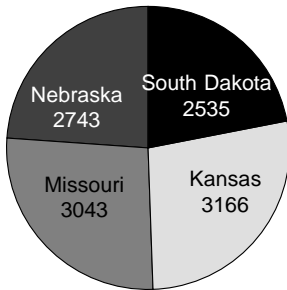
Rural Interstate Miles



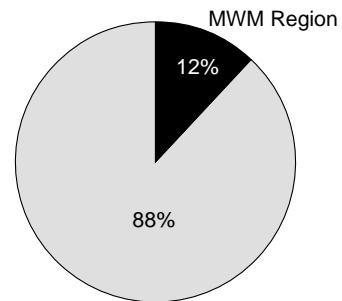
Rural Interstate Miles
(% of US Total)



Rural "Other Principal Arterial" Miles

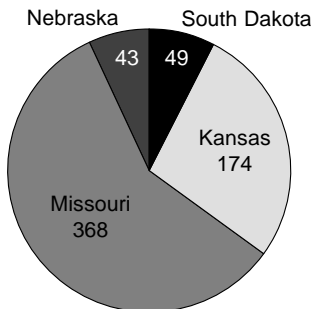


Rural "Other Principal Arterial" Miles
(% of &S Total)

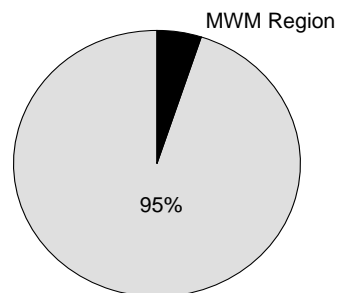


The urban networks had an estimated total of 634 miles of interstate moved by trucks highway and 410 miles of other freeways and expressways; 4.82 percent and 5.05 percent respectively of the national totals. The information follows in the charts below.

Urban Interstate Miles



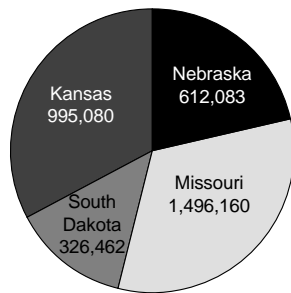
Urban Interstate Miles



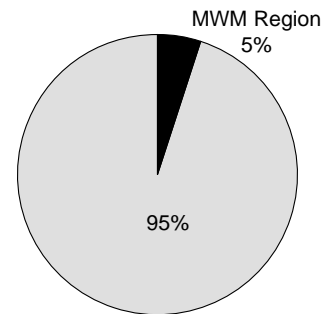
Motor Vehicle Registrations (1995)

Commercial vehicles include both trucks and buses. According to the U.S. Department of Transportation Highway Statistics report of 1995, the number of trucks registered in the period was 3,368,232 private and 61,553 public respectively. The regional trucks total of 3,429,785 was 5.29 percent of the national total. This is depicted in the charts below.

Total No. of Private and Public Registered Trucks in MWM Region (1995)

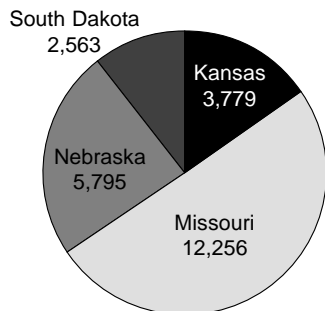


Total No. of Registered Trucks (% of US total, 1995)

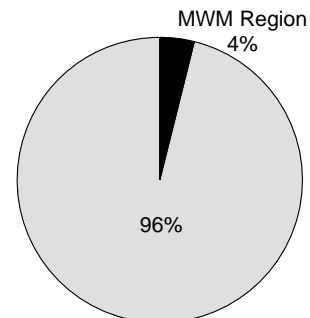


There were 7,985 private and 16,408 public buses registered within the Midwest Mainstreaming region. The total number of buses for the region, 24,393, was 3.56 percent of the national total shown in the charts below.

Total No. of Private and Public Registered Buses in MWM Region (1995)

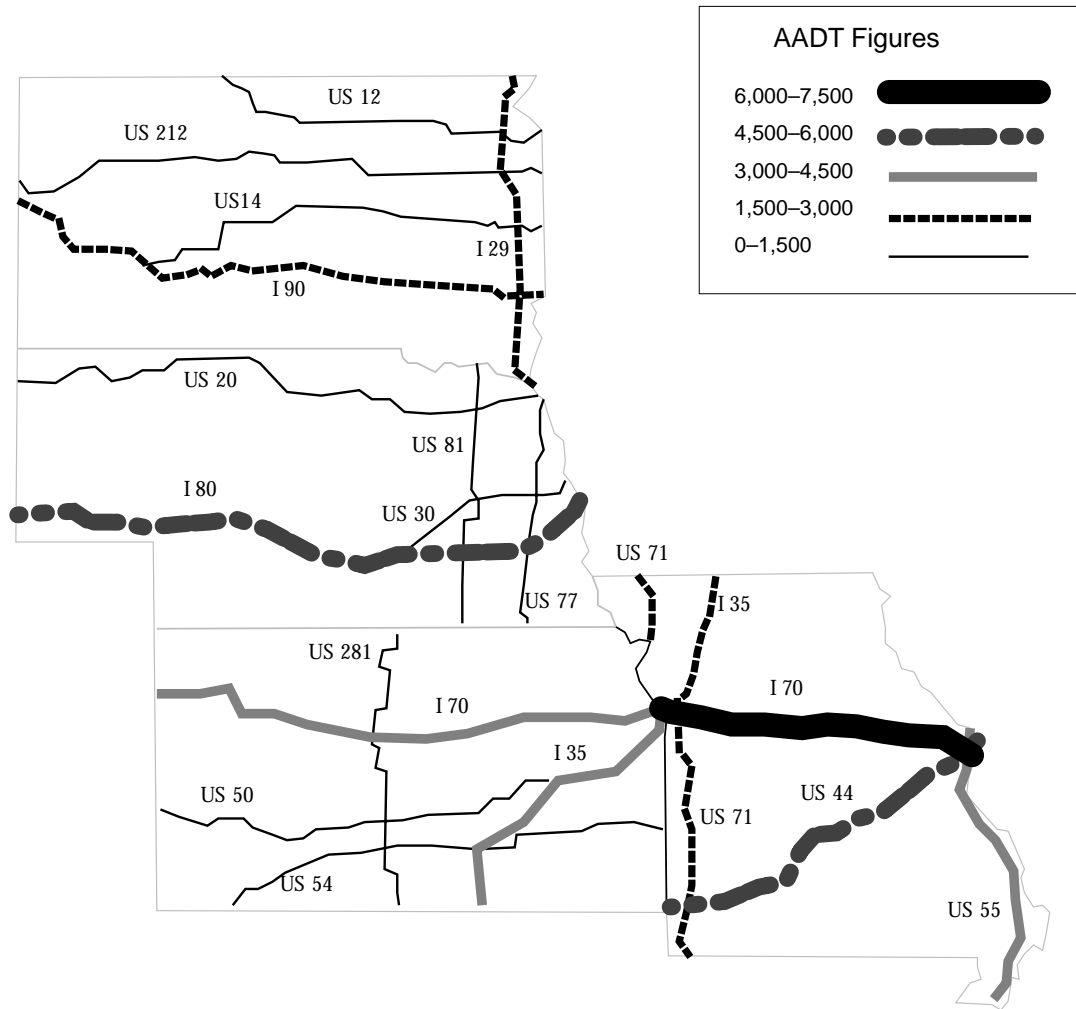


Total No. of Registered Buses (as % of US Total, 1995)



The map below shows the annual average daily traffic figures for heavy commercial vehicles in the region.

Annual Average Daily Traffic for Heavy Commercial Vehicles:
The Five Most Traveled Routes in Each State



a) Table of Gross State Product (in billions)¹

	Kansas	Missouri	Nebraska	South Dakota	Region	United States
Current Dollars (1992)	56.2	111.6	37.2	15.1	220.1	5,994.1
% Of US	.94	1.86	.62	.25	3.67	100
Constant Dollars (1987)	47.1	93.6	31.6	12.7	185	5,001.4
% Of US	.94	1.87	.63	.25	3.7	100

b) Table of Commodity Flow summary for the region as a proportion of the national total²

	Kansas	Missouri	Nebraska	South Dakota	Region Total	U. S. Total
Value (\$ million)	70,519	136,929	42,534	9,585	259,567	5,846,334
% of US Total	1.21	2.34	.73	.16	4.44	100
Tons (000's)	135,545	195,212	97,992	25,160	453,909	9,688,493
% of US Total	1.4	2.01	1.01	.26	4.69	100
Ton-Miles (millions)	38,708	46,085	50,324	6,132	141,249	2,420,915
% of US Total	1.6	1.9	2.08	.25	5.83	100

c) Table of Commodity Flow Summary for the Consortium member states³

	Value (\$ Million)	Value (%)	Tons (000's)	Tons (%)	Ton-miles (Million)	Ton-miles (%)
Kansas	70,519	27.18	135,545	29.86	38,708	27.4
Missouri	136,929	52.75	195,212	43.01	46,085	32.63
Nebraska	42,534	16.39	97,992	21.59	50,234	35.63
South Dakota	9,585	3.69	25,160	5.54	6,132	4.34
Total	259,567	100.01	453,909	100.00	141,249	100.00

d) Table of commodity movement by trucks (aggregate of for hire trucks, private trucks, and both)⁴

	Kansas	Missouri	Nebraska	South Dakota	Region Average	US Average
Value (%)	75	72.5	80.3	80.1	76.98	75.32
Tons (%)	71.4	79.4	65.6	79.6	74	65.9
Ton-Miles (%)	39.6	43.6	21.1	54.9	39.8	35.92

e) Table of destination of commodity⁵

		Kansas	Missouri	Nebraska	South Dakota	Average
Value (%)	Region	42.3	39.1	46.6	66.1	48.53
	Other	53.3	54.6	53.3	33.6	48.7
	Total	95.6	93.7	99.9	99.7	97.23
Tons (%)	Region	67.5	70.4	64.1	78.7	70.18
	Other	32.2	29.4	29.6	13.1	26.08
	Total	99.7	99.8	93.7	91.8	96.25
Ton-Miles (%)	Region	20.4	13.8	10.5	42.2	21.73
	Other	76.5	83.5	74.4	49.4	70.95
	Total	96.9	97.3	84.9	91.6	92.68

Key to the table:

Region: classified in the Commodity Flow Survey as West North Central. The states in the region include Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.

Other: all the other states.

f) Table of State Highway Agency-Administered Roads and Highways 1995⁶; Estimated miles by functional system

Rural

	Kansas	Missouri	Nebraska	South Dakota	Region	US
Interstate (Miles)	698	810	437	629	2574	32,580
% of US Total	2.14	2.49	1.34	1.93	7.9	100
Other Principal Arterial (Miles)	3,166	3,043	2,743	2,535	11,487	96,833
% of US Total	3.27	3.14	2.83	2.62	11.86	100

Urban

	Kansas	Missouri	Nebraska	South Dakota	Region	US
Interstate (Miles)	174	368	43	49	634	13,164
% of US Total	1.32	2.8	.33	.37	4.82	100
Other Freeways & Expressways (Miles)	120	273	17	-	410	8,121
% of US Total	1.48	3.36	.2	-	5.05	100

g) State Motor Vehicle Registrations (1995)⁷

Buses

	Kansas	Missouri	Nebraska	South Dakota	Region	United States
Private	1,534	4,597	1,141	713	7,985	287,873
% Of US	.53	1.6	.39	.25	2.77	100
Public	2,245	7,659	4,654	1,850	16,408	397,631
% Of US	.57	1.93	1.17	.46	4.13	100
Total	3,779	12,256	5,795	2,563	24,393	685,504
% Of US	.55	1.79	.85	.37	3.56	100

Trucks

	Kansas	Missouri	Nebraska	South Dakota	Region	United States
Private	977,595	1,479,887	596,464	314,286	3,368,232	62,850,115
% Of US	1.55	2.36	.95	.5	5.36	100
Public	17,485	16,273	15,619	12,176	61,553	1,928,357
% Of US	.91	.84	.81	.63	3.19	100
Total	995,080	1,496,160	612,083	326,462	3,429,785	64,778,472
% Of US	1.54	2.31	.94	.5	5.29	100

¹ US Bureau of Economic Analysis, Survey of Current Business, May 1995

² Commodity Flow Survey, 1993, United States Census Bureau

³ Commodity Flow Survey, 1993, United States Census Bureau

⁴ Commodity Flow Survey, 1993, United States Census Bureau

⁵ Commodity Flow Survey, 1993, United States Census Bureau

⁶ Highway Statistics 1995, U.S. Department of Transportation, Federal Highway Administration

⁷ Highway Statistics 1995, U.S. Department of Transportation, Federal Highway Administration

Appendix 3:
Midwest Mainstreaming Directory of Participants

Midwest Mainstreaming Directory of Participants

FHWA

Steve Keppler ITS/CVO **Bob Thomas** Missouri **Bill Herster** OMC: R-7 **Alan Brown** OMC R-8 **John Carkin** OMC: R-7 **Mark Gilmore** South Dakota **Charles Langloss** State Director OMC-Nebraska **Elyse Mueller** Team Leader Nebraska **Randy Beaver** State Programs Specialist- Kansas **Bill Honan** Safety Specialist Iowa

Kansas

Leroy Butler Education Committee ITS/CVO **Ken Gudenkauf** Primary ITS/CVO Leader **Trudy Racine** State Budget Leader-DOT **Al Gerstner** IRP/Permitting **Brian Hughes** DCS Systems, Inc. **Larry Ochs** Roadside Enforcement **Tony Stewart** Motor Carrier Inspection **Vernon Wenger** Safety/Service **Mike Kelley** Kansas Motor Carriers **Judy Whitney** Registration/IRP **Deann Williams** Motor Carriers **Marty R. Wiltse** Turnpike Authority

Missouri

Rod Massman Highway Reciprocity Commission **Darrell Maples** Highway Reciprocity Commission **Bill Wilson** Primary ITS/CVO Leader **Jimmie Plumb** ITS/CVO Leader Alternate **Bob McFadden** OS/OW Information Systems **Captain Larry Buschjost** Commercial Vehicle Enforcement (CVE) **Gary Steinmetz** (CVE) **Steve Waters** Operating Authority (OA) **Barb Hague** DED–Motor Carrier and Railroad Safety Division (MCRS) **Ben Goodin** MCRS **Chris Burris** Missouri Motor Carriers

Nebraska

Jim Pearson/Ron Kontos Oversize/Overweight **Al Abrahamson** (EC) **Cathy Beedle** (EC) **Joe Botsford** Primary ITS/CVO Leader **Keith Dey** Information Systems Manager **Steven Groshans** (NSP) **Doug Donscheski** (NSP)

South Dakota

David Huft Primary ITS/CVO Leader **Capt. Myron Rau** Highway Patrol **Michael Young** SDDOT **Hal Rumpga** SDDOT **Debra Hillmer** Dept. of Revenue **Lisa Hull** DOR **Cindy Gerber** Dept. of Commerce **Carrie Jacobson** Dept. of Environment and Natural Resources **Marie Rumpga** Bureau of Information and Telecommunications **Ed Anderson** Public Utilities Commission **Kate Hartford** PUC **Mark Holmes** FHWA **Jill Smith** Unified Judicial System **Barb Lindstrom** South Dakota Trucking Assoc. **Larry Thurry** Midwest Coast Transport Inc. **Darwin Kurtenbach** Dept. of Agriculture **Ray Walz** Universal Transport