

Chapter 4: Existing Regional Transportation System Strengths and Weaknesses



**A Long Range Transportation Plan for
Siouxland Regional Transportation Planning Association
Completed by the Siouxland Interstate Metropolitan Planning Council (SIMPCO)**



I. Overview

In Region IV, like most of Iowa, is comparatively well served by transportation links. The Southwestern boundary is delineated by the Missouri River which flows via Omaha/Council Bluffs and Kansas City, MO to just north of St. Louis, MO before its confluence with the Mississippi which empties into the Gulf of Mexico. This waterway system in years when water flow is adequate allows barge traffic to float up or down to/from the Gulf Coast and all over the corn and grain belt of the Midwest; however, in the past decade, barge traffic has been virtually non-existent in the area. Additionally, major north – south and east - west Highways like I-29, Iowa Highway 60, US Highways 75, 59 and 20 services the area. Several railroad lines are also present providing national freight service to the region.

A. Highways

The Siouxland Regional Transportation Planning Association, Region IV had, in 2012 a total of approximately 6,286 miles of non-private roadway facilities. The following miles were classified as such: 39 miles were interstate including on/off ramp mileage; 166 miles was Other Principal Arterial; 265 miles was classified as Minor Arterial; 1,659 as Collectors and 4,157 as Local. Of the 6,286 miles in Region IV, 116 miles was part of the federally defined National Highway System. This system includes all interstate highways, most US Highways and many state and regional highways of significant commercial interest. Roads on the NHS in Region IV include Interstate 29, US Highways 75 and 20 and Iowa Highway 3, 59, and 60. These highways service the principal north – south and east – west transportation corridors in the region.

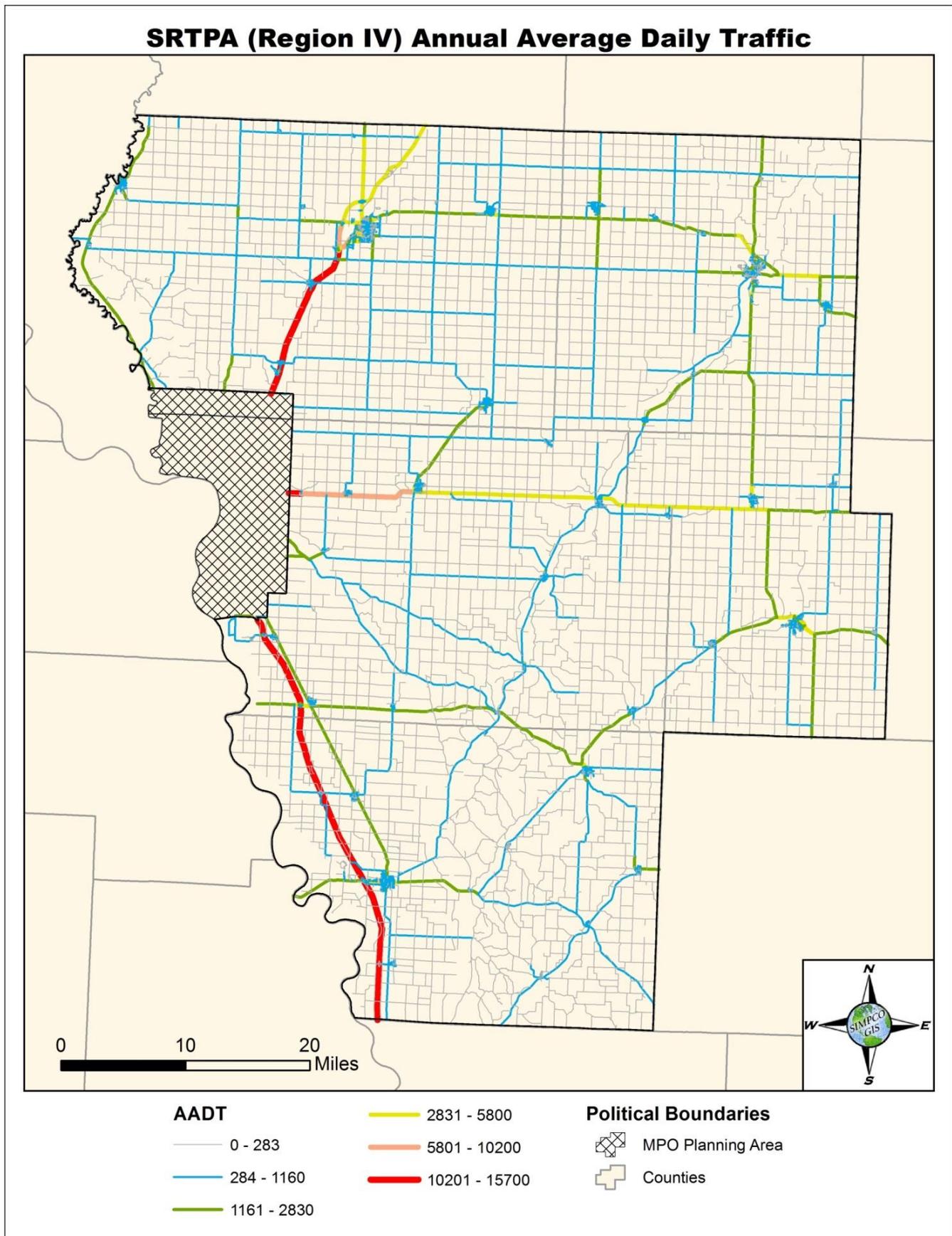
Table IV.1 shows the breakdown by classification while Maps IV.1 and IV.2 show the Federal Functional Classification and Annual Average Daily Traffic (based on 2012 data) with four lane facilities respectively.

Table IV.1 Classification Breakdown

Federal Functional Classification	Miles
Interstate	42
Other Principal Arterial	169
Minor Arterial	282
Collector	1638
Local	4273
Private	541
Total	6945
<i>National Highway System</i>	<i>116</i>

Source: Iowa DOT Office of Systems Planning 2012 FFC Classification

Map IV.2 Annual Average Daily Traffic (AADT)



In 2012, Region IV had approximately 70 miles of four-lane freeway or expressway type roads with 39 of those miles being Interstate 29 in the southwest section of the region. Interstate 29 serves as principal north – south route through the area connecting Sioux City with Sioux Falls SD, Fargo ND and Winnipeg MB, CA to the north and Council Bluffs, IA, Omaha, NE, Kansas City, MO and points to the south. Four lane expressway sections run along US Highways 75 and 20 as well as Iowa Highway 60. Then there is a two lane, US highway 59, runs north – south from Laredo, Texas up to Landcaster, Minnesota.

US Highway 75 runs north – south through the area roughly paralleling I-29 but servicing the more populated Iowa towns such as Le Mars and Sioux Center versus Jefferson, Elk Point and Beresford, SD on its way north to Minnesota and Manitoba. Southwards, it passes through Sioux City towards Omaha and the South.

Iowa Highway 60 serves the very important role of connecting the recreational area around the Iowa Great Lakes region and southwestern Minnesota to the Sioux City area and points southwest. It runs from Le Mars northward to I-90 in Minnesota further continuing as Minnesota 60 towards the Twin Cities region.

US Highway 20, the longest road in the United States runs coast to coast from Boston, MA to Newport, OR. In Region IV it is a principal east – west arterial roadway linking the main communities and also serves as the principal thoroughfare to north central and eastern Iowa from the region.

US Highway 59 runs north – south through Cherokee and Ida Counties in Region IV. Before US Highway 59 held its current path from Laredo, Texas to Landcaster, Minnesota, it started in Port Arthur, Texas and used to end in Pembina, North Dakota.

Other state and US Highways like Iowa Highways 3, 12, 31, 37, 140, 141, 143, 175, and 183 primarily service the intra-regional traffic and as access to the inter regional facilities mentioned above.

Traffic counts range from approximately 2,000 to 15,500 AADT on the main facilities. I-29, unsurprisingly has the highest volumes with rural sections of US 20 in eastern Ida County carrying some of the lower volumes. Some of the state highways have AADTs of less than 1,000. Starting with SAFETEA-LU and continuing through MAP-21, emphasis has been placed on preservation of the existing system. This is a challenge with many of the regional roadways and bridges in need of maintenance work like overlays, reshouldering, construction, etc.

Region IV is home to a significant amount of bridges due to the general Loess topography with numerous streams, creeks and rivers draining into the Missouri River. In fact Plymouth County has the most bridges in the state with Woodbury County not far behind. Table IV.2 indicates the number of bridges by owning jurisdiction.

Table IV.2 Bridges by County

County	State DOT	County	Municipal	Other/ RR
Cherokee	26	211	11	0
Ida	24	159	6	0
Monona	49	121	2	0
Plymouth	85	407	1	0
Woodbury	110	307	52	2
Region IV	294	1205	72	2

Not surprisingly, Woodbury County has the most municipal and Iowa DOT bridges due to the influence of the MPO including Sioux City and Sergeant Bluff in the total figures with their correspondingly greater number of roadways and interstate access points. Given the large number of bridges described and in many areas, relatively low volume traffic of less than 500 vehicles per day, timely maintenance of these bridges is proving to be a significant challenge.

B. Safety

In Region IV, like the other RPAs in Iowa and rural areas nationwide, have safety concerns primarily related to rural highway segments. Primary safety concerns include roadway profiles, roadway signage, especially at intersections and the increasing average age of motorists in the region. Generally, it is noted that the crashes on the rural high speed two lane segments tend to be more serious than the more frequent but lower severity incidents in and around the towns. This is dramatically illustrated by the difference in the number of crashes in Region IV versus

the MPO area where the ratio between fatal/major injury crashes and PDO (Property Damage Only)/minor injury crashes is significantly larger for Region IV indicating a proportionately higher incidence of serious crashes.

The Iowa DOT created a new Highway Safety Improvement Program (HSIP), whose job it is to reduce traffic fatalities and serious injuries on public roads. In 2010 it came out with a 5% most severe safety needs report, which describes no less than 5% of the state's highway locations that are exhibiting the most severe safety needs. The whole idea of this plan is to raise public awareness of highway safety needs and challenges. Iowa's safety needs fall into the categories of; single vehicles running off the road, vehicles crossing the centerline on two-lane highways, vehicles crossing the medians on freeways, horizontal curves, intersections, unbelted drivers and passengers, impaired drivers, and speeding. There are only seven instances where the region is affected by the 5% safety needs, a link of this map can be found in appendix C.

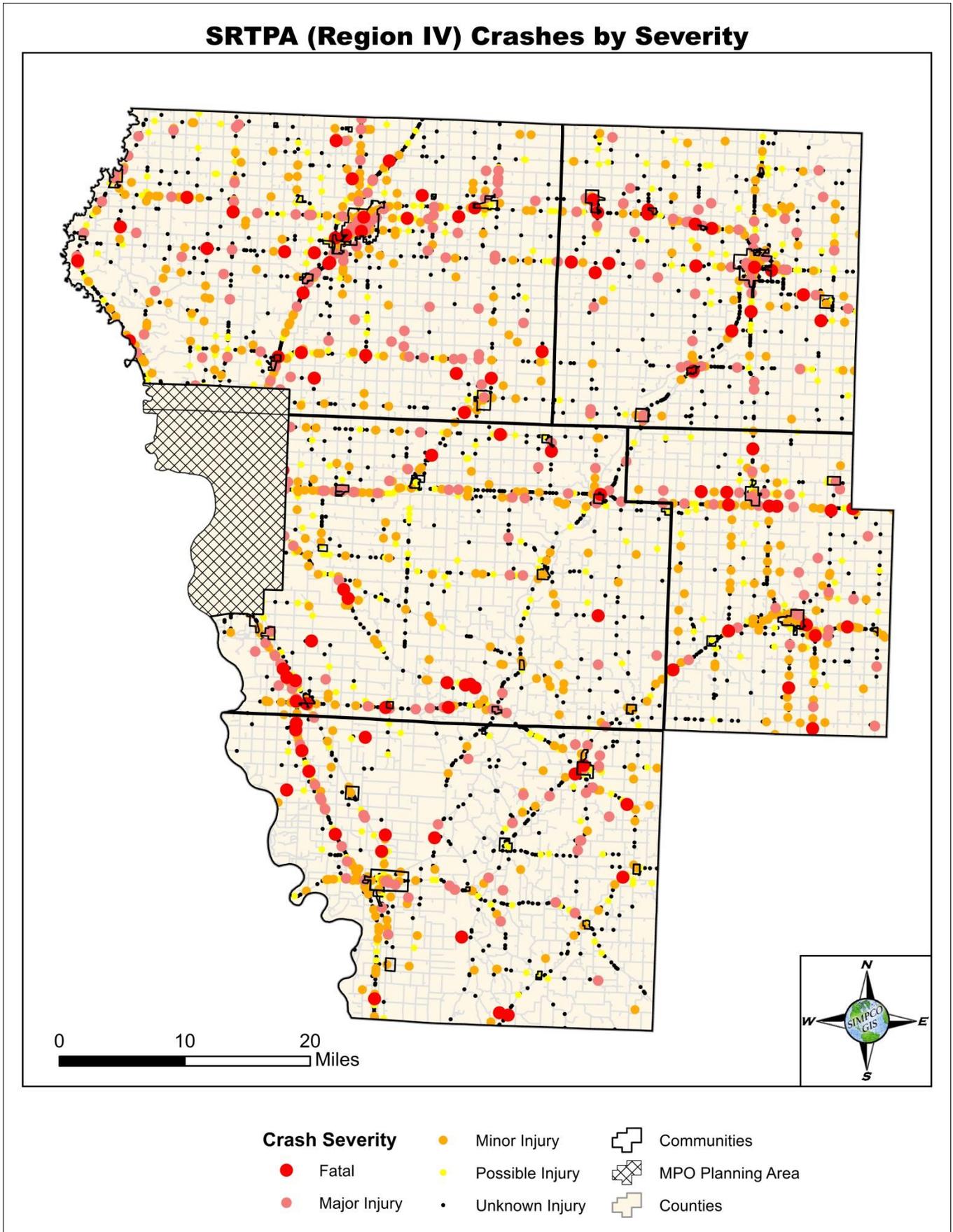
Table IV.3 below, shows the total crashes throughout the region for the period 2007 through 2012 minus the general MPO area. It can be clearly seen that the incidence of crashes is higher in the towns than the more rural areas. This again illustrates the tendency to have more frequent but lower severity crash occurrences in areas with higher traffic volumes, slower speeds and more potential traffic conflicts.

Table IV.3 Crashes by County and Crash Type in Region IV.

	Total	Fatal	Major	Minor	Possible/ Unknown	PDO	
2007	Cherokee	221	3	9	29	29	171
	Ida	113	2	2	27	23	79
	Monona	204	2	4	28	39	144
	Plymouth	349	12	29	62	72	228
	Woodbury	219	2	18	45	31	154
	Region IV	1106	21	62	191	194	776
2008	Cherokee	200	2	11	27	47	142
	Ida	146	7	3	28	23	105
	Monona	207	3	10	32	52	143
	Plymouth	386	3	18	46	69	250
	Woodbury	287	5	10	40	58	174
	Region IV	1215	18	49	140	221	787
2009	Cherokee	221	0	7	13	24	177
	Ida	101	1	5	5	22	68
	Monona	169	2	3	18	26	120
	Plymouth	345	2	17	68	69	239
	Woodbury	245	5	18	47	62	159
	Region IV	1081	10	50	151	203	763
2010	Cherokee	234	1	16	36	29	175
	Ida	167	1	11	34	19	127
	Monona	226	3	15	34	37	168
	Plymouth	368	5	21	51	61	270
	Woodbury	232	3	10	40	48	157
	Region IV	1227	13	73	195	194	897
2011	Cherokee	188	8	12	22	29	134
	Ida	150	2	4	23	19	112
	Monona	179	5	8	17	28	127
	Plymouth	349	2	12	83	79	233
	Woodbury	216	3	11	41	42	140
	Region IV	1082	20	47	186	197	746
2012	Cherokee	148	0	8	22	21	109
	Ida	118	4	7	25	20	82
	Monona	147	0	11	16	24	107
	Plymouth	261	5	16	51	45	173
	Woodbury	168	5	5	34	29	109
	Region IV	842	14	47	148	139	580

Source: Iowa DOT Office of Traffic and Safety

Map IV.3 Crashes by Severity (2007-2012)



C. Mobility

Region IV is fortunate to not have serious concerns regarding general mobility. Outside of localized safety issues along some highway alignments and intersections, there are no areas with low levels of service that would preclude mobility. There are projects however that can enhance the mobility of the region like the Highway 20 four-lane expansion. Travel times along the corridor of Highway 20 would be reduced and could potentially alter some travel patterns regionally and at the state level. A similar trend has occurred on Iowa Highway 60 though it must be stated that Highway 60 serves the more populated Plymouth, Sioux and Osceola County communities than does US 20 with its smaller towns within the region.

In general, travel times to work throughout Region IV are low with most work trips taking 25 minutes or less, especially in the more rural counties. Plymouth County and Woodbury County have the highest average commute times most likely a result of the larger commuting population headed into the Sioux City metro area and longer travel times, though not necessarily distances traveled within the cities themselves. The following tables illustrate 2000 and 2010 average travel time to work for each of the counties in Region IV. It must be noted that these figures also incorporate MPO travel and should be considered in the analysis which is why Woodbury County is shown in a separate table. It is important to note, due to changes in the 2010 Census, the 2010 data is based on a five year estimate of the American Community Survey.

Figure IV.1 Travel Time to Work in 2000

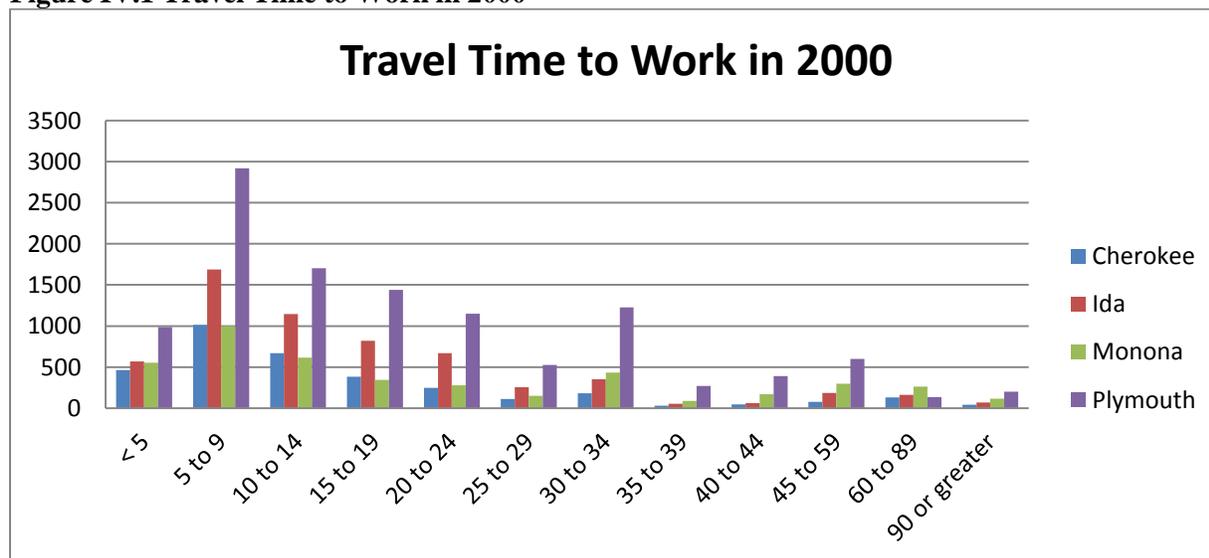


Figure IV.2 Travel Time to Work in 2010

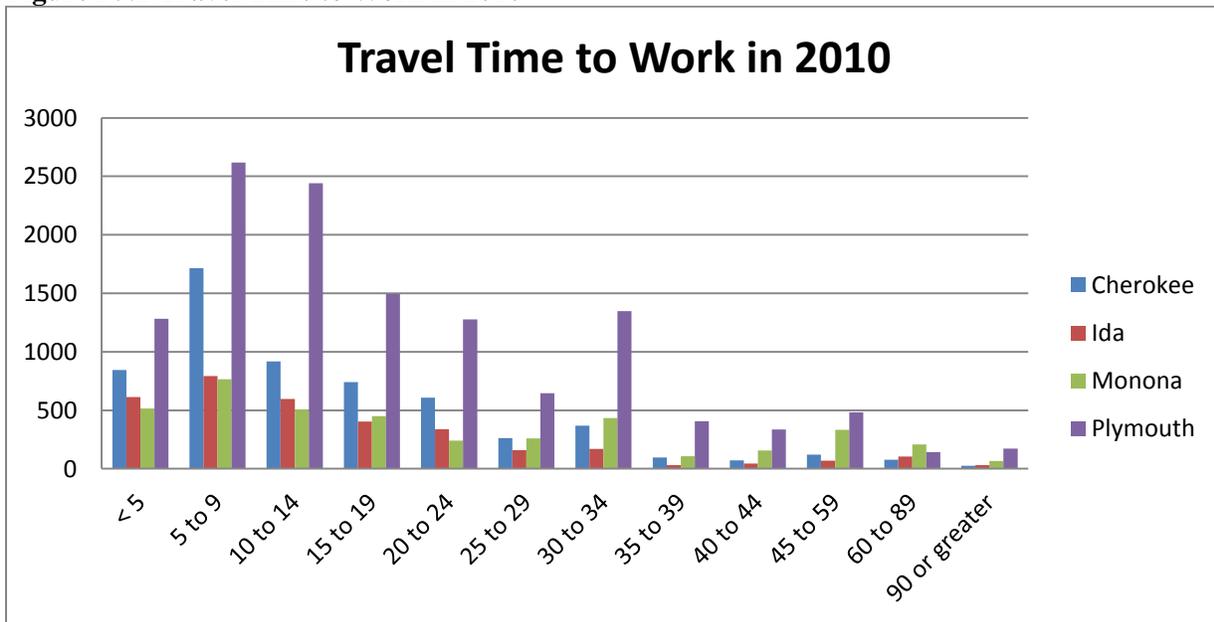
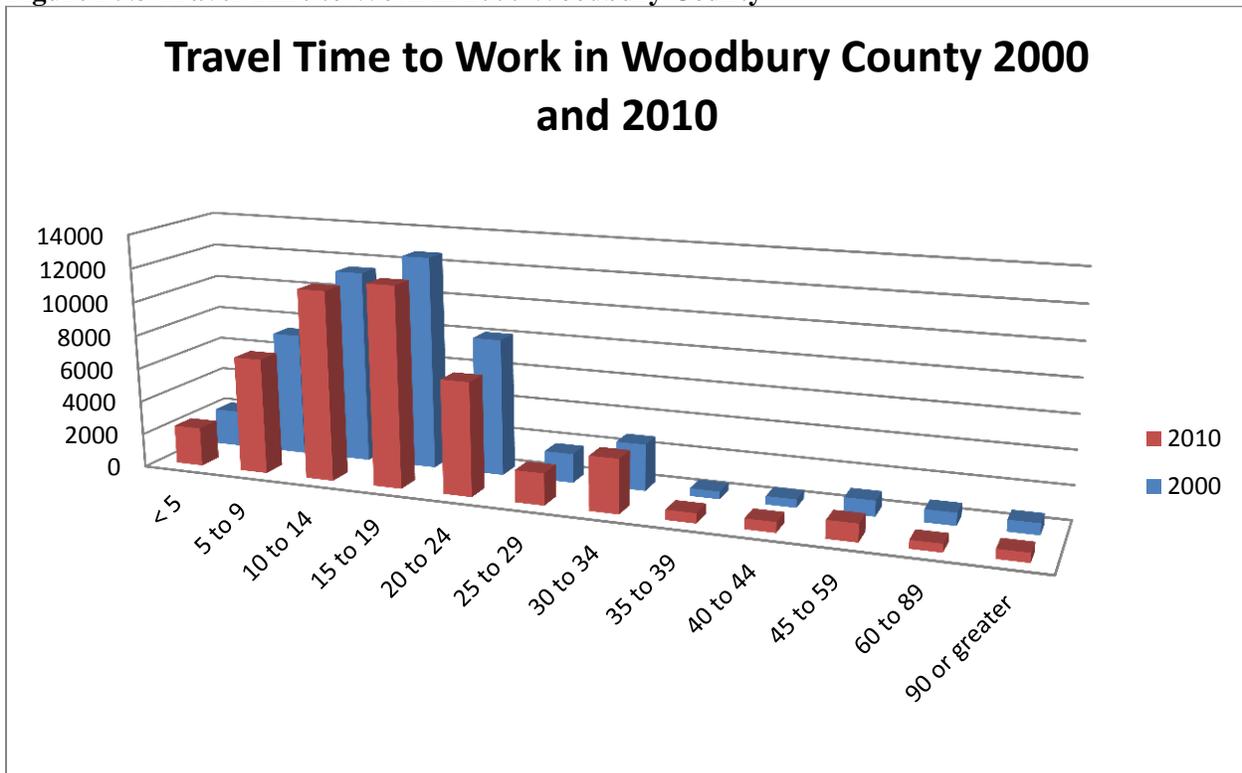


Figure IV.3 Travel Time to Work in 2000 Woodbury County



From the Figures, it can be seen that overall, travel time to work has increased moderately in all areas but is still less than the national average travel time which is 25.2 minutes according to the U.S. Census Bureau/American Community Survey.

D. Trucking

As is the case for the MPO, trucking is not directly under the planning jurisdiction of Region IV. Given the agricultural nature of the area, a significant percentage of the freight traffic on the roadways involves trucks distributing agricultural products. Examples include heavy farm trailers pulled by agricultural tractors delivering corn and soybeans harvested with combines to storage depots or grain elevators.

Regular road tractor trailer combinations are also heavily used to shuttle grain products and live animals such as cattle, hogs and poultry to processing centers in nearby towns and cities. The Well's Dairy processing plant is located in Le Mars and is a significant source of trucks utilizing Region IV's roadways. Generally, raw material like milk solids, milk etc. is brought in via train and truck and the output products are trucked out to destinations nationally and internationally. Other entities like heavy equipment manufacturers making asphalt paving equipment, trailers, etc. are also well represented and are significant users of the road network shipping their products primarily by flatbed.

Warehousing and distribution activity is well represented in the region with major companies like Hy-Vee for example having a distribution center in Cherokee and shipping varied products in and out over the regional road network. Examples of items shipped include processed foods, vegetables, processed and cut meat and other general grocery products.

Long distance through truck transportation poses additional demands on Region IV's roadways. As mentioned above, I-29 serves the region and is a major corridor for NAFTA traffic from Mexico and the Southeast, to central and western Canada. This traffic is anticipated to grow, particularly with the rise of Alberta as a significant energy and manufacturing center. Truck traffic from Minnesota to the Southwest and Mexico also places heavy demands, particularly along the Iowa Highway 60 corridor.

E. Airports

Region IV is home to no Commercial Service Airport, i.e. airports that support at least minimal scheduled air service and the full range of general aviation aircraft and their corresponding

destinations including possibly international. However, the region is served by the Sioux Gateway Airport – Colonel Bud-Day Field in the SIMPCO MPO area. Details of that airport can be found in the MPO Year 2035 Long Range Transportation Plan. The region does however have some important general aviation airports located in the towns of Le Mars, Cherokee, Ida Grove, Onawa and Mapleton. These airports, particularly Le Mars see important business traffic and even accommodate small business jets on a regular basis.

The airports classified as Basic Service primarily serve light general aviation aircraft including single engine 4 - 8 seaters and generally only have aviation gasoline (100LL) available if fuel is available at all. They generally have limited landing aids and navigational facilities with a rotating beacon in many cases being the extent of navigational facilities.

Airports classified as General Service serve heavier general aviation aircraft including multi – engine turboprop and even small jets. Hence, in addition to (100LL) aviation gasoline, they also have Jet A kerosene fuel that is required by turbine engines. Navigational aids are sometimes more elaborated than is the case for basic service with some incorporating basic towers.

Table IV.4 General characteristics of the five main airports in the Region IV.

City	Airport	Type	Runway Length	Fuel Availability
Cherokee	Cherokee Municipal	General Service	3801 paved; 2645 turf	100LL Jet A
Ida Grove	Ida Grove Municipal	Basic Service	3,172	100LL
Le Mars	Le Mars Municipal	General Service	4,600	100LL Jet A
Mapleton	James G. Whiting Memorial Field, Mapleton	Basic Service with plans for General Service	2,801	100LL
Onawa	Onawa Municipal	Basic Service	3,400	None

Source Iowa DOT Office of Aviation 2013

There is no cargo traffic of significance at any of the regional airports mentioned. Sioux Gateway Airport in Sioux City does have a minimal air cargo service provided as part of the commercial airline service to Chicago.

F. Trails

Within Region IV, there are a variety of trails primarily located within communities. They usually connect city and state parks to areas like aquatic centers and other sporting facilities and are primarily geared towards recreational uses. Exceptions to this general trend include the proposed Milwaukee Trail which would follow the right of way of the old Chicago, Milwaukee, St. Paul and Pacific Railroad which went defunct in the early eighties and the Lewis and Clark Multi-Use Trail along the Missouri River and the proposed Floyd River Valley Trail that would follow a majority of US 75 right-of-way with the option of utilizing a section of old abandoned rail line in the area.

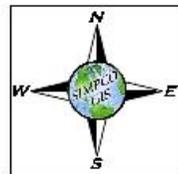
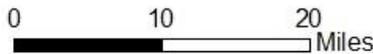
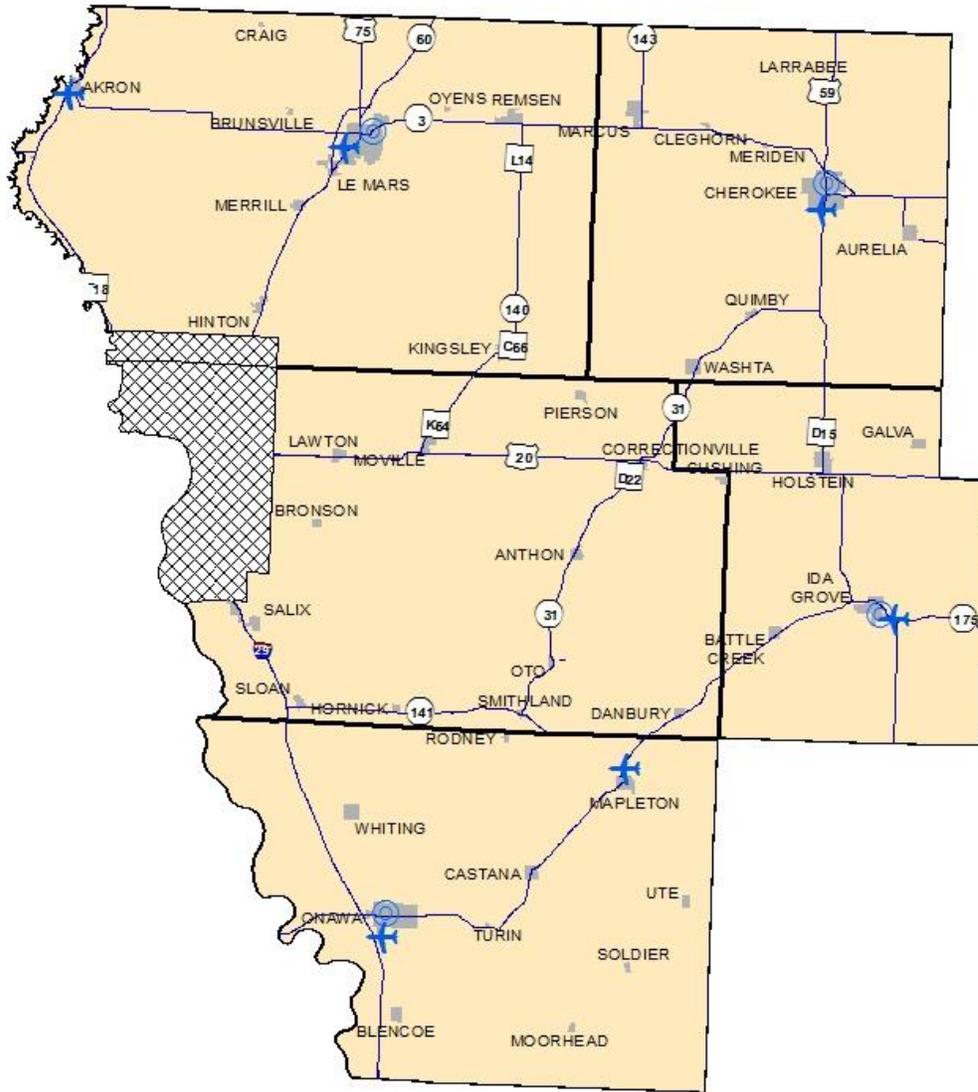
The Milwaukee Trail would run from the Sioux City environs southeast to the Woodbury County line. It may be possible for it to continue further south into Monona County where right of way is still available. The Lewis and Clark Multi-Use Trail is proposed to extend from its existing end location in south portion of the SIMPCO MPO and follow the Missouri River through Woodbury, Monona, Harrison, Pottawattamie, Mills and Fremont counties similar to the trail along the Mississippi in eastern Iowa. In 2013, landscape architecture students from Iowa State University developed a trails plan for Monona County. Students worked with the public and county officials in the development of the plan. The proposed trail plan for the county can be seen on Map IV.5.

Table IV.5 Region IV Trails

Town	Trail Name	Description	Length
Cherokee	Highway 59 Trail	Wescott Drive to Spring Lake Park	0.7
Cherokee	Spring Lake Trail	Trail connection to Gillette Park	
Cherokee	Cherokee Community Rail Trail	Trail from E Bluff Street to Jefferies Street utilizing an abandoned railway corridor	
Correctionville	Little Sioux Trail	Correctionville to Little Sioux Park via Little Sioux Valley and abandoned RR	1.87
Hinton	Hinton Trail	Around Hinton	0.5
Holstein	Holstein Community Walking/Biking Trail	Through Holstein	
Ida Grove	Pleasant Valley Trail	Around Ida Grove and up to Moorehead Park	5.1
Ida Grove	West Access	Trail access into Ida Grove from the west	
Kingsley	Kingsley Trail	Around Kingsley	3.1
Le Mars	Le Mars Municipal Park Golf Course	Municipal Park Loop	Over 3 miles
Le Mars	Recreation Trail Connectors	Trail along Hwy 3 right of way	
Moville	Moville Trail	Arlington Cemetery to County Fairgrounds	1.09
Onawa	K42/ Cherry Ave. Trail	County Museum Complex to Lewis and Clarke State Park	6.5
Remsen	Sunrise Park Trail		1
	Milwaukee Trail	MPO Boundary to Woodbury County Line (Planned trail along C M ST&P right of way)	26
	Floyd River Valley Trail	MPO Boundary to City of Le Mars (along US 75 right of way and section of abandoned rail line)	29

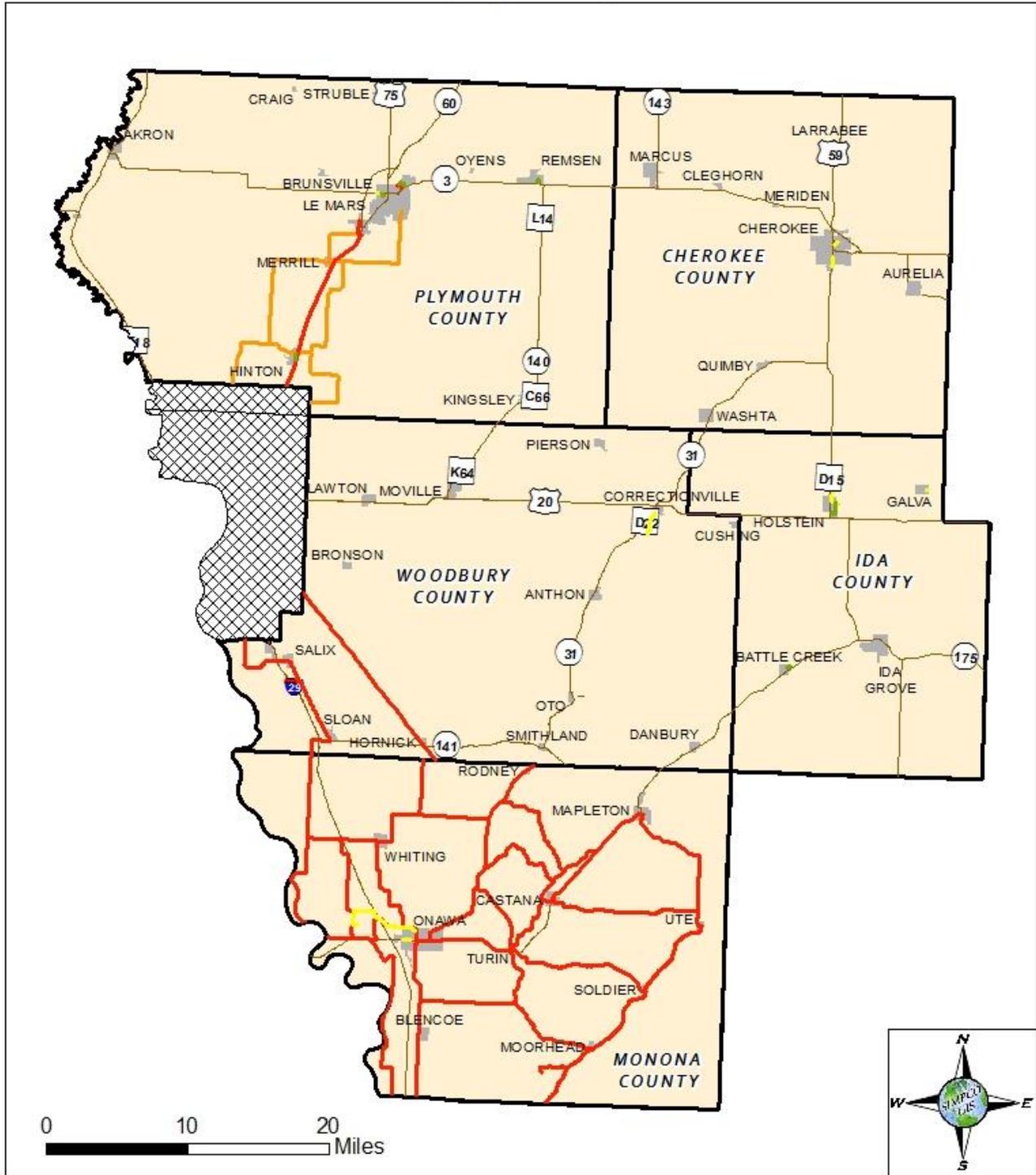
Map IV.4 Airports

SRTPA (Region IV) Airports and Heliports



- Airports
- Heliports
- Communities
- MPO Planning Area

SRTPA (Region IV) Trails



Trails

- Status Unknown
- Existing Trail

- Programmed Trail
- Proposed Shared Roadway
- Proposed Trail

- Communities
- MPO Planning Area

G. Barge – Waterborne Transport

Although the Missouri River forming the western boundary of Region IV is navigable North to Sioux City in adequate water level years, there are no barge loading facilities of note outside the general SIMPCO MPO area that fall within Region IV's boundaries. Some agricultural freight from the region is likely shipped out of Omaha where the water levels are higher thanks to additional water input from rivers like the Platte and Boyer. Primary products transported include bulk commodities like corn, soybeans and aggregate materials. Many of the products end up as far south as New Orleans, LA where they are transshipped to maritime international vessels for export.

Currently CF Industries, a global leader in nitrogen fertilizer manufacturing, is undergoing an expansion, which started in 2012. This expansion includes using the Missouri River as a means of transportation to ship their super loads, which weigh in at around 500 tons. By using the river as a highway they are able to ship many materials in a timely and cost-effective manner. Even though this is only temporary, it sets up the idea of using barges to transport materials and supplies in the future.

The U.S. Department of Transportation Maritime Administration (MARAD) has recently designated two marine highways. This included the M-29 Marine Highway Connector, which connects Kansas City, Missouri to Sioux City, Iowa. The idea behind M-29 is that it is a designated connector route for transporting cargo on water, while also reducing pollution and congestion on roads. With M-29 and the CF industry super loads, it sets up a precedent for other companies in the area to follow.

H. Rail

Region IV is served by three Class 1 railroads and a smaller Class 3 in the northwestern corner of Plymouth County. North – south and east – west service in the area is provided by the Union Pacific Railroad and the BNSF (formerly Burlington Northern Santa Fe) Railway. The Chicago Central and Pacific, a wholly owned subsidiary of CN also services east – west traffic. Sioux City serves as the regional railroad center and all the companies mentioned have opportunities

for interchange there. The Dakota and Iowa Railroad controls the line servicing Akron, Westfield, Hawarden and Elk Point, SD and serves primarily as a conduit for interchange traffic (grains, ethanol, aggregate) with the BNSF Railway.

The CN controls approximately 80 miles of track in Region IV and connects Sioux City with Le Mars, Cherokee, Storm Lake, Fort Dodge, Dubuque and Chicago IL. From Chicago, connections to the north, east and south are possible.

The Union Pacific has approximately 50 miles of track on a primarily north – south line with Sioux City as the focus. It connects the Twin Cities area of Minneapolis/St. Paul with the Council Bluffs/Omaha area from which connections can be made to Chicago, the West Coast and the South. Between Le Mars and Sioux City, it uses CN trackage rights.

The BNSF has the least amount of Region IV trackage at approximately 23 miles; though it must be mentioned that just across the state lines in South Dakota and Nebraska, it operates considerable trackage that affects Region IV. Their main line through Region IV connects the Canadian prairies via Sioux Falls/Western Minnesota, Fargo and Grand Forks with Omaha, NE; Lincoln, NE; Denver, CO; and points to the east, west and south.

The primary originating traffic in Region IV consists of grain which is shipped in many cases to barge transload terminals outside of the region, particularly on the Mississippi River or to food processing concerns. Grain products like ethanol, which is shipped to national markets, also represent a growing commodity. Destination traffic includes coal, dairy farm products, edible oils, industrial chemicals, aggregate materials and general merchandise. Intermodal traffic is not a factor in Region IV rail operations as the area lies at least 50 miles from the nearest mainlines that connect with Pacific ports and no transloading terminal facilities are located in the area.

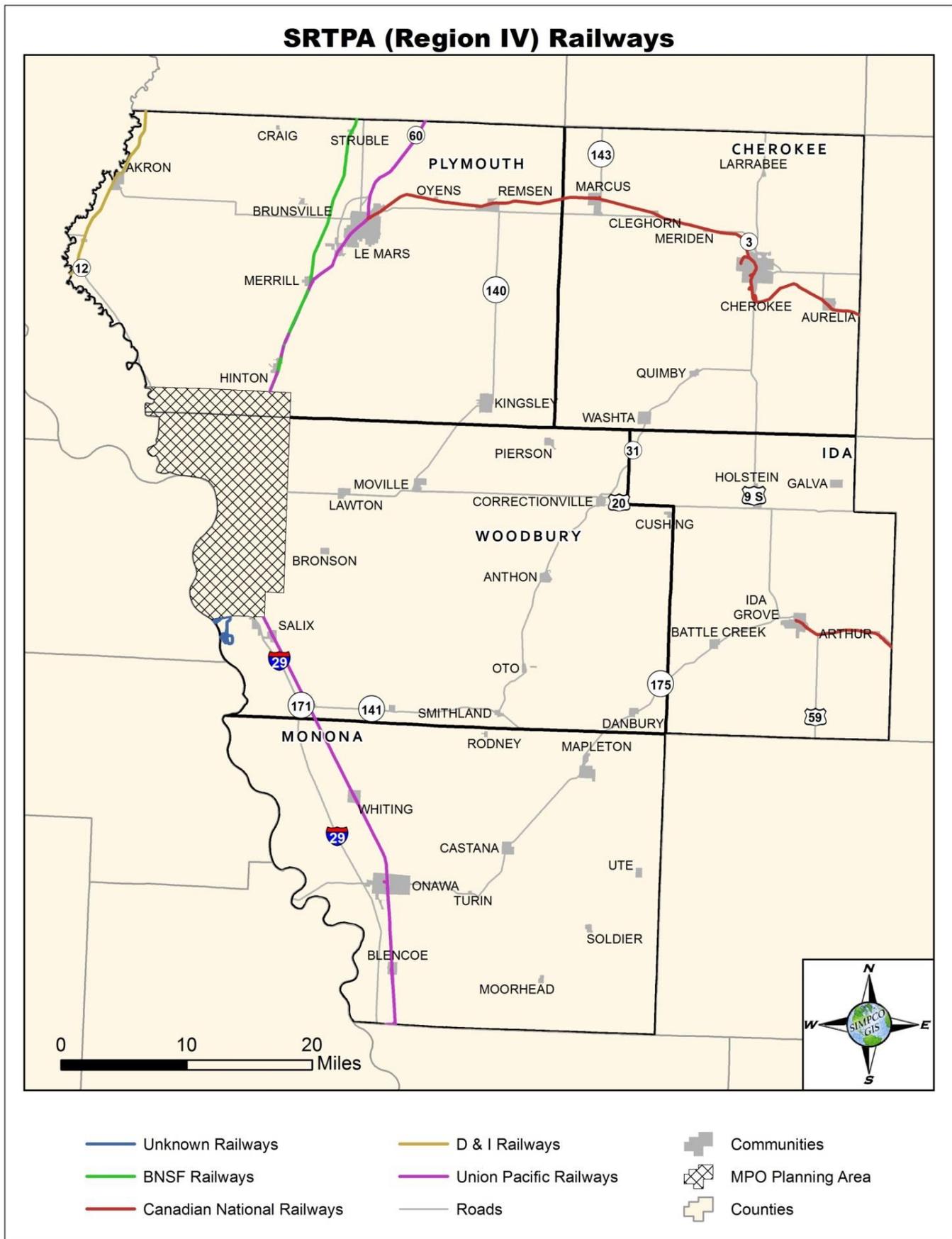
1. Passenger Rail Service

As is the case for the MPO, there is no passenger rail service of any kind in Region IV. Although not listed in the Iowa DOT's Passenger Rail Vision Plan, the most likely candidate future route, if national priorities and socioeconomics change would be a north – south route from Sioux

Falls, through the Sioux City metro and via towns like Onawa in Monona County to Council Bluffs/Omaha and onwards to Kansas City, MO. The vision plan does identify an east-west link to the Sioux City area from Chicago through the towns of Dubuque, Waterloo, and Fort Dodge as a route for a future study. The Iowa DOT hosts a Passenger Rail Advisory Committee that discusses plans to develop passenger rail service across the state of Iowa. Currently, the planning is focused on eastern Iowa and developing a link with Chicago. Plans to provide a link to the Region IV area would not be seen for several years.

Map IV.6 illustrates the rail traffic density and timetables speeds in Region IV. The timetabled speeds give a generalized approximation of track condition along each line segment. As can be seen, the lines in Region IV are not high density/high speed and usually employ single track alignments with passing sidings particularly near towns with grain elevators.

Map IV.6 Railroad Network



I. Public Transit

Being an RPA region, and the consequent rural nature of development public transit does not play a significant role. However while the region does not have a large amount of public transit ridership, it is still very significant to those who rely upon it. The Siouxland Regional Transit System, a demand responsive transit system focused around the main towns in the region like Le Mars, Cherokee and Ida Grove does however serve the area. It operates a fleet of light duty paratransit buses that serve primarily to shuttle persons to medical appointments, school, etc. Inter county travel is commonly undertaken and fare rates vary depending on subsidizing entities contributions and miles transported.

Fares are \$4.00 for curb-to-curb service (one-way trip) and \$7.00 door-to-door in all five counties within city limits with the exception of Le Mars. In Le Mars fares are \$3.50 for curb-to-curb and \$6.00 door-to-door service per one way trip. Outside of city limits curb-to-curb is \$4.00 plus \$0.50 per mile per one-way trip. Door-to-door is \$7.00 plus \$0.50 per mile per one way trip. Service is provided during the weekdays and on Saturdays from 5:30 am to 7:00 pm.

The clientele for the regional transit system is mainly the elderly, disabled and low income but is always open to the general public as well. A lot of the remainder consist of special needs individuals and groups that otherwise have a difficult time finding required transportation.

Table IV.6 illustrates the ridership, miles, hours of operation and number of vehicles of the transit system between the years 2009 and 2013

Table IV.6 Ridership, Miles, Hours and Vehicles for SRTS

	Ridership	Miles	Hours	Vehicles
2009	143,854	655,448	42,764	49
2010	132,531	648,363	40,958	49
2011	133,545	628,814	40,543	49
2012	125,428	554,138	37,496	49
2013	133,089	632,815	37,239	49

II. Summary

Region IV like every area has positive and negative aspects of the transportation system. Based on the descriptions illustrated earlier, the following points describe the state of the system from a long range planning point of view.

Strengths

- ◆ The region has a high mileage of major four lane roads, many of which are new and/or in good condition.
- ◆ The region has good rail capacity with expansion and upgrade (higher speeds for example) being feasible at moderate cost.
- ◆ The region has adequate well placed general service airports and good proximity to commercial service via Sioux Gateway (Sioux City), Eppley (Omaha) and Joe Foss. (Sioux Falls)
- ◆ The region has decent access to water borne transport should water levels facilitate such commerce.

Weaknesses

- ◆ The region has a lot of bridges, many in need of replacement or rehabilitation.
- ◆ The region has a lot of low volume county roads and state roads many in need of rehabilitation.
- ◆ The trail system is extensive within towns but connectivity could be improved.
- ◆ While excelling in north – south connectivity via nice four lane facilities, excellent east – west connectivity is less well developed. (Most trade in Iowa and the United States in general moves east – west)

The aim of this plan ultimately is to address the negatives while maintaining or building on the positive aspects of the existing transportation system.