



RPA-18 2040 LONG RANGE TRANSPORTATION PLAN

OMAHA-COUNCIL BLUFFS METROPOLITAN AREA PLANNING AGENCY (MAPA)
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1 | Introduction

Transportation is the connection and movement of people, goods and services throughout an area. These functions often dictate the livelihood and vitality of a city or region. The types of functions that are performed, coupled with quality of the life can be determined solely upon the movements and capabilities of its transportation network. Coordination of these transportation networks and systems is paramount in ensuring adequate connections, efficient movement, and a vibrant society.

The transportation system of the Regional Planning Affiliation 18 (RPA-18) region provides interconnectivity among people and places within this four county region to resources and destinations beyond. This connectivity provides personal access to commercial centers, major employment centers, health services and other services found in larger metro areas- most notably Omaha and Council Bluffs. Economically, this robust transportation network provides access to agricultural markets from Iowa to places around the world, provides pivotal shipping and freight access for industrial functions, and serves as a catalyst for overall growth and development in the region.

This network also includes roads, trails, transit and numerous freight opportunities (water, rail, air) which allow people and goods to move freely through the region. This plan seeks to build upon this network while establishing clear expectations about the costs of maintaining the existing system.

1.1 | About RPA-18

The Regional Planning Affiliation - Region 18 (RPA-18) is chartered by the Iowa Department of Transportation for the purposes of transportation planning. RPA-18 consists of local governments (cities and counties) in Harrison, Mills, Pottawattamie, and Shelby counties in southwest Iowa. RPA-18 exists to establish a cooperative, continuous and comprehensive planning process to prioritize the use of transportation funds sub-allocated to the region by the Iowa Department of Transportation. A breakdown of the responsibilities of key partners involved in RPA-18 are included in the section that follows.

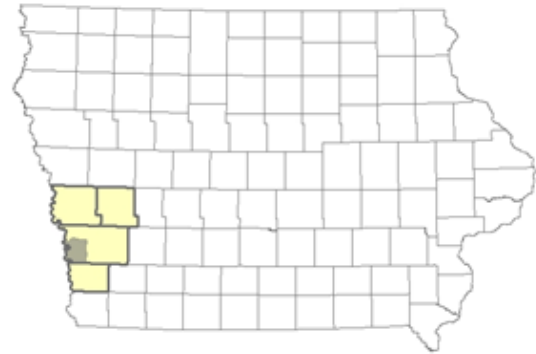


FIGURE 1.1: MAP OF RPA-18 REGION

RPA-18 Policy Board

The Policy Board guides and sets policy of the local transportation planning affiliation on matters necessary to comply with state and federal legislation. It annually adopts a four-0year Transportation Improvement Program (TIP), Transportation Planning Work Program (TPWP) and Passenger Transportation Development Plan (PTP). The Policy Board periodically adopts a Long Range Transportation Plan (LRTP) and Public Participation Plan (PPP) in accordance with Federal and state transportation planning guidelines. The Policy Board also has the power to conduct comprehensive transportation studies and master plans to address transportation needs and support the growth and development of the region. The Policy Board allocates federal-aid funds to eligible projects within its service area.

Charles Parkhurst, Chair	Supervisor, Shelby County
Robert Smith	Supervisor, Harrison County
Gene Gettys	City Administrator, City of Harlan
Richard Crouch	Supervisor, Mills County
Justin Schultz	Supervisor, Pottawattamie County
Ron Kohn	Mayor, Glenwood

RPA-18 Technical Committee Members

The Technical Committee is directly responsible to the Policy Board for the initiation, review, and recommendations of transportation related activities.

John Rasmussen	County Engineer, Pottawattamie County
John McCurdy	Executive Director – SWIPCO
Perry Cook	Public Works Director, City of Glenwood
Gene Gettys	City Administrator, City of Harlan
Steven Struble	County Engineer, Harrison County
Cory Gaston	County Engineer, Mills County
Brandon Burmeister	County Engineer, Shelby County

Iowa Department of Transportation

The Iowa Department of Transportation provides technical assistance and guidance for the work carried out by RPA-18 and oversees the development of this Long Range Transportation Plan.

Metropolitan Area Planning Agency

RPA-18 is administered by the Metropolitan Area Planning Agency (MAPA) which also serves as the Metropolitan Planning Organization (MPO) for the Omaha-Council Bluffs Metropolitan Area, and the Council of Governments for six counties surrounding Omaha, Nebraska including Washington, Douglas, Sarpy and Cass Counties in Nebraska; Pottawattamie and Mills Counties in Iowa. MAPA is the coordinating body responsible for facilitating the RPA-18 transportation planning process, developing documents and leading public engagement. MAPA works with the MAPA Policy and Technical Committees to fulfill the transportation planning and program requirements of federal legislation, such as the FAST Act. The Metropolitan Area Planning Agency (MAPA) provides professional staff for development and maintenance of RPA-18 planning and programming responsibilities including the development of this LRTP. Key staff involved in RPA-18 are listed below.

Greg Youell, Executive Director

Mike Helgerson, Transportation & Data Manager

Travis Halm, Transportation Planner

James Boerner, Transportation Planner

Jodi Woolery, Graphics Specialist

1.2 | Other Plans Coordinated with the LRTP

Transportation and economic development are often planned separately, while the effects of their successes are often in tandem. Transportation networks are created, modified, and maintained to account for the movement of people in an area, and the economic development of an area strongly dictates that movement (and vice-versa).

Comprehensive Economic Development Strategy (CEDS)

A Comprehensive Economic Development Strategy (CEDS) is a strategy-driven plan for regional economic development. It is a result of a regionally owned planning process designed to build capacity and guide the economic success and resiliency of the entire six-county MAPA region. The CEDS provides a mechanism for individuals, organizations, local governments, institutes of learning, and private industry to engage in a meaningful conversation and debate about what capacity building efforts would best serve economic development in the region. An EDD acts as the link between EDA and the local governments and economic development organizations that make up a particular region. The MAPA EDD - via the CEDS - works to identify, prioritize and communicate to EDA locally driven projects of regional significance. The CEDS and LRTP both have similar goals, and therefore can work together well to improve the MAPA region in this planning effort through the next 20-30 years.

MAPA 2050 Long Range Transportation Plan (LRTP)

The MAPA 2050 LRTP is designed to create a vision to guide future infrastructure projects towards building a safe, efficient transportation system to meet the region's current and future needs. Building on the deep performance-based planning process developed as part of the Metro Travel Improvement Study (MTIS) and the unique engagement opportunities facilitated through ConnectGO, the 2050 LRTP will reflect a major shift in the policy recommendations regarding transportation investment and land use policy. While this plan focuses on investment in the MAPA



In 2019, the Greater Omaha Chamber of Commerce and MAPA announced the ConnectGO planning initiative which combines economic development initiatives related to job and talent retention with transportation options which enhance the competitiveness of the Greater Omaha area. ConnectGO is an intentional, community-wide dialogue about how community, opportunity and quality of life will intersect. It's a bold initiative uniting the people and businesses of Greater Omaha around shared goals for our region by focusing on equitable, accessible, and modern transportation. While focused on the MPO planning area, engagement of the Greater Omaha Chamber Partnership in the process has engaged community leaders in three RPA-18 counties.

TMA (Douglas, Sarpy and urban Pottawattamie county), many of the same issues and stakeholders participate in both the MPO and RPA-18 plan.

1.3 | Public & Stakeholder Involvement

Beginning in 2016 MAPA began engaging residents and stakeholders in the update to the MPO and RPA-18 Long Range Transportation Plan. At this time MAPA anticipated a joint LRTP that would encompass the eight counties included the Heartland 2050 Regional Vision. While the MPO and RPA-18 LRTP processes diverged, these early engagement opportunities helped formulate the goals for both plans through some participatory engagement techniques. Participants were asked to help prioritize goal statements and conduct a budgeting activity with “chips” that represented 10% of the available funding. Online surveys were also key in outreach to rural communities with the RPA with nearly 100 such surveys received in addition to the in-person comments and feedback.

Harrison	3/29/2016	Pottawattamie	03/08/2016
Mills	03/16/2016		

In 2019, MAPA staff presented draft LRTP materials to the Boards of Supervisors in all four RPA-18 counties, in addition to the City Councils of the region’s three largest cities– Glenwood, Harlan, and Missouri Valley. These public forums were presentations and discussions of the regional transportation planning process, the purpose of the LRTP, and an opportunity to discuss any local transportation issues.

Harrison	08/29/2019	Glenwood	08/27/2019
Mills	08/27/2019	Harlan	09/17/2019
Pottawattamie	09/03/2019	Missouri Valley	09/03/2019
Shelby	08/20/2019		

1.4 | 2040 Long Range Transportation Plan Goals

The goals developed by the Policy & Technical Committees for this plan reflect the priorities of both the public and community leaders engaged during the planning process. The table below organizes the goals in a general category in addition to the full goal statement. These categories are listed at the beginning of each of the chapters to illustrate the alignment of the plan’s content with these goals and

Preservation	Prioritize maintenance of existing transportation assets– including roadways, bridges, trails and transit vehicles
Safety	Support investments in projects and programs that enhance the safety of the transportation system
Economic	Invest in transportation facilities that promote economic development and support the safe and efficient movement of goods
Environment	Develop a transportation system that balances investment in all modes and protects the environment
Transportation Options	Promote opportunities to enhance the connectivity between modes and the transportation choices available to residents in the RPA-18 region
Land Use & Growth	Maintain and invest in a transportation system that supports coordinated, compact development in communities



1.5 | Federal Guidelines

The LRTP process is guided by a set of guidelines found in 23 U.S.C 135 (d)(1). In general, each state shall carry out statewide transportation planning processes which provide for consideration and implementation of projects, strategies and services which:

1. Support the economic vitality of the United States, the States, nonmetropolitan areas, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and nonmotorized users
3. Increase the security of the transportation system for motorized and nonmotorized users
4. Increase the accessibility and mobility of people and freight
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
6. Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

Role of the LRTP in the Planning Process

The LRTP plays an important role in outlining the existing status and future needs of an area's transportation system. It helps set the direction of planning efforts and programming investments for the MPO or RPA. The development process for the LRTP enables the planning agency to evaluate demographic, economic, passenger, and freight forecasts for the area to understand how anticipated growth or decline will interact with expected land use to impact the demands on the transportation system. The LRTP planning process and document also serve as a forum for documenting existing or potential shifts in travel patterns or funding priorities. Stakeholder involvement and public input is critical during LRTP development, as it helps guide the priorities and projects that will be submitted for federal funding at the MPO/RPA level.

2 | Regional Profile (Land Use & Growth/ Environment)

2.1 | Socioeconomic Overview

The RPA-18 study area covers approximately 2,541 square miles in southwest Iowa. It consists of all of Harrison, Mills and Shelby counties and the non-urbanized area encompassing the eastern three-fourths of Pottawattamie County. The remaining urban portion of Pottawattamie County is served by the Metropolitan Planning Organization (MPO) representing the Omaha-Council Bluffs metropolitan area. Unless otherwise stated, all data and information related to the Pottawattamie portion of the RPA-18 is based solely on the RPA-18 section of the county and not the county total.

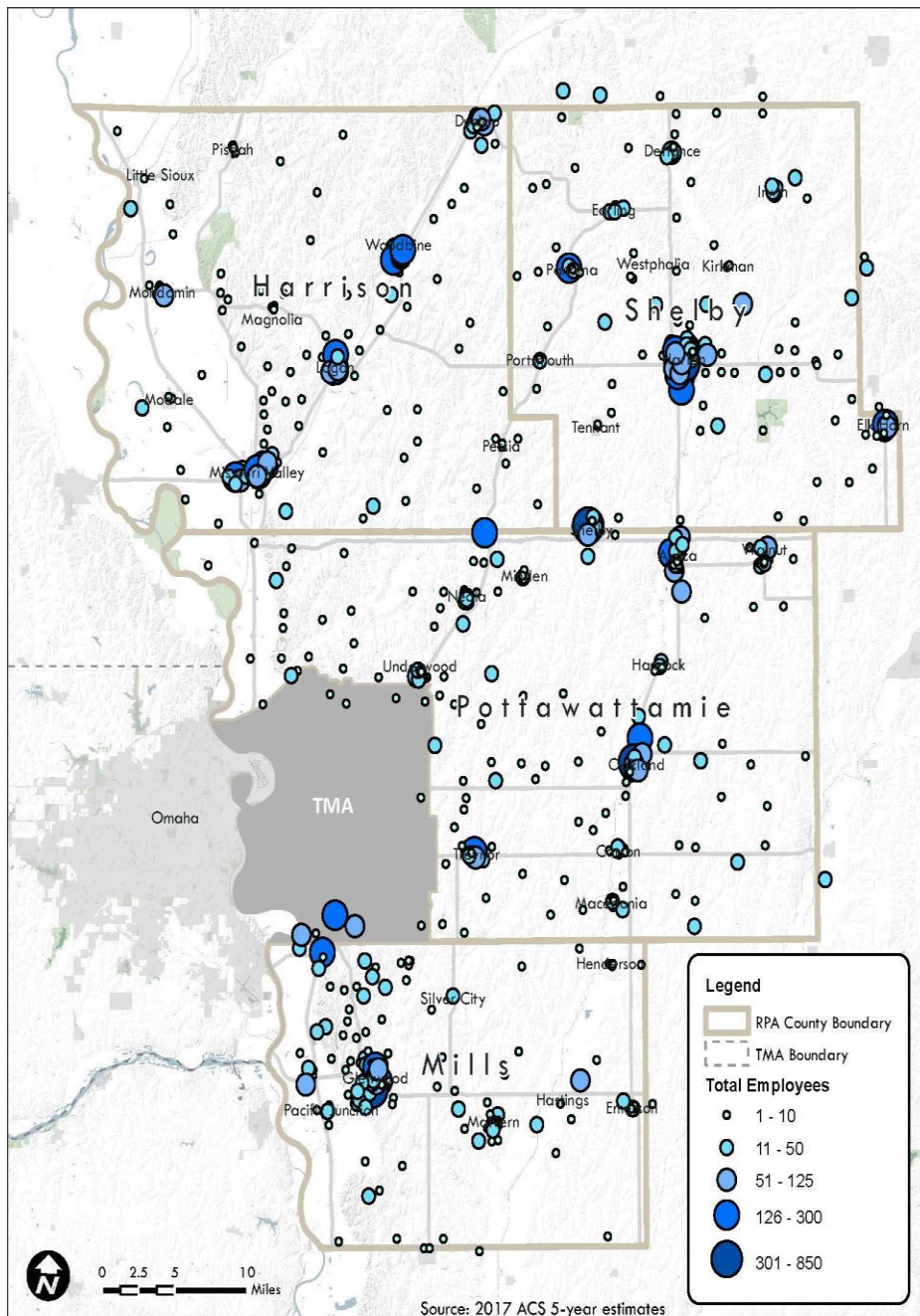
Informed decisions are made by first identifying measures of future transportation needs within a particular area. Current and projected socioeconomic indicators, as well as current inventories of transportation facilities, are used in this plan to establish the need and type of transportation improvements to be accomplished.

In major metropolitan areas, socioeconomic data is used to support transportation modeling efforts. Population, household and income data are often used to supplement the development and calibration of a transportation model. Transportation modeling is not currently available in the rural areas of Iowa and the RPA-18. As such, the socio-economic data supporting this LRTP is focused on demographic trends among its residents, changes in land use, and freight movement through and within the RPA-18.



Figure 2.1: Downtown Avoca has seen reinvestment in their downtown, including numerous streetscape improvements.

Map 2.1: Major Employment Centers in the RPA 18 region



Major Employers

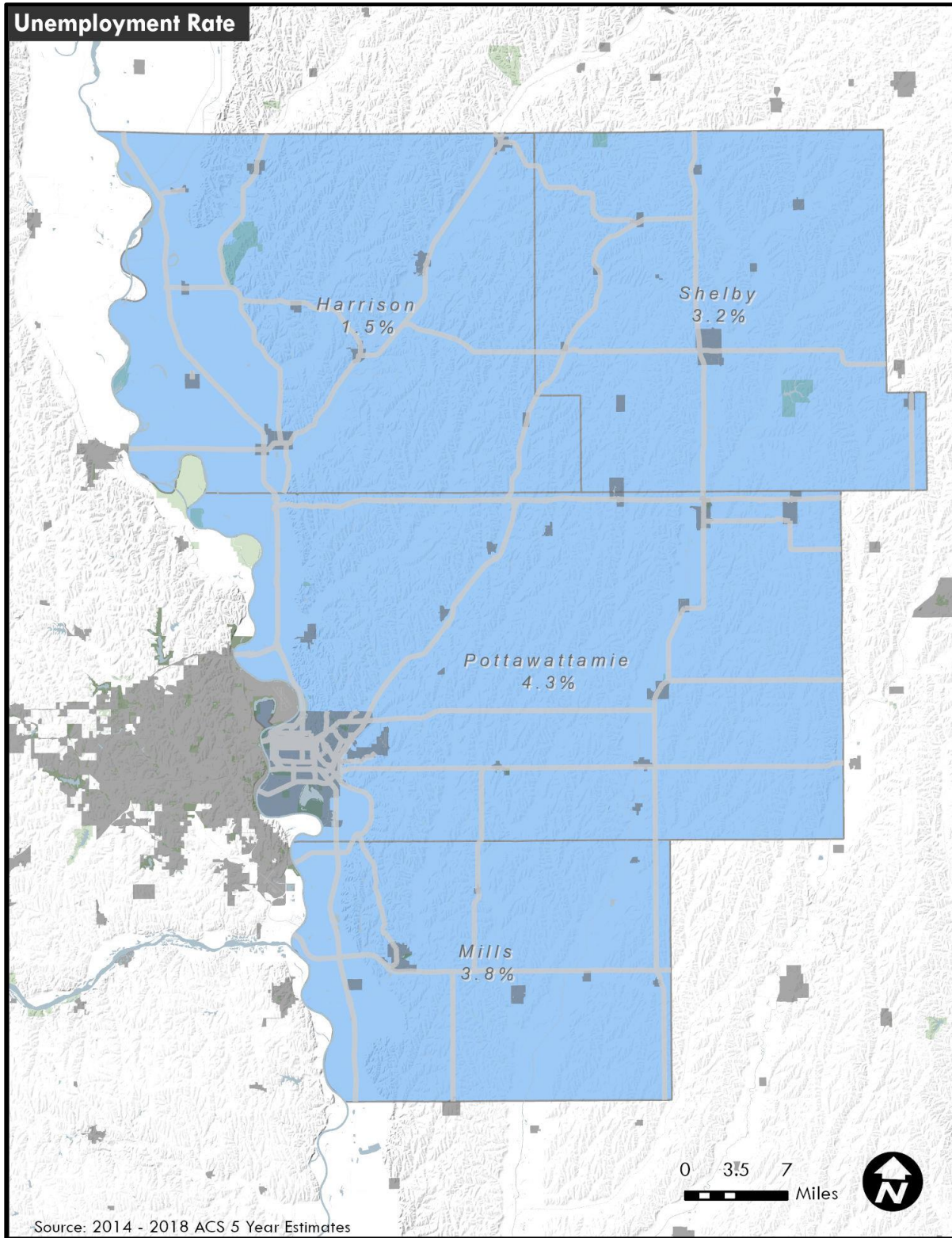
The most prevalent transportation-related trip is the daily commute to work. According to this data there are over 2,500 employers located within RPA-18 region. Major industries within the region include manufacturing, logistics, health service providers, and education. Most of the employment locations represented by these employers are located within cities and towns across the RPA-18 (74.1%) or within 1 miles of the city or town (80.2%). Ninety-eight percent of those employers are located on or within one mile of a federal aid-eligible roadway.

Sources of Employment by County

Educational and healthcare professions are the largest source of employment in the RPA-18 region. Manufacturing and agricultural professions, along with the transportation of these goods and products make up sizeable portions of the RPA-18 and regional economy. Numbers for Pottawattamie County include the MPO region of Council Bluffs, which is a direct source of many employers and employees within the surrounding RPA-18 region.

SOURCES OF EMPLOYMENT	Harrison	Mills	Pott	Shelby
Agriculture, forestry, fishing and hunting, and mining:	498	305	1,185	624
Agriculture, forestry, fishing and hunting	483	289	1,119	621
Mining, quarrying, and oil and gas extraction	15	16	66	3
Construction	715	530	3,556	484
Manufacturing	812	630	4,889	518
Wholesale trade	257	281	1,451	166
Retail trade	886	915	6,288	894
Transportation and warehousing, and utilities:	578	632	3,912	414
Transportation and warehousing	462	458	3,346	370
Utilities	116	174	566	44
Information	144	129	804	108
Finance and insurance, and real estate and rental and leasing:	506	444	3,612	412
Finance and insurance	439	329	3,091	396
Real estate and rental and leasing	67	115	521	16
Professional, scientific, management, and administrative	389	459	3,166	446
Professional, scientific, and technical services	280	244	1,707	260
Management of companies and enterprises	5	0	12	0
Administrative and support and waste management	104	215	1,447	186
Educational services, and health care and social assistance:	1,614	1,933	10,929	1,303
Educational services	481	596	3,940	446
Health care and social assistance	1,133	1,337	6,989	857
Arts, entertainment, and recreation, and accommodation and food services:	404	351	3,885	220
Arts, entertainment, and recreation	38	96	1,198	49
Accommodation and food services	366	255	2,687	171
Other services, except public administration	345	442	1,776	294
Public administration	199	424	1,773	123
Civilian employed population 16 years and over	7,347	7,475	47,226	6,006

Table 2.1: Sources of Employment in the RPA-18 Region



Map 2.2: Unemployment Rate in the RPA-18 Region

Land Use

The RPA-18 region is primarily agricultural in use, containing an estimated 40 cities and towns in the region. The larger cities of Harlan, Glenwood, Missouri Valley, and Logan are key drivers of economic opportunity in the region as economic and employment centers. The Omaha-Council Bluffs metropolitan area, adjacent to RPA-18 region in Nebraska and Iowa, offers many economic and employment opportunities to the residents of the RPA-18 region as well.

Farms in the RPA-18 region are generally agricultural, comprised of various non-contiguous parcels owned by fewer farmers and operated by fewer farmers who farm on a full-time basis. Crop yields have steadily increased precipitating the need for more and larger machinery to bring the crop to market. The increase in rural traffic volumes generated by scattered farm parcels and increased farming activity have put an ever increasing burden on the existing secondary road systems. If the present demand for cereal grains is sustained, the need for routine and long-term maintenance activities on the secondary roads system may increase dramatically.

Population and Households

The increase in the number of workers and the dispersal of work locations throughout the RPA-18 have generated more vehicle travel and thus more demand on the transportation system.

Population

The total population of RPA-18, as recorded by the 2015 American Community Survey at 72,225. In the 2010 Census, the population was counted at 68,680. This is less than a 1% decrease in population since 2000, despite the increase between 2010 and 2015, although it is a 4.0% overall increase since 1990. Historically, the RPA-18 region has fluctuated in population although growth patterns show it has produced a net loss of 10,342 residents (-13.1%) between 1940 and 2010.

MAPA projects a decrease in population in the RPA-18 region by 2030 based on the current -0.5% decline between 2000 and 2010. Figure 7 illustrates the shifting population of the RPA region in the recent past and through the LRTP planning period. Population increases in the RPA-18 region can be attributed to Mills and rural Pottawattamie counties, which benefit from their adjacency to the metropolitan area. As Council Bluffs continues to annex and develop land, the MPO boundary will expand with the increasing urbanized area within Pottawattamie County; this will reduce the size of the RPA-18 region over time. This growth is offset by larger losses in Shelby and Harrison counties. Figure 8 (next page) shows the population growth and decline of RPA-18 counties since 1950.

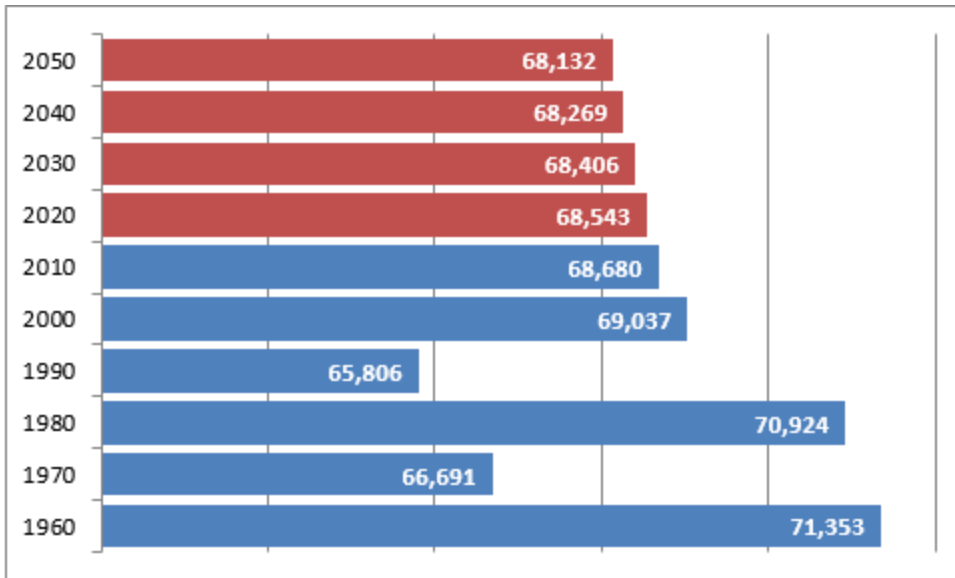


Chart 2.1: Population Estimates and Forecasts for the RPA-18 Region: 1960 to 2050

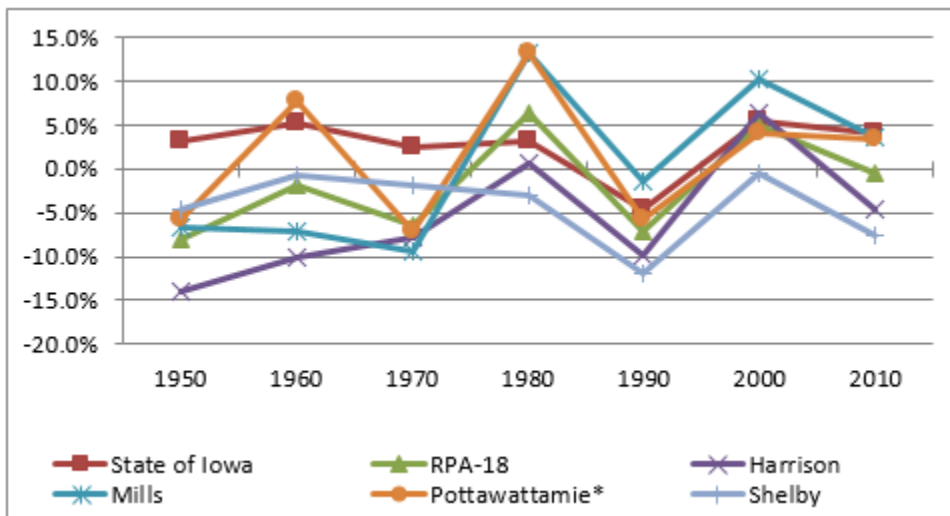
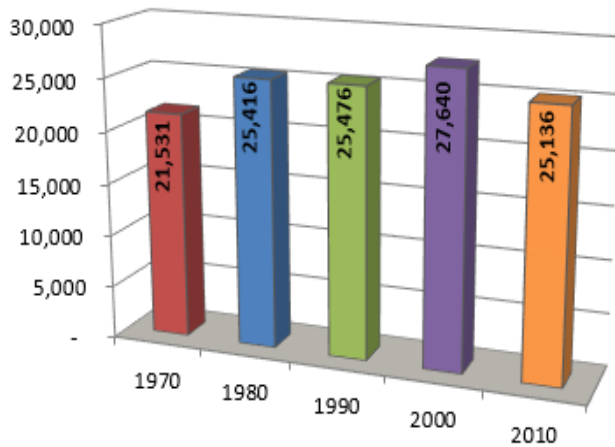


Chart 2.2: Percent Population Change by County, 1960-2050. Source: US Census Bureau and the MAPA Land Use Activity Allocation Model

Households

An increase in travel demand on roadways in the RPA-18 region is also explained by the increase in the number of households over the last 20 years. As lifestyles have changed, more single and two-person households have been created, further contributing to the need for personal transportation. Figure 9 shows the trend in the total number of households in the RPA-18 region since 1970.

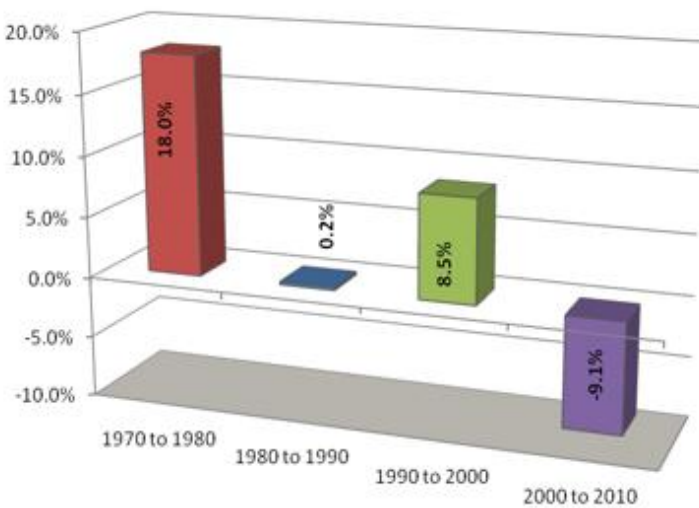
Chart 2.3: Number of Households in RPA-18 Region, 1970-2010



Source: 2010 US Census

Based on the most recent Census data, the total number of households in the region has decreased to levels slightly below those of the 1990 Census. The number of occupied housing units (households) has increased approximately 8.5% since 1990. Figure 10 (next page) illustrates this same data as percentage growth by decennial Census.

Chart 2.4: Percent Change of RPA-18 Households, 1970-2010



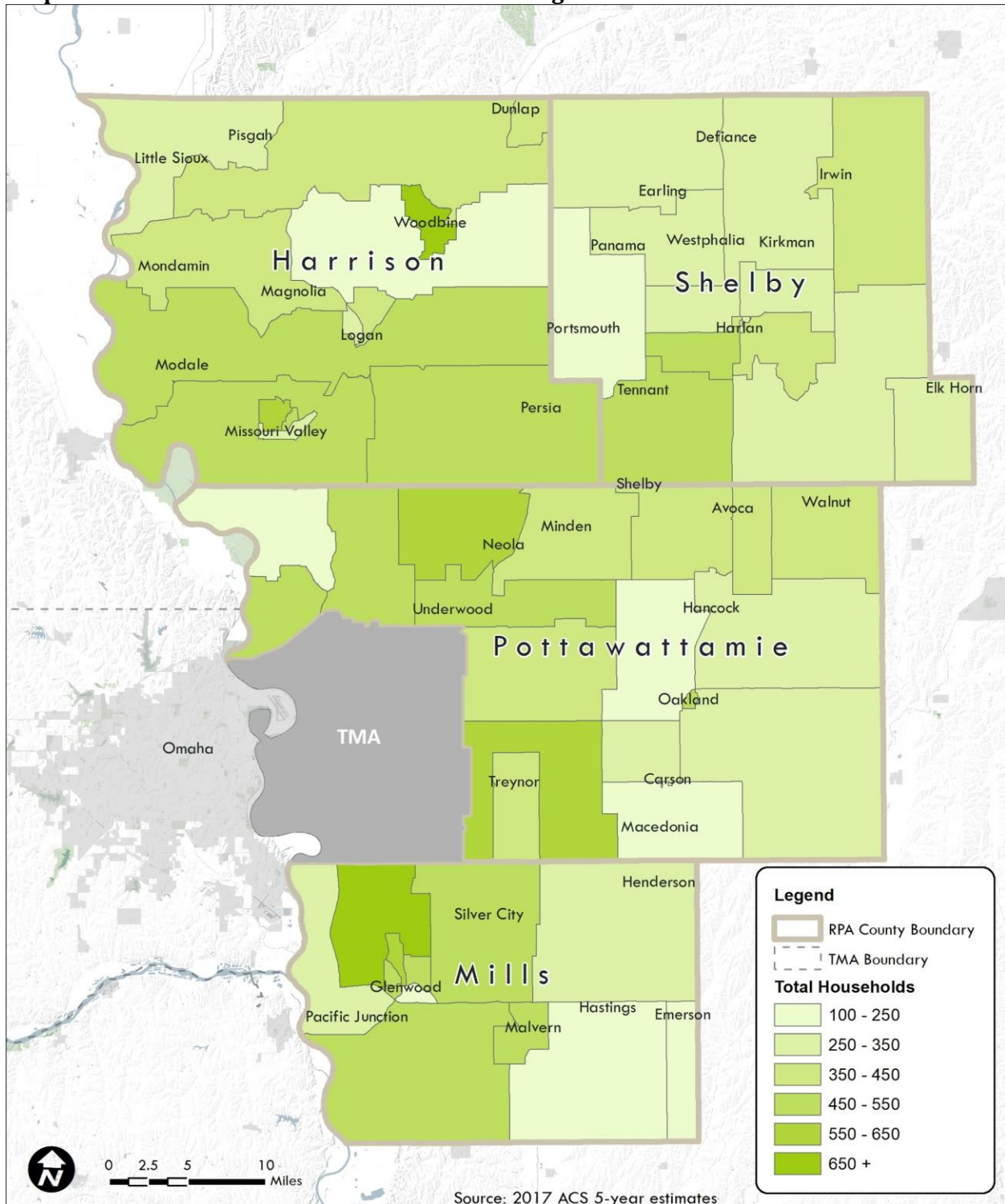
Source: 2010 US Census

Population and Household Density

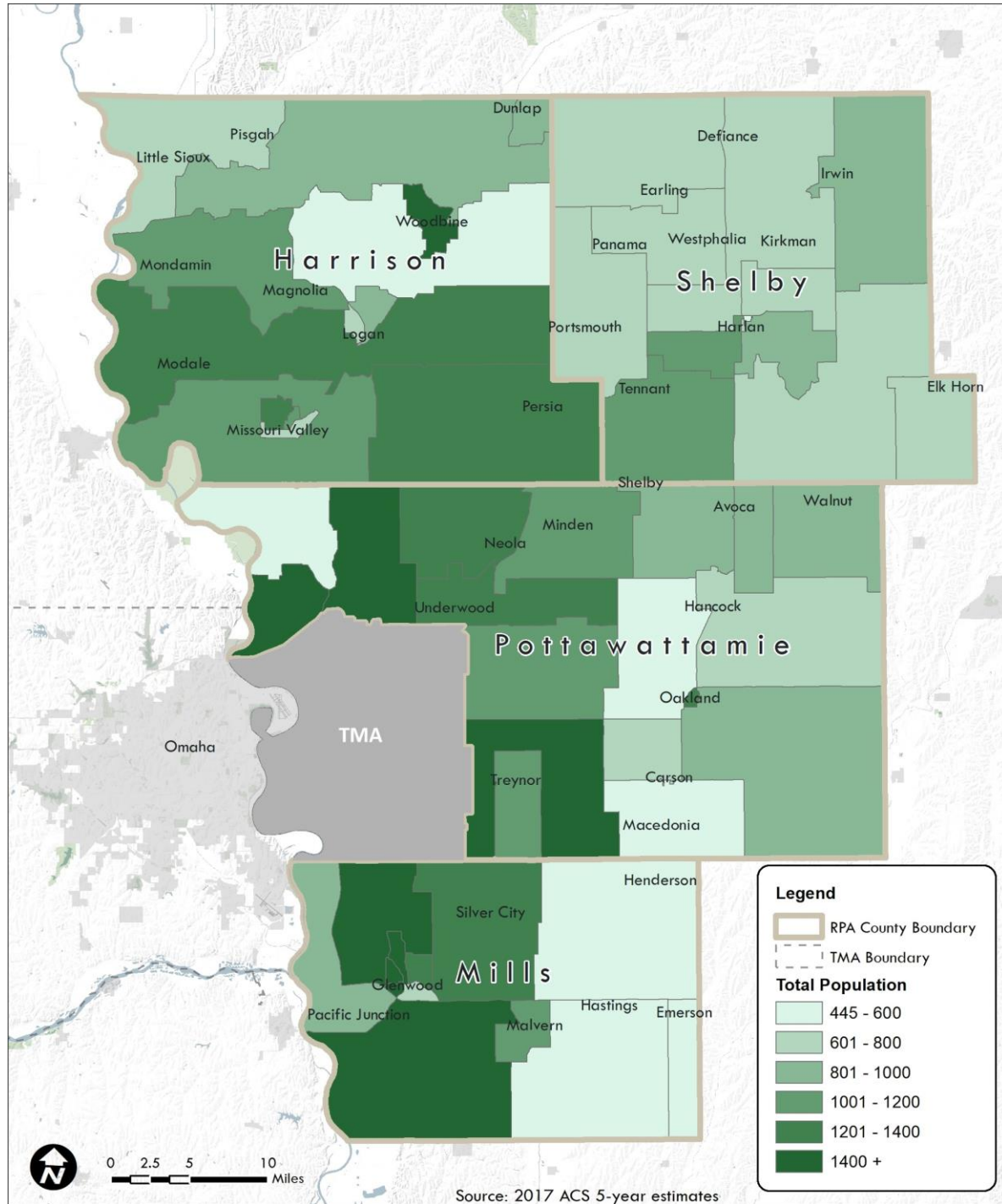
As previously stated, the RPA-18 is heavily influenced by the urban centers located within the region. The majority of the population and housing units are centered on and around these areas. Heavy concentrations of people and households border the MAPA MPO area in Council Bluffs, as well as the cities of Glenwood, Harlan and Missouri Valley. Figure 11 (next page) illustrates those concentrations of households in the RPA-18 region and Figure 12 shows the distribution of population throughout

the RPA-18 region.

Map 2.3: Distribution of Households in RPA -18 Region



Map 2.4: Distribution of Population in the RPA-18 Region



Population in the RPA-18 region primarily clusters around the Omaha-Council Bluffs Metropolitan Area, in southern and western portions of the region.

Age

Social evolution also presents change in the work force. The number of persons 16 years or older has increased approximately 35% since 1970. Although male participation in the work force has only increased seven percent during this time, female participation in the work force has increased by 96% since 1970. Over 3/4 of the RPA-18 population is of legal age to drive. While younger drivers (age 15 to 19) make up only 6.7% of the population, elderly drivers (age 65 or over) are more than double at figure 16.5%. As the population of the region continues to get older, the number of elderly drivers will increase and the requirements of the transportation system will need to be adjusted to accommodate these aging populations.

Various measures are possible to help mitigate the aging population in RPA-18, as well as in Iowa and the rest of the United States. Education programs for the elderly and the younger drivers, street and highway designs to accommodate older drivers, better signage and graduated licensing are all being considered or implemented to provide a safer transportation system.

Transportation Patterns

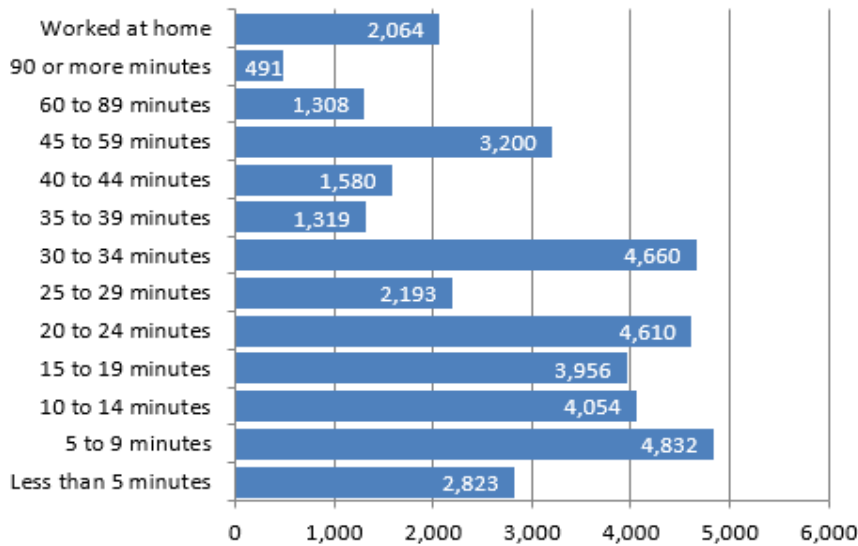
How people travel presents information that lends itself to maintaining and updating the transportation system. The private auto remains the most popular mode of transportation with 80.4% of the RPA-18 population driving private vehicles to work each day. Less than 10.5% of residents carpooled to work while even less walked (2.7%) or used public transit (<1%) to get to work each day; even fewer still biked, rode a taxi or a motorcycle to get to work.

The majority of workers within the region spend 30 minutes or less getting to work each day with intra- county work trips dominating the commuting traffic flows. Chart 2.4 summarizes commute time data for residents of the RPA-18 region.

Commuting patterns outside of the region primarily terminate in the Omaha-Council Bluffs Metropolitan Area, directly adjacent to the west-central portion of the RPA-18 region. These patterns include commutes to Downtown Omaha, medical facilities in Omaha, educational facilities throughout the metropolitan area, and Offutt Air Force Base in Bellevue, Nebraska.

As population continues to locate closer to the Omaha – Council Bluffs Metropolitan Area, jobs will likely follow. Creation of additional sources of accessibility for persons located in less-populated areas will be of utmost importance to maintaining a vibrant region in these more rural areas. Utilizing commuting data in the future will determine whether these residents in rural portions of the region are finding work in their hometowns or commute to larger metropolitan areas for employment.

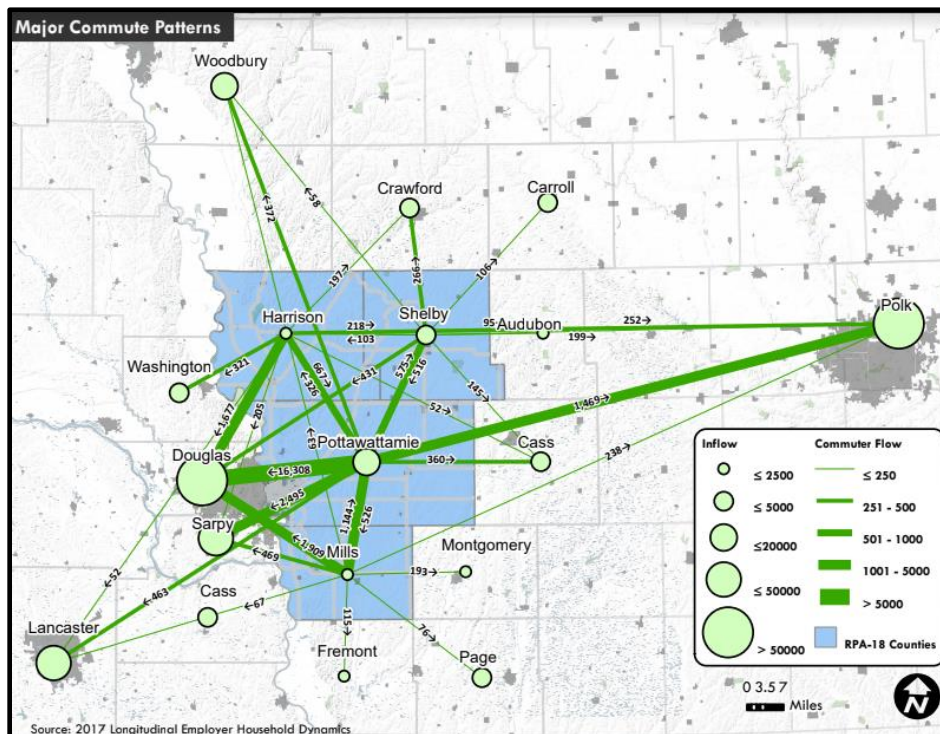
Chart 2.4: Travel Time to Work for RPA-18 Residents



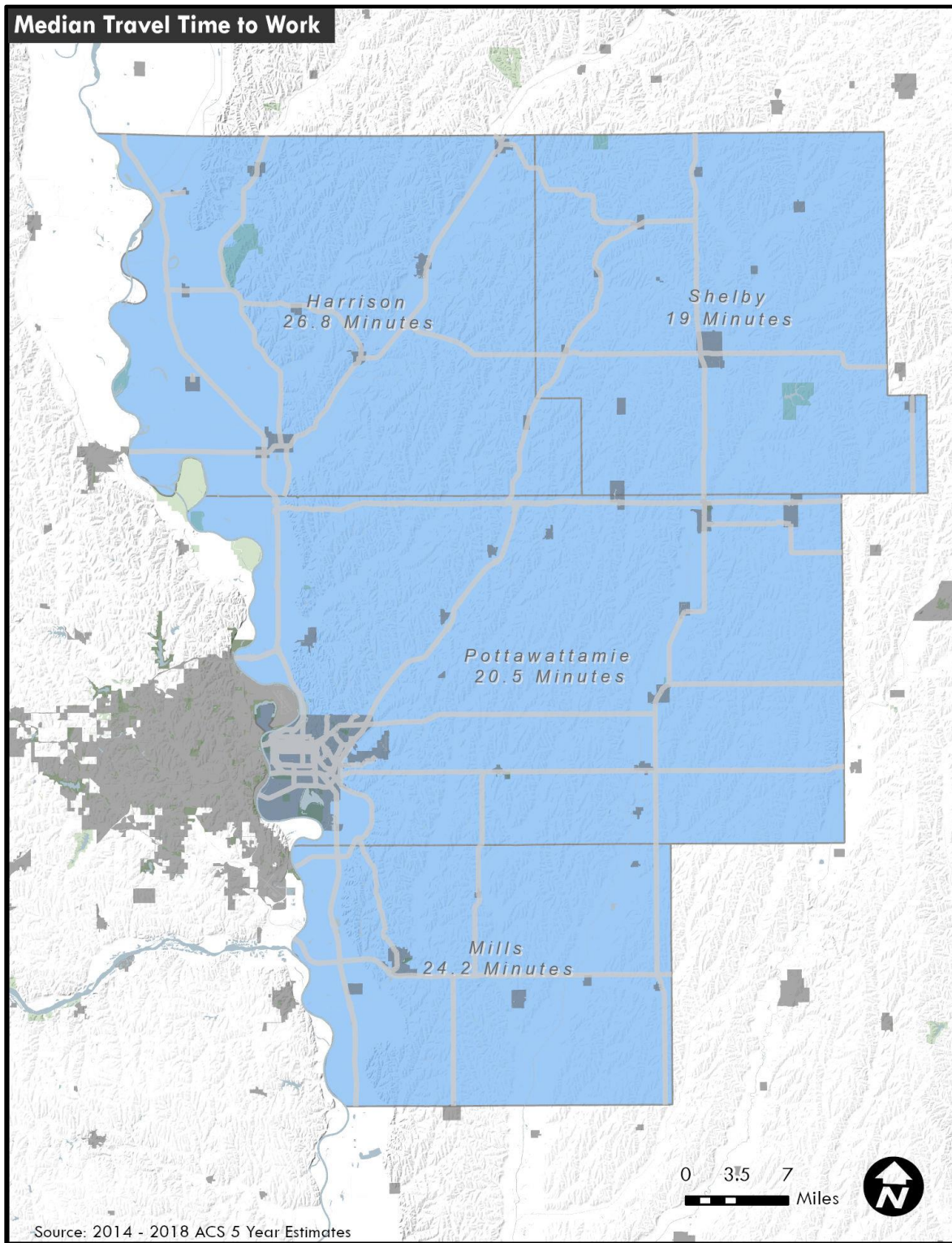
Source: 2007-2011 ACS 5-Year Estimates

Commuting Patterns to Work

On average, the number of persons working in their county of residence in the RPA-18 is declining. Those who live in the same county in which they work declined approximately 10% between 1990 and 2000. Mills County had the largest change with 10.8% of workers now working outside of that county compared to 1990.



Map 2.5: Commuting Patterns to work in the RPA-18 region



Map 2.6: Median Travel Time to Work in the RPA-18 Region

Demographics

Persons over 65

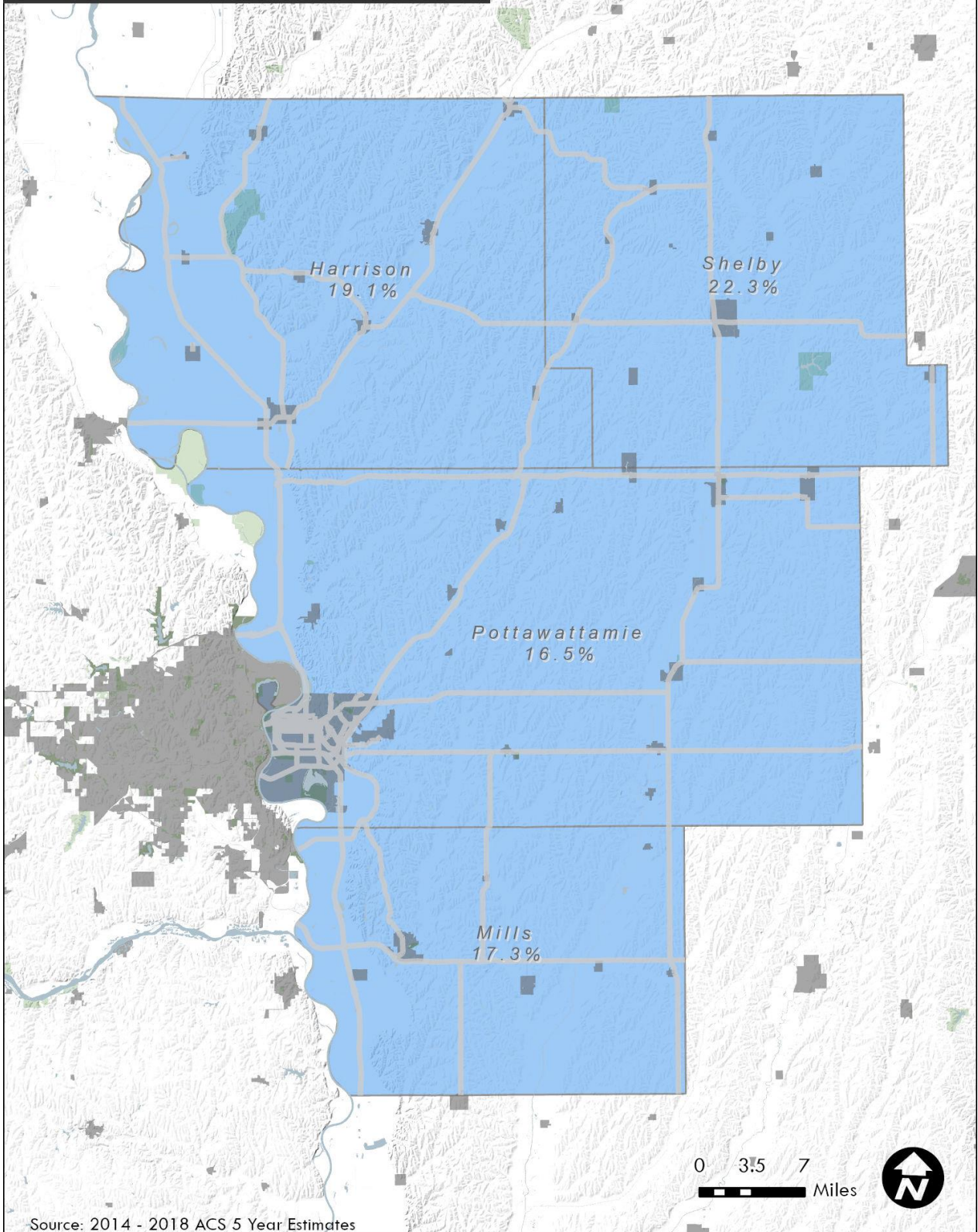
Table 2.2 provides a summary of the population 65 years of age and older in the RPA-18 area. Of the 20,555 people over the age of 65 in the RPA-18 region, many are concentrated Harrison and Shelby Counties. This distribution poses a unique challenge to the transportation network for the area since many of the elderly are no longer able to drive or have restrictions on their driving, such as being unable or unwilling to drive at night. Table 2.2 (below) shows the geographic distribution of the population over 65 years of age.

South West Iowa Transit Service provides limited fixed route and on demand transit service many of the RPA-18 cities. Several areas which have large pockets of people over 65 have limited or no transit service available. SWITA's Transportation Advisory Group (TAG) works with local stakeholders and non-profit transit providers to expand the mobility of elderly and disabled populations with limited mobility.

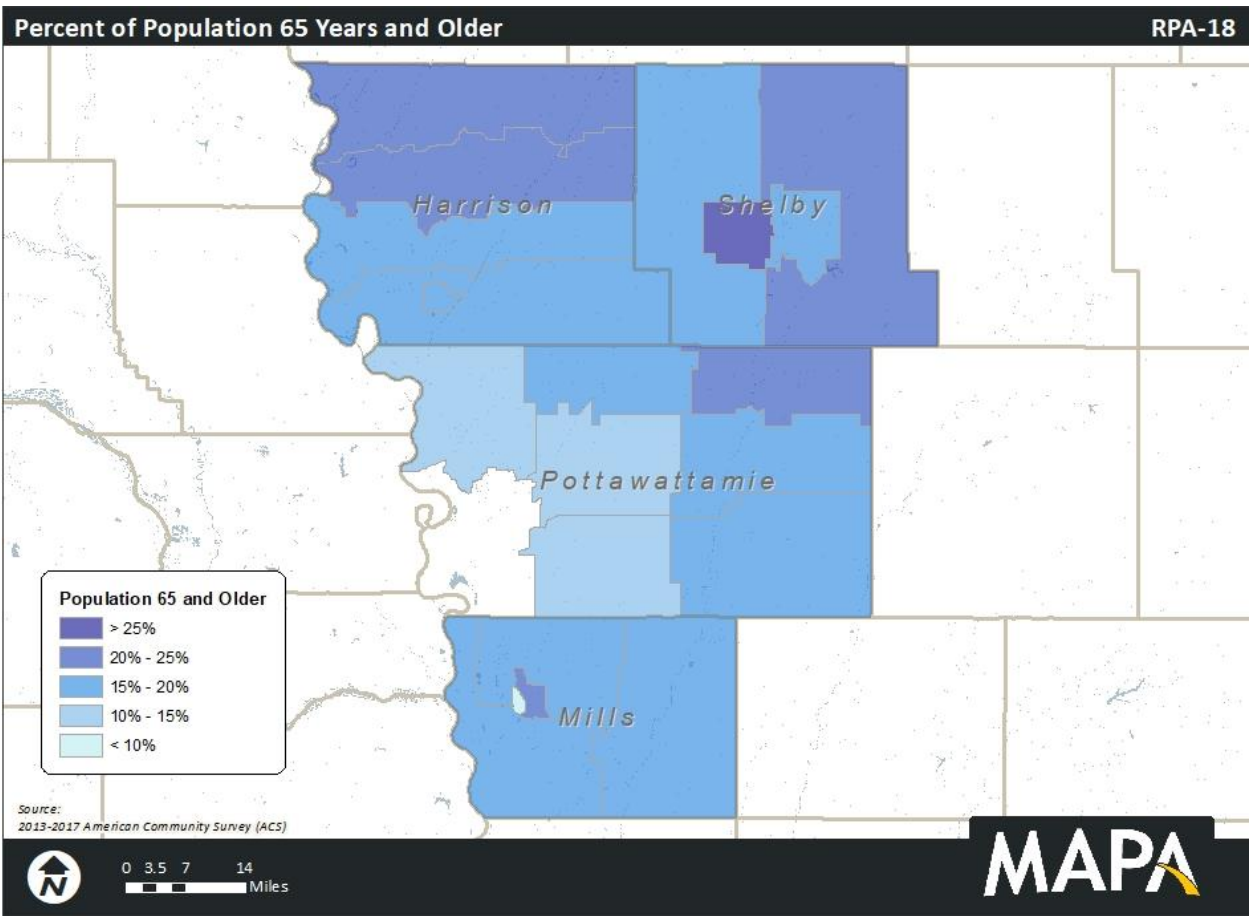
Table 2.2: Population over 65

Total Population	Over 65	Percent
135,312	20,555	15.2%

Percent of Households Age 65 and Over



Map 2.7: Percentage of Households 65 Years and Older



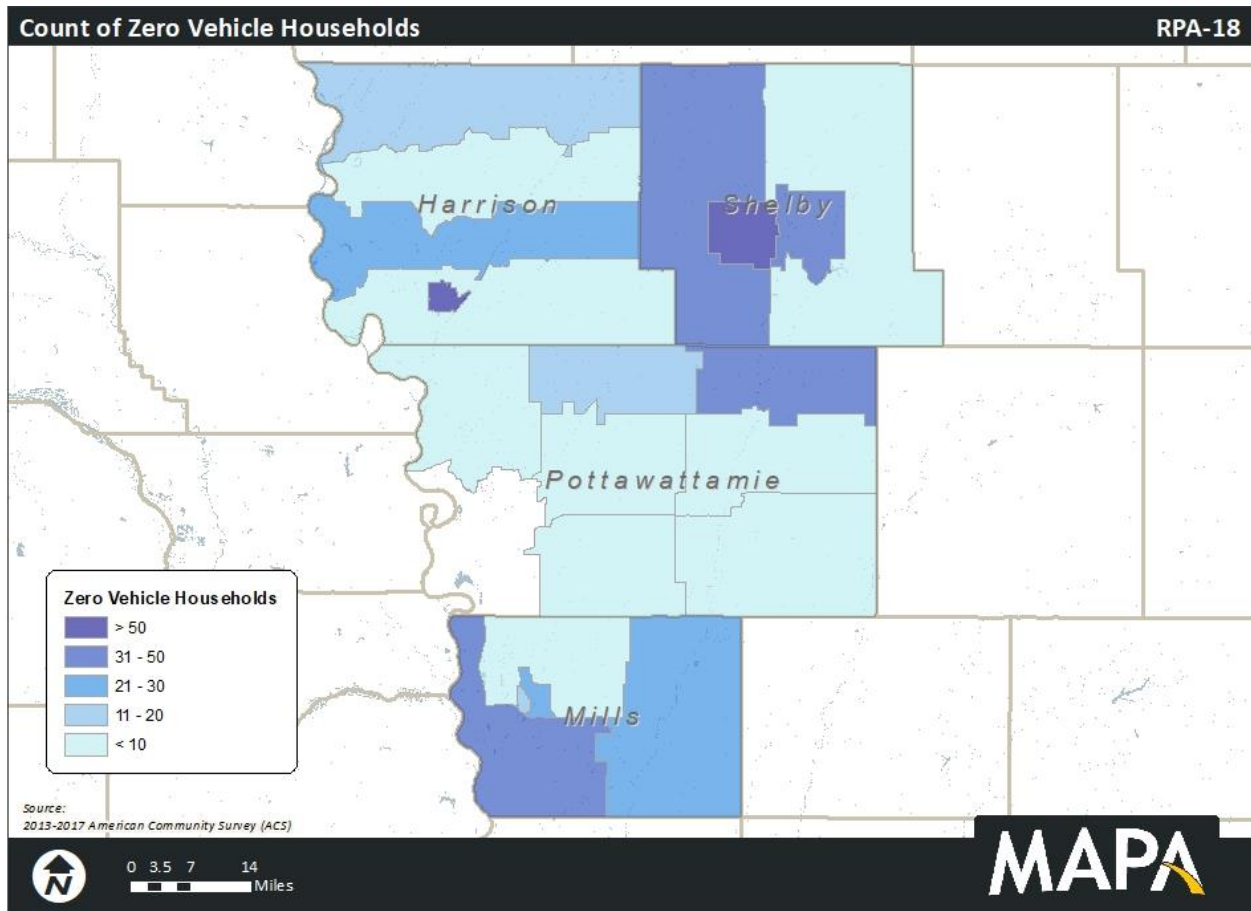
Map 2.8: Percentage of Population 65 Years and Older

Vehicle Access

Table 2.1 shows the number of households in the RPA area that do not own a vehicle, approximately 2.8%. Much like the poverty statistics discussed previously, the highest concentrations of Zero Vehicle Households are found in Shelby and Mills Counties. The absence of an automobile in a household can create serious limitations on the mobility of residents. Fortunately, within the RPA region SWITA Covers most of the communities with the highest rates of poverty. Table 2.3 shows the distribution of zero-vehicle households throughout the RPA region.

Table 2.3: Total Households with zero vehicles

Total Households	Zero vehicle households	Percent
114,621	3,210	2.8%



Map 2.9: Count of Zero-Vehicle Households in the RPA-18 Region

Vehicle Availability	Harrison	Mills	Pott	Shelby	Region	Regional %
No vehicle available	315	188	2514	290	3307	6%
1 vehicle available	1514	1392	11627	1349	15882	30%
2 vehicles available	2103	1941	13608	1859	19511	36%
3 vehicles available	1346	1233	6163	968	9710	18%
4 or more vehicles available	798	833	2969	580	5180	10%
Total:	6076	5587	36881	5046	53590	

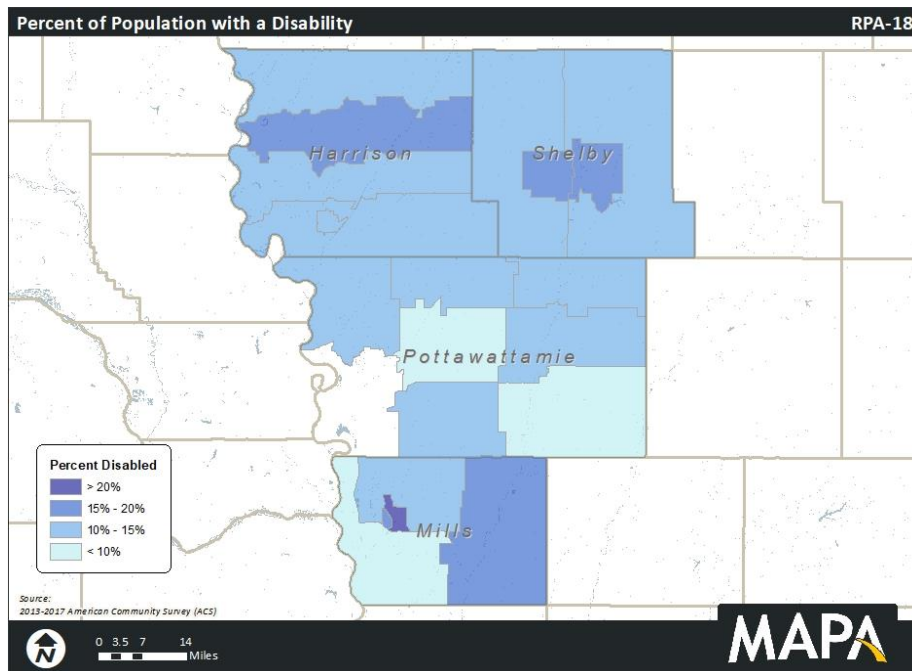
Table 2.4: Vehicle Availability per household in the RPA-18 Region

Disability

Table 2.5 provides a summary of the disabled population in the RPA-18 Area. Based on American Community Survey data, there are approximately 19,000 people who are considered disabled, most of these people are concentrated in the Mills County. Map 2.10 below shows the geographic distribution of the population with a disability.

Table 2.5: Total Population with a disability

Total Population	Disabled	Percent
135,312	19,161	14.2%



Map 2.10: Percent of Population with a Disability in the RPA-18 Region

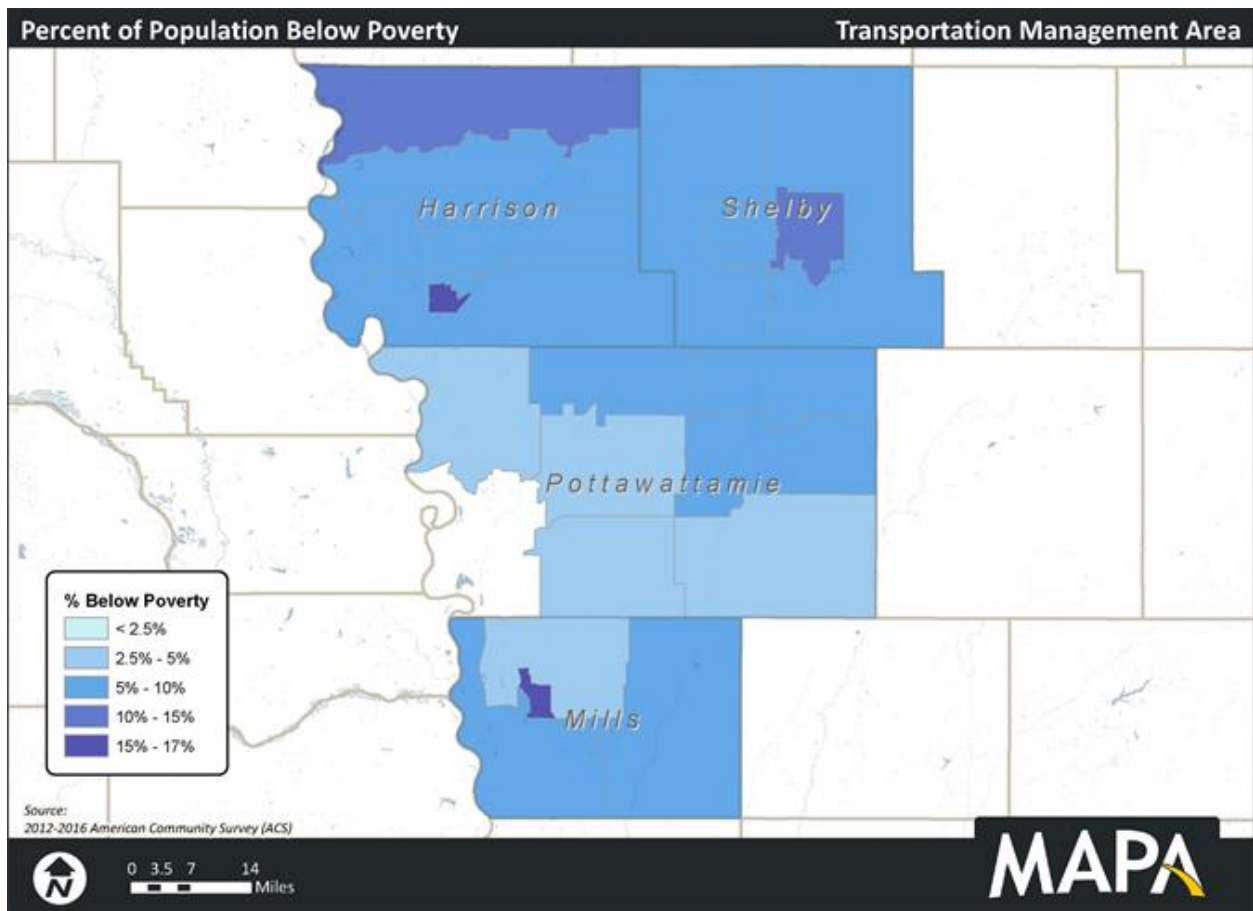
Poverty

Table 2.3 shows the population living in poverty in the PRA. There are approximately 19,080 people living at or below the poverty line. The highest concentrations of these low-income individuals are found within Harrison and Mills Counties. The geographic distribution of residents in poverty within the MAPA region is illustrated in Map 2.11 below.

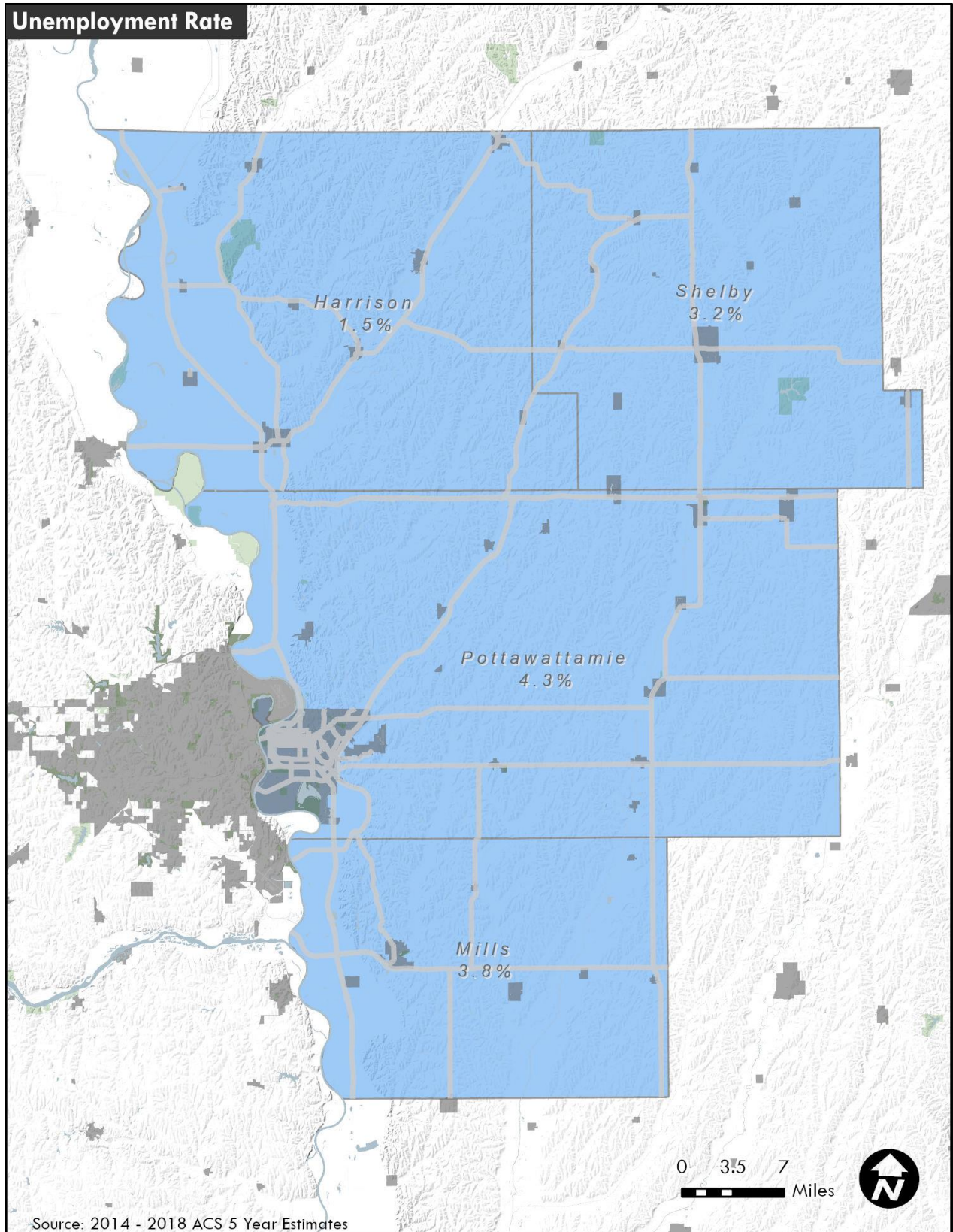
National trends show that young talent, along with jobs are locating in and around urban centers across the United States. This trend has been seen locally in Iowa and Nebraska as well. As these jobs move to places like Omaha and Council Bluffs, the importance of car ownership becomes more important, and job attainment becomes more challenging for persons without a license or automobile.

Table 2.6: Total Population living in poverty

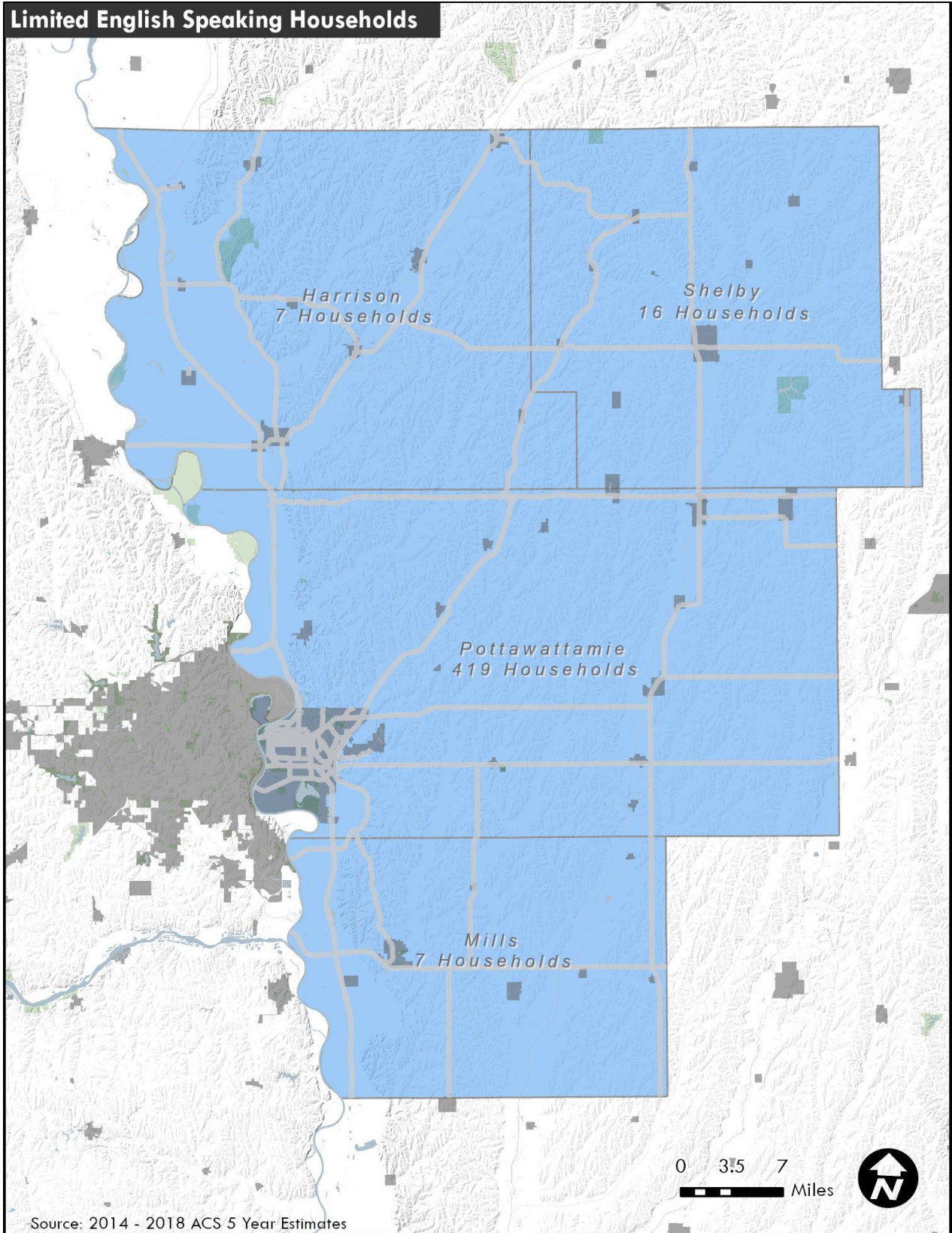
Total Population	Population in Poverty	Percentage in Poverty
135,312	19,080	14.1%



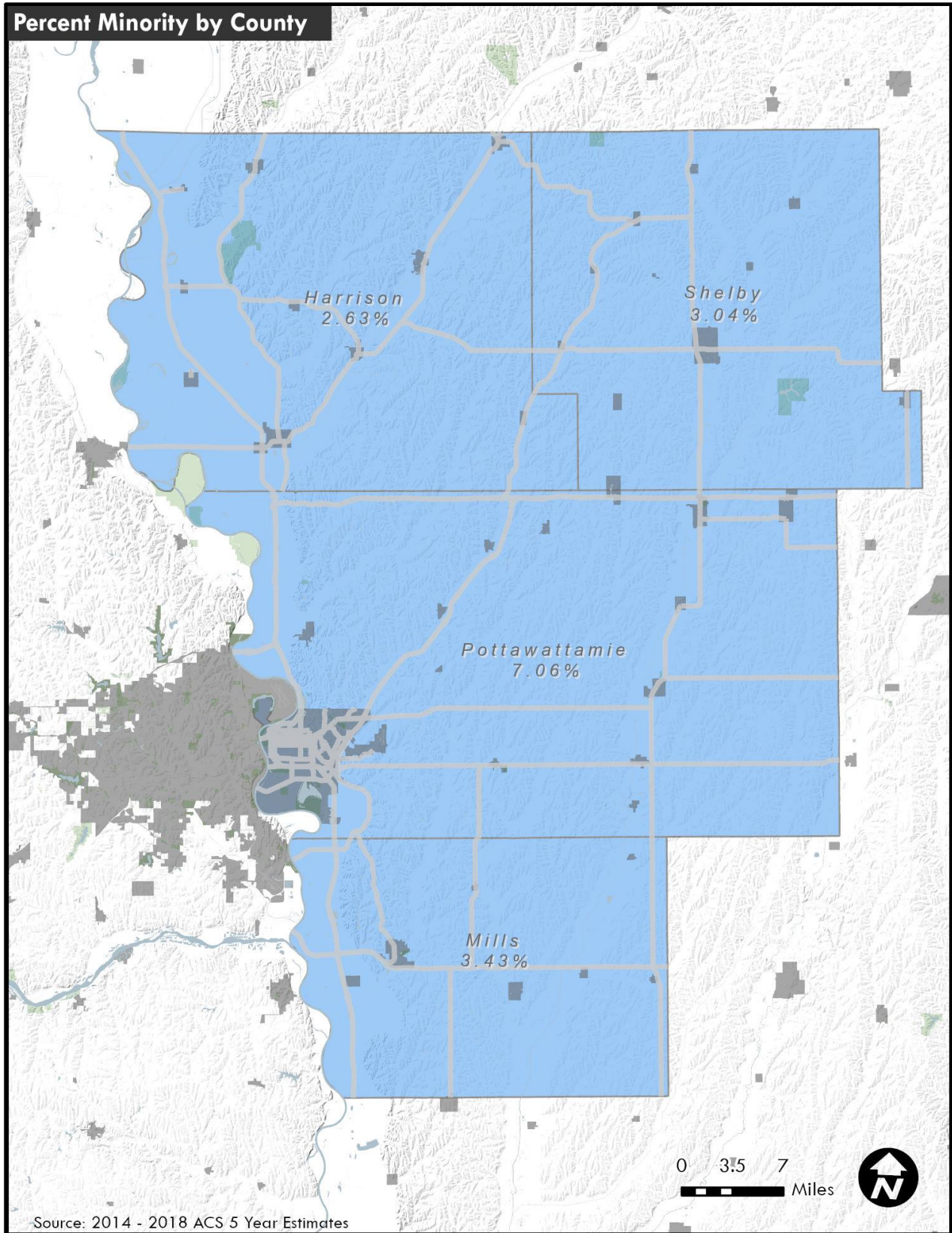
Map 2.11: Percent of Population Below Poverty Line in the RPA-18 Region



Map 2.12: Poverty rate by county in the RPA-18 Region



Map 2.13: Limited English Speaking Households in the RPA-18 Region



Map 2.14: Percent of Minority Population by county in the RPA-18 Region

Summary

There are an increasing number of drivers using transportation systems in the RPA-18 and they are traveling farther and more often. Although multi-modal means exist, workers tend to drive their private vehicles and are driving alone. This presents the need to maintain the existing transportation system and plan to expand the system as time and funding can accommodate.

Population is anticipated to increase in the more urban counties of Mills, Harrison and Pottawattamie while rural parts of the region will continue to see population decline. Land use, centers of employment and social changes have generated more and longer daily trips adding to the increased use of the transportation system in the RPA-18 region and surrounding areas. The driving population is getting older. Transportation systems and future improvements to the system need to accommodate the needs of the aging population.

These socio-economic factors work in concert with one another to create the need to maintain the existing transportation system. Similarly, it will take multiple types of improvements to the transportation system to help address and respond to these changing factors. At one end of the spectrum are physical improvements to the multi-modal transportation systems (better highway design, increased maintenance, capacity improvements, increased transit use, etc.). At the other end are factors more closely related to social science than to engineering (dependency on the automobile, individual responsibility, education efforts, mode choice, etc.). The goals and objectives identified within this plan have been developed to establish the best policies for RPA-18 to maximize available resources and provide for the safest, most efficient transportation network possible.

2.2 | Forecasted Growth & Development

Growth in the RPA 18 region exists predominantly in the southern western portions of the region, adjacent to the Omaha - Council Bluffs Metropolitan Area. Pottawattamie and Mills County are anticipated to see growth in coming years, while Harrison and Shelby are forecasted to see population decline. This trend is consistent with statewide trends, where primarily urban counties see population increases while rural counties

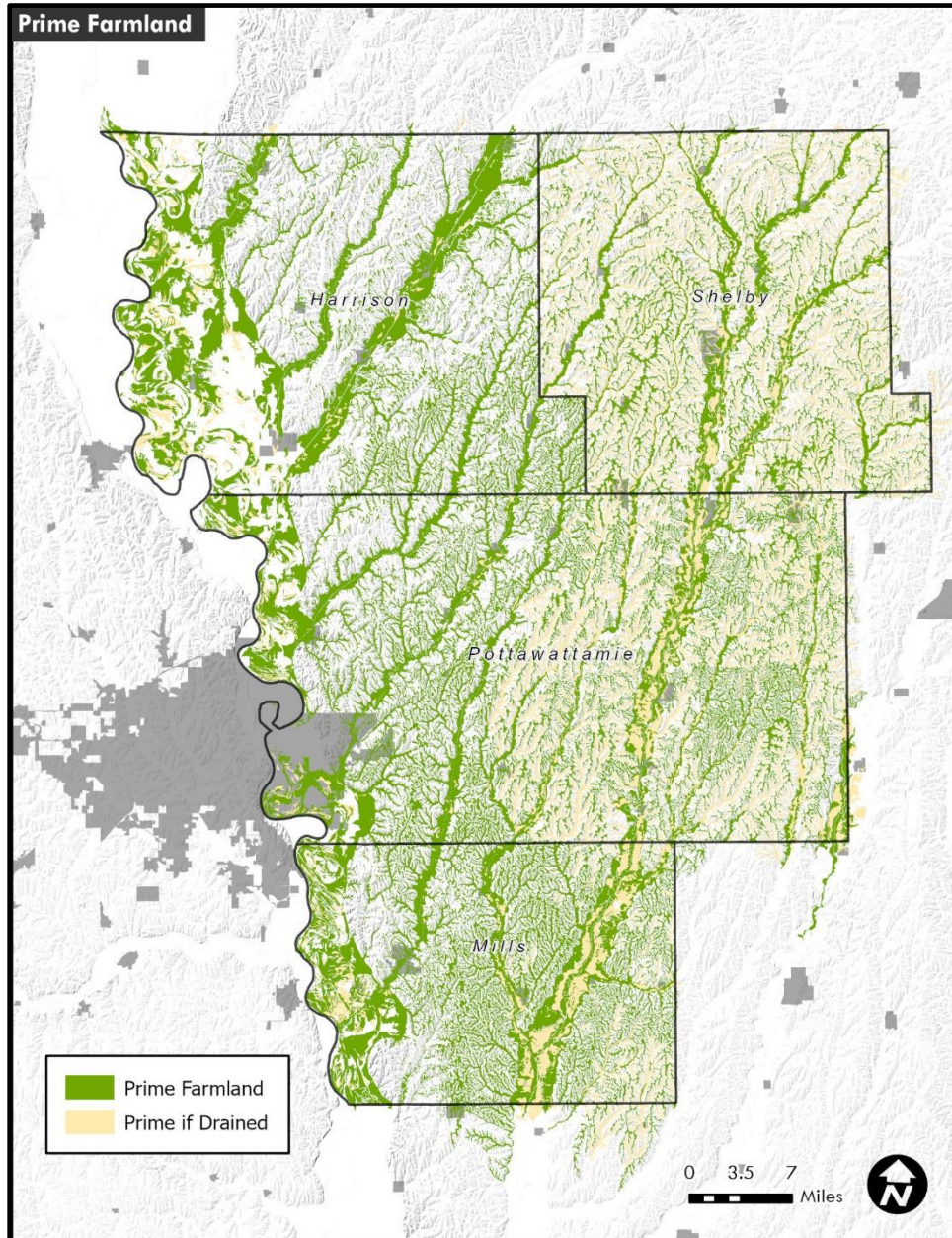
The RPA-18 is a primarily agricultural region containing some 40 cities and towns scattered across the region. The larger cities of Harlan, Glenwood, Missouri Valley, and Logan are key drivers of economic opportunity in the region as economic and employment centers. The Omaha-Council Bluffs metropolitan area, adjacent to RPA-18 region in Nebraska and Iowa, offers many economic and employment opportunities to the residents of the RPA-18 region as well.

Agricultural Land

Land use in the RPA-18 region is generally agricultural, comprised of various non-contiguous parcels owned by fewer farmers and operated by fewer farmers who farm on a full-time basis. According to the 2007 Census of Agriculture, the total number of farms in the RPA-18 region decreased by 1.6% between 2002 and 2007 and exhibited a slight decrease in the average size of

farms (-8.6%). While the downward trend of average farm sizes parallels that of the entire state (-5.4%), Iowa has seen an increase of 2.4% in total number of farms during the same five-year period.

This indicates RPA-18 farms are consolidating and taking farmland out of production at a greater rate than the state of Iowa. This is further explained by the 10.1% decline in the total acres of farmed land in the region versus a 3.1% decline statewide. Other land use trends such as increased residential development in exurban areas and increased use of conservation easements have contributed to the decline in farmed land as well.



Map 2.15: Prime Farmland in the RPA-18 Region

Long Range Planning Efforts to address growth

Counties like Pottawattamie and Mills have undergone land use plans to ensure growth and development are done in an orderly and efficient manner.



- Comprehensive Plan 2015-2030 – Pottawattamie County (Completed 2015)
- Mills County Comprehensive Plan (Completed 2017)
- Avoca Comprehensive Plan (Completed 2008)
- Crescent 2016 Comprehensive Plan

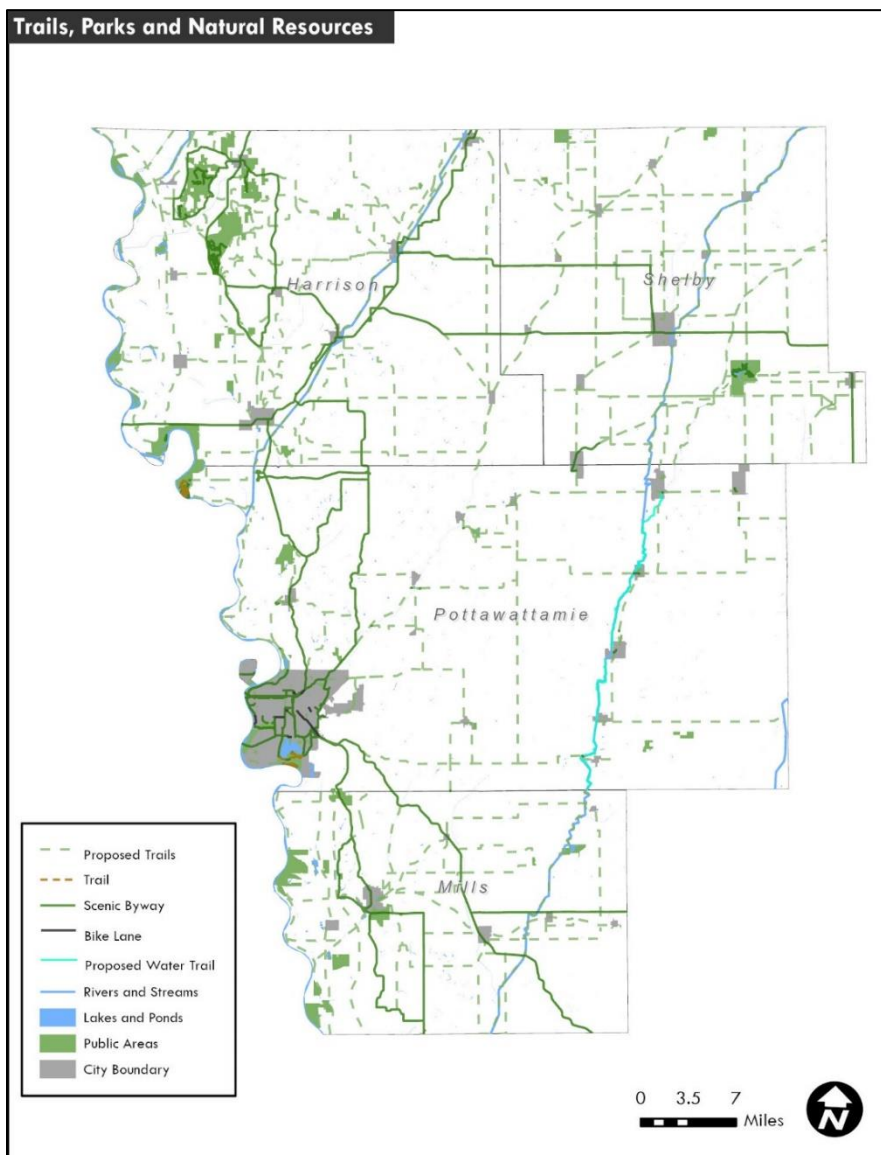
These long range planning efforts take in to account a variety of issues in various counties and communities. Some issues include addressing suburban sprawl which exists in Pottawattamie and Mills County, to rural fire coverage and utility/infrastructure capabilities.

2.3 | Environmental Inventory

The RPA-18 region is rural and agricultural in nature with most communities having less than 3,000 persons. Harlan and Glenwood are the exception, having populations of 5,106 and 5,269, respectively.

Providing public services in areas of undeveloped or unincorporated areas of the region provide counties and jurisdictions concern of the ability or feasibility of providing utilities and services. Providing roadways capable of handling the quantity and type of traffic generated by these developments must often be considered. Large animal confinement facilities cause a dilemma because, while they contribute to the region's economy, they can also add contaminants to the watershed through accidental manure spills, and may affect the air quality for their neighbors.

Parks, Historic Trails, Forests & Wildlife Refuges



Map 2.16: Trails, Parks and Natural Resources in the RPA-18 Region

The DeSoto National Wildlife Refuge is located along the Missouri River where the Pottawattamie and Harrison County boundary meet. The Refuge is located in the migratory bird corridor of the Missouri River floodplain and provides essential habitat for resident, migratory and endangered species. High quality floodplain forest, grassland, wetland, sandbar and riverine habitats support diverse and productive populations of migratory waterfowl, shorebirds and neotropical birds, as well as rare, threatened and endangered species including the pallid sturgeon, piping plover and least tern.

There is one national historic trail, the Mormon Pioneer National Historic Trail that runs east-west along the southern edge of Pottawattamie County.

State Forests

The Loess Hills State Forest is the only forest in the region. The forest is made up of four major units totaling 11,266 acres: Little Sioux, Pisgah Unit, Mondamin and Preparation Canyon, also a state park.

State Parks

The following state parks and wildlife areas are located within the RPA-18 Region:

- Prairie Rose State Park- located southeast of Harlan (Shelby County)
- Wilson Island State Recreation Area- located in the northwest corner of Pottawattamie County

Wildlife Management Areas

The Iowa Department of Natural Resources (DNR) manages wildlife areas to provide habitat for Iowa's native wildlife species and those species that migrate through our state. The primary management objective is to develop and restore these habitats to ensure that wildlife species have a safe place to thrive. The RPA-18 region has nearly 12,140 acres of WMA within its five counties.

A listing of wildlife areas managed by the Iowa DNR may be found on the Iowa DNR website: <http://www.iowadnr.gov/wildlife/wmamaps/index.html>

County Parks

The State of Iowa established the Iowa County Conservation Board system in 1955 to “acquire, develop maintain and make available to the inhabitants of the county, public parks, museums, preserves, parkways, playgrounds, recreational centers, county forests, wildlife and other conservation areas and to promote the orderly development and conservation of the natural resources, and to cultivate good citizenship by providing adequate programs of public recreation.”

Table 2.7 contains a complete list of the county park facilities within the RPA-18 region.

Table 2.7: County Parks in the RPA-18 Region

Harrison County	Mills County
Murray Hill Scenic Overlook	Bass Memorial Park
Roadside Rest Area	Highway 34 Roadside Park
Schaben Park	Lake George
Schley Park	Mile Hill Lake
Sioux Dam Wildlife Area	Pony Creek Park
Willow Lake Recreation Area	Tree Lake
Pottawattamie County	Shelby County
Arrowhead Park	Elk Horn Creek Recreation Area
Botna Bend Park	Manteno Park
Hitchcock Nature Area	Nishna Bend Recreation Area
Old Towne Park	Reinig River Access
	Rosenow Timber County Park
	Rosman Glendale Farm Rec. Area
	Schimerowski Recreation Area

Waterways

There are no river terminals or harbor services directly located in RPA-18 although the region is flanked on the west by the Missouri River. The river is home to 12 modal facilities located in Council Bluffs and the Nebraska side of the river. These facilities afford the loading of barges with various agricultural products (grains, fertilizer, livestock feed) as well as cement, stone, steel and paper products. Barge traffic is generally limited to areas south of the RPA-18.

The US Coast Guard and the US Army Corps of Engineers also maintain river terminals on the Missouri River in north Omaha. There are no major dam or lock facilities affecting transportation that operate in the RPA-18 or within the influence of the RPA-18.

Waterways: Deficiencies and Improvements

Waterways offer very limited access to the shipping of goods along the Missouri River. Water levels supporting barge traffic are limited to seasonal traffic and often times not available in the upper reaches of Harrison and Pottawattamie counties. The US Army Corps of Engineers is responsible for regulating river levels and must follow directives contained in their river management plans. The RPA-18 will work with the Corps on shipping concerns and maintenance of adequate river levels for barge traffic to and from the RPA-18 region.

Historic and Archeological Resources

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources.

There are numerous districts, sites, buildings, structures, and objects located within the RPA-18 region listed in the Register as significant in American history. Table 2.8 is a list of all properties listed on the National Register of Historic Places within the RPA-18 region.

Table 2.8: National Register of Historic Places Properties in RPA-18 Region

Property	Address	City	County
William Haner Polygonal Barn	CR L16	Pisgah	Harrison
Harrison County Courthouse	7th Street	Logan	Harrison
I.O.O.F. Hall	613-615 Iowa Ave.	Dunlap	Harrison
Old Harrison County Courthouse	401 Locust	Magnolia	Harrison
Murray General Merchandise Store	Jct. of Mulberry and Second Sts.	Little Sioux	Harrison
Siebel's Department Store - Boyer Valley Bank	501-505 Walker Street	Woodbine	Harrison
State Savings Bank	312 E. 7th Street	Logan	Harrison
Wheeler John R. Jr. House	407 S. Third Street	Dunlap	Harrison
Woodbine Normal and Grade School	5th and Weare	Woodbine	Harrison
Woodbine Public Library	58 5th Street	Woodbine	Harrison
Woodbine Savings Bank	424 Walker Street	Woodbine	Harrison
Davis Oriole Earthlodge Site	Restricted	Glenwood vicinity	Mills
Nishnabotna River Bridge	Co. Rd. M16 over Nishnabotna River	Henderson vicinity	Mills
Pony Creek Park	N of Glenwood	Glenwood	Mills
West Oak Forest Earthlodge Site	Restricted	Glenwood vicinity	Mills
Carstens Farmstead	S of Shelby on IA 168	Shelby	Pottawattamie

Eckle Round Barn	Off IA 168	Shelby	Pottawattamie
German Bank Building of Walnut IA	Jct. of Highland and Central Sts.	Walnut	Pottawattamie
Graceland Cemetery Chapel Graceland Cemetery	US 59	Avoca	Pottawattamie
Hancock Savings Bank	311 Main Street	Hancock	Pottawattamie
Norton, Charles Henry & Charlotte, House	401 N. Chestnut Street	Avoca	Pottawattamie
Pottawattamie County Sub Courthouse	Elm Street	Avoca	Pottawattamie
Turner Francis A. and Rose M. House	1004 Cherry Street	Avoca	Pottawattamie
Chicago Rock Island and Pacific Railroad Stone Arch Viaduct	0.5 mi. NW of jct. of Street F66 and Hackberry Rd.	Shelby vicinity	Shelby
Christiansen Jens Otto House	2105 College Ave.	Elk Horn	Shelby
Floral Hall	314 4th Street on Shelby County Fairgrounds	Harlan	Shelby
Harlan Courthouse Square Commercial District	Market 6th 7th and Court Sts. around Courthouse Square	Harlan	Shelby
Irwin Consolidated School	North Street	Irwin	Shelby
Larsen Chris House	4215 Main Street	Elk Horn	Shelby
Poldberg Chris Farmstead	0.5 mi. S of IA 44 on Wolf Creek	Jacksonville	Shelby
Rewerts George House	306 8th Ave.	Defiance	Shelby
Saint Boniface Catholic Church Dist.	Three blocks N of Co. Rd. F32	Westphalia	Shelby
Shelby County Courthouse	7th and Court Sts.	Harlan	Shelby
St. Paul's Episcopal Church	712 Farnham Street	Harlan	Shelby

Native American Tribes

There is a rich cultural heritage of Native American Tribes throughout the RPA-18 region. Section 106 of the National Historic Preservation Act (16 U.S.C.§470 et seq.) provides definitions and procedures for consultation between federal agencies and Native American tribes for federal undertakings, as defined in 36 CFR §800.16(y).

Table 2.9 includes a listing of the federally recognized Indian tribes who are consulted as a part federally funded transportation activities.

Table 2.9: Native American Tribes Represented in the RPA-18 Region

Tribe	County
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation	H,M,P,S
Iowa Tribe of Kansas and Nebraska	H,M,P,S
Iowa Tribe of Oklahoma	H,M,P,S
Omaha Tribe of Nebraska	H,M,P,S
Otoe-Missouria Tribe of Indians	H,M,P,S
Ponca Tribe of Nebraska	H,M,P
Sac and Fox Nation	M,P,S
Sac and Fox Nation of Missouri in Kansas and Nebraska	P,S
Sac and Fox Tribe of the Mississippi in Iowa	M,P,S
Counties: H=Harrison; M=Mills; P=Pottawattmie; S=Shelby	

Source: HUD Tribal Assessment Information

Threatened or Endangered Species

Consideration must be given to protect the habitat of threatened or endangered species during federally funded activities. Table 5 includes a complete list of the plants and animals which are considered threatened or endangered within the RPA-18 region.

Table 2.10: Threatened or Endangered Species in the RPA-18 Region

Group	Name	Status	Counties
Birds	Least tern (<i>Sterna antillarum</i>)	Endangered	P
Birds	Piping Plover (<i>Charadrius melodus</i>)	Threatened	P
Fishes	Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Endangered	H, M, P,
Flowering Plants	Prairie bush-clover (<i>Lespedeza leptostachya</i>)	Threatened	H, M, P, S
Flowering Plants	Western prairie fringed Orchid (<i>Platanthera praeclara</i>)	Threatened	H, M, P, S
Mammals	Indiana bat (<i>Myotis sodalis</i>)	Endangered	M, P

Counties: H=Harrison; M=Mills; P=Pottawattmie; S=Shelby

Source: U.S. Fish and Wildlife Services

NEPA

NEPA is the National Environmental Policy Act. NEPA presents a process for reviewing and evaluating of new transportation and transportation-related projects. All federal-aid transportation projects must undergo a NEPA evaluation. Such an evaluation process can have one of three possible levels of concern:

CE- Categorical Exclusion

EA/ FONSI - Environmental Assessment with a Finding of No Significant Impact

EIS - Environmental Impact Statement with a Record of Decision.

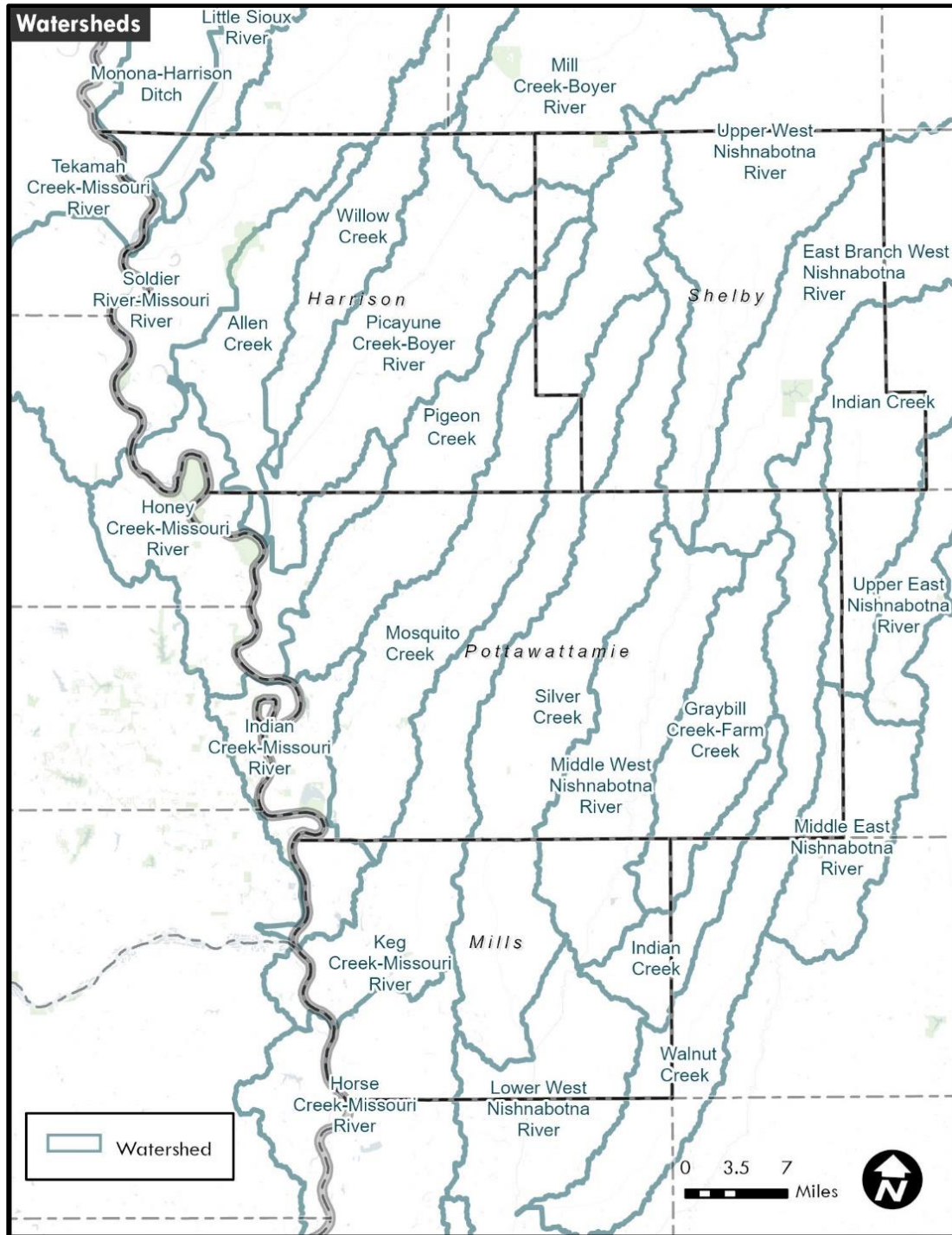
Under most circumstances, a CE will be the level of NEPA review for maintaining the existing system. Major transportation projects requiring Right-of-Way purchase or that involve sensitive ecological or archeological areas would require more investigation and mitigation strategies before constructing or reconstructing the facility. These strategies would evolve out of an EA or and EIS.

Air Quality

All RPA-18 communities and the entire State of Iowa are in attainment for all criteria pollutants identified by the Environmental Protection Agency. Presently, the neighboring Omaha-Council Bluffs metropolitan region is close to the threshold for non-attainment, and could go into non-attainment if new rules are adopted by the EPA. The RPA-18 LRTP will be amended, as needed, to reflect changes in air quality and attainment status.

Water Quality

The Environmental Protection Agency (EPA) is charged with providing for the quality of groundwater, rivers and creeks. Issues related to water quality and pollution directly related to new transportation projects will be addressed in the NEPA review process and will receive continued support of transportation officials.



Map 2.17: Watersheds in RPA-18 Region

Noise Pollution

Transportation improvements generally increased the capacity of cars, trucks, airplane and other modes within their respective area. Noise abatement and mitigation issues related to new transportation projects are addressed in the environmental assessment portion of the NEPA planning process. Issues of noise pollution generated by increased traffic, airport expansion or other modal improvements considered in the NEPA review will be mitigated accordingly in the planning and construction of such facilities.

Environmental Justice

As with the NEPA process, all federal-aid projects are evaluated to assess their impacts on low-moderate income populations and minority population. In 1997, the United States Department of Transportation (US DOT) issued its Order to Address Environmental Justice in Minority Populations and Low-Income Populations (US DOT Order). The US DOT Order addresses the requirements of Executive Order 12898 and sets forth US DOT's policy to promote the principles of environmental justice in all programs, policies and activities under its jurisdiction.

Since the DOT Order was issued, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have been working with their state and local transportation partners to make sure that the principles of environmental justice are integrated into every aspect of their mission. RPA-18 works to ensure that these concepts are considered as a part of the transportation planning process and mitigated accordingly.

3 | Goal 1: Preservation

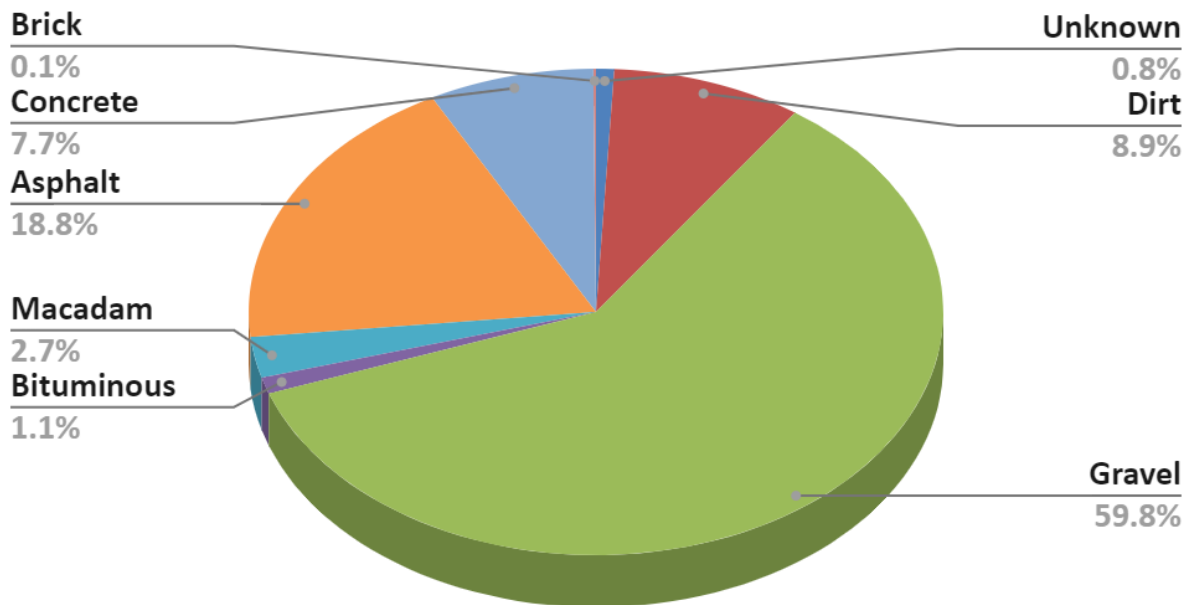
Prioritize maintenance of existing transportation assets– including roadways, bridges, trails and transit vehicles

3.1 | Pavement Management

Roadway Characteristics

The street and highway network in the RPA-18 is represented by some 4,868 miles of roadway constructed with various surface types. More than half (59.8%) of the roadways in the RPA-18 are surfaced with gravel.

Chart 3.1: Roadway Pavement type in RPA 18 Region



Highway Category

Interstates 29, 80, 680 and 880 account for nearly 5.1% of the roadways in the region. State and Federal highways account for approximately 7% of the roadway in the region as well. Street and highways eligible for Farm to Market Funds represent nearly 29% of the street and highway inventory with the remaining 59% being completely local in nature. The distribution of roads by functional classification is shown in the following figure.

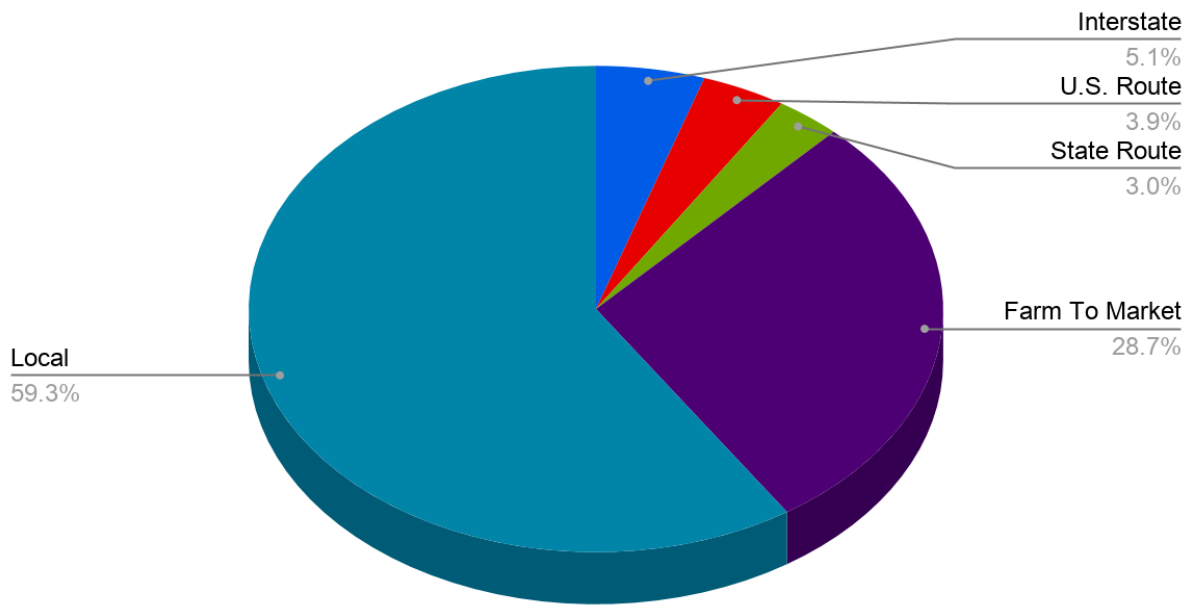
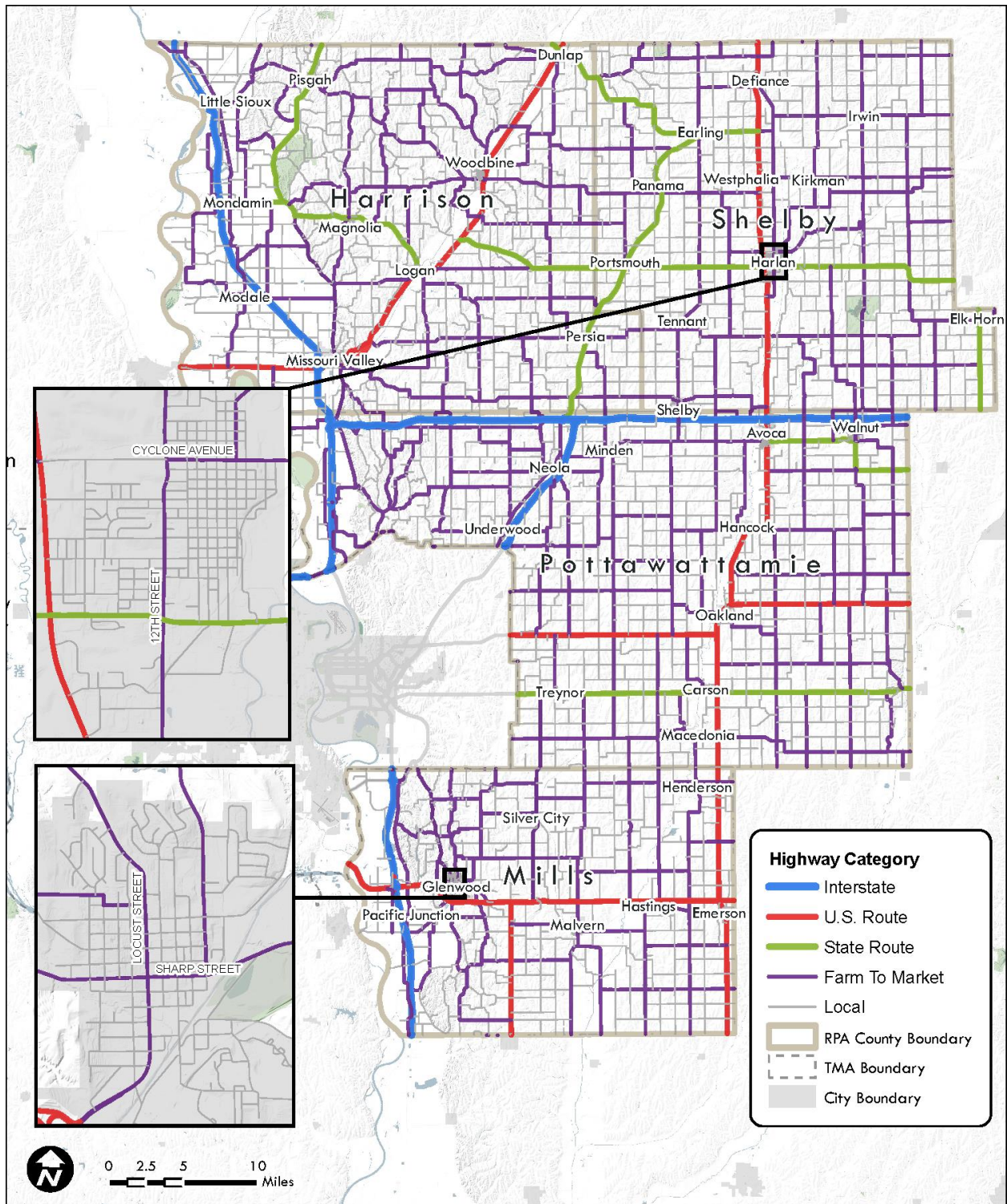


Chart 3.2: Classification of roadway facilities in RPA 18

Map 3.1: Distribution of Roadways in RPA-18 by Highway Category



The functional classification of a roadway describes the role it plays with respect to the entire network, and establishes an expectation for roadway design, as well as eligibility for federal funding.¹ The management of the roadway is managed by the Iowa DOT, with any classification changes being requested through them by the respective jurisdiction. Limits are set for total number of miles of groups of functional classifications at either the county or city level (for rural or urban roadways) as described in the table below.

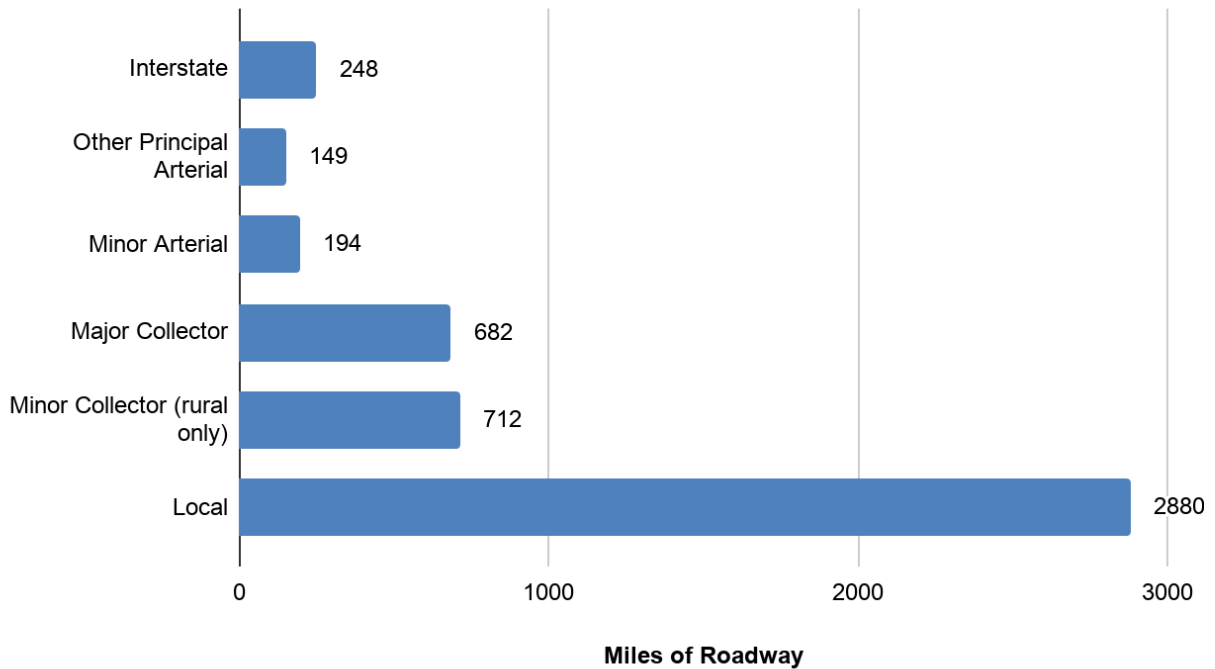
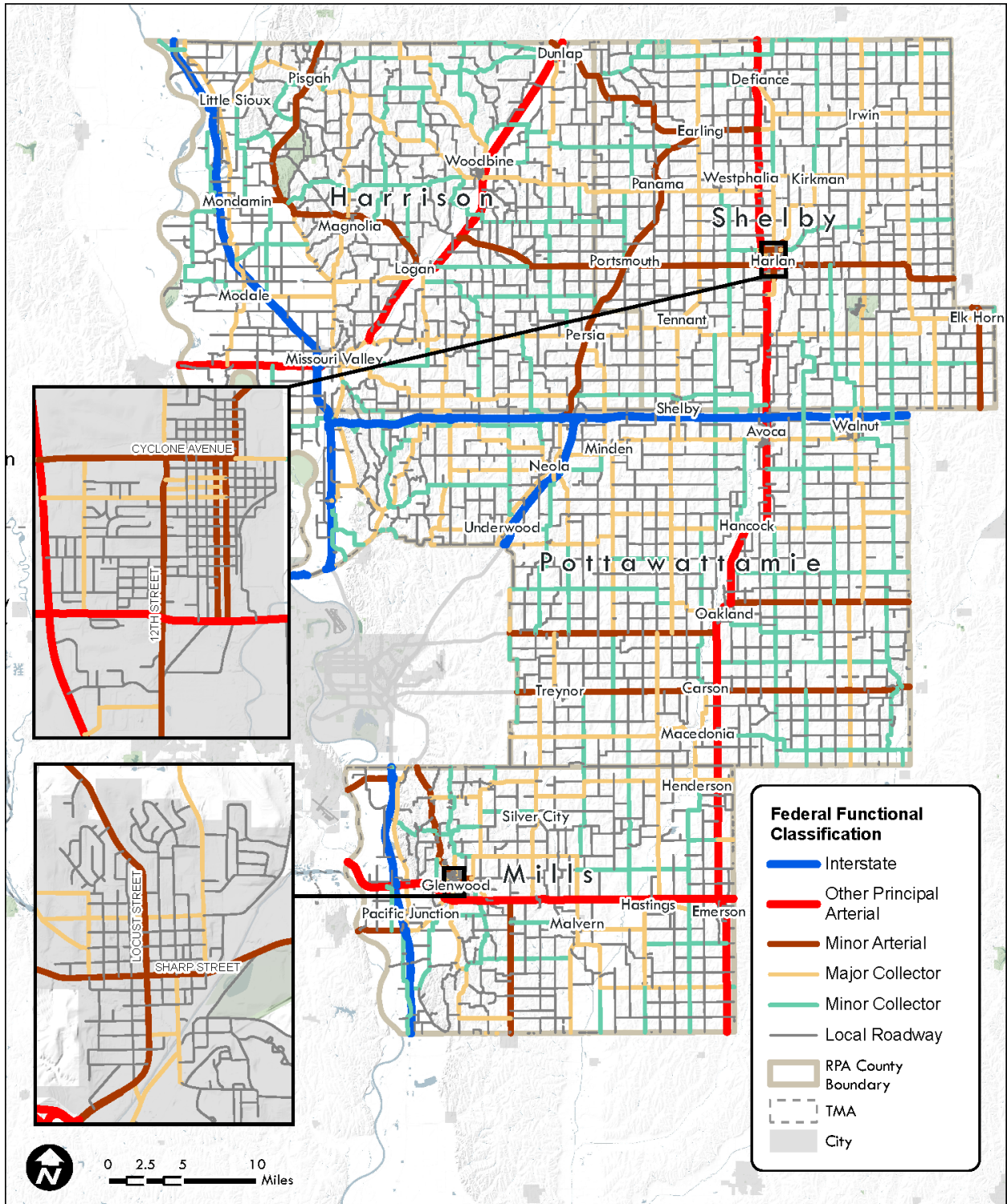


Chart 3.3: Distribution of Roadways in RPA-18 by Functional Classification

¹ FHWA. (2013 Edition). Highway Functional Classification Concepts, Criteria and Procedures. https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/



Map 3.2: RPA-18 Roadways by Federal Functional Classification

Iowa Pavement Management Program

Since 2014, Iowa DOT has funded a program which collects pavement distress data on all RPA-18 paved roads. This data was collected on a biannual basis using vehicle mounted equipment to assess road conditions, including information on cracks and the quality of the ride.² In addition to the distress data collection, videologging right of way along the collection vehicle's path, as well as the collected pavement surface image and elevation is provided. This information is made available through a web service called PathWeb.³ The specific pavement condition data collected through the IPMP program are listed in the table below.

This data, collected for segments of paved roads throughout the county and cities, is then used to calculate the Pavement Condition Index (PCI) for each segment. The PCI within cities is presented as City PCI, which uses a lower threshold for the IRI component, due to the slow speeds drivers would expect to use on these roadways.

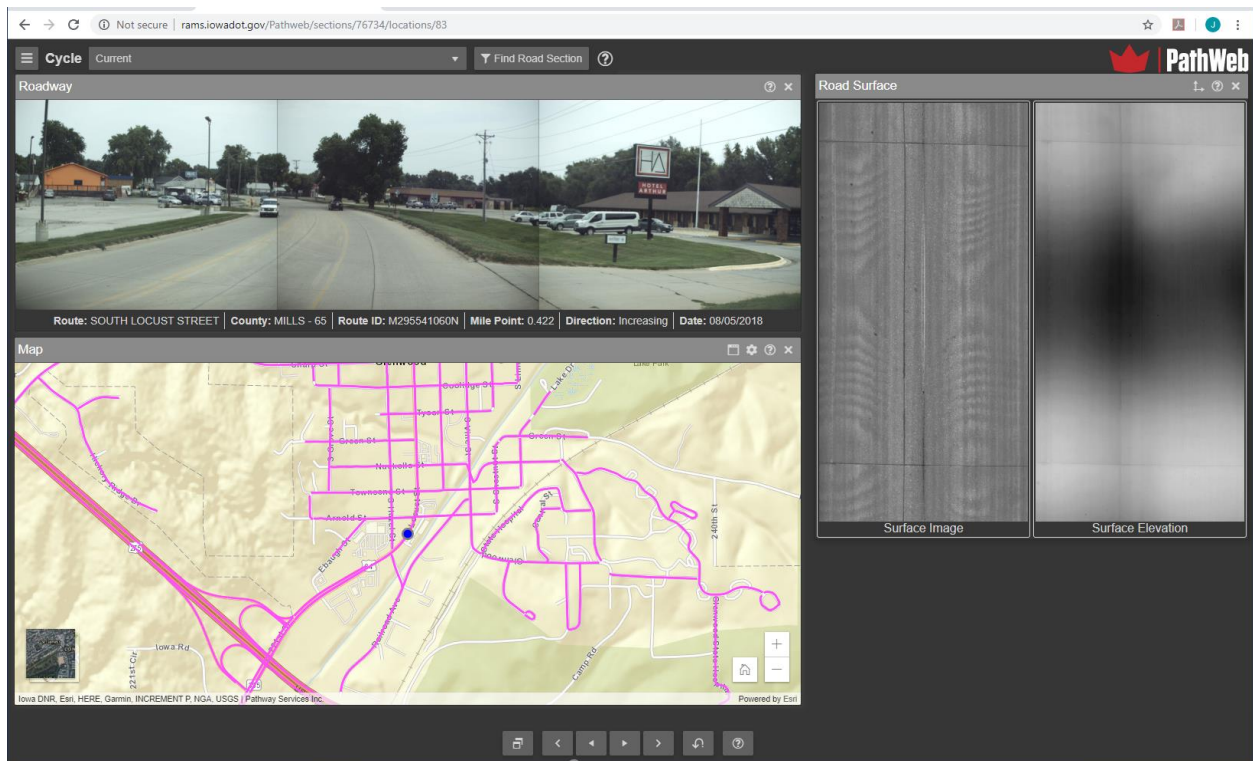


Figure 3.1: Raw Data Available from IPMP Data Collection

² <https://ctre.iastate.edu/ipmp/ipmp-services/>

³ <http://rams.iowadot.gov/pathweb/>

Table 3.1. Pavement Condition Data⁴

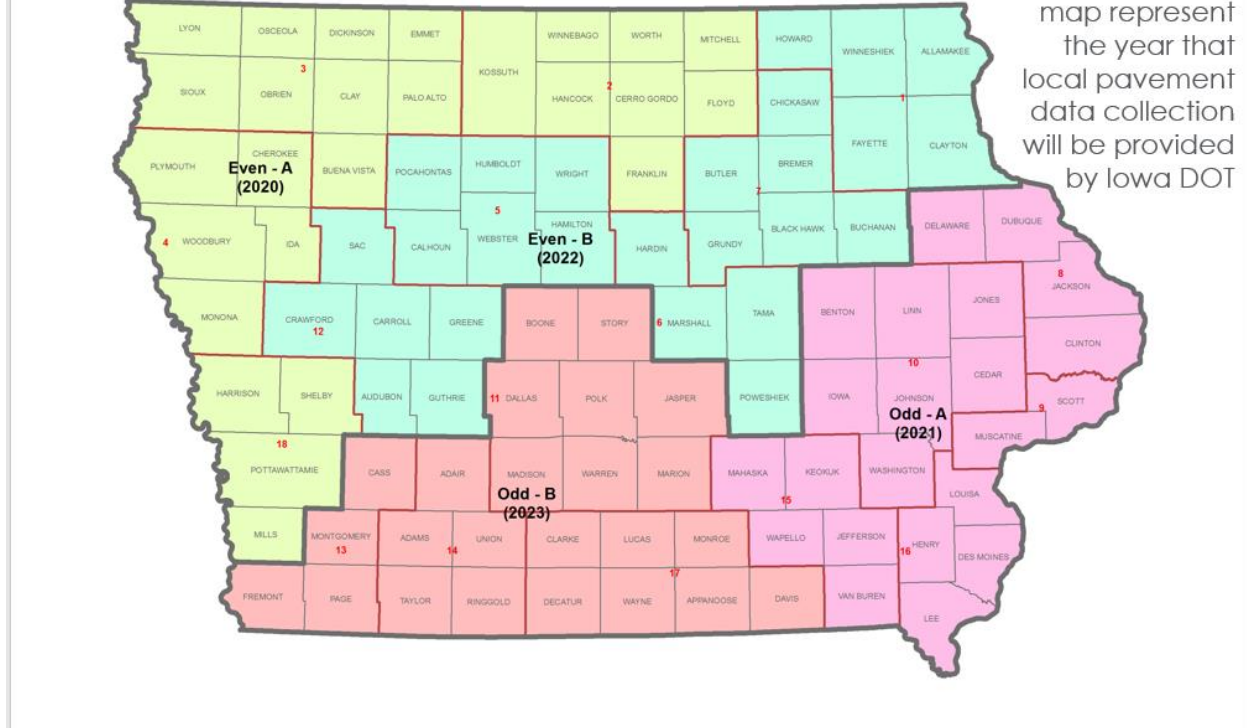
Data Collected	Description
Smoothness	International Riding Index (IRI)
Rutting	For Asphalt - measure of depression of wheel paths
Faulting	For Concrete - differential vertical displacement between adjoining slabs of pavement
Cracking	For Concrete - transverse, longitudinal, longitudinal-wheel-path, and durability
	For Asphalt - transverse, longitudinal, longitudinal-wheel-path, and alligator cracking

Data Collection Program

The existing data collection program (all paved roadways collected every two years) will be shifting to a four year plan for all local paved streets/roads (with the exception of local NHS roads). As seen in the Figure below, RPA-18 sits within the ‘Even - A’ collection area, which will be collected again in 2020 and every subsequent four years. An option is available which provides for collection of the RPA local streets and roads in the second of these four years, to be funded by the RPA.

⁴ InTrans Research. Pavement Management Performance Modeling: Evaluating the Existing PCI Equations. <https://intrans.iastate.edu/research/completed/pavement-management-performance-modeling-evaluating-the-existing-pci-equations/>

LPA Pavement Data Collection



Map 3.3: Proposed Local Public Agency Pavement Data Collection Cycle⁵

Current RPA-18 Pavement Condition

Current pavement condition for RPA-18 is depicted in the Figure below. The City PCI is used for those roads located within cities and towns, and otherwise the standard PCI value is used.

RPA-18 Pavement Condition Changes

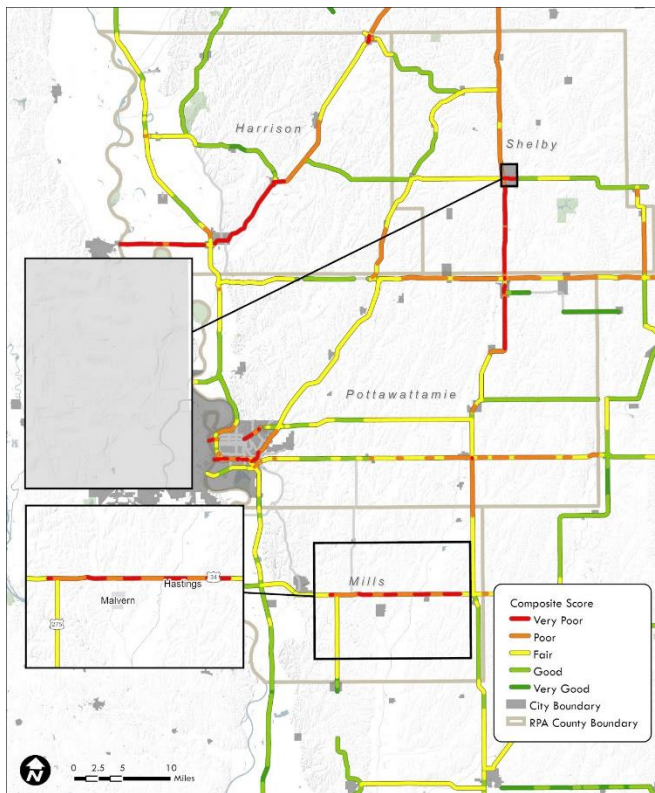
Choosing the most appropriate projects in RPA-18 do not just consider current and projected pavement conditions. The Iowa DOT evaluates the primary system using the *Infrastructure Condition Evaluation (ICE)* process, the latest version utilizes data from 2018. What makes ICE unique is that it rates segments not only by pavement conditions, but also considering overall traffic volume, contribution of single-unit and combination trucks, and congestion. In addition, safety along study corridors are also factored into an overall score, whose trend is monitored over time.

Of the 465 corridors (composed of 37,000 segments) analyzed for 2018, the stretch of US-34 in Mills County shown in the figure below ranks 456th. Although this segment received very low scores for single unit (1) and combination truck (3) in the ICE scoring (out of 10), it is even more helpful to put these scores in perspective. This 14.97 mile stretch of US-34 is a typical 2-lane

⁵ https://iowadot.gov/systems_planning/pdf/9-25-19-Local-pavement-data-collection.pdf

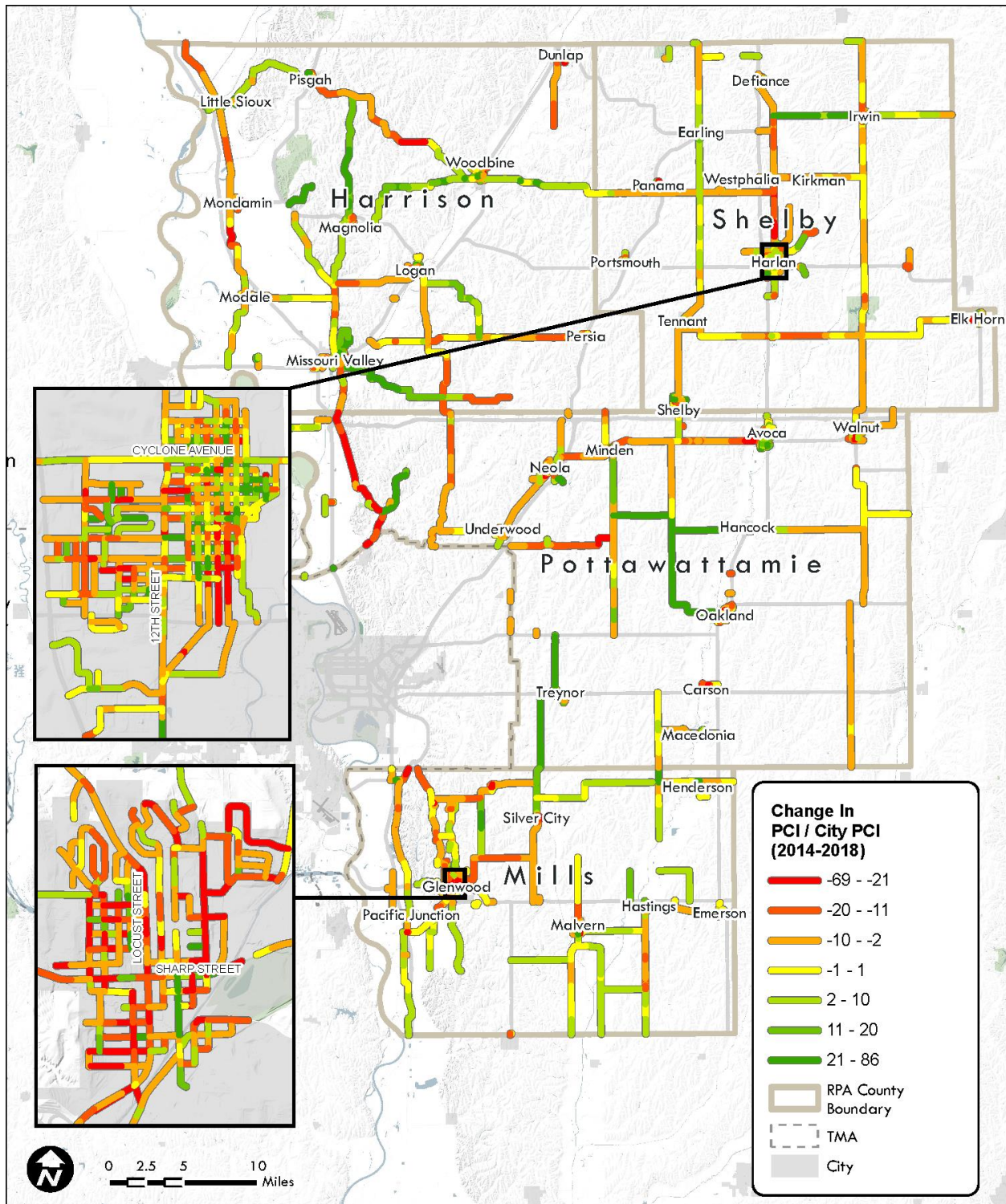
highway in Iowa. It is a designated truck route, and is classified as a principal arterial - other on the Federal Functional Classification system. Using data available from the Roadway Asset Management System (RAMS), this segment was compared to all other 2-lane truck routes with the same Federal Classification. Along these 3,500+ centerline miles of roads, the mean percentage of truck traffic is 13% (STD Dev 7.4%) and the mean, normalized PCI is 8.07 (out of 10, with a STD Dev of 1.25). However, for the segment in Mills County, the percentage of truck traffic is 16% and the normalized PCI runs from 3 to 4 along this segment.

Map 3.4: PCI rating for roadway facilities in RPA 18



RPA-18 has recommended this section be considered for a Super 2 reconfiguration for safety when the pavement condition needs are addressed. Although a majority of the pavement being considered for RPA projects does not benefit from direct measurements such as ICE, having an understanding of the function of a roadway, and a measure of its safety, can help influence not just the timing but the type of project chosen to address preservation and functionality concerns. For example, the Super 2 project can help the RPA progress towards the goals of **Preservation, Safety, and Economic** directly, while the incorporation of sound design practices will likely benefit the **Environment** goal as well.

Map 3.5: Change in PCI Index (2014-18)



3.2 | Bridges

The measure, or rating of a bridge condition in the State of Iowa is expressed in two ways. The first is the FHWA National Bridge Inventory (NBI) method, which provides a bridge rating of Good, Fair, or Poor, based upon a minimum biennial inspection collecting 116 data items to assess the bridge condition. This historical means of rating bridge condition remains the FHWA-directed assessment, and is used to describe nationally the overall condition of bridges and culverts. For bridges, the scoring of a bridge's 3 NBI items, 58-Deck, 59-Superstructure, and 60-Substructure, are utilized as described in the bridge condition table below. Iowa DOT describes these conditions in their 2018 Transportation Asset Management Program by stating, "A bridge in good condition is adequate for today's traffic and vehicle loads. A bridge with a Poor condition rating is not unsafe, but should be considered for repair, replacement, restriction posting, weight limits, or monitoring on a more frequent basis."⁶

Table 3.2: National Bridge Inventory Condition Criteria⁷

FHWA NBI Condition	Definition
Good	Lowest rating of 3 NBI items is 7, 8, or 9
Fair	Lowest rating of 3 NBI items is 5 or 6
Poor	Lowest rating of 3 NBI items 4, 3, 2, 1, or 0

The Iowa DOT has developed an additional metric known as the Bridge Condition Index. This index (on a 100-point scale) considers the bridge NBI condition along with its ability to provide adequate service and how essential it is for the traveling public. This aids in the prioritization of bridges for replacement and maintenance.

Although local bridges are the responsibility of the local jurisdiction, Iowa DOT does provide resources and programs to assist local agencies. Iowa DOT provides the Structural Inventory and Inspection Management System (SIIMS) software to local agencies as a tool to help manage local bridges. Iowa DOT also assists the local agencies with guidance and instruction in completing bridge inspections and maintaining bridge inventories. Finally, the Iowa DOT was working with

⁶ Iowa DOT (2018). Transportation Asset Management Plan. p. 14.
https://iowadot.gov/systems_planning/fpmam/IowaDOT-TAMP-2018.pdf

⁷ §490.409 Calculation of National performance management measures for assessing bridge condition.
https://www.ecfr.gov/cgi-bin/text-idx?SID=d55a4c337bf6f3bae97d9f72d8a1c6e3&mc=true&node=se23.1.490_1409&rgn=div8

MPOs and local agencies to establish performance targets for bridges that are on the non-interstate NHS yet managed by local jurisdictions.⁸

The **Iowa Bridge Condition Index** reflects the overall condition of the bridge, taking into account things such as structural condition, load carrying capacity, horizontal and vertical clearances, width, traffic levels, type of roadway it serves, and the length of out-of-distance travel if the bridge were closed.

Good: All elements of the bridge are sound. No maintenance is needed.

Fair: All elements are sound. Some preventive maintenance would prolong the life of the bridge.

Poor: One or more elements are deteriorating. Repairs or replacement will be needed in the near future.

RPA-18 bridge conditions are displayed by county in the figure below. Note that the classification 'functionally obsolete' is still included in this data, although it has been removed from FHWA guidance as a classification.

⁸ Iowa DOT (2018). Transportation Asset Management Plan. p. 28.
https://iowadot.gov/systems_planning/fpmam/IowaDOT-TAMP-2018.pdf

Map 3.6: County or City Maintained Bridge Status within RPA-18

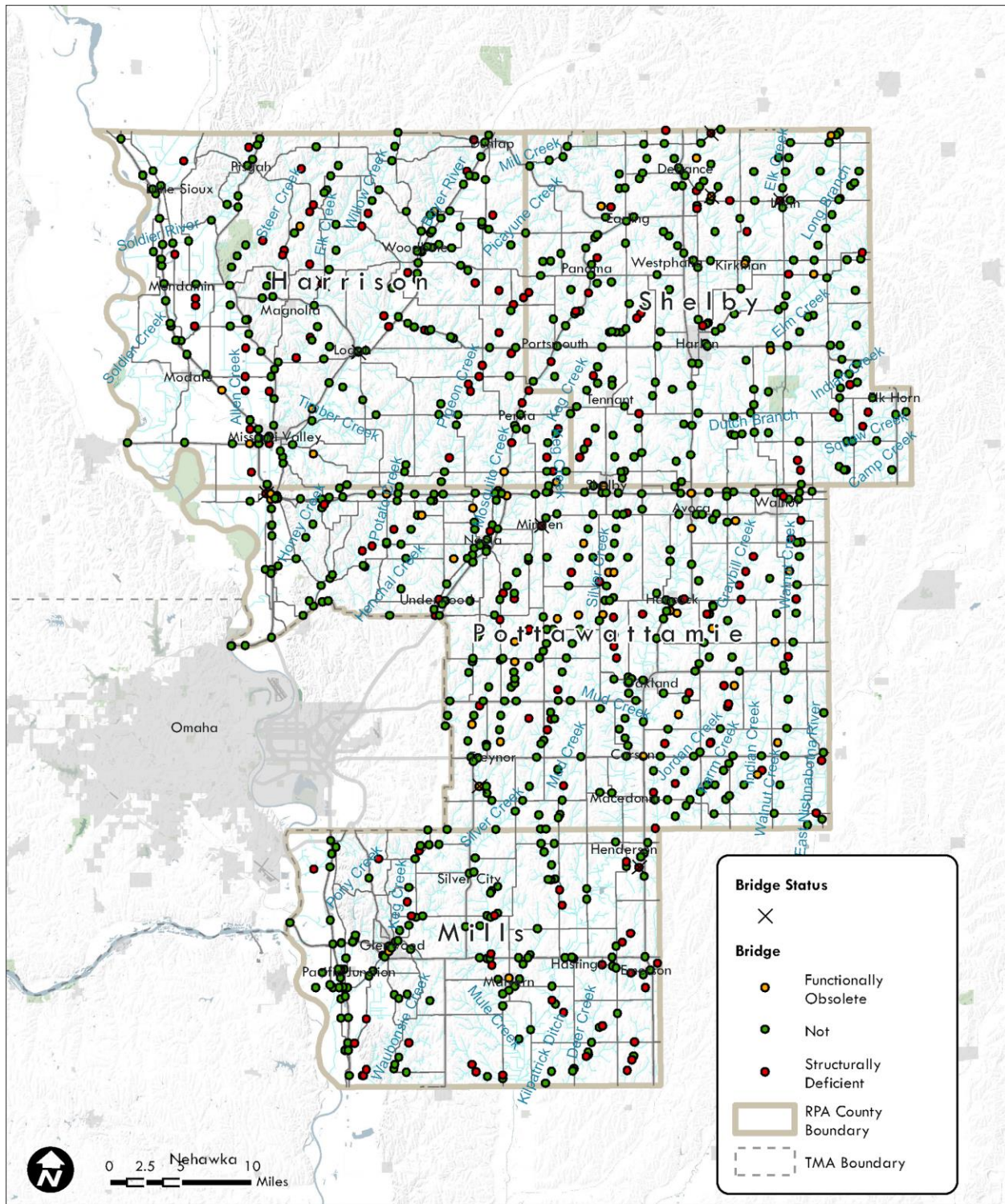


Table 3.3: Bridge condition by county are shown in the tables below.

Total Bridges by County and Condition			
County	Condition	Total Bridges	% Total
Harrison	Good	57	25.9%
	Fair	112	50.9%
	Poor	51	23.2%
Mills	Good	54	30.0%
	Fair	91	50.6%
	Poor	35	19.4%
Pottawattamie	Good	117	30.9%
	Fair	213	56.2%
	Poor	49	12.9%
Shelby	Good	70	32.7%
	Fair	115	53.7%
	Poor	29	13.6%
Region	Good	298	30.0%
	Fair	531	53.5%
	Poor	164	16.5%

Total Bridges by County and Serviceability			
County	Serviceability	Total Bridges	% Total
Harrison	Not Deficient	161	73.2%
	Functionally Obsolete	8	3.6%
	Structurally Deficient	51	23.2%
Mills	Not Deficient	144	80.0%
	Functionally Obsolete	2	1.1%
	Structurally Deficient	35	19.4%
Pottawattamie	Not Deficient	290	76.5%
	Functionally Obsolete	40	10.6%
	Structurally Deficient	49	12.9%
Shelby	Not Deficient	179	83.6%
	Functionally Obsolete	7	3.3%
	Structurally Deficient	29	13.6%
Region	Not Deficient	774	77.8%
	Functionally Obsolete	57	5.7%
	Structurally Deficient	164	16.5%

3.3 | Bicycle & Pedestrian Facilities

Sidewalks

The RPA-18 is comprised of four counties that are rural in nature. The issue of sidewalks is guided by the local codes and regulations of individual municipal jurisdictions. Inventories related to sidewalks are spread over multiple municipalities and this LRTP accepts the fact that these facilities are an important vehicle for pedestrian traffic and assumes that sidewalk facilities exist in local municipalities based on local regulations requiring such facilities.

All consideration will be given to accommodate the physically disadvantaged in the design, construction, and maintenance of bicycle and pedestrian facilities within the RPA-18. Rules and regulations promulgated under the Americans with Disabilities Act (ADA) will be incorporated into facility design as well.

Trails

There are four major trails and two minor trails in the RPA-18 region. The Wabash Trace (Pottawattamie and Mills Counties), the proposed Lewis and Clark trail along the Missouri River (Harrison, Pottawattamie, and Mills Counties), the Mormon Trail (Pottawattamie County) and the American Discovery Trail (Mills County).

The Wabash Trace is a ground stone trail that connects the Council Bluffs metro area to cities and towns in Pottawattamie and Mills counties and as far south as the Missouri state line and beyond. The proposed Lewis and Clark Trail will use the Missouri levee system as a general base with a hard surface trail atop. It will trek across the RPA-18 along the Missouri River from Fremont County into Mills, Pottawattamie and Harrison counties and continue into Monona County to the north.

The American Discovery Trail and the Mormon National Historic Trail are nationally-designated trail systems that use existing highways, trails and other routes to provide a link across the nation. The American Discovery Trail enters the RPA-18 from Montgomery County along US-34 and merges with the Wabash Trace Trail northwest of Malvern, Iowa. The Mormon National Historic Trail enters the RPA-18 from Cass County on IA-92 and crosses Pottawattamie County where it ties in with the trail system in Council Bluffs. Both trails currently use the US-275 Bridge to cross the Missouri River and connect into the Nebraska trail system in Omaha.

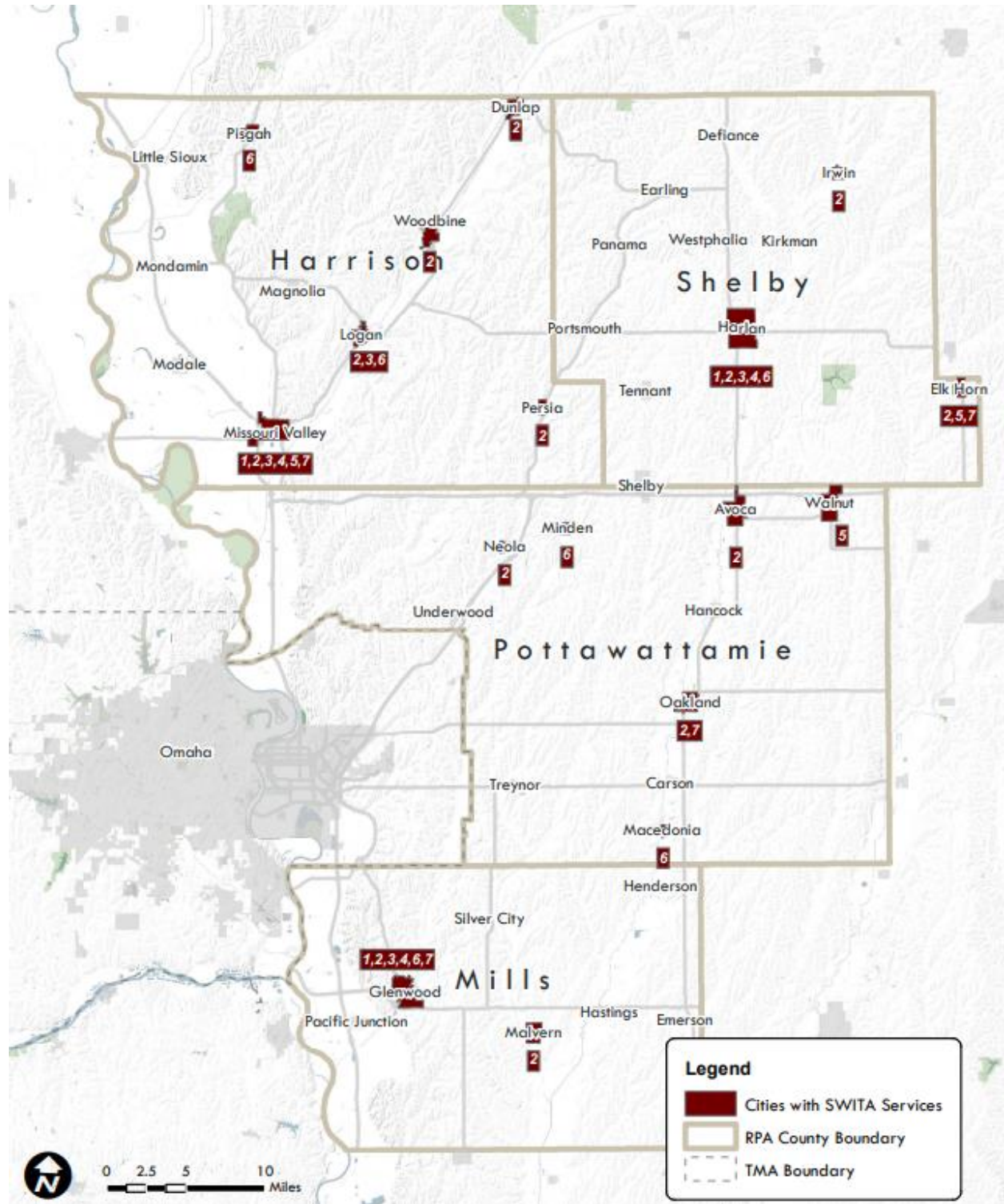
Minor trails in the RPA-18 are the Walnut Nature Trail and the Stone Arch Trail in Shelby, Iowa. These trails do not connect to a regional trail network but offer trail access to the towns of Shelby and Walnut.

3.5 | Public Transportation Facilities

Office support is provided by six full time staff includes the Fleet Maintenance Specialist, Transit Coordinator, three Transit Assistants, and a Transit Director. Service is provided by 55 of which are drivers. Many of these are retirees or women that previously worked in the home. Frequently, part-time drivers work a split shift, with a long break in the middle of the day. This type of scheduling also helps to reduce staff costs, as drivers are maintained as part-time workers.

Much of the service is concentrated on helping rural residents find access to social services and perform basic activities, like shopping, banking, and errands. Although the basic service model is individually scheduled demand response, SWITA has a very flexible philosophy for agencies wishing to contract with SWITA on an on-going basis.

Map 3.7: SWITA Services in RPA 18



3.6 | Intercity Bus Facilities

Greyhound

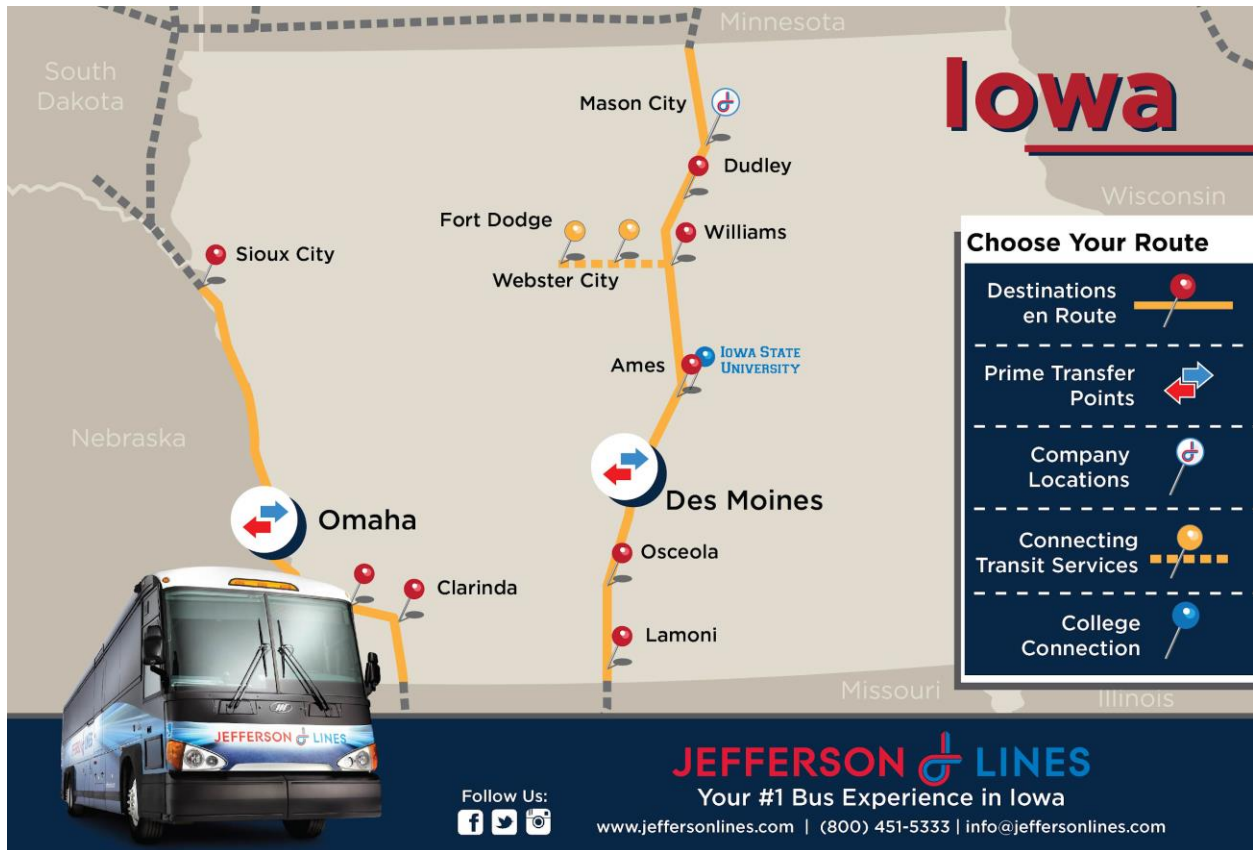
Greyhound Bus Lines provides nationwide bus service that locally picks up passengers near the RPA region in Omaha, Nebraska.



Map 3.8: Greyhound Route Map

Jefferson Lines

Jefferson Lines provides regional bus service within the Central United States and Upper Midwest region. Jefferson Lines picks up riders in Omaha, Nebraska, and Shenandoah, Iowa, both near the RPA region. Service for Jefferson Lines includes service to Kansas City and other parts of Iowa.



Map 3.9: Jefferson Lines Route Map

3.7 | Rail

The RPA-18 is fortunate to be served by two major rail facilities and two short-line regional railroads:

- Union Pacific Railroad (UPRR)
- Burlington Northern- Sante Fe Railroad (BNSF)
- Chicago Central and Pacific Railroad (CCPRR)
- Iowa Interstate Railroad (IIRR)

The UPRR operates a Class I rail line that offers transcontinental service to and through the RPA-18. The BNSF also offers Class I rail service that provides a rail link from the west coast of the United States to Chicago. The BNSF line in Mills County is part of the Strategic Rail Corridor Network (STRACNET) and carries the AMTRAK passenger line.

The CCPRR and the IIRR operate Class II rail facilities that provides for local and regional rail service to and through the RPA-18.

Map 12 identifies the main-line sections and major spurs associated with the 4 rail systems that operate on the RPA-18 region. The map also identifies the density of rail traffic in Ton Miles. Rail densities range from approximately 1 Ton Mile for the Class II facilities to over 150 Ton Miles for the Class I carriers.

Rail Deficiencies and Improvements

The number of industries served by Class I and Class II rail facilities is increasing. Existing biofuel plants in Mills County (and across the Missouri River in Nebraska) are expanding. New facilities in Mills County will require additional rail service. There is also a need to address multi-modal transfer issues (rail to truck, pipeline to rail, etc.) to facilitate growth related to rail.

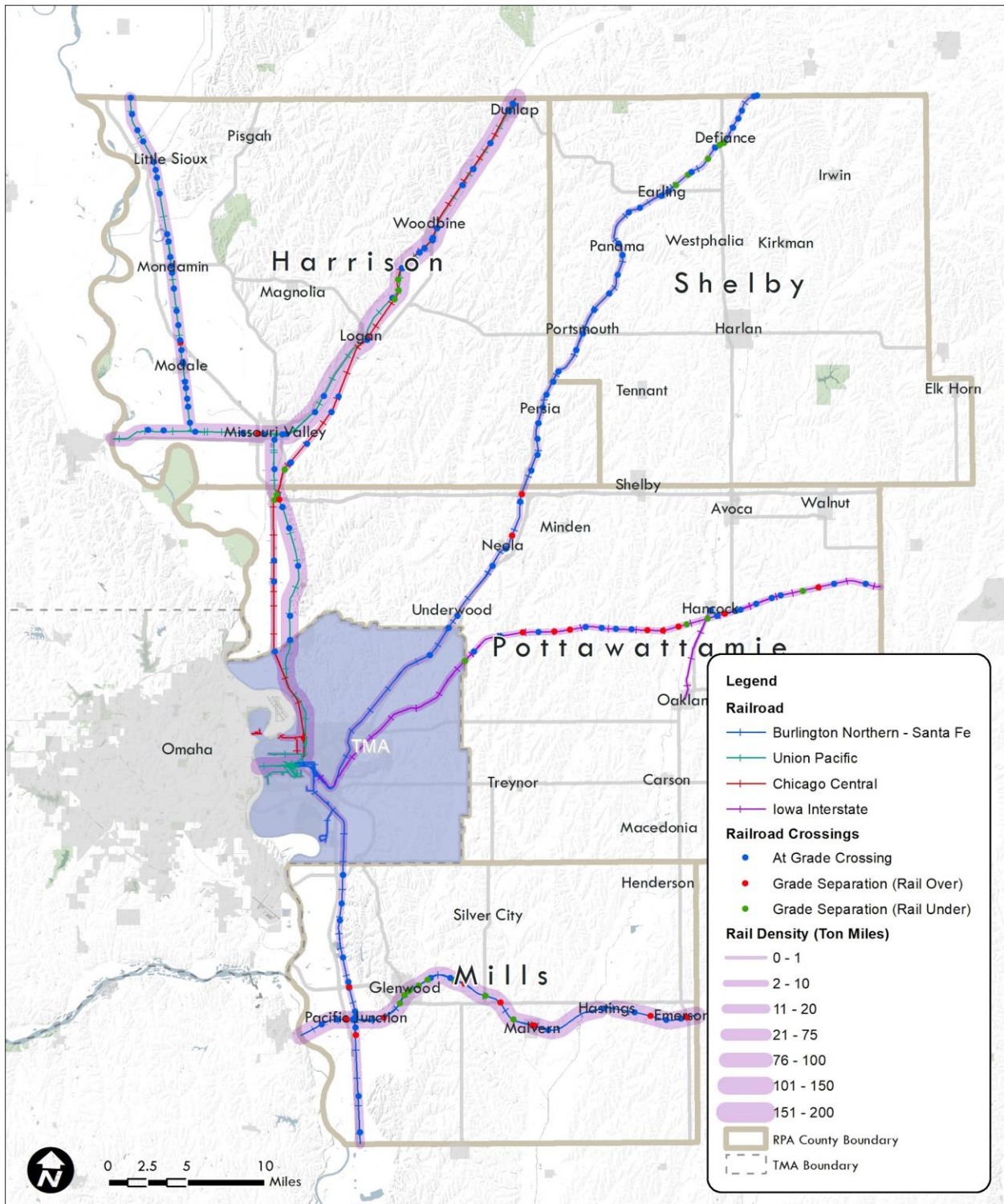
There are many sub-standard railroad crossings that offer a less-than-safe crossing of existing rail facilities. The RPA-18, through the local jurisdictions, will work with the rail industry to update, upgrade and eliminate substandard railroad crossings within the region.

Rail facilities in the RPA-18 are owned and operated by private industries. As such, they are governed by each respective company and their long range planning efforts. The RPA-18 will work with the rail industries, as well as businesses served by the rail industry to maximize the safe and efficient rail system in the RPA-18 region.

Funding

Rail service is a private concern and operated by public and private corporations. Operation and maintenance costs are expended by these corporations. There are, however, funding sources available from the Iowa DOT for rail crossing safety, economic support for spur lines and other concerns.

Map 3.10: Railroads in RPA 18 Region



3.8 | Aviation

Inventory

There are two airports within the RPA-18 region– one in Harlan and one in Woodbine. The Council Bluffs Airport is located just outside the RPA-18 area within the MAPA TMA and provides general aviation service to residents and businesses within the RPA-18. Additional general aviation airports in the cities of Blair, Omaha (North Omaha Airport and Millard Airport) and Plattsmouth, NE, serve the RPA-18 region as well.

The RPA-18 is fortunate to be served by four Commercial Airports within hours of the RPA-18 region. The Des Moines International Airport in Des Moines, IA; the Sioux Gateway Airport in Sioux City, IA; the Kansas City International Airport in Kansas City, MO; and Eppley Airfield across the Missouri River in Omaha, Nebraska. These facilities provide regional, national and international connectivity for freight and people in the RPA-18 region. Table 8 (next page) includes a summary of the characteristics of RPA-18 aviation facilities.

Harlan Municipal Airport

The Harlan Municipal airport offers a complex consisting of two active runways for air traffic as well as a terminal building, aircraft storage hangers and fueling operations. The facility also maintains a paved (concrete), 3,500 sq. yard apron with tie downs for five aircraft and a parking area for eleven vehicles.

There were 26 single engine and 1 multi engine aircrafts based at Harlan (in 2010) generating approximately 6,750 annual operations. These figures are projected to increase to 35 aircraft and 8,750 annual operations by 2030.

The Harlan Municipal airport is recognized in the Iowa Aviation System Plan as a general service airport. It provides service for the local area and also provides some business needs.

Woodbine Municipal Airport

The Woodbine Municipal Airport consists of one turf runway facility. No aeronautical or administration services are available at the site. There are, however, five conventional hangar facilities that provide storage for 5 aircraft.

In 2010, there was one single engine aircraft and one ultralight aircraft based at the Woodbine airport with annual operations of 500. Projections show limited increases to 3 aircraft and 750 annual operations in 2030.

The Woodbine Municipal airport is identified as a basic service airport in the Iowa Aviation System Plan. It offers basic aviation operations for local users.

Map 3.11: Airport and Helipad Facilities in RPA 18 Region

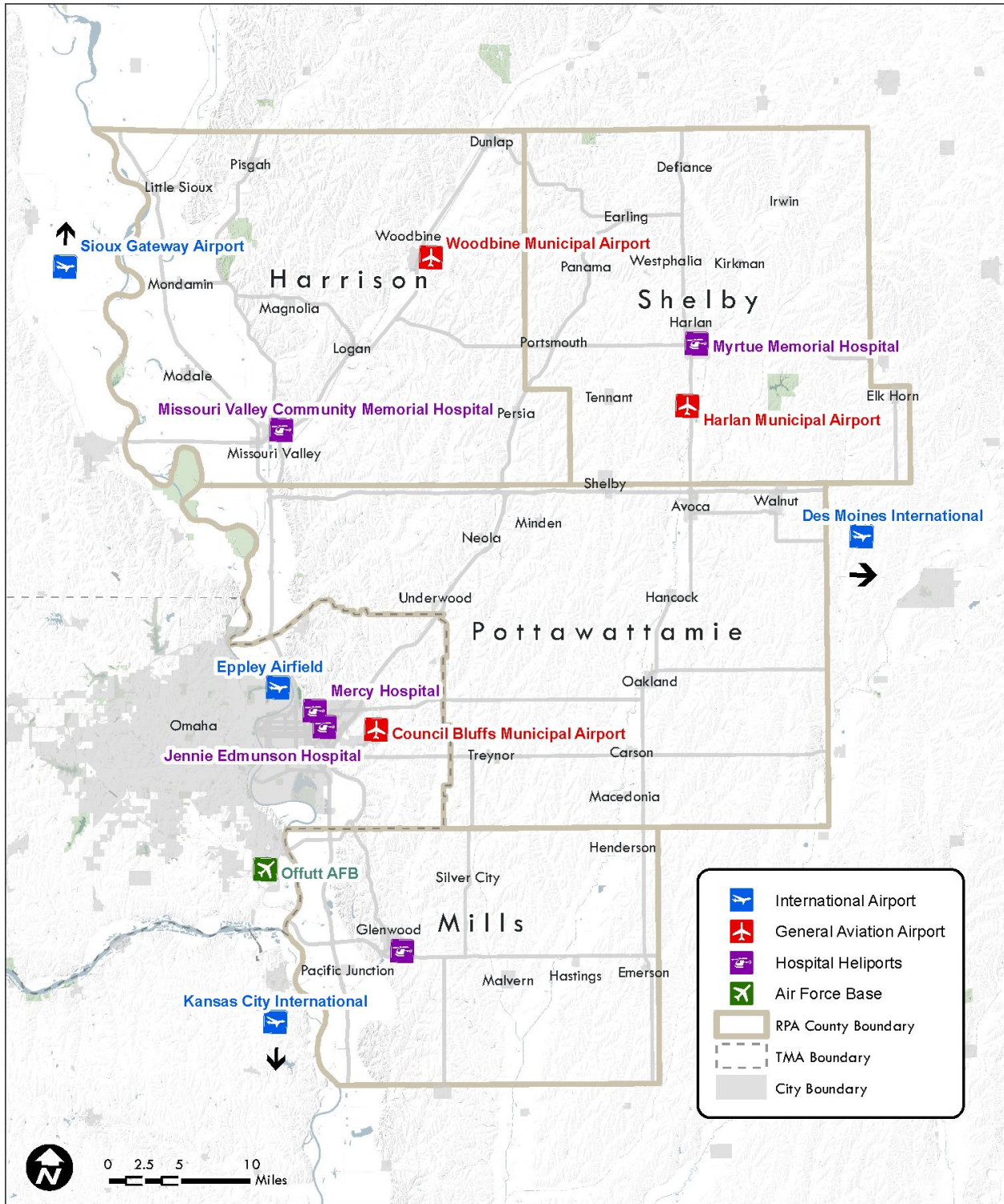


Table 3.4: Runway facilities in RPA -18

City	Runway	Surface	Width (ft)	Length (ft)	Runway Lights	Approach Lights	VGSI
Woodbine	17/35	Turf	95	2,045	LIRL	None	None
Harlan	03/21	Turf	120	1,700	None	None	None
	15/33	ASPH-CONC	75	4,100	MIRL	None	PAPI
Council Bluffs	18/36	CONC	100	5,500	HIRL	REIL	PAPI
	14/32	CONC	60	3,650	MIRL	REIL	PAPI

Source: Iowa DOT Office of Aviation 2010-2030 Aviation System Plan

Heliport Facilities

There are three heliports that service the RPA-18 that are located at hospitals in the RPA-18 and the Council Bluffs-Omaha MPO. Heliports at Jennie Edmondson General Hospital in Council Bluffs, Myrtue Memorial Hospital in Harlan and the Glenwood Resource Center in Glenwood provide facilities and staff to dispatch Medivac helicopters to areas of need within the RPA-18.

Identified Deficiencies

Both Harlan and Woodbine offer runway lighting, Medium Intensity (MIRL) in Harlan and Low Intensity (LIRL) in Woodbine. Neither municipal airport offer Runway End Identifier Lights (REIL).

While Harlan supports one paved runway, the Woodbine airport does not. Lack of a paved runway limits the size of aircraft that can use the facility and limits usage to times of good weather.

Proposed Improvements

Proposed improvements aimed to address identified deficiencies are to add REIL at each facility and to extend and pave the runway facility in Woodbine. Additionally, each airport wants to increase user amenities at each facility (automobile parking, restroom facilities, phone, etc.). Improvements funded with federal dollars, or those of regional significance, are identified in Table 9 and Table 10 Below.

Table 3.5: Anticipated Airport Facility needs

Airport	Project Description	Funding Needed
Council Bluffs	Install a Remote Communications Outlet	\$25,000
Council Bluffs	Construct 17 T-hangar Units	\$1,105,000
Council Bluffs	Airport Layout Plan Update (2011, 2019, 2027)	\$1,350,000
Harlan	Rehabilitate Runway 15/33 and install new Runway End Identified Lights (REILs)	\$600,000
Harlan	Construct Conventional Hangar	\$600,000
Harlan	Airport Layout Plan (ALP) update (2011, 2021)	\$1,700,000
Total		\$5,380,000

Source: Iowa DOT Office of Aviation 2010-2030 Aviation System Plan

Airport	Project Description	Funding Needed
Council Bluffs	Replace Automates Weather Observing System (AWOS) equipment	\$126,315
Council Bluffs	Construct Runway 18 Stormwater and Drainage Plan	\$690,715
Council Bluffs	Construct Airport Stormwater Management Plan	\$978,300
Council Bluffs	Acquire Lake and Pond	\$500,000
Council Bluffs	Construct Taxiway B	\$482,845
Council Bluffs	Acquire Snow Removal Equipment	\$850,000
Council Bluffs	Apron Taxiway Expansion	\$767,051
Council Bluffs	Vehicle Parking Lot	\$149,125
Council Bluffs	Upgrade Fuel System	\$466,000
Council Bluffs	Corporate Hangar Area Apron	\$450,000
Council Bluffs	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR)	\$1,800,000
Harlan	Rehabilitate Runway and Design	\$45,000
Harlan	Replace AWOS Equipment	\$131,580
Harlan	Apron Major Rehabilitation	\$121,172
Harlan	Acquire Land	\$284,000
Total		\$7,842,103

Source: Iowa DOT Office of Aviation 2010-2030 Aviation System Plan

Safety and Security

Proposed improvements to runways and approach lighting, as well as other mechanical enhancements and functional improvements, only add to the safety of the airport facilities and their users.

Security measures for airports are a function of their size, activity and use. Security measures for the Harlan and Woodbine airports should be addressed in a comprehensive security plan commensurate with their current and planned operations. Security signage is currently posted at each airport facility.

Financial

The Harlan Municipal airport is part of the National Plan of Interoperated Airport Systems (NPIAS). As such, it is eligible for federal Airport Improvement Program funding (AIP). The Woodbine Municipal airport is not on the NPIAS and is not eligible for federal aviation funding.

Applications for federal funding are submitted to the Iowa DOT, prioritized and submitted to the Federal Aviation Administration (FAA) for selection. Project funding is limited to grants offered directly to the airport sponsor. Financial constraint for these funds is based on the amount of the AIP grant, and other funding sources, and not constrained by the RPA-18.

Both Harlan and Woodbine Municipal airports are eligible to apply for state airport improvement and vertical infrastructure funding. As with federal funding, application for such funds is through the Iowa DOT.

Funding

Federal Airport Improvement Program (AIP) – funding for airport improvements and airport planning. Public agencies owning public use airports in the Federal Aviation Administration’s (FAA) National Plan of Integrated Airport Systems are eligible to request funds.

State Airport Improvement Program – funding for publicly owned airports in Iowa for airport development, emergency operational repairs and pavement maintenance.

Airport Vertical Infrastructure Program – state funding for publicly owned commercial service and general aviation airports for improvements to vertical infrastructure.

Summary

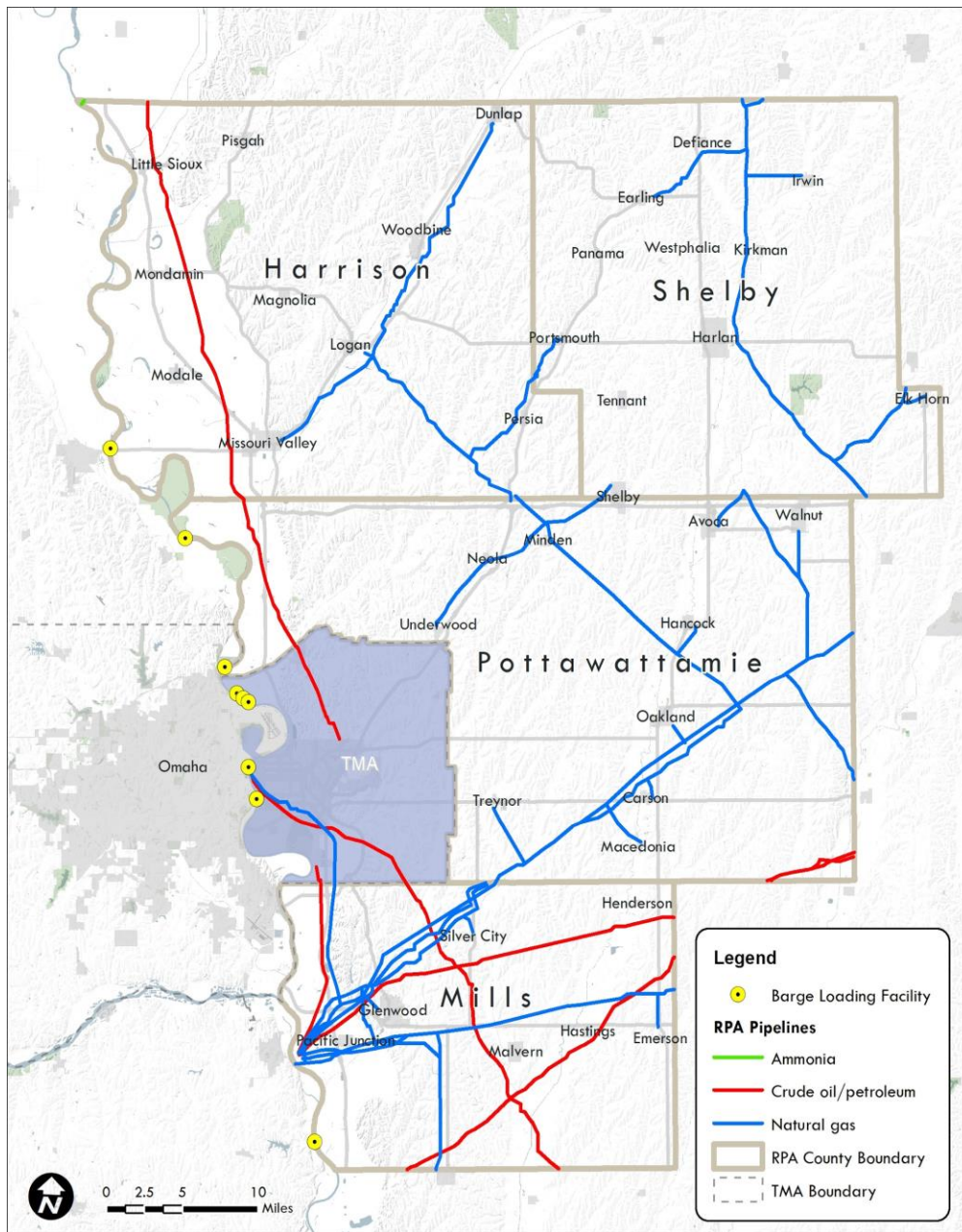
The airport facilities located in Harlan and Woodbine offer aviation services based on the current needs. There are potential improvements that can be made at each facility that will provide increased functionality at each of them. These improvements will be made at the leisure of the cities of Harlan and Woodbine based on need and financial availability.

The RPA-18 will continue to support efforts of the local airports. The RPA-18 will work with each airport facility to provide safe, secure and accessible facilities that support air service and promote economic opportunities in the region.

3.9 | Pipeline

There are several pipelines that traverse the RPA-18 region that ship multiple commodities. Anhydrous ammonia, crude oil and natural gas are all transported to cities in the RPA-18 from outside of the region. All pipelines in service in the RPA-18 region are privately owned. As such, any deficiencies associated with the pipeline system will be identified and rectified by the individual owner. The RPA-18 will work to coordinate construction projects with the pipeline concerns to maintain the integrity of the service offered by the pipelines. The RPA-18 will also work with the pipeline vendors to provide multi-modal transfer of their respective services.

Map 3.12 Pipeline Facilities in the RPA 18 Region



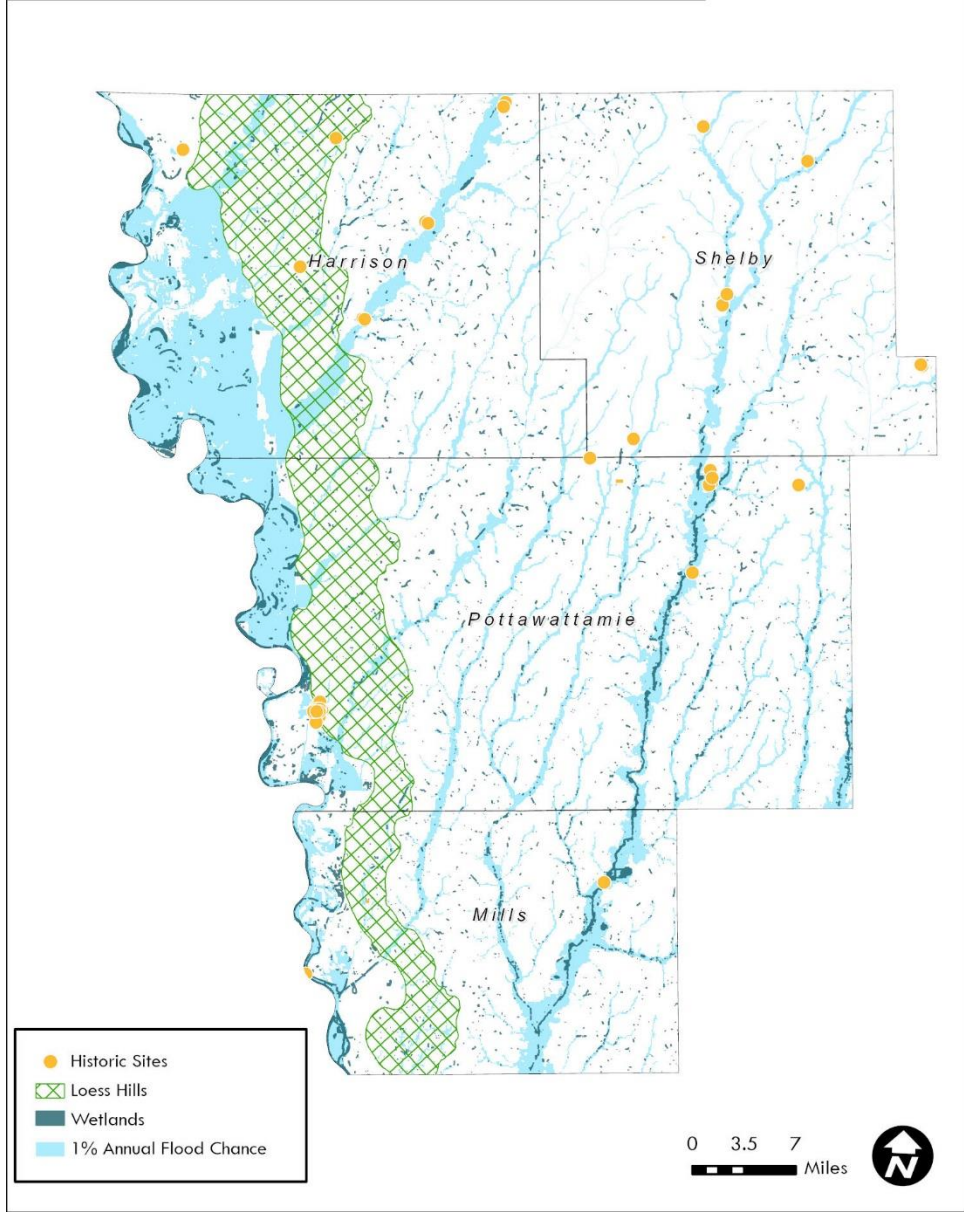
3.10 | Waterways

Water freight transportation for RPA-18 takes place on the Missouri River. Recently, low water levels have caused barge traffic on the Missouri River to decline. Several other factors have also led to the decline of barge traffic on the Missouri River as well. While the Mississippi River has a system of locks in order to support barge traffic, the Missouri River does not. The Missouri River also has a narrower channel than the Mississippi, resulting in higher flow speeds. These higher speeds cause greater resistance and greater fuel consumption on upstream traffic—making it less efficient to operate on this waterway.

In order to deal with the low water levels and fast currents of the Missouri, shallow draft Missouri River tugs were designed and built. These tugs can navigate the channel much more efficiently and effectively than their Mississippi River counterparts. However, due to the decrease in overall traffic on the Missouri River, the vast majority of Missouri River-specific tugs were shipped to South America. There is currently one Missouri River-specific tug that operates in the United States today.

The availability of rail transport is also a contributing factor to the decline of water freight in the region. While no port facilities presently exist in the RPA-18 region, a study is currently underway to evaluate the potential for an intermodal facility in Mills County near the Missouri River. A similar study was conducted for a site within the MAPA Transportation Management Area (TMA) north of Council Bluffs, which demonstrated the potential market for an intermodal connection in this area. Significant flooding in 2011 has stalled development of this northern site and work is still underway to determine the feasibility of the Mills County facility.

Flood Zones, Wetlands, Conservation Areas and Historic Sites



Map 3.13: Flood Zones, Wetlands, Conservation Areas and Historic Sites in RPA-18 Region

3.11 | Pavement and Bridge Performance Measures

The Moving Ahead for Progress in the 21st Century (MAP-21) Act directed the establishment of performance measures to assess pavement condition of the Interstate and National Highway System, as well as bridges on the NHS. No municipalities or counties within RPA-18 are responsible for NHS roads, so these measurements do not directly impact RPA planning, but an understanding of the statewide performance and targets is useful to consider alongside local asset management planning.

Table 3.6: Iowa DOT Pavement and Bridge Condition Performance Targets

Performance Measure	Iowa State Target ⁹	
	2-Year	4-Year
Percentage of pavements of the Interstate System in Good condition	N/A	49.4%
Percentage of pavements of the Interstate System in Poor condition	N/A	2.7%
Percentage of pavements of the non- Interstate NHS in Good condition	48.8%	46.9%
Percentage of pavements of the non- Interstate NHS in Poor condition	13.2%	14.5%
Percentage of NHS bridges classified as in Good condition	45.7%	44.6%
Percentage of NHS bridges classified as in Poor condition	3.7%	3.2%

⁹ <https://www.fhwa.dot.gov/tpm/reporting/state/condition.cfm?state=iowa> and https://iowadot.gov/systems_planning/fpmam/2018-Baseline-Performance-Period-Report.pdf

3.14 | Transit Asset Management Performance Measures

The performance targets below

Table 3.7: Iowa DOT Pavement and Bridge Condition Performance Targets¹⁰

Asset Category	Class	Current Status	2019 Target
Revenue Vehicles	Automobiles	6% of fleet exceeds ULB of 8	6%
	Buses	6% of fleet exceeds ULB of 14	3%
	Cutaway Buses	6% of fleet exceeds ULB of 8	40%
	Trolley	6% of fleet exceeds ULB of 13	0%
	Vans	6% of fleet exceeds ULB of 8	35%
	Minivans	6% of fleet exceeds ULB of 8	22%
Equipment (Non-Revenue Vehicles)	Automobile	41% of non-revenue service vehicles exceeds ULB of 8	50%
	Other rubber tire vehicle (tractor)	6% of fleet exceeds ULB of 14	100%
Facilities	Admin/Maintenance Facility	0% of facilities rated under 3.0 on TERM scale	0%

Funding Deficiencies

Funding is the driving force to achieve the goals of this LRTP. It is anticipated that the RPA-18 will have a shortfall of funding to meet all the needs of the jurisdictions within the RPA-18 region. Lack of adequate funding to address deficiencies in the various transportation systems is, in itself, the largest deficiency posed by those involved. These issues require even more consideration to the identification of needs during the planning process and vigilant asset management to make the greatest impact with scarce transportation funding.

¹⁰ https://iowadot.gov/systems_planning/fpmam/Iowa-2019-transit-asset-management-targets.pdf

Proposed Improvements

Most improvements to the street and highway systems in the RPA-18 region are directed to maintain the current system. Overlay, patching, drainage and other maintenance activities will dominate the future improvements over the next 20 years. Capacity improvements to some primary and secondary roads may be needed to relieve existing and future congestion and will be identified by their respective jurisdiction.

Tables _ & _ identifies planned improvements over the time horizon of this plan. They are grouped into two functional time frames: Action Plan (0 to 5 years) and long term (6 to 20 years). Project priorities are limited to the two time cohorts and no priority is implied within each individual time frame.

Given the various modes and jurisdictional responsibilities, planned improvements are grouped into 4 categories:

- Primary roads (predominantly Iowa DOT facilities, all federal aid-eligible)
- Federal aid-eligible secondary roads (county facilities)
- Other modes (Transit, Rail, Air, Ports, Trails, Historic Preservations, Scenic Byways)
- Local projects of regional Significance / major, non-federal funded projects.

4 | Transportation Options

Communities and regions with a multitude of transportation options are more vibrant, economically competitive, and sustainable place. Whether a trip serves purposes of employment, education, activity in the community or access to vital services, the community and the user both see an enhanced benefit due to the connection made. Through these goals and strategies, residents will see an increase in accessibility options for the RPA-18 region.

More transportation options = More opportunity

Movement of people and goods often requires many different modes of transportation, whether via personal automobile, public transportation, freight trucks & rail, or even by air and water. Transportation nodes like cycling provide many with a recreational transportation opportunity, and when supported heavily enough, can be viable commuting option. Communities with multiple different transportation options promote opportunities to enhance the connectivity between modes and the transportation choices available to residents in the RPA-18 region.

Enhanced Development Capabilities

Long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system

Future Priorities

Future transportation infrastructure and facilities for regionally significant projects – major surface transportation projects that support or otherwise impact the operation of the federally-supported transportation system, including, but not limited to, capacity changes, new accesses, and new roadways

Discussion of transportation enhancement activities, including those related to transit and intercity buses

Current status and potential projects/challenges related to pedestrian and bicycle facilities

217g, bicyclists and pedestrians shall be given due consideration, including with regard to safety and contiguous routes, in transportation plans; bicycle and pedestrian facilities shall be considered where appropriate

4.1 | Passenger Transportation

Rural transit within the RPA-18 region is provided by the Southwest Iowa Transit Agency (SWITA). The goal of this service is to maximize user trips on a daily basis and service as many people as possible. SWITA, based in Atlantic, consists of 94 vehicles and 87 employees providing various services throughout the eight-county region.

Service is door-to-door, and is offered 24/7 weekdays pending vehicle and driver availability with live dispatch available from 6:00 a.m. to 5:00 p.m., Monday through Friday. Service is provided by a 68 vehicle fleet, in addition to a contracted fleet available through taxi companies, human service agencies, and other private providers.

As a Metropolitan Planning Organization (MPO) and RPA administrator, MAPA works with federal, state, and local agencies and citizens to coordinate transit at the regional level for the RPA and the Omaha Metropolitan Area. MAPA receives federal funds to develop regional transportation plans and programs and to coordinate technical and policy committees around transit.

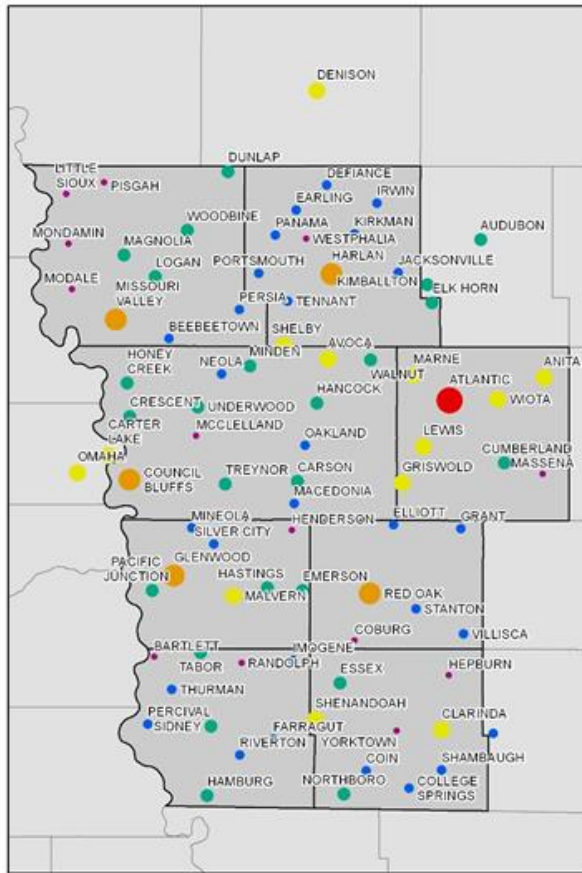
As the RPA-18 region faces the nationwide trend of an increasingly older population new needs and stresses will be added to the existing transportation, housing, and social service providers. With aging rural populations currently impacting this community there is substantial pressure on existing providers to expand their services into areas that are more difficult due to their less decentralized nature.

Existing Conditions: Southwest Iowa Transit Agency (SWITA)



SWITA provides service to the elderly, disabled, and Head Start students within the RPA-18 area. Map 4.1 shows the trip origins for each of the cities in the RPA. In order to meet the needs of various agencies and organizations, and to extend the reach of SWITA, service is structured in a variety of ways:

Map 4.1: SWITA Service Types



TYPES OF SERVICE

Direct Service - SWITA provides the vehicle and the driver, and bills the agency contracting for service on a per mile ride, per hour, or a flat rate.

Taxi Voucher - SWITA contracts with cab companies to accept taxi vouchers provided for seniors and persons with disabilities, and SWITA reimburses the difference between the voucher value and the total fare. SWITA counts these trips in its service statistics.

Lease Vehicle, Agency Operates - SWITA will provide a vehicle to an agency when an agency staff person operates the vehicle.

Shopping Trips - Prescheduled shopping trips are available in Fremont, Harrison, and Page Counties as well as The City of Atlantic.

VEHICLE INVENTORY

Currently SWITA has a consisting of full sized buses, light duty buses, and ADA compliant minivans that serve most of the RAP area. These vehicles are between 16 and a year old, for additional information see the chart below. SWITA also provides special transit services to the City of Council Bluffs. Currently SWITA provides open transit to Atlantic, Glenwood, Harlan, Missouri Valley, Red Oak, and Shenandoah. Medical trips are provided through the entire region. In addition to regular

transit and medical trips SWITA partners with several local employers to provide work routes and is expanding these programs.

SWITA is the primary transit provider in the RPA with some supplemented by cab companies, social service agencies, and Church volunteer groups. There is not sufficient density in most of the RPA to make ridesharing apps a viable transportation option.

Coordination at the RPA level is done through a regional Transportation Advisory Group (TAG) that SWITA holds quarterly. The TAG is made up of local social service agencies, governmental entities, hospitals, and MAPA.

Health and Human Service Agencies

The following chart lists the types of services available through the six (6) health and human service agencies responding to our survey that provide transportation using agency-owned or leased vehicles. These organizations do not receive transit funding through contracts with SWITA or Metro Area Transit (Metro).

Table 4.2: Health and Human Service Agency Inventory

Agency	County	City	Type of Service	Fixed	Demand
Support Services of South Central Iowa	Adair	Greenfield	Disabled		ü
Elm Crest Retirement	Shelby	Harlan	Elderly		ü
Faith in Action Volunteers	Fremont	Sidney	Other	ü	ü
Children’s Square	Pottawattamie	Council Bluffs	Disabled/Youth		ü
Partnership for Progress	Cass	Atlantic	Disabled		ü
Park Place RCF/PMI	Cass	Atlantic	Other	ü	ü

In the appendix is a chart listing the types of services available through health and human service agencies responding to this and the previous survey using agency-owned vehicles, contracted transportation services, or volunteers/staff driving personal vehicles.

Needs and Projected Gaps in Transit Service

Like many rural regions the RPA-18 faces issues of rapidly aging populations who require additional health and social services with dwindling local tax options. This disparity puts pressure on local transit services and creates gaps in current services.

The twenty-three human services agencies responding to the PTP Survey identified a number of transportation deficiencies and barriers to providing transit services to their clients.

Service needs:

DEFICIENCIES:

1. Transportation to work (including job searches and jobs in metropolitan area)
2. Assistance to elderly/wheelchair clients
3. Night and weekend services
4. General public needs

BARRIERS:

1. Affordability – high costs with lack of funding
2. Hours of operation
3. Marketing/education about available services
4. Lack of coordination/cooperation

Given the sparse population spread over a large area, combined with the limited availability of resources in equipment, manpower, and funding, addressing these deficiencies is always a challenge.

Goals and Strategies - Passenger Transportation Plan

Through work with the MAPA Coordinated Transit Committee and SouthWest Iowa Transit Authority Transportation Advisory Group the goals and strategies relating to paratransit and rural transit issues were developed in 2017 as part of the SWIPCO Passenger Transportation Plan and MAPA Coordinated Transit Plan. SWITA sits on the CTC and coordinates the TAG meetings, MAPA sits on the SWITA TAG and facilitates the CTC meetings.

Goals

1. Expand work route services
2. Increase awareness through marketing
3. Increase partnerships with human service agencies and businesses
4. Improve driver training
5. Maintain fleet quality

Priorities

SHORT TERM

1. SWITA vehicle replacement including signage, radios, and cameras. This priority will keep the SWITA fleet safe and reliable to meet the demands of the transit system.
2. Continued coordination efforts through the TAG. This priority will ensure coordination efforts are continued throughout the region. SWITA's Transit Director is assisting in creating Health and Human Service Agency groups in those areas that it currently does not exist.
3. Continuation of discount taxi ticket coupon program for elderly and disabled in the Cities of Shenandoah, Red Oak, and Missouri Valley despite funding cuts. This program helps meet the demand from Health and Human Services Agencies for taxi services within these cities.
4. Continued marketing efforts of existing services. Several needs have been expressed in areas where a service already existed. This priority will help those with needs become aware of the services available.
5. Expansion of area work routes. There is a need for additional service in Harlan, Shelby, Oakland, and Red Oak.

LONG TERM

6. SWITA vehicle replacement including signage, radios, and cameras. Similar to the short-term priority, this will keep the SWITA fleet safe and reliable.
7. Continued marketing efforts. This priority ensures that possible clients are continually aware of the services available.
8. Continued coordination efforts with each county's medical facilities as well as Health and Human Service Agencies will remain a high priority.

Strategies

The strategies outlined in the previous PTP are still very relevant and the region continues to work toward these goals as modified under the current PTP. The coordination strategies are as follows:

GOAL #1. PROVIDE TRANSIT SERVICES TO COVER NEEDS OF REGION.

With the mission of, “Transit services for anyone, anytime, anywhere,” the broad-range of services needed is extensive. SWITA will continue to expand its ride types available within budget constraints to ensure all who wish to utilize our services are able to at a reasonable cost.

ACTION ITEMS

1. Revitalize shopper routes.
2. Review needs for work transportation throughout region.
3. Continue marketing efforts to ensure low-income, elderly, disabled, and the general public is aware of services.

Since the previous PTP shopper routes have been reinstated in communities around Council Bluffs. The work transportation environment has changed significantly since more disabled clients are now working out in the community and are not necessarily going to one central location. There has also been a huge increase in demand for worker transportation from the population center of Omaha/Council Bluffs out to larger employers such as Menards and OSI. SWITA has responded by adding higher capacity vehicles on these routes and adding new routes and shifts to better meet the needs of workers. Anticipate continuing these efforts into the future.

GOAL #2. CONTINUE COORDINATION EFFORTS WITH HEALTH AND HUMAN SERVICE AGENCIES.

The importance of working directly with these organizations is instrumental in reaching the specific population in need of assistance. The TAG consists of nearly all human services groups in Southwest Iowa making it the go-to group for distributing transit information. The organization is the perfect avenue for informing riders of changes and new services provided by SWITA.

ACTION ITEMS

1. Continue working with the TAG.
2. Continue marketing efforts to ensure health and human service agencies are aware of services.
3. Ensure each county has an active group to discuss and make suggestions to meet unmet goals.
- 4.

Previous iterations of the PTP have relied heavily on the Omaha/Council Bluffs based Human Services Advisory Council. Since the last PTP update, RPAs 13 & 18 have worked with SWITA to stand up a Transportation Advisory Group that more closely aligns with the planning region. This group has been and will be into the future the primary group that the RPA's and SWITA will coordinate with in order to ensure good contact and communication with health and human services agencies and groups that represent demographics with higher ridership or barriers to transportation.

GOAL #3. MAINTAIN AN ADEQUATE TRANSIT FLEET.

Fleet maintenance is imperative to providing adequate transit services. SWITA employs one fulltime fleet mechanic and a fulltime mechanic’s assistant who assesses vehicle reliability and completes required maintenance/repairs to the fleet. Vehicle life is assessed based on Iowa DOT standards and replacement is completed on a rolling timeline. SWITA will continue to work with human services agencies to determine where partnerships can occur to promote sustainable and equitable ridership.

ACTION ITEMS

1. Place vehicle purchases on TIP as scheduled.
2. Maintain current fleet to extend vehicle life.
3. Work with health and human service agencies for possible joint purchases and/or services.

Maintaining an adequate fleet will always be a priority. Since the last PTP, SWITA has partnered with Crossroads of Western Iowa (CWI) and RPA-18 in order to purchase vehicles through SWITA that are leased to CWI to meet the needs of disabled individuals in the region without adding significantly to the cost or burden of the public transit fleet. These types of partnerships will continue where they make sense to do so. SWITA is also exploring options to add a vehicle storage facility in the Council Bluffs area—either inside the city or near it—in order to have a secure facility to park vehicles when not in use and to keep them out of the weather to extend their service life. Vehicle and facilities investments will only be made in ways that take into account the long-term costs of operations and maintenance.

4.2 | Non-Motorized Transportation

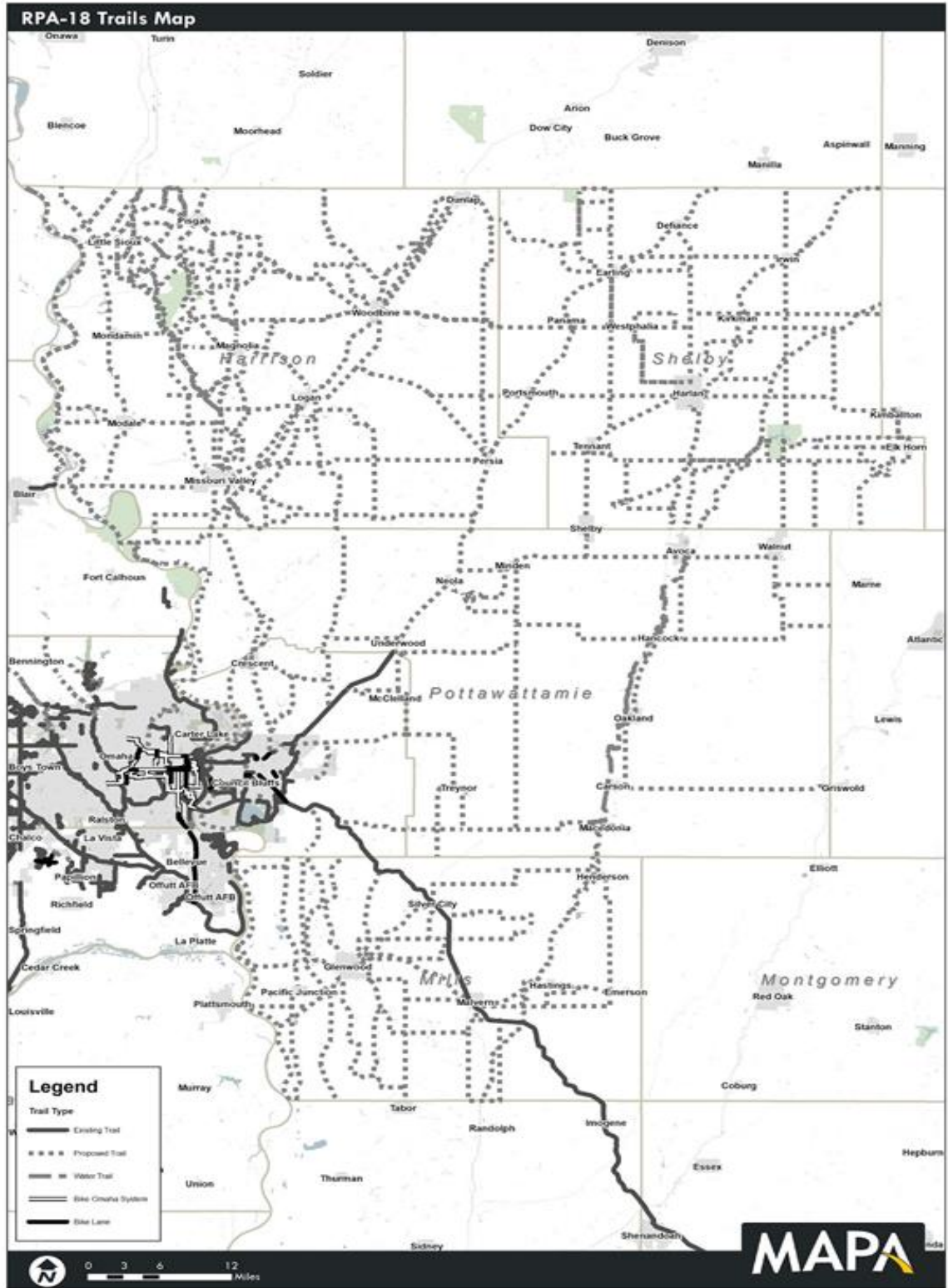
Inventory

Trails

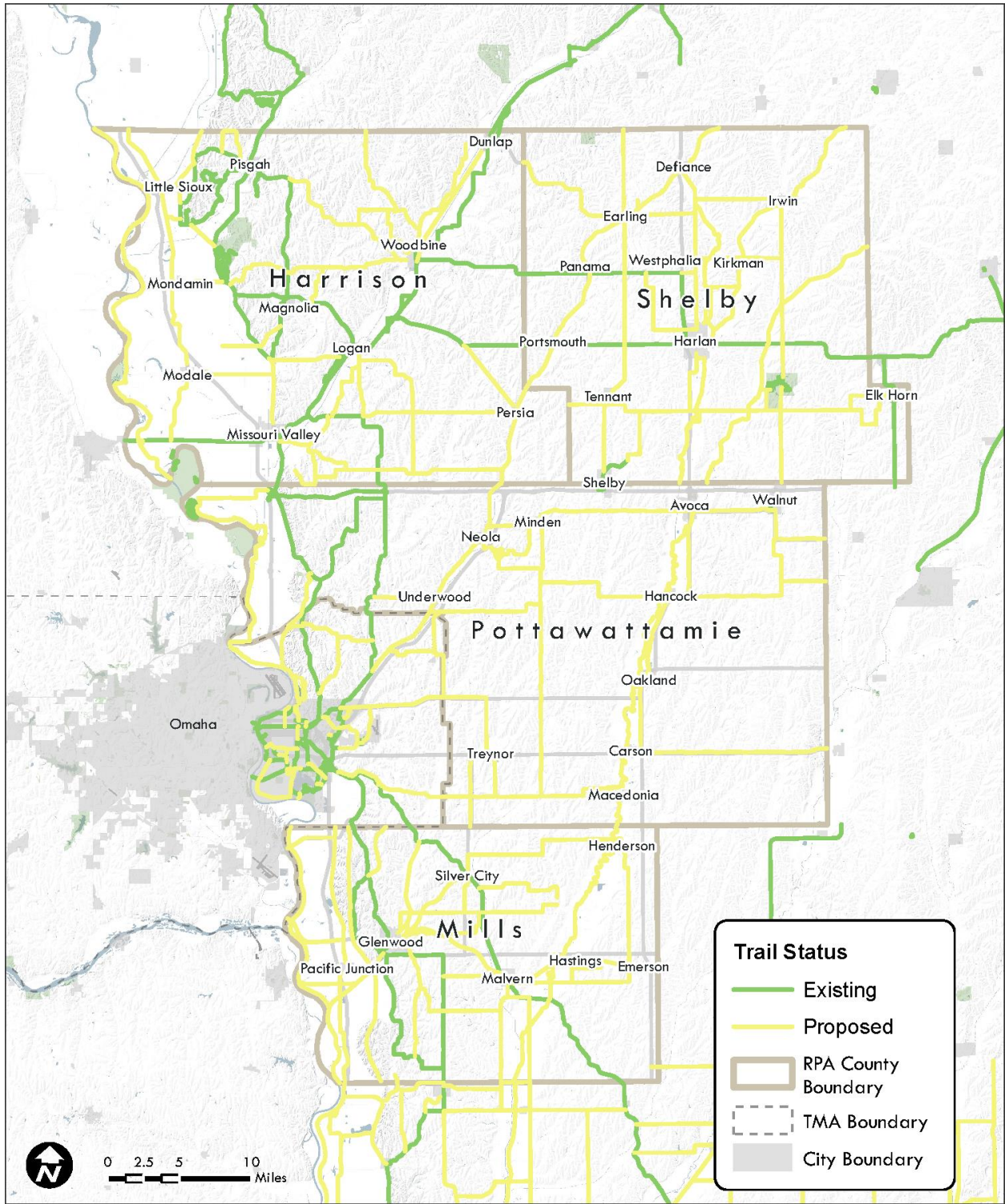
There are four major trails and two minor trails in the RPA-18 region. The Wabash Trace (Pottawattamie and Mills Counties), the proposed Lewis and Clark trail along the Missouri River (Harrison, Pottawattamie, and Mills Counties), the Mormon Trail (Pottawattamie County), and the American Discovery Trail (Mills County).

Additional trails?

- Easton Trail (on-road with signage, Woodbine to Willow Lake in Harrison)
- Highway 191 connection (Pott to Shelby through Persia, will connect to American Discovery)



Map 4.3: Bicycle Trail Facilities in RPA 18 Region



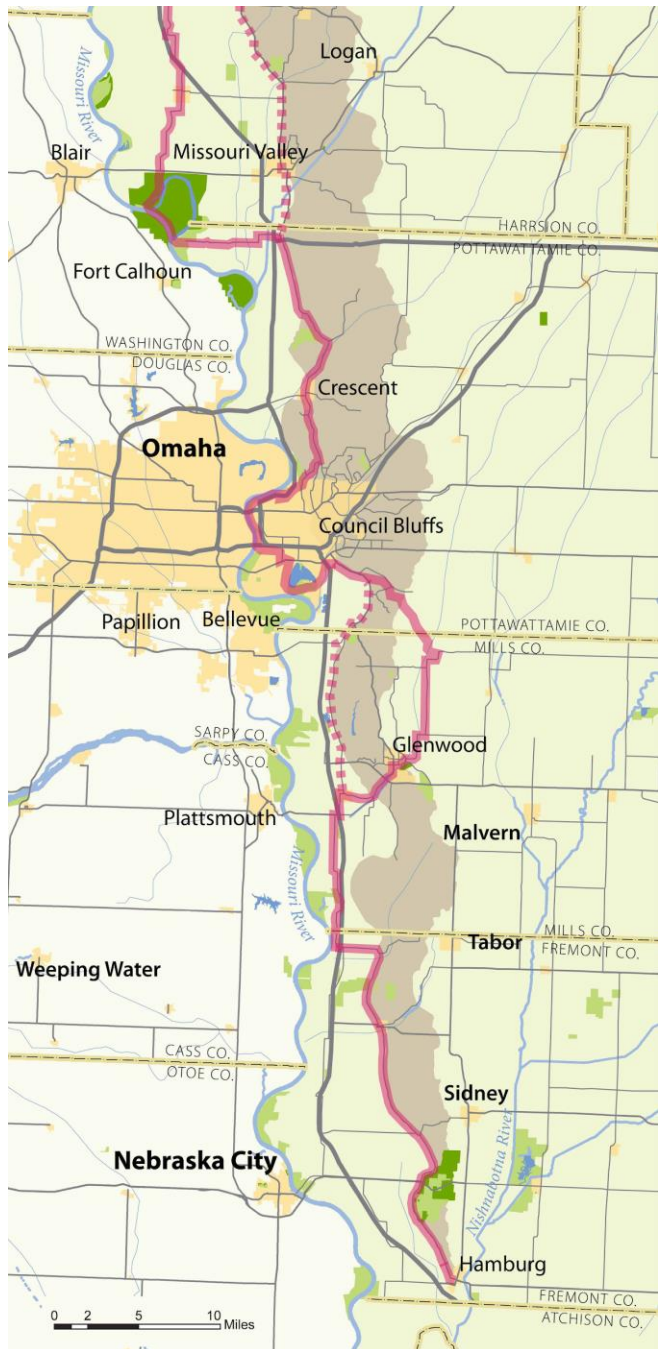
Map 4.4: Existing and proposed trails in RPA 18 Region

The Wabash Trace is a ground stone trail that connects the Council Bluffs metro area to cities and towns in Pottawattamie and Mills counties and as far south as the Missouri state line and beyond.

The proposed Lewis and Clark Trail (shown on the right) will use the Missouri levee system as a general base with a hard surface trail atop. It will trek across RPA-18 along the Missouri River from Fremont County into Mills, Pottawattamie, and Harrison counties and continue into Monona County to the north. A signage plan for the on-road portion is in development and signs should be installed in 2020.

The American Discovery Trail and the Mormon National Historic Trail are nationally-designated trail systems that use existing highways, trails and other routes to provide a link across the nation. The American Discovery Trail enters RPA-18 from Montgomery County along US-34 and merges with the Wabash Trace Trail northwest of Malvern, Iowa. The Mormon National Historic Trail enters RPA-18 from Cass County on IA-92 and crosses Pottawattamie County where it ties in with the trail system in Council Bluffs. Both trails currently use the US-275 bridge to cross the Missouri River and connect into the Nebraska trail system in Omaha.

Minor trails in RPA-18 are the Walnut Nature Trail and the Stone Arch Trail in Shelby, Iowa. These trails do not connect to a regional trail network but offer trail access to the towns of Shelby and Walnut.



Scenic Byways

Development of the Loess Hills Scenic Byway management plan has provisions for trails along this route through Harrison, Pottawattamie, and Mills counties in RPA-18 and to the counties north and south of RPA-18.

Another Scenic Byway, the Western Skies Scenic Byway, located in Harrison and Shelby counties is included in the Iowa Scenic Byways Pilot Program and has been included in this LRTP.

Historic Preservation

The preservation of historic transportation systems, structures and artifacts became a consideration in the Intermodal Surface Transportation Act of 1991 (ISTEA). Federal funding is available for restoring and preserving the national transportation heritage. Historical preservation activities in RPA-18 include the rebuilding of the historical Lincoln Way in Woodbine, Iowa. The roadway is being rebuilt to the original brick surface.

The Desoto Bend National Wildlife Refuge is currently home to the USS Bertrand. The Bertrand is 19th century, side-wheel steamship that sank in the Missouri River in 1865. The refuge currently maintains an artifact museum of the Bertrand's cargo and is restoring the artifacts for future generations to enjoy.

Sidewalks

RPA-18 is comprised of four counties that are rural in nature. Sidewalk development is guided by the local codes and regulations of individual municipal jurisdictions. Inventories related to sidewalks are spread over multiple municipalities and this LRTP accepts the fact that these facilities are an important vehicle for pedestrian traffic and assumes that sidewalk facilities exist in local municipalities based on local regulations requiring such facilities.

Identified Deficiencies

Trails

Deficiencies in the trails and scenic byways are relatively simple to define but difficult to remedy. Deficiencies exist in the connectivity of the various trails systems in the area. There also exists a lack of adequate signage on primary and secondary roads to provide route guidance between the various trails by means of existing streets and highways. The lack of paved shoulders, dedicated bicycle lanes or shared lanes on primary and secondary highway facilities also limit access to recreational and non-motorized traffic. The region has allocated TAP Funding as available to address some deficiencies as seen fit by member jurisdictions.

Sidewalks

The lack of sidewalks and the lack of maintaining existing sidewalk facilities present safety considerations for those who need pedestrian access. Additionally, ADA requirements to retrofit existing facilities to accommodate elements of the handicapped community are contingent on the availability of funds to accomplish the task.

Proposed Improvements

Trails, Scenic Byways, and Historical Preservation

RPA-18 will work with individuals, groups, and local government agencies to increase the total mileage of dedicated trails, the connectivity of future and existing trails, and the use of other means to provide a safe and direct system of trails in RPA-18 region.

RPA-18 will also work with individuals, groups, and its member jurisdictions to increase the mileage of scenic byways and the number of historic preservation sites in the region.

All consideration will be given to accommodate the physically disadvantaged in the design, construction, and maintenance of bicycle and pedestrian facilities within RPA-18. Rules and regulations under the Americans with Disabilities Act (ADA) will be adhered to.

Private Development

Limited resources available for funding of trails and other non-motorized modes of transportation present the opportunity for private development of such facilities. RPA-18 encourages private development by interested parties and will provide cooperation and support for those projects showing merit.

Sidewalks

RPA-18 supports the use, construction, maintenance, and retrofitting of existing sidewalk facilities in the region. Major trail, historic preservation, and scenic byway projects identified to be accomplished within the time frame of this plan are identified in table 2.

Sidewalks and other such items are considered maintenance issues and are addressed at the local level. Exceptions to this are local projects identified as recipients of the Safe Routes to School program and other federal or state grant programs.

Financial

There are multiple state and federal funding sources available to RPA-18 to fund trails, scenic byways and historic preservation. These sources are grant-based and reviewed, approved and prioritized by the Iowa DOT.

RPA-18 is provided an annual allocation of federal Surface Transportation Block Grant (STBG) funds through the Transportation Alternative Program (TAP) and TAP Flex. Projects will be reviewed and prioritized and funded with the accrued funding attributable to RPA-18. Financial constraint of these funds will be based on funds currently available or to be made available to RPA-18 based on Iowa DOT allocations.

Future TAP revenues will not exceed those anticipated to be received under the current federal funding legislation.

Additionally, RPA regional TAP and TAP Flex funding attributable to street and highways may be drawn on to supplement STBG funds or to fully fund a transportation alternatives project. Programming of RPA regional TAP and TAP Flex funds for these projects is at the discretion of RPA-18 Policy Committee.

Project Selection and Prioritization

RPA-18 provides an application-based, competitive process for selecting Transportation Alternative Program (TAP) and TAP Flex projects in the area. Trails, historic preservations and scenic byways are ranked separately based on the merits associated with each category. Projects

are then prioritized based on their respective ranking, within each category and overall. Projects are programmed in the RTIP based on financial availability.

The selection, prioritization, programming and subsequent funding of any enhancement project is at the discretion of the RPA-18 Policy Committee

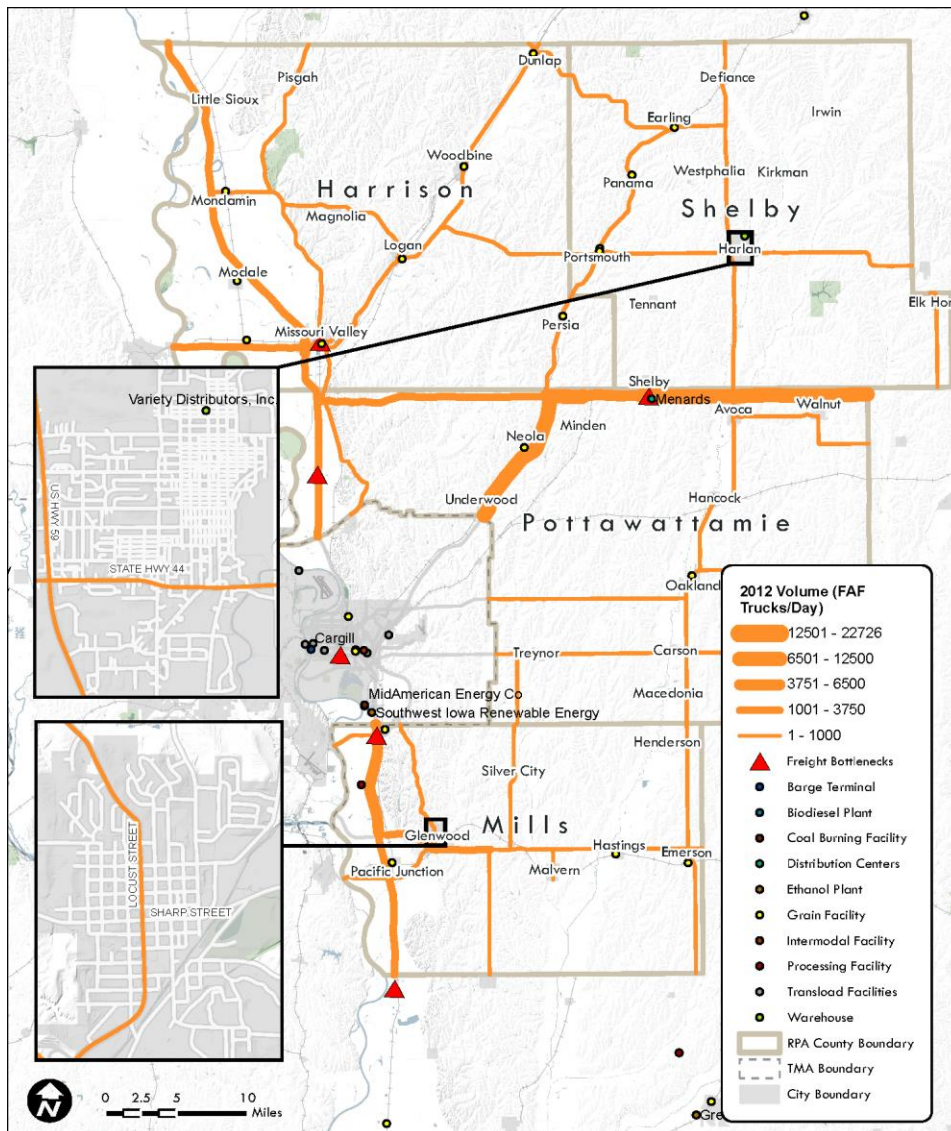
Summary

There are multiple pedestrian and bicycle-oriented facilities and scenic byways in the RPA-18 region. There are also multiple areas in which the transportation heritage of the region can be preserved. RPA-18 will assist private, public and joint efforts in obtaining funding for such amenities as well as support efforts to increase the use of non-motorized modes of travel for recreation and daily activities.

5 | Goods Movement (Goal: Economic)

5.1 | Freight Trucking

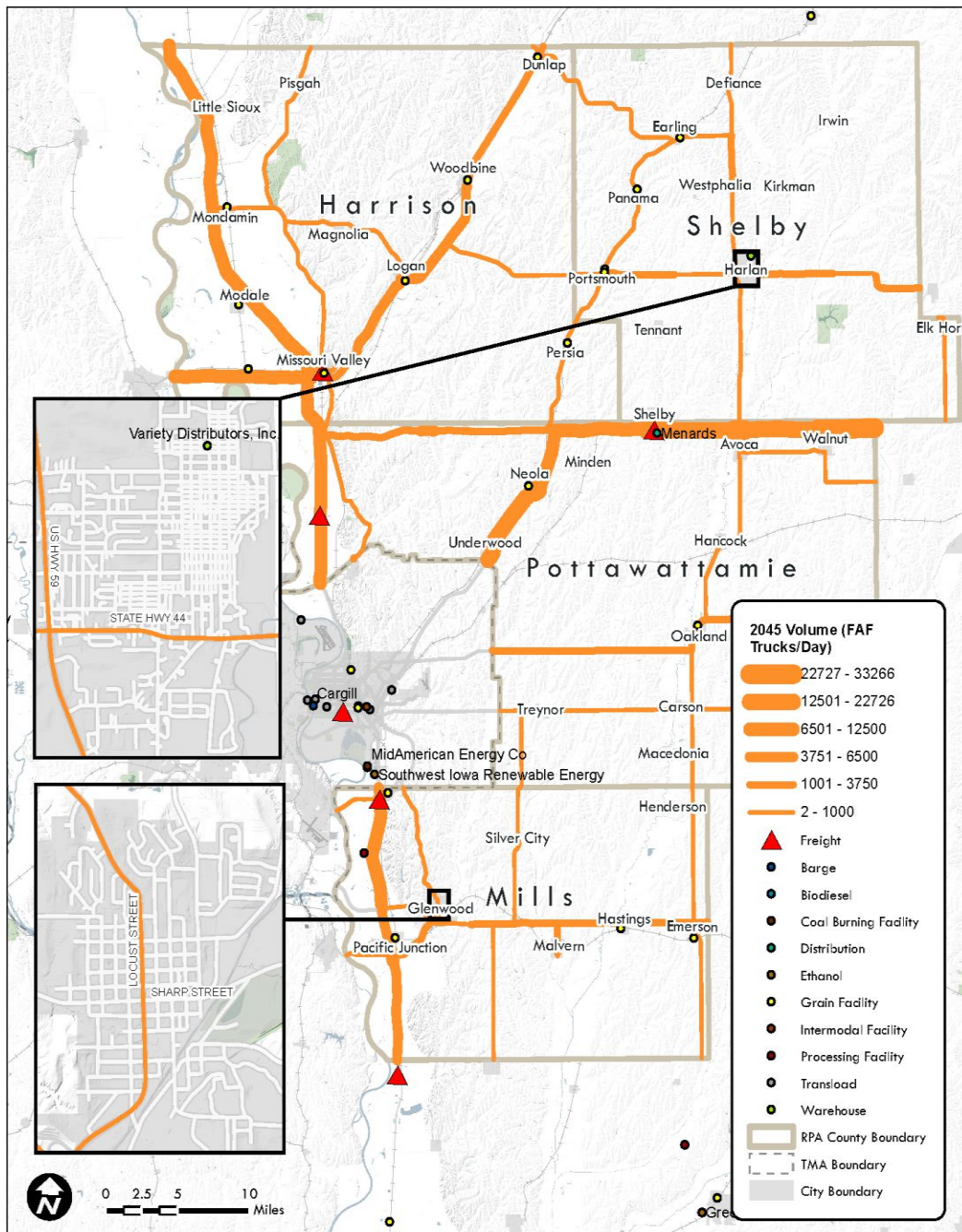
The interstate corridors of I-80, I-29, 1-680 and I-880 (formerly the northern portion of I-680 in Pottawattamie County) carry ever-growing numbers of freight trucks to destinations inside the state, and across the nation. The Federal Highway Administration, through a program called the Freight Analysis Framework (FAF), measures existing freight flow (both in number of vehicles and tons of goods) and provides a modeled estimate for future freight volumes. The framework is in its fourth version (referred to as FAF4), which is based off 2012 data. The figure below shows the average annual daily truck traffic (AADTT) for the RPA-18 region in 2012.



Map 5.1: Average Annual Daily Truck Traffic (FAF4) 2012¹¹

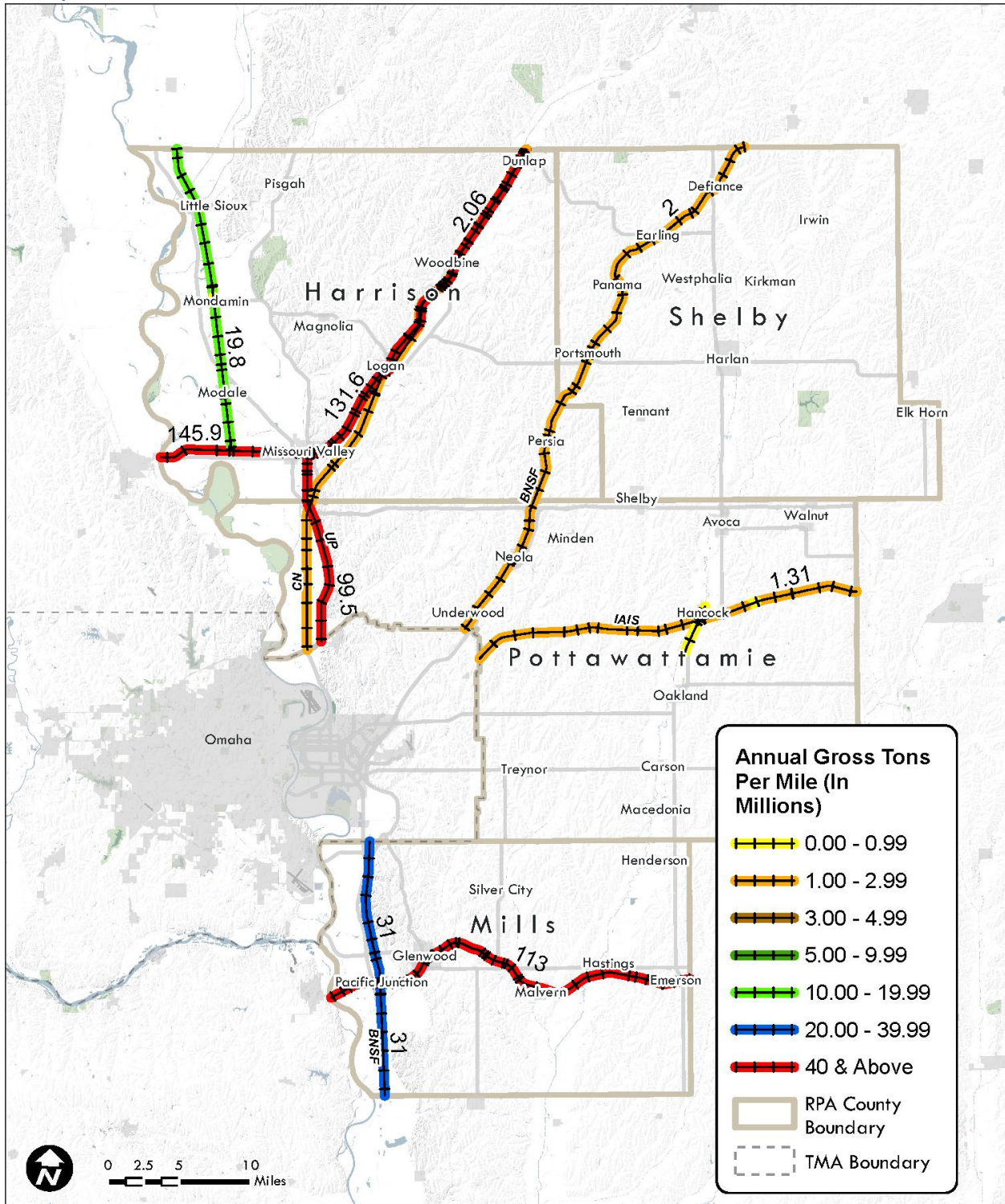
¹¹ <https://www.arcgis.com/home/item.html?id=60f5cbbd6b25434e9bd475851d66b5ac>

The modeled freight flows for 2045 are shown in the figure below. Although the interstate volumes pick up as expected, the increased volumes on the state highway systems within the RPA are noteworthy. Volumes along interstates and state highways increasing creates more bottlenecks and chances for delay, along with added safety concerns as volume increases the likelihood of collision. Delays in freight delivery due to volume or collisions creates a burden upon the local and regional economy as freight reliability indices diminish.



Map 5.2: Truck Volume Map in RPA 18 Region

5.2 | Rail



Map 5.3: Rail Traffic (Annual Gros Tons per mile) in RPA-18 Region

6 | Safety and Operations (*Goals: Safety / Economic*)

All transportation systems that are used by the traveling public and for commerce should be safe. The issues of safety and security were identified as separate issues that need to be addressed under MAP-21 which continues under the FAST Act. The legislation set forth several programs to encourage safety and security in transportation planning.

6.1 | Goal 2: Safety

Highway Safety

The Iowa DOT presents a 5-pronged approach to highway safety:

- Engineering
- Education
- Enforcement
- Emergency Response
- Everyone Else

Each component of this framework encompasses a set of factors that increase the safety of the transportation network. However, when these factors are considered together they provide for a comprehensive approach to safety for those who use the region's highways and other transportation facilities.

6.2 | Iowa's Strategic Highway Safety Plan

The 2019-2023 version of the Strategic Highway Safety Plan (SHSP) was built upon extensive crash data analysis, public opinion polling, and input from a wide range of professionals on the potential effectiveness of potential countermeasure strategies. This research resulted in the development of 18 Safety Emphasis Areas and subsequent strategies to reduce fatal and serious injury crashes. These 18 Safety Emphasis Areas were then grouped into three broad categories to facilitate implementation. The 18 Safety Emphasis Areas and related categories are illustrated in the Figure below.

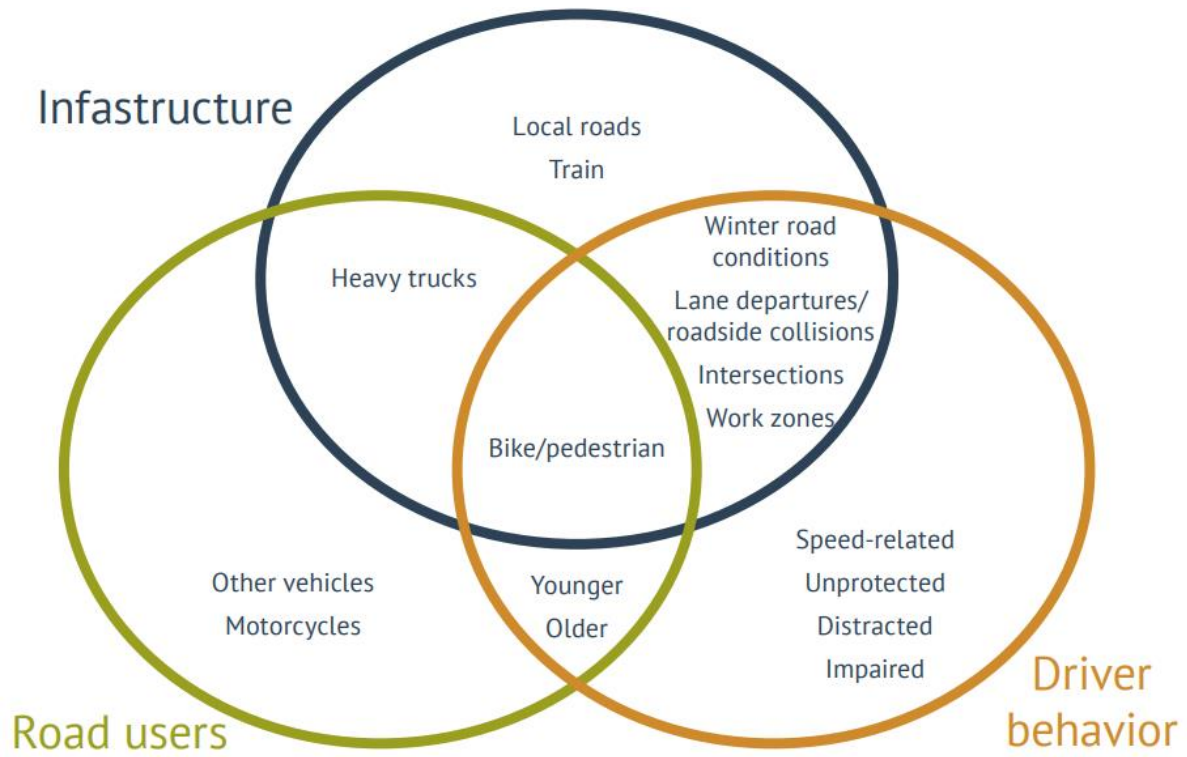


Chart 6.1. Relationship between safety emphasis areas¹²

¹² Iowa DOT. 2019-2023 Strategic Highway Safety Plan. p. 32. <https://iowadot.gov/traffic/pdfs/IowaSHSP.pdf>

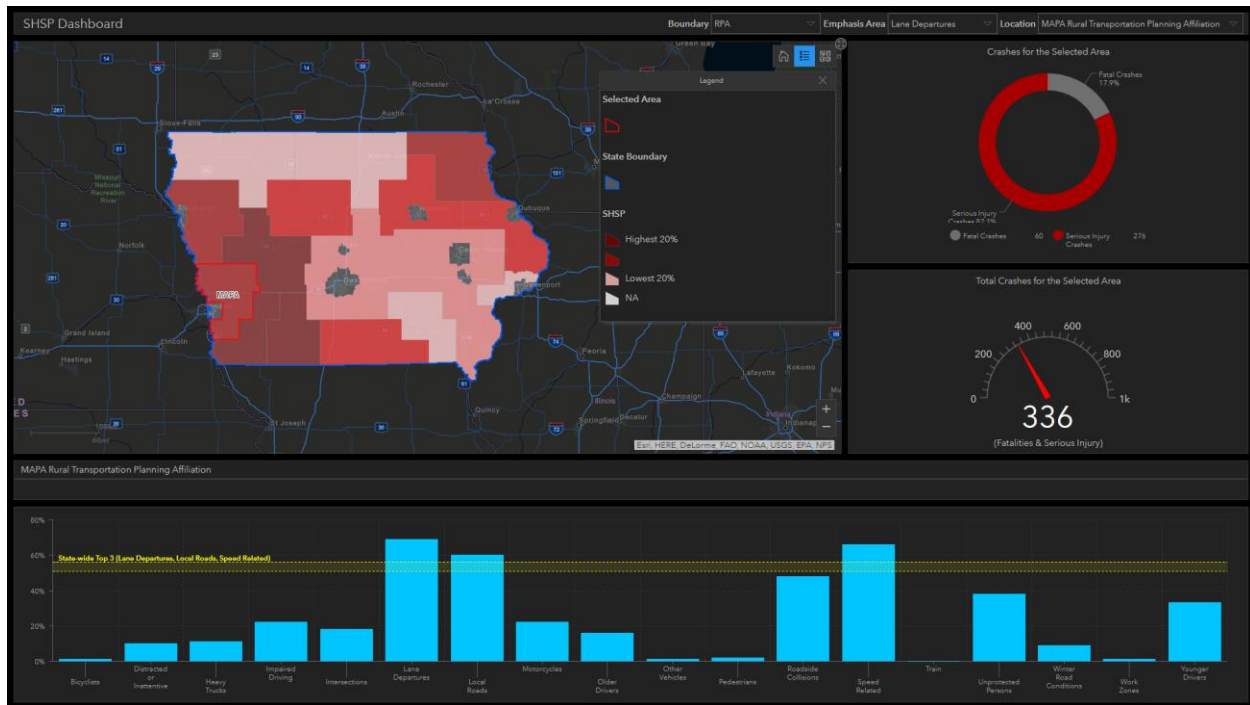


Chart 6.1: Iowa DOT Strategic Highway Safety Plan Dashboard¹³

Acknowledging that 18 is a large number to focus upon, and that each area often contains associated safety emphasis areas, the SHSP Implementation Team developed a list of eight priority safety emphasis areas. The Table below summarizes the eight priority safety emphasis areas, and their ranking in both the current and previous plan horizons. Ranking is accomplished by percent of severe injuries.¹⁴

¹³ <https://www.arcgis.com/apps/opsdashboard/index.html#/b26b06a865fe4fdb9a2109cfc431a2b>

¹⁴ Severe injury is the summation of fatalities and serious injuries.

Table 6.1: Strategic Highway Safety Plan Safety Emphasis Areas

Safety Emphasis Area	2013-2017 Ranking	2010-2014 Ranking
Lane departures and roadside collisions	1 and 4	1 and 6
Speed-related	3	3
Unprotected persons	5	4
Young drivers	6	5
Intersections	7	7
Impairment involved	8	8
Distracted or inattentive drivers	11	14

Over the period 2013-2017, the safety emphasis areas of lane departures, local roads, and speed-related were represented in over 50 percent of severe injury crashes in Iowa.¹⁵ This is also true for RPA-18, and is why the state of Iowa considers these the top three safety emphasis areas.

Table 6.2: Top 3 Safety Emphasis Areas

RPA-18 2013-2017 Fatal or Serious Crashes	Percent
Lane departure	69%
Local roads	60%
Speed related	66%

Lane Departure Crashes are crashes that occur when a vehicle leaves the travel lane, encroaches onto the shoulder, or crosses the centerline or median, and crashes.

Local Roads are the secondary (county) and municipal (city) systems. Although they are not as heavily traveled, they represent a significant portion of system mileage.

Speed Related crashes are typically the result of a driver consciously choosing an inappropriate speed, or failing to respond to roadway conditions.

¹⁵ Iowa DOT. 2019-2023 Strategic Highway Safety Plan. p. 23. <https://iowadot.gov/traffic/pdfs/IowaSHSP.pdf>

6.3 | RPA-18 Safety Emphasis Areas Results

A summary by safety emphasis area is provided in Chart 6.1 below.

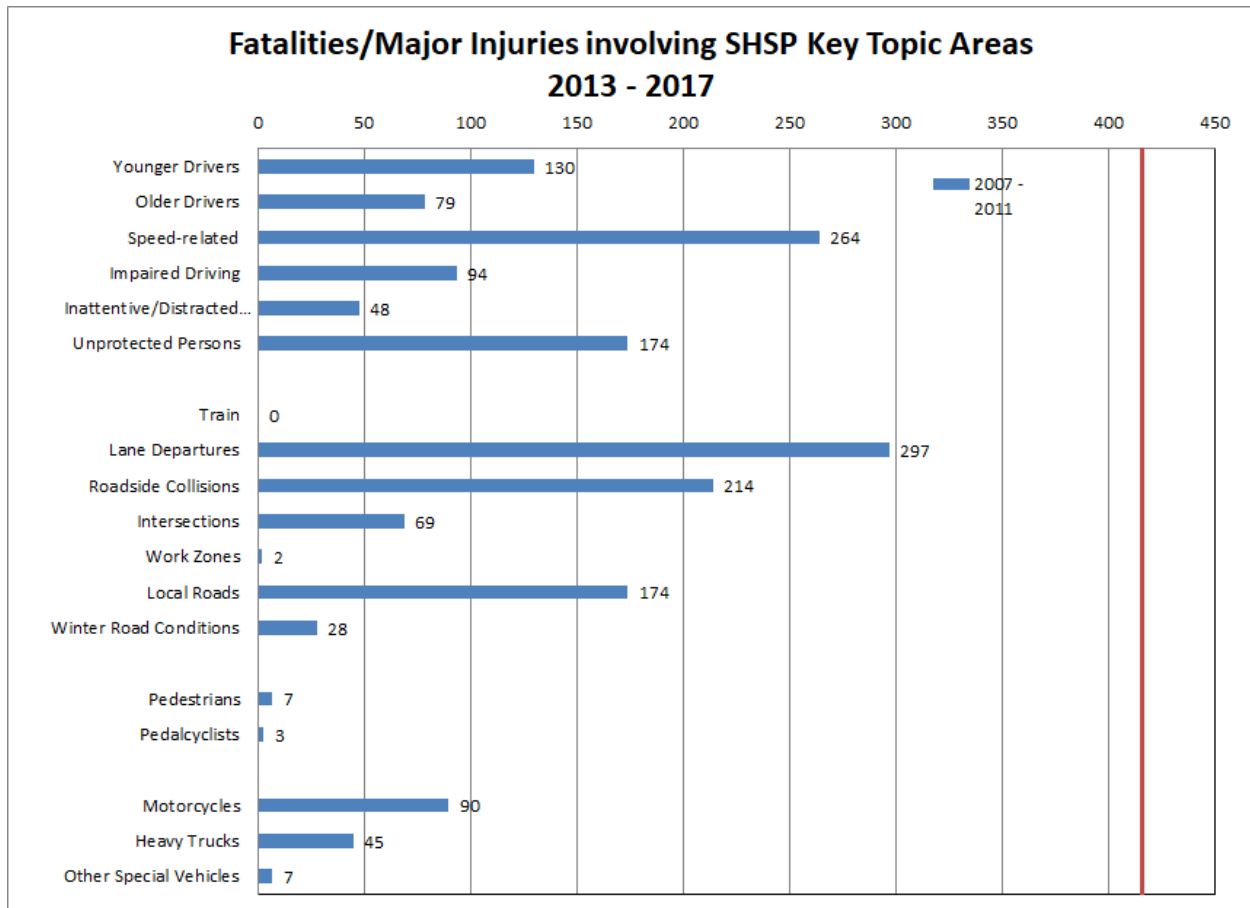
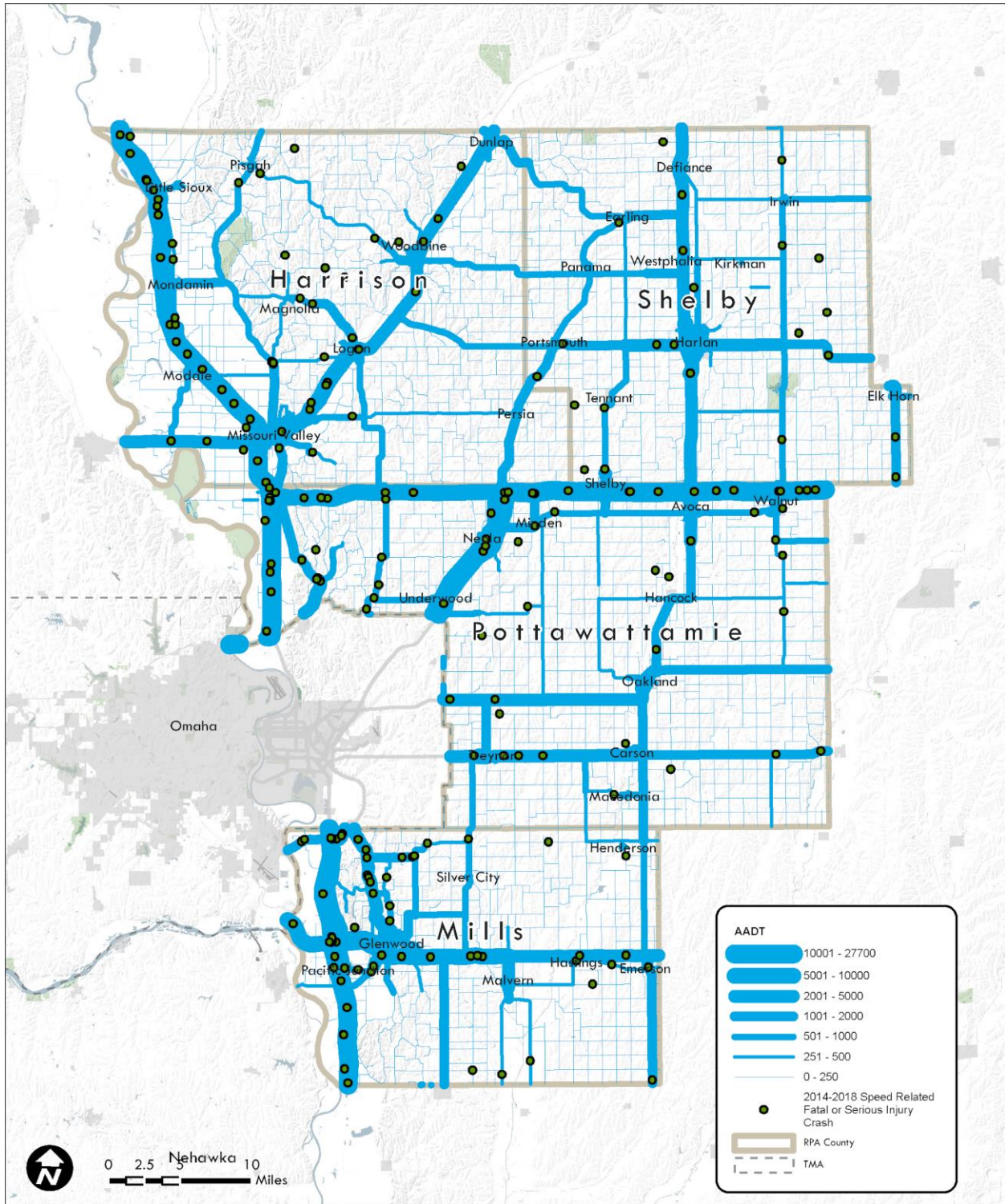


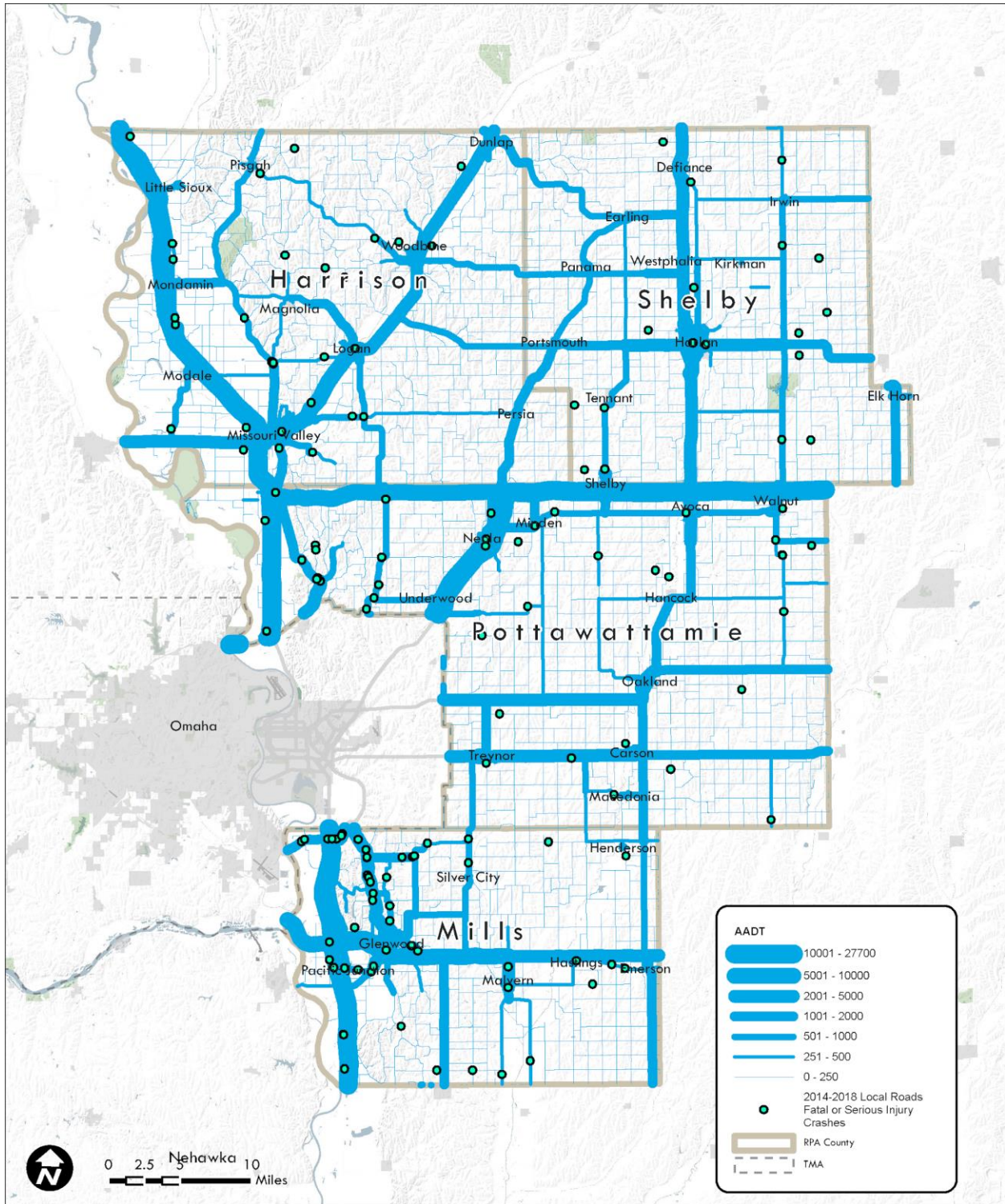
Chart 6.1: SHSP Analysis for RPA-18 from 2013-2017.

The Iowa DOT provides an online Crash Analysis Tool (ICAT) which allows users to depict crash locations and filter by jurisdiction, year, and crash characteristics.¹⁶ To support the development of this LRTP, the Iowa DOT provided the SHSP analysis for years 2014-2018. The data from this report was used in the following tables, with the supporting figures being developed using the ICAT tool assessing 2014-2018 for within the RPA-18 boundaries. As the data in ICAT is constantly being updated, there is an opportunity for minor differences in the online data versus that in the SHSP.

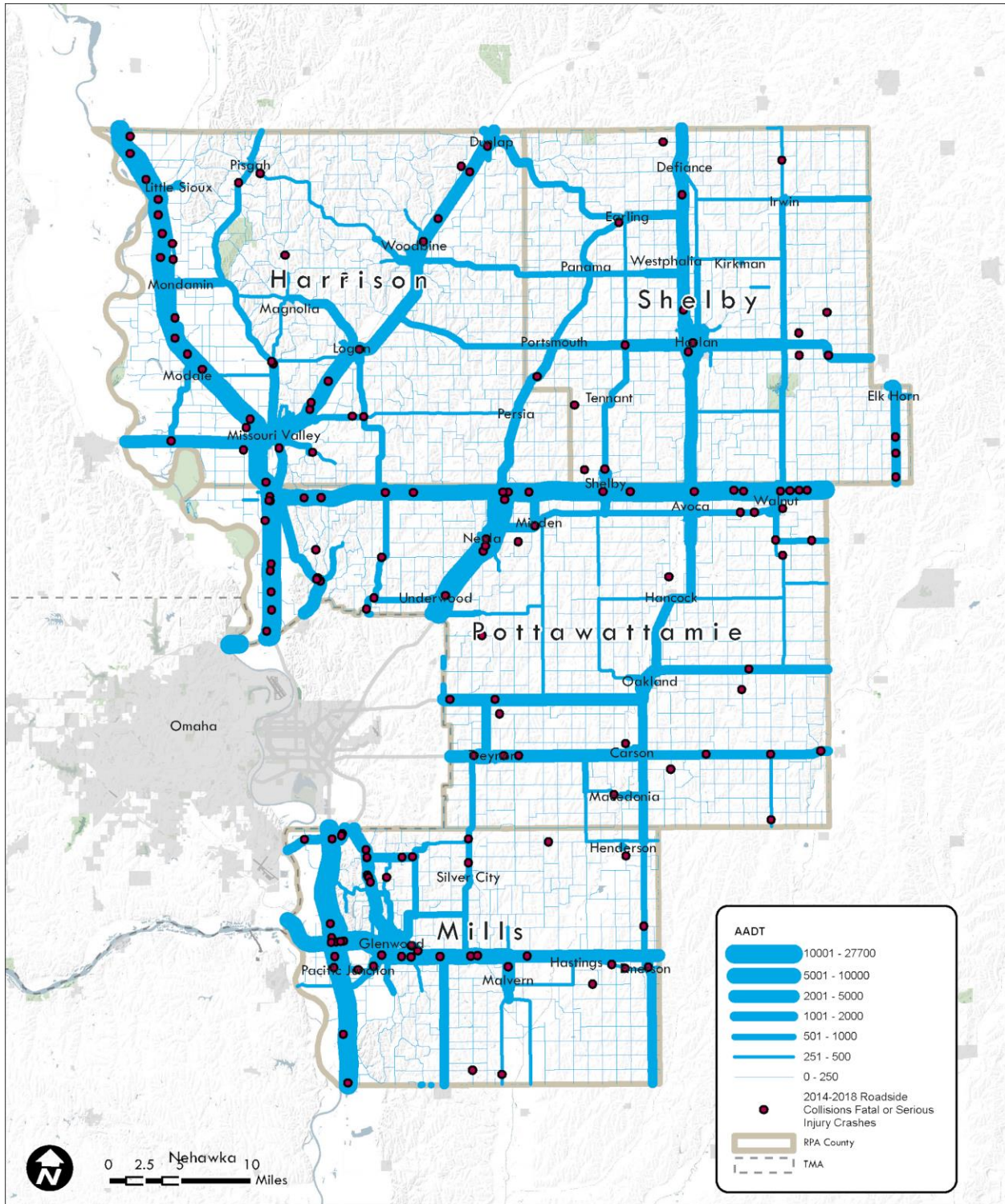
¹⁶ <https://icat.iowadot.gov/#>



Map 6.1: Speed Related Crashes Resulting in Fatalities or Serious Injuries 2014-2018



Map 6.2: Crashes Resulting in Fatalities or Serious Injuries on Local Roads 2014-2018



Map 6.3: Roadside Collision Crashes Resulting in Fatalities or Serious Injuries 2014-2018

6.4 | Planning for Safety Improvements

Safe Routes To School

The Safe Routes to School program was established through the SAFETEA-LU to encourage children to walk or bicycle to school. The program will fund improvements to make the commute to school for kindergarten through 8th grade students safer and more feasible. It also will provide funding for educational programs.

With passage of MAP-21 Safe Routes is no longer its own funding program, and has been rolled into the Transportation Alternative Program (TAP). Projects eligible in the previous program are still eligible in this TAP.

Examples of eligible Safe Routes to School projects are:

- Sidewalk improvements
- Traffic calming efforts
- Speed reduction initiatives
- Pedestrian and bicycle crossing improvements
- On street/off street bicycle and pedestrian facilities
- Secure bike parking
- Traffic diversion programs around schools

MAPA staff will provide technical assistance and assist in the collection of data for local jurisdictions, agencies and organizations within RPA-18 in their efforts to secure funding under the SRTS program.

Safety Improvement Candidate Locations

The Iowa Department of Transportation ranks all intersections which have experienced at least one crash in a five-year time range to develop the prioritized safety improvement candidate locations. These locations are ranked by three separate ranking lists:¹⁷

1. Frequency rank (total crashes)
2. Rate rank (crashes/volume)
3. Severity rank (“value loss” at the site)

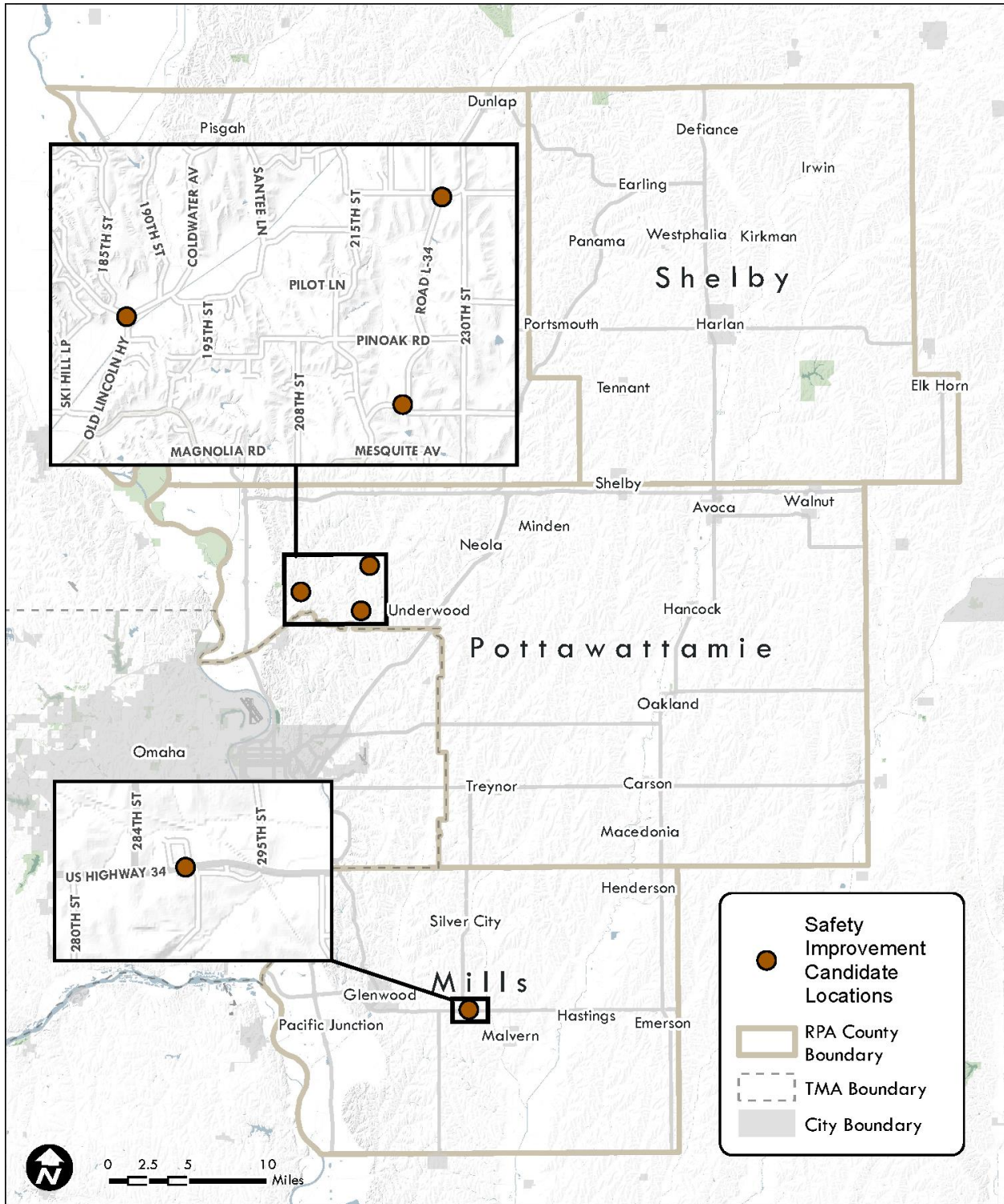
¹⁷ https://iowadot.gov/crashanalysis/pdfs/iowa_safetyimprovementcandidatelocation_method_25-25-50_20170221.pdf

These separate rankings are then combined into one ranking, which is assigned to the intersection. The data is typically reported by a list of the top 200 safety improvement candidate locations (SICL) throughout the state. This report is developed as a supplement to IDOT's Five-Percent Safety Program which supports the planning and project selection process for the Highway Safety Improvement Program. These locations are shown on the following figure. Of the 200 candidate locations, four are located within the RPA-18 Region:

Table 6.3. Safety improvement candidate locations (SICL) in RPA-18

Statewide Candidate Listing	County	Location
64	Pottawattamie	Co Rd G30/Mahogany Rd & Co Rd L34
29	Pottawattamie	Co Rd G20/Sumac Rd & Co Rd L34
122	Pottawattamie	Co Rd L20/Old Lincoln Hwy & Co Rd L36
199	Mills	US 34 & 288th St & 289th St

These projects have been identified to reduce or eliminate lane departures. Solutions to these problems include placing additional guardrails and rumble strips.



Map 6.4: Safety Improvement Candidate Locations in RPA-18¹⁸

¹⁸ Iowa DOT Intersection Safety Improvement Candidate Locations (SICL) within the RPA.

Safety Conscious Planning ([Change to Local Road Safety Plans](#))

Beginning with the passage MAP-21 and continued within the FAST Act, safety has become a major concern and is an issue to be addressed at the planning level. Safety is, and should be, a daily concern for everyone involved in transportation. The issue of safety in transportation and transportation planning is more far-reaching than can be identified through this LRTP. Safety falls on the shoulders of the traveling public, the various transportation systems and those that operate and maintain those systems. Safety Conscious Planning (SCP) should be a high priority issue in transportation planning and should be a priority mandate of the local, state and federal governments.

The RPA-18 is responsible for introducing safety into this LRTP but all organizations and jurisdictions should routinely consider safety as an explicit planning priority in all planning projects. Decision makers at all levels should be informed about the implications of safety in all planning decisions, and safety should be reflected in their decision making process.

6.5 | Safety Projects

Table 6.4: Projects Planned or Accomplished with Safety Funds in RPA-18

Funding Program	Location	Description	State FY	Approx. Cost
Harrison				
TSIP	F-20-L	Upgrade warning and regulatory signs	2014	\$8,000
Pottawattamie				
TSIP	Intersection Old Lincoln Highway and Powells Addition	Cut back hillside to improve sight triangle	2015	\$50,000
Mills (and Montgomery)				
TSIP	H-34 from m-37 to Emerson	Widen pavement and re-grade foreslopes	2016	\$500,000

<https://data.iowadot.gov/datasets/sicl-top-200?geometry=-96.948%2C41.154%2C-94.334%2C41.515>

Shelby				
HSIP	US 59 Pottawattamie Co Line to IA 144 in Harlan	Paved shoulders	2020	\$500,000

6.6 | Long Term Safety Goals

As the number of miles driven impacts the likelihood of fatalities or severe injuries in automobile crashes, a common measure of these outcomes are as a rate per 100 million vehicle miles traveled (VMT). Iowa's ultimate goal is toward zero deaths; but Iowa has set interim safety targets for the state for 2016-2020. As there is variability year-over-year, these performance measures are expressed as five-year rolling averages.

Table 6.5: Iowa DOT 2016-2020 safety targets¹⁹

Performance Measure	2015-2019 Forecast	2016-2020 Target
Fatalities	343.8	345.8
Serious Injuries	1,432.2	1,396.2
Non-motorized injuries and fatalities	137.8	138.1
Fatalities per hundred million VMT	1.017	1.011
Serious injuries per hundred million VMT	4.237	4.083

¹⁹ https://iowadot.gov/systems_planning/fpmam/iowa-2016-2020-safety-targets.pdf

Transportation Systems Management and Operations (TSMO)

In February of 2016, the Iowa DOT implemented the 'Iowa Transportation Systems Management and Operations (TSMO) Strategic Plan'.²⁰ This strategic plan intends to offer resources and strategies to:

1. Realize the full capacity of the existing transportation system
2. Increase reliability for freight and auto
3. Improve safety and reliability through traffic incident management, traveler information, and work zone management; and,
4. Target safety and operational problems to deliver performance-driven improvements to the existing system

The TSMO Plan is executed under eight Service Layer Plans. These plans provide detailed recommendations and actions for each of the topical areas, and include methods to assess existing conditions, identify gaps, and detail opportunities and challenges. The current Service Layer Plans which are relevant to this safety discussion within the RPA are:

1. Traveler Information Service Layer Plan
2. Traffic Incident Management Service Layer Plan
3. Intelligent Transportation Systems (ITS) and Communications Systems Service Layer Plan
4. Work Zone Management Service Layer Plan
5. Emergency Management Service Layer Plan

Traveler Information

Many users of Iowa's roadway systems rely on Traveler Information services, such as *Iowa511* and *Iowa Counties Road Notifications*.²¹ These platforms provide a wide range of information coming from internal (Iowa DOT and Iowa County) manual changes, shared information from traffic services such as Waze, speed data from roadway sensors, and information provided by adjacent states' DOTs. These services also share their data with other traffic and information service providers, such as mapping and traffic planning apps. The goal of the Traveler Information Service Layer Plan is to cost-effectively make this information available in a timely and error-free manner for use by Iowa travelers.

²⁰ <https://iowadot.gov/TSMO/TSMO-Strategic-Plan.pdf?ver=2016-05-02-113238-673>

²¹ <https://www.iowacountyroads.org/connections#county-511-map>

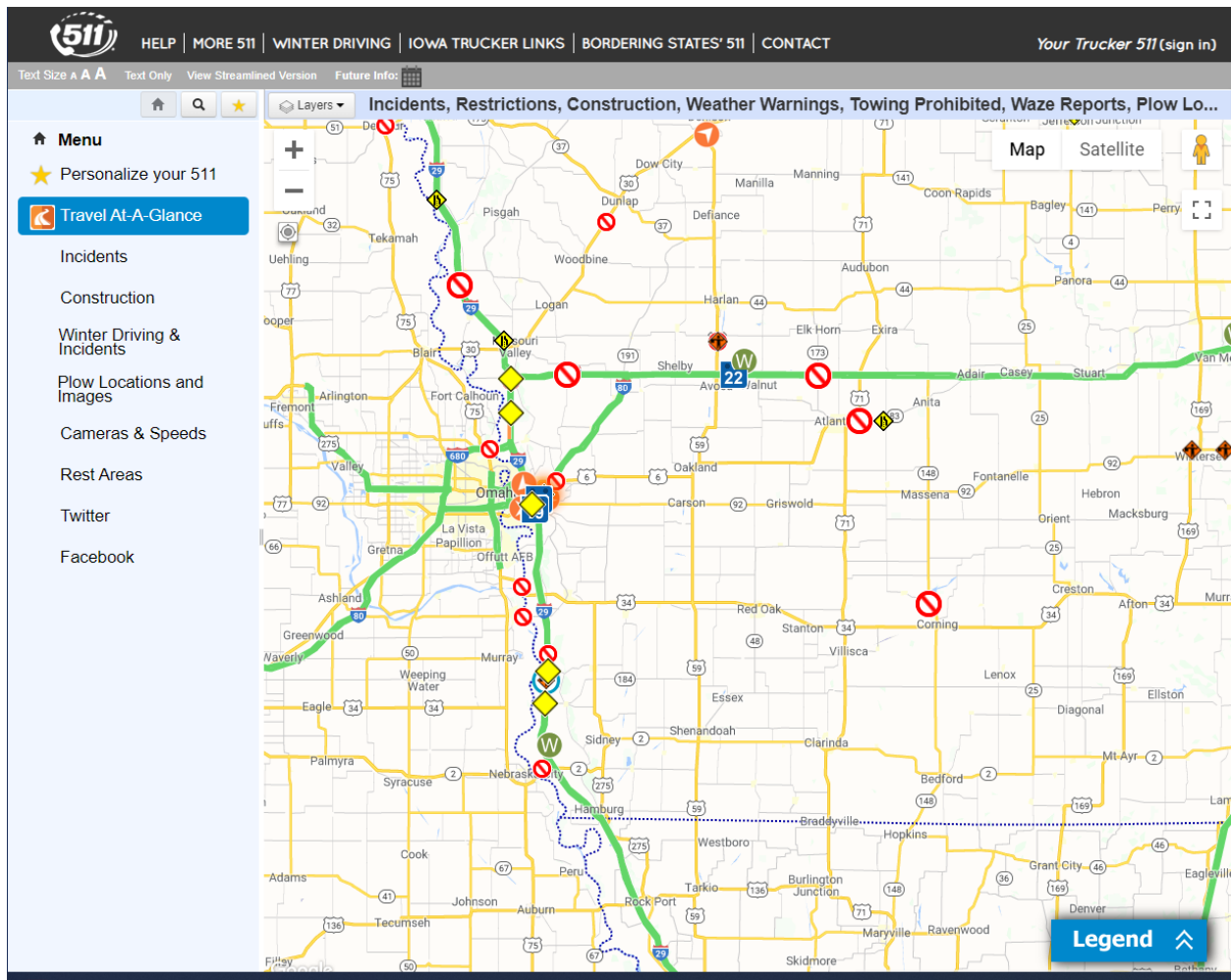


Image 6.1: Screenshot of the Iowa 511 Online Interface

Traffic Incident Management

Traffic Incident Management, or 'TIM', provides 'a systematic, coordinated approach to managing incidents on the highway to minimize impacts to the traveling public and enhance the safety of those involved in and responding to those incidents.'²² Although much of RPA-18's roadway is not on the highway, users of the secondary system still benefit from many of the TIM programs. Effective TIM operations minimize the impact of crashes on the highway system (both in terms of time, and of traffic forced or choosing to detour on secondary system road networks). Iowa DOT provides Highway Helpers, who provide support to drivers requiring assistance, freeing up Iowa State Patrol and other roadside services to deal with more serious incidents. Although the Council Bluffs Highway Helpers typically stay within the metro region, their reach and hours have recently updated, and there is on-call capacity the metro area as shown in the following figure.

²² <https://iowadot.gov/TSMO/ServiceLayerPlan2.pdf>

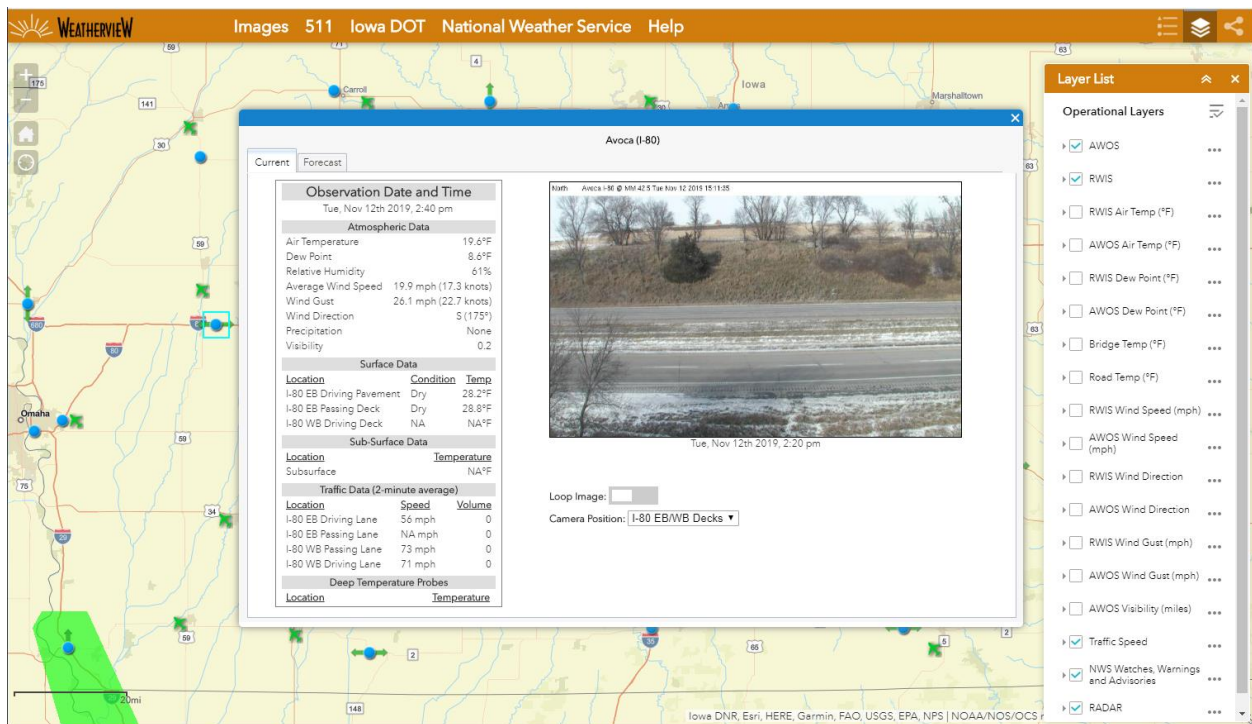


Map 6.7: Council Bluffs Highway Helper Routes²³

²³ Provided by the Iowa DOT Traffic Management Center (TMC).

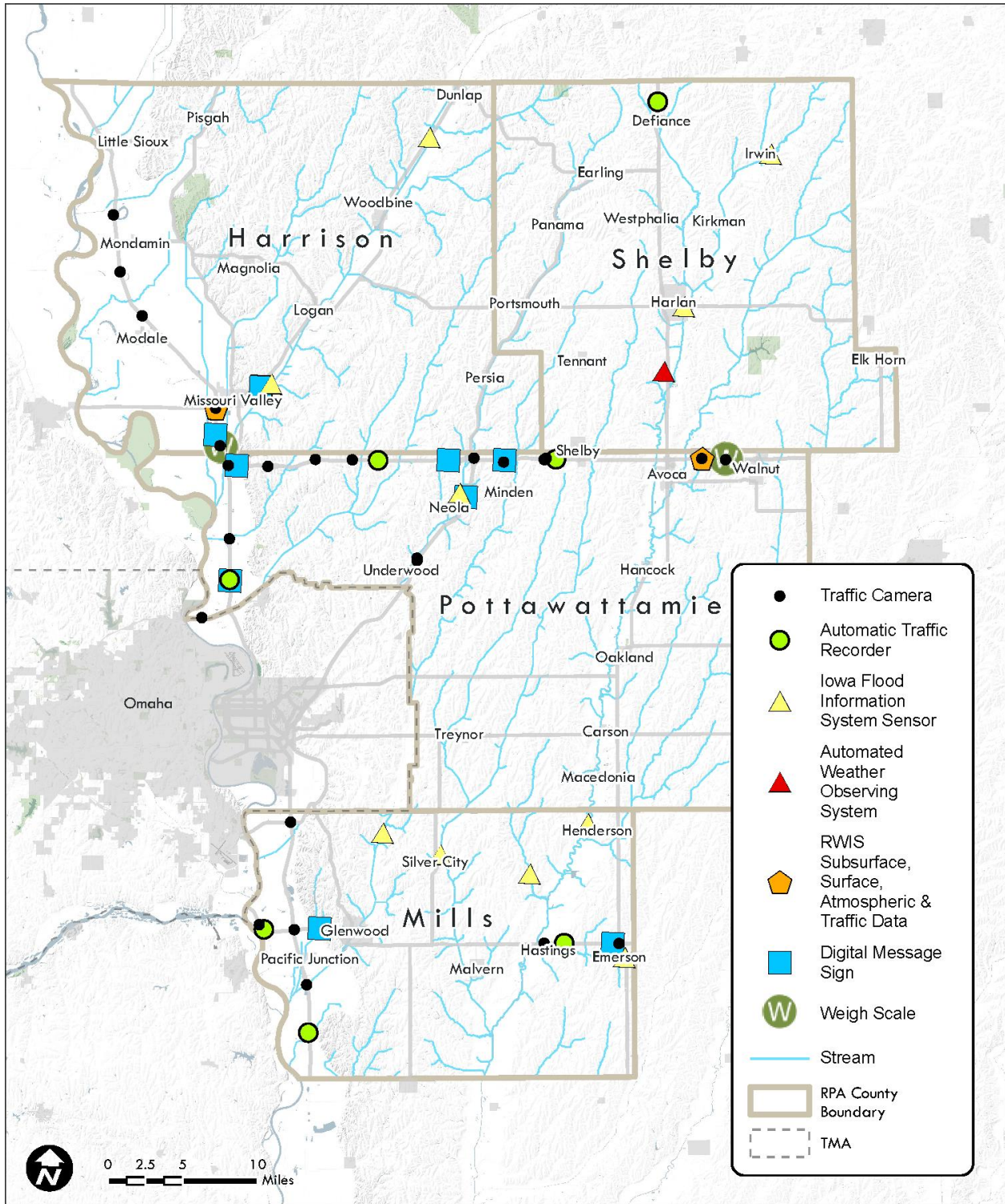
Intelligent Transportation Systems

Iowa DOT and Iowa Flood Information Service (along with local municipality) equipment collects information at numerous locations across the state. A snapshot of that equipment, and the information it collects, is shown in the figure on the following page. Information, such as traffic counts, and weigh-in-motion, are provided to roadway users via monthly and annual reports. Much of the information, however, can be accessed in real-time by travelers and transportation operations center personnel. In many cases this information is presented in a consolidated format, such as *Weatherview*²⁴, a GIS applications which presents the weather information collected in a graphical method users can query.



Map 6.8: Output of the Iowa DOT Weatherview App

²⁴ <https://weatherview.iowadot.gov/>

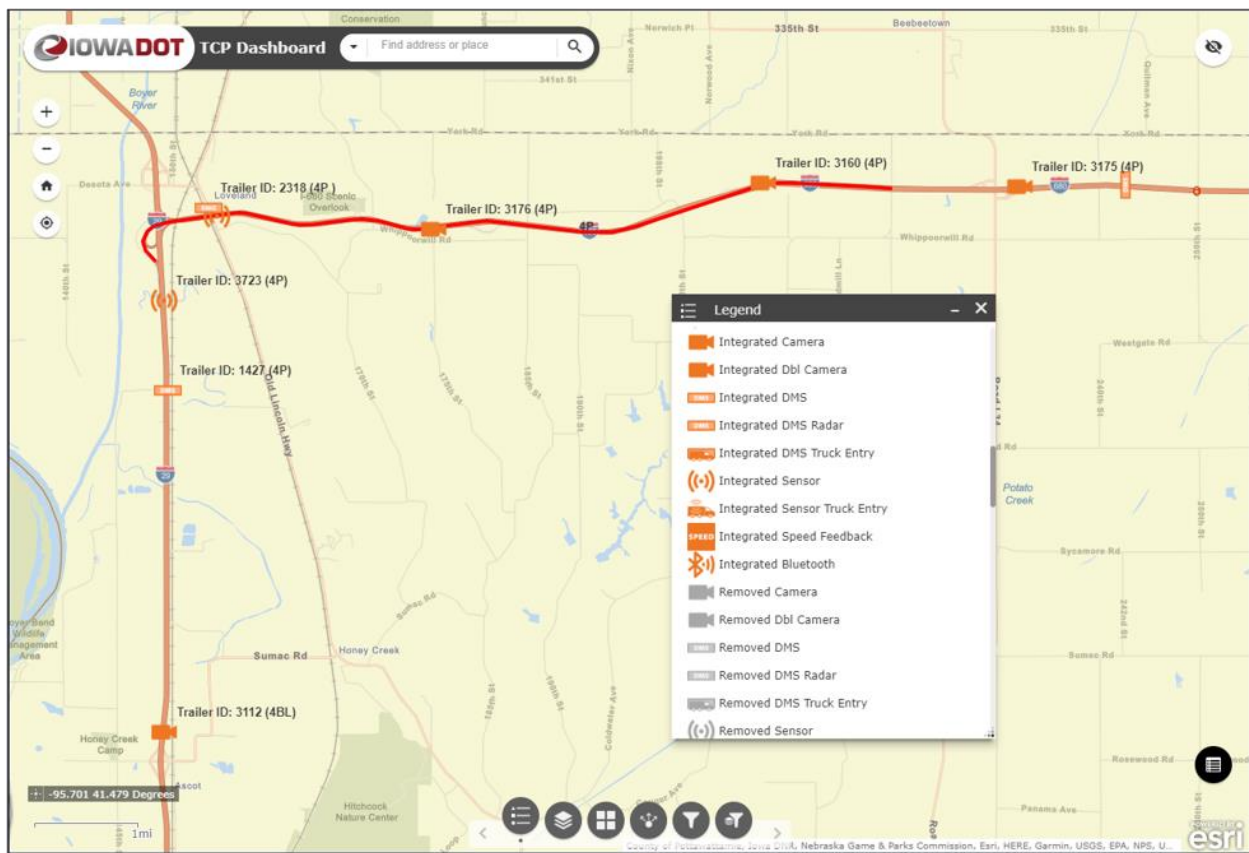


Map 6.8: Map of Intelligent Transportation Systems (ITS) Technologies

Work Zone Management

Temporary installations of ITS equipment, such as speed and queue sensors, cameras, and portable Digital Message Signs (DMS) can increase safety on roads undergoing maintenance. The figure below illustrates an Intelligent Work Zone (IWZ) established for resurfacing on eastbound stretch of I-880. The sensors allowed drivers on northbound I-29 to be aware of traffic slowdown and queuing on I-880, allowing them to slow before approaching the traffic around a blind curve, or to choose to avoid I-880 altogether.

Additionally, *Iowa 511* and *Iowa Counties Road Notifications* provide travelers current and future maintenance sites. The sites provide current and future planned maintenance, and can offer drivers detour routes and additional details to help them plan their trips.



Map 6.9: Intelligent Work Zone for I-880 Resurfacing Project (formerly I-680)

7 | Financial Analysis

The financial component of the RPA-18 LRTP is based on capital and maintenance costs anticipated to realize and maintain the various elements identified for each mode. This section also reflects the anticipated revenue and funding sources to cover the anticipated capital and operational costs incurred. This chapter details the historical funding sources and estimates future funding revenues to detail the financial element of the long range transportation plan. Additionally, it identifies the anticipated revenues for communities in RPA-18 over the planning period.

Historic Transportation Funding

Major transportation improvements in the RPA-18 region are funded through a combination of Federal, state, and local funds. Communities in the RPA-18 region have access to similar types of federal, state, and local funding. The Surface Transportation Block Grant Funding (STBG) program is the largest funding source administered through the RPA-18 planning process. The RPA-18 Policy and Technical Committees primarily rely on sub-allocation by 2010 Census population to guide the amount of funding available to communities in each county. However, the process is flexible enough to allow exceptions to be made to deliver large projects and to fund regional or transit related initiatives that do not fit into the sub-allocation formula. While not explicitly limited to roadway and bridge investments, the majority of STBG (previously Surface Transportation Program) funds have historically funded system preservation activities related to roadways and bridges. The table below shows historic STBG funding for the RPA-18 region, summarized to the sub-allocation targets for RPA-18 Policy Board Members.

Table 7.1: Historic RPA-18 Surface Transportation Block Grant Program Funding

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Harrison	\$434,203	\$445,900	\$429,179	\$394,067	\$390,353	\$388,467	\$400,121	\$399,361	\$432,248	\$445,548
Mills	\$284,756	\$292,428	\$281,462	\$258,435	\$255,999	\$254,762	\$262,405	\$261,906	\$283,474	\$292,197
<i>Glenwood</i>	\$153,257	\$157,385	\$151,483	\$139,090	\$137,779	\$137,114	\$141,227	\$140,959	\$152,566	\$157,261
Pottawattamie	\$440,922	\$452,800	\$435,820	\$400,165	\$396,394	\$394,478	\$406,313	\$405,540	\$438,936	\$452,442
Shelby	\$205,379	\$210,912	\$203,003	\$186,395	\$184,639	\$183,746	\$189,259	\$188,899	\$204,455	\$210,746
<i>Harlan</i>	\$148,515	\$152,516	\$146,797	\$134,788	\$133,517	\$132,872	\$136,858	\$136,598	\$147,847	\$152,396
	\$1,667,032	\$1,711,942	\$1,647,743	\$1,512,941	\$1,498,682	\$1,491,440	\$1,536,184	\$1,533,263	\$1,659,526	\$1,710,590

Other federal funds available for these kinds of investments include the Surface Transportation Block Grant–Highway Bridge Program (STBG-HBP), which is distributed to the RPA-18 Counties by the state. Local funds consist of property taxes, the Secondary Road Fund (SRF), and Farm-to-Market (FTM) funds. The SRT and FTM funds come out of the state’s Road Use Tax Fund. Tables of historic levels of funding for these programs are included below, in addition to historic operations and maintenance costs for communities in the RPA-18 region. This information is summarized by county roads department and cities over 5,000 residents. Additionally, the local funding estimates are derived from Iowa DOT reports of non-federal transportation revenues, excluding Road Use Tax Fund receipts (summarized separately).

Table 7.2: Historic RPA-18 Surface Transportation Block Grant-HBP

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Harrison	\$277,350	\$310,047	\$301,421	\$362,330	\$388,795	\$375,483	\$392,261	\$403,677	\$441,301	\$433,949
Mills	\$343,234	\$387,132	\$377,272	\$433,748	\$392,758	\$332,839	\$327,201	\$309,615	\$323,439	\$317,889
Pottawattamie	\$573,827	\$881,627	\$826,445	\$653,211	\$672,350	\$582,816	\$609,023	\$588,218	\$608,193	\$580,739
Shelby	\$410,180	\$446,105	\$399,183	\$439,671	\$430,150	\$369,991	\$351,542	\$321,541	\$337,604	\$326,809
Total	\$1,604,590	\$2,024,912	\$1,904,321	\$1,888,961	\$1,884,053	\$1,661,129	\$1,680,027	\$1,623,051	\$1,710,537	\$1,659,386

Table 7.3: Historic RPA-18 Road Use Tax Fund Receipts

	2015	2016	2017	2018	2019
Harrison	\$3,027,830	\$3,658,110	\$3,755,897	\$3,594,080	\$3,714,518
Mills	\$2,373,863	\$2,925,175	\$3,020,591	\$2,844,653	\$2,937,750
<i>Glenwood</i>	\$547,884	\$651,139	\$654,113	\$672,272	\$680,680
Pottawattamie	\$5,353,216	\$6,468,876	\$6,622,896	\$6,355,984	\$6,531,940
Shelby	\$2,674,213	\$3,237,078	\$3,318,033	\$3,176,401	\$3,294,229
<i>Harlan</i>	\$530,935	\$630,996	\$633,878	\$651,475	\$659,622
<i>Other Communities</i>	\$2,320,700	\$2,769,854	\$2,782,611	\$2,860,135	\$2,896,322
Total RUTF Funding	\$16,828,641	\$20,341,228	\$20,788,019	\$20,155,000	\$20,715,061

Table 7.4: Historic RPA-18 Other Local Funding Receipts

	2015	2016	2017	2018	2019
Harrison	\$2,908,007	\$2,775,873	\$3,013,392	\$3,706,370	\$3,260,132
Mills	\$3,357,256	\$3,049,829	\$2,944,074	\$3,177,843	\$3,694,741
<i>Glenwood</i>	\$845,884	\$1,582,093	\$680,334	\$750,259	\$716,075
Pottawattamie	\$5,947,668	\$8,455,694	\$8,665,717	\$8,198,382	\$9,354,190
Shelby	\$2,488,025	\$2,985,920	\$3,039,219	\$3,826,635	\$3,073,032
<i>Harlan</i>	\$1,535,241	\$1,183,527	\$1,041,441	\$1,253,172	\$1,156,792
<i>Other Communities</i>	\$6,075,588	\$9,192,076	\$6,309,133	\$9,065,898	\$7,674,956
Total Local Funding	\$23,157,669	\$29,225,012	\$25,693,310	\$29,978,560	\$28,929,919

Table 7.5: Historic Operations & Maintenance Costs

	2015	2016	2017	2018	2019
Harrison	\$5,630,953	\$7,252,407	\$6,609,058	\$6,937,266	\$7,322,695
Mills	\$4,795,392	\$5,061,813	\$5,661,924	\$4,886,859	\$5,793,384
<i>Glenwood</i>	\$845,884	\$1,582,093	\$680,334	\$750,259	\$716,075
Pottawattamie	\$9,439,448	\$12,172,755	\$12,003,756	\$13,851,875	\$15,259,735
Shelby	\$4,747,709	\$5,284,933	\$5,319,384	\$5,999,474	\$6,190,838
<i>Harlan</i>	\$1,535,241	\$1,183,527	\$1,041,441	\$1,253,172	\$1,156,792
All Other Communities	\$2,507,486	\$1,550,176	\$2,675,809	\$3,168,926	\$3,211,907
Total O&M Spending	\$29,502,113	\$34,087,704	\$33,991,706	\$36,847,830	\$39,651,425

The STBG Transportation Alternatives Program Set-Aside (STBG-TAP) serves as an important funding source for trail and walkability related project in the RPA-18 region. Under previous transportation authorizations, a similar program was known as the Transportation Enhancements (TE) program. The STBG-TAP program is administered through Iowa DOT with applicants submitting applications to RPA-18 for consideration. Below is an historic overview of TAP funding in the RPA-18 region, including STBG funding that is added to the through program through TAP-Flex, a decision made by the RPA-18 Policy Committee on an annual basis. While not directly sub-allocation, Table 7.6 illustrates the historic amount of TAP funding available to communities in the RPA-18 region since 2011. The RPA-18 Policy and Technical Committees have not chosen to sub-allocate these funds.

Table 7.6: Historic STBG-TAP and Transportation Enhancement Funding

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Regional	\$103,959	\$117,360	\$112,728	\$140,570	\$141,644	\$140,739	\$145,117	\$141,389	\$143,423	\$140,804

Future Transportation Investments

The 2040 Long Range Transportation Plan assumes that transportation funding will remain largely the same in the RPA-18 region in the future. Forecasts of the funding programs discussed above are included to demonstrate the capacity of communities to implement projects over the planning period. Furthermore, O&M costs are projected to demonstrate the capacity of local communities in the RPA-18 region to maintain the transportation infrastructure region into the future. RPA-18 staff have based projections for federal programs based on the increases authorized through the FAST Act. As such RPA-18's Regional STBG program has grown on average by approximately 2.5% annually while regional STBG-TAP funding has grown by 0.05% annually. STBP-HBP funding for counties has fluctuated during the FAST Act for RPA-18 counties, and RPA-18 staff have projected funding source to grow by 0.5% based on the longer historical trend. Based on the analysis of historic trends, local revenues are anticipated to grow by 3.8% annually while O&M costs are expected to increase by 5% annually.

Table 7.7: Projected RPA-18 Surface Transportation Block Grant Program Funding

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Harrison	\$2,365,022	\$2,611,176	\$2,882,949	\$3,183,009	\$11,042,155
Mills	\$1,551,016	\$1,712,447	\$1,890,680	\$2,087,463	\$7,241,606
<i>Glenwood</i>	\$834,760	\$921,643	\$1,017,568	\$1,123,477	\$3,897,449
Pottawattamie	\$2,401,619	\$2,651,582	\$2,927,560	\$3,232,263	\$11,213,025
Shelby	\$1,118,664	\$1,235,096	\$1,363,646	\$1,505,575	\$5,222,981
<i>Harlan</i>	\$808,936	\$893,131	\$986,089	\$1,088,722	\$3,776,879
Total	\$9,080,019	\$10,025,074	\$11,068,492	\$12,220,510	\$42,394,095

Table 7.18: Projected RPA-18 Regional STBG-TAP Funding

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Regional	\$527,644	\$540,968	\$554,628	\$568,633	\$2,191,873

Table 7.9: Projected RPA-18 Surface Transportation Block Grant-HBP

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Harrison	\$143,731	\$158,691	\$175,208	\$193,443	\$671,073
Mills	\$144,993	\$160,084	\$176,745	\$195,141	\$676,963
Pottawattamie	\$145,955	\$161,147	\$177,919	\$196,437	\$681,458
Shelby	\$117,147	\$129,340	\$142,802	\$157,665	\$546,954
Total	\$551,826	\$609,262	\$672,674	\$742,686	\$2,576,448

Table 7.10: Projected RPA-18 Road Use Tax Fund Receipts

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Harrison	\$20,800,242	\$25,064,276	\$30,202,433	\$36,393,908	\$112,460,859
Mills	\$16,450,565	\$19,822,918	\$23,886,601	\$28,783,335	\$88,943,419
<i>Glenwood</i>	\$3,811,614	\$4,592,992	\$5,534,552	\$6,669,131	\$20,608,291
Pottawattamie	\$36,577,005	\$44,075,263	\$53,110,658	\$63,998,302	\$197,761,228
Shelby	\$18,446,748	\$22,228,317	\$26,785,105	\$32,276,030	\$99,736,200
<i>Harlan</i>	\$3,693,696	\$4,450,900	\$5,363,332	\$6,462,810	\$19,970,738
Other Communities	\$16,218,580	\$19,543,376	\$23,549,753	\$28,377,434	\$87,689,142
Total	\$115,998,450	\$139,778,042	\$168,432,433	\$202,960,951	\$627,169,877

Table 7.11: Projected RPA-18 Other Local Funding Receipts

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Harrison	\$20,800,242	\$25,064,276	\$30,202,433	\$36,393,908	\$112,460,859
Mills	\$16,450,565	\$19,822,918	\$23,886,601	\$28,783,335	\$88,943,419
<i>Glenwood</i>	\$3,811,614	\$4,592,992	\$5,534,552	\$6,669,131	\$20,608,291
Pottawattamie	\$36,577,005	\$44,075,263	\$53,110,658	\$63,998,302	\$197,761,228
Shelby	\$18,446,748	\$22,228,317	\$26,785,105	\$32,276,030	\$99,736,200
<i>Harlan</i>	\$3,693,696	\$4,450,900	\$5,363,332	\$6,462,810	\$19,970,738
Other Communities	\$16,218,580	\$19,543,376	\$23,549,753	\$28,377,434	\$87,689,142
Total	\$115,998,450	\$139,778,042	\$168,432,433	\$202,960,951	\$627,169,877

Table 7.12: Projected RPA-18 Operations and Maintenance Costs

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Harrison	\$44,609,918	\$56,934,816	\$72,664,856	\$92,740,816	\$266,950,407
Mills	\$35,293,342	\$45,044,242	\$57,489,135	\$73,372,324	\$211,199,043
<i>Glenwood</i>	\$4,362,335	\$5,567,568	\$7,105,784	\$9,068,981	\$26,104,668
Pottawattamie	\$92,962,434	\$118,646,240	\$151,426,008	\$193,262,223	\$556,296,905
Shelby	\$37,714,638	\$48,134,497	\$61,433,172	\$78,406,024	\$225,688,332
<i>Harlan</i>	\$7,047,187	\$8,994,194	\$11,479,124	\$14,650,595	\$42,171,100
Other Communities	\$19,566,965	\$24,972,956	\$31,872,523	\$40,678,314	\$117,090,758
Total	\$241,556,819	\$308,294,514	\$393,470,604	\$502,179,277	\$1,445,501,213

Project Selection & Prioritization

The RPA-18 Policy and Technical Committees have established project selection processes for both the regional STBG and STBG-TAP programs for the annual Regional Transportation Improvement Program (RTIP). All projects submitted to the RPA-18 for inclusion in the RTIP are reviewed by MAPA staff and the RPA- 18 Technical and Policy Committees. Projects are programmed in the RTIP based on the recommendations of the RPA-18 Technical Committee, MAPA staff, and the approval of the RPA-18 Policy Committee. An important element of this review is the consistency of the proposed projects with the goals of the Long Range Transportation Plan (LRTP).

Regional Surface Transportation Program (STBG) Block Grant

In 2017 the Iowa Legislature authorized IDOT to implement a Swap program that allows MPOs and RPAs, at their discretion, to swap targeted federal STBG funding for State Primary Road Fund dollars. STBG-SWAP funding has expanded eligibility over STBG funding and can be awarded on roads with a federal functional classification of Minor Collector or higher in rural areas, all Farm-to-Market routes, and Collector or higher in urban areas. RPA-18 project selection process regarding system eligibility is based on regional project priority as stated in the RPA 18 Long Range Transportation Plan, local master plans, or other local or regionally significant enhancement plans.

Since 2017, the RPA-18 Policy & Technical Committees have reviewed and updated their project selection process for Regional-STBG and SWAP funds. The Policy & Technical Committees developed selection criteria and ranges to prioritize projects submitted to RPA-18 by individual jurisdictions to determine regional significance and consistency with the LRTP goals. These criteria are summarized below:

- **Functional Classification:** Projects proposed on roads with higher Functional Classifications received more points due to their regional significance
- **Annual Average Daily Traffic (AADT):** Projects with higher AADT counts received more points
- **Pavement Condition & Age:** Projects were evaluated based on the pavement condition in Good, Fair or Poor ranges (Poor pavements receiving more points). Pavement condition was determined based on INTRANS data as well as qualitative description of other factors
- **Bridge Factors:** Projects involving Structurally Deficient or Functionally Obsolete bridges received additional points. Also, bridge projects with a sufficiency rating below 50 also received points to prioritize bridges in poor condition.
- **Crash History:** Three (3) years of crash data were evaluated to determine the total number of crashes along a project corridor. Points were awarded for each crash and additional points were awarded to projects with five (5) or more crashes during the analysis period.
- **Regional Significance:** Points awarded to project based on a narrative description of the project's impact. Factors include a description of any economic development, connectivity, environmental or bridge-related factors that make the project significant to the RPA-18 region.
- **Local Match:** Projects providing more than 30% local match received points as they allow the region to fund more projects.
- **Multi-Jurisdictional:** Projects demonstrating cooperation or coordination between jurisdictions in the RPA-18 region received additional points as well.

All cities and counties within the RPA-18 region are permitted and encouraged to submit applications for projects to the RPA Board for consideration. All applications received by the RPA-18 will be considered by MAPA staff and the RPA-18 Policy Board with final funding decisions made

based on regional funding based on the criteria detailed above, project delivery considerations, and regional equity based on suballocation targets.

STBG Transportation Alternatives Program (STBG-TAP)

Iowa's Transportation Alternatives Program (TAP) is a new iteration of the former Transportation Enhancements (later Transportation Alternatives) program that has been in existence since 1991. The most recent transportation authorization act, Fixing America's Surface Transportation (FAST) Act, was enacted in 2015. Implementation of this act placed further restrictions on the selection of projects for funding under the federal TAP program structure which has led Iowa to implement a modified version of the federal program. Iowa's TAP program can be accessed in two ways. Statewide and multi-regional projects should apply directly to the Iowa DOT by October 1 annually for consideration in the Statewide TAP program. RPA-18 administers funding for smaller, local projects through its regional program. Applications for Transportation Alternatives funding must consist of at least one eligible activity under one or more of the following categories of projects: (1) Trails and Bicycles; (2) Scenic and Historic; (3) Safe Routes to School (SRTS); or (4) Environmental.

RPA-18's evaluation criteria for STBG-TAP projects include the following:

- **FAST Act Intent:** Projects were scored on the degree to which the proposed project fulfills the intent of the FAST Act
- **Continuity and Continuation of Projects:** Projects that continue or complement existing projects or projects that have been funded and /or implemented from other funding sources, especially projects for which the proposed alternatives funded would complete a larger project, concept or plan were rated and assessed a point total.
- **Versatility:** Projects which qualify in two or more of the ten eligible activities of transportation alternatives identified in the FAST Act will be given additional consideration. One point will be applied toward each of the project activities applicable to the project.
- **Project Priority:** Projects will be assessed a point total contingent on relative importance and contribution to a regional project priority as stated in the RPA 18 Long Range Transportation Plan, Iowa Statewide Long Range Transportation Plan, local master plans, or other local or regionally significant enhancement plans.
- **Matching Funds:** Projects that can secure a local match above the 20 percent mark would garner additional consideration based on the premise of funding in excess of 20 percent would have a smaller impact on the total funding available for all projects.

Other Funds

Other federal funds available for use in the RPA-18 region are beyond the direct control of the RPA-18. Transit funds (including Sec. 5311), other STP program funds (National Highway Performance Program, CMAQ, State STP, etc.) and other funding sources are assumed financially constrained at the state level. Projects identified with these funds will be programmed at the request of the specific jurisdiction based on the assumption that they meet financial constraint concerns within their own organizations. Bridge program projects are prioritized by each individual county based upon the following factors: current serviceability rating, traffic flow, available funding, and total system needs. These factors are used to determine the best possible application of Federal Aid for bridges in RPA-18.

Appendix

SWITA Vehicle Inventory

ID #	Equipment Type	Year	Description	Class Size	COMPLIANT	Odometer Read Date	Odometer Reading
713	LDB	2007	FORD EL DORODO	176	N	7/1/2019	160082
901	LDB	2008	SUPREME	176	Y	7/1/2019	208255
903	LDB	2008	FORD STAR TRANS SUPREME	176	Y	7/1/2019	167462
904	LDB	2008	FORD EL DORODO	138	Y	7/1/2019	212796
905	LDB	2008	FORD EL DORODO	138	Y	7/1/2019	242405
906	LDB	2008	FORD EL DORODO	138	Y	7/1/2019	256584
907	LDB	2008	FORD EL DORODO	138	Y	7/1/2019	126135
908	LDB	2008	FORD EL DORODO	138	Y	7/1/2019	183825
1003	LDB	2010	FORD EL DORODO	176	Y	7/9/2019	180689
1004	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	291015
1005	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	155815
1007	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	263365
1008	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	190638
1009	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	211774
1011	MV	2010	DODGE CARAVAN ADA	201	Y	7/1/2019	255597
1012	MV	2010	DODGE CARAVAN ADA	201	Y	7/1/2019	215567
1013	MV	2010	DODGE CARAVAN ADA	201	Y	7/1/2019	224434
1014	MV	2010	DODGE CARAVAN ADA	201	Y	7/1/2019	165740
1014	MV	2010	DODGE CARAVAN ADA	201	Y	7/1/2019	200957
1016	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	210207
1201	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	201553
1203	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	228754
1204	LDB	2010	FORD EL DORODO	176	Y	7/1/2019	165567
1301	LDB	2012	FORD GLAVAL	176	Y	7/1/2019	136616

1302	LDB	2012	FORD GLAVAL	176	Y	7/1/2019	226526
1303	LDB	2012	FORD GLAVAL	176	Y	7/1/2019	196070
1304	LDB	2012	FORD GLAVAL	176	Y	7/1/2019	218814
1305	LDB	2013	FORD EL DORODO	176	Y	7/1/2019	129051
1306	LDB	2012	FORD EL DORODO	176	Y	7/1/2019	171916
1307	LDB	2013	FORD EL DORODO	176	Y	7/1/2019	127196
1308	LDB	2012	FORD EL DORODO	176	Y	7/1/2019	151184
1309	MV	1999	PLYMOUTH GRAND VOYAGER	NA	N	7/1/2019	211043
1401	S	2012	FORD TAURUS	NA	N	7/1/2019	162597
1407	LDB	2014	FORD GLAVAL	176	Y	7/1/2019	115292
1408	LDB	2014	FORD GLAVAL	176	Y	7/1/2019	158212
1501	MV	2006	FORD FREESTAR SE	NA	N	7/1/2019	245260
1503	LDB	2015	ELDORADO AEROTECH	176	Y	7/1/2019	68556
1504	LDB	2015	ELDORADO AEROTECH	176	Y	7/1/2019	80382
1505	LDB	2015	ELDORADO AEROTECH	176	Y	7/1/2019	140658
1506	LDB	2015	ELDORADO AEROTECH	176	N	7/1/2019	96926
1601	LDB	2016	FORD/E450 CUTAWAY	176	Y	7/1/2019	96236
1602	LDB	2016	FORD/E450 CUTAWAY	176	Y	7/1/2019	75731
1603	MV	2016	DODGE ADA MINIVAN	NA	Y	7/1/2019	69544
1605	MV	2016	DODGE ADA MINIVAN	NA	Y	7/1/2019	60545
1608	LDB	2009	FORD GOSHEN	176	Y	7/1/0219	190769
1610	LDB	2009	FORD GOSHEN	176	Y	7/1/0219	200861
1701	S	2012	CHEVROLET MAILBU	NA	N	7/1/0219	153995
1702	LDB	2017	EL DORADO LD BUS	176	Y	7/1/2019	75490
1702	LDB	2017	EL DORADO WB ADA BUS	176	Y	7/1/2019	43731
1704	MV	2016	DODGE BRAUN MINIVAN	NA	Y	7/1/2019	25269

1705	MV	2016	MV-1	NA	Y	7/1/0219	50994
1706	MDB	2016	AERO ELITE320 33 PASSENGER	M32	N	7/1/2019	129239
1707	LDB	2017	ELDORADO AEROTECH	176	Y	7/1/2019	52837
1708	LDB	2017	ELDORADO AEROTECH	176	Y	7/1/2019	39514
1710	LDB	2017	FORD GOSHEN	176	Y	7/1/2019	27857
1711	MV	2007	DODGE GRAND CARAVAN	NA	Y	7/1/2019	97534
1801	MV	2015	TOYOTA SIENNA	NA	N	7/1/2019	97069
1802	MV	2016	NISSAN QUEST	NA	N	7/1/0219	96416
1803	MV	2014	GMC ACADIA	NA	N	7/1/2019	137307
1804	MV	2004	CHRYSLER TOWN AND COUNTRY	NA	N	7/1/2019	134753
1805	MV	2015	MV-1 DELUX	NA	Y	7/1/2019	24735
1806	MV	2015	MV-1 OX	NA	Y	7/1/0219	26446
1807	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	52807
1808	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	37841
1809	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	22144
1810	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	82033
1811	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	26624
1812	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	81979
1813	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	23914
1814	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	47815
1815	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	26624
1816	LDB	2017	EL DORADO AEROTECH	176	Y	7/1/0219	50295
1817	MV	2012	KIA SEDONA	NA	N	7/1/2019	172147
1818	MV	2010	CHRYSLER TOWN AND COUNTRY	NA	N	7/1/2019	79648

1820	MV	2003	CHEVY VENTURE ADA	NA	Y	7/1/2019	150004
1821	MV	2018	CHAMPION DEFENDER 37 PASSENGER	NA	Y	7/1/2019	39800
1822	MV	2018	FREIGHLINER GLAVAL 40 PASSENGER	M40	Y	7/1/2019	28739
1902	MV	2015	DODGE GRAND CARAVAN	NA	N	7/1/2019	110284
1903	MV	2015	DODGE GRAND CARAVAN	NA	N	7/1/2019	69786
1904	MV	2013	DODGE GRAND CARAVAN	NA	N	7/1/2019	97622
1905	MV	2014	DODGE GRAND CARAVAN	NA	N	7/1/2019	102609
1906	MV	2015	DODGE GRAND CARAVAN	NA	N	7/1/2019	41926
1907	SW	2011	DODGE DURANGO	NA	N	7/1/2019	119360
1908	S	2014	CHEVY IMPALA	NA	N	7/1/2019	54188
1909	S	2014	CHEVY IMPALA	NA	N	7/1/2019	66917
1910	MV	2019	DODGE GRAND CARAVAN	NA	Y	7/1/2019	3146
1911	MV	2019	DODGE GRAND CARAVAN	NA	Y	7/1/2019	1175
1912	MV	2019	DODGE GRAND CARAVAN	NA	Y	7/1/2019	886
1913	MV	2019	DODGE GRAND CARAVAN	NA	Y	7/1/2019	1080
1914	LDB	2019	ELDORADO BUS	176	Y	7/1/2019	3859
1915	LDB	2019	ELDORADO BUS	176	Y	7/1/2019	1129
1916	LDB	2019	ELDORADO BUS	176	Y	7/1/2019	1324
1917	LDB	2019	ELDORADO BUS	176	Y	7/1/2019	1737

Appendix Chart 2: Social Service Agencies

Agency	County	City	Type of Service	Fixed	Demand
Support Services of South Central Iowa	Adair	Greenfield	Disabled		ü
Elm Crest Retirement	Shelby	Harlan	Elderly		ü
Faith in Action Volunteers	Fremont	Sidney	Other	ü	ü
Children's Square	Pottawattamie	Council Bluffs	Disabled/Youth		ü
Partnership for Progress	Cass	Atlantic	Disabled		ü
Park Place RCF/PMI	Cass	Atlantic	Other	ü	ü
Cass County Health System	Cass	Atlantic	Disabled/General Public	ü	ü
Amerigroup	Dallas	West Des Moines	Elderly/Disabled	ü	ü
Iowa Vocational Rehab Services	Cass	Atlantic	Disabled		ü
Boost4Families	Pottawattamie	Oakland	Other	ü	ü
REM	Cass	Atlantic	Disabled		ü
Crossroads of Western IA	Harrison	Missouri Valley	Human Service		ü
Manor of Malvern	Mills	Malvern	Medical		ü
Good Samaritan Society	Montgomery	Villisca	Elderly		ü
Waubonsie MHC	Page	Clarinda	Medical		ü
Page County Passengers	Page	Clarinda	Other		ü

Nishna Productions	Page	Shenandoah	Disabled	ü	ü
Gardenview Care Center	Page	Shenandoah	Medical	ü	
Bethany Heights	Pottawattamie	Council Bluffs	Elderly	ü	
Jennie Edmundson Hosp.	Pottawattamie	Council Bluffs	Medical	ü	ü
Good Samaritan Society	Montgomery	Red Oak	Elderly		ü
Goldenrod Manor Care	Page	Clarinda	Elderly		ü
Fair Oaks Residential Care	Page	Shenandoah	Elderly		ü
Carter Lake Senior Center	Pottawattamie	Carter Lake	Elderly		ü
Salem Lutheran Homes	Shelby	Elk Horn	Elderly		ü

Agency	City	Vehicle Type	Condition	Seating Capacity
Crest Services	Harlan	2 -- minivans	Good	6
Faith in Action Volunteers	Sidney	5 – minivans (2 wc*)	Good	6
Children’s Square	Council Bluffs	10 – minivans	Good	7
		2 - cars	Good	5
Partnership for Progress	Atlantic	4 - minivans	Good	6
		1 - light duty bus	Good	15
Park Place RCF/PMI	Atlantic	2 - minivans	Good	7
Waubonsie Medical	Clarinda	3 – minivans	Good	7
Jennie Edmundson Hosp	Council Bluffs	1 – minivan (wc)*	Good	9
		1 - light duty bus	Good	8
Bethany Heights	Council Bluffs	1 - light duty bus	New	15
Elm Crest Retirement	Harlan	1 – car	Excellent	2
		1 - lt duty bus (wc)*	Excellent	15
Manor of Malvern	Malvern	1 – minivan	Good	5
Crossroads of W Iowa	Missouri Valley	4 – minivans	Excellent	7
Garden View Care Cent.	Shenandoah	1 – minivan (wc)*	Good	5
		1 – maxi van	Good	10
Nishna Productions, Inc.	Shenandoah	14 – cars	Fair-Exc	4-5
		14 – minivans	Fair-Exc	6-8
		7–lt duty bus (2 wc)	Fair-Exc	8-15
Good Samaritan	Villisca	1 – light duty bus (wc)*	Good	14
		1 – minivan	Good	6
Support Services of South Central Iowa	Greenfield	**	**	**

Appendix Chart 3: LRTP Five-Year Project List

Primary System

County	Facility	Location	Type of Improvement	Time Frame	in RTIP	Projected Cost
Pottawattamie	I-880	Potato Creek - 0.8 Mi E of Co Rd L34 (EB & WB)	Bridge Deck Overlay	1-5 years	Yes - 2021	\$ 1,330,000
Harrison	US 30	Missouri River	Bridge Cleaning	1-5 years	Yes - 2021	\$ 140,000
Pottawattamie	I-80	I-880 Interchange	Bridge Deck Overlay	1-5 years	Yes - 2021	\$ 774,000
Mills	US 34	Missouri River	Bridge Cleaning	1-5 years	Yes - 2021	\$ 180,000
Pottawattamie	US 59	Stream - 0.2 Mi S of Co Rd G30 in Hancock	Bridge Replacement	1-5 years	Yes - 2021	\$ 879,000
Harrison	I-29	US 30 Interchange in Missouri Valley	Lighting	1-5 years	Yes - 2021	\$ 690,000
Pottawattamie	US 59	I-80 Interchange at Avoca (NB & SB)	Bridge Deck Overlay	1-5 years	Yes - 2022	\$ 647,000
Pottawattamie	IA 92	Jordan Creek - 3.5 Mi E of US 59	Bridge Deck Overlay	1-5 years	Yes - 2022	\$ 371,000
Pottawattamie	I-80	Co Rd M16 Interchange	Bridge Deck Overlay	1-5 years	Yes - 2022	\$ 272,000
Harrison	US 30	Wilson Ditch - 2.1 Mi W of I-29	Bridge Replacement	1-5 years	Yes - 2022	\$ 938,000
Harrison	US 30	Stream 2.3 Mi E of Co Rd F32	Bridge Replacement	1-5 years	Yes - 2022	\$ 1,283,000
Pottawattamie	I-80	West Nishabotna River to I.0 Mi E of Rest Area	Pavement Rehab	1-5 years	Yes - 2022	\$ 1,406,000
Pottawattamie	US 59	Steam 2.4 Mi N of IA 92	Bridge Deck Overlay	1-5 years	Yes - 2022	\$ 138,000
Mills	I-29	Mills County Rest Area (NB)	Rest Area Improvement	1-5 years	Yes - 2022	\$ 3,971,000

Pottawattamie	IA 92	Graybill Creek - 1.2 Mi E of US 59	Bridge Deck Overlay	1-5 years	Yes - 2023	\$ 573,000
Harrison	IA 127	Steer Creek - .5 Mi E of IA 183	Bridge Deck Overlay	1-5 years	Yes - 2023	\$ 740,000
Pottawattamie	I-880	Mosquito Creek - 0.5 Mi E of IA 191 (WB)	Bridge Rehabilitation	1-5 years	Yes - 2023	\$ 1,000,000
Harrison	I-29	Little Sioux River	Traffic Signs	1-5 years	Yes - 2023	\$ 75,000
Harrison	IA 44	Mosquito Creek -0.3 Mi E of IA 191	Bridge Deck Overlay	1-5 years	Yes - 2023	\$ 1,102,000
Harrison	US 30	Missouri River	Bridge Rehabilitation	1-5 years	Yes - 2023	\$ 125,000
Pottawattamie	IA 92	Silver Creek - 2.8 Mi E of Treynor	Bridge Deck Overlay	1-5 years	Yes - 2024	\$ 400,000
Pottawattamie	I-80	Idlewood Rd Overpass	Bridge Deck Overlay	1-5 years	Yes - 2024	\$ 1,600,000
Harrison	US 30	Missouri Valley Bypass	Right of Way	1-5 years	Yes - 2024	\$ 6,800,000
Mills	US 275	N of Tabor to US 34	Pavement Widening & Rehab	1-5 years	Yes - 2021	\$ 5,026,000
Harrison	US 30	Missouri River to I-29	Pavement Widening & Rehab	1-5 Years	Yes - 2021	\$ 5,738,000
Mills	US 34	Douglas Creek - 0.7 Mi E of Co Rd H34	Bridge Rehabilitation	1-5 Years	Yes - 2021	\$ 592,000
Mills	US 34	BNSF RR - 0.9 Mi E of Co Rd L55	Bridge Rehabilitation	1-5 Years	Yes - 2021	\$ 1,309,000
Pottawattamie	US 59	Co Rd G30 to Avoca	Pavement Rehabilitation	1-5 Years	Yes - 2021	\$ 3,449,000
Pottawattamie	I-29	Co Rd G12	Grade and Pave, Bridge Replacement, Signs	1-5 Years	Yes - 2022	\$ 3,789,000
Pottawattamie	I-29	Ditch 2.4 Mi S of I-880	Bridge Replacement & Traffic signs	1-5 Years	Yes - 2022	\$ 1,267,000
Pottawattamie	I-29	Ditch 0.5 Mi S of I-880	Bridge Replacement	1-5 Years	Yes - 2022	\$ 1,703,000
Pottawattamie	I-29	Ditch 1.6 Mi S of I-880	Bridge Replacement	1-5 Years	Yes - 2022	\$ 912,000

Shelby	US 59	E Branch W Nishnabota River	Bridge Replacement	1-5 Years	Yes - 2023	\$ 2,875,000
Pottawattamie	I-80	Co Rd G30 to Co Rd L66	Guardrail	1-5 Years	Yes - 2021	\$ 2,000,000

Secondary System

County	Facility	Project	Type of Improvement	Time Frame	in RTIP	Projected Cost
Harrison	Vienna Ave	Pigeon Creek	Bridge Replacement	1-5 Years	Yes - 2021	\$ 500,000
Pottawattamie	M16	Stream	Culvert Replacement	1-5 Years	Yes - 2021	\$ 500,000
Mills	400th Street	Indian Creek	Bridge Replacement	1-5 Years	Yes - 2022	\$ 400,000
Mills	Paddock Ave	Local Creek	Bridge Replacement	1-5 Years	Yes - 2022	\$ 300,000
Harrison	Parker Trail	Boyer River	Bridge Replacement	1-5 Years	Yes - 2022	\$ 1,400,000
Pottawattamie	G66	West Nishnabotna River	Bridge Replacement	1-5 Years	Yes - 2022	\$ 2,000,000
Shelby	Cedar Rd	Pigeon Creek	Bridge Replacement	1-5 Years	Yes - 2022	\$ 200,000
Mills	M21	Farm Creek	Bridge Rehabilitation	1-5 Years	Yes - 2022	\$ 600,000
Pottawattamie	G18	BNSF Railroad	Bridge Removal	1-5 Years	Yes - 2022	\$ 1,500,000
Shelby	Elk Horn Trail	In Elk Horn betw Salem and Madison Streets	Bike/Ped trail	1-5 Years	Yes - 2022	\$ 152,000
Pottawattamie	RR Hwy Trail	Council Bluffs to Neola	Bike/Ped trail	1-5 Years	Yes - 2022	\$ 936,000
Mills	Wabash Trace	Silver City	Bridge Replacement	1-5 Years	Yes - 2022	\$ 189,000
Mills	Glenwood	Pedestrian Trail in Glenwood Lake Park	Bike/Ped trail	1-5 Years	Yes - 2022	\$ 1,255,000
Mills	Glenwood	E. Sharp Street	Bike/Ped trail	1-5 Years	Yes - 2022	\$ 141,000
Pottawattamie	L66	US Hwy 6 to G30	Pavement Patching	1-5 Years	Yes - 2022	\$ 6,050,000
Mills	L55	H20 to Dobney Ave	Pavement Rehabilitation	1-5 Years	Yes - 2022	\$ 1,800,000
Pottawattamie	M47	Montgomery Co Line to G30	Paving and Pavement Rehab	1-5 Years	Yes - 2022	\$ 3,700,000

Mills	Gaston Ave	24th Street to 287th Street	Pavement Rehab & Widening	1-5 Years	Yes - 2022	\$ 500,000
Harrison	L16	Willow Creek to Monona Co Line	Bituminous Seal Coat	1-5 Years	Yes - 2023	\$ 1,200,000
Harrison	F66	Seward Ave to Hwy 191	Bituminous Seal Coat	1-5 Years	Yes - 2024	\$ 360,000
Mills	L63	Malvern to Fremont County Line	Paving and Pavement Rehab	1-5 Years	Yes - 2024	\$ 2,000,000
Pottawattamie	G30	Mosquito Creek to L66	Pavement Rehab	1-5 Years	Yes - 2024	\$ 1,325,000