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Main: 515.334.0075  
Fax: 515.334.0098  
www.dmampo.org  
dmampo@dammpo.org

Merle Hay Centre  
6200 Aurora Avenue, Suite 300W  
Urbandale, Iowa 50322-2866

# GOODS MOVEMENT IN CENTRAL IOWA AND IN THE DES MOINES METRO AREA

2006 Update Report

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- Appendix A. Goods Movement Study Working Group Representatives List
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## RESOLUTION 2007 - 17

**WHEREAS**, the Des Moines Area Metropolitan Planning Organization is established under Chapter 28E of the Code of Iowa;

**WHEREAS**, the Des Moines Area Metropolitan Planning Organization is the designated metropolitan planning organization for the Des Moines metropolitan area;

**NOW, THEREFORE, BE IT RESOLVED** by the Des Moines Area Metropolitan Planning Organization that:

The Des Moines Area Metropolitan Planning Organization receive and accept the Des Moines Area MPO Freight Roundtable's *Goods Movement in Central Iowa and in the Des Moines Metro Area – 2006 Update Report (Goods Movement Study 2006 Update Report)*.

Done this 21<sup>st</sup> day of September 2006.



Gerri Huser  
Des Moines Area MPO Chair

## I. Introduction

### A. Purpose and Overview

- Study Purpose and Need

This report is an update to the *Goods Movement in the Des Moines Metropolitan Area (Goods Movement)* Study completed by the Des Moines Area Metropolitan Planning Organization (MPO) in 2002. The purpose of this report is to provide updated information and analysis that complements the 2002 study. However, this 2006 update is not intended to replace the previous study. Having gained an understanding of the goods movement industry in central Iowa in 2002, the Des Moines Area MPO recognized the need to address the changes, the need for improvements, and the needs of the goods movement industry within central Iowa.

In addition, this report specifically focuses on intermodal and international freight movement. With increased traffic congestion projected for the interstate system and with the price differences by mode, intermodal freight movement has been identified as an important element in the freight transportation system. As international trade continues to be a dominant trend in today's business world, it is of great importance to understand how central Iowa is connected to the world.

### B. Goods Movement in the Des Moines Metropolitan Area

- Location and Proximity to Major Cities

This report's study area includes the eight central Iowa counties composing the Central Iowa Regional Transportation Planning Alliance (CIRTPA): Boone, Dallas, Jasper, Madison, Marion, Polk, Story, and Warren. The Des Moines Area Metropolitan Planning Organization (MPO) Planning Area is situated in the center of these counties and overlaps portions of Polk, Dallas, and Warren Counties.

This study area geographically sits at a critical crossroads for freight traffic across the Midwest, the United States and the North American continent. There are several aspects that highlight this area's critical location, including proximity to several world cities and other major markets, central importance to the State of Iowa, the crossing of two Interstate Highways significant in terms of freight movement nationally, and its different modes of freight transportation.

The study area is strategically located between several large metropolitan areas. Chicago, Illinois, the third largest city in the United States, lies approximately 300 miles to the east, connected directly by Interstate 80. The Twin Cities (Minneapolis/St. Paul), Minnesota, lie approximately 200 miles to the north, and

Kansas City, Missouri/Kansas, lies approximately 150 miles to the south, with both of these metropolitan areas linked by Interstate 35. The Omaha, Nebraska/Council Bluffs,

Iowa, metropolitan area lies approximately 115 miles to the west on Interstate 80, with the Quad Cities (Davenport and Bettendorf, Iowa, and Rock Island and Moline, Illinois) approximately 150 to the east of the study area on Interstate 80.

The study area has a vital function because of its central location in the State of Iowa. However, the study area is central not only geographically, but also economically, politically and demographically. The Des Moines metropolitan area is no further than three hours drive from any other metropolitan or urban area in Iowa. In addition, using available freight data, nearly 20% of all of the inbound freight comes from other Iowa metropolitan counties, and approximately 19% of all outbound freight terminates in these same counties. Clearly, there are strong economic linkages between the study area and other metropolitan areas in Iowa. The City of Des Moines is the capital of Iowa, and is home to many departments within state and federal government. The City of Des Moines and its metropolitan area are both the largest in Iowa with the city having a population of nearly 200,000. Cities in this study area also boast some of the fastest population growth rates in the state.

Interstates 35 and 80 are two of the United States' most important freight corridors for east/west and north/south movements. Both of these Interstates are projected to experience substantial growth in freight traffic over the coming years. Interstate 80 is perhaps one of the most significant roadways in the United States connecting many major cities including New York, Cleveland, Chicago, Salt Lake City and San Francisco. Interstate 35 provides a major route from Mexico to Canada. These two important interstates intersect in the Des Moines metropolitan area.

The study area has a well connected highway system carrying large amounts of freight, and is connected by several national and regional railroad companies and by the Des Moines International Airport. All of these factors indicate the importance of this study area and signify the many possibilities for freight movement in and through central Iowa.

- **Freight Traffic Overview**

Much of the goods movement data for this update comes from Reebie Associates, through the Iowa Department of Transportation. The Reebie data allows for analysis of commodities moved, modes used, and values and volumes of the freight moved. The analysis in this report provides additional analysis to the *Goods Movement Study* that was completed by the Des Moines Area MPO in 2002. For example, this update takes a more in-depth evaluation at the freight movement in and out of central Iowa by value and by weight.

Trucks, by far, are the most used freight transportation mode in the study area. Ninety-three percent of all inbound and 87% of all outbound freight moves by truck. Rail is the second most used transportation mode for moving freight, with 7% of inbound and 13% of outbound freight moving by rail. Less than 1% of the inbound and of the outbound freight is moved by air.

- Major Commodities Overview

The largest classification of inbound and outbound commodities moved by truck is Food or Kindred Products, accounting for 30% of all freight moved by truck. Clay, Concrete, Glass or Stone and Secondary Traffic rank the second and third for inbound and outbound truck freight. These three commodity classifications account for over 60% of all truck freight moved.

By rail, the inbound commodities mix varies greatly from the outbound commodities mix. Farm Products; Clay, Concrete, Glass or Stone; and Chemicals or Allied Products each account for at least 15% of the inbound commodities and reflect the largest portion of the inbound commodities. However, Farm Products account for 55% and Food or Kindred Products account for 42% of the outbound rail freight. The 2002 *Goods Movement Study* provides further detail on this topic.

- Workforce Related to Freight

According to the 2000 census, 352,775 jobs are located in this eight county study area, with a substantial percentage of the jobs related to transportation<sup>1</sup>. Manufacturing jobs account for 12%, transportation and warehousing jobs account for 5%, wholesale trade jobs account for 4%, and agricultural jobs account for 2%, respectively. These areas of employment are closely related to freight movement.

Employment data was obtained for the Des Moines Metropolitan Statistical Area from Iowa Workforce Development. This data may provide some additional insight into the employment characteristics of central Iowa, though it only covers Dallas, Guthrie, Madison, Polk, and Warren Counties. From March 2003 to March 2006, there are an additional 1,100 people employed in manufacturing. In wholesale trade, there has been an increase of 1,700 jobs; but in transportation and utilities employment there has been only a slight increase of 300 jobs. This data indicates that sectors related to freight transportation are expanding in central Iowa.

### C. Stakeholder Consultation

- Roles of Des Moines Area MPO's Freight Roundtable in Transportation Planning

The Des Moines Area MPO's Freight Roundtable (Roundtable) initiated this update of the Goods Movement Study in the Des Moines metropolitan area. The Roundtable is charged with examining freight issues related to future transportation planning and economic development needs in the Des Moines metropolitan area and in central Iowa. This Roundtable's mission is to work with the public and the private sector to maximize the Des Moines metropolitan area's, central Iowa's, and Iowa's economic opportunity through development of and advocacy for an efficient transportation system to promote

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<sup>1</sup> United States Census 2000, Census Transportation Planning Package

economic development and trade in the North American trade corridor centered on I-35/I-29 and connecting Canada, the United States, and Mexico<sup>2</sup>.

The Roundtable began discussions on this study's update during Summer 2005. The Roundtable formed the Goods Movement Study Working Group (Working Group) in the Fall 2005. The Working Group is composed of individuals interested in developing a freight transportation strategy for the Des Moines metropolitan area, for central Iowa, and for Iowa. A list of the representatives on the Working Group is included in Appendix A. The Working Group's strategy is to meet monthly to discuss ongoing freight transportation issues and to assist the Des Moines Area MPO in updating the *Goods Movement Study – 2002*.

- Freight Stakeholder Involvement

The Goods Movement Study Working Group first met on September 29, 2005. This working group met monthly to discuss issues to be included in the report, to offer advice to the Des Moines Area MPO staff, and to provide resources which made this Good Movement Study update possible. Mayor of Waukee, Tony Oberman, chaired this working group, which consisted of more than 40 stakeholders from the greater Des Moines and central Iowa areas.

#### **D. Goods Movement Issues Facing Des Moines Metropolitan Area**

Today's freight system faces many changing and challenging issues that require a vision for the future as well as policies and investments that move toward that vision. The Working Group identified many challenges and opportunities for the efficient movement of goods including:

- Current and projected truck driver shortages;
- Rising fuel costs;
- Increased congestion projected on the Interstate Highway system;
- Inadequacies on truck routes;
- Needed accommodations for changes in the trucking and the rail industries;
- Railroad abandonment and capacity;
- Air freight;
- A port authority; and,
- Foreign Trade Zones.

The most basic need for a market economy to succeed is efficient goods transportation. The many changes in the freight transportation industry create many new challenges for central Iowa. Regions that want to stay competitive must adapt to these changes. Through understanding the characteristics, opportunities, and challenges in central Iowa, sound policies and investments can be made that benefit not only the movement of goods through this region, but also the entire economy of central Iowa.

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<sup>2</sup> <http://www.dmampo.org/TransportationPlanningActivities/goodsmovement.html>



## II. Freight Transportation System

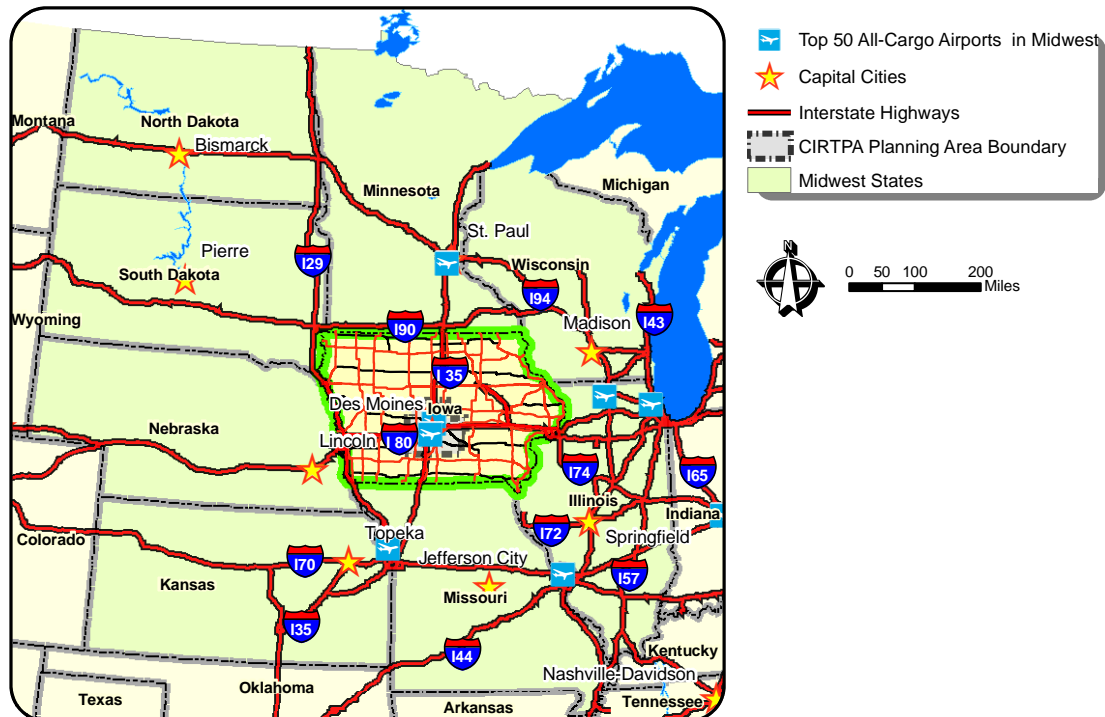
The central Iowa freight transportation network moves a significant volume of freight each year. Over 84 million tons of goods, worth over \$65 billion, were moved in and out of central Iowa in 2001<sup>2</sup>. Figure 2.1, Page 2-2, presents major transportation system in central Iowa.

### A. Air Cargo/Air Freight System

- Des Moines International Airport (DMIA)

According to Merriam-Webster Intermediate Dictionary<sup>3</sup>, cargo is defined as “the goods or merchandise conveyed in a ship, airplane, or vehicle” and freight is defined as “the ordinary transportation of goods by a common carrier and distinguished from express.” In essence, air cargo is all goods shipped via an airplane and air freight is those cargo goods which are not express or small packages. According to United States Department of Transportation, Federal Aviation Administration, Airport Planning data, the DMIA was ranked 43<sup>rd</sup> out of 50 airports for air cargo by landed weight in the United States<sup>4</sup>. Figure 2.2 illustrates top 50 all-cargo airports by landed weight surrounding central Iowa.

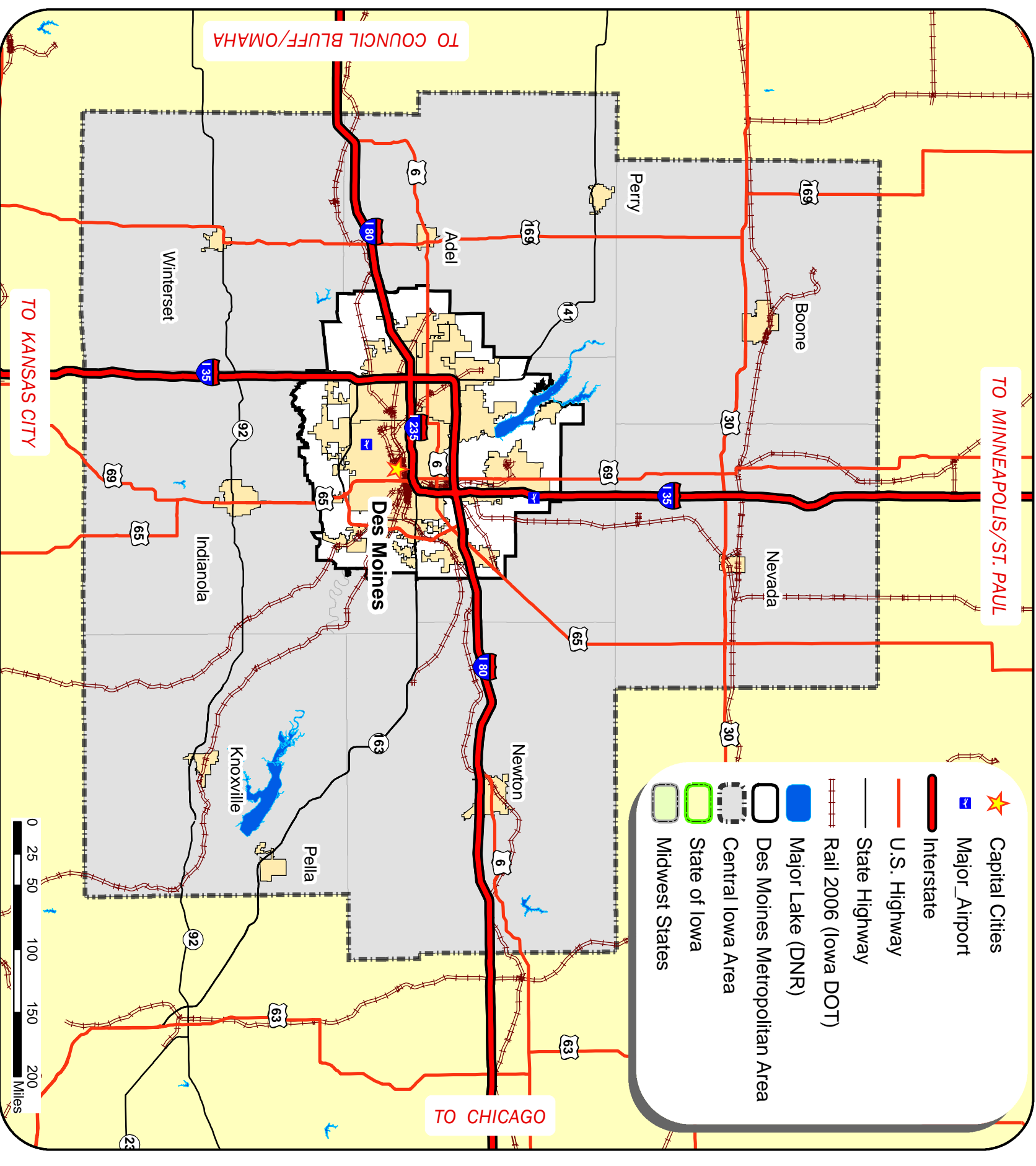
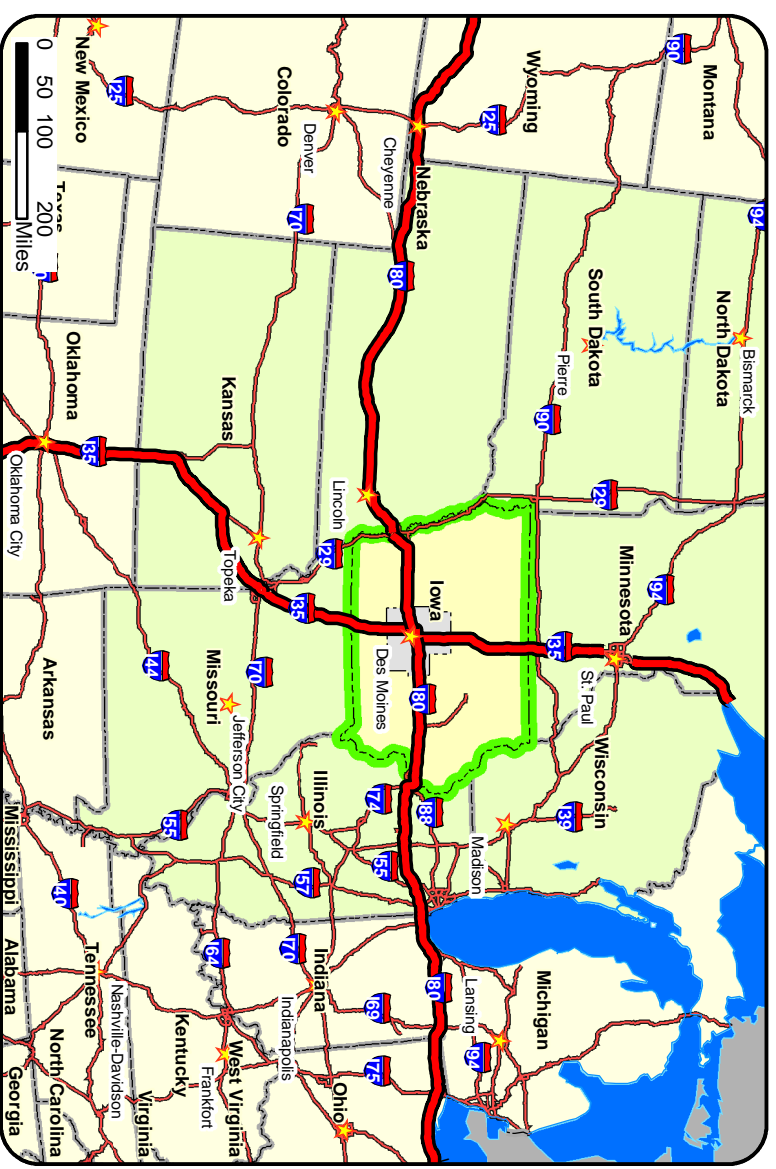
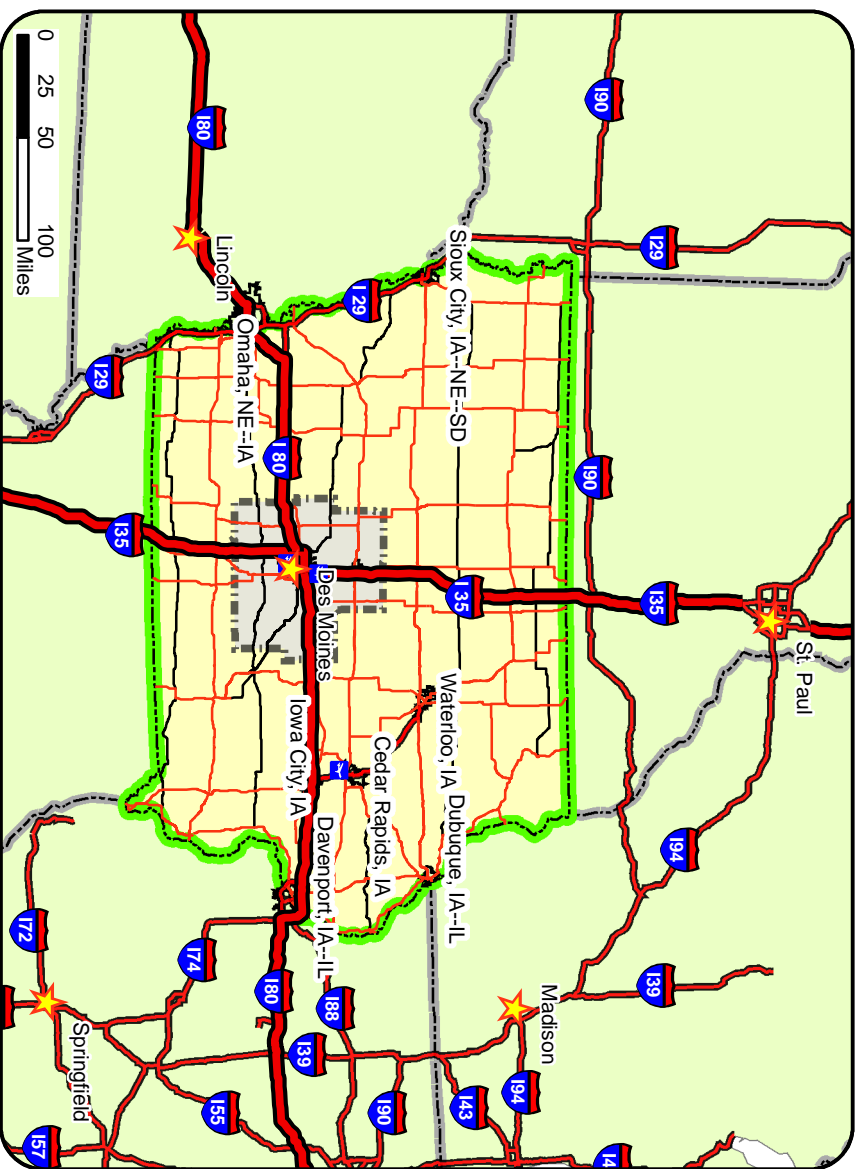
Figure 2.2: Top 50 All-Cargo Airports by Landed Weight Surrounding Central Iowa



<sup>2</sup> Reebie Associates, through the Iowa Department of Transportation.

<sup>3</sup> "Cargo" and "freight" Merriam-Webster Online Dictionary, 2006: <http://www.merriam-webster.com>.

<sup>4</sup> U.S. Department of Transportation, Federal Aviation Administration, Airport Planning, *CY 2003 and CY 2004 Passenger Boarding and All-Cargo Data*: [http://www.faa.gov/airports\\_airtraffic/airports/planning\\_capacity/passenger\\_allcargo\\_stats/](http://www.faa.gov/airports_airtraffic/airports/planning_capacity/passenger_allcargo_stats/) as of Oct. 24, 2005.



- ★ Capital Cities
- ✈ Major Airport
- Interstate
- U.S. Highway
- State Highway
- Rail 2006 (Iowa DOT)
- Major Lake (DNR)
- Des Moines Metropolitan Area
- Central Iowa Area
- State of Iowa
- Midwest States

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# Central Iowa Major Transportation Facilities



Figure 2.1  
Goods Movement Study Update Report

FREIGHT TRANSPORTATION SYSTEM

From 2000 to 2002, the DMIA had a decrease in landed weight of 10.8%. This is compared to an increase of 0.68% for all airports ranked in the top 50. However, according to DMIA data, there was an increase in cargo landed weight of 2.06% from 2004 to 2005.

Table 2.1: Des Moines International Airport Activity for 2004 and 2005

<b>Des Moines International Airport: Aviation Activity Summary, December 2005</b>						
	<b>December</b>			<b>Year-to-Date (12 months)</b>		
	2005	2004	% change	2005	2004	% change
<b><u>Aircraft Landed Weight (lbs)</u></b>						
Cargo	90,595,000	82,124,480	10.31%	641,406,340	628,469,940	2.06%
<b><u>Cargo Handled (lbs)</u></b>						
Enplaned	12,160,483	10,616,025	14.55%	104,490,516	92,621,425	12.81%
Deplaned	12,248,360	10,460,977	17.09%	99,878,645	93,601,390	6.71%
Total	24,408,843	21,077,002	15.81%	204,369,161	186,222,815	9.74%

Additionally, in terms of cargo handled, a 12.81% increase in the tonnage enplaned from 2004 to 2005 was reported by DMIA, as well as a 6.71% increase in the tonnage deplaned from 2004 to 2005. A total of 204,369,161 lbs of cargo was handled in 2005, an increase of 9.74% from 2004. In 2005, the major cargo shippers at the DMIA were United Parcel Service and FedEx Express, whom together accounted for 95.6% of all cargo lbs in the DMIA that year. According to the DMIA, cargo facilities are planned to grow to provide “an additional 200,000 square feet of airside warehouse space and approximately 2,000,000 square feet of additional air cargo aircraft parking.”

Table 2.2: Overall Cargo by Des Moines International Airport Airlines

<b>Des Moines International Airport</b>			
<b>Overall Cargo (Freight + Mail) Summary</b>			
<b>Airline</b>	<b>2005 YTD (lbs)</b>	<b>2004 YTD (lbs)</b>	<b>% Change</b>
AA - American	0	82,924	-100.00%
NW - Northwest	342,304	346,865	-1.31%
YX - Midwest	0	9,301	-100.00%
UA - United	1,754,086	3,806,259	-53.92%
MQ - American Eagle	10,591	8,892	19.11%
YX - Skyway	89,682	99,196	-9.59%
TZ - Chicago Express	0	33,661	-100.00%
OH - Comair	78,094	191,101	-59.13%
CO - Continental Express	66,772	95,028	-29.73%
YV - Amer West Exp/Mesa	47,770	49,886	-4.24%
XJ - Mesaba	64,739	50,091	29.24%
EV - Atlantic Southeast	41,882	2,666	1470.97%
GB - Airbourne Express	4,773,966	4,153,468	14.94%
FDX - FedEx	61,566,571	56,998,770	8.01%
FPIA - Flight Express	47,582	53,222	-10.60%
UPS - United Parcel	133,819,921	118,787,308	12.66%
USC - AirNet Systems	1,312,335	801,419	63.75%
Other reported Cargo	352,866	652,758	-45.94%
<b>Totals</b>	204,369,161	186,222,815	9.74%

- Port of Entry, Des Moines International Airport

According to the United States Customs and Border Protection (CBP), the DMIA is listed as a Port of Entry. The CBP says a Port of Entry is “any designated place at which a CBP officer is authorized to accept entries of merchandise to collect duties, and to enforce the various provisions of the customs and navigation laws (19 CFR 101.1).” The DMIA is the only Port of Entry located in Iowa. This fact means that the DMIA is the only location in Iowa for international goods and passengers to enter the state. A Foreign Trade Zone (FTZ) is located near the DMIA. A FTZ allows for certain goods to be repacked or assembled with other components and then exported without having to go through formal customs procedures.

## B. Rail Freight System

- Central Iowa Rail System

Reebie Associates data shows that rail carried about 6 percent of the total tonnage and 5 percent of the total value of central Iowa shipments in 2001<sup>5</sup>. Figures 2.3 and 2.4 illustrate the active rail system in central Iowa and in the Des Moines metropolitan area.

Central Iowa is served by 4 railroad companies, which operate 452 miles of track within CIRTPA's eight-county area<sup>6</sup>. Three of these railroads are Class I Railway Companies and the other is Class II Railway Company.

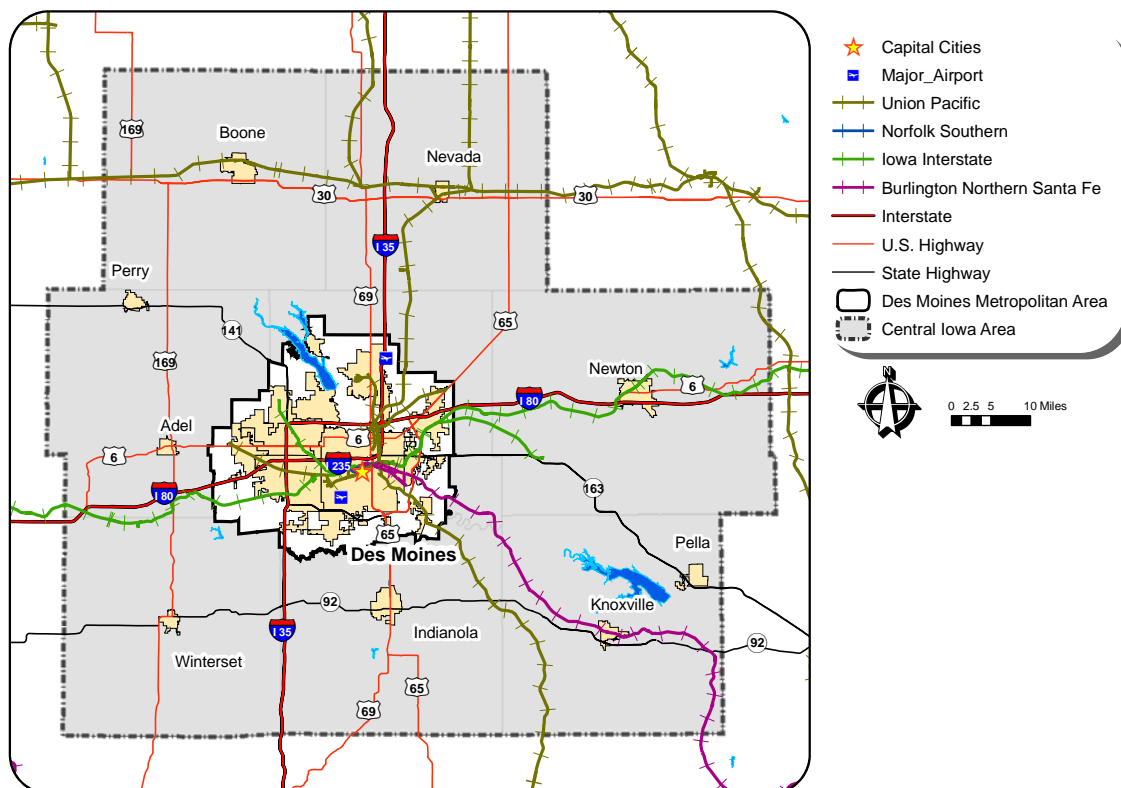
### Class I Railroads

- BNSF Railway Company
- Norfolk Southern Railway Company
- Union Pacific Railroad Company

### Class II Railroads

- Iowa Interstate Railroad Company

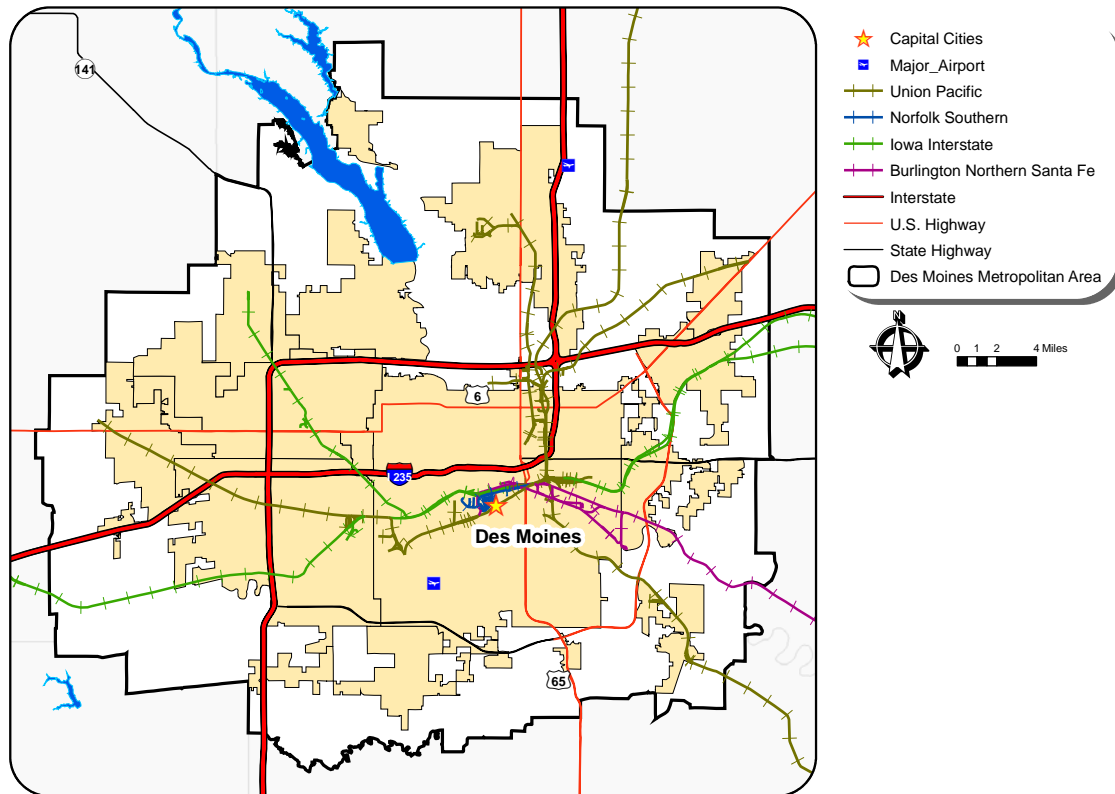
Figure 2.3: Active Rail System in Central Iowa



<sup>5</sup> Reebie Associates, through the Iowa Department of Transportation.

<sup>6</sup> Office of Rail, Iowa Department of Transportation.

Figure 2.4: Active Rail System in the Des Moines Metropolitan Area



- Federal Funds for Iowa Cold Storage

In 2005, the Iowa Transportation Commission approved a \$480,000 low-interest loan to Midwest I, LLC to construct a one-mile long rail spur into the industrial park to serve Iowa Cold Storage, Iowa. Iowa Cold Storage, a meat-handling facility, estimates 50,000 tons of processed meat will be shipped from its facility to the West Coast for the shipment to the Asian market. In 2006, the Iowa Railway Finance Authority approved the total of \$379,500 grant and low-interest loan funds to Iowa Cold Storage as part of rail improvement in the Railroad Revolving Loan and Grant Program. With its technology for processing and freezing meat for export, Iowa Cold Storage is capable for processing raw meat from meat plants in the Midwest and loading frozen containers, with the processed meat, from truck to rail in the Altoona facility.

- Federal Funds for Iowa Interstate Railroad

In 2006, Iowa Interstate (IAIS) Railroad received a \$32,700,000 grant from the Federal Railroad Administration's Federal Railroad Rehabilitation Infrastructure Fund. This money will be used to weld nearly 2,000 rail joints and replace 27 miles of ballast. When rehabilitation is complete, the IAIS Railroad's rail line will have a 286,000 pound rating for the entire rail line and bridges. This means that heavier rail cars can be transported at a faster speed, 45 miles per hour versus a previous average of 25 miles per

hour. Overall, the rehabilitation will result in faster and more efficient movement of a larger volume of goods than is currently being provided by the IAIS Railroad.

- Federal Funds for Bondurant Rail Spur

Congress awarded the Bondurant Rail Spur project \$1,000,000 in *Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users* (SAFETEA-LU) under Transportation Improvements in Section 1934 of that legislation. This is the first time for the Des Moines MPO to support a rail project using highway funds, taking this position and direction for funding a “transportation system” for the metropolitan area. The funds will be used to purchase 9.1 miles of Union Pacific Railroad rail spur and to upgrade that rail spur. The rail spur will be operated and maintained by a short line railroad.

With the federal funds for Iowa Cold Storage, IAIS Railroad, and Bondurant Rail Spur projects in central Iowa, these three projects represent financial investment in rail and rail equipment, and open up new opportunities for economic development.

### C. Highway Freight System

- Truck Traffic Counts

According to the United States Department of Transportation’s Freight Analysis Framework (FAF) data, much of the truck traffic growth will occur in urban areas and on the Interstate Highway system. Figures 2.5 and 2.6 present information about the 1998’s and 2020’s average annual daily truck traffic (AADTT) on the FAF road network in the central Iowa area. One can expect that a high proportion of truck freight growth will travel on the Interstate 35/80, Interstate 235, U.S. 30, U.S. 65, 2<sup>nd</sup> Avenue, NE 14<sup>th</sup> Street, U.S. 6 (Euclid Avenue, Douglas Avenue, Merle Hay Road, and Hickman Road), U.S. 169, IA 163, and Fleur Drive.

Figure 2.5: Estimated Average Annual Daily Truck Traffic: 1998<sup>7</sup>

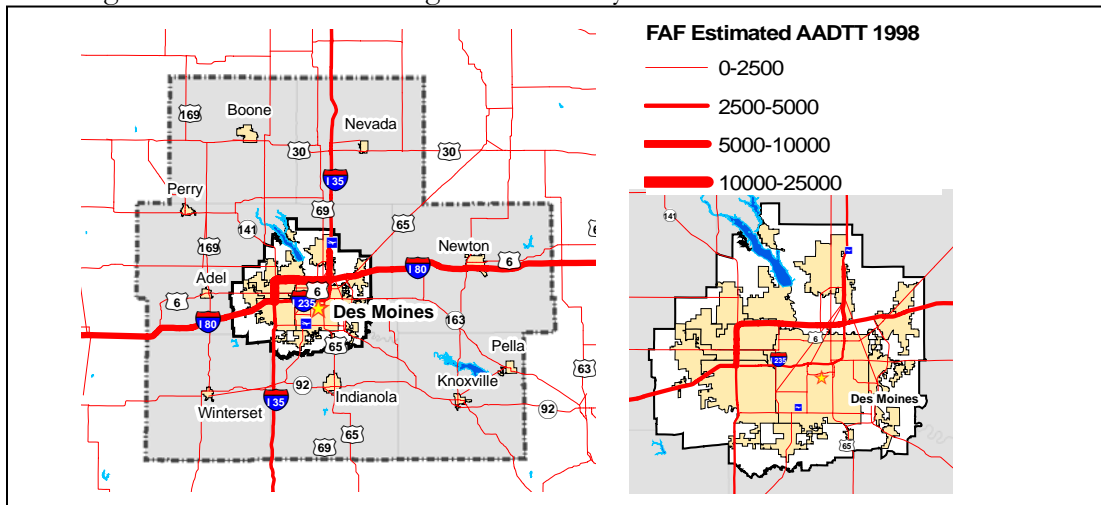
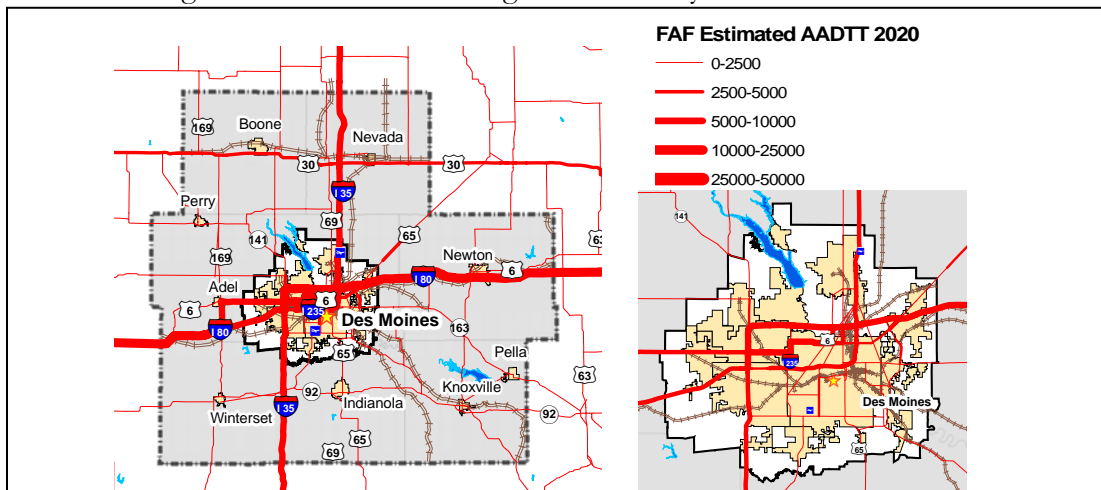


Figure 2.6: Estimated Average Annual Daily Truck Traffic: 2020<sup>5</sup>



<sup>7</sup> U.S. Department of Transportation’s Freight Analysis Framework  
[http://ops.fhwa.dot.gov/freight/freight\\_analysis/faf/](http://ops.fhwa.dot.gov/freight/freight_analysis/faf/)



FREIGHT TRANSPORTATION SYSTEM

- Truck Movement Data

Reebie Associates data reflects that trucks carried about 80 million tons of goods, or 94 percent of the total tonnage for all modes, worth about \$62 billion or 95 percent of the total value of all shipments in and out of central Iowa in 2001. Table 2.3 presents information on freight shipments that either originated or terminated in central Iowa in 2000.

Table 2.3: Central Iowa Truck Freight Shipment by Origin and Termination: 2000<sup>8</sup>

Central Iowa 2000 Truck Freight								
	Outbound Originating Tonnage (Thousand)	%	Inbound Terminating Tonnage (Thousand)	%	Outbound Originating Value (\$ Million)	%	Inbound Terminating Value (\$ Million)	%
Iowa	21,334	66%	34,726	73%	6,939	36%	20,528	48%
Bordering States	7,799	24%	7,490	16%	7,185	38%	9,452	22%
Other U.S. Regions	3,022	9%	5,219	11%	4,936	26%	12,868	30%
Total	32,154	1	47,435	1	19,060	1	42,847	1

In addition, some highlights of Reebie Associates data about central Iowa truck freight movement were identified<sup>6</sup>.

- In 2000, 66% of the **weight** of all originating truck freight in central Iowa were shipped to other locations in the State of Iowa, 24% went to the neighboring states, and 9% to the other United States regions.
- In 2000, 73% of the **weight** of all terminating truck freight in central Iowa came from other locations in the State of Iowa, 16% from the neighboring states, and 11% from the other United States regions.
- In 2000, 36% of the **value** of all originating truck freight in central Iowa was distributed to other locations in the State of Iowa, 38% went to the neighboring states, and 26% to the other United States regions.
- In 2000, 48% of the **value** of all terminating truck freight in central Iowa came from other locations in the State of Iowa, 22% from the neighboring states, and 30% from the other United States regions.
- Almost one-third (33%) of the weight and two-thirds (64%) of the value of all shipments from central Iowa went to other states.
- Over one-fourth (27%) of the weight and one-half (52%) of the value of all shipments came to central Iowa from other states.

<sup>8</sup> Iowa Department of Transportation's Reebie Associates Data

FREIGHT TRANSPORTATION SYSTEM

According to Reebie Associates data, truck traffic is expected to grow throughout central Iowa over the next 10 years since the base year 2000. By 2011, central Iowa highway freight system is estimated to handle about 96 million tons of cargo (20% of growth). Table 2.4 presents growth of truck freight shipments that either originated or terminated in central Iowa in 2011.

Table 2.4: Central Iowa Truck Freight Shipment Growth by Origin and Termination: 2000-2011<sup>9</sup>

Central Iowa	Outbound Originating Tuck Freight				Inbound Terminating Tuck Freight			
	Tonnage (Thousand)		Growth (Thousand)	Growth Rate	Tonnage (Thousand)		Growth (Thousand)	Growth Rate
	2000	2011		%	2000	2011		%
Iowa	21,334	24,731	3,397	16%	34,726	41,041	6,315	18%
Bordering States	7,799	9,898	2,099	27%	7,490	9,947	2,457	33%
Other U.S. Regions	3,022	3,761	739	25%	5,219	6,390	1,171	22%
Total	32,154	38,389	6,235	19%	47,435	57,378	9,943	21%

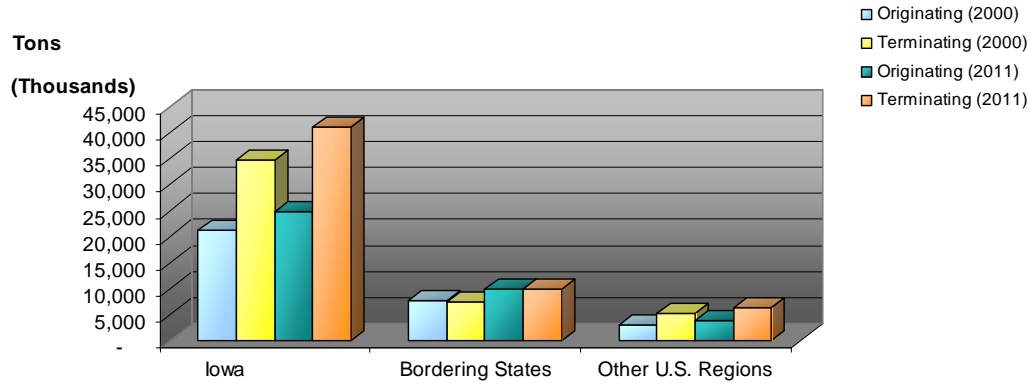
In addition, some highlights of Reebie Associates data about Central Iowa Truck Freight Shipment Growth were identified<sup>7</sup>.

- By 2011, the total weight of all truck freight originating in central Iowa is expected to grow by 6,235,000 tons (19%).
- By 2011, the total weight of all truck freight terminating in central Iowa is expected to grow by 9,943,000 tons (21%).

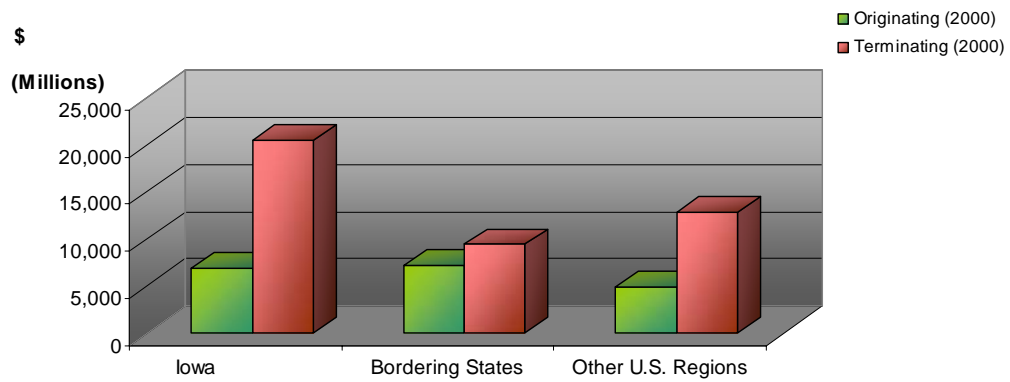
<sup>9</sup> Iowa Department of Transportation's Reebie Associates Data

Figures 2.7 and 2.8 present truck freight flows by tonnage and by value in 2000 and in 2011<sup>10</sup>.

**Figure 2.7: Originating and Terminating Truck Freight Distribution By Tonnage**



**Figure 2.8: Originating and Terminating Truck Freight Distribution By Value**



<sup>10</sup> Iowa Department of Transportation's Reebie Associates Data

FREIGHT TRANSPORTATION SYSTEM

- Truck Movement Data at Bordering States

Table 2.5: Central Iowa Truck Freight Shipment by Origin and Termination at Bordering States: 2000<sup>11</sup>

Central Iowa 2000 Truck Freight												
	Outbound Originating Tonnage (Thousand)	%	Inbound Terminating Tonnage (Thousand)	%	Diff.	Total	Outbound Originating Value (\$ Million)	%	Inbound Terminating Value (\$ Million)	%	Diff.	Total
<b>Illinois</b>	2,199	7%	2,005	4%	194	4,204	2174	11%	3447	8%	-1273	5621
<b>Kansas</b>	471	1%	720	2%	-249	1,191	362	2%	494	1%	-132	856
<b>Minnesota</b>	1,516	5%	1,986	4%	-470	3,502	1282	7%	2334	5%	-1052	3616
<b>Missouri</b>	957	3%	501	1%	456	1,458	1650	9%	513	1%	1137	2163
<b>Nebraska</b>	1,076	3%	1,319	3%	-243	2,395	733	4%	1354	3%	-621	2087
<b>North Dakota</b>	92	0%	72	0%	20	164	56	0%	52	0%	4	108
<b>South Dakota</b>	1,045	3%	75	0%	970	1,120	612	3%	84	0%	528	696
<b>Wisconsin</b>	442	1%	813	2%	-371	1,255	316	2%	1174	3%	-858	1490
Bordering States Subtotal	7,799	24%	7,490	16%	309	15,289	7,185	38%	9,452	22%	-2267	16637
Total	32,154	1	47,435	1	-15,281	79,589	19,060	1	42,847	1	-23787	61907

- The major truck freight shipments shipped from central Iowa to bordering states vary when ranked by value and by weight of the shipments.
- The most important truck freight origin and destination state by value and weight of shipments was **Illinois**.
- The important truck freight destination bordering states by **value** were Illinois, Missouri, Minnesota, Nebraska, South Dakota, Kansas, Wisconsin, and North Dakota. (California also trucked high value freight to Iowa: Summary of 1993 CFS)
- The main truck freight destination bordering states originating in central Iowa by **weight** were Illinois, Minnesota, Nebraska, South Dakota, and Missouri. (Texas also trucked high weight freight to Iowa: Summary of 1993 CFS)
- The most important truck freight origin bordering state by **value** was Illinois, followed by Minnesota, Nebraska, Wisconsin, Missouri, and Kansas.
- The main truck freight shipments from bordering states terminating in central Iowa by **weight** were Illinois, Minnesota, Nebraska, Wisconsin, and Kansas.

<sup>11</sup> Iowa Department of Transportation's Reebie Associates Data

FREIGHT TRANSPORTATION SYSTEM

In addition, some highlights of Reebie Associates data about Central Iowa Truck Freight Shipment Growth were identified.

- The top four bordering states of the highest value and weight of all shipments were **Illinois, Minnesota, Nebraska, and Missouri**.
- 18% of the weight and 31% of the value of all shipments from central Iowa went to these top four bordering states. Twelve percent of the weight and 18% of the value of all shipments came to central Iowa from these top four bordering states.
- Central Iowa needed more truck freight in demand than being the supplier for bordering states, with exception of **Illinois, Missouri, and South Dakota**.
- Central Iowa shipped higher tonnages of truck freight to Illinois than from Illinois, when it shipped less value of freight to Illinois than from Illinois.
- Missouri and South Dakota imported more freight by truck in value and in tonnage from central Iowa than to central Iowa.

Table 2.6: Central Iowa Truck Freight Shipment Growth by Origin and Termination at Bordering States: 2000-2011<sup>12</sup>

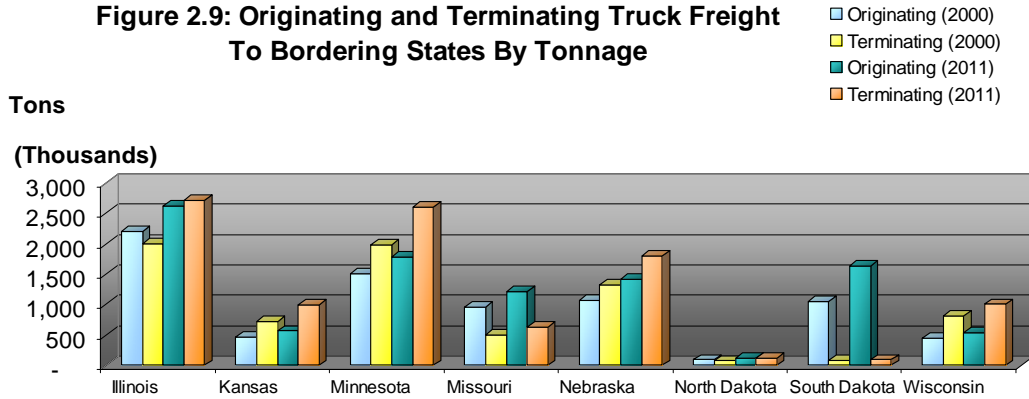
Central Iowa	Outbound Originating Truck Freight				Inbound Terminating Truck Freight			
	Tonnage (Thousand)		Growth (Thousand)	Growth Rate	Tonnage (Thousand)		Growth (Thousand)	Growth Rate
	2000	2011		%	2000	2011		%
Illinois	2,199	2,625	425	19%	2,005	2,711	706	35%
Kansas	471	567	96	20%	720	997	277	38%
Minnesota	1,516	1,783	266	18%	1,986	2,601	615	31%
Missouri	957	1,215	259	27%	501	624	123	24%
Nebraska	1,076	1,418	342	32%	1,319	1,807	488	37%
North Dakota	92	118	26	29%	72	112	41	57%
South Dakota	1,045	1,639	594	57%	75	90	15	21%
Wisconsin	442	533	91	20%	813	1,005	192	24%
Bordering States Subtotal	7,799	9,898	2,099	27%	7,490	9,947	2,457	33%
Total	32,154	38,389	6,235	19%	47,435	57,378	9,943	21%

- By 2011, the total weight of all truck freight originating in central Iowa to all bordering states is expected to grow by 2,099,000 tons (27%), about one-third of the total originating truck freight growth in central Iowa.
- By 2011, the total weight of all truck freight terminating in central Iowa to all bordering states is expected to grow by 2,457,000 tons (33%), about one-fourth of the total terminating truck freight growth in central Iowa.

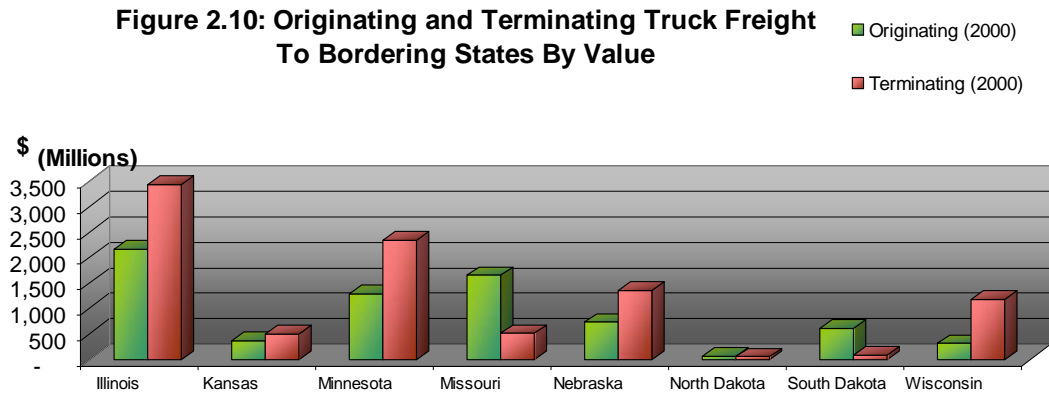
<sup>12</sup> Iowa Department of Transportation's Reebie Associates Data

Figures 2.9 and 2.10 present truck freight flows to bordering states by tonnage and by value in 2000 and in 2011<sup>13</sup>.

**Figure 2.9: Originating and Terminating Truck Freight To Bordering States By Tonnage**



**Figure 2.10: Originating and Terminating Truck Freight To Bordering States By Value**



<sup>13</sup> Iowa Department of Transportation's Reebie Associates Data

- Truck Routes/Freight Corridors

The Des Moines Area MPO Freight Roundtable requested the Des Moines Area MPO Transportation Technical Committee (TTC), in particular its Engineering Subcommittee, to review the listing contained in the Des Moines Area MPO's *Goods Movement Study – 2002* regarding designated truck routes and roadway deficiencies affecting the flow of freight in the Des Moines metropolitan area.

The Des Moines Area MPO staff worked with TTC Engineering Subcommittee and Freight Roundtable to review and update changes and/or additions to those truck routes identified in the Des Moines Area MPO's *Goods Movement Study – 2002* and submitted to the full Des Moines Area MPO and the Iowa DOT in June 2006. Figure 2.11, Page 2-15, presents updated truck routes and freight transportation inadequacies in the area. Locations numbered from 1 to 14 are choke points identified in the previous study without repairs completed, and locations numbered from A to E are additional inadequacies identified during MPO's review in 2006.

#### **D. Waterway System**

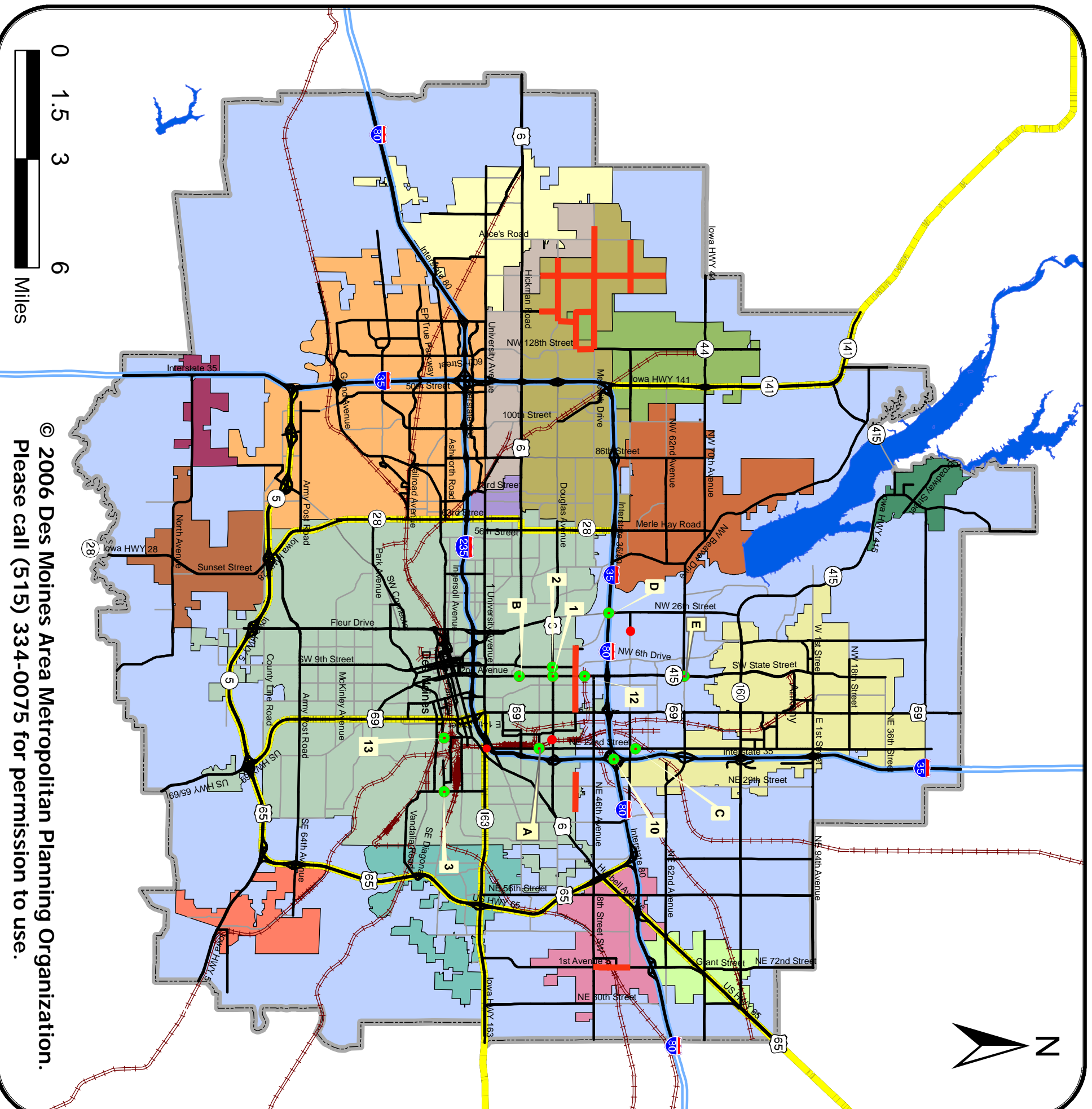
With no navigable waterway through the study area, there is no update for waterway system.

#### **E. Freight Intermodal System**

The Iowa Interstate (IAIS) Railroad is a short line railroad that runs on 500 miles of rail between Chicago, IL and Council Bluffs, IA. There are four intermodal facilities along the line, three of which are in Iowa. They include West Liberty in eastern Iowa, Newton in central Iowa, and Council Bluffs in western Iowa. Changes in freight systems across the nation are having impacts on the freight rail system. This causes capacity issues for domestic freight. Rail-controlled trailers are being used less because of inefficiency issues with maintenance and replacement of the railroad itself. However, significant growth in domestic freight movement is being generated by shipper-controlled private equipment. These are companies that bring their own equipment onto the rail system, such as J.B. Hunt Transportation Inc.

Figure 2.11: Updated Truck Routes and Freight Transportation Inadequacies

June 22, 2006



- Bridge Restriction
- Freight Inadequacy (2006)
- Truck Restricted Area
- Truck Route
- Interstate
- Active Railroad (2006)
- Commercial and Industrial Network
- MPO Planning Area Boundary
- Altoona
- Ankeny
- Bondurant
- Carlisle
- Clive
- Cumming
- Des Moines
- Grimes
- Johnston
- Norwalk
- Pleasant Hill
- Polk City
- Waukee
- West Des Moines
- Windsor Heights
- Urbandale

(1)-(14): Identified Inadequacies from 2002 Goods Movement Study; (A) - (E): Additions to 2006 Update Report	Jurisdiction	Repairs (Yes/No, Year)
<b>Intersections Inadequacies</b>		
- Euclid Ave. and 2nd Ave. (1)	City of DSM/IA DOT	No
- Euclid Ave. and 6th Ave. (2)	City of DSM/IA DOT	No
- E 30th St. and Scott Ave. (3)	City of DSM	No
- Delaware Ave. and Hull Ave. (A)	City of DSM	Yes, 2002
<b>Street/Highway Inadequacies</b>		
- 2nd Ave., University Ave. to Euclid Ave. (B)	City of DSM	Yes, Partial
- NE 22nd St., Broadway Ave. to NE 66th Ave. (C)	Polk Co	Yes, 2020
<b>Interstate Highway Inadequacies</b>		
- I-35/80 and I-235, East Mixmaster (10)	IA DOT	Yes, 2006-2008
- I-35/80 NW 26th Interchange (D)	Polk Co	Yes, 2009
<b>Bridges/Overpasses Inadequacies</b>		
- 2nd Ave. by Frystone, height limits (12)	IA DOT/UP RR	No, Being Discussed
- 2nd Ave. at NE 66th Ave, Low overpass (E)	IA DOT	No
<b>Railroad Crossings Inadequacies</b>		
- E 18th St. and Market St. (13)	City of DSM	No

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At intermodal facilities trucking companies bring trailers and pay for the train service to ship the trailers on the rail system. At times this leads to capacity constraints and terminal congestion. One of the biggest issues is the moving of equipment off of terminal properties so that incoming shipments have a place to be off-loaded. Some strategies to alleviate this have been trial programs to move shipping activities into the night hours. However, this is often ill received by the truckers whom do not like the evening hours and the nearby residents whom have to put up with increased truck traffic.

Further issues with the freight rail system have been poor relations between railroad companies and trucking companies. For instance, IAIS Railroad has approached this problem by collaborating with trucking companies to move goods between rail lines. This “cross-town” shipping has been beneficial for everyone involved. Without such a system, railcars may need to wait as much as two days on a belt-line railroad for a shipment to be transferred to a new rail line. By implementing trucking between rail lines, wait time is reduced and shipping is made more efficiently.

The intermodal industry with these types of issues, as well as issues with various trailer/container packages and programs, has created a situation of congestion in the system. Logistics costs have gone up and warehouse vacancies have gone down since 2003 as a result of the congestion and the delay in the supply chain. Large retail shippers are stepping back from just-in-time delivery and keeping larger inventories. With no relief in sight from increasing fuel prices and the cost of security at facilities rising dramatically, the intermodal industry has many hurdles to overcome.

Because of the location of a ramp in central Iowa, the IAIS Railroad is essential to many central Iowan businesses. Recently, IAIS Railroad expresses the interests in the idea of being a subcontractor for one of the Class I railroads at Altoona, Iowa (similar to its current arrangement for UP in Council Bluffs, Iowa), and of supporting efforts to entice trucks off the Highways.

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### III. International Trade

#### A. Port Des Moines Concept: A Feasibility Assessment

The *Port Des Moines Concept: A Feasibility Assessment* is a joint effort from the College of Business, Iowa State University, the Iowa Department of Transportation, the Des Moines Area MPO and the Greater Des Moines Partnership (Partnership) in 2001. The report presents a study of transportation and international trade practices of business firms in the eight counties surrounding and including Des Moines in order to determine the feasibility of the “Port Des Moines Concept”: (Richard F. Poist, 2001)

“an inland, intermodal port that would facilitate international & domestic commerce; it would support export and import opportunities by consolidating at a single source all services related to trade, licensing, loading, storage, light assembly & bonding.”

Based on the Port Des Moines feasibility study results, the Iowa State University research team offered this grid as a visual to explain four possible Port Des Moines configurations to lead Iowa from a virtual E-port to an expanded physical, inland, intermodal port facility.

Table 3.1: Port Development Matrix

	Low Physical Asset Requirements	High Physical Asset Requirements
High Information Technology Capability	Advanced E-port <ul style="list-style-type: none"> <li>• Electronic gateway</li> <li>• On-line interaction</li> <li>• E-transactions</li> </ul>	Modern Port facility <ul style="list-style-type: none"> <li>• Handling and Moving Shipments</li> <li>• Interactive Transactions</li> </ul>
Low Information Technology Capability	Basic E-port <ul style="list-style-type: none"> <li>• Static Web pages</li> <li>• Basic trade info</li> <li>• Limited interactivity</li> </ul>	Traditional Port <ul style="list-style-type: none"> <li>• Handling and Moving Shipments</li> <li>• Web integration</li> </ul>

Through the E-port, the Partnership would seek to help Iowa businesses act globally. As international commerce grows, so will the need for a full-scale, inland, intermodal port facility, it is believed this gradual process will enable Iowa’s businesses to take advantage of its geographical location at the interchange of Interstates 35 and 80, to prepare for the future of globalization of trade.

A copy of the *Port Des Moines Concept: A Feasibility Assessment* Executive Summary is included in Appendix B.

## **B. Creation of the Freight Roundtable**

The Des Moines Area MPO was involved with the Partnership for many years on promoting implementation of the Port Des Moines concept. Transportation planning historically had not done well in addressing economic/freight side of why an efficient and safe transportation system is important to a region's economy, and Homeland Security issues were the greatest push for the need to discuss freight-related issues, especially given routine stopping of carriers for public safety purposes.

In 2004, the Des Moines Area MPO recognized the need to pursue freight issues more aggressively to make sure that the economy of the metropolitan area, of central Iowa, and of Iowa, is competitive in the upper Midwest, the nation, and the international arena. The Des Moines Area MPO created the Freight Roundtable to provide the Des Moines Area MPO assistance and guidance to determine where the Des Moines metropolitan area needs to be in terms of freight transportation. A vision for the future is the Des Moines metropolitan area's potential to serve as an inland port for North America, from Canada to Mexico.

## **C. North America's SuperCorridor Coalition**

The North America's SuperCorridor Coalition (NASCO) is a non-profit organization dedicated to developing the world's first international, integrated and secure, multi-modal transportation system along the International Mid-Continent Trade and Transportation Corridor, to improve both trade competitiveness and quality of life in North America.

The North American Inland Port Network (NAIPN), a subcommittee of NASCO, has been tasked with developing an active inland port network along this corridor to specifically alleviate congestion at maritime ports and this nation's borders. The NAIPN envisions an integrated, efficient and secure network of inland ports specializing in the transportation of containerized cargo in North America.

Given the Des Moines Area MPO Freight Roundtable's mission for an efficient transportation system to promote economic development and trade in the North American trade corridor centered on I-35/I-29 and connecting Canada, the United States, and Mexico, the Des Moines Area MPO became a member of the *North America's SuperCorridor Coalition (NASCO)* in July 2005. The Roundtable believed that NASCO could serve as a resource to help achieve the roundtable's goals and to help find a way to fund some projects going on in the metropolitan area.

Port Des Moines, one of the identified NAIPN Inland Ports, has a unique role being located on I-35 and in the middle of the United States. With NASCO, the Des Moines Area MPO Freight Roundtable is promoting Port Des Moines as a great potential to be an important player in this trade corridor. The inland port is not in

competition, but is working to be in cooperation, with Winnipeg, Kansas City, and San Antonio, promoting that the middle section of North America has great trade corridors and imported and exported goods coming through Mexican ports can easily access the American market as well as the United States east and west coast ports.

Figure 3.1 is a screen shot of the NASCO website, presenting the North American Inland Ports Network.

Figure 3.1: North American Inland Ports Network



#### D. Foreign Trade Zone No. 107

A Foreign Trade Zone (FTZ) is administered by the United States Department of Commerce International Trade Administration's Import Administration. A FTZ is a designated site licensed by the FTZ Board at which special Customs procedures may be used. These procedures allow domestic activity involving foreign items to take place prior to formal customs entry. Duty-free treatment is accorded items that are re-exported and duty payment is deferred on items sold in the United States market, thus offsetting customs advantages available to overseas producers who compete with producers located in the United States.

FTZ subzones are special-purpose zones, usually at manufacturing plants. A site which has been granted zone status may not be used for zone activity until the site has been separately approved for FTZ activation by local U.S. Customs and Border Protection (CBP) officials,

and the zone activity remains under the supervision of CBP. FTZ sites and facilities remain within the jurisdiction of local, state, or federal governments or agencies.

Using a FTZ, exporters and domestic manufacturers can gain a number of benefits for business, such as: (For details, please visit the FTZ page at <http://ia.ita.doc.gov/ftzpage/info/ftzstart.html>)

- **Duty Exemption** - No duties on or quota charges on re-exports.
- **Duty Deferral** - Customs duties and federal excise tax deferred on imports.
- **Inverted Tariff** - In situations where zone manufacturing results in a finished product that has a lower duty rate than the rates on foreign inputs (inverted tariff), the finished products may be entered at the duty rate that applies to its condition as it leaves the zone -- subject to public interest considerations.
- **Logistical Benefits** - Companies using FTZ procedures may have access to streamlined customs procedures (e.g. "weekly entry" or "direct delivery").
- **Other Benefits** - Foreign goods and domestic goods held for export are exempt from state/local inventory taxes. FTZ status may also make a site eligible for state/local benefits which are unrelated to the FTZ Act.

According to current statistics released by FTZ Board, there are 50 states with FTZ projects, plus additional 60 pending cases for new FTZs and expansions. The FTZs handled over \$300 billion of value of merchandise, and exported \$19 billion of goods. Of incoming zone shipments, over 60% is of domestic status (most of this figure represents domestic origin goods, but a small percentage would be duty paid/duty free foreign items).



Iowa has three FTZs located in Polk County, Cedar Rapids, and Quad-Cities. FTZ No. 107, located in Polk County, was awarded in 1984 and has been managed by the Iowa Foreign Trade Zone Corporation (IFTZ), a corporate board of the Greater Des Moines Partnership. A sub-FTZ to FTZ No. 107 is Winnebago Industries in Forest City, Iowa, and it happens because FTZ subzones are not necessary to be close to FTZs. The IFTZ offers central Iowa firms the opportunity to make import/export operations more profitable, and plays an important role in region's economic development.

The Partnership has administrated, but not actively operated FTZ No. 107. Centennial Warehouse Corporation (Centennial) is in charge of FTZ No. 107 in its facility in Clive and Centennial assists companies interested in the economic benefits offered by general zone warehousing or establishing a plant-specific subzone.

To meet a requirement for the establishment of any FTZ for locating at or adjacent to the port of entry, the IFTZ has the Des Moines International Airport (DMIA), a Port of Entry for Iowa, located in central Iowa and possesses customs clearance for freight by air. The concept of having the IFTZ in central Iowa with a port of entry nearby is to enable the central Iowa's manufacturers to be more competitive than their oversea competitors.

### **E. Port Authority**

The concept of a port authority can be considered together with the FTZ, although these two entities are different. A FTZ is a geographic concept for the private sector to take advantage for customs and import duties and for promoting imports and exports, and to import goods and to resell these goods to either domestic or international markets. A port authority is an operational entity, hiring employees to transport and allocate goods from barges or trains to intermodal facilities for unloading and loading on the trucks.

The Des Moines Area MPO Freight Roundtable researched the viability of creating a port authority locally and found that State of Iowa does not have specific legislation for creating a port authority. The Des Moines Area MPO's General Counsel concluded that the Des Moines Area MPO cannot function as a port authority because the MPO is not an operating entity. The Iowa Code already has the Chapter 28E Agreement. Chapter 28E is a very broad authorizing legislation for authorizing any agreement by political subdivisions in the state, such as cities and counties, to do things collaboratively with each other or with private sectors. A Chapter 28E<sup>1</sup> agreement gives each of the political subdivisions the power, by state law, collaboratively to come up with the operating entity. The Freight Roundtable highly encourages having regional cooperation, with public and private involvement, for creating a port authority in this metropolitan area.

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<sup>1</sup> Chapter 28E Joint Exercise of Governmental Powers:  
<http://www.legis.state.ia.us/IACODE/2003/28E/4.html>

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## **IV. Survey of Intermodal Usage for Import/Export**

### **A. Survey Methodology**

- Companies and Contacts from Iowa Department of Economic Development

As freight volumes continue to increase, the issues of transportation capacity and transportation options grow in importance relative to the efficient movement of goods in the central Iowa. In a response to this growth, the Des Moines Area MPO invited participation in an essential Survey of Intermodal Usage for Import/Export to help Des Moines metropolitan area governments develop a freight transportation strategy for the greater Des Moines area, for central Iowa, and for the State of Iowa.

In January 2006, the Des Moines Area MPO staff mailed a survey to a sample of 244 businesses and contacts, plus additional 37 intermodal customers doing business at the intermodal facility in Newton or in Altoona. The sample businesses were identified from the Iowa Department of Economic Development website as businesses that are importing and/or exporting in the Des Moines metropolitan and central Iowa areas.

- Development of Intermodal Survey Questionnaire

The Intermodal Survey Questionnaire, Figure 4.1, was developed as a strategy for the issues of transportation capacity and transportation options relative to the efficient movement of goods in the greater Des Moines area, central Iowa, and Iowa.

The survey sought to gain a sense of how many containers went in and out of the area, in terms of a scale of the market, to help answer the question “Do central Iowa businesses have a viable capability of importing and exporting activities, and/or interest in central Iowa intermodal facility” and assist in determining additions or changes needed to the transportation system, and to develop policies that will help freight move more efficiently and for this region to remain economically competitive.

The Des Moines Area MPO staff and the working group developed a survey. The survey was sent to businesses’ senior managers. Senior managers were selected with the anticipation of a more comprehensive and higher response rate to the survey.

Businesses willing to participate in the survey had options for completing the survey. Participants could respond by regular mail, by fax, or by going to the Des Moines Area MPO’s website and completing the survey electronically. The Des Moines Area MPO staff tabulated completed survey results and sent out a post card reminder to anyone who had not replied to the survey.

### SURVEY OF INTERMODAL USAGE FOR IMPORT/EXPORT

*As freight volumes continue to increase, we would like to invite you to participate in developing a freight transportation strategy for the issues of transportation capacity and transportation options relative to the efficient movement of goods in the greater Des Moines area, central Iowa, and Iowa. Your survey participation will be important to answer the question, **“Do central Iowa businesses have a viable capability of importing and exporting activities, and/or interest in central Iowa intermodal facility”**. Your answers will be treated in strict confidence and will be used for statistical research purposes only. In advance, thank you and your company very much for participating in this survey.*

1. Which describe the operation of your central Iowa business? (Mark all that apply)

<input type="checkbox"/> Both export and import	<input type="checkbox"/> Planning to export within 3 years
<input type="checkbox"/> Export only	<input type="checkbox"/> Planning to import within 3 years
<input type="checkbox"/> Import only	<input type="checkbox"/> Neither done currently nor planned

2. Do you use **Iowa Foreign Trade Zone #107**?

Yes

If you use Iowa Foreign Trade Zone #107 for your shipments, please indicate what activities you are involved in:

\_\_\_\_\_

If you do not use Iowa Foreign Trade Zone #107 for your shipments, please indicate the major reasons:

\_\_\_\_\_

If you do not know Iowa Foreign Trade Zone #107, please indicate if you would like to get more information:

Please provide me information about Iowa Foreign Trade Zone #107



3. Are you currently using, or interested in using, **intermodal facilities**?

If you are not currently using, or interested in using, intermodal facilities for your shipments, please answer Question #4.

Yes

a. With what frequency or volume? \_\_\_\_\_

b. What percent Domestic? \_\_\_\_\_

- Inbound? \_\_\_\_\_
- Outbound? \_\_\_\_\_

c. What percent International?

- Inbound? \_\_\_\_\_
- Outbound? \_\_\_\_\_

d. What are your equipment requirements? (Mark all that apply)

<input type="checkbox"/> Standard Containers:	<input type="checkbox"/> 20' Standard	<input type="checkbox"/> 40' Standard
	<input type="checkbox"/> 40' High Cube	<input type="checkbox"/> 45' High Cube
	<input type="checkbox"/> 48' Domestic	<input type="checkbox"/> 53' Domestic
<input type="checkbox"/> Tank Containers:	<input type="checkbox"/> Chemical Grade Tank	<input type="checkbox"/> Food Grade Tank
<input type="checkbox"/> Flat Rack Containers		
<input type="checkbox"/> Open Top Containers		
<input type="checkbox"/> Refrigerated (Reefer) Containers:	<input type="checkbox"/> 20' Reefer	<input type="checkbox"/> 40' High Cube Reefer
<input type="checkbox"/> Trailers:	<input type="checkbox"/> 48' Trailers	<input type="checkbox"/> 53' Trailers

e. What transit lanes are used?

<input type="checkbox"/> East Coast	<input type="checkbox"/> West Coast	<input type="checkbox"/> Mexico
<input type="checkbox"/> Canada	<input type="checkbox"/> Europe	<input type="checkbox"/> Asia
		<input type="checkbox"/> Other _____

f. Required transit time to connecting rail

\_\_\_\_\_ days ; \_\_\_\_\_ weeks

4. If you are **not** currently using intermodal, would you consider doing so?  
 **Yes**  
 If yes,  
 a. What portion of your traffic would you be willing to use intermodal if an intermodal facility met your needs \_\_\_\_\_  
 b. What other considerations would you have?  
 \_\_\_\_\_  
 If you are **not** currently using, or interested in using, intermodal facilities for your shipments, and would **not** consider using intermodal, please indicate the major reasons:  
 \_\_\_\_\_

5. Do you know if there are any other companies who might have interest in using an intermodal facility in the Des Moines metropolitan area and would like to complete this survey? Please indicate below his/her contact information.

1) Contact: _____	2) Contact: _____
Title: _____	Title: _____
Company Name: _____	Company Name: _____
Telephone: _____	Telephone: _____
Address: _____	Address: _____
City: _____ State: _____	City: _____ State: _____

6. Comments

\_\_\_\_\_

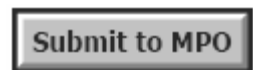
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Please mail, fax or email your answers to ...



**DES MOINES AREA METROPOLITAN PLANNING ORGANIZATION**

MERLE HAY CENTRE – 6200 AURORA AVENUE, SUITE 300W, URBANDALE, IOWA 50322-2866  
– PHONE: (515) 334-0075 – FAX (515) 334-0098 – WEBSITE: [www.dmampo.org](http://www.dmampo.org)

**DES MOINES AREA MPO FREIGHT ROUNDTABLE'S GOODS MOVEMENT STUDY WORKING GROUP  
SURVEY OF INTERMODAL USAGE FOR IMPORT/EXPORT**

<b>Question #1</b>												
Which describe the operation of your central Iowa business? Mark all that apply												
	Bath export and import	Export only	Import only	Neither done currently nor planned	Import within 3 years	Export within 3 years						
	10 55%	5 28%	1 6%	2 11%	11 61%	15 83%						
<b>Question #2</b>												
Do you use Iowa Foreign Trade Zone #4077?												
	Yes	do not use	do not know									
	1 6%	8 44%	9 50%									
a What activities												
b Major reasons												
c Information requested												
none												
Corporate office advised it is not advantageous; JAS has not made it economical to use yet, therefore we ship out of KC, too unhandy; location and scale of business; brokers determine since they p 9 companies												
<b>Question #3</b>												
Are you currently using or interested in using intermodal facilities?												
	Yes	No										
	12 67%	6 33%										
a What frequency or volume												
6732/year												
b.c What percent												
Domestic-Inbound (%) Domestic-Outbound (%) International-Inbound (%) International-Outbound (%)												
Company #1 18 18 38 26												
Company #2 0 30 0 70												
Company #3 0 0 0 100												
Company #4 10 10 30 70												
Company #5 20 20 20 20												
Company #6 70 70 30 30												
Company #7 0 5 0 100												
Company #8 100 5 0 100												
<b>Question #4</b>												
Equipment												
Standard Containers												
20' Standard 10 40' Standard 8 40' High Cube 5 45' High Cube 3 48' Domestic 4 53' Domestic 4												
Tank Containers												
Chemical Grade Tank 2 Food Grade Tank 2												
Flat Rack 2 Flat Rack 2												
Open Top 2 Open Top 2												
Refrigerated (Reefer) Containers 20' Reefer 2 40' High Cube Reefer 2 53' Trailers 5												
Trailers 48' Trailers 5												
e What transit lanes are used												
East Coast 7 West Coast 7 Mexico 6 Canada 3 Europe 4 Asia 5 Other 0												
Days 5.7 58% 58% 50% 25% 33% 42%												
f Required transit time to connecting rail 5.7												
<b>Question #4</b>												
If you are not currently using intermodal, would you consider doing so?												
	Yes	No	No Response									
	1	5	12									
a What portion of your traffic would you be willing to use intermodal												
b What other considerations would you have												
c Major reasons for not considering using intermodal												
5% of traffic, 20% of Europe, 50-80% requires more detailed analysis to determine if intermodal would provide cost and delivery benefit. Analysis may include involvement to assess impact to the central Iowa facilities. wish Iowa Interstate Railroad to offer economical rates so that it is possible to use intermodal request for more information about the Goods Movement Study Working Group currently shipping via truck to KC rail, will certainly benefit from a Des Moines based intermodal transit system												
<b>Question #5</b>												
Other companies who might have interest in using an intermodal facility												
1												
<b>Question #6</b>												
Comments												
very excited about the new intermodal facility requires more detailed analysis to determine if intermodal would provide cost and delivery benefit. Analysis may include involvement to assess impact to the central Iowa facilities. wish Iowa Interstate Railroad to offer economical rates so that it is possible to use intermodal request for more information about the Goods Movement Study Working Group currently shipping via truck to KC rail, will certainly benefit from a Des Moines based intermodal transit system												
<b>Responses out of 244 Surveys</b>												
18 7.73% 6 failed, 4 returned, 1 cannot reply												
<b>Sectors by NAICS</b>												
Agriculture	Manufacturing	Wholesale Trade	Transportation and Warehousing	Real Estate and Rental and Leasing	Professional, Scientific and Technical Services	Administrative and Support and Waste Management and Remediation Services	Other Services					
2 11%	7 39%	4 22%	1 6%	1 6%	1 6%	1 6%	1 6%					

- Telephone Follow-Up by Rudy Salem and Associates

The survey was sent to 244 businesses and to intermodal customers doing business at the Central Iowa intermodal facilities. Eighteen usable surveys were returned, accounting for a 7.38% response rate. To improve the low response rate and to have more survey results for better analysis of the market and for whether there was potential for an intermodal facility locally, the Des Moines Area MPO contracted Rudy Salem and Associates, Sioux City, IA, to undertake a survey follow-up activity in March, 2006.

Rudy Salem and Associates expanded the survey area further outside of the Des Moines metropolitan area and conducted a telephone follow-up survey by telephoning 199 companies and 15 freight carriers, receiving good response from cities like Waterloo/Cedar Falls, Cedar Rapids, Pella, Cherokee, Marshalltown, and Webster City, and accounting for an 83% response rate. Expanding the survey area outside of the Des Moines metropolitan area allowed for a gaining of sense of whether there are freight forwarders that do not have a business in the Des Moines metropolitan area but may import/export from a new intermodal facility in Central Iowa.

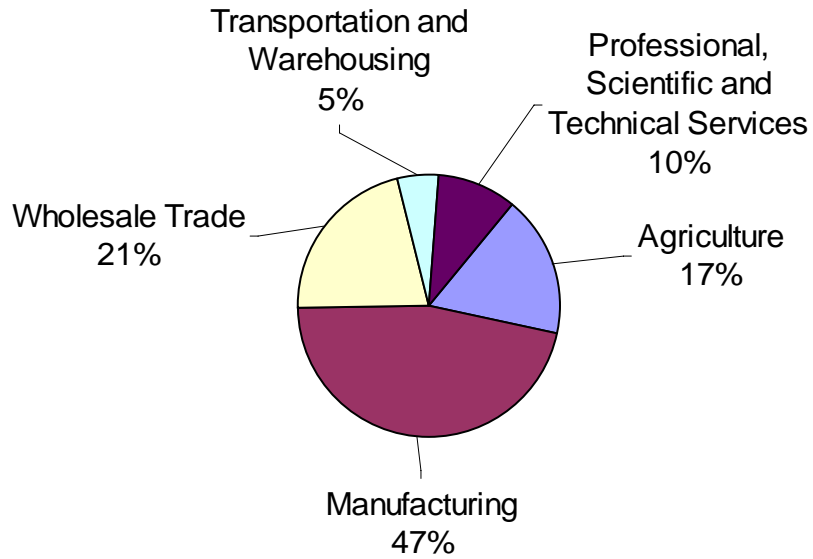
## **B. Survey Summary and Highlights**

- Two-Digit North American Industry Classification System Code

The Des Moines Area MPO staff classified the surveyed the using the North American Industry Classification System (NAICS). Businesses were assigned to the NAICS categories of Agriculture (11); Manufacturing (31-33); Wholesale Trade (42); Transportation and Warehousing (48-49); Real Estate and Rental and Leasing (53); and Professional Scientific and Technical Services (54) sectors. Assigning businesses to these sectors allowed for a gaining of an understanding of which sectors of the region's economy are doing business at the Central Iowa intermodal facilities and have the potential to do business at a future facility.

Figure 4.2 shows the percentage of surveyed businesses in each sector of the economy for the MPO, CIRTPA, and outside of CIRTPA but in central Iowa areas.

Figure 4.2: Surveyed Businesses by Sector



NAICS	Title	MPO	CIRTPA	Central Iowa*	%
11	Agriculture	10	10	4	17%
31-33	Manufacturing	37	25	3	46%
42	Wholesale Trade	20	8	2	21%
48-49	Transportation and Warehousing	6	1	0	5%
54	Professional, Scientific and Technical Services	8	6	0	10%

\* Central Iowa: Number of companies outside CIRTPA's eight counties.

- Container Shipment and Potentials

**Initial Survey Results**

**Question No.1: Which describe the operation of your central Iowa business?**

- 10 businesses (56%) said they do both, export and import goods.
- 5 businesses (28%) said they only export goods.
- 1 business (6%) said they only import goods.
- 2 businesses (10%) said they neither currently do nor plan to import or export goods.
- 15 businesses (83%) that they will export goods within 3 years.
- 11 businesses (61%) that they will import goods within 3 years.

**Question No.2: Do you use Iowa Foreign Trade Zone (FTZ) No. 107?**

- 1 business (6%) said they DO.
- 8 businesses (44%) said they DO NOT.
- 9 businesses (50%) said they DO NOT KNOW.
- Businesses that do use FTZ No. 107 did not indicate what activities they are involved.
- The businesses that do not use FTZ No. 107 indicated the reason for not doing so as:
  - Iowa Interstate Railroad Corporate office advised it not advantageous;
  - IAIS has not made it economical to use;
  - Unhandy; location and scale of business;
  - Brokers determines the use;
  - 9 businesses requested information on FTZ No. 107.

**Question No.3: Are you currently using, or interested in using, intermodal facilities?**

- 12 businesses (67%) said they do use intermodal facilities.
- 6 businesses (33%) said they do not use intermodal facilities.
- 8 of these businesses ship a total volume of 561 containers of goods per month. The distribution of these shipments is shown in Table 4.1.

Table 4.1

Replied	Domestic – Inbound (%)	Domestic – Outbound (%)	International – Inbound (%)	International – Outbound (%)
Business 1	18	18	38	26
Business 2	0	30	0	70
Business 3	0	0	0	100
Business 4	10	10	30	70
Business 5	-	-	20	20
Business 6	-	-	70	30
Business 7	-	-	0	100
Business 8	-	-	0	100

- The equipment used by these businesses for shipping goods is summarized in Table 4.2.

Table 4.2

Standard Containers	20' Standard	40' Standard	40' High Cube	45' High Cube	48' Domestic	53' Domestic
No. Businesses	10	8	5	3	4	4
Tank Containers	Chemical Grade Tank		Food Grade Tank			
No. Businesses	2		2			
Flat Rack Containers	Flat Rack					
No. Businesses	2					
Open Top Containers	Open Top					
No. Businesses	2					
Refrigerated (Reefer) Containers	20' Reefer	40' High Cube Reefer				
No. Businesses	2	2				
Trailers	48' Trailers	53' Trailers				
No. Businesses	5	5				

- The transit lanes used by these businesses for shipping goods are summarized in Table 4.3.

Table 4.3

Transit Lanes	East Coast	West Coast	Mexico	Canada	Europe	Asia	Other
No. Businesses	7	7	6	3	4	5	0

- These Businesses have the required transit time to connecting trail of 5.7 days on average.

**Question No.4: If you are not currently using an intermodal facility, would you consider doing so?**

- 45 businesses (71%) said they would consider using intermodal facility.
- 1 business specified they would use the facility for 5% of their traffic if the intermodal facility met their needs. Other considerations would include:
  - Price and turn around time;
  - Charges;
  - Transit time and location of intermodal facility;
  - Access to sea ports.



- 11 businesses (17%) said they would not use intermodal facility. Major reasons for not considering using intermodal facilities include:
  - Not knowing the advantages;
  - Not being a shipper;
  - Being an internet business which uses UPS;
  - Service time and response time.
- 19 businesses (30%) did not respond to this question.

**Question No.5: Other companies who might have interest in using an intermodal facility?**

- 1 business listed 1 other business that may be interested in using an intermodal facility.

**Question No.6: Comments?**

- Comments included:
  - Very excited about the new intermodal facility;
  - Requires more detailed analysis to determine if intermodal would provide cost and delivery benefit; Analysis may include involvement to assess impact to the central Iowa facilities;
  - Wish Iowa Interstate Railroad offered economical rates so that it is possible to use intermodal facilities;
  - Request for more information about the Goods Movement Study Working Group; and,
  - Currently shipping via truck to Kansas City rail, will certainly benefit from a Des Moines-based intermodal transit system.

**Follow-Up Survey Results**

The follow-up survey looked into the numbers of container lifts per month, which could be important to Iowa Interstate Railroad and to the Des Moines metropolitan area because of concerns about Newton intermodal ramp, and about future development in Polk County and in central Iowa.

- The larger users of intermodal facilities make up 79% of total shipping/receiving containers:
  - John Deere Des Moines Works: Inbound – 1,000 and Outbound – 600.
  - Firestone Agricultural Tire Division: Outbound – 363.
  - Barilla, America Inc.: Inbound – 50 and Outbound – 170.

- Table 4.4 summarizes the container lifts per month for the 168 (84%) businesses called.

Table 4.4

Inbound Containers	Outbound Containers	Outbound Trailer on Flatcar (TOFC)	Total
1600	1343	7	2950

Reported by businesses in the initial and in the follow up surveys, there were 3511 containers per month in total shipped in and out of central Iowa.

- Table 4.5 summarizes the container lifts per month for the 10 (67%) carriers called.

Table 4.5

Inbound Containers	Outbound Containers	Outbound Trailer on Flatcar (TOFC)	Total
604	2378	0	2974

Reported by carriers in the surveys, there were 2974 containers per month in total shipped in and out of central Iowa.

- **Regional Issues of Concern Identified Via the Survey**

In addition to the survey results described in the previous section, some issues of concern, as well as points of support, were identified.

- Vast majority of the respondents were supportive and were excited regarding the possibility of an intermodal ramp in the Des Moines metropolitan area;
- Carriers felt that, if an intermodal ramp existed in the Des Moines metropolitan area, the number of containers handled would increase substantially, if not double in one to two years;
- Some respondents were concerned that congestion at Minneapolis, Chicago, Kansas City, and Omaha/Council Bluffs is causing delays and becoming a factor;
- Some carriers were concerned Class A railroads would not support a ramp in the Des Moines metropolitan area because they would have to charge higher rates and their trains would not move in a timely fashion; and,
- Cheaper railroad rates will help shippers be more economically competitive.

## V. Freight Oriented Findings and Recommendations

As an update to the 2002 *Goods Movement in the Des Moines Metropolitan Area Study (Goods Movement Study)*, the purpose of this report is to provide updated information and analysis with more focus on goods movement between highways and other modes of transportation. This report has examined prospects for changes in the freight transportation system, in international trade, and in the surveyed intermodal usage for exporting and importing of goods in central Iowa. This chapter is a summary of findings and recommendations the Des Moines Area MPO Freight Roundtable (Roundtable) and its Goods Movement Study Working Group (Working Group) have identified.

### A. Freight Oriented Findings

A couple of key snapshots of freight movements for all modes of transportation in central Iowa are<sup>1</sup>: over 84 million tons of freight, valued over \$65 billion, used central Iowa's transportation system in 2001; about 94% of the freight tonnages were going on the highway system, 6% on the rail network, and less than 1% on the aviation system, a ten-year forecast for freight flows indicates that there will be a 21% increase in tonnage, which correlates consistently with national trend being expected almost double in the next twenty years. Undoubtedly, freight movement is making a significant impact on the transportation system and the economy in central Iowa.

In response to increasing freight traffic, the Des Moines Area MPO's new vision today is more aggressive, both on pursuing an efficient freight transportation system and on promoting economic development and trade using that freight system. Freight issues are going to be a contributing factor in the updating the MPO's long-range transportation plan. Given great need for infrastructure improvements, the MPO must step out and take the lead to implement strategies in its planning process for freight transportation investments, in cooperation with Iowa Department of Transportation (DOT).

### B. Freight Oriented Recommendations

- **Greater Recognition of Freight and Its Transportation Needs**

During the Freight Roundtable's 2006 intermodal survey to businesses that are importing and/or exporting goods in the Des Moines metropolitan and central Iowa areas, over 7000 containers were reported being used monthly by businesses and carriers. Numerous respondents expressed support and interest in the possibility of an intermodal ramp in the Des Moines metropolitan area and/or in the central Iowa, and a few of the businesses are going to relocate their business operations into the Des Moines metropolitan area.

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<sup>1</sup> Reebie Associates, through the Iowa Department of Transportation.

Freight is getting more attention nationally because of the economy and because of issues on boarder crossings. However, there is a declining curve for the trucking industry in central Iowa. A crisis is at play as trucks are competing and traveling with passenger vehicles on the limited highway system. The Interstate Highway (Interstate) System is not only designed for people to work and to travel, but also for central Iowa's economic vitality. Industries in the Des Moines metropolitan area and in central Iowa area definitively could take the advantage of being in the middle of the United States. A sustainable freight transportation network is a key factor for stimulating Iowa's economy to be competitive regionally, nationally, and globally.

To attract more investment and to be a destination because of Iowa's unique location, greater recognition of freight and its needs from the transportation system for a diverse private economy must be fulfilled. The Des Moines metropolitan and central Iowa, a hub for freight movement, need a comprehensive freight transportation plan for highway, rail, and air systems, to intermodal facilities, fitting together in the regional transportation system.

- **Economy Diversity**

Manufacturing has not been a key component of the Des Moines metropolitan area's economy. Iowa possesses a skilled and educated workforce, and still embrace great natural resource to be more used up and to make a significant fortune. Essentially, Iowa needs to diversify its economy through recognizing the potential for more bio-manufacturing and value-added agriculture processing industries. To do this, one needs an integrated, supporting infrastructure for exporting and importing goods in world trade.

Not only have businesses acknowledged the transformation in agriculture industry to a more dynamic sector using technology, but the Roundtable and the Working Group have recognized the importance of having diverse economic development and trade survive in this area for the future good of the economy. The Roundtable recommends that public sector decision makers should take the lead to support transportation system investment to prosper economic developments.

- **Coordination Across Jurisdiction Boundaries**

The Roundtable and the Working Group believe that they have done a tremendous job in involving people from the public and the private sectors to address goods movement problems, issues, and freight transportation strategies for the Des Moines metropolitan area, for central Iowa, and for Iowa. Just as freight is transported beyond municipalities, states, and even national borders, coordination across jurisdictional boundaries, and is partnership with stakeholders definitely is desired to improve the efficiency and the effectiveness of goods movement flows. The Roundtable and the Working Group are looking forward to future communication and to efforts from everyone across boundaries to support goods movement planning through collaboration and coordination.

- **Execution Solution to Freight Transportation Inadequacies**

As truck routes and freight transportation inadequacies were identified in 2002 *Goods Movement Study*, one of the biggest challenges needed to be addressed is to provide focus on this issue at the Des Moines Area MPO. These issues need to be addressed. In 2006, the Roundtable and the Working Group took a further step to review and to update the truck routes and freight transportation inadequacies in the Des Moines metropolitan area.

In coordination with local governments and transportation authorities, the MPO accepted and forwarded the truck routes and freight transportation inadequacies mapping with an associated summary table to the Iowa DOT in June 2006. To fully implement recommendations and findings out of the report, the MPO should develop a collaborative solution to balance transportation investment between the many people and many goods across the regional network. It is essential to consult with state and local governments, transportation agencies, and industry in Des Moines metropolitan area and in central Iowa to enhance the efficiency of freight transportation network for the future.

- **Collaboration between the Des Moines Area MPO and the Greater Des Moines Partnership**

Transportation and quality of life are tied together. The ultimate goal for the Des Moines Area MPO and its Freight Roundtable is to serve as a resource to help find funding that would assist in focusing on improving, upgrading, and expanding the transportation system to serve freight for the Des Moines metropolitan area. The Greater Des Moines Partnership (Partnership) is the economic and community development organization serving Greater Des Moines to maximize local resources to address opportunities for economic and community growth<sup>2</sup>. As the Des Moines metropolitan area continues to grow, these two organizations must continue to collaborate, and to integrate and to promote opportunities of this area. To execute the implementation of goods movement planning, the Roundtable and Working Group recommend that the MPO should move forward to collaborate with the Partnership for promoting quality of life and for seeking public and private involvement from transportation and economic considerations as a whole.

- **Port Authority Promotion**

To keep pace with the growing demands on transportation and on the regional economy, the Des Moines Area MPO needs to investigate creation of a port authority that would operate an inland port and address freight issues from a multi-modal perspective. One of the Freight Roundtable's strategies is to establish and to strengthen partnerships and stakeholder involvement with the public and private sectors by promoting the concept of a port authority in the greater Des Moines area.

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<sup>2</sup> The Greater Des Moines Partnership: <http://www.desmoinesmetro.com/partnership.asp>

According to the Chapter 28E Agreement<sup>3</sup>, political subdivisions in Iowa can promote a port authority collaboratively with each other or with private sector. By formalizing practices and implementing procedures, a port authority would promote trade and commerce, allowing opportunities for more effective shipping throughout central Iowa.

- **Funding Streams Coordination**

Regarding all modes of transportation through Iowa's transportation system, the *Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users* (SAFETEA-LU) legislation, the Des Moines Area MPO submitted a statement of support regarding intermodal freight to Iowa's Congressional delegation, to national leaders, and to federal agency staff during the Greater Des Moines Partnership's Washington, D.C. trip in June 2006. With continued endorsement by the MPO, the Roundtable will endeavor to serve its member communities and public/private stakeholders by being a catalyst to encourage well planned economic development in the greater Des Moines area, central Iowa, and the State of Iowa through a first-class transportation system.

To further goods movement, the MPO should study how to incorporate freight related transportation projects into the MPO's funding process, and what to fund transportation improvements, being more aggressive about rail, air and intermodal as alternatives to roadways from a transportation system perspective, to help the economy grow. The MPO should evaluate how to rethink the Surface Transportation Program funding and planning process for investments on major facilities in the metropolitan transportation system. The MPO needs to identify policies, programs, and funding sources for infrastructure investment strategies available for enhancing transportation system to accommodate goods.

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<sup>3</sup> Chapter 28E Joint Exercise of Governmental Powers:  
<http://www.legis.state.ia.us/IACODE/2003/28E/4.html>

**Goods Movement Study Working Group**

1	Firestone Agricultural Tire Division
2	Barr-Nunn Transportation
3	Burlington Northern and Santa Fe Railway
4	Centennial Warehouse Corporation
5	D. J. Franzen, Inc.
6	Iowa Interstate Railroad
7	John Deere Des Moines Works
8	PDM Inc.
9	Pella Corporation Manufacturing/Window
10	Phil Patterson, Corp. Customs Brokers
11	Pioneer Hi-Bred International, Inc.
12	Polk County Aviation Authority
13	The Seed Company, Inc.
14	United Parcel Service
15	USNW Express Omaha
16	ADM Health and Nutrition
17	Archer Daniels Midland-Animal Health and Nutrition
18	Barilla America, Inc.
19	Casey's General Stores, Inc.
20	Centennial Warehouse Corporation
21	DHL Express
22	Diamond Animal Health, Inc.
23	Gilchrist/Jewett Lumber
24	International Traders of Iowa
25	Iowa Triple "F", Inc.
26	Kemin Industries, Inc.
27	Mrs. Clarks Foods, Inc
28	Progressive Rail
29	Ryko Manufacturing Company
30	Townsend Engineering Company
31	Airborne Express/DHL
32	Burlington Northern Santa Fe Railroad
33	FedEx Freight East Service Center
34	Jacobson Companies
35	Norfolk Southern Railroad Corporation
36	Schneider National, Inc.
37	TMC Transportation
38	Union Pacific Railroad
39	Vermeer Manufacturing Company
40	Good Movement Study Working Group Chair, Tony
41	Freight Roundtable Chair, Scott Cirksena
42	Des Moines Area MPO Chair, Geri Huser
43	Des Moines Area MPO Executive Director, Tom Kane
44	Des Moines Area MPO Transportation Planner, Hsin-I Yu

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**THE PORT DES MOINES CONCEPT:  
A FEASIBILITY ASSESSMENT**

**Executive Summary**

**August 2001**

**Research Team**

Richard F. Poist, Ph.D., Co-Principal Investigator  
Professor of Transportation and Logistics

Clyde Kenneth Walter, Ph.D., Co-Principal Investigator  
Associate Professor of Transportation and Logistics

Michael R. Crum, Ph.D., Project Administrator  
Professor and Chair, Department of Logistics, Operations, and M.I.S.

Paul C. Dyer, M.B.A., Research Assistant

**College of Business  
Iowa State University**

## EXECUTIVE SUMMARY

### Introduction

Recent attention to Interstate 35 as the "NAFTA superhighway" began a renewed interest in looking at central Iowa's role in international trade. This report presents a study of transportation and international trade practices of business firms in the nine counties surrounding and including Des Moines. The study objective was to determine the feasibility of implementing the "Port Des Moines Concept." Simply stated, this concept is:

an inland, intermodal port that would facilitate international & domestic commerce; it would support export and import opportunities by consolidating at a single source all services related to trade, licensing, loading, storage, light assembly & bonding.

The findings should have important implications for managers and officials in both the private and public sectors. The project was supported by governmental and private organizations, including the Des Moines Area Metropolitan Planning Organization, Des Moines International Airport, Greater Des Moines MATRIC Program, Greater Des Moines Partnership, Iowa Department of Transportation, Iowa Motor Truck Association, Iowa State University, Jacobson Companies, Kemin Industries, United Parcel Service, and U.S. Department of Transportation.

### Information collection

A series of focus group interviews were conducted with representatives from firms with members on the project Steering Committee to identify current practices and problems. Next, two questionnaires were written to collect information and opinions from 620 potential Port Des Moines users and service providers. Responses were received from 29 percent of the users, while 53 percent of the service providers replied to their survey; both response rates were considered favorable for business questionnaires.

### User Survey Key Findings

#### Company & Respondent Information

- The user sample was a good representative of central Iowa (55 percent in Polk County), diverse among product lines but strongest in fabricated metal, printing and publishing; most firms had under 100 employees, with few people specializing in export and import operations.
- Slightly over one-half had export and/or import operations; another 45 percent neither currently exported nor imported, nor planned to do so. Only 5 percent indicated plans to begin exporting or importing within the next three years.
- The main transportation mode for domestic shipments was truck; intermodal combinations were truck and rail (both TOFC and COFC). Intermodal was used for long distances and for cost advantages.
- User respondents had over 10 years experience with their employer and job, but had less experience in the transportation and logistics profession. Most respondents were presidents or owners of their firms.

#### Export Information and Activities

- Major exports were food and kindred products, chemicals and allied products, industrial

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machinery/equipment, and fabricated metal.

- Most exports were palletized and in cartons and large containers, shipped via motor carriers when a single mode was used, and supplemented by a wide variety of intermodal combinations.
- Exports go primarily to Asia, North America, and Europe. A variety of seaports and border crossings were used; airport usage concentrated on Chicago and Des Moines. Foreign freight forwarders often were used for exports.
- Exports furnished 5 to 13 percent (median and mean, respectively) of revenues and tons shipped, and were expected to grow 3 to 11 percent per year over the next three years.
- Important export activities were:
  - air express,
  - trucking service to/from ports and airports,
  - freight forwarder services, and
  - surface transportation for small shipments.
- Exporters generally were satisfied with these services currently, although two of these activities (trucking service and freight forwarders) show need for improvement.
- The Index of Needs identified seven mostly information-related export activities as candidates in greatest need of improvement:
  - information about foreign documentation requirements,
  - information about foreign trade regulations,
  - information about international trade and logistics service providers in central Iowa,
  - information about U.S. federal trade regulations,
  - U.S. Customs operations,
  - trucking service to/from ports and airports, and
  - freight forwarder services.
- Major obstacles to exporting were, "my company's management focus is primarily on domestic markets," and "lack of buyer demand."

### **Import Information and Activities**

- Major imports were chemicals and allied products; rubber and plastics; food and kindred products; stone, clay, and glass products; fabricated metal; and industrial machinery/equipment.
- Imports were packaged and handled using large containers, pallets/slipsheets, and cartons; shipped on motor carriers and by air (if single mode), by water and truck or by truck, rail, and water (if intermodal).
- A variety of U.S. seaports and border crossings were used; Chicago was the major import airport.
- Imports were largely from Europe and Asia, with North & South America having only half as much volume.
- Customs house brokers were the primary import intermediary; also used were foreign freight forwarders, third-party logistics companies, and banking institutions.
- Imports were 15 to 30 percent (median and mean, respectively) of purchases and tonnage of

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respondents, and were expected to grow 5 to 15 percent per year.

- Important import activities were:  
trucking service to/from ports and airports, and  
U.S. Customs.
- Respondents were most satisfied with six activities:  
freight forwarder services,  
surface transportation for small shipments,  
trucking service to/from ports and airports,  
customs broker services,  
air express, and  
air cargo.
- The Index of Needs indicated that U.S. Customs operations were most in need of improvement; other activities had needs half that level or lower.

### Port Des Moines Concept Features

- Internet Web sites and transportation center rated highest in importance; others were neutral or unimportant.
- Internet Web sites also ranked first in anticipated use (but still in "infrequent" use category).
- All other features: "very infrequent" use. Index of Desirability also ranked Internet Web sites highest.
- The ratings showed general agreement with five (of nine) opinion and forecast statements:  
Incorporate latest technology in developing a Port Des Moines.  
International trade growth to continue for central Iowa.  
Central Iowa facilities favor domestic trade.  
NAFTA trade will grow at a faster rate than other trade.  
There is a general need for a Port Des Moines.

### Provider Survey Key Findings

#### Company & Respondent Information

- For two-thirds of the service providers, Polk County was the location of their facilities for serving central Iowa.
- Ninety percent of the respondents offered motor carrier services, followed by 20 percent with public warehousing services. (Multiple responses were allowed.)
- Operating revenues were 94 percent from domestic services, 6 percent from international. Transportation services accounted for 91 percent of operating revenues.
- International revenue sources were 56 percent from exports, 44 percent from imports, and split 50-50 between NAFTA and non-NAFTA countries. In the NAFTA segment, volume to/from Canada was 3 times the volume to/from Mexico.
- The major obstacle to import & export operations was a lack of shipper/user demand (61 percent for exporting, 59 percent for importing). Two others were a lack of intermodal facilities in central

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Iowa, and a lack of personnel with international expertise.

- Operating revenue sources: single mode operations accounted for 89 percent, and intermodal operations, 11 percent. Within intermodal operations, 53 percent of revenues were from piggyback and 37 percent involved large containers (20 foot and above).
- When intermodal transportation was used, it was because of cost advantages, long distances, customers' request, and company policy encourages use. Reasons provider firms did not offer intermodal services were: short distances discourage use, carriers do not promote and pursue this business, transfer facilities are not available, and company policy discourages use.
- Size attributes: the mean and median annual sales were \$11 million and \$4 million, respectively. Mean and median employees were 84 and 27; the number of employees directly involved in export and import operations were 2 (mean) and 0 (median).
- Respondents had been with their present employer 18-19 years (i.e., median, mean), in their present type of job from 16-19 years, and in the transportation and logistics profession from 20-24 years. Presidents or owners represented 83 percent of the sample; 85 percent of respondents reported upper or top management responsibility.

### **Technology Applications in Transportation & Trade**

- Twelve (of 23 listed applications) had mean ratings in the "important" range; the others were rated "neutral." Four were important to at least 60 percent of respondents:
  - vehicle design innovations,
  - electronic performance monitoring of vehicles,
  - on-board computer-aided communications to/from vehicles, and
  - electronic safety warnings during vehicle operation.

### **Port Des Moines Concept Features**

- Service providers rated four (of 12) features as "important":
  - single source for federal and state transportation agencies,
  - transportation center,
  - single source for federal and state trade support agencies, and
  - Internet Web sites.
- Single source for federal and state transportation agencies was the only feature predicted to be in the "frequent use" range.
- The Index of Desirability found the single source for federal and state transportation agencies as the most desirable feature, followed by:
  - transportation center,
  - single source for federal and state trade agencies,
  - Internet Web sites,
  - travel plaza,
  - intermodal transfer facilities, and
  - information clearinghouse.
- Providers indicated general agreement with five statements of opinion and forecast:
  - International trade growth to continue for central Iowa,
  - Incorporate latest technology in a Port Des Moines,
  - Central Iowa facilities favor domestic trade,

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NAFTA trade will grow faster than other international trade, and  
There is a general need for Port Des Moines.

### Selected Statistical Comparisons

#### User vs. Provider Responses

- Both types of businesses were of similar sizes, whether measured by sales, employment, or number of employees in international operations.
- Provider respondents had significantly more years with their employer, years in their present type of job, and years in the transportation and logistics profession.
- Providers rated 11 of 12 Port Des Moines features as more important than did users; providers also forecast higher use of 7 features. The providers' Indices of Desirability were higher for 10 Port Des Moines features.
- Users and providers were in general agreement about the nine opinion and forecast statements.
- A total of 31 statistically significant differences were found in the 51 paired comparisons, or 61 percent. In all cases involving significant differences, provider values were higher than the user values.

#### International vs. Domestic (only) User Responses

- Companies with international operations had more employees than domestic (only) users (89 vs. 42), and more employees directly involved in exporting or importing.
- Respondents from internationally-oriented firms had been in the transportation and logistics profession over twice as long as the domestic (only) respondents.
- Eleven of 12 Port Des Moines features were rated as significantly more important for firms with international operations than for domestic firms; also, 11 of 12 features had higher anticipated use ratings by the international group. Likewise, the international group's Indices of Desirability were higher for all features except a multipurpose business center and a travel plaza.
- The firms with international operations were stronger in their agreement with seven of the nine statements regarding opinions and forecasts. There were similar opinions about NAFTA trade growing faster and about accomplishing Port Des Moines through better coordination of existing facilities and services.
- A total of 42 statistically significant differences were found in the 51 paired comparisons, or 82 percent; international user values were higher than domestic (only) user values in all cases.

### Conclusions: Feasibility and Implementation

Based upon the findings summarized above, two questions may be addressed:

1. Is the Port Des Moines Concept feasible?
2. If feasible, what is the best way to implement the Port Des Moines Concept?

Slightly over one-half of central Iowa firms surveyed already export or import, and they expect continued growth of international trade activities in the next three years. Likewise, there were positive Indices of

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Needs calculated for 25 out of 30 export-related activities and 16 of 30 import-related activities. In addition to these opportunities for improvement, users and providers generally agreed about the growth of international trade in central Iowa, and a faster rate of growth of trade with Canada and Mexico. The ratings of users and providers also supported the general need for implementing the Port Des Moines concept, although less than a majority of users agreed or strongly agreed with this statement.

Moderating these supportive findings were expressions of low anticipated use of a Port Des Moines and a lack of agreement that there would be sufficient demand to support a consolidated Port Des Moines. Likewise, firms did not see the inland port as reducing their overall transportation and/or logistics costs or improving their services.

The answer to the first feasibility question became: there exists a moderate level of support for pursuing the Port Des Moines Concept rather than maintaining the status quo of no action. The results also suggest a degree of caution while proceeding and the need for an educational and promotional program to bolster support for an inland port.

Implementation should seek to satisfy the greatest needs, as measured by the need indices of export and import activities. The activities most needing improvement were mostly information-related (e.g., foreign documentation requirements, foreign trade regulations, international trade and logistics service providers in central Iowa, U.S. federal trade regulations). Activities requiring a physical presence would be U.S. customs operations, trucking service to/from ports and airports, and freight forwarder services.

Additional guidance for implementation came from the Index of Desirability, which was based on ratings of features of a proposed Port Des Moines. This index showed that users considered Internet Web sites to be clearly the most desirable, followed by a transportation center, Port of Entry for customs, single source for federal and state trade agencies, information clearinghouse and library, single source for federal and state transportation agencies, and intermodal transfer facility. Service providers had similar features rated as desirable, but with different rankings.

It was noted that, among the statements of opinion and forecast, the strongest agreement from users (and second-place for providers) was for, "It is important to incorporate the latest technology in developing a Port Des Moines center." Any development of the Port Des Moines Concept must be based strongly upon information and technology.

Some problems with the facilities aspects of an inland port were indicated by the nearly 80 percent of both respondent groups who agreed or strongly agreed that central Iowa facilities "currently are much better suited to supporting domestic rather than international trade." Also, they did not agree that the Port Des Moines concept "may be accomplished through better coordination of existing facilities and services." It appears that simply combining all existing facilities and services would not be enough to form a Port Des Moines; instead, selectively coordinating the most desirable features and facilities will be required.

Based on the survey results, a set of alternative configurations for implementing the Port Des Moines Concept is displayed in the table below. This four cell matrix has "information technology capability" (from low to high) on the vertical axis and "extent of physical assets" (also from low to high) on the horizontal axis. A traditional "brick and mortar" inland port facility for handling and moving shipments, probably with a Web site for transmitting (only) information, is found in the lower right-hand cell. The four activities in this cell were those requiring physical assets that were more highly rated by respondents in terms of need.

The alternative in the lower left-hand cell is called a "basic E-port." It contains the informational activities that were most highly rated, but would require a minimum of physical assets. It uses static Web pages to provide transportation and trade-related information; interactive capability (e.g., e-mail) is limited. An "advanced E-port" (the upper left-hand cell) is an electronic gateway using dynamic Web sites to enable on-line interactions to complete transportation and trade services transactions. Both types of E-ports

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would require some financial backing, possibly through user subscription fees or advertising, but in amounts far less than required by extensive physical facilities. The upper right-hand cell contains the ultimate full service inland port (referred to as a "click and mortar" port), rated high in both information technology capability and physical assets.

Based on the findings of this study, a Port Des Moines might best be implemented by focusing on the basic E-port as Stage 1 in a step-by-step incremental approach. In time, following successful development and user acceptance, Port Des Moines could progress to Stage 2, which would be the Advanced E-port. Eventually, if demand and financing permit, a "click and mortar" approach could be considered as Stage 3, which would add physical assets to the already existing informational capabilities. The advantages of an E-port, compared to a traditional asset-based inland port, are that they involve considerably less initial investment and risk, can be implemented relatively quickly, yet would provide Des Moines a more prominent presence in the transportation and trade infrastructure of central Iowa, as well as fostering greater opportunities for regional economic development.



**Port Des Moines Configurations: Respondents' Preferred Activities & Features**

	<b>Low physical asset requirements</b>	<b>High physical asset requirements</b>
<b>High Information Technology Capability</b>	<p><b>Advanced E-port: Electronic gateway using dynamic Web sites enabling on-line interactions with other parties to complete transactions related to transportation and trade services. Includes Basic E-port plus:</b></p> <ol style="list-style-type: none"> <li>1. transaction capabilities with transportation providers:               <ol style="list-style-type: none"> <li>a. trucking (w/ports &amp; airports, Canada, Mexico)</li> <li>b. air cargo and air express</li> <li>c. surface transport (small shipments)</li> </ol> </li> <li>2. interactive connections with:               <ol style="list-style-type: none"> <li>a. U.S. Customs</li> <li>b. freight forwarder</li> <li>c. Customs in other countries</li> <li>d. Customs broker</li> </ol> </li> </ol>	<p><b>"Click &amp; mortar" modern inland port facility: Physical assets for handling and moving shipments and transactional/interactive capability. Includes traditional "Brick &amp; mortar" plus:</b></p> <ol style="list-style-type: none"> <li>1. facilities for and transactions with transportation providers               <ol style="list-style-type: none"> <li>a. trucking (w/ports &amp; airports, Canada, Mexico)</li> <li>b. air cargo and air express</li> <li>c. surface transport (small shipments)</li> </ol> </li> <li>2. facilities for service providers               <ol style="list-style-type: none"> <li>a. freight forwarder</li> <li>b. Customs from other countries</li> <li>c. Customs broker</li> <li>d. inspection services</li> </ol> </li> <li>3. Web site(s) for information on:               <ol style="list-style-type: none"> <li>a. foreign documentation</li> <li>b. foreign trade regulations</li> <li>c. central Iowa providers</li> <li>d. U.S. trade regulations</li> <li>e. export statistics</li> <li>f. export documentation</li> </ol> </li> </ol>
<b>Low Information Technology Capability</b>	<p><b>Basic E-port: Use of static Web pages providing basic transportation and trade information; limited interactive capability (e.g., e-mail):</b></p> <ol style="list-style-type: none"> <li>1. Information on foreign documentation</li> <li>2. Info.: foreign trade regulations</li> <li>3. Info.: central Iowa providers</li> <li>4. Info.: U.S. trade regulations</li> </ol>	<p><b>"Brick &amp; mortar" traditional inland port facility for handling and moving shipments; Web site for transmitting information:</b></p> <ol style="list-style-type: none"> <li>1. U.S. Customs</li> <li>2. Trucking service w/ports &amp; airports</li> <li>3. Freight forwarder</li> <li>4. Intermodal facility</li> </ol>

Richard F. Poist is Professor of Transportation and Logistics in the College of Business at Iowa State University. He has a B.S. in business administration from Penn State University, an M.B.A. from the University of Maryland, and a Ph.D. with a specialty in logistics from Penn State. His research interests include macro aspects of logistics, supply chain management, third-party logistics, and the educational preparation of logistics executives. Dr. Poist has published extensively in academic and professional journals as well as authoring a number of monographs. He also serves on a number of editorial review boards, including the Transportation Journal and the Journal of Business Logistics, and is an active member of several professional associations.

Clyde Kenneth Walter is Associate Professor in the Department of Logistics, Operations, and M.I.S., College of Business, Iowa State University. He has a Ph.D. in Business Administration and an M.B.A. from

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the Ohio State University, an M.Eng. from Pennsylvania State University, and a B.S.E.E. from Case Institute of Technology. His prior teaching positions include the University of Nebraska, Western Illinois University, and Cranfield Institute of Technology in Bedfordshire, England. Walter's research has been published in the Journal of Business Logistics, Transportation Journal, International Journal of Physical Distribution and Logistics, and Journal of the Transportation Research Forum.

Michael R. Crum is Professor of Transportation and Logistics in the Department of Logistics, Operations, and Management Information Systems, College of Business, Iowa State University. He has a D.B.A., M.B.A., and B.S. in Transportation Management from Indiana University. His current research interests include supply chain management, motor carrier operational requirements affecting driver fatigue, truck driver retention, and temperature controlled logistics. Dr. Crum has authored or co-authored more than fifty research publications including three books. He has been a principal investigator on three research projects funded by the U.S. Department of Transportation. He was a Fulbright Scholar at the Warsaw School of Economics in Warsaw, Poland in 1988-89.