2050 LRTP CHAPTER 1:

INTRODUCTION

2050 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. Its result is a guide for selecting projects of regional importance that fit this vision.

This document contains demographic, environment, and infrastructure data that serve as a foundation for the vision's framework. Coupled with an analysis of current transportation in the region, this data is being used to determine the needs of the community. Based on these needs, options for future scenarios will be developed.

Areas Covered by a Long Range Transportation Plan

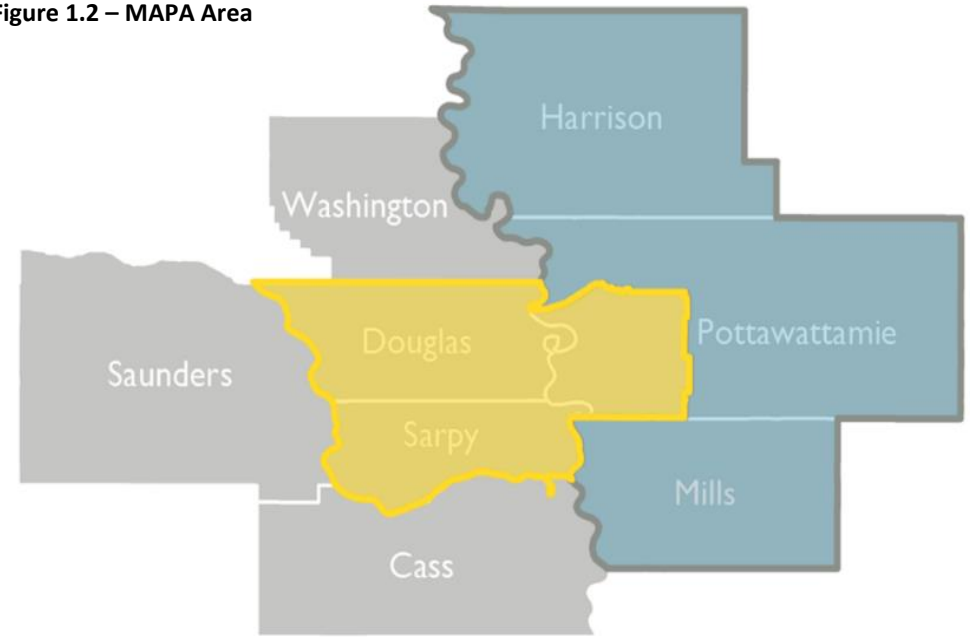
Long range plans cover the designated MPO Travel Management Area (TMA), MAPA's TMA is shown in yellow in figure 1.2.

The blue and grey portions of the map show the greater MAPA metropolitan region, historically MAPA has not done transportation planning in areas outside of the TMA in Nebraska.

Time Frame of an LRTP

LRTP's traditionally have projects and goals for 20 years from the date that they are written, the MAPA 2050 LRTP will have projects and goals for the community spanning 35 years, until 2050. The extended timeframe is designed to match the Heartland 2050 Study implementation and provide a more cohesive and comprehensive planning framework for the Omaha-Council Bluffs region and provide a community wide vision for the year 2050.

Figure 1.2 – MAPA Area



Federal Justification and Requirements

The Fixing America's Surface Transportation Act (FAST Act) requires MPO's to create an LRTP with goals for the community and a list of regionally significant projects.

Update Schedule

Long Range Transportation Plans are updated every 5 years in order to revise the list of projects, reevaluate the goals and priorities of the community; adapting them to changing demographics, economic developments, and land use trends.

MPO for the Region

The Metropolitan Area Planning Agency (MAPA) is the designated Metropolitan Area Planning Organization (MPO) and the voluntary Council of Governments for the Omaha – Council Bluffs Region.

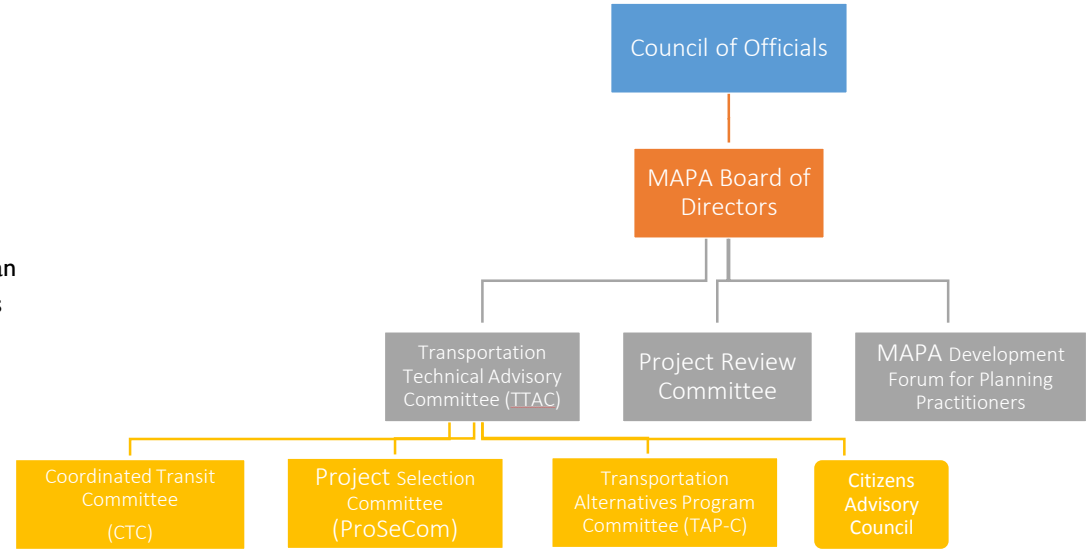
MAPA was created in 1967 to bring local government officials in the area together to address regional concerns.

Structure

Figure 1.1 shows the organizational structure of MAPA.

The MAPA Council of Officials oversees MAPA, the Council is made up of local elected officials, local government staff, nonprofits, advocacy groups, and community members. The MAPA Board of Directors serves as the Policy Board for the MAPA MPO, and is made I of local elected officials from member communities of MAPA. The Board has all final approval of all plans, policies, and regular business of the agency. Decisions by the MAPA Board are informed by recommendations from the Transportation Technical Advisory Committee (TTAC), its subcommittees, and MAPA staff.

Figure 1.1 – MAPA Organizational Structure



Those Involved

Any government entities with boundaries within Douglas, Sarpy, Washington, Pottawattamie, and Mills Counties can be a member of MAPA. A complete listing of the members can be found on the MAPA website.

Departments and Services Provided to Communities and Governments

MAPA is made up of four departments: Transportation and Data, Community and Economic Development, Finance and Operations, and Heartland 2050.

Through these three departments MAPA provides a variety of regional planning services for its members.

Transportation and Data

- Long Range Transportation Plan
- Transportation Improvement Program
- Traffic Reports
- Metro Area Motorists Assist
- Corridor Studies
- Unified Work Program and Budget
- Area Imagining Services
- GIS Mapping Services
- Regional Planning Association Work (Iowa)
    - Regional Transportation Improvement Program
    - Transportation Alternatives Program
    - Unified Work Program Budget

Community and Economic Development

- Comprehensive Economic Development
- Strategy
- Grant Alerts
- Grant Writing
- Revolving Loan Fund
- Downtown Improvement and Redevelopment Plans
- Comprehensive Planning
- Land Use Studies

Heartland 2050

- Regional Values Survey
- Regional Visioning
- Heartland Implementation Committees

2050 LRTP Chapter 2:
The Planning Process

The Planning Process

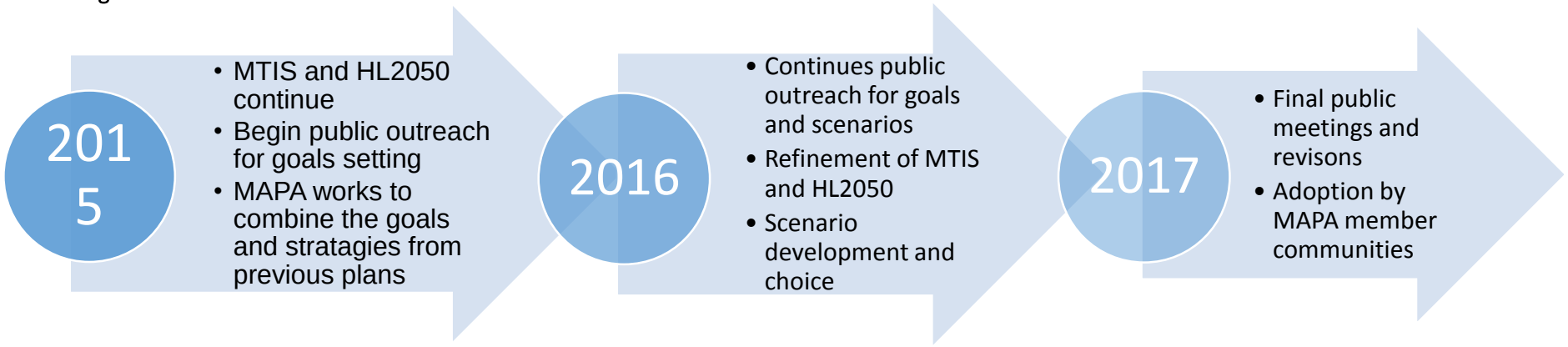
Long Range Transportation Plan Timeline

The 2050 long range transportation plan (LRTP) is based off of five plans and studies that MAPA has completed between 2009 and 2017. These are:

- HEARTLAND 2050 – IMPLEMENTATION
- HEARTLAND CONNECTIONS BICYCLE AND PEDESTRIAN MASTER PLAN – 2015
- HEARTLAND CONNECTIONS TRANSIT STUDY – 2014
- METROPOLITAN AREA TRANSPORTATION IMPROVEMENT STUDY (MTIS) – 2016
- COORDINATED TRANSIT PLAN – 2014

In addition to these there is considerable development and refinement being done to these plans and studies to combine them into a cohesive vision for the Omaha-Council Bluffs region. Figure 2.1 shows the projected timeline for the 2050 LRTP development and coordination with HL2050 and MTIS.

Figure 2.1 –LRTP Timeline



Public and Stakeholder Involvement

Public Involvement

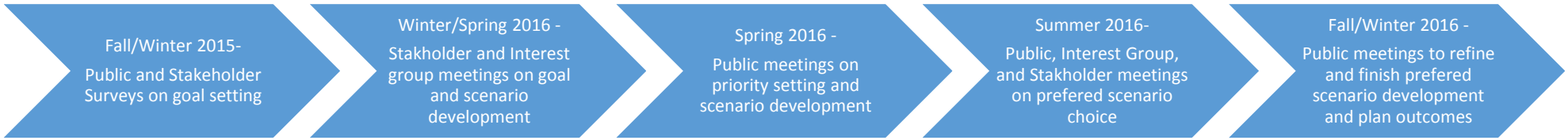
Through the plan development process of this document MAPA held meetings to ask for feedback and direction with stakeholders, interests groups, and the general public. The schedule for this is shown in the timeline below (Figure 2.2).

The public process used to develop this plan is detailed later in this chapter and was based off of the MAPA Public Participation Plan (PPP) which can be found in full on MAPA's website.

Time Line

MAPA's public involvement process for the 2050LRTP sought early and frequent input from citizens in the planning process with the goal of meaningful public input and engagement.

Figure 2.2 – Public Involvement Timeline



Goal Setting

MAPA staff used the goals developed through studies and plans that were that were completed between the 2010 and 2015. These studies, and how they fit into the 2050 LRTP, are shown in figure 2.3 to the right.

Through stakeholder involvement six goals from the previous plans, shown in figure 2.4, were chosen and brought to the public for prioritization and comment.

Staff then conducted questionnaire and public meetings throughout the region to further refine and combine these goals for the long range transportation plan. The full studies can be found online at: http://www.mapacog.org/transportation and http://heartland2050.org/download-our-vision/

Figure 2.3 – Previous Plans

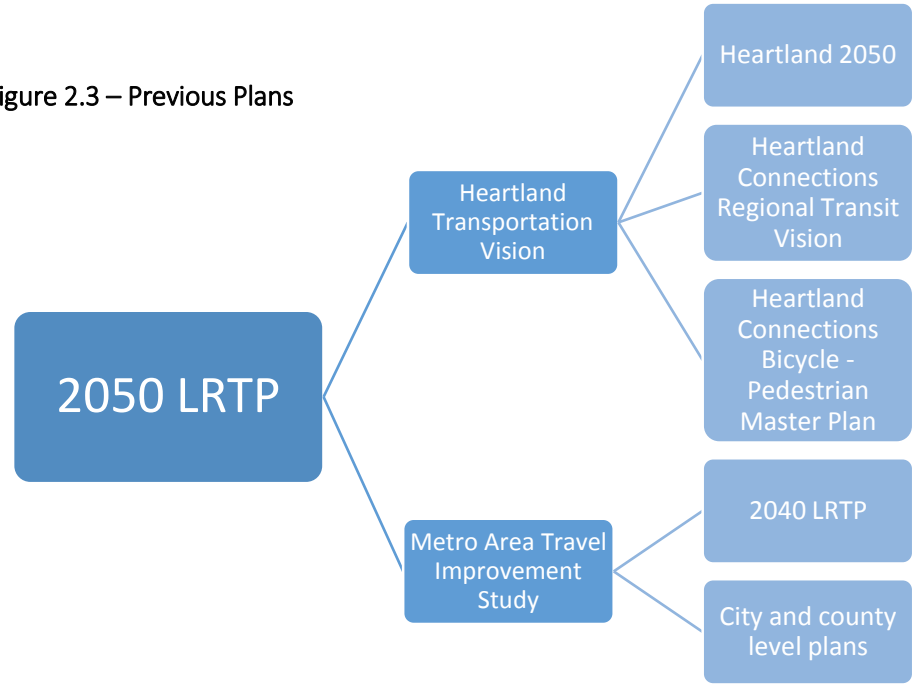


Figure 2.4 – Goals from Previous Plans

<table>
<tr><td rowspan="2">Maximize Mobility & Accessibility</td><td>Mobility & Accessibility</td><td rowspan="2">…it to increase regional mobility options</td><td>Connect Places</td><td rowspan="5">Together, our region’s investments will develop efficient infrastructure that supports economic development, provides more transportation choices, and reduces energy consumption.</td><td>Multimodal? Concept of Choices?</td></tr>
<tr><td>Congestion Reduction</td><td></td></tr>
<tr><td>Increase Safety & Security</td><td>Reduce Fatalities & Serious Injuries</td><td></td><td>Improve Safe Mobility Choices</td><td>Multimodal?</td></tr>
<tr><td>Consider the Environment & Urban Form</td><td>Stewardship & Environment</td><td>... further regional efforts to become a more environmentally responsible...</td><td>Value Existing Places While Planning for New Ones</td><td>Community health? Air quality?</td></tr>
<tr><td rowspan="2">Keep Costs Reasonable & Sustainable</td><td rowspan="2">System Preservation</td><td rowspan="2">...provide increased regional mobility options in a resource-efficient manner</td><td>Foster Collaboration Between Jurisdictions & Levels of Gov’t</td><td rowspan="2">Are we just thinking about costs of infrastructure? Maybe non-attainment?</td></tr>
<tr><td>Achieve a high ROI for community & fiscal health</td></tr>
</table>

Strategy Development

Through Heartland 2050, the Heartland Connections Studies, MTIS, and the goals and strategies developed in the other plans and the public input received through the surveys collected MAPA staff are combining the goals from the above matrix to develop potential strategies with local, federal, and state partners.

These potential strategies and draft goals will be taken to the public for ranking and prioritization at several key points during the development process.

Preferred Alternative Selection

Building off of previous input and preferences staff will continue to refine and develop combinations of strategies, for the region to most effectively meet the community's vision of itself in 2050.

Through a series of stakeholder and public meetings MAPA staff will bring the draft alternative / strategy packages to the public for feedback and to determine which is felt to be the most effective and feasible to implement.

Stakeholder Involvement

The 2050 LRTP involved a number of stakeholder groups and interested parties. These included:

- *Nebraska and Iowa state agencies*
- *Federal partners*
- *Localities who are members of MAPA Council of Governments*
- *Neighborhood alliances*
- *Neighborhood associations,*
- *Non-profits and Human service agencies who participate in the Coordinated Transit Committee*
- *Heartland 2050 participants*
- *Other interest groups related to urban design and transportation issues*

MAPA is working with stakeholders throughout the process to develop and community wide goals from those listed in figure 2.4, and to conduct outreach for further goal setting and prioritization. The nonprofits and human service agencies MAPA works with are instrumental in contacts within Environmental Justice populations and facilitating meetings and online outreach.

3 Regional Demographics & Growth

Population Trends in the MAPA Region

Population and employment in the MAPA region have grown steadily for decades. Although the economic recession that began in 2008 has slowed the region's development recently, continued growth is expected to occur for the coming 25 years. Significant changes to the make-up of the region's population will take place that will play an important role in the transportation system and its ability to meet future demands.

The 3-county MAPA TMA is home to approximately 770,000 people (see Table 3-1). It is the largest metropolitan area in Nebraska and Iowa, and an important economic center in the Midwestern U.S. The total population has increased over 42% from 1970, when the population was slightly greater than 540,000.

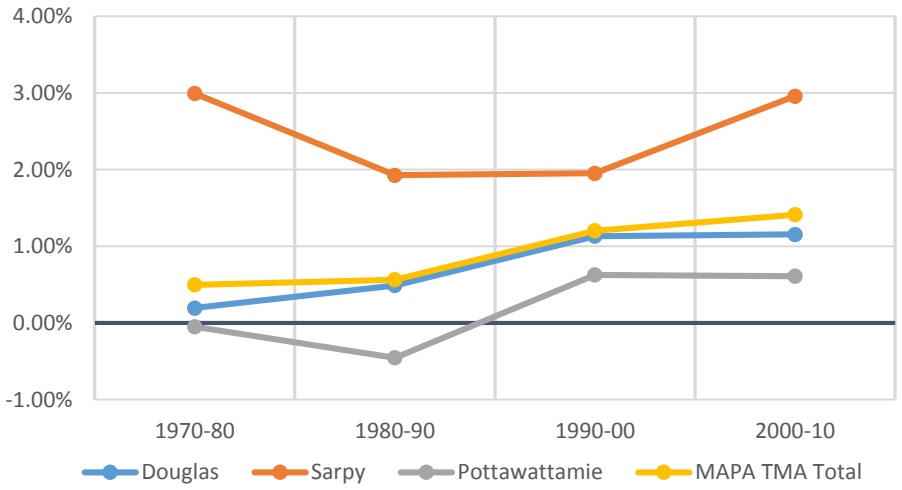
This population growth has not been shared equally between the counties. Sarpy County's population has soared in recent years, averaging over 20% growth each decade. Douglas County's population has tracked closely with the MAPA total, typically ranging between 5 and 12 percent growth per decade. Pottawattamie County's population declined during the 1970s and 1980s, but rebounded for modest, but consistent growth from the 1990s onward. Figure 3.1 shows the growth rate by decade for each of the three counties in the MAPA TMA.

These county growth patterns reflect the overall pattern of population growth along the outer suburban areas and population decline or stability in the older, urban portions of metro area, though there has been interest in new redevelopment communities in downtown Omaha and downtown Council Bluffs. Figure 3-2 (next page) illustrates this pattern average growth rate by Census Tract between 1970 and 2010. Note the red-colored tracts in the suburban portion of the Metro Area showing increased population, whereas the light yellow and blue tracts show no growth or population decrease. On balance, many more tracts experienced growth during this period than decline.

Table 3-1: Population Trend in the MAPA Region, 1970 - 2010

County	1970	1980	1990	2000	2010
Douglas	389,455	397,038	416,444	463,585	517,110
Sarpy	66,200	86,015	102,583	122,595	158,840
Pottawattamie	86,991	86,561	82,628	87,803	93,158
MAPA TMA Total	542,646	569,614	601,655	673,983	769,108

Figure 3-1: County Population Growth Rate by Decade, 1970 - 2010



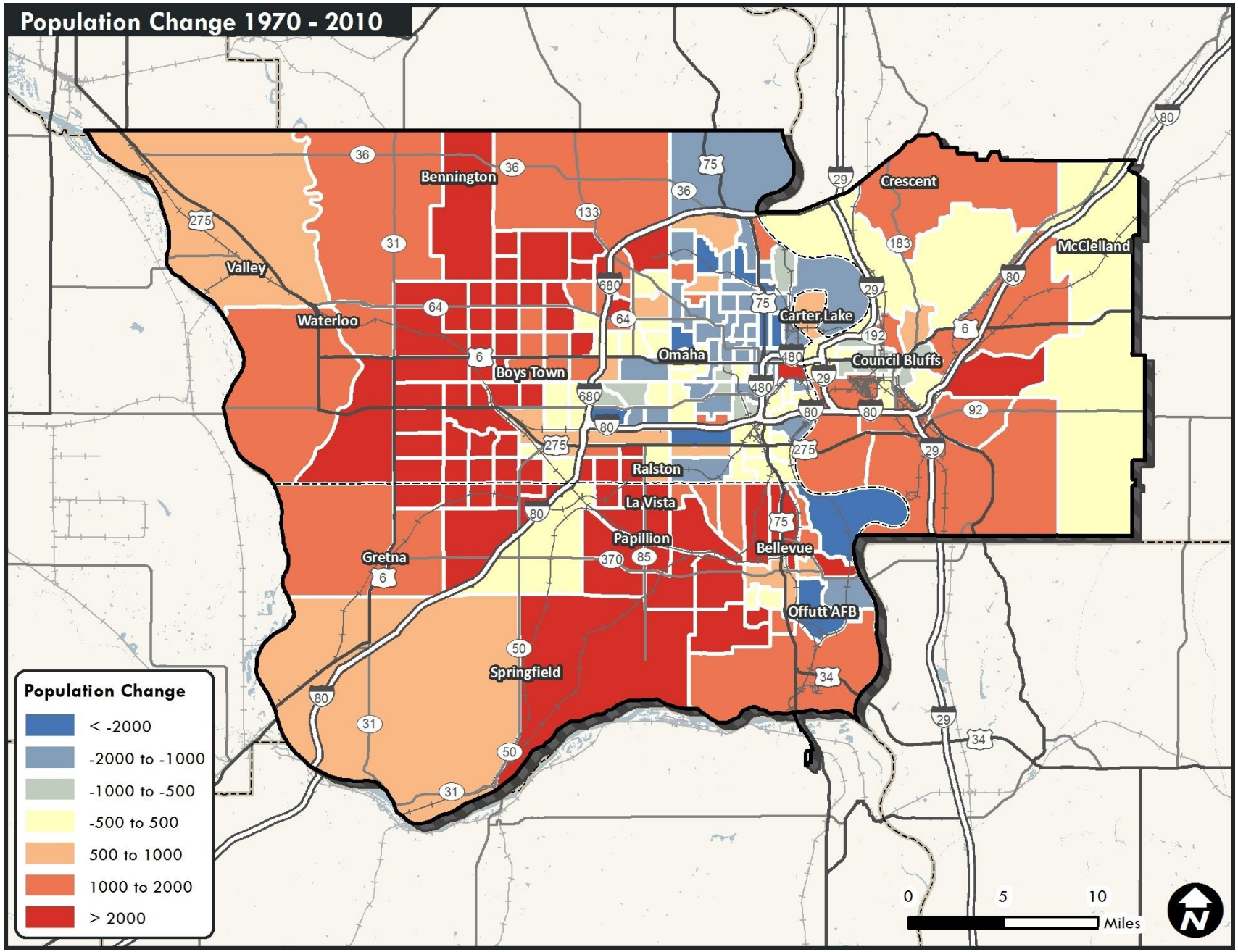


Figure 3-2: Population Growth by Census Tract, 1970 to 2010

Growing Diversity in the MAPA Region

The growing population of the MAPA TMA is changing in more ways than sheer numbers. One notable shift can be seen in the increasing racial and ethnical diversity in the area. Table 3-2 illustrates this ongoing trend through population changes between 2000 and 2014. In each of the three MAPA counties, the minority, or non-white non-Hispanic, population grew at a significantly faster rate than the majority, or white non-Hispanic, population. As for the total region, the majority population grew by just over 12%, while the minority population grew at the rapid clip of 22% during this ten-year period.

This marked trend is even more pronounced among the youngest population of the MAPA region (see 3-3 and 3-4). If the population is examined by age group distribution, the minority population is weighted much more heavily in the younger age groups, whereas the majority white population is distributed relatively evenly among all age groups, as demonstrated by the charts below. Thus, the population of the future Omaha Metro Area, not unlike the future United States as a whole, will have more racial and ethnic diversity than in previous years.

Figure 3-3: Non-Hispanic or Latino Population Pyramid, 2010 Census

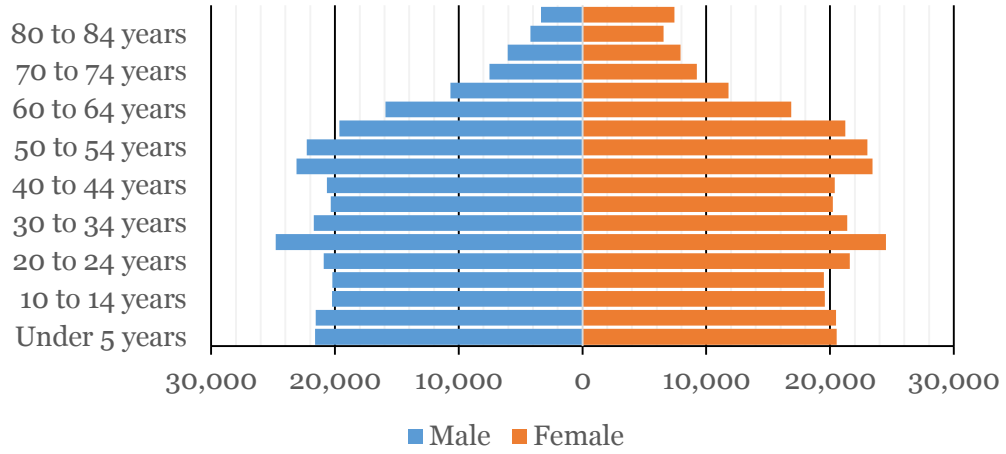


Figure 3-4: Non-White & Hispanic Population Pyramid, 2010 Census

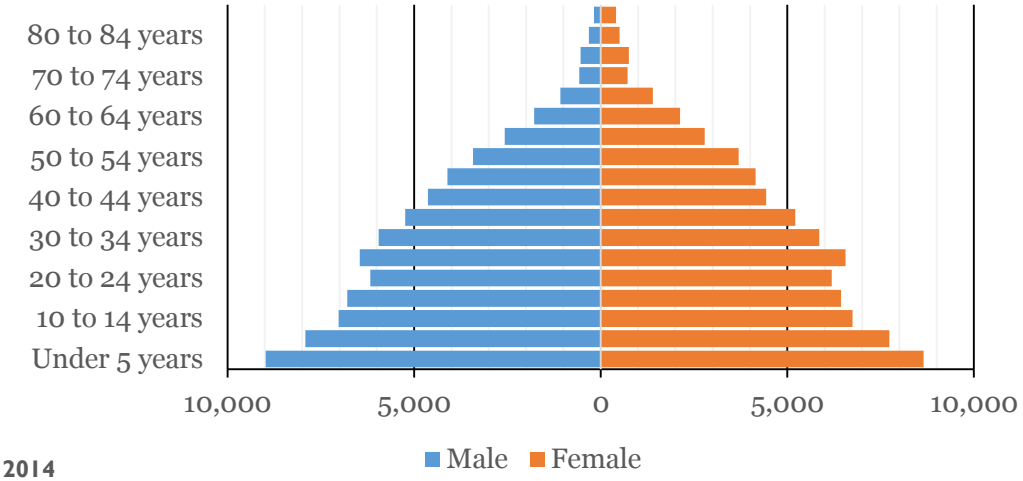


Table 3-2: Changing Demographics in the MAPA Region, 2000 to 2014

	Majority (White Non-Hispanic) Population			Minority Hispanic Population			Minority (Non-White, Non-Hispanic) Population		
County	**2000**	**2014**	**Percent Change**	**2000**	**2014**	**Percent Change**	**2000**	**2014**	**Percent Change**
Douglas	375,317	395,025	8.6%	30,928	57,804	46.5%	57,340	122,085	20.8%
Sarpy	109,335	138,879	29.2%	5,358	11,569	53.7%	7,902	19,961	27.4%
Pottawattamie	84,181	86,558	4.3%	2,892	5,713	49.4%	731	6,600	31.8%
MAPA Total	568,833	620,462	12.0%	39,178	75,086	47.8%	65,973	148,646	22.1%

Source: U.S. Census Bureau (ACS)

Households in the MAPA Region

The nearly 750,000 residents of the MAPA region constitute almost 300,000 total households (see Table 3.3). This number is expected to increase to over 400,000 households by 2050. The average household size has been decreasing for decades due to smaller family sizes, an increased number of divorces, and people choosing to wait longer to marry than in previous years.

Nationwide, fewer households have children and there is an increase in single person households. While 44% of all households in the U.S. had children in 1970, that figure was down to 20% in 2010. In contrast, only 17% of households were single person in 1970, but they comprised 27% of all households in2010. In Omaha area, 28% of households included a married couple and children and 25% were single-person households in 1970. By 2010, those numbers had essentially flipped, with 17% made up of married couple and children, and 32% single-person.

The extent to which these societal trends continue into the future is a matter of debate. The high local birth rates suggest that decreases in the average number of children from past decades will not continue indefinitely. However, given demographics and societal trends, it is reasonable to expect that a fewer percentage of overall households will include married couple and children, which will contribute to a reduction in average household size.

In forecasting household size, MAPA uses historical trends while taking the above conditions into account. MAPA conservatively estimates that the average household size for the region will slightly decline from 2.55 persons per household in to 2.53 persons per household in 2050. The results of these projections is shown in Table 3-3.

Table 3-3: Household Size in the MAPA Region, 2010 to 2050

County	2010		2050	
Douglas	198,377	2.50	262,379	2.48
Sarpy	56,529	2.70	113,736	2.65
Pottawattamie	44,311	2.52	60,857	2.52
MAPA Total	299,217	2.55	436,972	2.53

Source: U.S. Census Bureau, MAPA Projections

An Aging Population

Another notable trend in the future is the growing average age of the population. Due to the large baby-boom generation, which is beginning to enter into retirement years, older persons will constitute a greater share of the total population. For instance, persons aged 65 and up constitute about 10% of the metro area's population today. However, in 2050 they will comprise at least 16%. Therefore, a smaller percentage of the total future population will be in the workforce. At the same time, it should be born in mind that population is expected to increase for all age groups. Figures 2.11 and 2.12 illustrate this future trend:

What ramifications do these population shifts mean for transportation in the MAPA region? Retirees, low income, and minority populations traditionally have driven less and done more of their driving during the off-peak hours. This would indicate that the increase in traffic accompanying future population growth might not grow at a corresponding rate to the overall population. In other words, while the region's population is expected to grow 45% by 2050, it would be reasonable to argue that traffic will not increase by the same amount since less of the population will be in the workforce due to longer life expectancies as well the aging baby boomer generation meaning a higher percentage of retirees, which generates a greater share of the overall trips.

On the other hand, there is a trend among many baby-boomers to not retire completely, but work part-time or work from home. Some have suggested that since baby-boomers' social and economic behaviors have often departed from previous generations, they will also differ by maintaining a greater level of activity into their later years, which could lead to higher traffic levels than those traditionally seen among older age groups.

The aging of the boomers and the low income and minority population will also require more robust transportation options. There is likely to be an increased demand for transit and coordinated mobility services. The American Association of Retired Persons (AARP) has been advocating for policies that are friendlier to non-vehicular modes of travel such as Complete Streets, which is discussed in Section 4. MAPA and area jurisdictions are working on solutions to meet these challenges, which will only grow in the future.

Figure 3-5: 2010 Distribution of Age in the MAPA Region

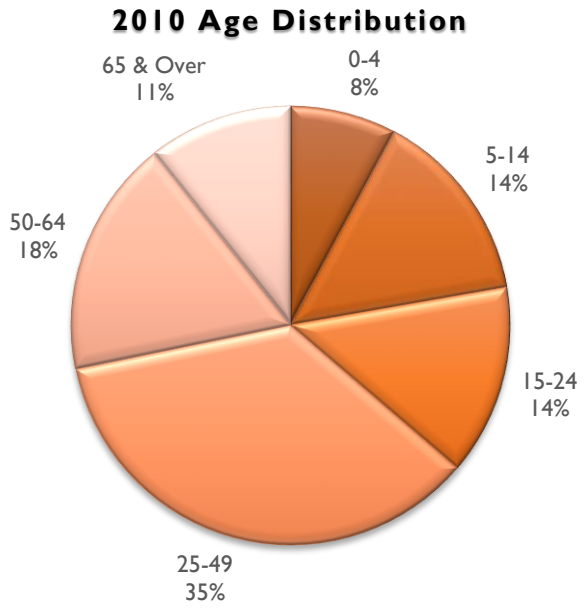
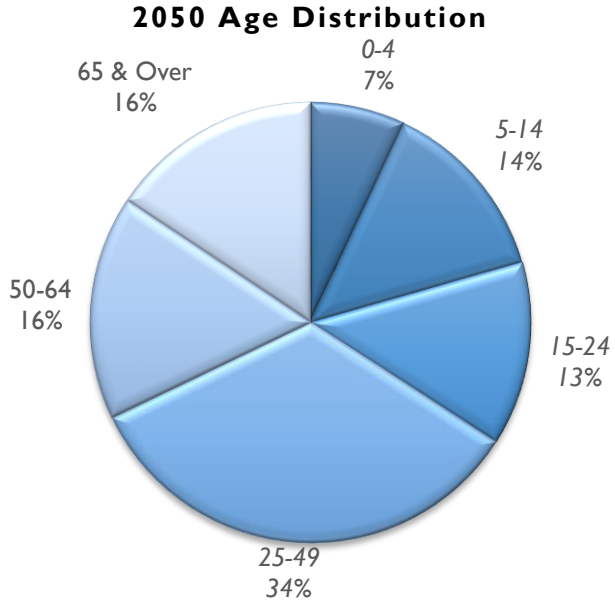


Figure 3-6: 2050 Distribution of Age in the MAPA Region



Employment in the MAPA Region

The MAPA region is home to a broad array of businesses and industries. Key sectors of the economy include communications, technology, defense, insurance, finance, health care, gaming, professional trades and services, and agriculture among others. The following is a list Table 3-4 of the largest employers in the MAPA area.

Some jobs have been shed during the recent recession, but new jobs have also been created. Overall, the region's strong economic position has allowed it to weather economic turmoil relatively well and offers many signs that the Omaha-Council Bluffs Metro Area will continue to grow in the next 25 years.

In 2013, there were 457,580 jobs in the Omaha – Council Bluffs MSA. Over 75% of these jobs are located in Douglas County. Downtown Omaha remains the highest concentration of employment in the region. In recent years, the construction of new headquarters for First National Bank and Union Pacific Railroad has helped to solidify the importance of the Omaha central business district (CBD). The addition of residential development, amenities such as Qwest Center Omaha, the new TD Ameritrade ballpark, Holland Performing Arts Center, and Pedestrian Bridge indicate that downtown Omaha is healthy and growing. The City of Omaha completed a Downtown Master Plan that anticipates aggressive growth in the coming decades.

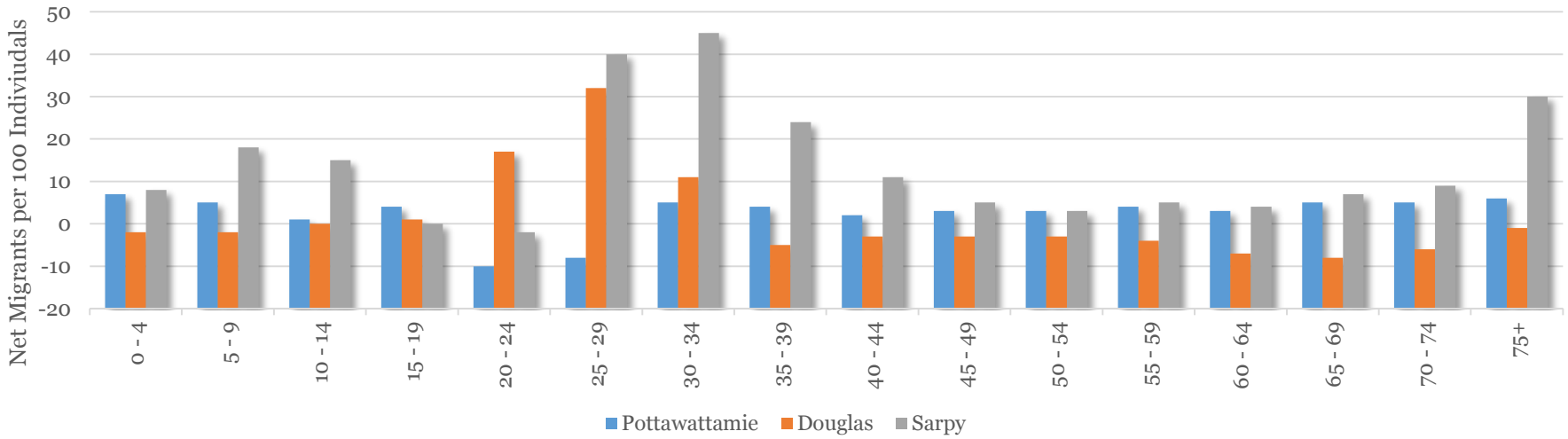
Nevertheless, jobs in the Omaha-Council Bluffs region have followed the decentralization pattern seen in other metro areas throughout the country. This pattern is one in which jobs and employment options are moving from an urban core to decentralized suburban locations. Significant employment centers include the Old Mill and Miracle Hills Business Parks, which are located to the north and south of West Dodge Road between 120th Street and I-680 in Omaha. Many new industries and businesses have located in La Vista near I-80 and West Giles Road.

Table 3-4: Top Employers in the MAPA Region, 2015

2015 Largest Employers*	Number of Employees
1. Offutt Air Force Base	7,500+
2. Alegent Health	7,500+
3. Omaha Public Schools	5,000-7,499
4. Methodist Health System	5,000-7,499
5. The Nebraska Medical Center	5,000-7,499
6. University of Nebraska Medical Center	2,500-4,999
7. First Data Corp.	2,500-4,999
8. Union Pacific	2,500-4,999
9. HyVee Inc.	2,500-4,999
10. First National Bank of Nebraska	2,500-4,999
11. West Corp.	2,500-4,999
12. Walmart Stores	2,500-4,999
13. ConAgra Foods	2,500-4,999
14. Mutual of Omaha	2,500-4,999
15. Creighton University	2,500-4,999
16. University of Nebraska at Omaha	2,500-4,999
17. Millard Public Schools	2,500-4,999
18. City of Omaha	2,500-4,999
19. PayPal	2,500-4,999
20. Omaha Public Power District	1,000-2,499
21. Baker's Supermarkets	1,000-2,499
22. Omaha Steaks	1,000-2,499
23. Omaha World-Herald	1,000-2,499
24. Target Stores	1,000-2,499
25. Douglas County	1,000-2,499

Source: Greater Omaha Chamber of Commerce

Table 3-7: Natural Increase in the MAPA Region, 2010 to 2050



Future Population Growth in the MAPA Region

In order to properly plan for the region's future transportation system, it is important to understand the characteristics of the region's population and how it is likely to change in the next 25 years. In order to estimate the future population, MAPA utilizes a well-known methodology of population forecasting called a "cohort-survival projection method." This process takes into account the number of births and the "survival" rates as well as migration rates for the region's population. Historical and current data trends are used to make reasonable projections into the future (refer to Table 3-4). The cohort analysis used data from land use projections, local comprehensive plans, and coordination with localities.

The number of births has always outpaced the number of deaths in the MAPA TMA. Table 3-5 shows that between 2000 and 2010, total births more than doubled total deaths. The addition of these new babies contributed to nearly 74,000 in additional population to the MAPA region during these years.

Net migration from outside the MAPA area added over 28,000 new residents between 2000 and 2010. Figure 3-7 (above) details regional migration trends. The largest intensity of added population was between the ages of 20 – 40. Sarpy and Douglas County saw the largest gains in this age group while Pottawattamie County showed a decline.

The population in the MAPA counties should continue to increase during the next 25 years. Figure 3-8 (next page) displays the population projections. By

Table 3-4: Natural Increase in the MAPA Region, 2010 Census

County	Births	Deaths	Tot Nat Incr.
Douglas	90,213	39,438	50,775
Sarpy	25,590	6,663	18,927
Pottawattamie	13,168	9,068	4,100
MAPA TMA Total	128,971	55,169	73,802

2050, the population is expected to increase by over 240,000, for a total of 1,116,517. This is an increase of 45%, which is just slightly more than the 30% increase the region has seen over the past 25 years. This expected future growth would result from both domestic and international in-migration from outside the region as well as natural increase (more births than deaths).

The majority of the expected growth is likely to occur in Douglas and Sarpy Counties. MAPA forecasts that Sarpy County's recent explosive growth will continue in the coming 25 years, adding more than half of its current population by 2050. Douglas County should also continue to grow with more than 165,000 residents forecasted, while Pottawattamie County is forecasted to continue modest growth with 38, 565 more residents by 2050.

Future Population Growth in the MAPA Region (Continued)

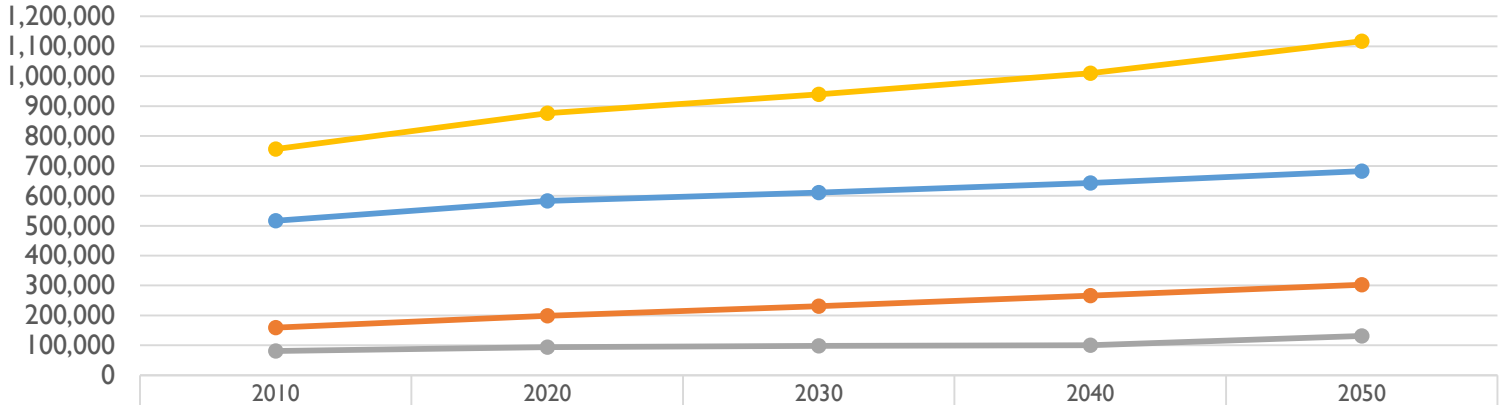
In 2006, the U.S. fertility rate reached the replacement rate for the first time since 1971, giving the United States the highest fertility rate among the world's developed countries. Birth rates in Nebraska and Iowa are routinely higher than the national average. Nebraska, in particular, ranked as the third highest birth rate in the nation according to one recent study released by the Census Bureau. Given this strong local trend, it is reasonable to assume that natural population growth will continue well into the future.

Another contributing factor to the area's population growth is the relatively stable economy. The greater Omaha Metro Area often scores as one of the most recession-resistant areas in the nation. Several factors account for this. There is significant diversity among local businesses, as well as a strong foundation of businesses related to agriculture, which is a sector that is somewhat insulated from economic downturns. The cost of living is relatively cheap and the workforce boasts a high level of productivity.

The majority of future population growth is anticipated to follow recent trends of continued new growth along the suburban fringe. The perceived benefits of suburban life—namely, good schools, affordable land and housing, and convenient shopping—continue to attract residents. While the downturn in the housing market that began in 2008 has significantly slowed new construction of suburban subdivisions, a substantial market for new greenfield development remains into the foreseeable future. New residential development in the region's urban core, such as Downtown and Midtown Omaha, are also expected to continue to grow. Many of the metro area's elected officials and other leaders view improving the developed areas as a key goal for the region.

MAPA staff developed land use forecasts as part of the Heartland 2050 Vision. Control totals were set based upon a cohort analysis by age and sex. These base projections were then brought to the community who selected a preferred growth scenario that promoted economic well-being, education, healthy living, diverse housing and transportation choices, and the preservation of natural features. Housing and employment was then allocated regionally based upon these preferences. Figure 3-9 and 3-10 (next two pages) show the distribution of single-family and multi-family units projected for 2050.

Figure 3-8: Population Growth in the MAPA Region, 2010 to 2050



	2010	2020	2030	2040	2050
Douglas	517,110	582,769	610,968	643,377	682,190
Sarpy	158,840	199,312	231,055	266,242	302,603
Pottawattamie	80,684	93,678	97,705	99,981	131,724
MAPA	756,634	875,759	939,728	1,009,600	1,116,517

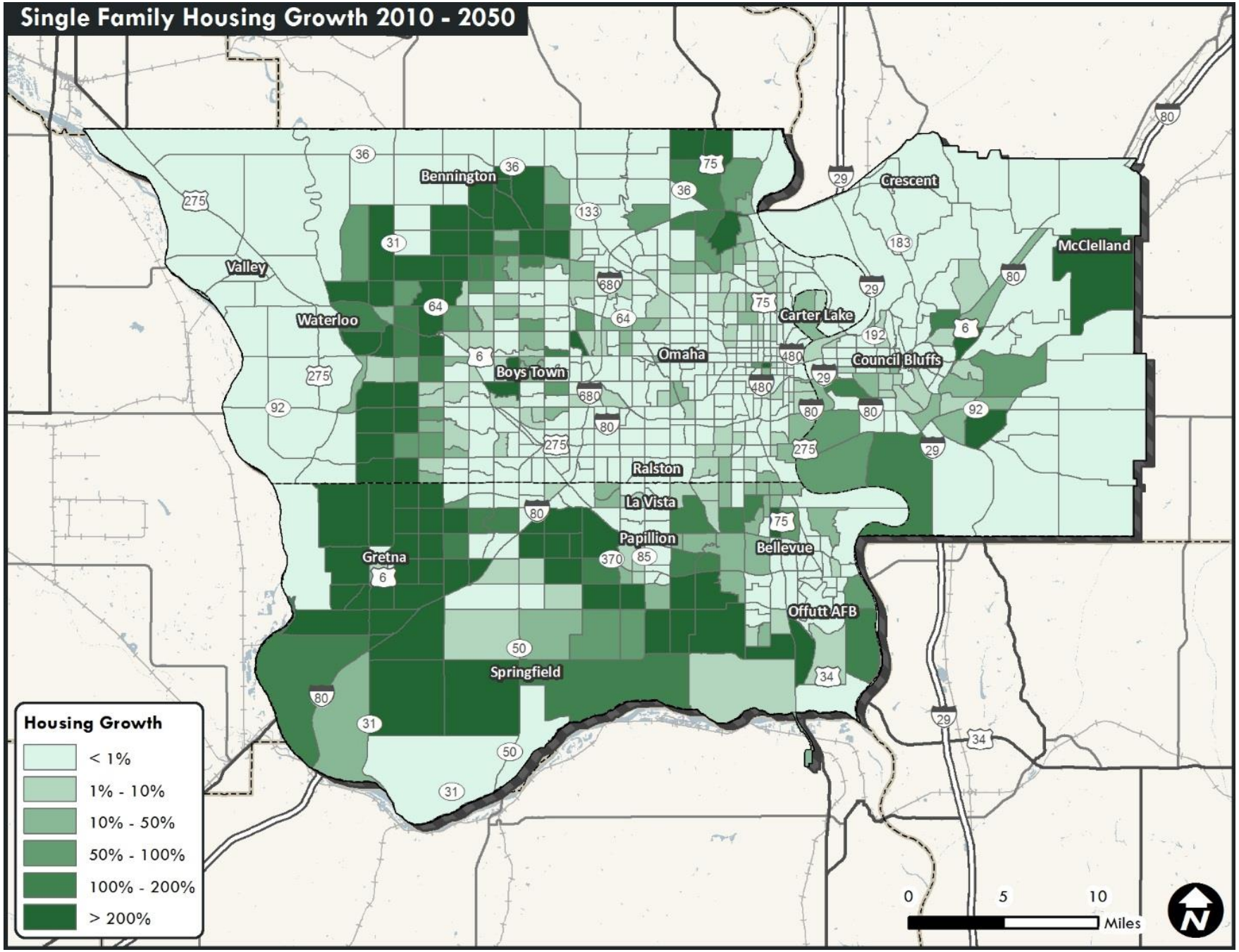


Figure 3-9: Single Family Residential Growth, 2010 to 2050

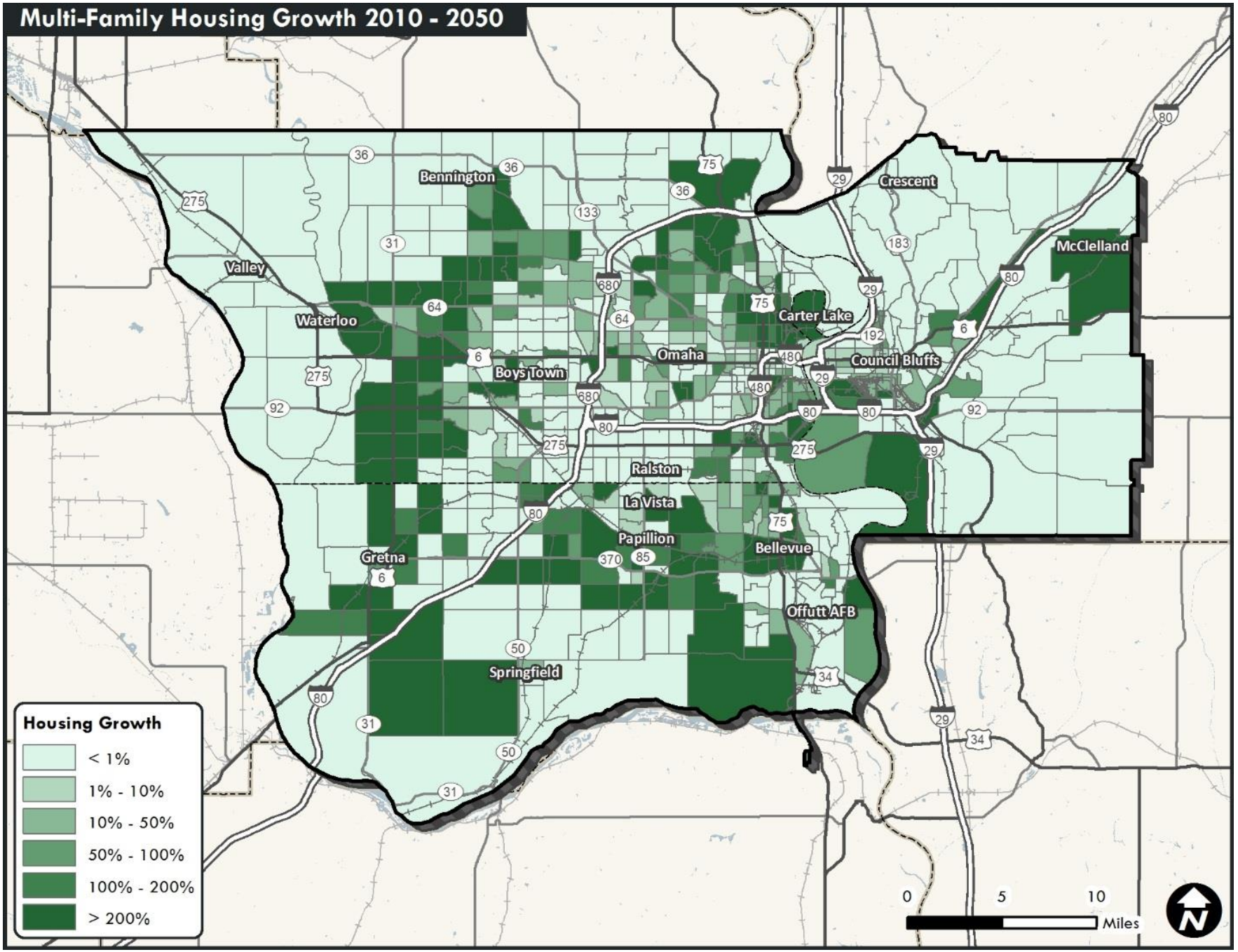


Figure 3-10: Multi-Family Residential Growth, 2010 to 2050

Future Employment Growth in the MAPA Region

By 2050, the MAPA region is expected to have over 603,000 total jobs (see Table 3-5). This represents an increase of over 43%, which is slightly lower than the total anticipated population growth. The majority of these jobs will likely be in Douglas County, although Sarpy County will likely gain an increasing share as it continues to grow over the next 25 years. The total employment in Sarpy County is forecasted to grow by over 129%, from over 60,000 jobs in 2010 to close to 151,031 in 2050.

These forecasts are derived from a methodology that begins with total future population by age cohort. Historical trends and anticipated factors are then applied to forecast future labor participation rates for each employment type by age cohort, which results in the employment forecasts. Furthermore, the local counties and municipalities participated in community mapping meetings to determine the predicted land use and economic growth. In summary, local comprehensive plans, community expertise, data from the US Census were incorporated into Envision Tomorrow software to help determine the future land use and employment growth projections used in this plan.

Anticipated future commercial employment growth is identified in Figure 3-11 (next page), this anticipated growth is derived from local input and coordination with communities on future growth patterns and where they anticipate this growth to happen. Growth is likely to be well distributed, with clusters of future development along Blair High Road /Highway 133, West Maple Road, West Dodge Road, and West Center Road corridors in Douglas County. Heavy growth in Sarpy County is anticipated near the current and new I-80 interchanges, Highway 370, 144th Street (N-50), as well as significant new development in the Cities of Bellevue, La Vista, and Papillion.

Growth in office employment is limited to a smaller number of locations adjacent to primary transportation arterials (see Figure 3-12). These include the West Dodge Road and West Maple Road corridors, Highway 6/31 in Douglas County, along 72nd Street in far north Omaha, and near the I-80 interchanges in Sarpy County. Smaller areas of office development are also expected in Bellevue, Papillion, Council Bluffs, and developed portions of Omaha.

Future industrial employment is slated to occur along a few large industrial corridors throughout the metro area as indicated in Figure 3-13. The largest industrial growth is likely to be located along Blair High Road / Highway 133, along I-80 in Sarpy County, near I-29 in southern Council Bluffs, and along the Kennedy Freeway and Platteview Road near the new US-34 bridge in southeastern Sarpy County. Other industrial growth areas include the Storz Expressway area in the vicinity of Eppley Airfield and various other location sprinkled throughout Omaha and Council Bluffs.

Table 3-5: Multi-Family Residential Growth, 2010 to 2050

County	2010	2020	2030	2040	2050	Percent Growth
Douglas	321,003	346,153	359,610	372,246	401,091	24.9%
Sarpy	65,859	89,686	107,464	126,249	51,356	129.3%
Pottawattamie	33,939	40,300	42,465	44,359	151,031	51.3%
MAPA Total	420,801	476,139	509,539	542,854	603,478	43.4%

Source: U.S. Census Bureau and Heartland 2050 Vision

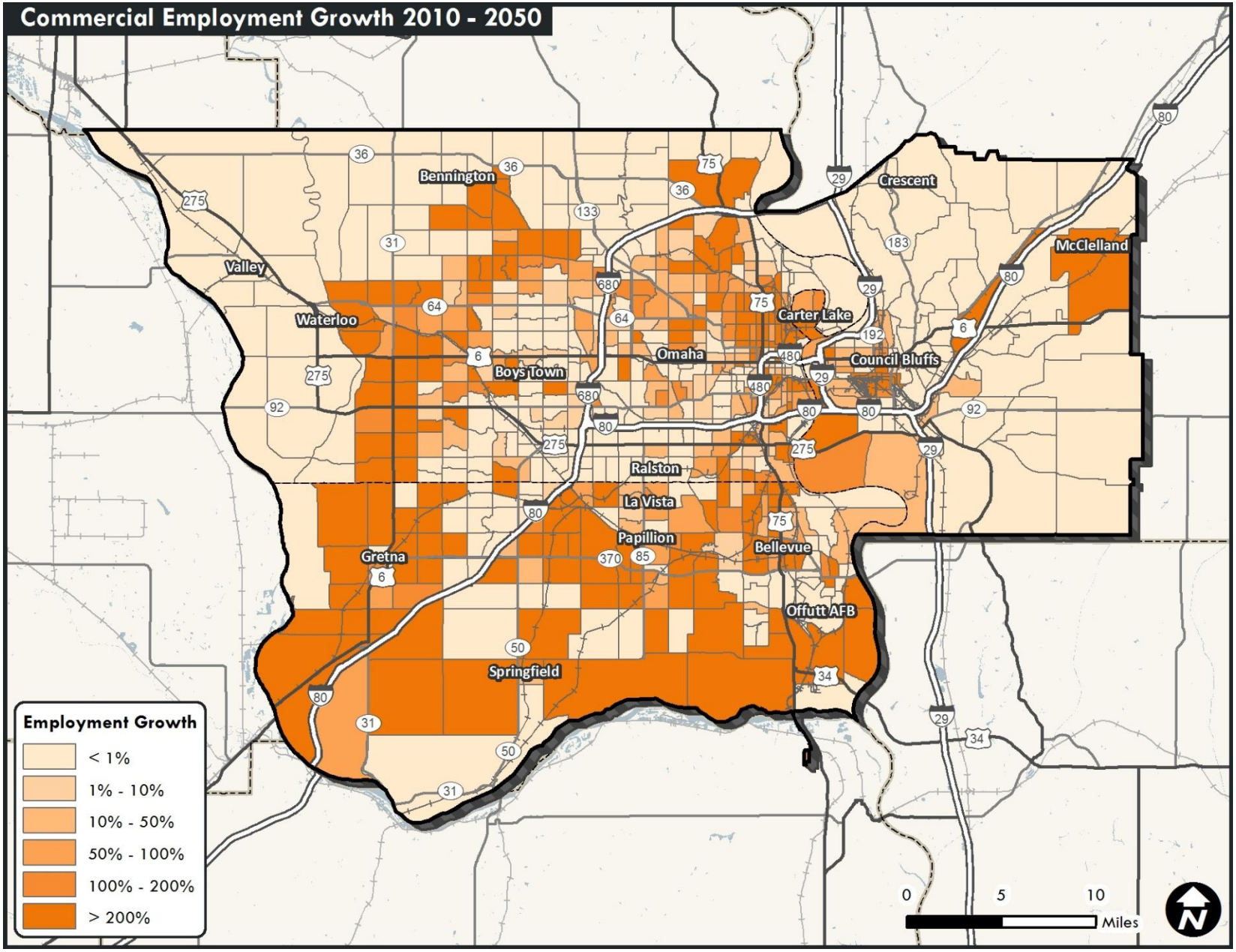


Figure 3-11: Commercial Employment Growth, 2010 to 2050

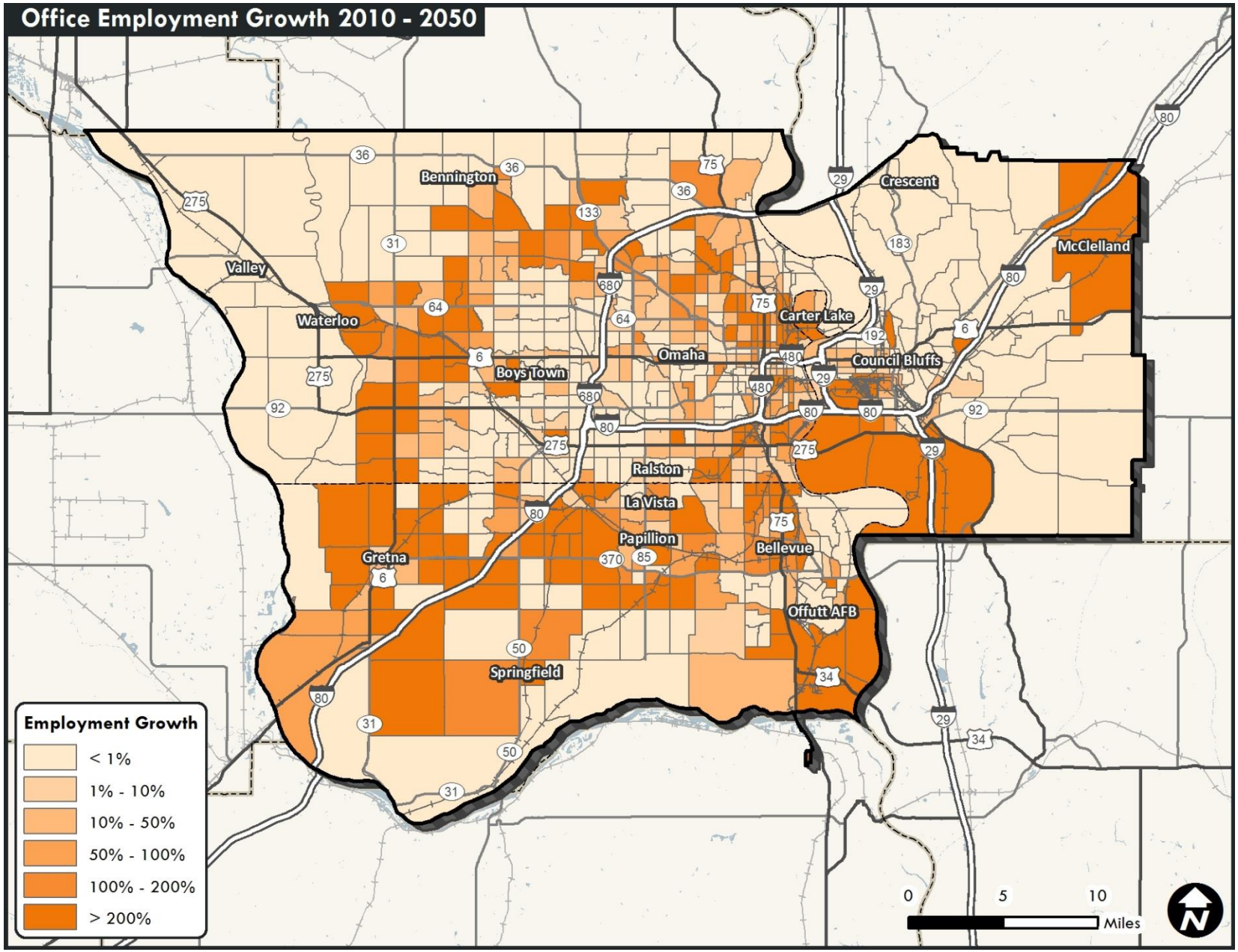


Figure 3-12: Office Employment Growth, 2010 to 2050

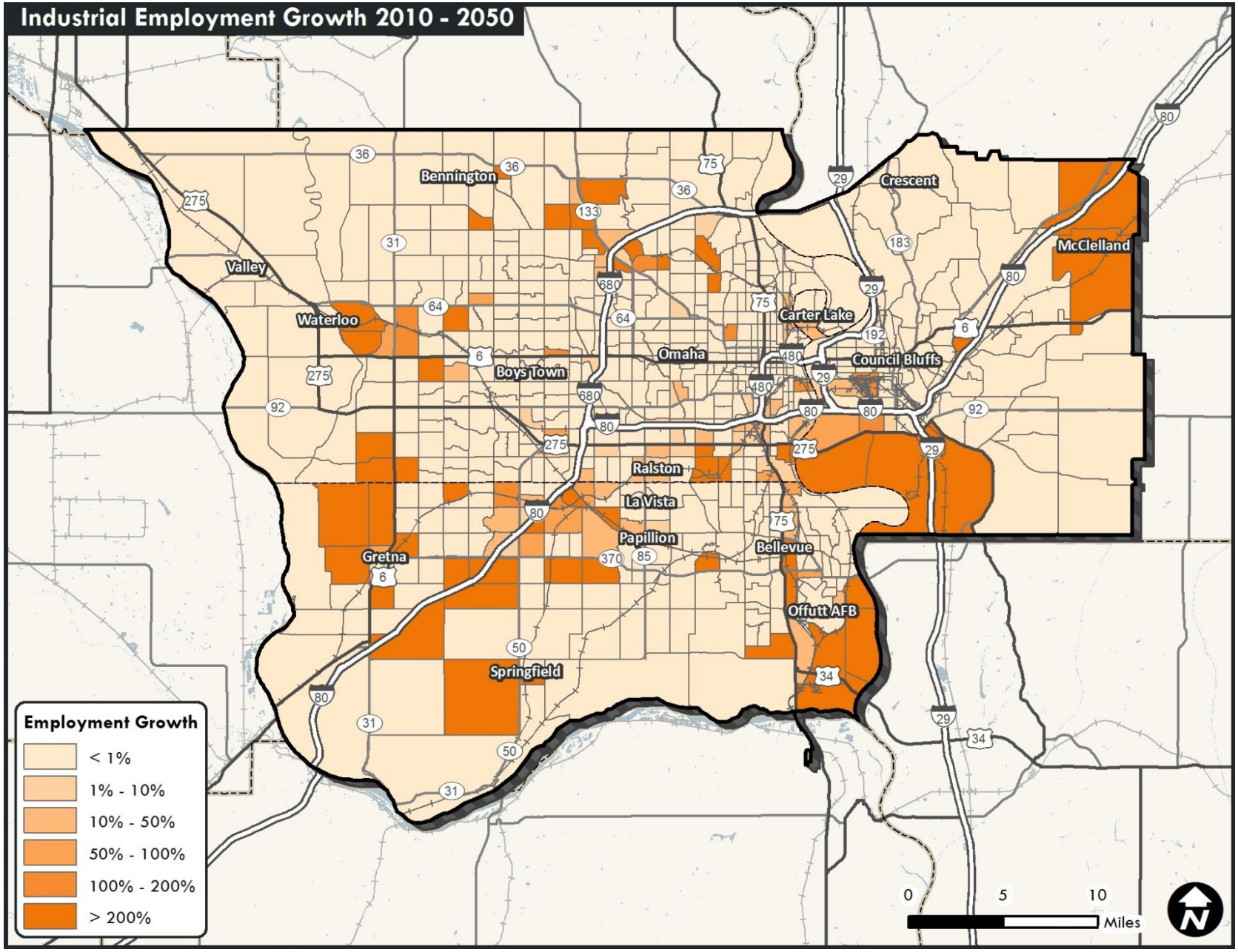


Figure 3-13: Office Employment Growth, 2010 to 2050

2050 LRTP CHAPTER 4:
THE NATURAL AND BUILT ENVIRONMENTS

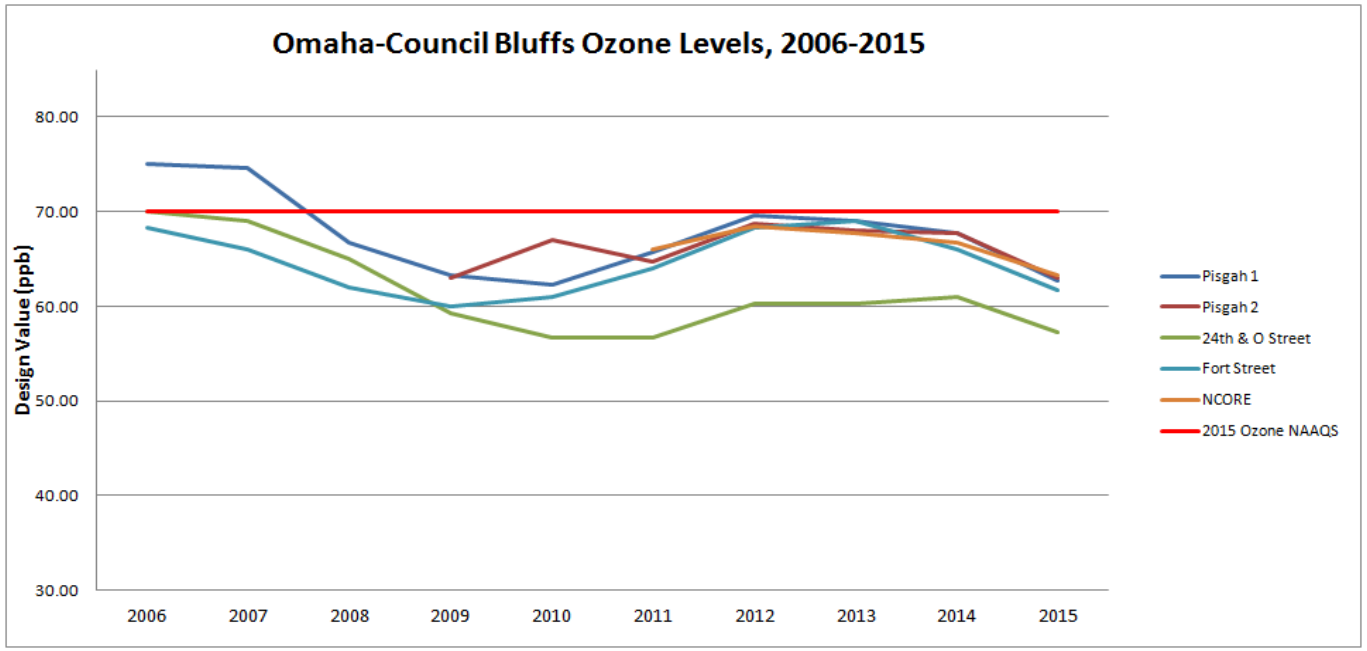
The MAPA TMA is abounding in environmental resources. The western edge of the MAPA region is defined by the Platte River. Iowa's Loess hills flank the region on the eastern end, and the Missouri River bisects the region and defines most of the border between the two states. Transportation investments may have impacts on the region's environmental resources, and this chapter provides an overview of most significant environmental issues identified through the transportation process.

Air Quality

The Clean Air Act, as amended in 1990, requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants deemed harmful to humans and the environment.

Air quality sensors in both Nebraska and Iowa continuously monitor the levels of harmful gasses, particulates, and elements contained in the ambient air of the MAPA TMA.

Figure 4.1 – Pollution Levels



As of January 1, 2016, the entire MAPA TMA is in attainment for EPA air quality standards. Though these are likely to change in the coming years. Figure 4.1 shows the current allowable levels of ground ozone and the Omaha-Council Bluffs levels. In 2008 ozone levels dropped slightly, due to the economic recession, but since 2010 levels have again been on the rise and are projected to continue rising as the area grows. However, programs such as "Little Steps, Big Impact" are designed to educate residents of the region about air quality issues and actions they can take to improve air quality. Since 2012, this program has been funded with support from both the Nebraska Department of Roads and Iowa Department of Transportation with Congestion Management & Air Quality (CMAQ) funding.

Water Quality

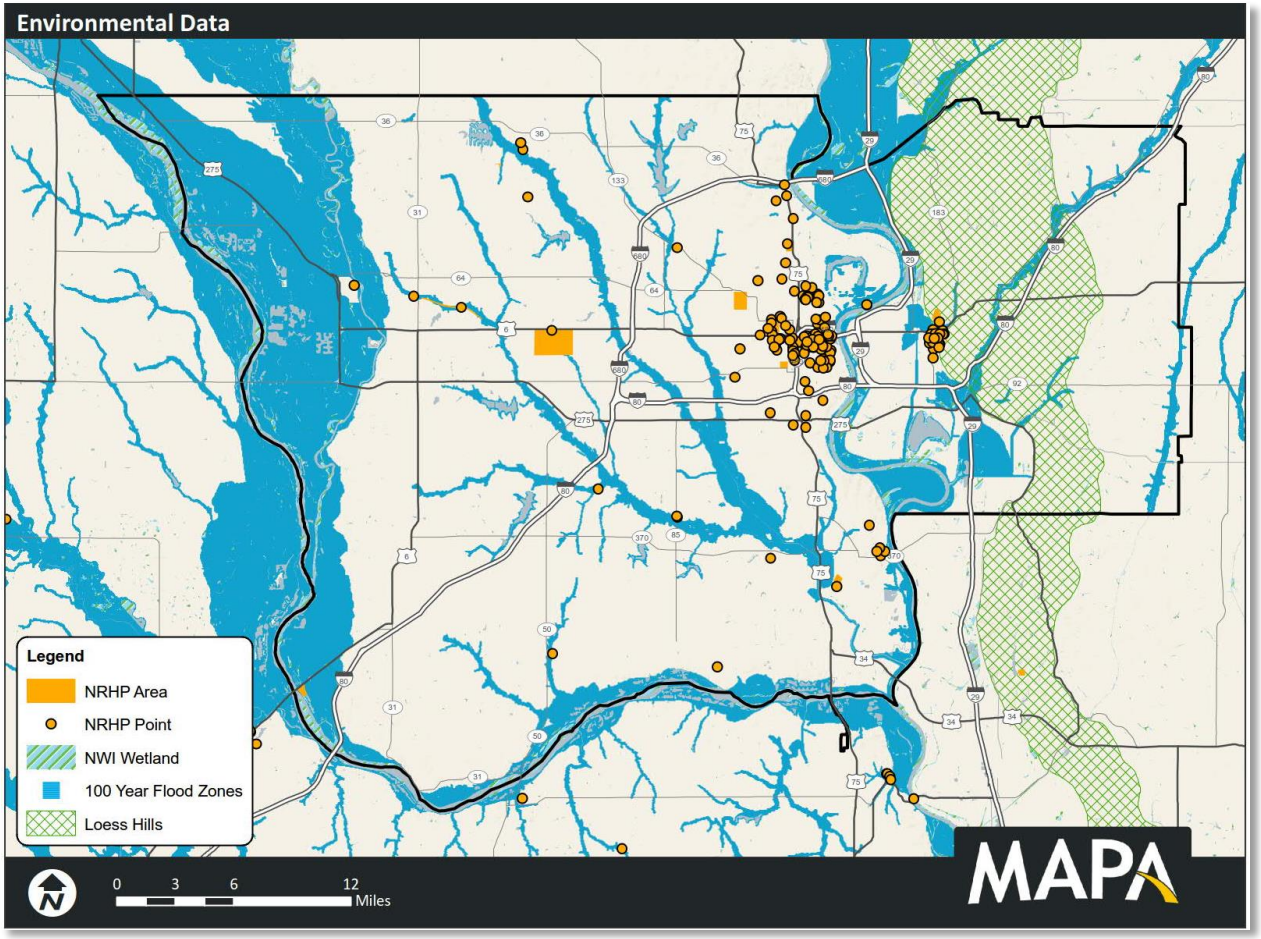
The MAPA area has several important waterways and watersheds including the Missouri and Platte rivers. There are also several key inland wetlands and floodplains in the area which must be considered when building or expanding local infrastructure projects. Figure 4.2 below shows these key water resources for the region as well as flood plains, historic properties, and the Loess Hills district.

Climate Change

In 2008, the American Association of State Highway and Transportation Officials (AASHTO) released a report concerning global climate change. The U.S. DOT and FHWA support and reference the Primer on Transportation and Climate Change as a key document that offers climate change guidance for transportation agencies. The AASHTO report examines the root causes in great detail and the report asserts that hundreds of scientific studies that all point to the same outcome. AASHTO asserts that climate change is real and human factors are contributing to the problem.

Greenhouse gasses have been identified as the primary cause of climate change. Figure 4.3 shows the breakdown of greenhouse gas emissions by sector. While transportation is a major contributor to greenhouse gas emissions today, increases in fuel efficiency over the next decade will mitigate some of these impacts. The sections that follow detail additional strategies that can guide transportation investments and impact climate change.

Figure 4.2 – Environmental Resources



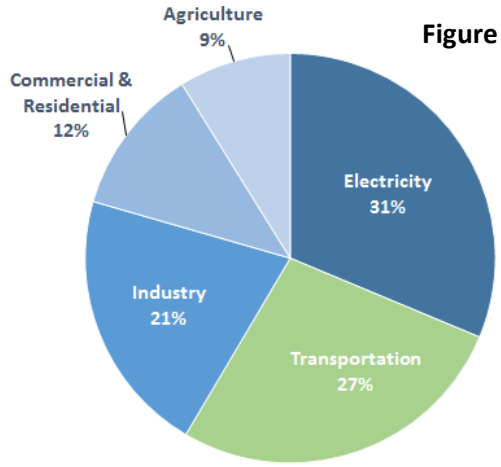


Figure 4.3 – Pollution Sources

Nationally Recommended Strategies

To assist in reducing global greenhouse emissions AASHTO offers the following strategies as templates for implementation:

- Reduce total vehicle miles traveled (VMT)
- Congestion relief
- Alter driver behavior

AASHTO has also examined larger policy strategies to assist in lowering greenhouse gas emissions on a national stage. These strategies center on the increased research and development of alternative fuel sources, higher efficiency engines, and punitive tax policies to encourage motorists to reduce their VMT. These strategies are broken down in a greater amount of detail in the full AASHTO's Primer on Transportation and Climate Change.

MAPA Initiatives

The above recommended strategies and positions of AASHTO, FHWA, and the U.S. DOT complement other MAPA initiatives to promote environmental stewardship and create a more balanced multi-modal transportation policy, including:

- Increase the efficiency of the transportation system
    - Signal coordination
    - Intelligent transportation system (ITS) projects.
- Congestion relief
    - Intersection and corridor improvements
    - MAPA supports changes in land use policies to encourage denser development.
- Programs to encourage transit use
    - Alternatives Analysis for the Bus Rapid Transit (BRT) system
    - Programs to encourage vanpooling, carpooling, biking, and walking

Land Use

Land Use Patterns

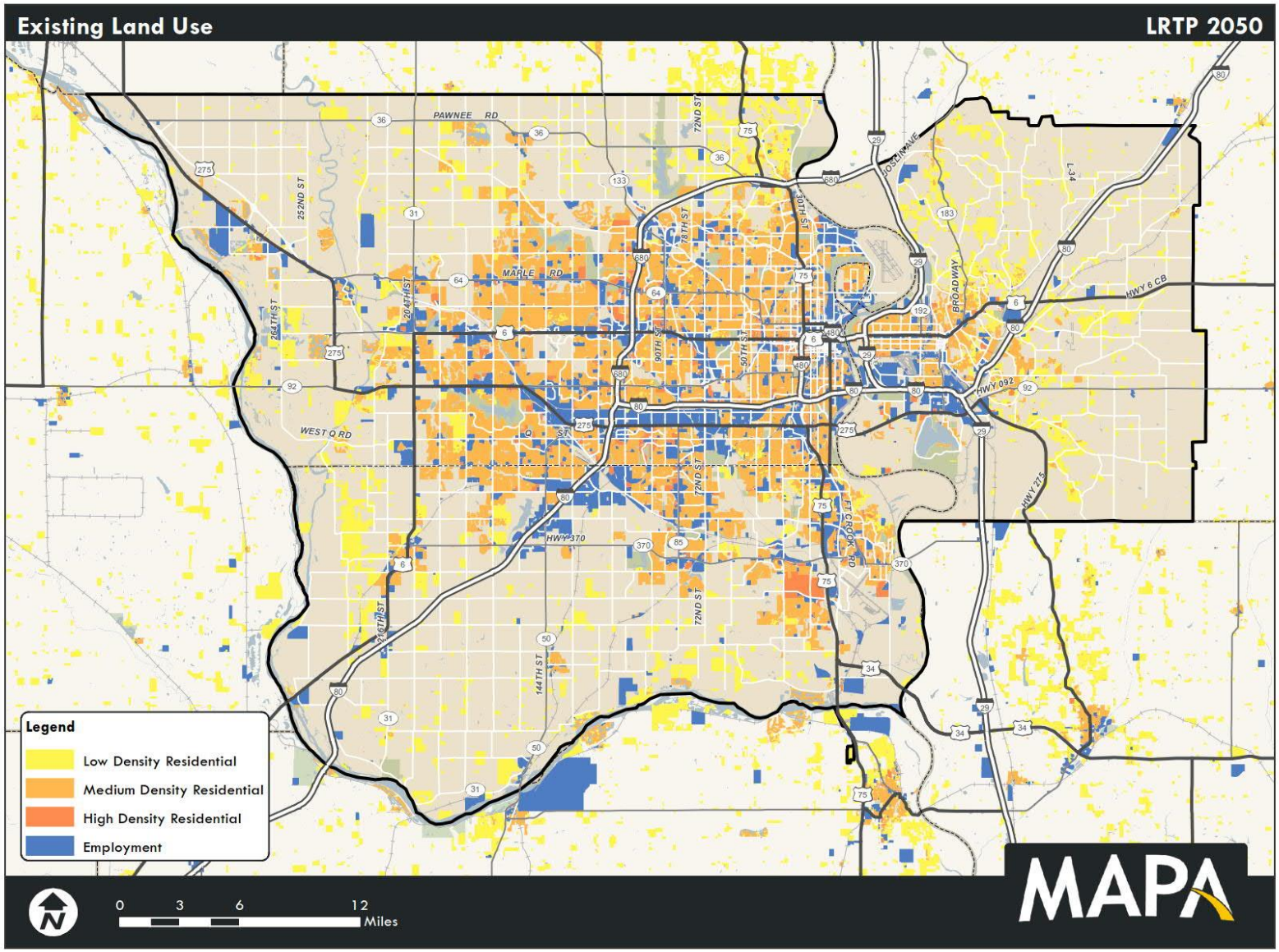
Through the 2050 LRTP MAPA is working in cooperation with local city and county governments to implement the Heartland 2050 identified land use scenario, shown in figure 4.5.

Land Available for Development

Currently there is considerable land for development in the western, eastern, southern, and northern portions of the MAPA TMA, as well as many opportunities for infill development in the region.

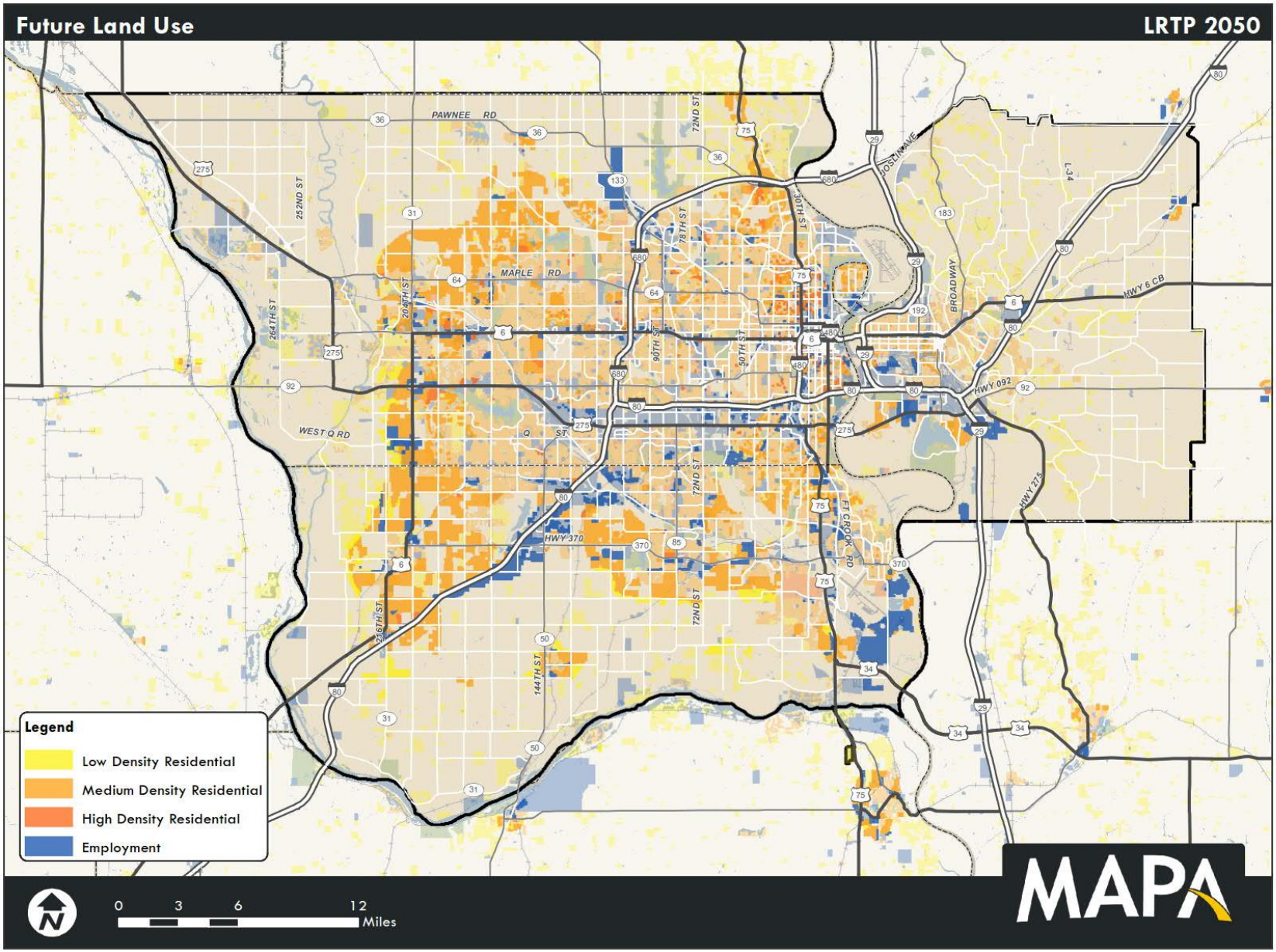
Current Land Use Patterns

Current land use patterns show a loss of jobs and housing in the urban core with considerable westward expansion into Douglas and Sarpy County and a loss of farm and industrial land to housing. The Heartland 2050 Land Use Scenario projects land use that preserves existing agricultural land and keeps existing urban and suburban centers. More information on this can be found in the Heartland 2050 Vision in the Trend Scenario section, and in the MTIS study in the existing conditions section. Figure 4.4 shows the areas current residential and employment zoning. Land use strategy is an important factor in reducing the total number of vehicle miles travelled in the region, making transit service more efficient, and supporting non-motorized modes of transportation such as walking and biking.



Future Land Use Patterns

The heartland 2050 land use prioritizes maintaining our existing resources through infill and contiguous suburban and rural development. Through well planned and connected development housing and employment options will be preserved and expanded upon for the entire region. Figure 4.5 shows the projected Heartland 2050 land use.



5 Preservation of Strategic Corridors

Overview of the Roadway System

The network of streets, highways, and bridges represents the primary form of transportation in the MAPA TMA. From residential streets to interstate freeways, it is utilized daily by the vast majority of residents in the metro area to get from point A to point B. In recent decades, hundreds of millions of dollars have been spent to construct and maintain the system that exists today. Ensuring that the roadway system continues to be safe and provides a high degree mobility for residents and businesses is critical to the region's future.

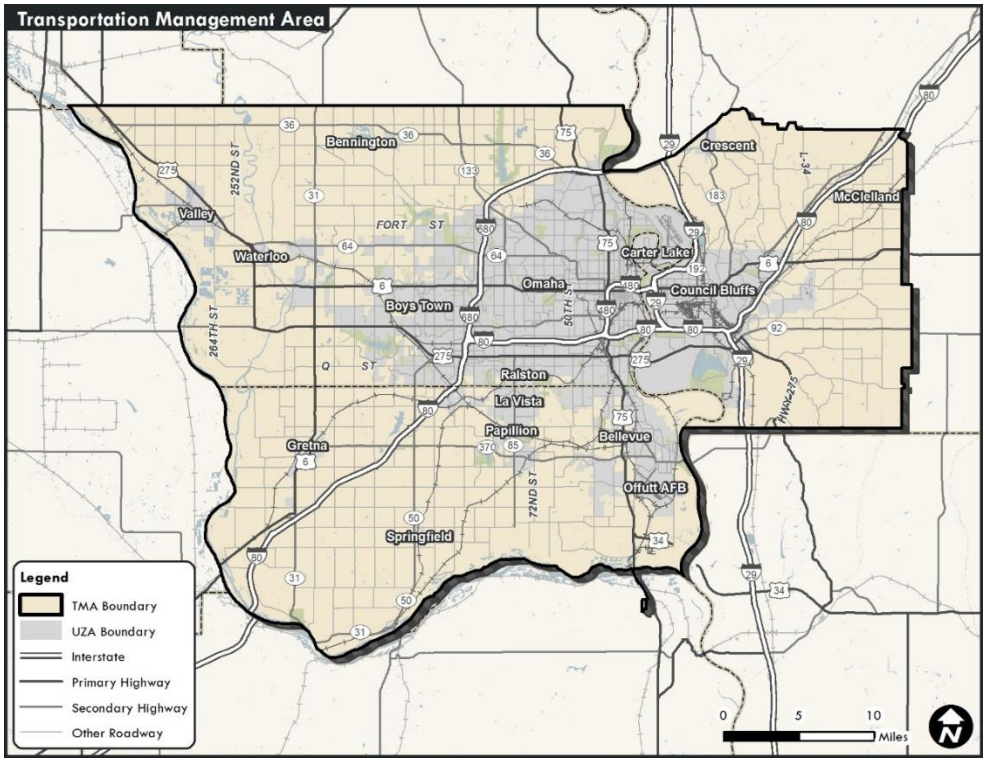
The MAPA LRTP provides the metro area with a roadmap for anticipated transportation improvements. While the 25-year planning timeframe inherently carries with it a high level of uncertainty, it is nonetheless important to periodically assess the region's transportation system and evaluate long range plans and goals.

Traffic levels have grown rapidly in recent decades in the MAPA region; however, traffic growth has slowed of late, and since 2008 has remained essentially stable in most portions of the metro area. Nevertheless, it is anticipated that traffic growth will resume in future years as the region's population and employment continue to expand.

Even with the recent stabilization in traffic volumes, the roadway system in the metro area has failed to keep pace with new suburban growth. Needed improvements to the roadway system still lag behind residential, commercial and retail development. This section will list these current needs, as well as likely future needs to provide an effective transportation system.

Figure 5-1 illustrates the major roadways in the MAPA region.

Figure 5-1: Overview of Major Roadways in the MAPA Region



Federal Functional Classification

The functionality of a street is related to traffic mobility and land access. Higher level facilities such as freeways and expressways have lower access which allow for higher speeds and capacities. Conversely, lower level facilities such as local streets and minor collectors allow for greater access, but have reduced mobility due to lower speeds and capacities. This relationship can be seen in Figure 5-2 (right).

The Federal Highway Administration (FHWA) groups roadways into classes according to the character of service they are intended to provide. In order to be eligible for federal-aid funding, a roadway must be classified as a Major Collector or higher in the functionally classified road network. Tables 5.1 and 5.2 list the number of center-line and lane miles, and miles by each federal functional classification in the MAPA TMA.

Figure 5-3 (next page) shows the Federal Functional Classification of roadways in the MAPA region.

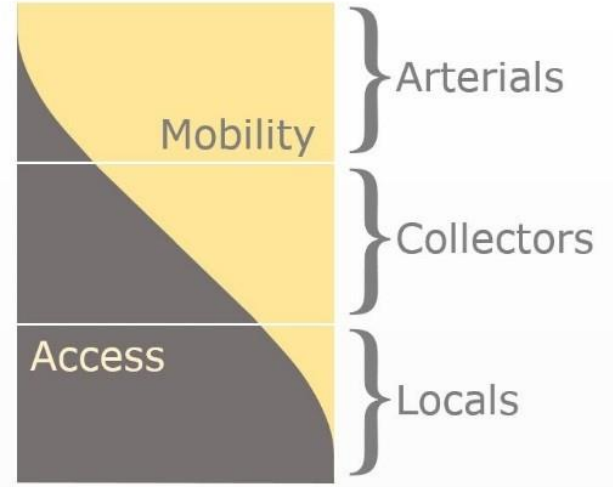
Table 5-1: Center-Line Miles of Roadway in the MAPA Region by Functional Classification

County	Interstate (PAI)	Other Principal Arterial (OPA)	Minor Arterial (MA)	Collector	Local (LOC)	Total
Douglas	35	204	222	279	2,442	3,182
Sarpy	17	63	62	158	1,020	1,320
Pottawattamie (MPO)	38	18	72	146	605	879
MAPA	**90**	**286**	**356**	**583**	**4,067**	**5,381**

Table 5-2: Lane Miles of Roadway in the MAPA Region by Functional Classification

County	Interstate (PAI)	Other Principal Arterial (OPA)	Minor Arterial (MA)	Collector	Local (LOC)	Total
Douglas	182	795	624	587	4,882	7,070
Sarpy	81	246	162	325	2,040	2,855
Pottawattamie (MPO)	154	67	162	292	1,198	1,872
MAPA	**418**	**1,108**	**949**	**1,203**	**8,120**	**11,798**

Figure 5-3: Mobility, Access & Functional Classification



Source: www.compassidaho.org

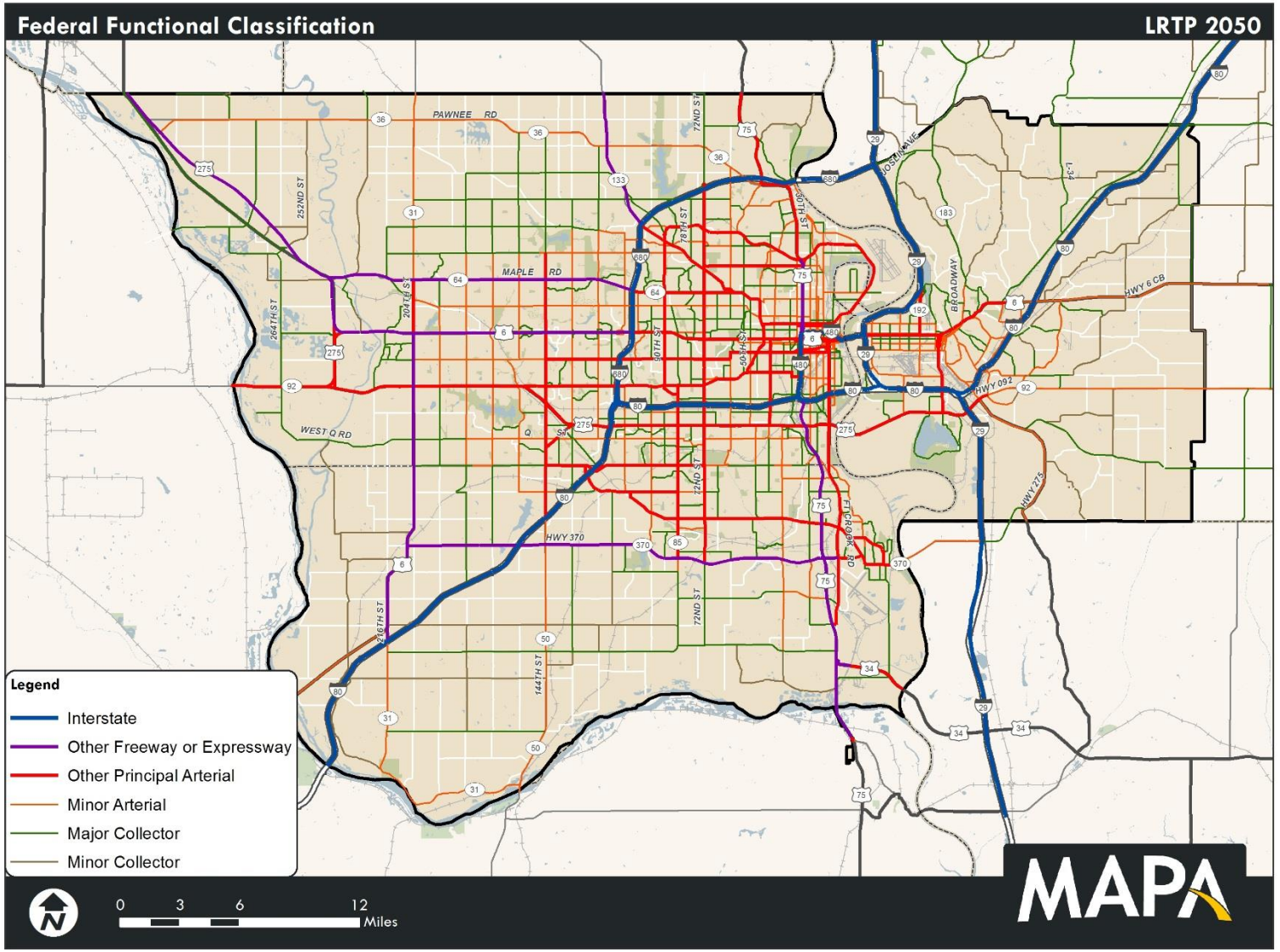


Figure 5-3: Federal Functional Classification Map of the MAPA Region

Pavement Conditions in the MAPA TMA

Both Iowa DOT and NDOR have extensive asset management programs that monitor pavement conditions. The states measure road surface quality annually, and use the data to determine needs on the system. Tables 5-3 and 5-4 show the pavement status in the metro area according to the Nebraska Serviceability Index (NSI) and the Pavement Condition Index (PCI) used in Iowa. These are two separate rating systems, which cannot be directly compared.

Note that the numbers above represent data collected solely by the state and do not cover the roadway system in its entirety. This also accounts for the discrepancy between the road conditions on the Iowa and Nebraska sides of the region. Therefore, these provide an overview of pavement conditions in the region on the National Highway System (NHS) and other major roadways, and are not comprehensive.

Based on the above pavement conditions, about three-quarters of the roadway system in the MAPA region is rated "good" or "excellent." About 10% is rated "poor" or "very poor." These numbers paint a picture of generally good pavement conditions with a smaller portion of trouble-spots. Figure 5.4 displays this information in graphical format. As discussed earlier, this data is based on the existing information, but shows overall, Nebraska has a greater level of pavement conditions compared to the conditions in Iowa.

The 84% target highlighted on Figure 5.4 is the performance measure set by the State of Nebraska for pavement condition. MAPA has incorporated this target in these charts to provide context to the pavement conditions in terms of State goals.

Tables 5-3: Road Surface Quality of Nebraska Roadways, 2014

NSI (Serviceability)	Nebraska Portion					
	90-100	70-89	50-69	30-49	0-29	
Functional Class	Very Good	Good	Fair	Poor	Very Poor	Total
Interstate	158	99	19	0	0	276
U.S. Roads	198	76	42	56	5	377
State Roads	29	173	89	31	0	321
Local Roads	124	474	109	63	0	770

Tables 5-4: Road Surface Quality of Iowa Roadways, 2014

PCI (Condition)	Iowa Portion					
	85-100	70-84	50-69	30-49	0-29	
Functional Class	Very Good	Good	Fair	Poor	Very Poor	Total
Interstate	44	94	24	5	2	167
U.S. Roads	3	0	31	9	9	52
State Roads	0	0	4	2	11	17
Local Roads	0	4	0	0	0	4

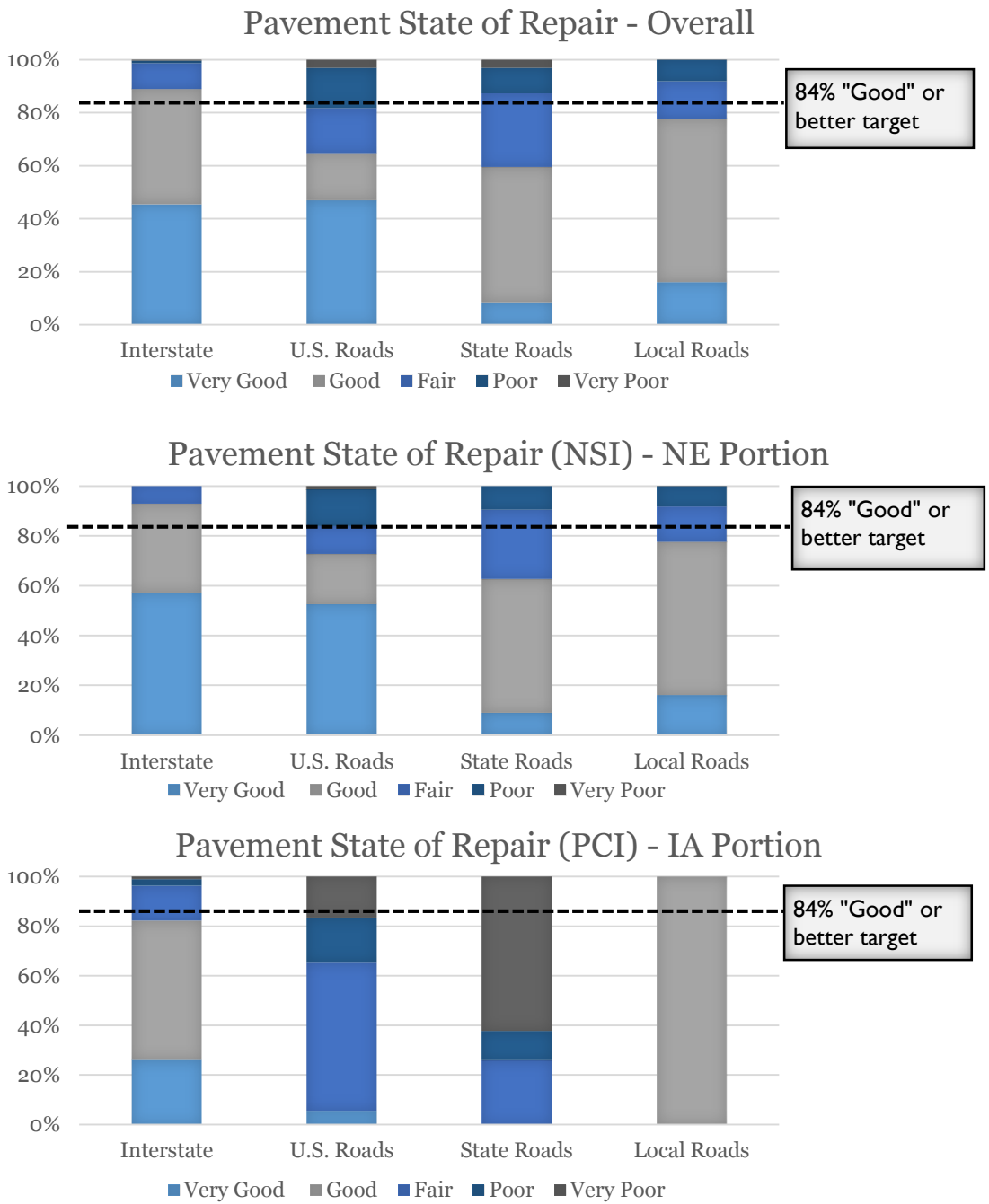


Figure 5-4: Pavement Conditions in the MAPA Region

Bridges in the MAPA Region

The two major rivers in the MAPA region are the Missouri and Platte Rivers. Twelve bridges cross these two rivers in the MAPA region. These are shown in Figure 5.5 (next page.

The Missouri River is the dominant geographical and political boundary in the MAPA region. It is one of the nation's major waterways and is the state line dividing Iowa and Nebraska (with the exception of Carter Lake, Iowa). There are currently five roadway crossings of the Missouri River, which are listed in Table 5-5. The Interstate 80 bridge has two structures of five lanes each for a total of ten lanes. The large capacity on the bridge was chosen to meet anticipated future demand as well as to allow three lanes of traffic in each direction during closure of one of the bridges. The new US 34 Bridge was completed in 2014. The bridge now connects US 75 in Sarpy County and I-29 in Mills County. In addition to the roadway crossings, there is a rail crossing and a pedestrian bridge over the Missouri River.

The MAPA TMA is bounded on the south and west in Nebraska by the Platte River. There is no barge traffic on the placid Platte, and it is used for recreational purposes as well as commercial and industrial uses, such as the Louisville Ready Mix concrete plant. Table 5-6 illustrates the crossings over the Platte.

Figure 5-5: Major River Crossings in the MAPA Region

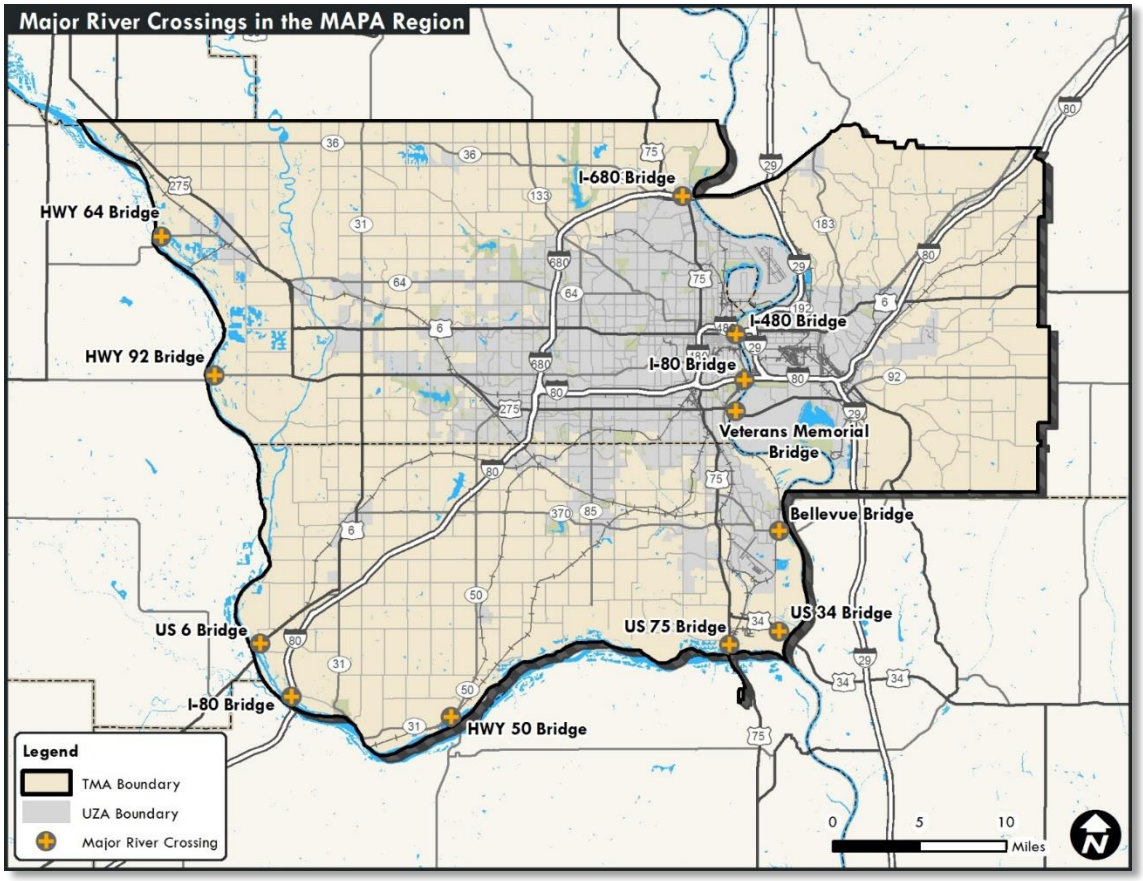


Table 5-5: Missouri River Crossings in the MAPA Metro

Bridge	Roadway	Lanes	Vehicles/Day (2014)
Bellevue Bridge (toll)	Hwy. 370	2-Lanes	2,900
Veteran's Memorial Bridge	US-275/Hwy. 92	4-Lanes	9,300
I-80 Bridge	I-80	6-Lanes*	80,300
I-480 Bridge	I-480/US-6	8-Lanes	53,700
I-680 Bridge	I-680	4-Lanes	15,400
US 34 Bridge	US Highway 34	4-Lanes	3,800

Table 5-6: Missouri River Crossings in the MAPA Metro

Bridge	Lanes	Vehicles/Day (2014)	TTI External
US-75 Bridge	4-Lanes	20,800	21,905
Highway 50 Bridge	2-Lanes	8,500	8,098
I-80 Bridge	6-Lanes	45,400	46,784
US-6 Bridge	2-Lanes	6,900	7,355
Highway 92 Bridge	2-Lanes	8,700	7,457
Highway 64 Bridge	2-Lanes	3,900	1,916

Bridge Conditions in the MAPA Region

There are nearly 1,000 bridges in the MAPA TMA. Of these, 325, or one-quarter, are currently classified as structurally deficient or functionally obsolete. A report by the U.S. DOT to Congress describes these terms as follows: "Structural deficiencies are characterized by deteriorated conditions of significant bridge elements and reduced load carrying capacity. Functional obsolescence is a function of the geometrics of the bridge not meeting current design standards. Neither type of deficiency indicates that the bridge is unsafe." In other words, these are bridges in need of improvement and can result in congestion or pose inconveniences to large vehicles such as trucks, school buses or emergency vehicles that are forced to take lengthy detours. However, the terms do not necessarily imply that a bridge is unsafe or on the verge of collapse.

The majority—three quarters—of structurally deficient or functionally obsolete bridges are located off the state highway system on municipal and county roads, which typically carry lower traffic volumes. 19 percent of bridges in Douglas County fall into this category as do 27 percent of bridges in the MAPA TMA portion of Pottawattamie County. The Sarpy County portion of the MAPA TMA has the highest rate of obsolete or deficient bridges at 28 percent. Pottawattamie County also has the highest number of bridges per capita within the metro area. Table 5-7 provides the bridge conditions by county.

The Metropolitan Travel Improvement Study (MTIS) evaluated the overall condition of each bridge, the condition ratings of their main components (deck, superstructure, and substructure) were analyzed. In Iowa, part of the bridge component ratings mostly lie in the range of 5-7, while in Nebraska, the components are in better condition, with ratings between 6 and 8 (Figure 5-6 and 5-7).

Table 5-7: Condition Ratings for Bridges in the MAPA Region

County	Count	# of Structurally Deficient	# of Functionally Obsolete	Percent Deficient or Functionally Obsolete
Douglas	502	22	75	19%
Sarpy	185	25	27	28%
Pottawattamie	566	99	54	27%
MAPA Total	1,253	146	156	24%

Source: FHWA, NBI 2013 Data, http://www.fhwa.dot.gov/bridge/nbi/no10/county13a.cfm#ia

Figure 5-6: Bridge Component Condition in Nebraska

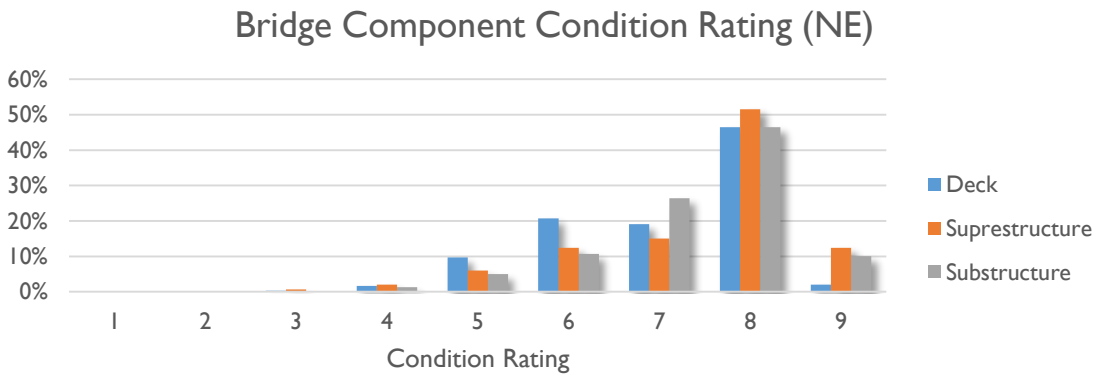
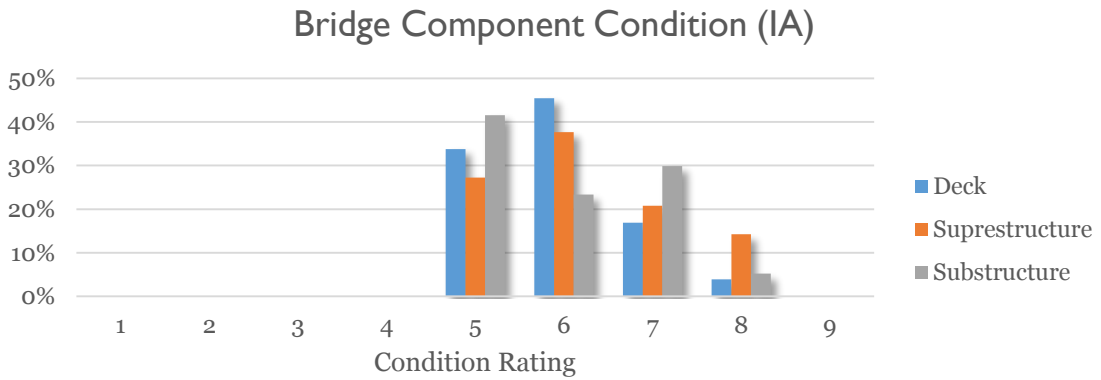


Figure 5-7: Bridge Component Condition in Iowa



Traffic Trends in the MAPA Region

A look at current traffic trends help to gauge where the MAPA region is heading and how the transportation system is likely to perform over the coming 25 years. It also offers an opportunity to the region to step back and consider what steps will be necessary to meet future transportation needs. Travel data and trends are vital to setting goals, choosing appropriate action steps, and tracking the region's progress toward attaining those goals.

Traffic levels have grown rapidly over recent decades in the MAPA region. Vehicle Miles Traveled (VMT) is a common statistic used to measure traffic levels, which is calculated by multiplying the length of a road segment by the Average Daily Traffic (ADT) collected through traffic counts. According to MAPA Traffic Growth studies, VMT in the MAPA TMA has experienced an increase of more than two and one-half times in the past 30 years. In 1980, the daily VMT was approximately 6.6 million VMT per day, but in 2014 this amount had grown to over 18.5 million VMT. Figure 5-8 illustrates this growth for both the Nebraska and Iowa portions of the TMA, as well as the regional total

Historically residents in the MAPA TMA drive less than residents of most other medium-sized areas (Figure 5-9) The Texas Transportation Institute's Urban Mobility Report also lists Omaha as having among the lowest per capita VMTs in the nation for mid-sized metro areas. This is largely the result of a contiguous and relatively dense urban form and a smaller freeway system than most of MAPA's peer regions. Keeping the per capita VMT low, and further reducing it has been identified as a regional goal by groups such as Omaha by Design, which aim to promote active modes of transportation and coordination of transportation with land use.

Figure 5-8: Vehicle Miles Travelled (VMT) Trend, 1980 to 2014

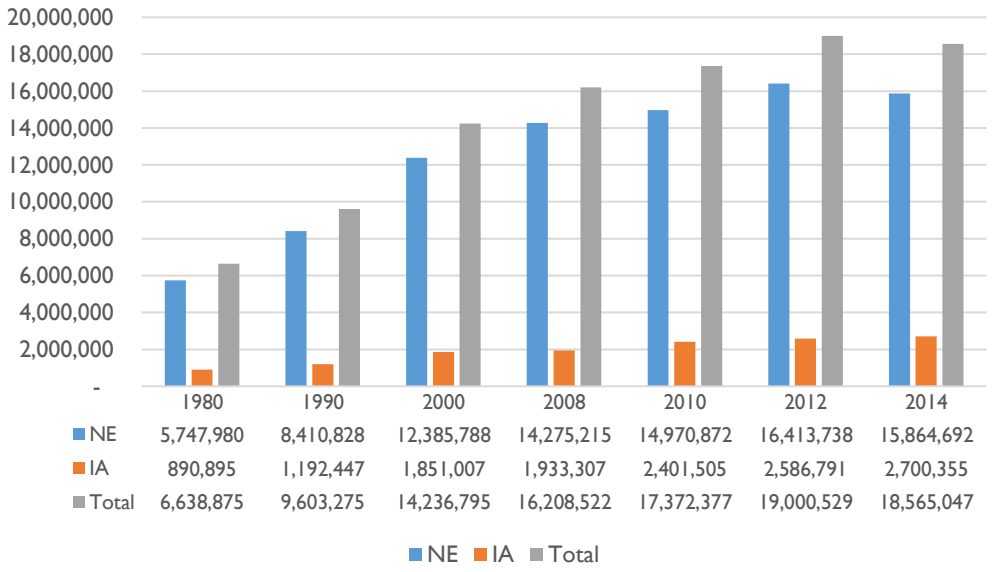


Figure 5-9: Vehicle Miles Travelled per Capita for Medium-Sized Metro Areas

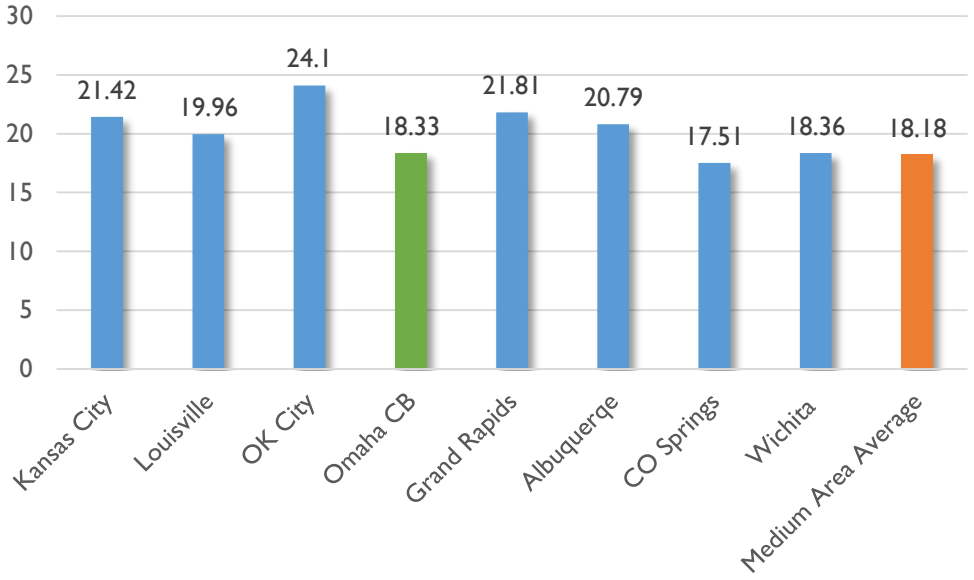
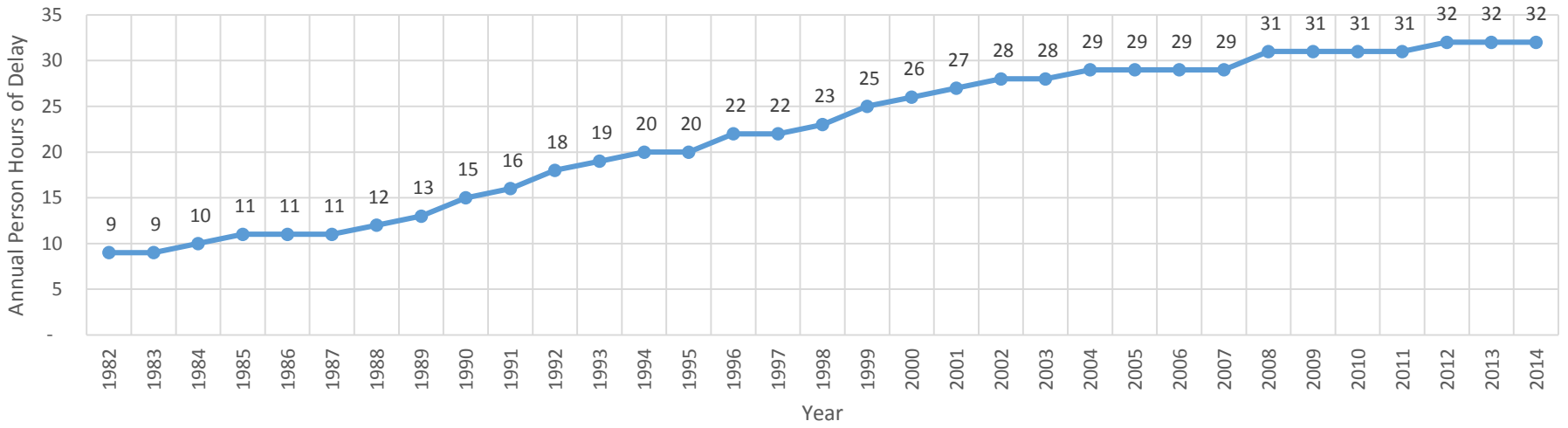


Figure 5-10: Annual Hours of Delay for Residents of the MAPA Region, 1982 to 2014



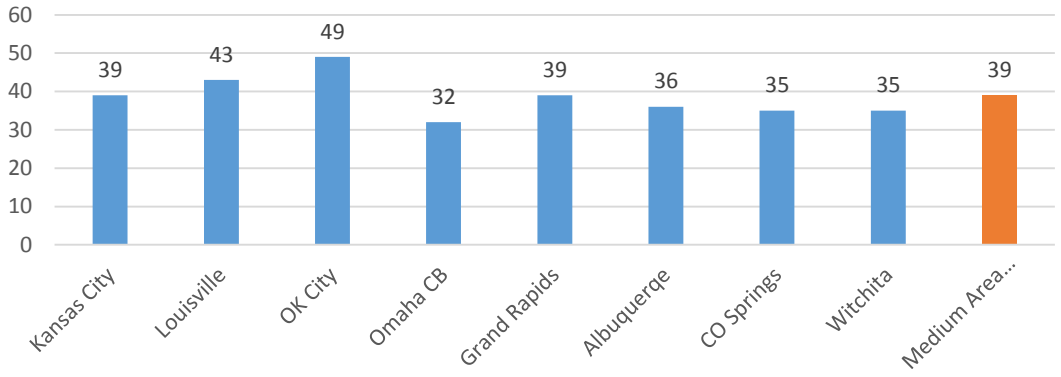
Congestion in the MAPA Region

Congestion has grown significantly in the MAPA region over the past 25 years. The Texas Transportation Institute's annual Urban Mobility Study (which was last completed in 2012) provides a comprehensive look at traffic and congestion across the nation's metro areas. While it is a macroscopic congestion measure that does not necessarily take into account all local factors affecting congestion, it nevertheless provides a reasonable and consistent source of data that that can be tracked and compared over time.

Figure 5-10 shows the TTI study's estimated hours of delay per traveler in the greater Omaha-Council Bluffs metro area between 1982 and 2011. This study's figures show a seven-fold increase in delay associated with congestion, growing from three annual hours per person in 1982 to 32 hours in 2014. Figure 5-11 compares the MAPA region's delay to other similar metro areas. Note that the peer regions have a broad range of average delay. The 32 annual person hours estimated for the Omaha-Council Bluffs metro area is below the average for MAPA's peer regions.

A Reliability Index is a measure of how much variability there is on the travel time along a corridor. As part of the Metro Travel Improvement Study (MTIS), reliability was estimated using INRIX travel time data. Figure 5-12 shows the reliability of major corridors in the MAPA region. A value of "1.0" on this chart means that there is very little recurring congestion along a roadway. However, our analysis of this data shows that significant delays can be expected in the western portions of the Omaha metropolitan area.

Figure 5-11: Average Annual Hours of Delay for Mid-Sized Metro Areas, 2014



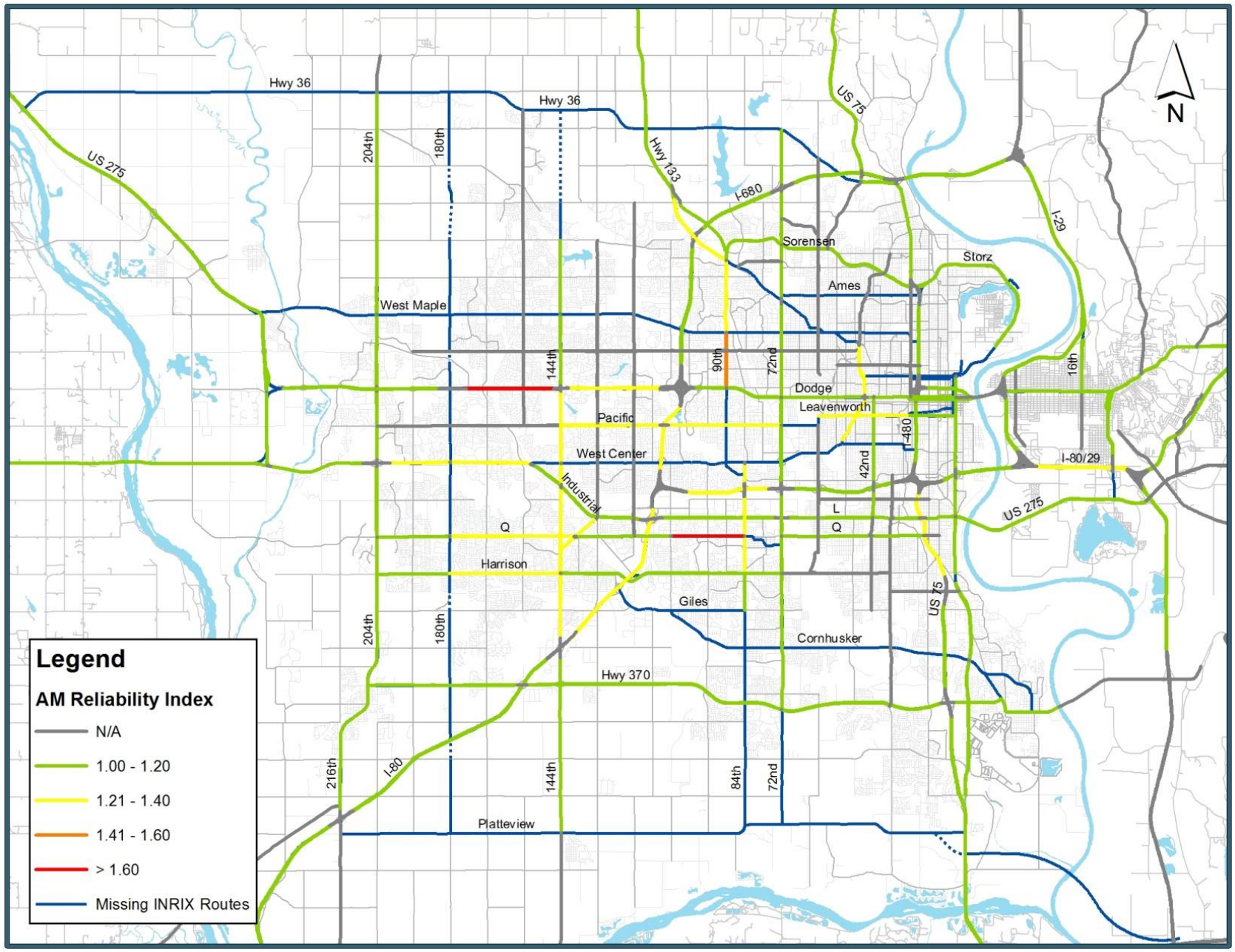


Figure 5-12: Reliability Index for Major Corridors in the MAPA Region (AM Peak Hour)

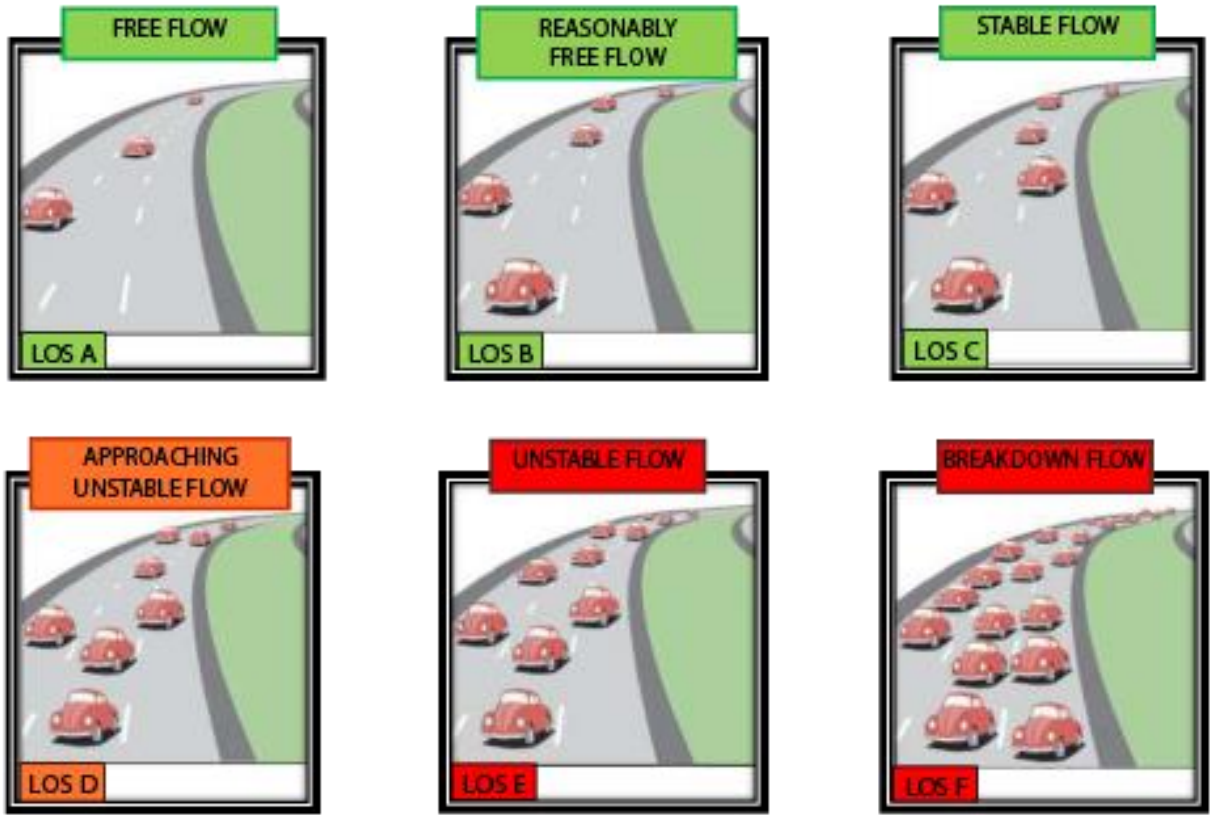
Level of Service

Level of Service (LOS) is another measure that is useful for considering. This measure was used in the 2007-2009 MAPA Travel Time Study. The Highway Capacity Manual recommends a method of determining LOS based on average vehicle travel speed for each road segment. The LOS for a road ranges from LOS "A", meaning no congestion and very light volumes, to LOS "F", indicating a complete breakdown in a facility's performance due to very heavy congestion. Figure 5-13 is an generalization of what roadways look like and how they function at different Levels of Service.

Figure 5-14 (next page) shows the estimated Level of Service in 2010. This illustration shows the segments of the major roadways that are over-capacity and failing today (LOS F) during the peak period. Most operational issues identified in this graphic are small segments of major roadways. However, in the western and southern portions of the MAPA metro significant lengths of corridors such as 168th Street in Omaha are over-capacity during high-traffic periods.

Figure 5-15 (page after next) shows the Level of Service of roadways estimated in the 2040 "No-Build" Travel Demand Model. This model assumes that no additional roadway improvements are made between the implementation of MAPA's Transportation Improvement Program and also assumes that population and employment continue to grow. In this illustration it's clear that most of the major roadways west of 72nd in the region will have significant operational issues if no improvements are made.

Figure 5-13: Illustration of Level of Service for Roadways



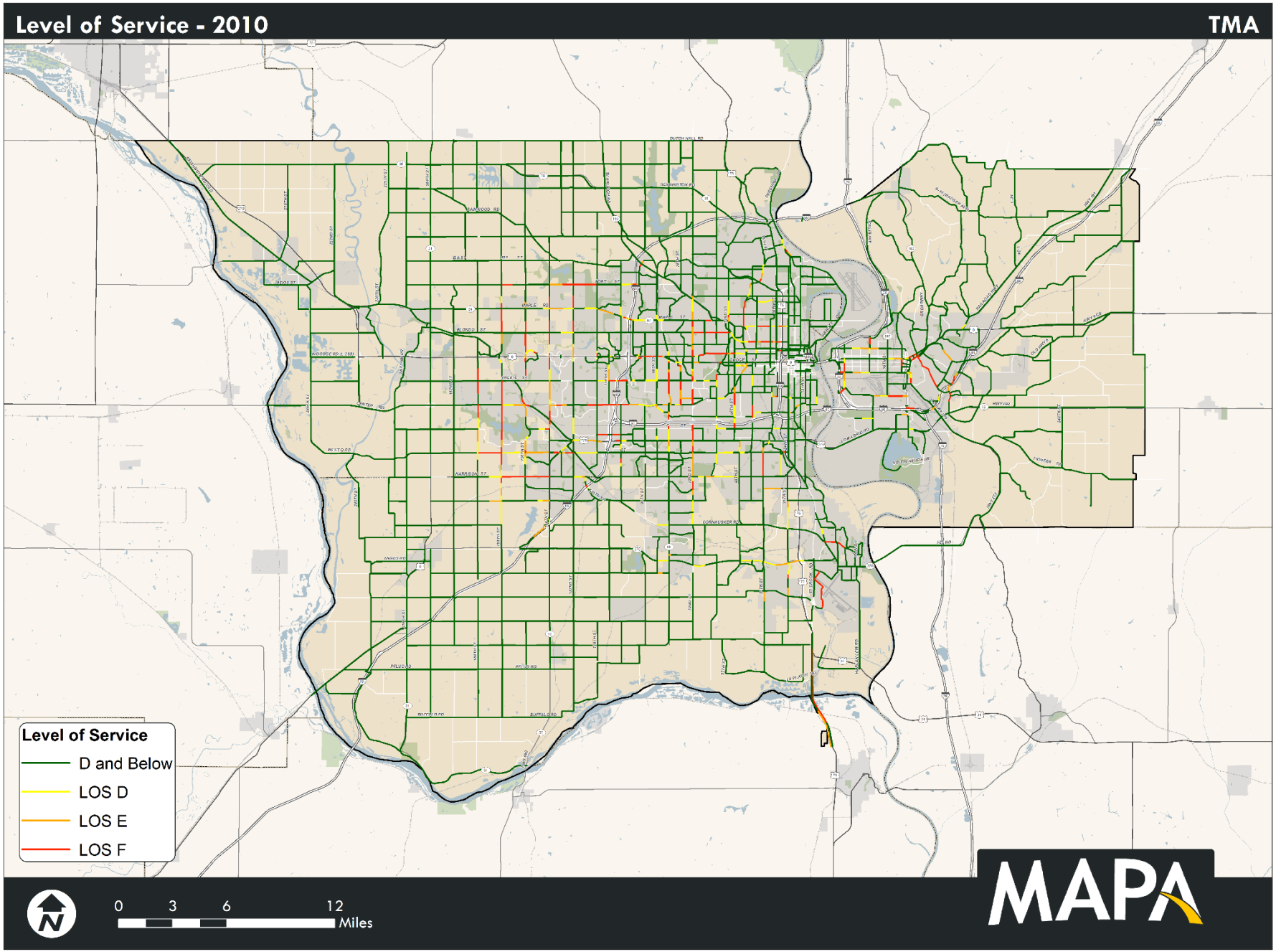


Figure 5-14: 2010 Estimated Level of Service for Roadways in the MAPA Region

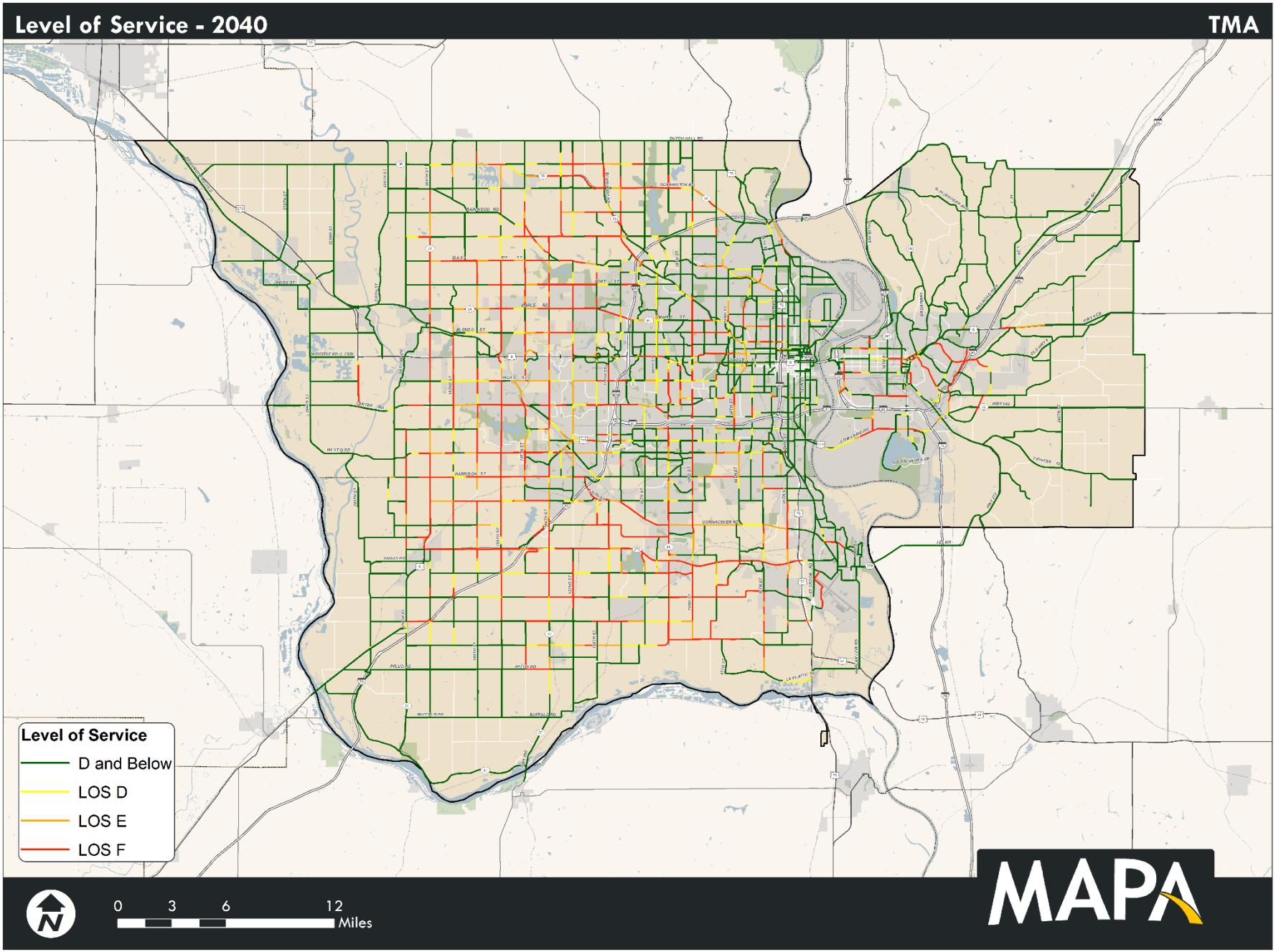


Figure 5-15: 2040 No-Build Level of Service for Roadways in the MAPA Region

Chapter 6 – Public Transportation and Paratransit

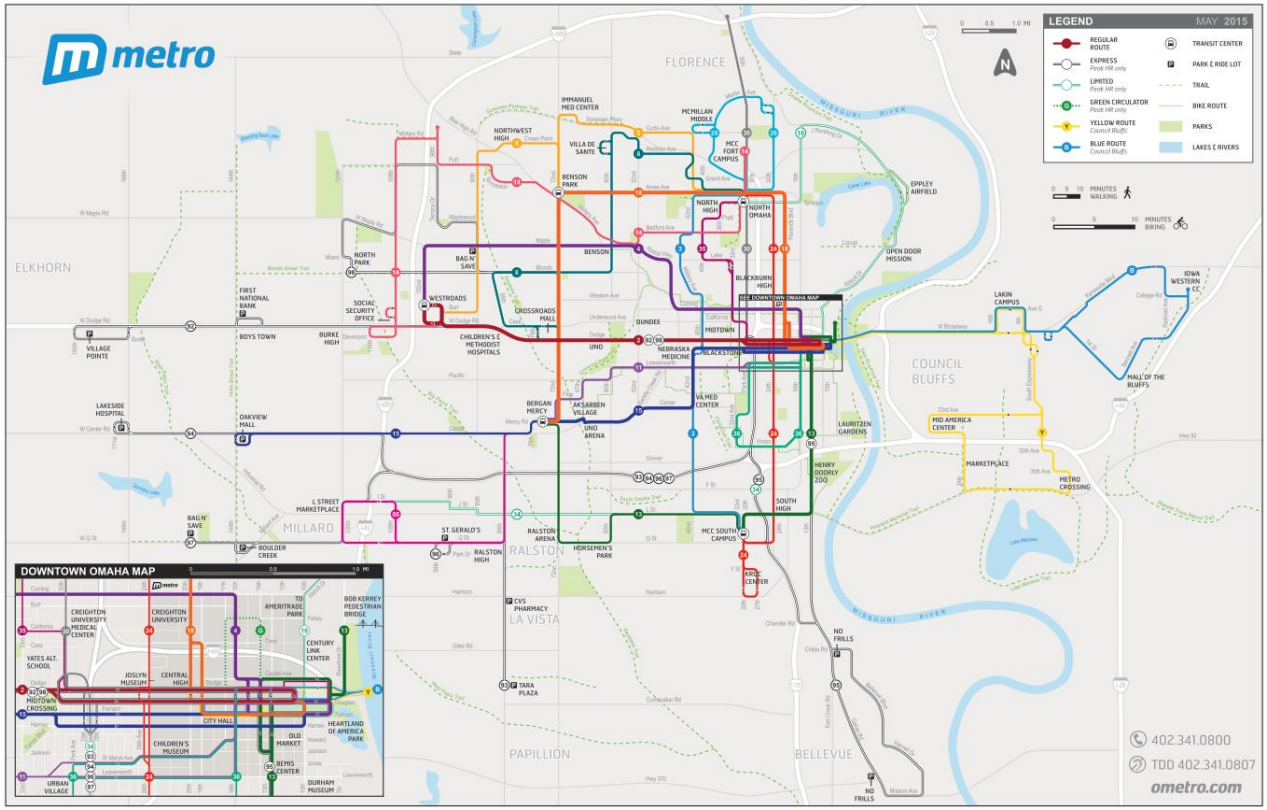
What Is Public Transit

Public transit includes a diverse array of publicly owned and operated transportation options including:

- Buses
- Bus Rapid Transit
- Streetcars
- Trolleys
- Light Rail
- Commuter Rail
- Heavy Rail

These options provide affordable and environmentally-friendly transportation alternative for many commuters. For some members of the community, including many seniors, students, individuals with disabilities and the economically disadvantaged person, transit can be the only viable means of transportation.

Figure 6-1: Metro Service Routes



Existing Services

There are two primary public transit providers in the Omaha- Council Bluffs region, Metro in Nebraska, and South West Iowa Transit Agency (SWITA) in Iowa. There are also a myriad of smaller paratransit providers and nonprofits who provide transit to those who are unable to use the mass transit in the area.

Metro Transit

The Transit Authority of the City of Omaha is a political subdivision of the state of Nebraska. Metro serves residents within Omaha's city limits and maintains "turnkey" contracts with Council Bluffs, Bellevue, La Vista, Papillion, and Ralston. Figure 6-1 shows the current Metro routes.

All Metro buses are equipped with bike racks which can accommodate up to two bikes at a time.

Comprehensive Operations Analysis

Through Heartland 2050 a Regional Transit Vision Study was done, out of this came both short term and long term improvement. The short term improvements are detailed in the Comprehensive Operations Analysis (COA), long term improvements are detailed later as part of the alternative analysis.

In the COA three phases of transit improvement were identified to address the two main areas of possible improvement:

- Route Network Design
- Service Quality

Metro Service Evaluation

Metro's Network Evolution Plan included a service evaluation focused on ridership, performance, quality, network design, and downtown operations. Key findings include:

- Low productivity for many routes
- Most routes operate at 30-60 minute frequencies
- Current stop spacing prioritizes "short walk access" over "fast travel"
- Spontaneous trips are hindered by multiple factors

The evaluation recommends changes to the network including removing routes, transitioning to a fare/ticket system, and adjusting stop spacing to improve productivity through more attractive service.

Phase I

Metro has begun implementing phase I of the recommended improvements starting in 2015.

The first phase of improvements included a change in route structures to improve productivity and increase the North-South connections in the area. With the changes in routes also came extended hours and increased service frequency for the most used routes.

Phases II and III

Phases II and III seek to build off of phase I to increase service hours and frequency to create a spontaneous use network to facilitate choice rider use, and improve access to those who are transit dependent.

Table 6-1: Recommended Service Tiers

	Service Type	Description	Network Role	Key Markets	Frequency Target
Corridors	Arterial BRT Rapid Bus	High frequency, high capacity, and high quality service that uses transit priority measures to speed travel times. Stop spacing is typically greater than local bus with enhanced service characteristics intended to emulate the passenger experience of arterial rail transit.	Spontaneous use, transit-oriented corridor, fast travel and short waits	All-day, all-week community and sub-regional travel	10 minutes
	Key Corridor Local Bus	Conventional bus service, operating on a timetable following a pre-set route with identified stops that typically operate as part of a wider network of integrated routes.	Structural network corridor, fast sub-regional service	All-day, all-week community and sub-regional travel	15 minutes
Network Connections	Supporting Local Bus	Fixed route transit using various size vehicles serving a specific community area with connections to the regional and/or subregional transit network.	Network completion and service coverage	All-day weekday community and sub-regional travel	30 minutes
	Community Circulators	Fixed route transit using various size vehicles serving a specific community area with connections to the regional and/or subregional transit network.	Targeted network connection, local circulation	Community travel in less transit-conducive areas	60 minutes or Demand Based
Express	Peak Express	Conventional express bus service, operating on a timetable following a pre-set route with identified stops connecting surrounding communities with downtown, typically for commute trips.	Freeway or key corridor based commute	Peak period regional travel	Tailored to Demand
	Reverse Commute Express	Conventional express bus service, operating on a timetable following a pre-set route with identified stops connecting downtown with employment in surrounding communities, serving travel patterns opposite the typical peak, downtown oriented direction.	Freeway or key corridor based commute	Reverse commute travel	Tailored to Demand

Metro Network Evolution Framework and Guiding Principles

Based on the service evaluation and existing conditions, Metro developed the following principles for future development:

- Right Size Service to Market
- Strengthen Network Structure
- Improve the Customer Experience
- Promote Financial Sustainability

The service tiers in Table 6-1 help Metro align to these principles and begin implementing Phase I of the recommended changes to the network. This first phase will use existing funding levels to address the lack of high frequency transit services and improve network connectivity.

Figure 6-4 shows the proposed network frequency implemented in Phase I.

Metro Trip Origin and Destination Intensity

As part of the service evaluation, Metro conducted an on-board survey of trip origins and destinations. Figures 6-2 and 6-3 display the results of these surveys.

On-Board Survey Weighted Response

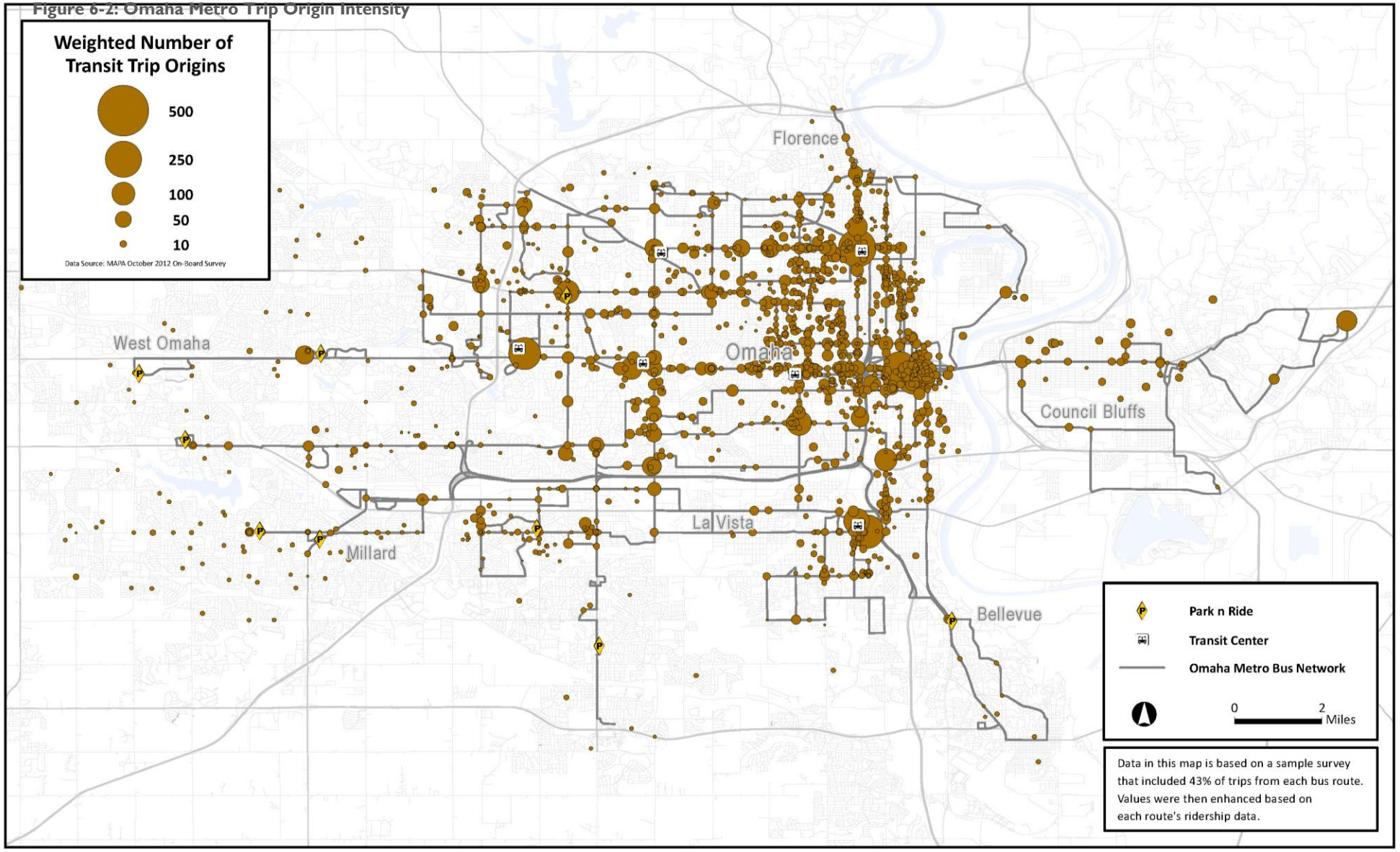
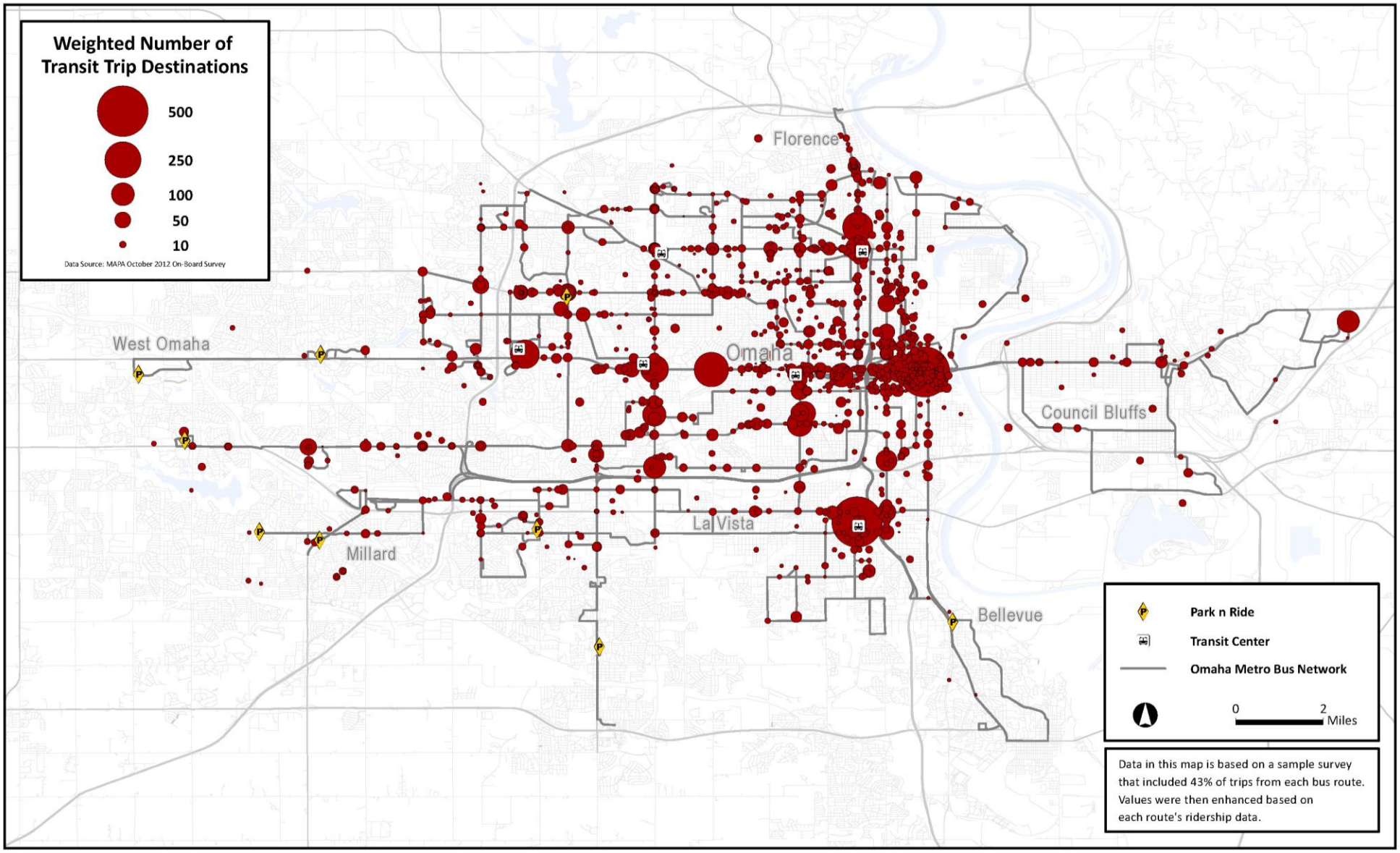


Figure 6-3: Omaha Metro Trip Destination Intensity

On-Board Survey Weighted Response



Metro Trip Links

Figure 6-5 shows the links between origins and destinations for Metro Transit riders. The largest circles represent the most frequently used nodes and transfer points for the region. This figures links the previous two maps together to show not only starting and ending points but also the direction of travel.

Figure 6-5: Linked Transit Trips

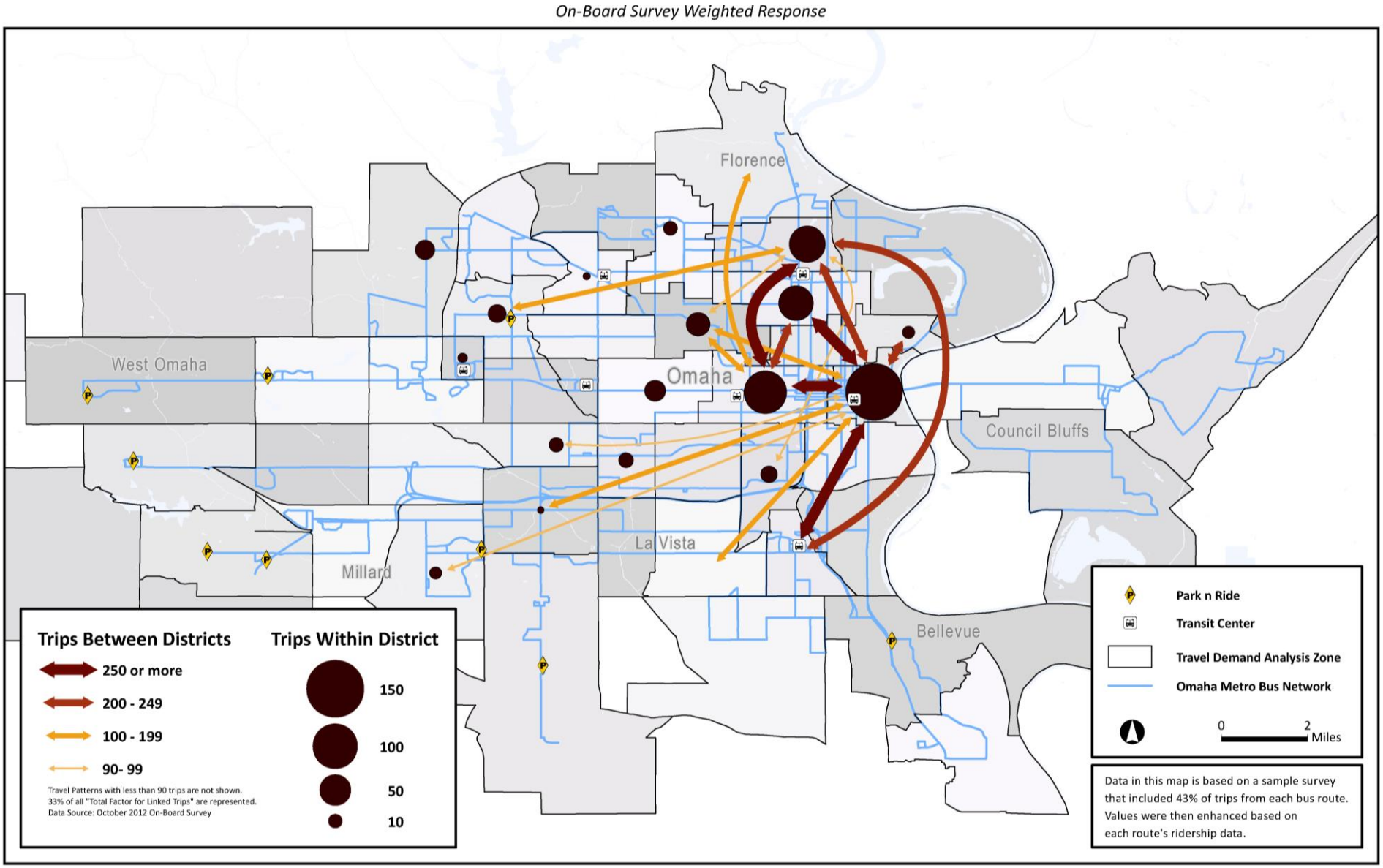
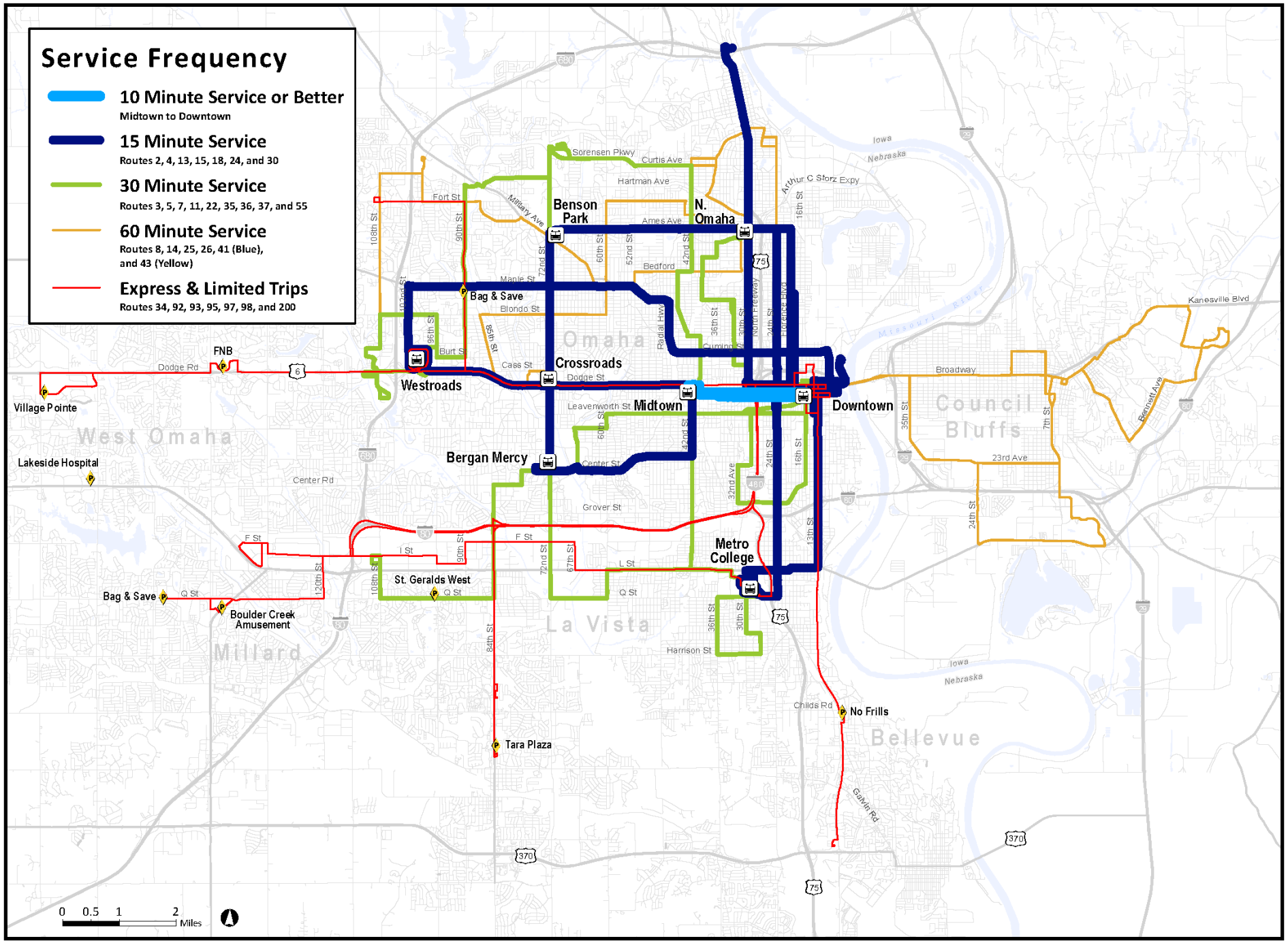


Figure 6-4: Draft Proposed Network Frequency – Phase I

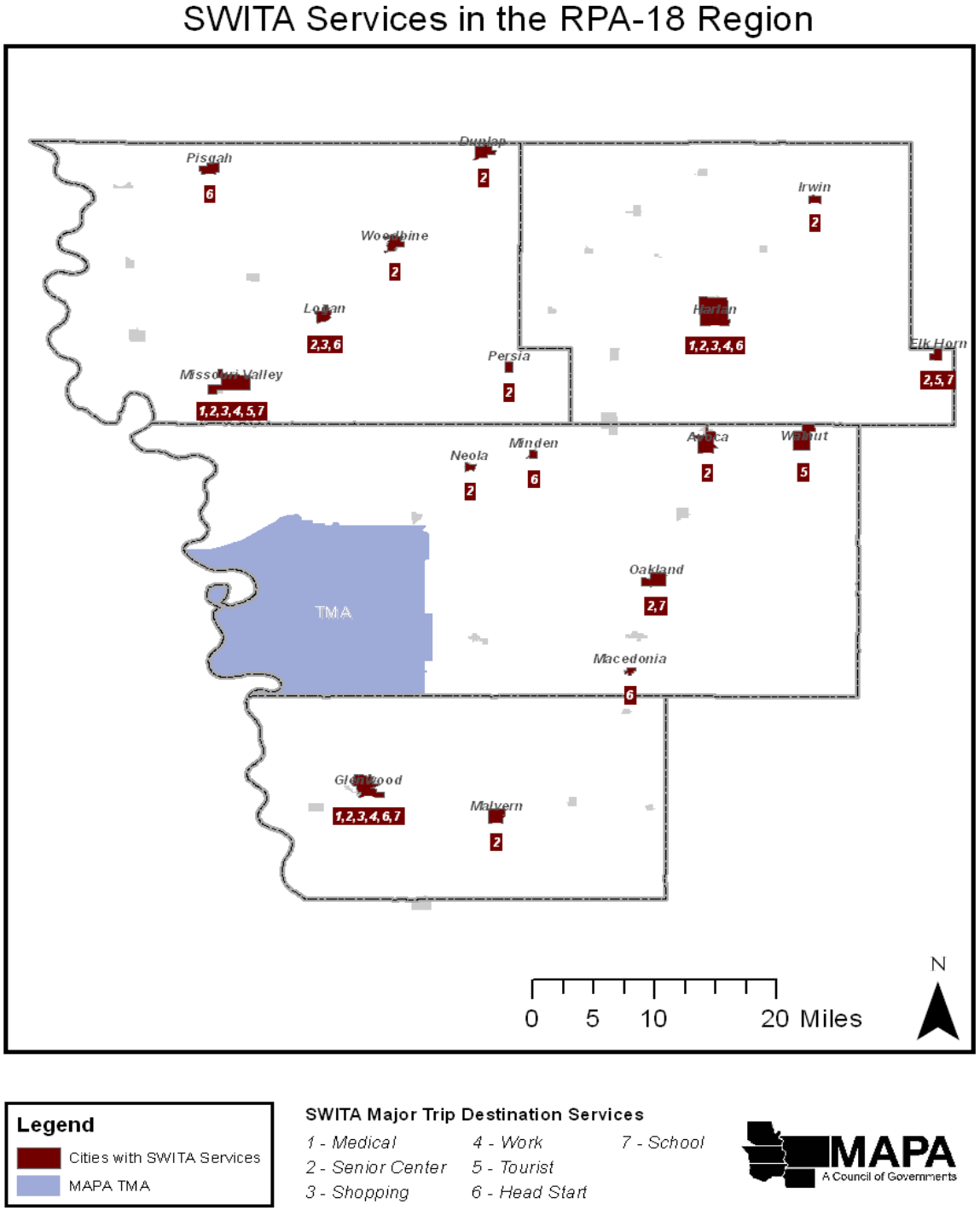


SWITA

SWITA serves mostly rural western Iowa, including Mills Pottawattamie and Harrison Counties, and parts of the City of Council Bluffs. SWITA provides demand response services and paratransit services for this area in conjunction with Metro and the City of Council Bluff's Special Transit Service.

Figure 6-5 shows the SWITA service are in purple.

Figure 6-5: Draft Proposed Network Frequency – Phase I



What Is Paratransit

Paratransit is demand response service provide in conjunction with regular fixed route service for those with disabilities whose disability precludes them from being able to access regular fixed route services. Para transit services run within a ¾ mile buffer zone around all fixed route lines. The paratransit providers in the region are listed in their section.

Paratransit Providers

There are several major paratransit providers currently in the Omaha-Council Bluffs area:

- Metro Transit
- South West Iowa Transit Agency (SWITA)
- Moby (a subdivision of Metro Transit)
- City of Bellevue Specialized Transportation Service
- City of Papillion Special Transportation Services
- City of Council Bluffs Special Transit Service
- Cities of Ralston and La Vista Special Services Bus
- Eastern Nebraska Office on Aging (ENOA)
- Heartland Family Services
- Lutheran Family Services
- Eastern Nebraska Community Action Alliance (ECAP)
- Girls Inc.
- Disabled American Veterans

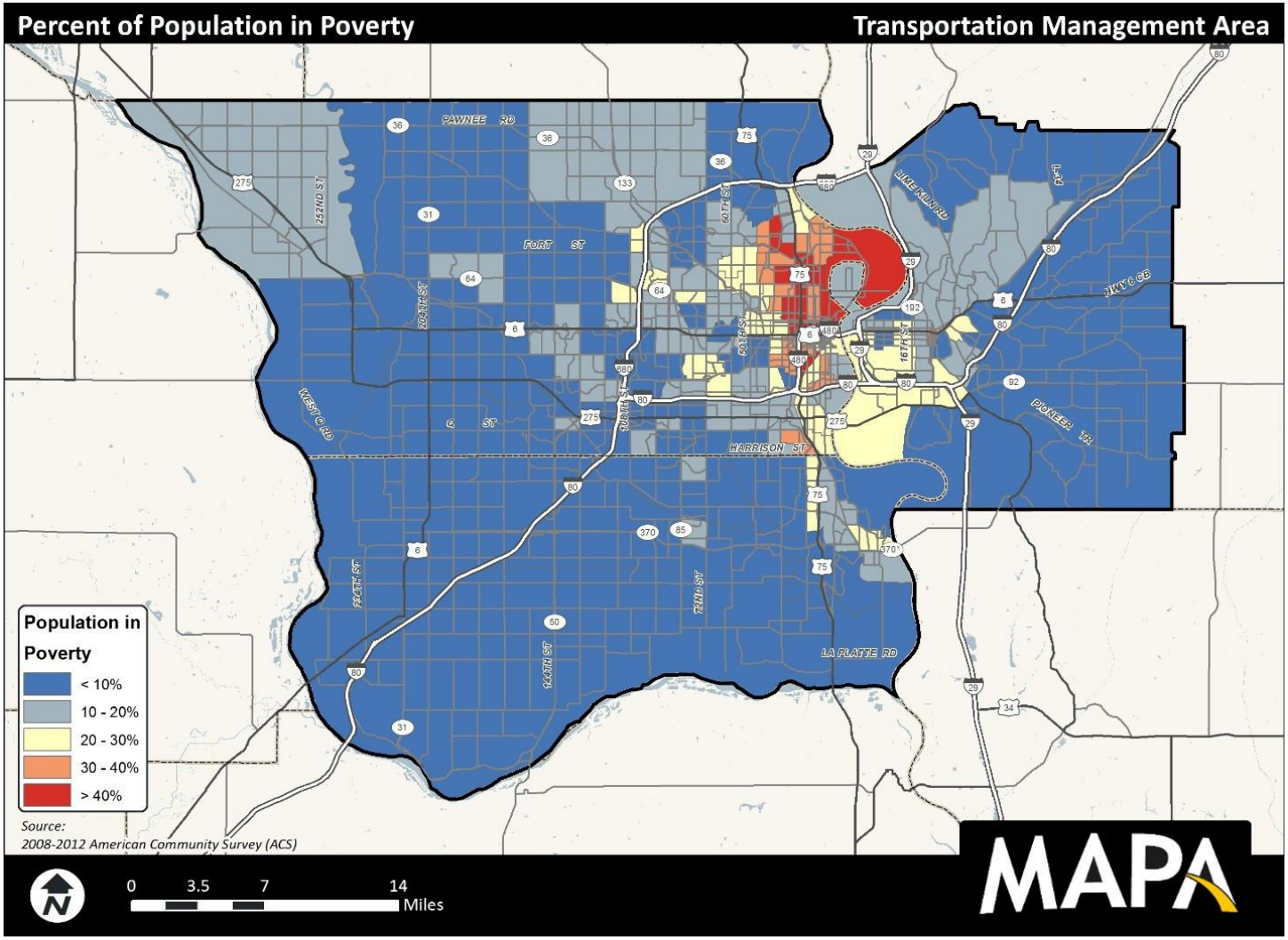
In the MAPA Paratransit Inventory Survey, completed in 2012, the above agencies had a combined total of 150 vehicles.

The paratransit services provided by these agencies are detailed in table 6-2

Table 6-2: Paratransit Services by Agency

	Metro Transit	Bellevue	Papillion	Disabled Am Vets	ENCAP	ENOA	HFService	City Council Bluffs	Community Alliance	Girls Inc	Trailblazers	Florence Home	Lutheran Family Service	Catholic Charities
Hours each day	4 am – 12 am	7 am- 3:30 pm	7:30am- 4 pm	6 am– 3:30 pm	n/a	7 am- 5 pm	7 am- 7 pm	6:30 am–11:30 pm	6 am- 12 am	2 pm – 5 pm	7 am – 7 pm	n/a	8 am – 5 pm	8 am – 10 pm
Days of Week	7	5	5	5	5	5	7	6	7	5	6	7	5	4
Rides per day	500	40	40	60	30	20	80	50	60	60	60	4	4-Jan	15
Geography/Area	City Omaha	City Bellevue	City Papio	statewide	Douglas Cty	Rural metro	NE & IA	City CB	Douglas, Sarpy	metro	metro	Omaha	Omaha	Omaha
Vehicles for D/R	27	6	2	15	10	5	18	20	12	7	7	2	2	4
Annual $	175,000	277,000	40,662			196,686	2,504,338	730,000		115,000				500,000
Fares (y/n)	2.5	yes	yes	no	yes	yes	yes	2.5	no	no	yes	yes	no	no
Medical Trips (y/n)	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	yes	no	yes
Work Trips (y/n)	yes	yes	yes	no	yes	yes	yes	yes	yes	no	no	no	yes	yes
Social Trips (y/n)	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Curb to Curb	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Door to Door	no	yes	no	yes	yes	yes	yes	no	yes	no	yes	yes	yes	yes
Thru Door	no	no	no	no	no	no	no	no	yes	no	yes	yes	yes	yes
Governmental entity	yes	yes	yes	no	no	yes	no	yes	yes	no	no	no	no	no
Funding Types	F,S,L	S, L	S, L	F, D	F, L, D	F, S, L	S, L, D	F, S, L	S	L, D	D	L, D	S, L, D	S, L, D
F=federal; S=state; L=local; D=foundation														

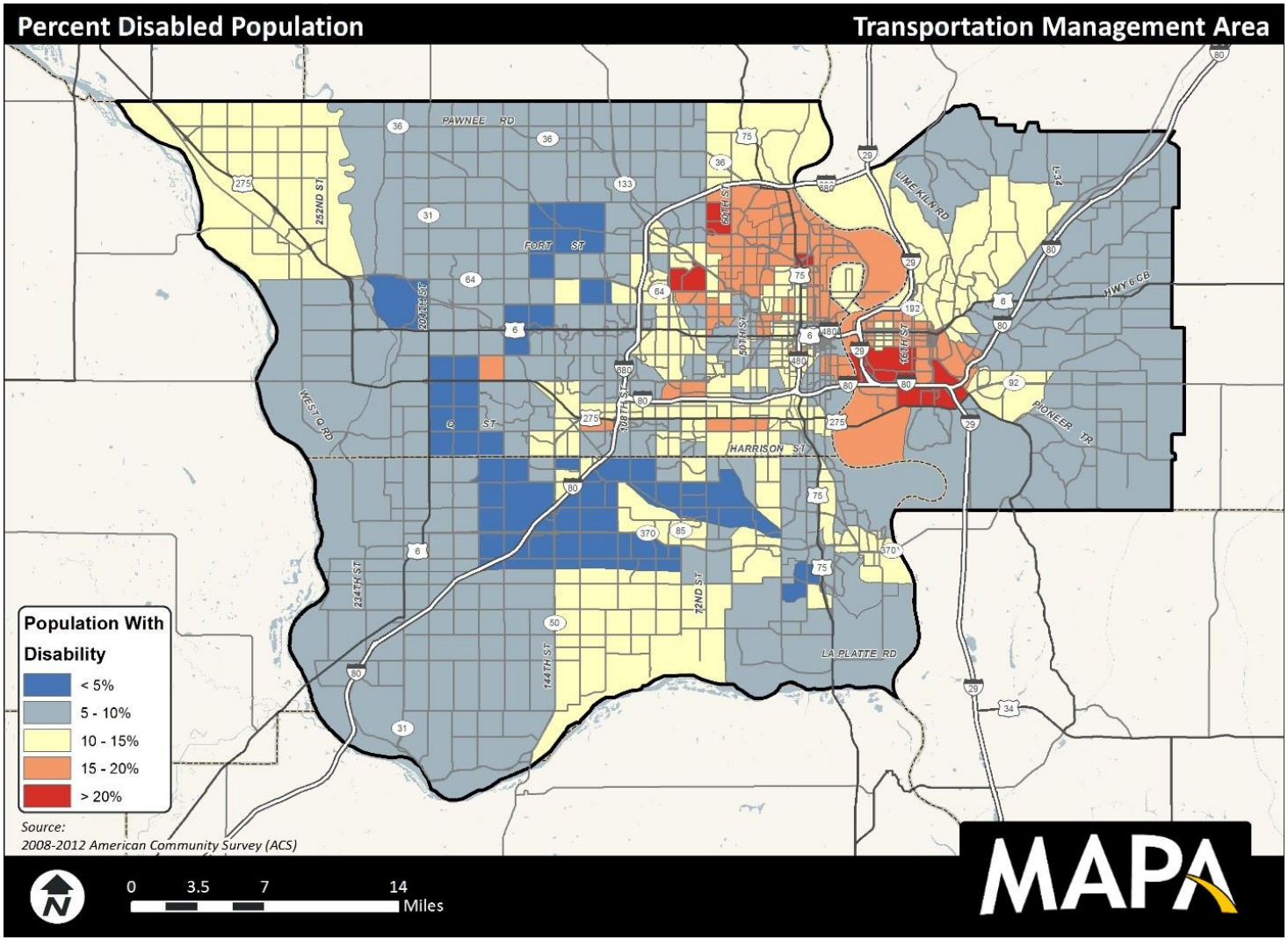
Figure 6-6: Poverty within TMA



Demographics: Poverty

Figure 6.6 show the concentration of those living below the federal poverty line in the Omaha-Council Bluffs region. There are several very concentrated pockets of poverty shown for the region, primarily in North Omaha.

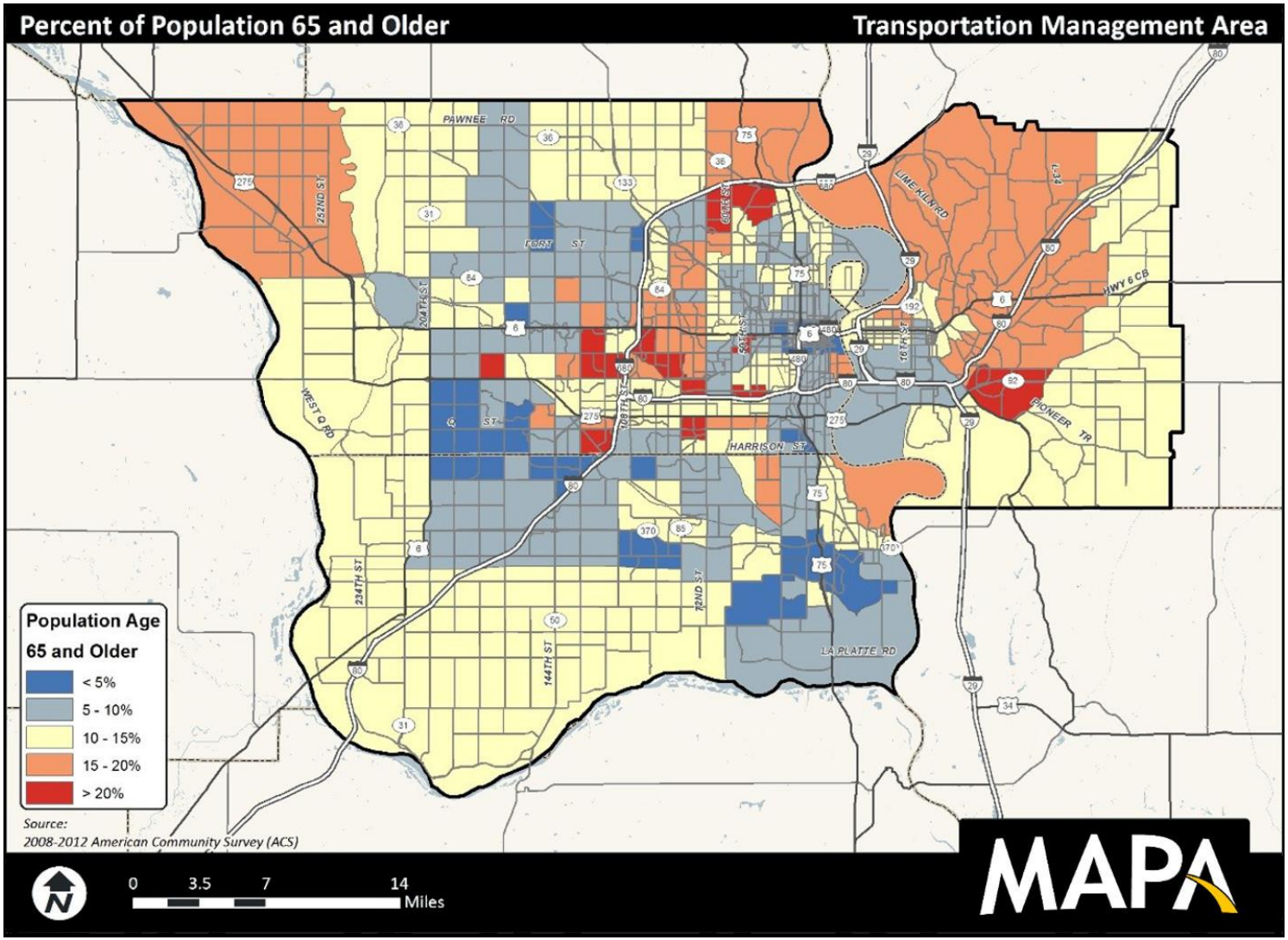
Figure 6-7: Disabled Persons within TMA



Demographics: Those with Disabilities

Figure 6.7 shows the geographic concentrations of those with a disability in the Omaha-Council Bluff's region. There are several clear pockets of concentration of those with disabilities.

Figure 6-8: 65+ Population within TMA



Demographics: Those over 65

Figure 6.9 shows the geographic breakout of the concentrations of those over the age of 65 in the Omaha-Council Bluffs Region. For the most part the highest concentrations overlap with other historically disadvantaged groups who depend on transit.

Barriers to Transit Expansion

Built Environment

Mass transit services are best suited to those making traditional suburban-to-urban commutes and for those who live and work in high density corridors. Like most metro areas in the central and western United States, the majority of the development in the MAPA TMA has been constructed since World War II, and caters to the automobile, which can leave transit services at a disadvantage.

Summary

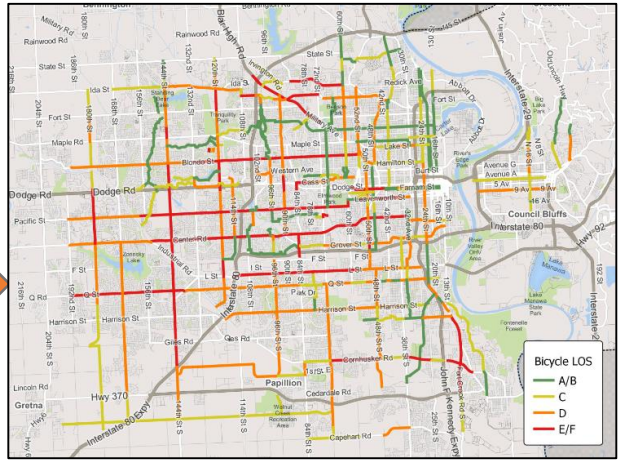
Currently transit accounts for a relatively low percentage of trips in the metro area. If transit is to expand it must attract riders who chose to take the bus rather than just those who must ride due to economic constraints. Attracting these choice riders will require a shift in how the region views transit and a shift in behavior patterns for residents and businesses to facilitate more dense land use and economically support transit development.

7 Bicycle & Pedestrian

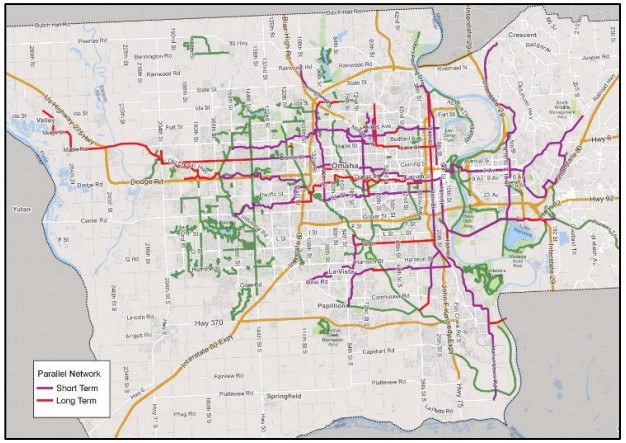
While active transportation is included as a goal in many local plans, there are currently many areas of the region where getting around without a vehicle is difficult. MAPA created the Regional Bike-Ped Plan to take a comprehensive approach to identifying key active transportation corridors in the region.

Perspectives on Safety
A survey of residents in the Omaha region found that people felt most comfortable on bikeways such as recreational trails. To make other facilities "more like trails", communities should consider incorporation physical separation between cyclists and other vehicles.

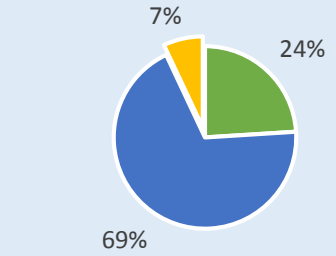
Existing Challenges
Bikeways are difficult to incorporate into many of the region's major roadways due to high speeds and levels of traffic. MAPA recommends that bikeway facilities be considered when these roadways are reconstructed.



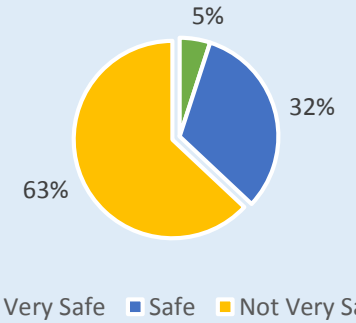
Short-Term Bikeway Network
MAPA has identified a network of roadways that are generally good for cycling today. Improving these roads with traffic calming and destination signage ("wayfinding") would create a substantial bikeway network off of major roadways.



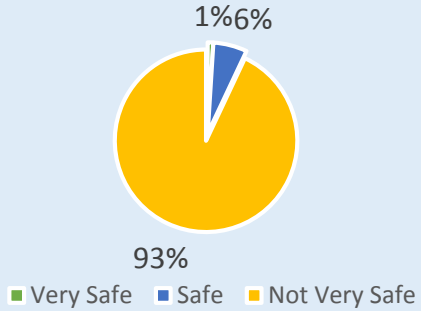
Multi-Use Trails



Bike Lanes



No Bike Lanes



Source: Metro Travel Improvement Study (MTIS) Survey, ETC Institute

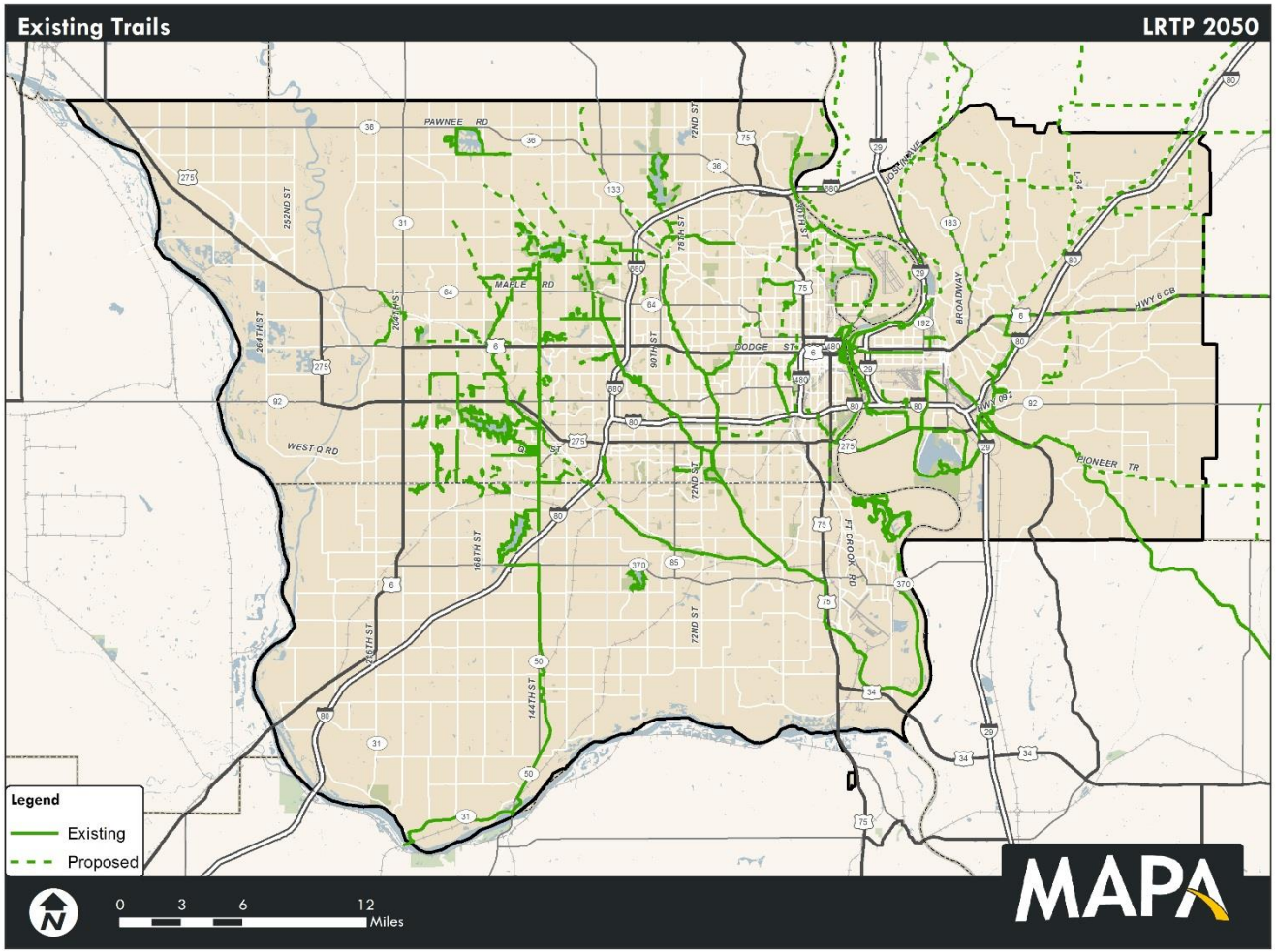
Existing Bikeways in the Region

The Omaha region has an extensive network of paths. These paths offer a quality cycling experience – near total separation from vehicular traffic, scenic surroundings, and relatively little topography thanks to their position adjacent to rivers and streams. However, because of their orientation to the region's water features, their use for serving everyday travel needs is limited by their distance from important activity centers and a lack of lateral connections. Figure 7.1 (right) shows existing and planned trails in the MAPA region.

The paths, like the water features they parallel, tend to serve north-south movements well but do not make connections from east to west through neighborhoods. Some on-street facilities exist in cities throughout the region, but they are sparse and do not yet form an interconnected network. Additionally, the Cities of Omaha and Bellevue have begun to designate some signed bike routes. These routes utilize some existing facilities such as bike lanes or shared lane markings in specific locations, but also make use of streets without dedicated cycling accommodations when necessary.

MAPA, Live Well Omaha, and RDG Planning & Design coordinated to create Metropolitan Area Bicycle Map that shows existing routes through the region based on their current suitability to different types of bicyclists. Figure __ (next page) shows roads identified as part of regional bike map and their relationship to area trails.

Figure 7-1: Existing and Planned Trails in the Omaha-Council Bluffs Region



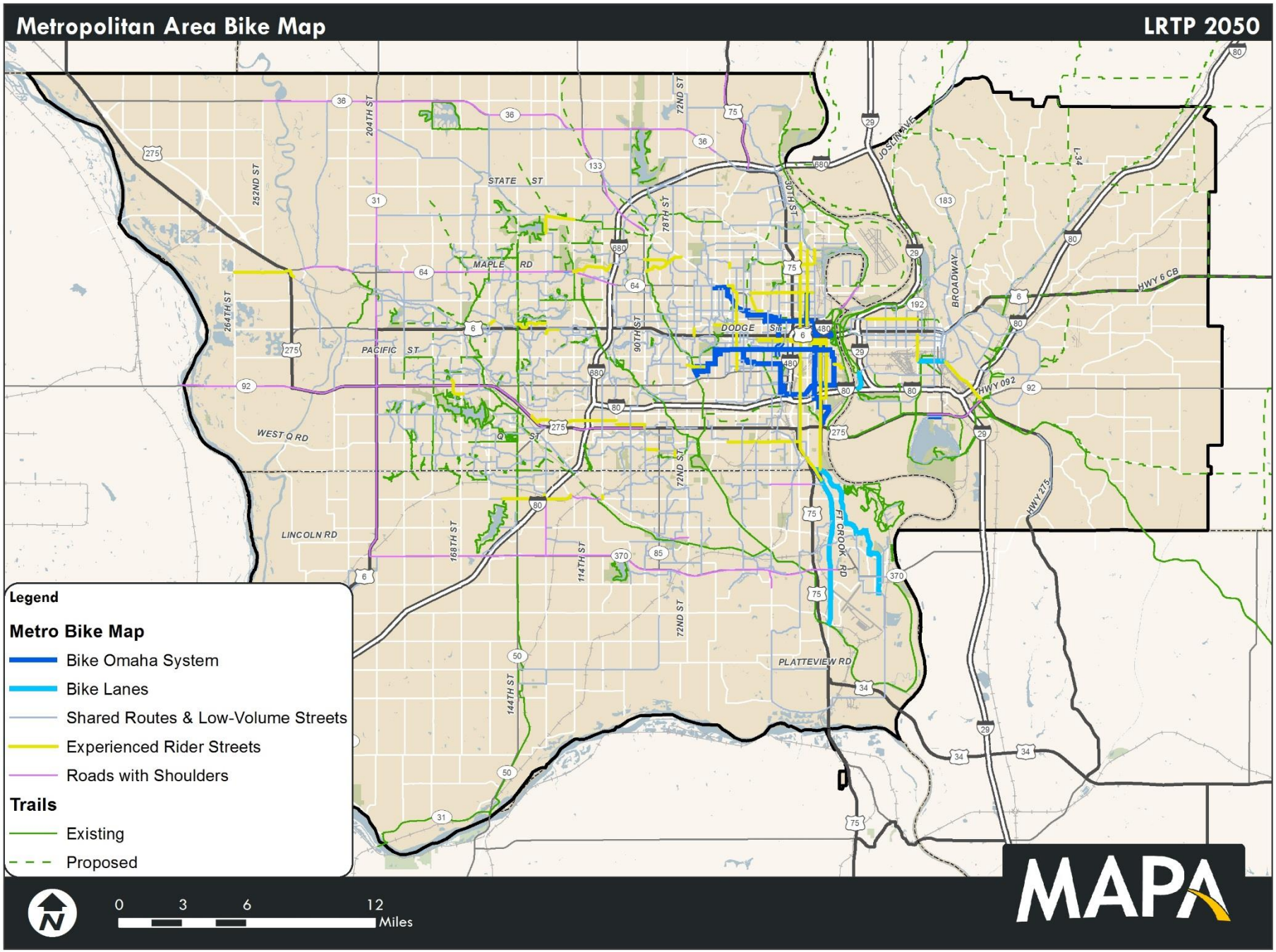
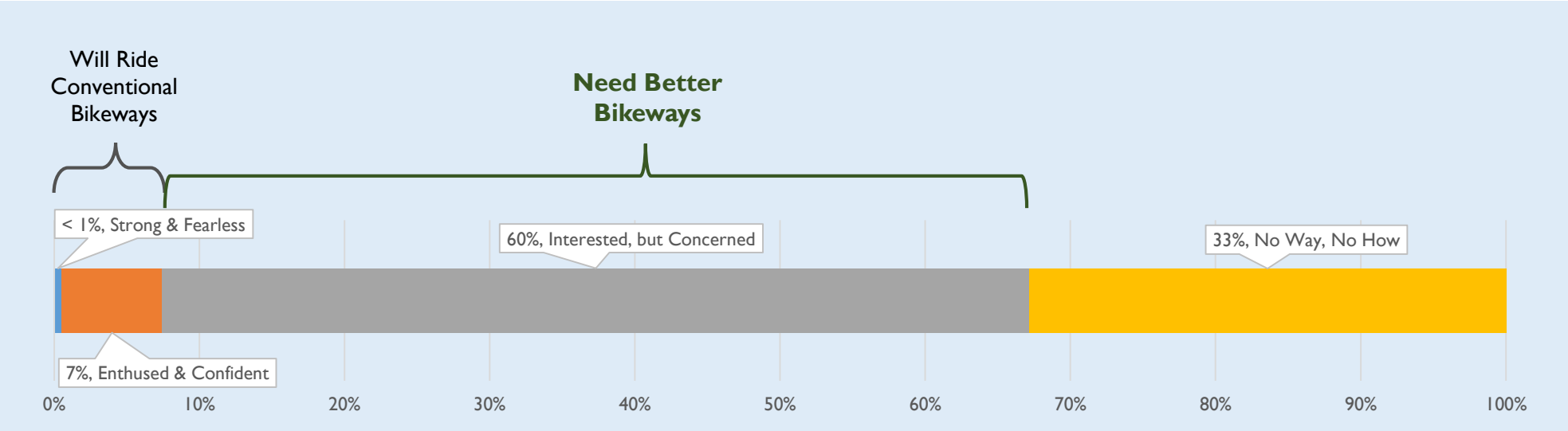


Figure 7-2: Metropolitan Area Bike Map

Figure 7-3: Existing and Planned Trails in the Omaha-Council Bluffs Region



The Four Types of Transportation Cyclists

In 2006 Roger Geller, Bicycle-Pedestrian Coordinator for the Portland Bureau of Transportation, identified "Four Types of Transportation Cyclists" that help describe different segments of the population. Since this graph was first released, it has served as a useful tool for planners and engineers to consider the reasons why people do or don't like different bike facilities. A brief description of each "Type" of cyclist is included in the list below:

- **Strong & Fearless** – These cyclists will ride in their communities regardless of weather conditions or the availability of cycling infrastructure
- **Enthused & Confident** – Enthused & Confident riders are comfortable sharing the road with automobiles, but prefer riding in designated bikeway facilities
- **Interested, but Concerned** – These residents enjoy riding a bike, and are curious about using a bike for transportation. However, concerns about their own personal safety due (in large part) to conflicts with motorists. These riders are encouraged to ride if protected or separated facilities exist in their communities
- **No Way, No How** – Not interested in cycling as a transportation modes because of factors such as topography, inability, or lack of personal interest

The majority of people are likely to fall within the "Interested, but Concerned" category of cyclists. However, at present, few bikeways (other than recreational trails) are designed with this segment of the population in mind. In order to achieve the active transportation goals of our communities and our region, we should focus our resources on building facilities that encourage residents to take more trips by walking or biking. Figure 7-3 (above) illustrates the breakdown between these groups.

Regional Development Patterns

Throughout history, many factors have driven the layout of streets in our communities. These included the prevailing modes of transportation, varying municipal planning policies and changing city design theories. The grid street layouts and winding boulevards that run along the ridgelines of the older portions of the region's cities made way for larger block sizes, wider streets, and interstates after World War II when land use and transportation decisions focused on prioritizing motor vehicle travel. Especially in the 1960s and 1970s, the development of the transportation system included many high-traffic thoroughfares that are too stressful for many bicyclists and that completely lacked sidewalks and crosswalks.

On a natural level, the area's topography and waterways affected the positioning and breadth of land developed. The rolling hills of eastern Douglas and Sarpy Counties, the prominent loess hills' bluffline running through Council Bluffs and the Papio and Indian Creek systems served as barriers to the extension of the historic grid system. Streets were laid out to maximize the number of lots available for construction around these natural features.

The Development Map shown in Figure 7-4 is a general representation of the development pattern of the Omaha Metro area over time. These development patterns have a strong influence on whether sidewalks exist in these areas and also the suitability of these areas for bikeways in the short-term.

Figure 7-4: Regional Development Patterns in the Omaha-Council Bluffs Region

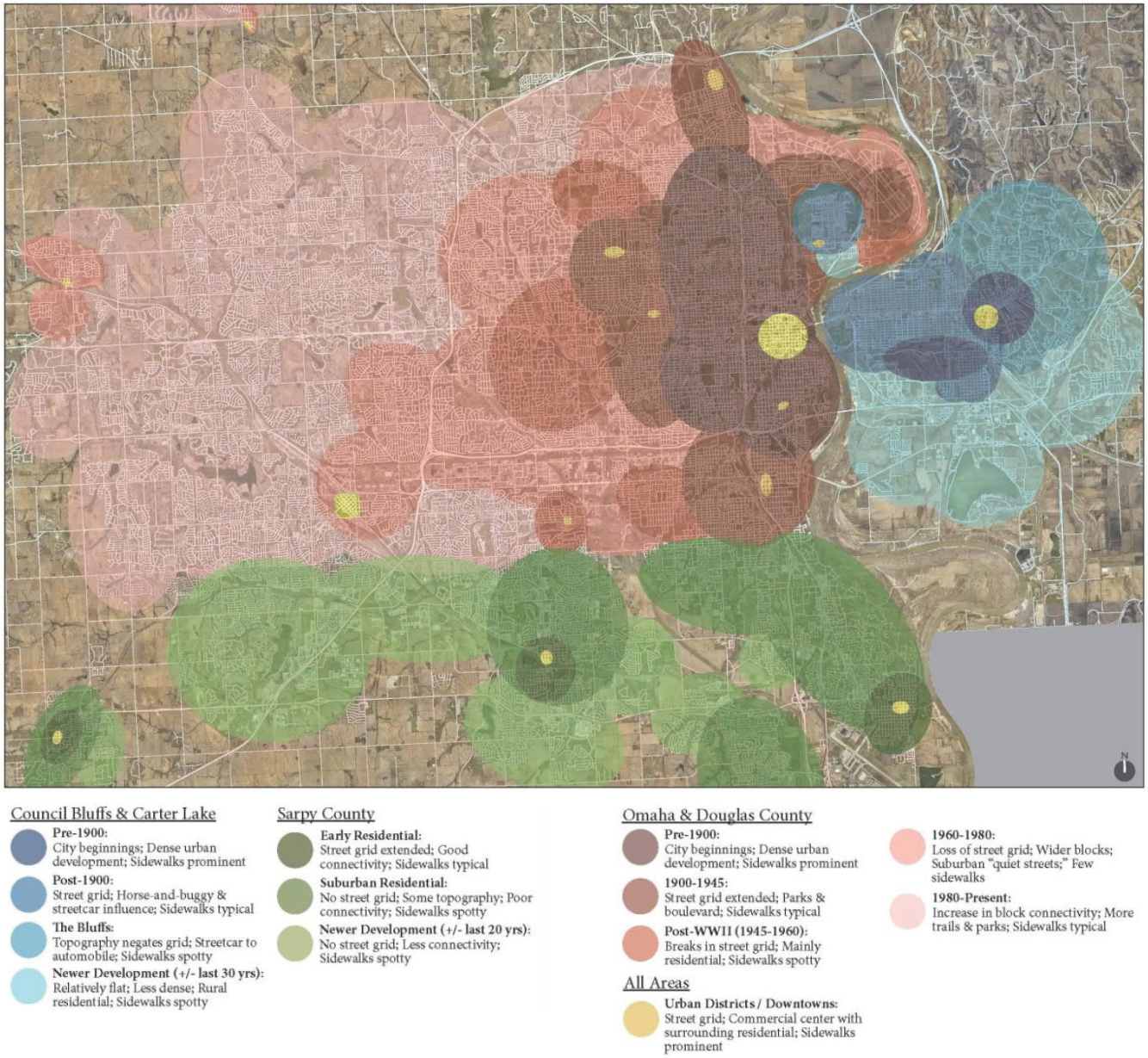


Figure 7-5: Regional Development Patterns in the Omaha-Council Bluffs Region

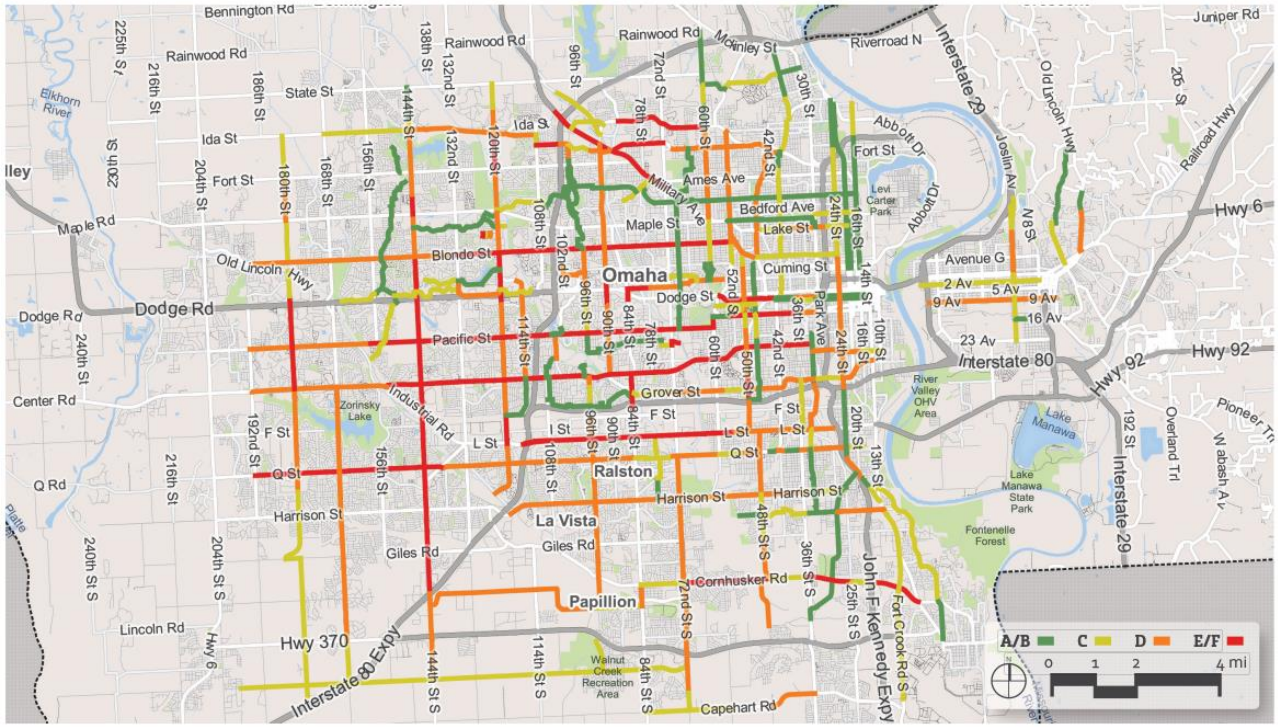


Table 7-1: Breakdown of BLOS Ratings in the MAPA Region

	Miles	Percent
Level A/B	73.19	21.2%
Level C	83.34	24.2%
Level D	118.03	34.3%
Level E/F	69.84	20.3%
Total	344.40	963

Bicycle Level of Service

As part of the development of the Heartland Connections Regional Bicycle & Pedestrian Plan, an analysis of Bicycle Level of Service (BLOS) was conducted on major roadways in the region. This analysis indicates the suitability of a roadway for a bikeway based on lane widths, traffic speed, and traffic volume, among other factors. The analysis does not, however, take into account the existence side paths as it only considers on-street facilities. Figure 7-5 shows the BLOS ratings for roadways in the MAPA region.

Approximately 345 miles of streets within the MAPA region were given BLOS ratings. To simplify the rating process, levels A and B were combined into a single rating (A/B), as were levels E and B (E/F). Table 7-1 (below) displays the total miles of streets with each BLOS level in the MAPA region.

In general, the streets that the BLOS was applied to rated poorly, with over half of the total mileage (54.6%) rated D (poor) or worse. However, approximately 73 miles of streets rated a (excellent) or B (very good), and many of those street segments are contiguous and could form good corridors for bicycling.

Regional Sidewalk Network

In order to understand the location of sidewalks throughout the Omaha-Council Bluffs region, MAPA identified the location of sidewalks on functionally classified roadways (collectors or above). The results of this analysis are shown in Figure 7-6 (right) illustrates the existing sidewalks along major roadways and known gaps.

These gaps are important links that should be considered as part of future roadways projects, in order to complete the network of sidewalks along major routes in the MAPA region.

Neighborhood sidewalks and sidewalks within residential areas are important links in the transportation system as well, but are beyond the scope of the high-level assessment conducted by MAPA.

Figure 7-6: Location of Sidewalks Along Federally Functionally Classified Roadways

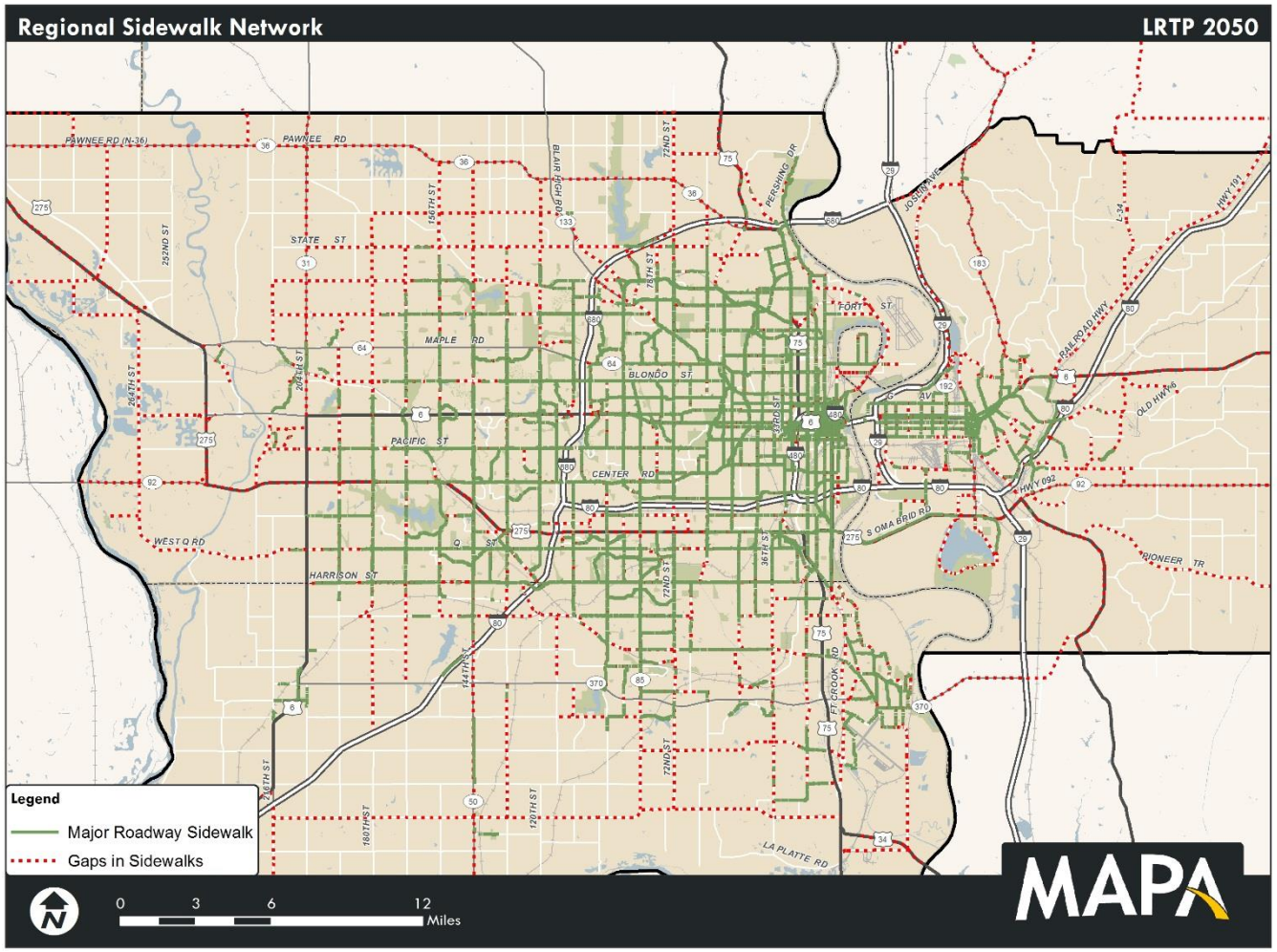


Figure 7-7: Regional Bike-Ped Plan Pedestrian Audit Example

Intersection Audit Example

Galvin Road and Harvell Drive, Bellevue

The existing intersection is an example of a large suburban intersection with wide street sections and few pedestrian facilities. The recommendation includes mid-block pedestrian crossings, with painted street markings, signage and refuges located on all medians, incorporated on all four legs of the intersection. These crossings would be set back a distance from the intersection to accommodate high vehicle speeds and to allow for good visibility to both motorists and pedestrians.

Pedestrian Intersection Audits

Members of the Planning Team and Steering Committee conducted a series of intersection field audits around the Omaha Metro Area. Intersections were identified to provide

During the field audits, Planning Team members assessed the individual intersections, noting layout dimensions, timing crossing signals, and judging the degree of visibility. Members noted issues and successful treatments and then opened dialogue on possible improvements. The type and number of pedestrians, bicyclists, and vehicles moving through the intersections were noted as well.

All of the information gathered painted a reasonable picture of what the intersection was and what it could be with improvements. The collection of this inventory data will allow feasibility analyses to be made for multiple facility improvement projects in the future. Projects deemed possible could then be recommended to the governmental body with jurisdiction over the particular intersection.

Figure 7-7 (left) is an example of the type of analysis conducted during these pedestrian audits. Figure 7-8 (next page) shows the locations of the pedestrian audits conducted as part of the Regional Bike-Ped Plan.

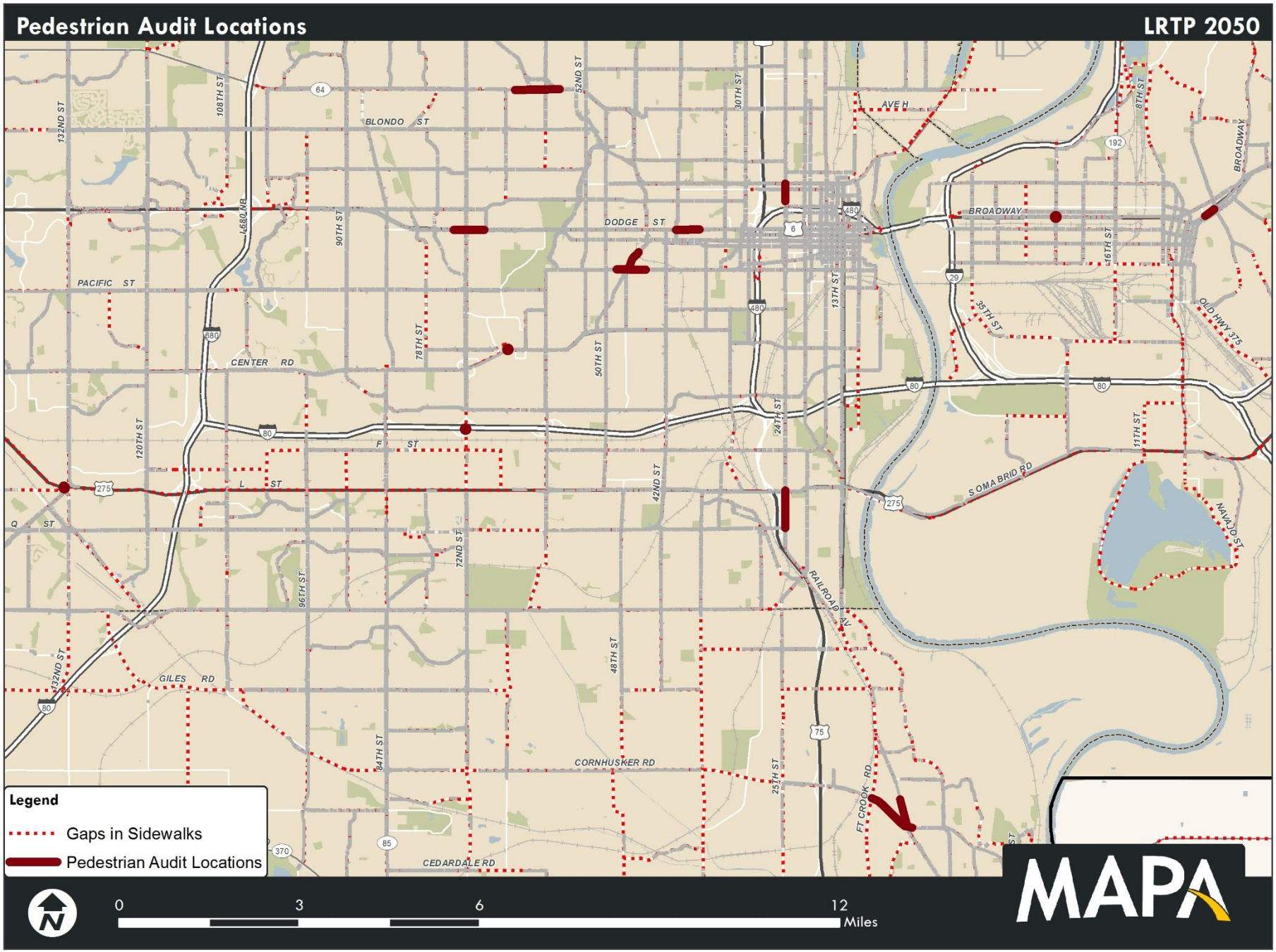


Figure 7-8: Location of Pedestrian Audits

Safe Routes to School

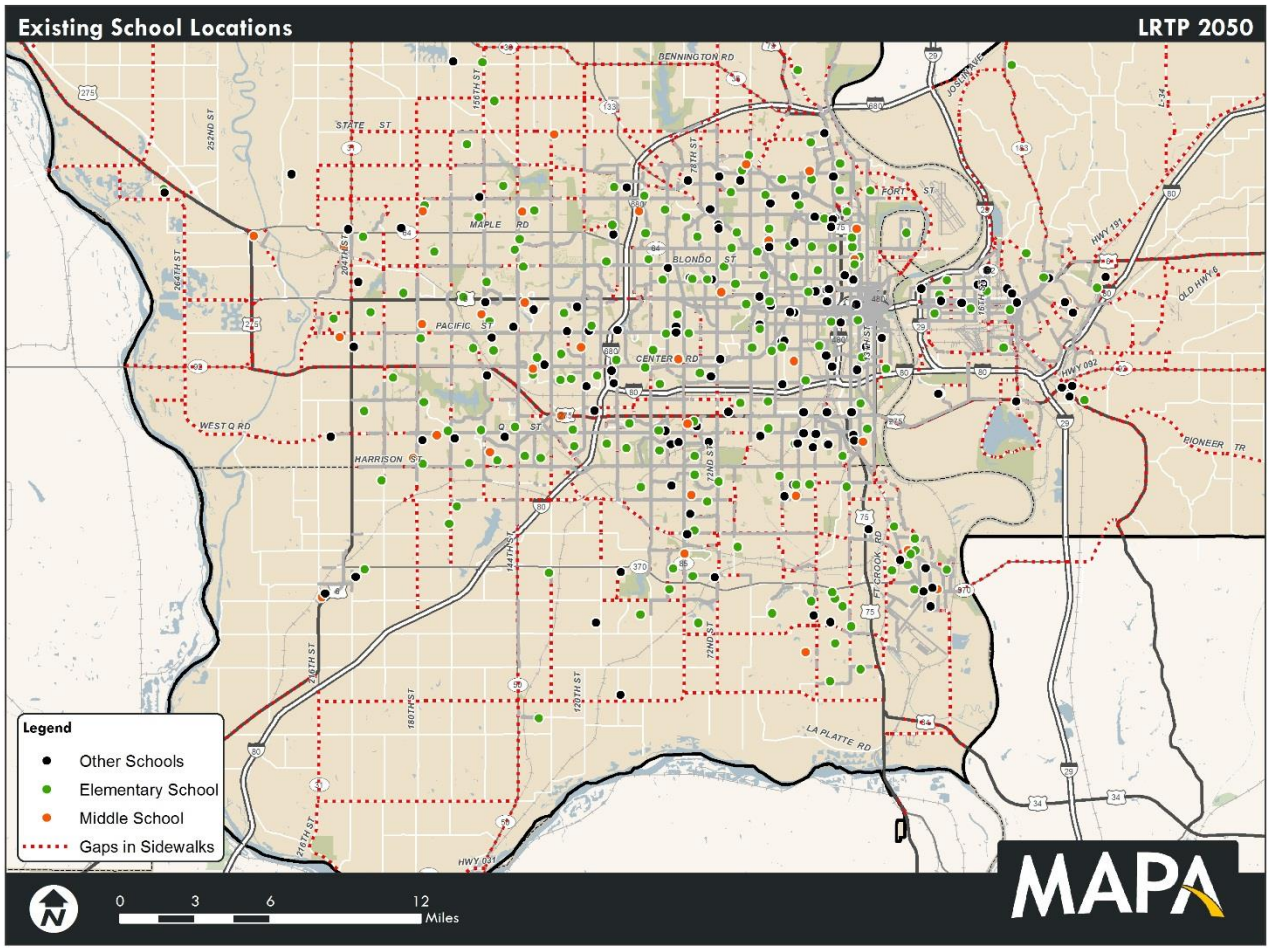
The gaps in local sidewalk networks are particularly important to consider around the location of school facilities– particularly elementary and middle schools. An important component of promoting walkability in the MAPA region is ensuring that children have "Safe Routes to School" that make school-related trips more attractive.

Improving sidewalk networks around schools provides families with choices about making trips to school, and improves the safety of the transportation network for users of all ages.

Figure 7-9 (right) shows the school locations in the MAPA TMA. Locations around elementary and middle schools will be priority locations for recommendations related to improving pedestrian infrastructure.

The location of bike and pedestrian crashes in the Omaha metropolitan area is a crtical aspect of assessing the safety of access to locations such as schools. Figures 7-10 and 7-11 (next two pages) show the locations of bicycle and pedestrian crashes in the Omaha-Council Bluffs metropolitan area from 2005 to 2014. The highest concentrations of bike and pedestrian crashes can be seen urban portions of the MAPA region. However, significant pockets of crashes do exist in suburban locations as well (such as 84th street, south of L).

Figure 7-9: Location of School Facilities in the MAPA Region



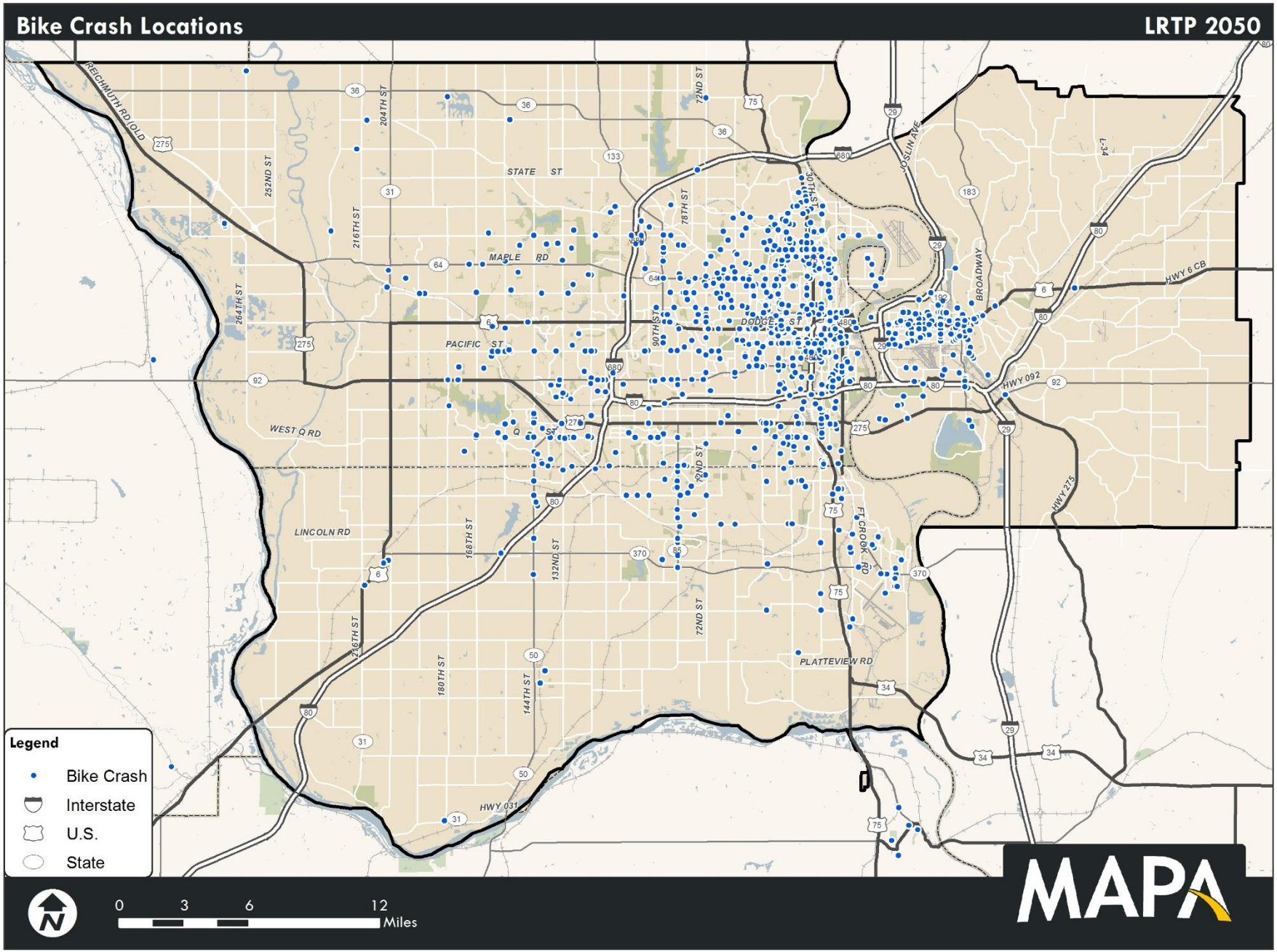


Figure 7-10: Location of Bicycle-related Crashes in the MAPA Region, 2005 to 2014

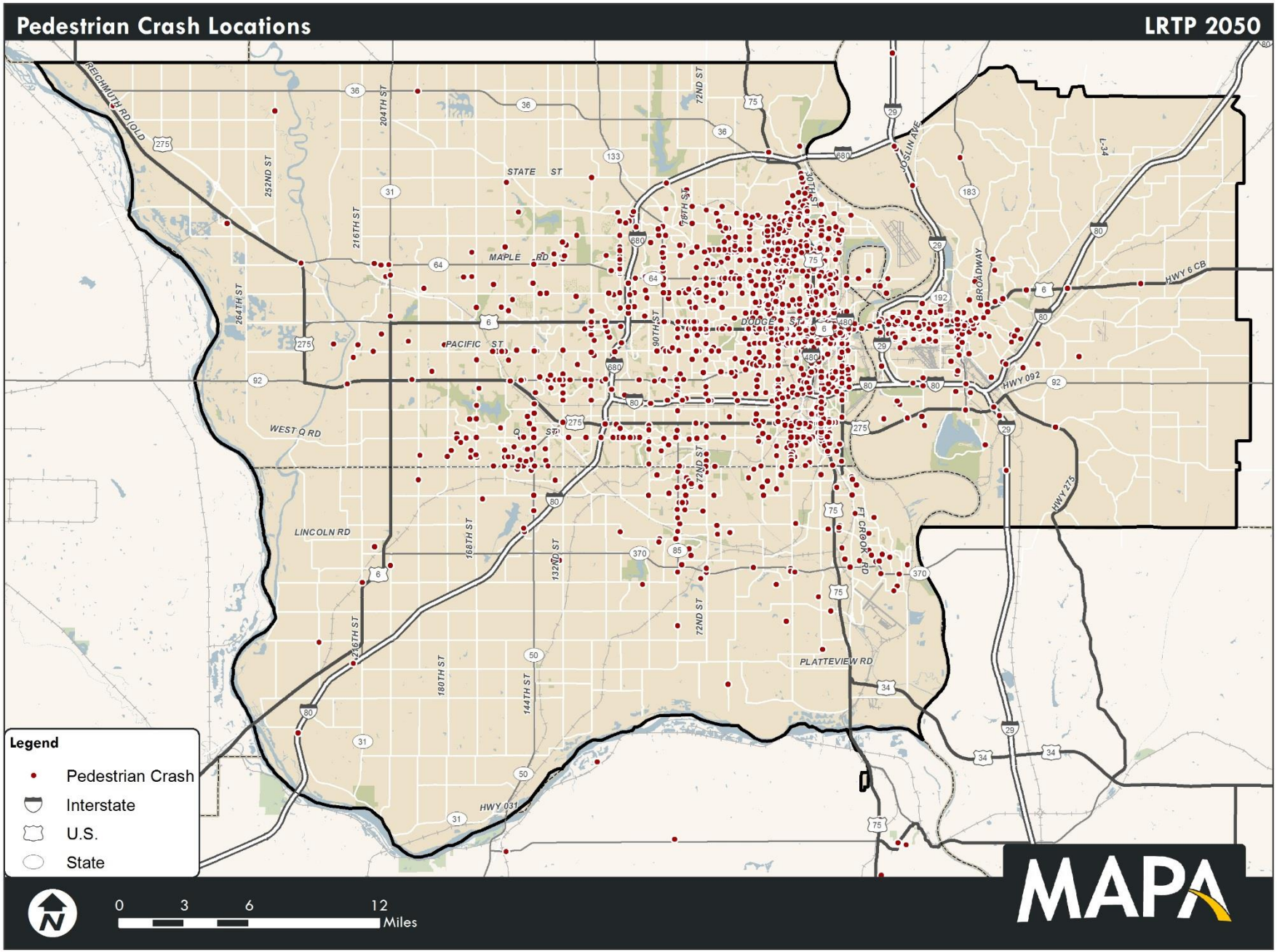


Figure 7-11: Location of Pedestrian Crashes in the MAPA Region, 2005 to 2014

8 Heavy Transportation

Overview of Freight & Goods Movement

The movement of freight throughout the United States is a major driving force of the national economy. The crossroads of Interstate 29 and Interstate 80 creates an ideal situation for the movement of freight into and out of the MAPA TMA via truck. Omaha's Eppley Airfield also serves as a major hub for airborne freight. Union Pacific Railroad and the Burlington Northern Santa Fe Railroad both have Class I lines that cross the MAPA region. The navigable portions of the Missouri River can also serve as a major highway for barge traffic to carry freight north and south. Freight traffic should not be considered in terms of a single mode of transportation. Currently, the MAPA TMA has two intermodal facilities for transferring train freight into truck freight. Two recent studies have also explored the potential for additional intermodal sites within the MAPA region.

The FHWA utilizes Freight Analysis Framework (FAF) to project freight growth by mode for the entire US as well as for individual states. Additionally, the analysis shows the origin and final destination for freight traffic by state. This serves as the basis for freight data and projections in the MAPA TMA as there is currently no local or regional data source from which to extrapolate trends. It is therefore assumed that the freight characteristics of the MAPA TMA will mirror the characteristics of the states of Iowa and Nebraska.

The vast majority of freight transported in Nebraska and Iowa is via highway truck traffic. The MAPA TMA is thought to reflect this same trend of transport. Pipelines and other means make up less than .5% of the total transported materials. Goods transported by rail make up almost 9% of the total tonnage transferred. All other modes constitute the total tonnage transported by the United States Postal Service (USPS) or other currier service, water transport, and unidentifiable intermodal transport. Figure 8-1 shows the estimates of freight movement in 2007.

Figure 8-1: Freight Analysis Framework Estimates for Iowa & Nebraska, 2007

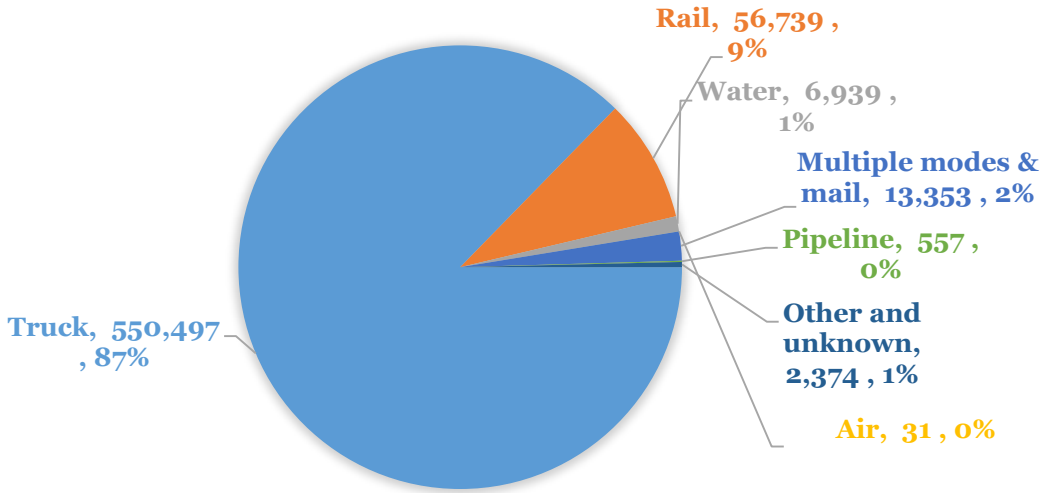
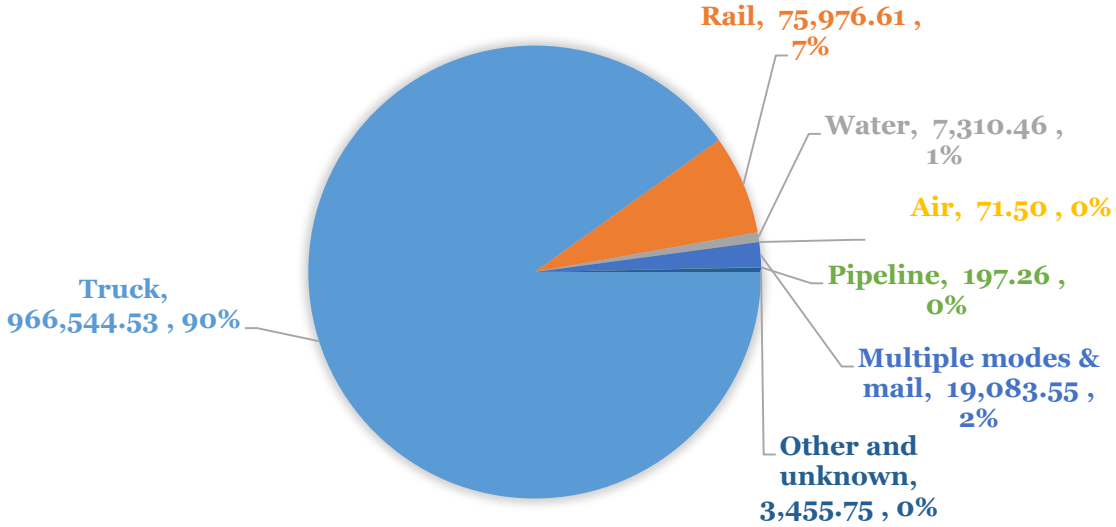


Figure 8-2: Freight Analysis Framework Projections for Iowa & Nebraska, 2040



The projected 2040 values for all modes of freight transport in Iowa and Nebraska are shown in Figure 8-2. The overall growth in tonnage from 2007 to 2040 is projected to be 70%For the most part, the breakdown by mode is expected to similar to the current breakdown with slight growth in the share of truck freight tonnage by 2040.

Highway Freight

In addition to Interstates 29 and 80, there are three US Highways in the region that provide additional connectivity for interstate traffic. US-6 (concurrent crossing with I-480) and US-75 provide connectivity across the Missouri River for the MAPA TMA and US-75 allows for north/south traffic on the Nebraska side of the river. The new US 34 bridge that connects Mills and Sarpy Counties is expected to serve as an important freight connection between Iowa and Nebraska. This connection provides additional connectivity between US 75, Interstate 29, and may provide an alternative East-West route through the Omaha-Metro if improvements along the Platteview corridor are made. Further intrastate connectivity in the region is provided by the Iowa and Nebraska state highway systems. Iowa 92 and 192 along with Nebraska 36, 50, 64, and 370 provide major secondary facilities for freight traffic in the region.

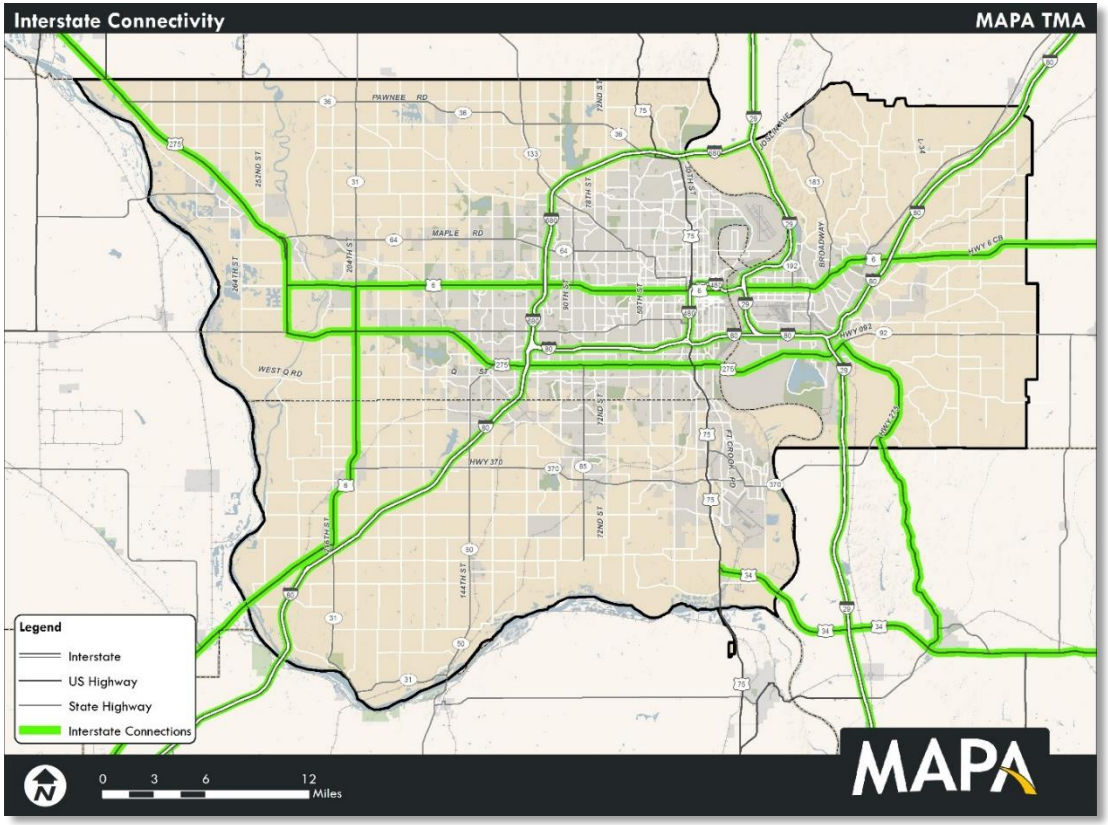
Figure 8-2 (right) shows the connectivity of the highway system in the MAPA region.

The data collected via the 2007 FHWA Freight Analysis projects that freight traffic via highway will grow by 75.6% in Nebraska and Iowa by 2040. According to this analysis, in 2007, 64% of all freight tonnage was transported via the highway system. 2040 projections show that 90.1% of freight tonnage will be transported via trucks.

While the percentage increase compared to other modes of transport is only 2%, the 98% increasing in freight traffic will cause a great deal of strain on local infrastructure.

The total freight movement via truck is projected to increase by 98%. The total value for this movement is expected to increase by 114% from 2002 to 2040.

Figure 8-3: Interstate Connectivity in the MAPA Region



Pipelines in the MAPA Region

Pipelines are the second largest mover of freight materials in Iowa and Nebraska. Pipelines in the MAPA TMA generally transport crude petroleum, products (gasoline and ethylene), natural gas, or a slurry mix such as pulverized coal. Omaha is a secondary junction center for pipelines throughout the United States. Regionally, there are three products pipelines that transport gasoline and ethylene, two natural gas pipelines, and one crude oil pipeline. These pipelines are listed below with a general description of the goods they are used to transport:

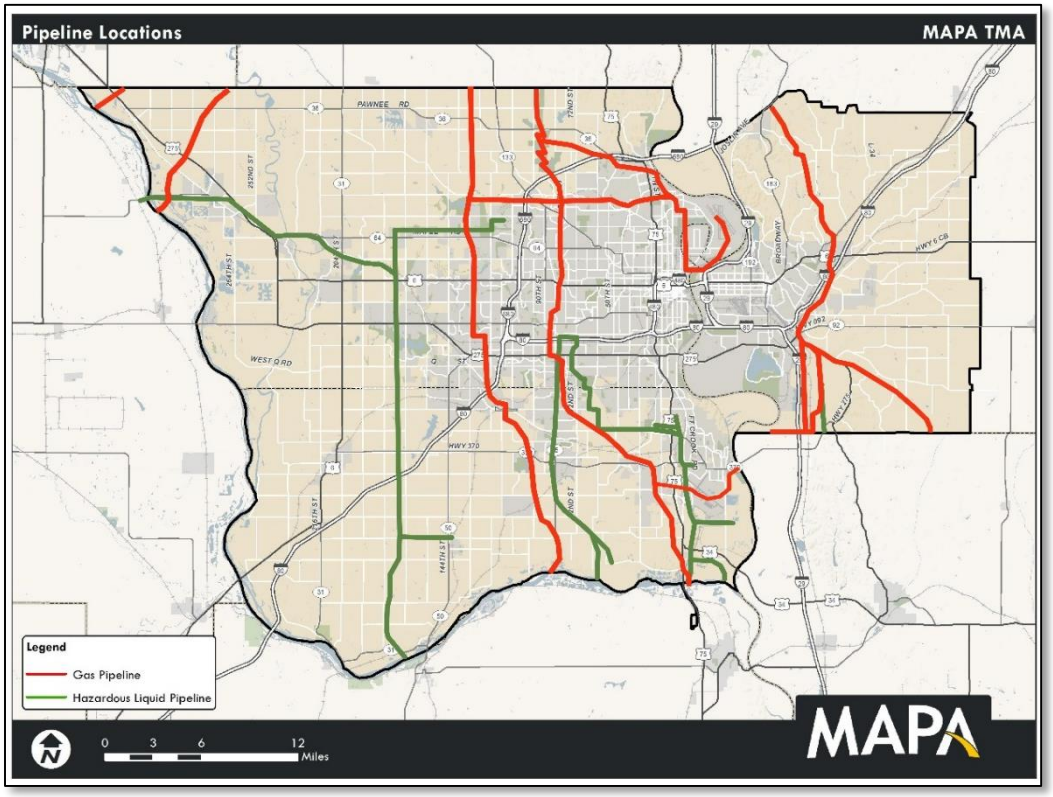
- C30- Minneapolis/St. Paul to Midland Basin Pipeline (products)
- C31- Minneapolis/St. Paul to Tulsa Pipeline (products)
- C33- Omaha to Chicago Pipeline (products)
- C18- Winnipeg to Omaha Pipeline (natural gas)
- C43- Hugoton (KS) to Detroit Pipeline (natural gas)
- C18- Guernsey (WY) to Chicago (crude oil)

A detailed map of the alignments of pipelines inside the TMA is shown in Figure 8-4. Locations are approximated in order to ensure their security.

Pipelines require a great deal of initial investment capital in order to facilitate construction. Over time, maintenance costs are generally lower than other large scale freight modes such as trucking or rail.

However, despite some of these advantages, the overall tonnage of goods transported by pipeline is actually expected to decrease by 2040 with the current rate at 557 tons going to 197.26 tons in 2040 based on data from the Freight Analysis Framework (FAF). Within the FAF according to the FHWA Freight Analysis Framework Data 3 pipeline freight is the only mode which sees an overall decrease in tonnage over the planning horizon, while truck and rail-related freight show major increases (as shown in Figures 8-1 and 8-2).

Figure 8-4: Approximate Location of Pipelines in the MAPA Region



Rail Freight Overview

In 2002, rail accounted for 15% of the total tonnage shipped during the year. FHWA projections for 2040 show that rail will only account for 7% of tonnage shipped. While rail is projected to comprise a smaller share of total freight traffic, the overall tonnage is projected to increase 33% from 2007 to 2040.

There are two Class I railroads in the MAPA TMA. Union Pacific Railroad and Burlington Northern Santa Fe Railroad both have lines that cross the MAPA TMA. Union Pacific is also headquartered in Omaha. Intermodal rail facilities are located on both sides of the Missouri River. A detailed look at rail freight statistics by carload for Nebraska and Iowa are located in Table 8-1. (One carload is assumed to be 18 tons per carload.) Additionally, a view of the MAPA TMA rail network can be seen in Figure 8-5 (right).

Figure 8-5: Railway Network in the MAPA Region

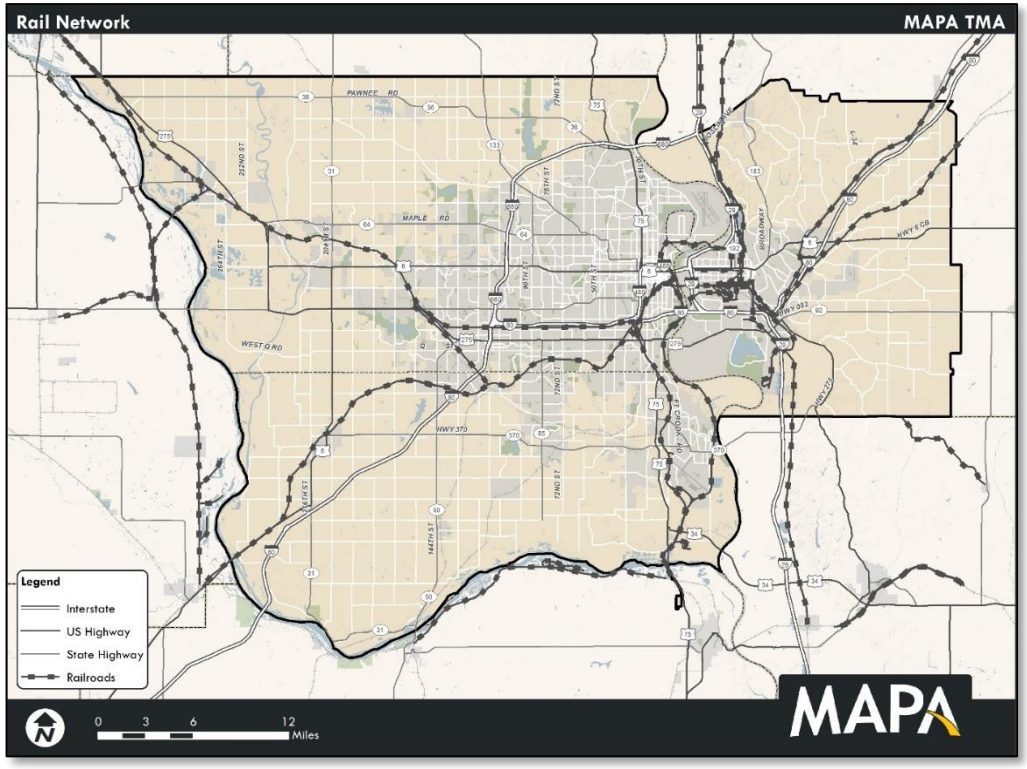


Table 8-1: Railway Freight Statistics for Iowa & Nebraska, 2014

Product	Carloads Terminated 2014		Carloads Originated 2014	
	Nebraska	Iowa	Nebraska	Iowa
Coal and Cement	15,417,000	20,017,000	n/a	5,731,000
Chemicals	2,311,000	4,520,000	5,447,000	397,000
Primary Metal Products	802,000	n/a	n/a	934,000
Food Products	814,000	3,144,000	7,060,000	19,192,000
Scrap Paper or Metal	n/a	979,000	166,000	n/a
Farm Products	1,654,000	3,193,000	712,489,000	7,945,000
All Other	2,325,000	3,536,000	603,000	3,071,000
Gravel, Crushed Stone, Sand	n/a	n/a	1,262,000	n/a

Source: American Association of Railroads, 2015

Water Freight Overview

Water freight transportation in the MAPA TMA takes place on the Missouri River. In recent decades, low water levels have caused barge traffic on the Missouri River to decline. Several factors have led to the decline of barge traffic on the Missouri River. 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 the Missouri River specific tugs were shipped to South America. There is currently one Missouri River specific tug that operates in the United States.

The agricultural profile of the region has also changed. Farmers in Nebraska and Iowa are producing more corn and soybeans than wheat in past years. This change in production further damaged the water freight in the region due to the availability of local corn and soybean processing facilities. It is not cost effective to ship corn or soybeans downriver to processing facilities when they are available locally.

The availability of rail transport is also a contributing factor to the decline of water freight in the region. There are two intermodal facilities that can facilitate land transport of freight at lower prices and faster speeds than water travel can provide.

Port Locations in the MAPA Region

The U.S. Army Corp of Engineers designates two ports located on the Omaha side of the Missouri River. These facilities include:

- Lafarge Corp. (located at 1106 Ida, Omaha, NE 68112) (Port has not been recently utilized)
- Kinder Morgan Inc. (located at 6801 No. 9th St., Omaha, NE 68112)
    - Square Feet: 35 acres
    - Barge Volume: Average about 2 barges per year
    - Historically it handled 25-30 barges per year, however since water levels on the Missouri have dramatically decreased due to drought, little barge traffic is handled
    - The facility also uses rail and truck to move product
        - Product mainly arrives by rail (90-95%)
        - 100% of outgoing product is by truck
    - While this facility handles various freight transport options, it is not considered an Intermodal Freight Facility
    - Major products handled: steel, fertilizer, salt

After discussions with managers of these ports, it is clear that barge traffic is very limited to nonexistent. The main methods of transporting freight in the MAPA TMA is via truck, pipe, air, and rail facilities.

Information from the U.S. Army Corp of Engineers indicates two barge/port facilities are located on the Council Bluffs side of the Missouri River. These facilities are commercial property:

- Cargill (located at 2401 So. 37th St, Council Bluffs, IA 51501)
- Warren Distribution (located 2850 River Road, Council Bluffs, IA 51501)

Contact with these facilities indicates that they are not currently in operation for any commercial barge/port purposes.

While port and barge facilities in the area presently have limited use, water levels on the Missouri River are rising after drought conditions for nearly the past ten years. With this increase in water levels there is a possibility that barge traffic could increase as the Missouri River will be more accessible.

Intermodal Freight Facilities in the MAPA Region

There are two Intermodal Freight Facilities in the MAPA TMA which are shown in Figure 8-6 (below):

Iowa Interstate Railroad Intermodal Freight Facility (2722 South Avenue P.O. Box 1737 Council Bluffs, IA 51501)*

- Operator/Owner: Iowa Interstate Railroad
- Operation start date: 1984
- Square feet: Did not disclose
- Major materials handled: Freight of all kinds: frozen meat, canned goods, animal feed, etc.
- Traffic numbers: 115,000 lifts/year
- Capacity: 500 units
- Area to expand: Did not disclose

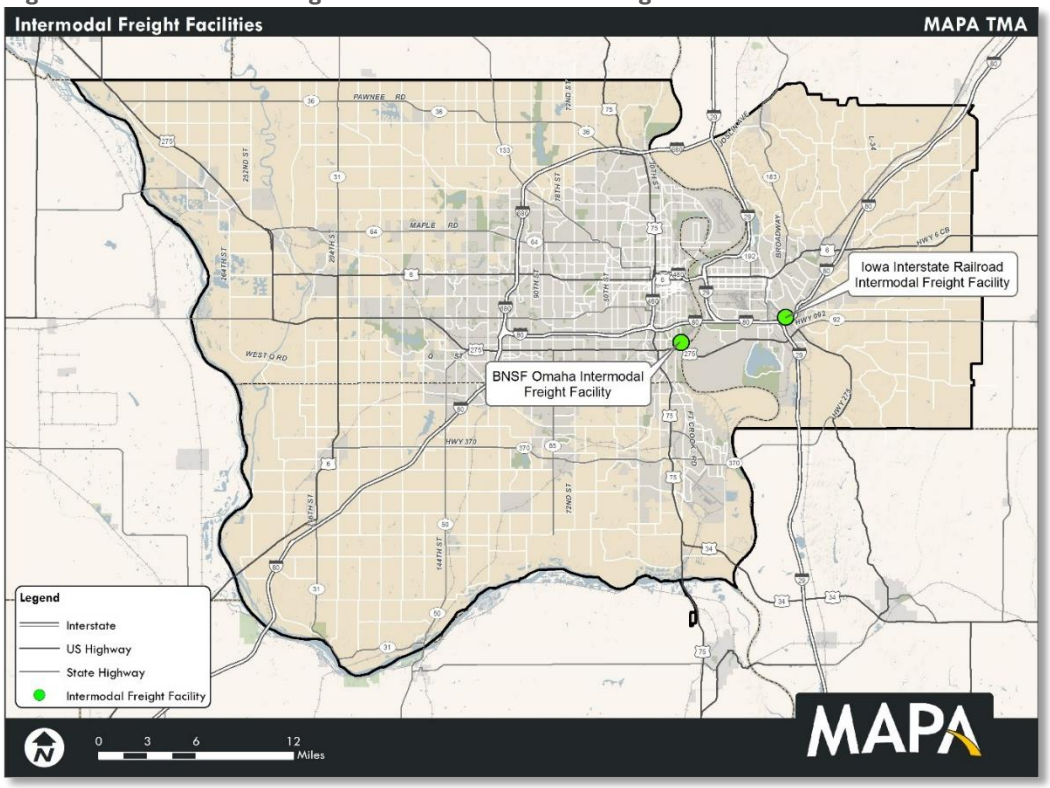
*Source: Iowa Interstate RR

BNSF Omaha Intermodal Freight Facility (4370 Gibson Road, Omaha, NE 68107)*

- Operator/Owner: Burlington Northern Santa Fe
- Operation start date: September 1987
- Facility Land Occupancy: 30 acres
- Major materials handled: Major intermodal carriers
- Traffic numbers: 10,500 lifts/year
- Capacity: The facility can accommodate volumes significantly higher than current levels
- Area to expand facility: The facility can handle additional volume on its current footprint

*Source: BNSF RR

Figure 8-6: Intermodal Freight Facilities in the MAPA Region



Aviation in the MAPA Region

There are five airport facilities located inside the limits of the MAPA TMA (see Figure 8-7). Three of these facilities are public airports, one is a private facility and the fifth is operated by the United States Air Force.

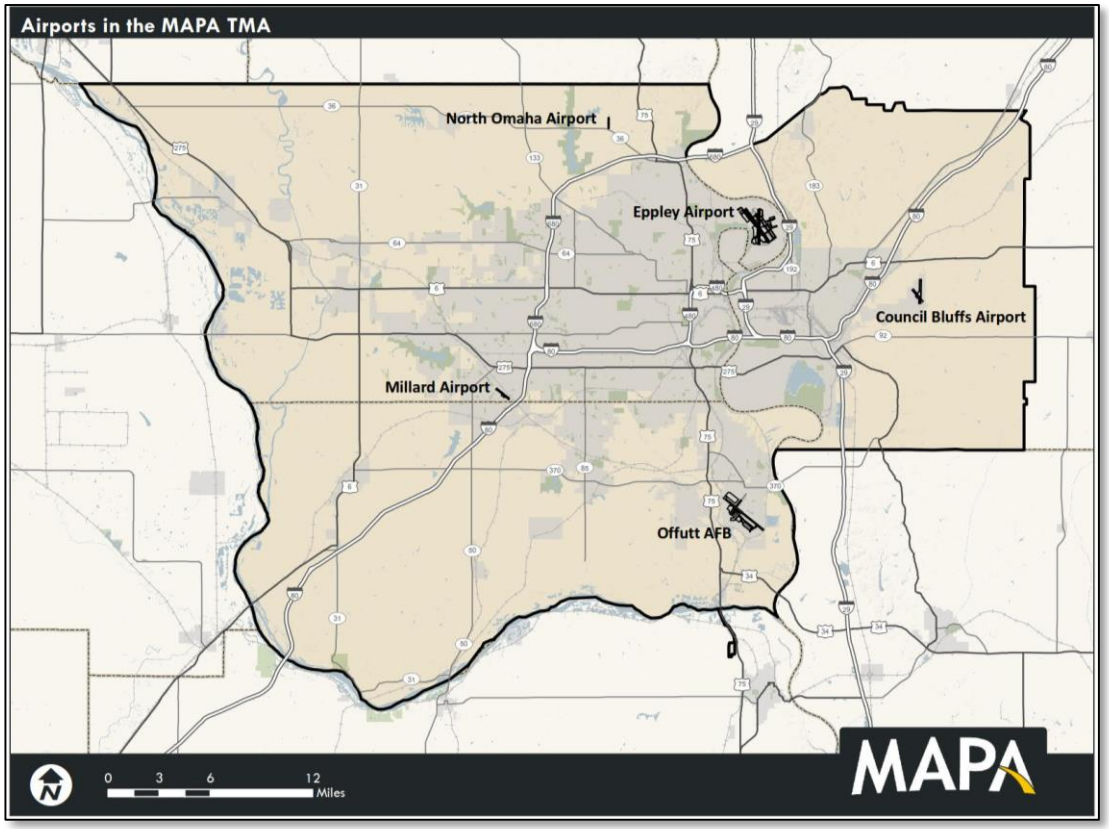
The vast majority of civilian traffic in the MAPA TMA flows through Omaha's Eppley Airfield. Eppley is the sole commercial airport with regular commercial service in the region. Eppley Airfield is operated by the Omaha Airport Authority (OAA). Eppley Airfield offers domestic service to the Nation's major hubs where passengers can connect to destinations across the globe. The City of Omaha's other public airport is the Millard Airport. This single-strip, general aviation facility is also under the control of the OAA.

The region's third public airport is located east of Council Bluffs, IA. The Council Bluffs Municipal Airport is a dual-strip general aviation facility and is operated by the Council Bluffs Airport Authority.

The North Omaha Airport is a privately owned, public use airport located north of Interstate 680 on 72nd Street. Users pay a fee for operation of the airport. The North Omaha Airport is also the home base for the Omaha Police Department's helicopter fleet.

The United States Air Force operates Offutt Air Force Base in Bellevue, Nebraska. In the past, Offutt was the home of Strategic Air Command or SAC. Currently, Offutt Air Force Base is the home of United States Strategic Command or USSTRATCOM and the 55th Wing of the United States Air Force. There are currently around 10,000 military and federal employees stationed at Offutt in various capacities.

Figure 8-7: Airports in the MAPA Region



Eppley Airfield Airport Operations

Eppley Airfield is located north of downtown Omaha. This 2,650 acre facility is classified as a Medium Hub Commercial Service Airport by the Federal Aviation Administration and currently serves nine commercial carriers:

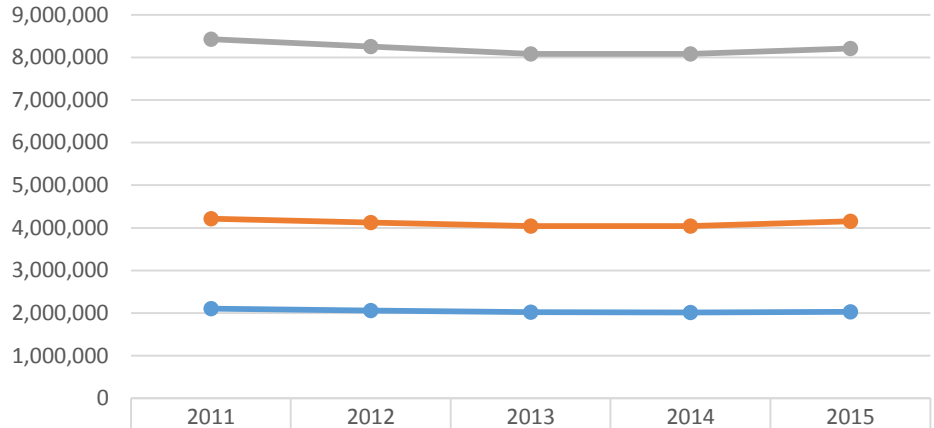
- American Airlines
- Alaska Airlines
- Allegiant Air
- Delta Air Lines
- Frontier Airlines
- Southwest Airlines
- United Airlines

Eppley Airfield operates two concourses with 20 available gates for commercial traffic. Although the number of flights has been on the decline in recent years, the overall number of enplanements and deplanements has risen during recent years.

As shown in Figure 8-8, the general trend for passenger traffic was flat/down over the past five years with an increase in 2015. This is an encouraging sign for the airport and the MAPA TMA and reflects an improvement of the local economy in 2014. Aviation forecasts indicate passenger traffic will continue to rise as the economy stabilizes.

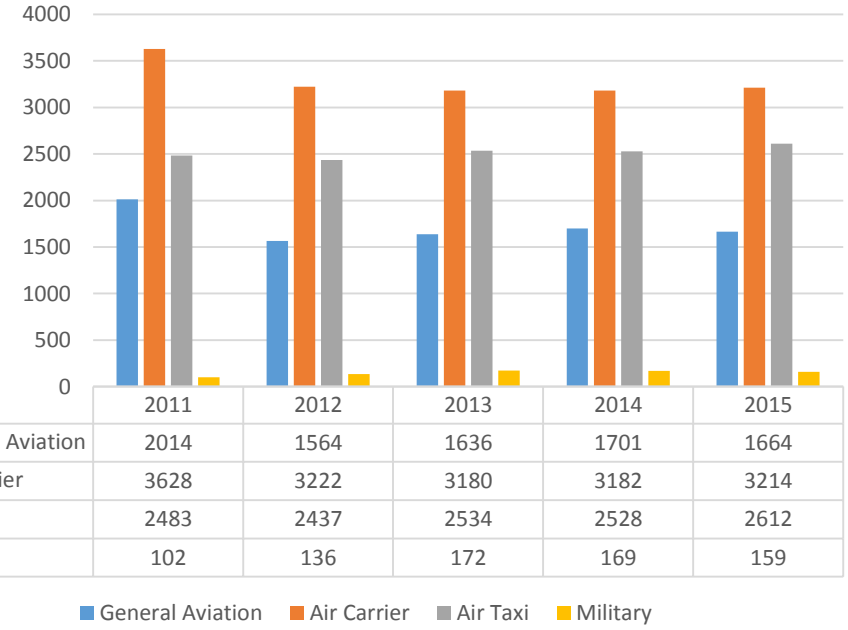
Eppley Airfield also serves various corporate, charter, and general aviation operations. Eppley Airfield's flight statistics are shown in Figures 8-8 and 8-9. Based on the data shown for passengers, it would seem that Eppley Airfield users have become more efficient over the past five years. The number of flights into and out of Eppley during this time period has continued to fall while the total passenger enplanements/deplanements have remained flat (see Figure 8-9). This shows that the aircraft that do enter and depart Eppley Airfield are

Figure 8-8: Enplanements and Deplanements at Eppley Airfield, 2011 to 2015



	2011	2012	2013	2014	2015
Total	4,212,399	4,127,344	4,042,333	4,040,312	4,060,513
Deplanements	2,111,004	2,066,312	2,023,085	2,022,074	2,123,177
Enplanements	2,101,395	2,061,032	2,019,248	2,018,238	2,028,330

Figure 8-9: General Airport Operations at Eppley Airfield, 2011 to 2015



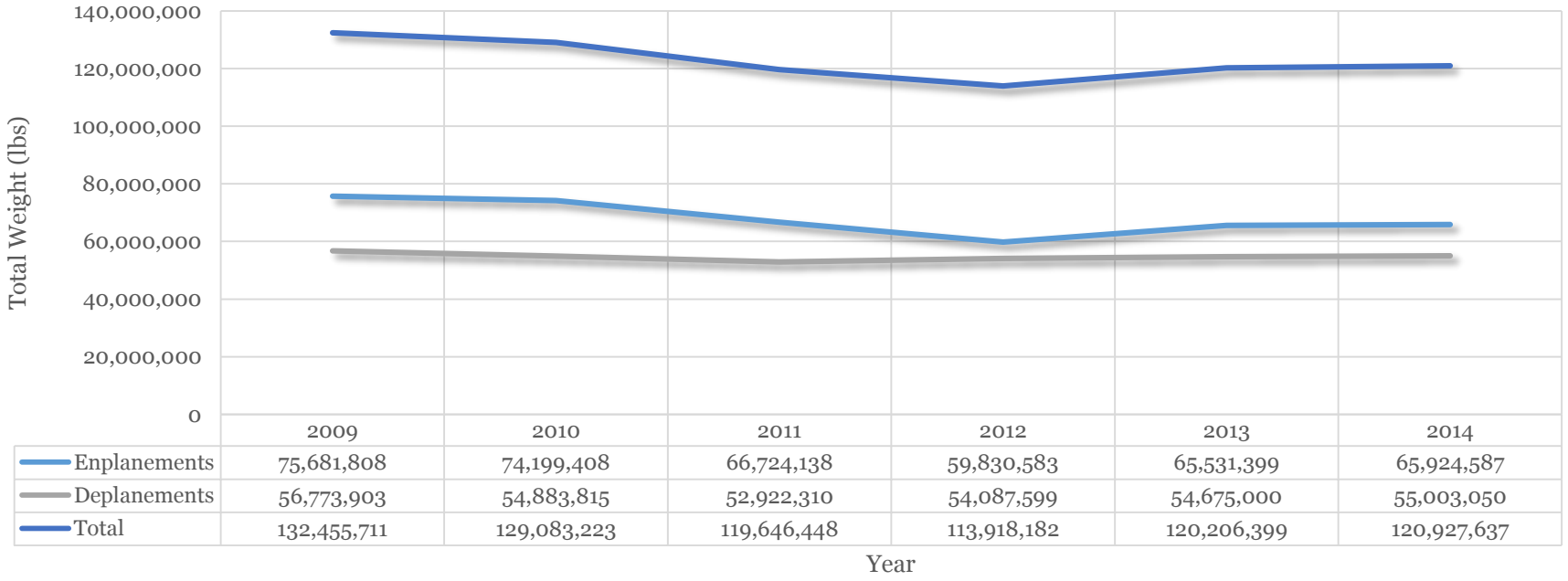
	2011	2012	2013	2014	2015
General Aviation	2014	1564	1636	1701	1664
Air Carrier	3628	3222	3180	3182	3214
Air Taxi	2483	2437	2534	2528	2612
Military	102	136	172	169	159

Overview of Air Cargo

Eppley Airport (OMA) is the only air cargo facility in the MAPA TMA. According to the official airport website, the Eppley facilities cover 2,650 acres of land and there are 368,000 sq. ft. in the building. Additionally, there are six runways at Eppley Airfield. OMA currently has eight freight carriers and accommodated over 113 million pounds of cargo and mail in 2014. Air cargo in the MAPA TMA flows out of Omaha's Eppley Airfield. Eppley services seven freight and postal carriers that moved over 120 million pounds of freight and mail in 2014.

Total air cargo and mail numbers decline from 2009 to 2012, and increased slightly in 2013 and 2014. These trends are illustrated in Figure 8-8 (below).

Figure 8-10: Eppley Airfield Freight Statistics, 2009 to 2014



	2009	2010	2011	2012	2013	2014
Enplanements	75,681,808	74,199,408	66,724,138	59,830,583	65,531,399	65,924,587
Deplanements	56,773,903	54,883,815	52,922,310	54,087,599	54,675,000	55,003,050
Total	132,455,711	129,083,223	119,646,448	113,918,182	120,206,399	120,927,637

Millard Airport (MLE) Overview

The Millard Airport is a general aviation facility located northwest of the intersection of Interstate 80 and Harrison Street. Millard Airport does not have a control tower and traffic relies on control service from Eppley Airfield.

The Millard Airport is operated by the Omaha Airport Authority. Millard has one lighted runway that is 3,801 feet long by 75 feet wide.

The runway was resurfaced in 2014 and the operations spaces will be renovated in 2015. OAA will continue to maintain the facility as per federal regulations. The latest data available for traffic at Millard was complied in 2012, which showed 14,900 annual operations.

Figure 8-11: Aerial Photograph of the Council Bluffs Airport

Council Bluffs Airport (CBF) Overview

The Council Bluffs Airport is a general aviation facility located 4 miles east of Council Bluffs, Iowa. This facility is owned and operated by the Council Bluffs Airport Authority. Council Bluffs Airport has two runways in operation. Renovations and expansions are as follows:

- 18/36 is a 5,500 feet by 100 feet concrete facility
- Expanded in 200514/32 3,650 feet by 60 feet concrete runway
  - Completely reconstructed in 2008
- 4 corporate hangers
  - Completed in 2012
- Instrument Landing System (ILS)
  - Completed in 2012
- New itinerant apron
  - Completed in 2010
- Road Access to the airport

The Council Bluffs Airport is designated in the National Plan of Integrated Airport Systems (NPIAS) as the reliever airport for Eppley Airfield. The emergency rescue organization LifeNet operates a rescue helicopter out of Council Bluffs Airport. Traffic statistics for the Council Bluffs Airport compiled in 2008 show average of 106 departures and arrivals take place per day.

Council Bluffs Airport is also home to a full service fixed base operator with a certified flight school. The Council Bluffs Airport Authority has an active public / private development growth plan to facilitate investment in additional aircraft storage hangars and business location to the airport area.

Figure 8-11 is an aerial photograph of the Council Bluffs Airport.

North Omaha Airport (3NO) Overview

The North Omaha Airport is a privately owned facility located on the northeast corner of the junction of 72nd Street and Bennington Road. There is one runway located at this facility. Runway 17/35 is a 2,480 feet by 40 feet concrete facility in good condition. The North Omaha Airport also has tie down space and hangar space for rent. There is an overnight parking fee at this airport and the facility is closed to aircraft 8,000 lbs or larger.

North Omaha is also the base of operations for the Omaha Police Department's helicopter operations.

Traffic statistics for the North Omaha Airport show that on average 39 departures and arrivals take place per day; statistics were updated in 2008.

Figure 8-12: Aerial Photograph of the North Omaha Airport

2050 LRTP CHAPTER 9:
SAFETY AND SECURITY

Safety and security are prime considerations in all planning at MAPA. Dangers to the transportation system and those who use it come from many sources. Foresight is required to prevent incidences and, should that not be enough, preparedness to respond readily.

Safety

Safety-related measures have been incorporated into MAPA's project selection criteria for both Surface Transportation Program (STP) funding and Transportation Alternatives Program (TAP) funding. For STP funding, the Crash Severity Index (CSI) and Crashes per Million vehicles are measures of existing safety issues at proposed project locations. These help MAPA's Project Selection Committee (ProSeCom) prioritize projects in areas that to have identified safety issues. In the TAP, proposed bikeway and pedestrian facilities that enhance the physical separation of cyclists and pedestrians from motor vehicles are awarded more points.

Existing Plans

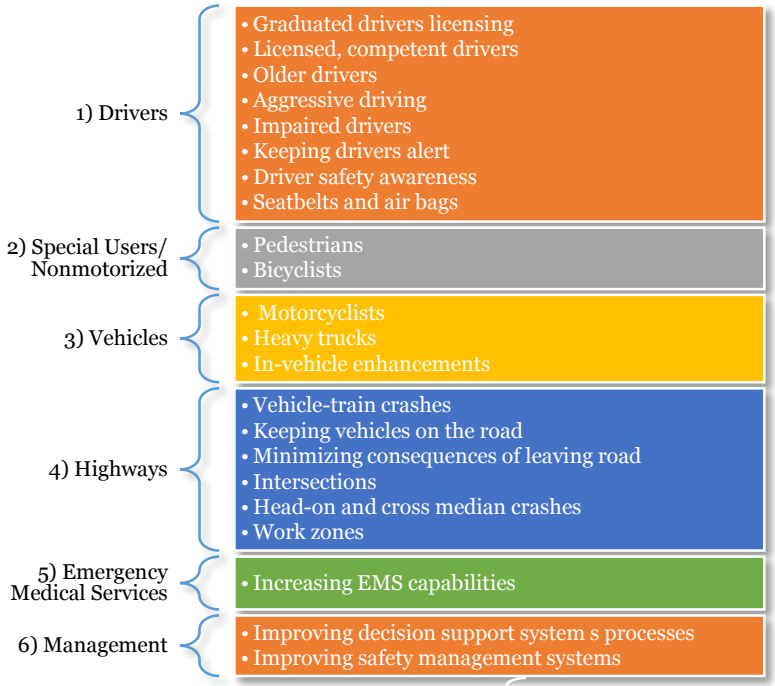
The following are key local, state, and national plans that MAPA has incorporated into the 2050 planning process.

- AASHTO Strategic Highway Safety Plan
- Nebraska Strategic Highway Safety Plan
- Iowa Strategic Highway Safety Plan
- Douglas County Local Emergency Operations Plan
- Pottawattamie County Multi-Hazard Emergency Operations Plan
- National Infrastructure Protection Plan
- National Response Framework

Figure 9-1: AASHTO Strategic Highway Safety Plan Emphasis Areas

AASHTO Strategic Highway Safety Plan

First prepared in 1997 and revised in 2005 and 2010, the American Association of State Highway Transportation Officials (AASHTO) Strategic Highway Safety Plan (SHSP) presents a comprehensive approach to reduce vehicle-related fatalities and injuries on the nation's highways.



Source: AASHTO Strategic Highway Safety Plan, 2005

http://safety.transportation.org/doc/Safety-StrategicHighwaySafetyPlan.pdf

Iowa Strategic Highway Safety Plan

Created by the Iowa Department of Transportation in coordination with their safety stakeholders and mandated by MAP-21, this plan's stated goal is to reduce the death toll on the state's highways by 15% by the year 2020.

The Iowa DOT has organized its strategies under a framework called "The Five E's," corresponding to different categories of safety professionals involved in traffic safety initiatives.

Figure 9-2: Iowa Strategic Highway Safety Plan, "The Five E's"

Education

- Education plays a key role in helping the public determine what they should and should not do when driving. Effective education efforts lead to a change in driving habits and ultimately, a decline in fatalities and major injuries on our roadways. Campaigns such as "Click It or Ticket" are directed toward all age groups and numerous safety issues.

Enforcement

- Enforcement is needed to remind people of the laws associated with the use of our transportation system. Even with driver education and carefully designed roadways, the role of enforcement remains vital in ensuring drivers adhere to the rules of the road. State, county and municipal law enforcement agencies work alongside highway safety partnering agencies to enforce traffic laws during regular patrols, as well as specialized mobilization efforts

Engineering

- The focus on safety within engineering begins with designing and building safe roadways. Transportation engineers use design principles that have been proven to be safe and reliable. National standards are used for signs and traffic markings to provide consistency for the traveling public. In addition to using proven design methods, engineers continue to research new ways to make transportation safer.

Emergency Medical Services

- Swift response from emergency personnel can save lives of those involved in a traffic crash. While emergency medical personnel assist anyone injured in a crash, other emergency responders can also clear roadways and therefore reduce the risk of secondary crashes.

Everyone

- No matter how hard we try to educate drivers to be safe, no matter how quickly we respond to a crash, no matter how many enforcement officers we send out on our roadways, no matter how many engineering innovations we implement, the ultimate responsibility rests on everyone who gets in a vehicle. We all need to work together toward increased traffic safety. Everyone is the most important E.

Figure 9-3: Nebraska Strategic Highway Safety Plan Focus Areas

Nebraska Strategic Highway Safety Plan

The Nebraska Department of Roads, in cooperation with their partners in the Nebraska Interagency Safety Committee, created the Nebraska Strategic Highway Safety Plan to address the frequency, rate, and factors contributing to fatal and serious injury crashes in Nebraska.

Based upon the requirements AASHTO Strategic Highway Safety Plan, the Nebraska Interagency Safety Committee and NDOR selected the 5 focus areas listed above. These five factors resulted in 20 Critical Strategies in five areas shown to the right.

State of Nebraska seeks to utilize these strategies to achieve the following goal:

Reduce the statewide fatality rate by 45%, from a rate of 0.95 fatalities per 100 million vehicle miles of travel (VMT) in 2011 to a rate of 0.5 in 2016 and move "Toward Zero Deaths"

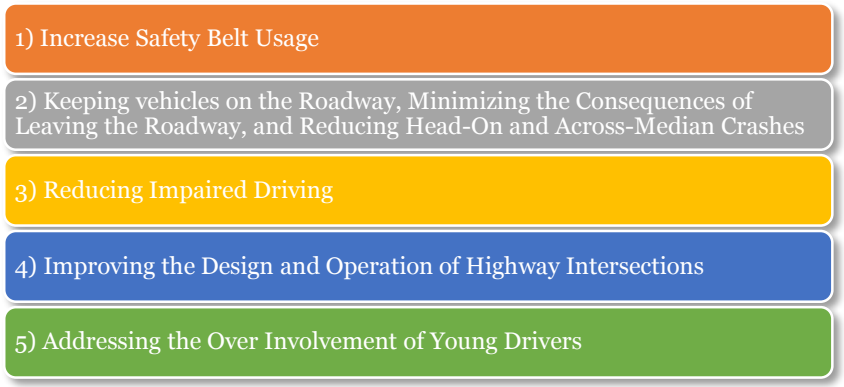


Figure 9-3: Nebraska Strategic Highway Safety Critical Strategies

Education

- Encourage parental involvement and remove diversion programs to discourage underage drinking and driving
- Consider required server training and perform general public education campaigns
- Enhance public education to groups with lower than average restraint use rates and host community inspections for child safety seat installations
- Conduct public information campaigns focused on young drivers
- Expand driver training and improved training materials
- Develop community coalitions programs focused on young drivers

Data Systems

- Identify intersections with a high number of fatal and disabling injury crashes

EMS

- Expand involvement of EMS personnel in child safety seat installation inspections

Engineering

- Keep vehicles in their lane
- Eliminate shoulder drop offs
- Install median barriers on roads with narrow medians
- Install, update and improve attenuation systems and guardrail
- Provide access management
- Increase intersection sight distance
- Increase driver awareness when approaching an intersection
- Utilize non-conventional intersection designs

Enforcement

- Employ coordinated and publicized DUI checkpoints and patrols
- Enforce Zero Tolerance laws for underage drivers
- Perform compliance checks of alcohol retailers to reduce sales to underage persons
- Perform publicized seatbelt enforcement campaigns
- Adopt a primary safety belt law and stronger penalties
- Use targeted speed enforcement on intersection approaches, including automated enforcement
- Enhance existing GDL system
- Conduct enforcement campaigns focused on young drivers

Synthesized Safety Goals and Strategies for the MAPA TMA

As a bi-state jurisdiction, the MAPA TMA seeks to employ all of the above strategies from each of the respective Strategic Highway Safety Plans. MAPA has combined the two plans to establish the TMA Safety Goals for this Long Range Plan in Figure 9-4.

These goals are regional; multiple agencies and jurisdictions are responsible for reaching them.

Figure 9-4: Synthesized Safety Goals and Strategies for the MAPA TMA

Increase Safety Belt Usage	Enhance public education to groups with lower than average restraint usage rates.
	Support and publicize seatbelt enforcement campaigns (e.g., click-it or ticket campaigns).
	Advocate primary safety belt laws and stronger penalties.
	Support the expanded involvement of EMS personnel in child safety seat installation inspections.
Keeping Vehicles on the Roadway, Minimizing Consequences of Leaving the Roadway, Reducing Head-On and Across Median Crashes	Support engineering based solutions (e.g., pave shoulders, eliminate shoulder drop offs, install median barriers on roads with narrow medians, improve attenuation systems and guardrails, etc.)
Reduce Impaired Driving	Support the employment of publicized DUI checkpoints and patrols.
	Support compliance checks of alcohol retailers to reduce sales to underage persons.
	Encourage the removal of diversion programs to discourage drinking and driving
Improve the Design and Operation of Intersections	Provide access management to freeway, highway and interstate highways.
	Increase sight distance at intersections.
	Increase driver awareness when approaching an intersection.
	Utilize nonconventional intersection designs (e.g., roundabouts).
Address the Over Involvement of Young Drivers in Fatal Crashes	Encourage parental involvement and the removal of diversion programs to discourage underage drinking & driving.
	Support public information campaigns focused on young drivers.
	Expand driver training and improved training materials.
	Support the development of community coalitions focused on young drivers
	Support the enforcement of zero tolerance laws for underage drivers.
	Support the enhancement of existing Graduated Drivers License programs in both states.
	Support and publicize enforcement campaigns focused on young drivers.
Improve Data Resources	Support enhanced data availability and use by all stakeholders.
	Assist in identification of intersections with a high number of fatal and disabling crashes.

Metro Area Motorist Assist Program (MAMA)

MAMA volunteers operate three well equipped emergency response vans during the morning and evening rush hours on the freeway system in the metro area. The program operates during rush hours on the freeway system to minimize the impact of incidents during peak traffic periods. These volunteers provide a variety of services including:

- Servicing disabled vehicles with fuel, oil and other fluids
- Helping with flat tires
- Clearing debris from driving lanes
- Arranging to have vehicles towed
- Providing jump starts
- Giving advice and directions

MAPA administers this program with the assistance of AAA Nebraska, the Nebraska Department of Roads, the Iowa Department of Transportation, and the Nebraska Office of Highway Safety.

Figure 9-5: Total MAMA Program Assists by Roadway, 2015

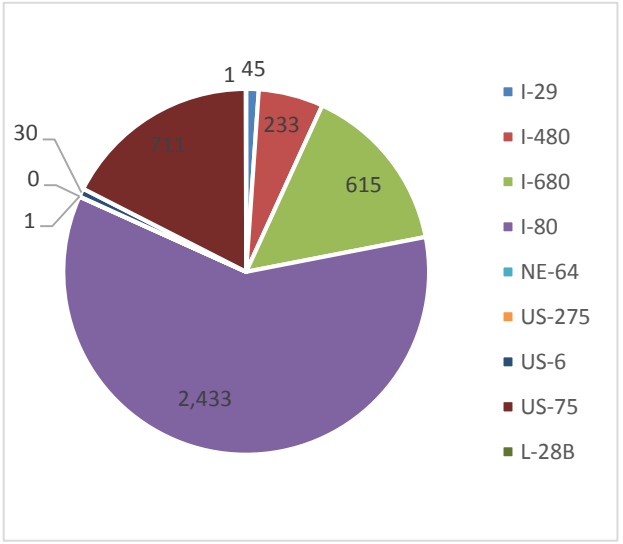
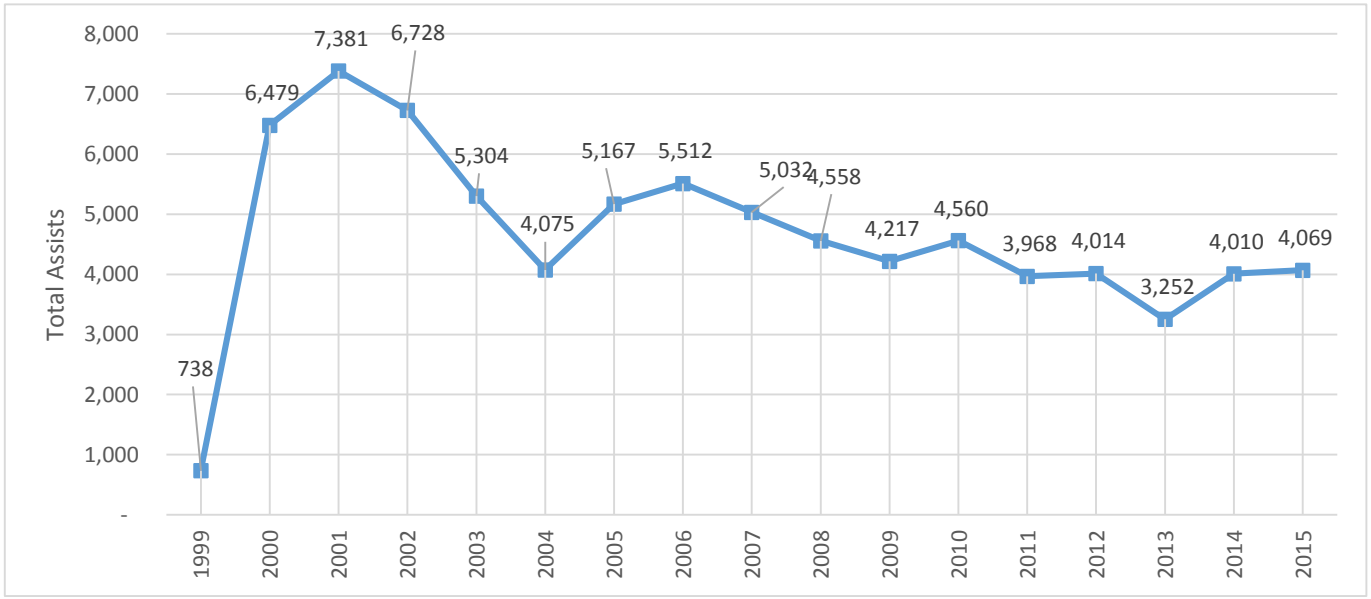


Figure 9-4: Total MAMA Program Assists by Year, 1999-2015



In 2015 MAMA program volunteers made over 4,000 assists along area roadways. MAPA estimates a cost savings of nearly $25 per assist in 2015 alone. With average annual cost-savings of over $12,800, the MAMA Program provides a significant benefit to citizens in the states of Iowa and Nebraska.

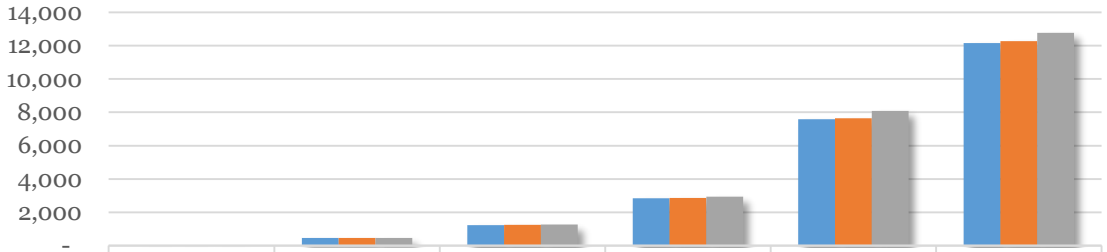
MAPA TMA Traffic Collision Statistics

The States of Nebraska and Iowa do not categorize collisions in the same manner. Therefore, traffic collision statistics have been summarized to the KABCO standard within this plan. The KABCO scale is a measure of the functional injury level of the victim at the crash scene. Levels within the KABCO scale are based on the following characteristics of a crash:

- K – Fatal Crash
- A – Incapacitating Injury (serious)
- B – Non-Incapacitating Injury (moderate)
- C – Possible Injury (minor or undetermined injury)
- O – Property Damage Only (no injuries)

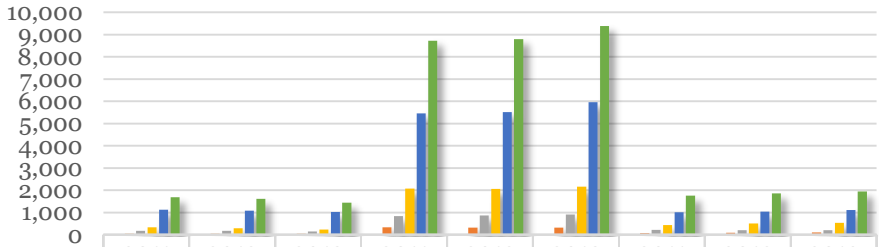
Figures 9-5 and 9-6 show the KABCO crash statistics for the MAPA TMA – the first shows the data in general, the second by county. Fatal crashes have trended downward in the Iowa portion of the MAPA TMA while fatal crashes in Douglas and Sarpy County have increased or remained level (respectively). Similarly, total injury crashes have declined in Pottawattamie County (percentage change from 2011 to 2013 of a 14% decrease) while increasing in both Douglas (a 7.6% increase between 2011 – 2013) and Sarpy County (11.2% increase between 2011 – 2013).

Figure 9-6: Traffic Collision Statistics by KABCO Rating in the MAPA TMA



	K: Fatal Accident	A: Incapacitating Injury	B: Non-Incapacitating Injury	C: Possible Injury	O: Property Damage Only	Total
2011	38	456	1,233	2,851	7,580	12,158
2012	47	460	1,253	2,863	7,641	12,264
2013	41	462	1,260	2,929	8,085	12,777

Figure 9-7: Traffic Collision Statistics by KABCO Rating in the MAPA TMA by County



	2011	2012	2013	2011	2012	2013	2011	2012	2013
	Pottawattamie			Douglas			Sarpy		
K: Fatal Accident	9	6	5	21	33	28	8	8	8
A: Incapacitating Injury	40	44	44	340	322	321	76	94	97
B: Non-Incapacitating Injury	172	179	142	840	867	911	221	207	207
C: Possible Injury	340	298	230	2,071	2,056	2,168	440	509	531
O: Property Damage Only	1,122	1,083	1,019	5,449	5,517	5,959	1,009	1,041	1,107
Total	1,683	1,610	1,440	8,721	8,795	9,387	1,754	1,859	1,950

Security

An attack on major transportation facilities could have adverse effects on the national economy even after the initial shock of the attack has passed. The transportation sector has multiple segments that may be targeted by terrorist activity. Airports, harbors and transit facilities, as well as major bridges and roadways are susceptible to terrorist activities. The best way to combat the effectiveness of an attack is to prepare for the possibility of attack by coordinating a response effort.

National Scope

In order to prepare the nation to combat the threat of attack, the federal government has set the National Preparedness Goal to "engage Federal, State, Territorial, tribal and local entities, their private and nongovernmental partners and the public to achieve and sustain risk-based target levels of capability to prevent, protect against, respond to and recover from major events…"

Preparedness goals for the transportation sector include plans to implement three specific programs:

- The National Infrastructure Protection Plan (NIPP)
- The National Incident Management System (NIMS)
- The National Response Framework (NRF)

National Infrastructure Protection Program (NIPP)

The NIPP establishes the nation's ready-state level of protection by focusing resources where investment yields the largest reduction in national risk relative to cost. The NRP addresses prevention, preparedness, response, and recovery in the context of domestic threat and incident management of Incidents of National Significance.

The NIPP defines an infrastructure asset as something of importance or value belonging to one of 17 sectors that if targeted, exploited, destroyed, or incapacitated could result in large-scale injury, death, economic damage, destruction of property and could profoundly affect the nation's prestige or confidence. Elements of the transportation system fall into this category.

The NIPP is available here: http://www.dhs.gov/sites/default/files/publications/National-Infrastructure-Protection-Plan-2013-508.pdf

In 2010 the Department of Homelands Security released Sector Specific Plans (SSP) for the 17 different sectors of the National Infrastructure. Each of these plans outlines the specific goals and objectives of the DHS in protecting the CIKR for each sector.

The SSP for Transportation Systems lists four sector security goals:

1. Prevent and deter acts of terrorism using or against the transportation system.

Under this goal the DHS along with transportation partners will seek to develop a flexible, layered and effective security program based on risk management principles.

2. Enhance resilience of the U.S. transportation system.

Currently there are many points in the transportation system that if damaged could cripple the U.S. transportation system. This goal seeks to improve the U.S. transportation

NIMS Components

- Component I- Preparedness
- Component II- Communications and Information Management
- Component III- Resource Management
- Component IV- Command and Management
- Component V- Ongoing Management and Maintenance

The NIMS full Document is available here: http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf

National Response Framework

The National Response Framework (NRF) was most recently updated in 2013. The NRF establishes a set of guidelines comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents. The NRF outlines general roles for the different levels of government: local, state, and federal. It forms the basis of how the federal government coordinates with state, local, and tribal governments and the private sector during incidents.

Local Government:

- Individual Awareness- prepared communities start with prepared individuals. It is important that individuals prepare emergency kits and plans.
- Coordination of Responders- Local police, fire, emergency and medical services are often the first to arrive and the last to leave an incident scene. Senior local officials should create local emergency frameworks in order to effectively respond to incidents.
- Coordination with Business Partners- Business partners in the community are a key resource for threat awareness and response. Local government officials should consult with these organizations in order to help them understand their community better.
- Coordination with NGO and NP- Nongovernmental and Nonprofit organizations are also a key resource to help identify threats and hard to reach populations when supplying emergency services. Local officials need input from NGO and NP actors in order to address the needs of the entire community in case of a hazardous incident.

State, Territorial, and Tribal Government:

- Local-State Coordination - States are the first in line to offer support to local communities dealing with incidents.
- State Agencies - State police, emergency management, health, and homeland security agencies are a great resource. These agencies can provide additional resources, coordination and expertise to assist a local government with managing an incident.
- National Guard - The governor has the authority to call out a State's National Guard troops in order to assist with disaster relief. These troops can help to provide security and assistance after an incident occurs.
- Federal-State Assistance- If a State anticipates that its resources will be exceeded the Governor of that State can request assistance from the federal government as well as other States.

The Federal Government

- Larger Scope - When an incident's scope is larger than a local or state government's ability to respond the federal government can offer assistance at the request of the governor of the effected state.
- Lands Under Federal Jurisdiction - In the case of federally owned lands or military bases, federal government representatives will most likely be the first to respond. These first responders will coordinate with local and state actors.
- Oversight - Pursuant to the Homeland Security Act of 2002 and Homeland Security Presidential Directive (HSPD) 5, the Secretary of Homeland Security is the principal Federal official for domestic incident management including prevention, protection, and response and recovery. The National Response Framework is available here: http://www.fema.gov/media-library-data/20130726-1914-25045-1246/final_national_response_framework_20130501.pdf

Nebraska

Douglas County Emergency Management Agency

The Douglas County Emergency Management Agency (DCEMA) was established to help coordinate local response to disasters. The Douglas County Emergency Management Agency is the primary response agency for Douglas, Sarpy, and Washington Counties in Nebraska.

Emergency Operations Center (EOC)

The DCEMA maintains a dedicated emergency operations facility in the bottom two floors of the Omaha Civic Center. The EOC is a 25,000 square foot facility containing a main communications room, briefing and planning room, a radio room as well as a kitchen facility. Immediately adjacent to the EOC is a back-up 911 call center. The EOC is manned daily by three full time employees but has the capacity to support up to 120 people during times of crisis. There are over 50 dedicated phone lines and two message systems linked to this facility.

Local Emergency Operations Plan

The Douglas County Local Emergency Operations Plan (LEOP) was written in 2010 to outline the procedures to be followed when the region is confronted with an emergency incident. The LEOP outlines the local government's response based on the various sectors of governmental control (i.e. police, fire, health, public works, etc.). The Douglas County Local Emergency Operations Plan is available here: http://www.nema.ne.gov/content/e_plan_pdf/Douglas_eLEOP.pdf

Nebraska Emergency Management Agency

The State of Nebraska also operates the Nebraska Emergency Management Agency (NEMA) which will help to coordinate disaster prevention and recovery on intrastate and interstate levels. NEMA maintains a website with all applicable information, located here: http://www.nema.ne.gov/

Iowa

Pottawattamie County Multi-Hazard Emergency Operations Plan

The Pottawattamie County Multi-Hazard Emergency Operations Plan (EOP) was revised in October 2004. The EOP focuses on prevention of disasters along with minimizing the vulnerability of Pottawattamie County to disasters. Enhancing Homeland Security is also a key feature of the EOP. The EOP outlines key facilities and responses to all manner of emergency situations including Highway-related Transportation incidents.

Iowa Homeland Security and Emergency Management Division

Statewide preparedness and prevention for emergency incidents in Iowa are covered by the Iowa Homeland Security and Emergency Management Division (IHSEMA). IHSEMA works to coordinate with local jurisdictions, other states, and the federal government. IHSEMA maintains a website located here: http://www.iowahomelandsecurity.org/

Regional Evacuation Plans

Emergency management agencies on both sides of the river have developed operational frameworks to facilitate large scale evacuations of the urban population of the MAPA region. These frameworks are based upon Department of Homeland Security best practices and national frameworks. In 2011, Iowa DOT developed a Traffic Incident Management Manual (TIM Manual) as a part of its Western Iowa ITS Deployment project.

Figure 9-7 displays roadways on the national highway system that could be used for evacuation.

Figure 9-7: Regional Evacuation Facilities & Routes