

# *2045 Long Range Transportation Plan for Iowa Region 9*

*Serving Muscatine County and  
Rural Scott County*

January 2021



Prepared by:





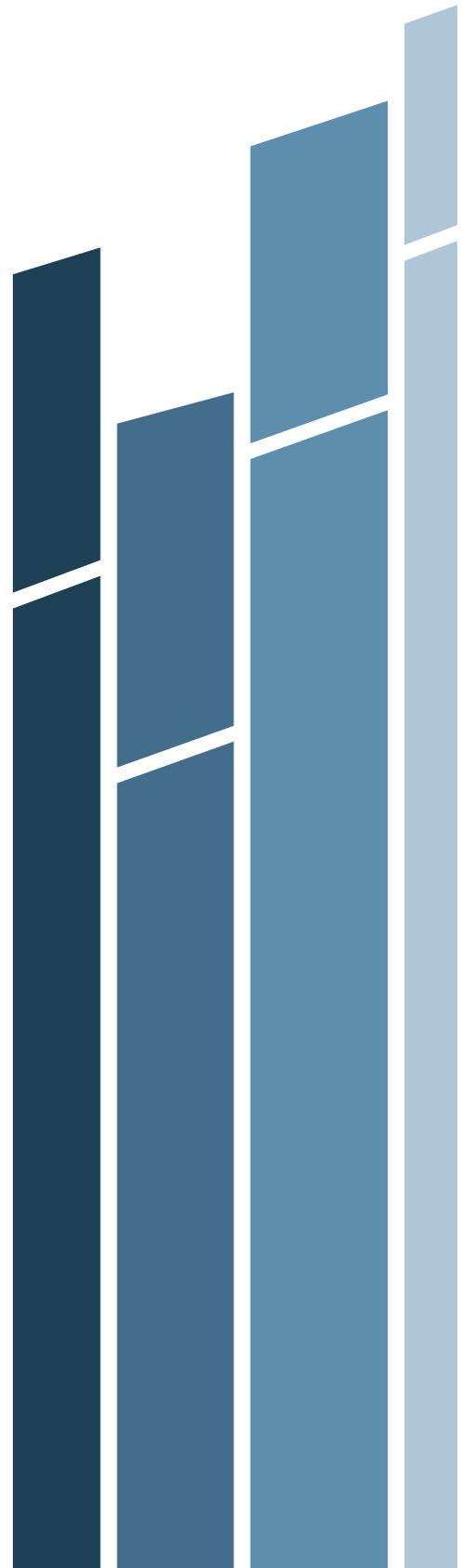
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***Serving Muscatine County  
and Rural Scott County***

**Adopted January 29, 2021**

Prepared by:



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Regional Commission



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**Bi-State Regional Commission**

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Ken Beck	John Maxwell
Kippy Breeden	Marcy Mendenhall
Diana Broderson	Gary Moore
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Jeff Sorensen, Board Member<sup>1</sup>  
Muscatine County Board of Supervisors

John Maxwell, Board Member  
Scott County, Board of Supervisors

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Iowa Division  
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Daniel Nguyen<sup>4</sup>  
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Sam Shea<sup>4</sup>  
Iowa Department of Transportation

<sup>1</sup> Chairman Region 9 Transportation Policy Committee

<sup>2</sup> Vice Chair Region 9 Transportation Policy Committee

<sup>3</sup> The mayors of the cities under 5,000 in the non-urbanized areas of Muscatine and Scott Counties caucused for a representative.

<sup>4</sup> Ex-officio Non-Voting Members

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<sup>1</sup> Chair of Transportation Technical Committee

<sup>2</sup> Represents the staff of the cities under 5,000 in the non-urbanized areas of Muscatine and Scott Counties.

<sup>3</sup> Ex-officio Non-Voting Members

Note: Each jurisdiction has one vote, except for ex-officio members.



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## CHAPTER 1 – REGIONAL PROFILE

### Overview

The purpose of transportation planning is to develop a transportation system that will provide for the safe, efficient, and economical movement of people and goods. The system should promote harmonious community and regional interaction. It should enhance the aesthetic and ecological features of our physical environment. The *2045 Long Range Transportation Plan for Region 9* will address the transportation needs and priorities within a two-county area, defined as the non-urbanized area of Scott County and all of Muscatine County. This 902-square-mile area represents the planning area for Region 9 long range transportation planning. Map 1.1 illustrates the geographic location of Region 9. (Maps are located at the end of this chapter.)

### Regional Goals

Regional transportation goals provide the foundation for prioritization and public investment decisions in the transportation system. Goals were developed as part of the *2020 Long Range Transportation Plan for Region 9* (1999). These goals were reviewed and/or refined during the process of updating the Region 9 long range plan.

The following goals have been adopted by the Region 9 Transportation Policy Committee. These goals provide guidance for transportation investments within the Region 9 planning area.

#### 2045 Plan Goals

- **Movement.** Provide for the efficient, reliable movement of people and goods by coordinating the management and operations of all modes of transportation within Region 9.
- **Land Use.** Develop a transportation system that considers existing and future land uses and encourages desired development patterns.
- **Balance.** Develop a transportation system that balances all modes of transportation, protects and enhances the environment, and supports both the rural and urban economic vitality and tourism in Region 9.
- **Safety/Security.** Enforce and enhance programs designed to ensure the safe, secure operations and utilization of all transportation facilities/systems.



- **Accessibility & Mobility.** Strive to coordinate, develop, and maintain an accessible transportation system that promotes mobility for a variety of citizens and visitors, particularly those with special needs, such as the elderly, disabled, and low-income persons.
- **Modes.** Increase connectivity, accessibility, and mobility options to encourage the multi-modal aspects of the transportation system, such as bicycle/pedestrian, transit, air, and rail facilities and their integration.
- **Preservation.** Emphasize the preservation of the existing transportation system and preserve corridors for planned improvements, and minimize disruptions due to extreme weather events, climate changes, and natural and man-made disasters, whenever feasible.

### Planning Process and Organization

Region 9 transportation planning began in fiscal year 1995 as part of an Iowa effort to provide rural transportation planning statewide. The two-county area in Iowa represents the planning area for Region 9 transportation planning. Region 9 is located adjacent to the Quad Cities Area, also known as the Davenport-Moline-Rock Island Urbanized Area. The Quad Cities Iowa/Illinois region is bisected by the Mississippi River, and is located midway between Minneapolis to the north and St. Louis to the south and 160 miles west of Chicago. The area's 300-mile market of 37 million people comprises approximately 15% of the nation's population. This makes the area the largest 300-mile market west of Chicago.

Region 9 transportation planning activities are conducted through Bi-State Regional Commission. Bi-State Regional Commission is the Metropolitan Planning Organization (MPO) for the Quad Cities Metropolitan Area and regional planning agency for Region 9. Bi-State Regional Commission was formed in 1966 and charged with continuing, coordinated, and comprehensive transportation planning for the urban area and subsequently for Region 9. The regional transportation work is carried out with cooperation from local city and county engineers and planners, transit operators, and state and federal transportation officials. The three main regional transportation responsibilities carried out by Bi-State Regional Commission are:

- Coordination of overall transportation planning and operations activities
- Maintenance of a long range transportation plan
- Programming of transportation projects to address the needs identified in the plan and associated studies

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Bi-State Regional Commission is also a regional planning agency representing five counties and 47 municipalities. In addition to transportation and land use planning, Bi-State provides a forum for intergovernmental cooperation and delivery of regional programs as well as providing technical assistance to its member governments related to economic development, infrastructure, environmental planning/management, and community development.

The first long range transportation plan for Region 9 was developed in fiscal year 1995 and subsequently updated in 1999. The long range plan represents an assessment of the existing regional transportation system as well as the needs, priorities, and suggested improvements in the future to meet future demands. The process for projects moving forward from planning to implementation is known as programming. The *Region 9 Transportation Improvement Program (TIP)* is a summary of roadway, public transit, trail, and related transportation projects that are expected to be initiated during a four-year cycle and that will be financed in whole or part with federal and/or state dollars. Projects programmed in the *Region 9 TIP* must conform to the *Region 9 Long Range Transportation Plan* and be fiscally limited to monies that are available (fiscally constrained).

### ***Delegated Authorities***

Region 9 has a local review process established for long and short-range transportation planning. The process includes the Region 9 Transportation Policy Committee and Region 9 Transportation Technical Committee. These two committees are delegated authority groups established under Bi-State Regional Commission to expedite specific business and planning activities related to regional transportation. The current membership of the two committees is as follows:

#### Transportation Policy Committee

##### *Membership:*

- Appointed Mayor or Alderperson caucused from small communities from a Bi-State Regional Commission member government in Region 9
- River Bend Transit, Inc. Board of Directors
- Scott County Board of Supervisors
- Mayor of Muscatine (or Appointed Alderman)
- Muscatine County Board of Supervisors
- Federal Transit Administration, Kansas City, MO (Ex-Officio, Non-Voting Member)

- Federal Highway Administration, Ames, IA (Ex-Officio, Non-Voting Member)
- Iowa Department of Transportation (Ex-Officio, Non-Voting Member)

*Function:* Responsible for transportation planning and programming for the Iowa Region 9 transportation planning area.

#### Transportation Technical Committee

##### *Membership:*

- City of Muscatine and Scott County and Muscatine County planners and engineers
- Muscatine Transit and River Bend Transit managers or staff representatives
- One caucused representative from a Bi-State Regional Commission member government smaller community in Region 9
- Ex-officio, non-voting members representing Federal Transit Administration, Kansas City, MO; Federal Highway Administration, Ames, IA; and Iowa Department of Transportation.

*Function:* Responsible for technical review and guidance of data collection and analysis, transportation planning and programming preparation, review and update for the Iowa Region 9 transportation planning area. This committee is responsible to and makes recommendations to the Region 9 Transportation Policy Committee.

#### ***Other Groups***

Additionally, there are other groups that function as forums for transportation input and comment on activities that have implications in Region 9. There is some overlap with the metropolitan transportation planning and Region 9 related to the following groups:

Bi-State Drug and Alcohol Testing Consortium – The consortium provides a forum to procure a contractor for drug and alcohol testing services related to federal transportation regulations, to supervise the contractor, and to address revisions to regulations.

Bi-State Regional Trail Committee – This committee coordinates planning and development activities associated with the multi-purpose trails in the Bi-State Region.

Bi-State ITS Technical Advisory Group – This group coordinates ITS planning and deployment activities in the Bi-State Region.



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Bi-State Region Freight Forum – This is a multi-modal freight transportation stakeholder group brought together to coordinate freight planning in the Bi-State Region, and to understand and monitor needs and issues related to physical, operational, and institutional aspects of the regional freight system.

Regional Transit Interest Group – This group provides a forum to receive public input into the transit systems of Region 9 passenger transportation planning efforts on an as-needed basis. It also provides organized discussions on transportation problems and mobility issues affecting seniors, students, persons with disabilities or with no vehicle, and citizens with lower incomes. The group serves in an advisory capacity to the transportation community as well as the Region 9 Transportation Technical Committee.

Bi-State Region Air Quality Task Force – The task force provides a forum in the Bi-State Region to discuss issues for maintaining National Ambient Air Quality Standards (NAAQS) attainment status through voluntary emission reduction measures; for communication between public and private entities on voluntary measures by sharing experiences and knowledge; and for encouraging and supporting individual and group voluntary measures/activities, such as public education, and mobile/stationary source reduction initiatives. Due to the regional nature of air quality, voluntary efforts are encouraged within the Bi-State Region including Region 9.

Regional Transportation Advisory Group – This group provides a forum through direct mailings and meeting notices to solicit input and examine the Transportation Improvement Plan (TIP), Regional Intelligent Transportation System (ITS) Architecture Plan, the Long Range Transportation Plan, enhancement program projects, and Surface Transportation Block Grant (STBG) projects. This group may provide comments to the Region 9 Transportation Technical and Policy Committees for their consideration at regular meetings, public hearings, or through direct requests for input. It is open to anyone interested in transportation planning and projects in Region 9. Members represent private transportation providers, social service agencies that provide transportation, transit consumers, historic societies, biking and hiking clubs, livery services, social and job training agencies, environmental groups, and freight movers.

## Public Involvement

Proactive public involvement in the transportation planning process allows for input from various interested parties throughout the prepa-



ration of the long range transportation plan. This type of involvement can have positive benefits by introducing fresh project ideas and outlooks to the plan. A *Public Involvement Process* for the transportation planning process was first adopted in 1995 and has subsequently been revised. A copy of the process is included in Appendix C of this document.

The current federal transportation act requires early and continuing involvement of the public in preparation of a long range transportation plan. In the development of the *2045 Long Range Transportation Plan for Region 9*, the opportunities for public comment facilitated in a number of ways. The following outlines these opportunities:

Region 9 Transportation Meetings – *Ongoing*

Region 9 Transit Outreach Survey – *March 2020*

Region 9 Transportation Plan Public Input Survey – *April 2020*

Public Input Meeting – *January 2021*

Bi-State Regional Commission Website – A draft copy of the plan was posted at least 14 days prior to the adoption date for public comment

These opportunities were utilized to gain input and/or seek confirmation or suggested improvements on the draft plan. The public meetings were held in accessible locations and were located to coincide with available transit services.

## **Regional Profile**

This section highlights demographic elements that represent Region 9, including population, housing, employment, income, and education. Historical data is included to show the region's progression as well as some comparisons. Much of the data comes from the U.S. Census Bureau, American Community Survey (2014-18 ACS). All ACS data are survey estimates, and other sources utilized are noted. Detailed profiles for Region 9 are found in Appendix A and provide a large amount of data. The information can be used for reference to the various demographic elements of Region 9. For the purposes of discussion, information for Region 9 is provided using statistics for Scott and Muscatine Counties as a whole. However, Table 1.1 displays the population within Scott and Muscatine Counties along with the population of the unincorporated area of the counties. Table 1.2 illustrates the total population residing in the Metropolitan Planning Area (MPA). As noted, some of the cities listed under Scott County are included in the MPA.

**Table 1.1**  
**City and Unincorporated Populations**

<b>Muscatine County</b>	<b>42,929</b>
City of Atalissa	310
City of Conesville	424
City of Fruitland	986
City of Muscatine	23,817
City of Nichols	362
City of Stockton	195
City of West Liberty	3,794
City of Wilton	2,836
Unincorporated Area	12,205
<b>Scott County</b>	<b>173,283</b>
City of Bettendorf	36,543
City of Blue Grass	1,674
City of Buffalo	1,279
City of Davenport	102,085
City of Dixon	250
City of Donahue	367
City of Eldridge	6,813
City of LeClaire	3,970
City of Long Grove	868
City of Maysville	178
City of McCausland	313
City of New Liberty	142
City of Panorama Park	149
City of Princeton	945
City of Riverdale	439
City of Walcott	1,637
Unincorporated Area	16,631

Source: U.S. Census Bureau, American Community Survey 5-year estimates (2014-18)

**Table 1.2**  
**Quad City MPA Population**

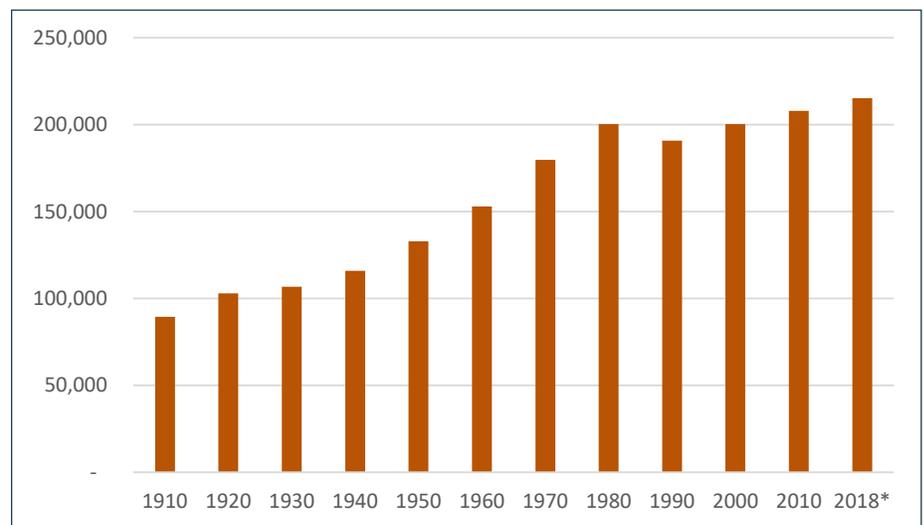
MPA Population	317,117
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Source: U.S. Census Bureau, American Community Survey 5-year estimates 2014-18  
from ESRI, Community Analyst

## Population and Households

The population of Region 9 grew steadily during the beginning of the 20<sup>th</sup> century, then experienced a significant growth from 1950-1980. The population reached its first peak in 1980 at 200,458. The region then experienced a loss of almost 10,000 people due to large job losses in the 1980s and was down to 190,886 in 1990. Since 1990, the population in Region 9 has rebounded and has been growing steadily. The total population in 2010 reached a new all-time peak at 207,969. Figure 1.1 represents the historical population figures for Region 9, and Table 1.3 displays the historical population of Muscatine and Scott Counties individually. As of 2019 (2019 American Community Survey Estimates), there were 22,379 households in Region 9. The average person per household was 2.60 (Muscatine County) and 2.57 (Scott County). The region has a slightly higher household size than the State of Iowa, which averages 2.42 persons per household.

**Figure 1.1**  
**Region 9 Historical Population**



Source: U.S. Census Bureau decennial censuses (1910-2010); \*American Community Survey 5-year estimates (2014-18)

**Table 1.3**  
**Muscatine and Scott County Historical Population**

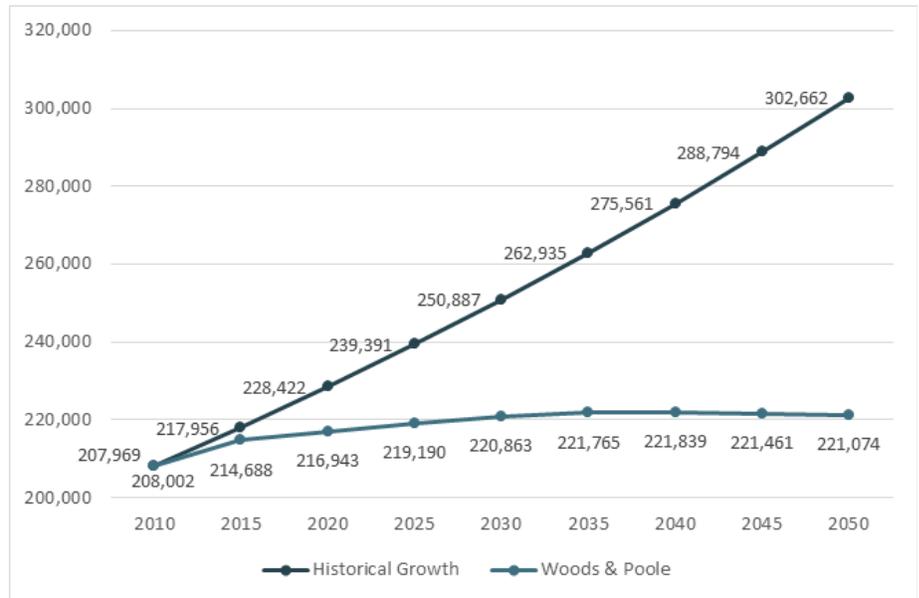
Total Population	Muscatine County	Scott County	Region 9
1910	29,505	60,000	89,505
1920	29,042	73,952	102,994
1930	29,385	77,332	106,717
1940	31,296	84,748	116,044
1950	32,148	100,698	132,846
1960	33,840	119,067	152,907
1970	37,181	142,687	179,868
1980	40,436	160,022	200,458
1990	39,907	150,979	190,886
2000	41,722	158,668	200,390
2010	42,745	165,224	207,969
2018*	42,950	172,288	215,238

Source: U.S. Census Bureau decennial censuses (1910-2010); \*American Community Survey 5-year estimates (2014-18)

## Population Projections

Utilizing projections can help plan for the future needs of a community. A number of variables have the potential to affect the future growth and development of an area. Woods & Poole Economics, Inc. uses a regional approach to forecast projection data. This means that the projections are done simultaneously for the U.S. so that changes in one county will affect the growth/decline of another. This is done to more accurately reflect the economic effects of migrating persons. According to data from Woods & Poole Economics, the population of Region 9 is expected to remain relatively stable over the next 30 years (2020-2050), gaining approximately 0.3% or 689 people every 5 years. Another way to look at future population growth is to examine historical trends. From 1950 to 2010 Region 9 grew by approximately 56.5% or an average of 0.9% annually, over 60 years. Using the historical trend, it is projected that Region 9 could increase by approximately 4.8% or 12,373 people every 5 years. Figure 1.2 shows population projections for Region 9 through 2050.

**Figure 1.2**  
**Region 9 Population Projections**



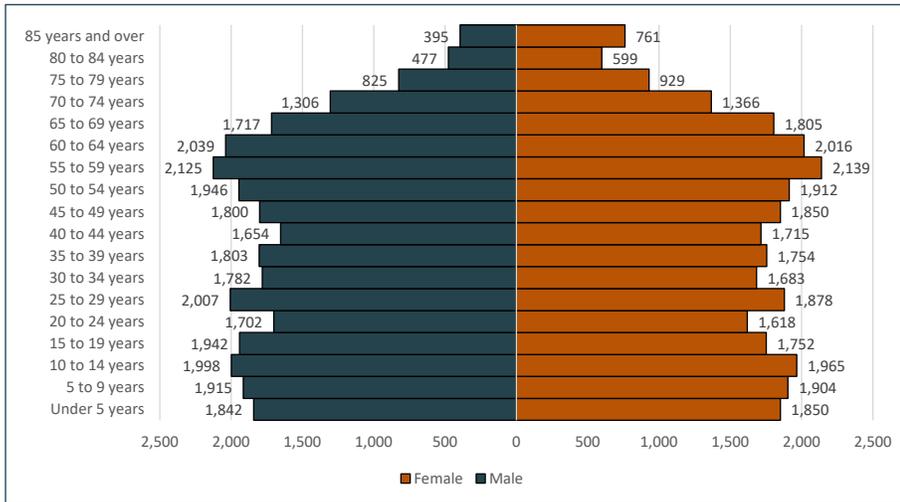
Source: Woods and Poole Economics, Inc. (2019); and U.S. Census Bureau, decennial censuses (1950-2010)

### Age & Gender

According to 2019 American Community Survey estimates, approximately one-third (31.5%) of the population in Region 9 is under age 25. The largest age groups are 55-59 (7.3%) and 60-64 (6.9%). Figure 1.3 shows age distribution by sex in more detail. The median age is a statistic that can be used to gauge the overall age of the population. The higher the median age the older a population, and conversely the lower the median age the younger the population. Since 2000, median ages have increased by 2.0 years in Muscatine County and by 2.9 years in Scott County to 38.1 and 38.3 respectively (2014-18 ACS). Similarly, Iowa’s median age rose from 36.6 in 2000 to 38.0 in 2012 (2008-12 ACS), a 1.4 year increase over the 12-year period. Figure 1.4 shows median age for Muscatine and Scott County. As individuals in the 50 plus age group continue to age, the demand to utilize public transportation services may continue to grow due to potential disabilities to drive, health issues, increased accessibility, and overall safety issues.

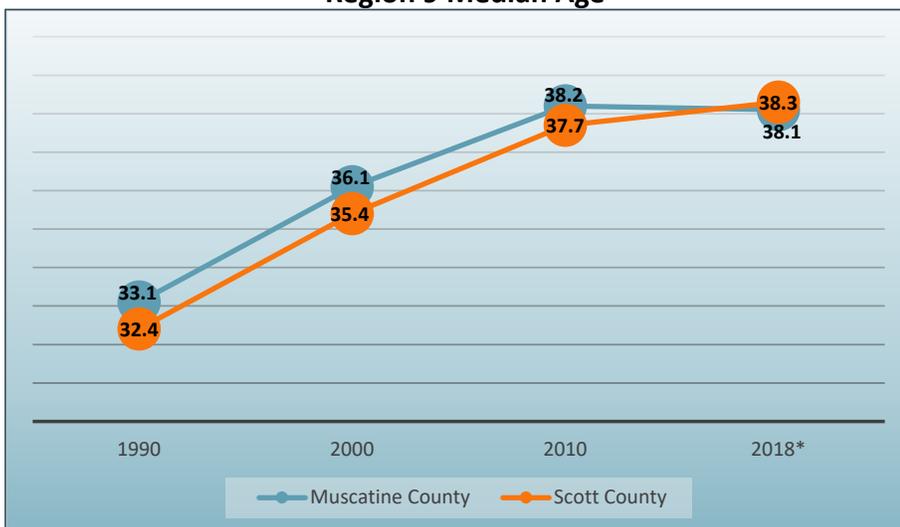
The region’s population is nearly even male (49.97%) to female (50.03%), with a slightly larger female population. The State of Iowa’s population is nearly identical with 49.6% male and 50.4% female.

**Figure 1.3**  
**Region 9 Age distribution by Sex**



Source: American Community Survey from ESRI Community Analyst, 2019  
Estimates for Region 9 Area.

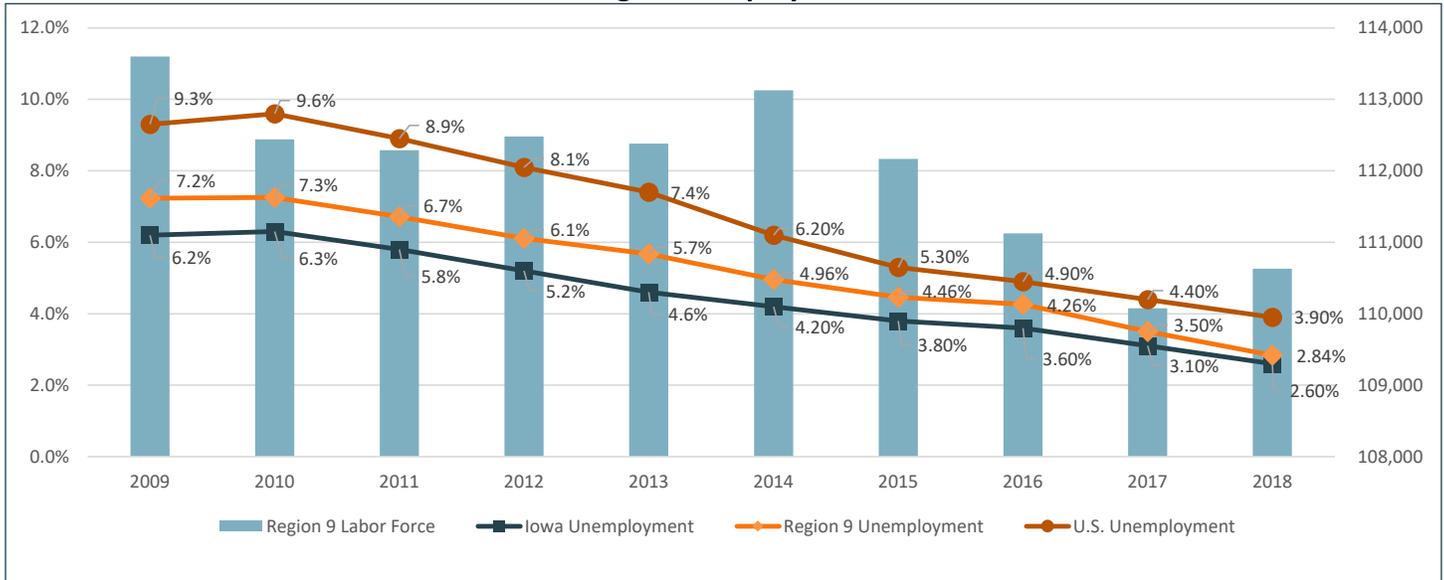
**Figure 1.4**  
**Region 9 Median Age**



Source: U.S. Census Bureau decennial censuses (1990-2010); \*American Community Survey 5-year estimates (2004-18) Labor Force and Employment

Over the past 10 years (2009-2018), the labor force in Muscatine County and Scott County has averaged 112,032 workers. The unemployment rates in the two counties have fluctuated from a high of 7.3% in 2010 to a low of 2.8% in 2018. Overall, unemployment in the region has remained lower than the U.S average and slightly above the state average. Figure 1.5 shows employment characteristics in more detail.

**Figure 1.5  
Region 9 Employment**



Source: U.S. Bureau of Labor Statistics; Iowa Workforce Development. Region 9 refers to Muscatine and Scott County, not just the non-metro areas.

An industry sector is any grouping of private, non-profit, or government establishments that have some type of commonality. The most common industry sector noted in 2018 (2014-18 ACS) is Education, Health and Social Services, which employs 22.5% of the labor force, followed by Manufacturing (19.8%), and Retail Trade (11.1%). Similarly, the State of Iowa's top industries in 2012 were also Education, Health and Social Services; Manufacturing; and Retail Trade; employing 24.5%, 15.1%, and 12.0% respectively. Table 1.4 lists the major employers in the region.

**Table 1.4**  
**Region 9 Selected Major Employers**

Employer	Location	Employed	Industry
Deere & Company	Region-wide	7,240	Farm Equipment
Rock Island Arsenal	Rock Island County	6,163	Military Equipment
Genesis Medical Ctr Davenport	Region-wide	5,173	Healthcare
Unity Point Health-Trinity	Region-wide	3,954	Healthcare
HNI Corporation	Muscatine County	3,200	Manufacturing
Hy-Vee	Scott County	2,500	Grocers-Retail
Arconic	Scott County	2,000	Titanium (Mfrs)
Tri City Engrng & Integration	Scott County	1,200	Engineers-Electrical
Kent Corporation (Muscatine Food Corp)	Muscatine County	1,011	Manufacturing
Rhythm City Casino Resort	Scott County	1,000	Hotels & Motels
Tri City Communications	Scott County	900	Electric Contractors
Muscatine Community School District	Muscatine County	823	Education
Davenport City Hall Civil	Scott County	800	Government Offices-City/Village & Twp
Cobham Mission Equipment	Scott County	800	Antennas-Manufacturers
Scott County Family Y	Scott County	600	Youth Organizations & Centers
Directv Authorized Retailer	Scott County	600	Telecommunications Services
Walmart Supercenter	Scott County	503	Department Stores
Visiting Nurse Assn	Scott County	500	Nurses & Nurses' Registries
Sears Manufacturing	Scott County	500	Manufacturers
Palmer College Of Chiropractic	Scott County	500	Schools-Chiropractic
Hyvee	Muscatine County	450	Retail
SSAB of Iowa	Muscatine County	410	Manufacturing
Musco Sports Lighting	Muscatine County	400	Manufacturing
Bayer US-Crop Science	Muscatine County	381	Herbicides, pesticides
Walmart	Muscatine County	350	Retail
H.J. Heinz LP	Muscatine County	305	Manufacturing
Muscatine Power & Water	Muscatine County	300	Utilities
The Stanley Group	Muscatine County	279	Engineering
City of Muscatine	Muscatine County	224	City Services
The Raymond Corporation	Muscatine County	220	electric lift trucks
Bridgestone Commercial Solutions	Muscatine County	180	Pre-cured tread rubber

Employer	Location	Employed	Industry
Letica Corporation	Muscatine County	130	Molded plastic packaging

Source: Greater Muscatine Chamber of Commerce and Industry (date accessed 3/16/2020); InfoGroup, ReferenceUSA; and Individual Employers

Note: (\*) Employment totals are for all locations within that county; Top 15 employers for each county is represented on the list, not the top 30 overall for Region 9

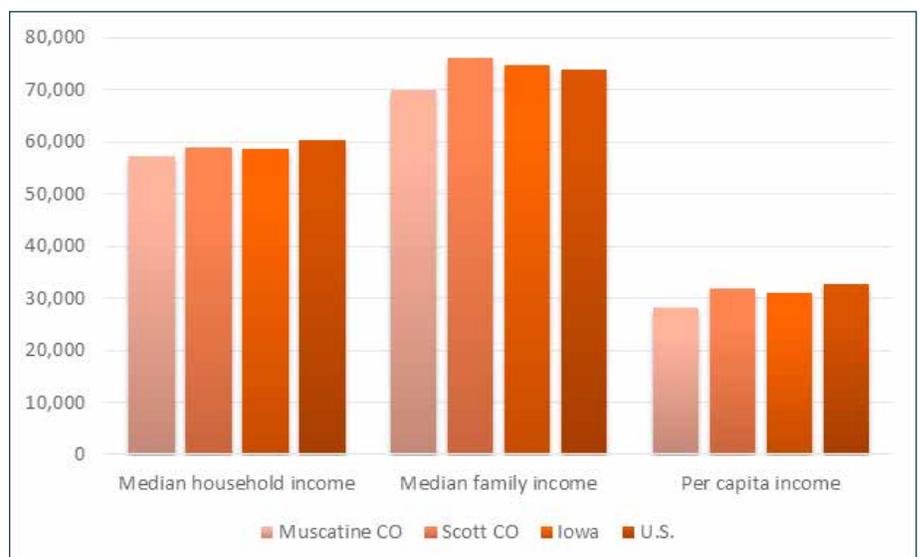
“Every dollar invested in public transportation generates \$5 in economic returns.”

*Source: American Public Transportation Association apta.com Quick Facts*

### Income

Household income is a standard measure of prosperity of a community. The median 2018 ACS estimated household incomes were \$57,348 (Muscatine County) and \$58,803 (Scott County), and per capita income was \$28,137 (Muscatine County) and \$31,873 (Scott County). Comparatively, both counties’ median household incomes fell somewhat below or in line with Iowa (\$58,580) and the U.S. (\$60,293). Figure 1.6 shows income in more detail. Individuals experiencing a lower socioeconomic status may prefer public transit as the chosen mode of travel because of financial restrictions. However, the inability for public transit services to operate during all non-traditional work hours sometimes hinders the option to utilize public transit services. For instance, an individual working third shift may not have a ride into work during later hours, but may have a ride when getting off of work during the early morning hours.

**Figure 1.6**  
**Region 9 Income**



Source: U.S. Census Bureau, American Community Survey 5-year estimates (2014-18)

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## Education

According to ESRI 2019 estimates), 89.3% of the residents in Region 9 had a high school diploma or higher, and 23.7% of residents age 25 and older had a bachelor’s degree or higher. Comparatively in Iowa, according to Census 2018 ACS 5-Year estimates, 92.3% had a high school diploma or higher, and 29% of persons 25 and older had a bachelor’s degree or higher.

## Housing

As defined by the U.S. Census Bureau, housing units are physical structures, such as a house, apartment, or mobile home that is occupied or intended to be occupied as living quarters. According to ESRI 2019 estimates, there were 24,637 housing units in Region 9. Approximately 90.8% of the total housing units are occupied (9.2% vacant). Of the total occupied housing units, 66.5% were owner occupied (24.3% renter occupied).

The housing stock in the region is relatively older with approximately 52.2% of the total housing units built before 1970, and 29.4% built 1939 or earlier, compared to only 11.3% of the total housing units built in 2000 or later. The median housing value in 2018 (2014-18 ACS) was \$127,100 (Muscatine County) and \$158,200 (Scott County), compared to \$142,300 in Iowa.

## Commuting Patterns

Table 1.5 shows the commuting patterns of resident by county within the Bi-State Region. Outside of the region, a significant number of Region 9 residents also commute to Johnson, Clinton, Cedar, and Louisa Counties in Iowa. Table 1.3 in Appendix A illustrates, according to 2018 5-Year ACS Estimates, that 0.7% of Muscatine and Scott County’s population take public transportation to work, 1.5% walk, 0.8% use other means, and 4.4% work from home. The vast majority, 86.0%, commute to work by single-occupant vehicular travel and 6.5% carpool. The mean travel time to work is 17.4 minutes in Muscatine County and 19 minutes in Scott County. Table A.4 in Appendix A lists that 5.9% households in the two counties have zero vehicles, 32.7% own one vehicle, 40.1% own two vehicles, and 21.3% own three or more vehicles.

**Table 1.5**  
**Region 9 Residents Commuting In/Out of the Bi-State Region**

Commuting to:									
Residents of:	Muscatine County, IA	Scott County, IA	Henry County, IL	Mercer County, IL	Rock Island County, IL	Johnson County, IA	Louisa County, IA	Clinton County, IA	
	Muscatine County, IA	15,933	1,279	7	10	370	1,609	481	9
	Scott County, IA	1,641	60,687	270	89	16,019	333	23	1,072

Source: U.S. Census Bureau; Residence County to Workplace County Flows by Residence Geography (2011-2015)

### Land Use Considerations

There is a relationship between transportation and land use. Each element plays an integral part as people choose where they live and work. These choices also influence how people get from place to place or transport goods and services. Each community establishes a land use vision through their comprehensive plan or land use plan.

### Comprehensive Land Use Plans

The following jurisdictions in Region 9 have developed such a plan to provide guidance on how and where land will be developed within their planning boundary. These documents frame where land will develop and how it will be served by a transportation network.

**Table 1.6**  
**Local Governments in Region 9 with Land Use Plan**

Jurisdiction	Plan	Jurisdiction	Plan
Muscatine County	X	Scott County	X
Conesville		Blue Grass	X
Fruitland	X	Dixon	
Muscatine	X	Long Grove	X
Nichols		Maysville	
West Liberty	X	McCausland	X
Wilton	X	New Liberty	
		Princeton	X
		Walcott	X

Source: Bi-State Regional Commission 2020  
X = Jurisdiction has comprehensive plan or land use plan.

Goals and objectives are an important aspect of this long range transportation plan. Similarly, both Muscatine and Scott Counties outline goals for land development. They emphasize protection of prime farmland and encourage development to site within incorporated areas. Their policies encourage development to locate where activity can be adequately supported by existing infrastructure. The goals articulate each county’s respective vision and set the direction as land and development change over time. Key elements of both county comprehensive planning goals are:

- **Protect and conserve the natural, human, and economic resources** that are the basis of the agricultural economy and rural lifestyle of these counties.
- **Ensure orderly and efficient growth** while maintaining the general welfare of county residents.
- **Ensure a suitable living environment** for all families, present and future, living in these counties.
- **Encourage cooperation and communication** among the county, other units of local government, and the general public to improve development and preservation.

### *Development Considerations*

The majority of land use within Region 9 is considered unincorporated area and used for agricultural purposes. Residential development can be found within cities and in either rural subdivisions or farmsteads. Commercial uses are concentrated in cities. However, small convenience centers related to commercial uses are located in unincorporated areas of both Muscatine and Scott Counties serving rural needs. Maps 1.2 and 1.3 clearly show concentrations of employment within or near communities. These centers align with commercial and industrial development. Map 1.4 illustrates how land is used today. This includes areas used as parks and recreation or areas identified as conservation areas. These areas are used by citizens and visitors, and access for a variety of users will enhance travel in the region. As shown by these maps, more intensive land development is located in or near cities and where adequate infrastructure is provided. This also shows the success by Muscatine and Scott Counties to manage growth and development and support community vitality by preserving rural areas and encouraging development in cities.





*Roundabout used for traffic calming, crash reduction and energy efficiency by reduction in the use of signalized intersections which adds up to cleaner air.*



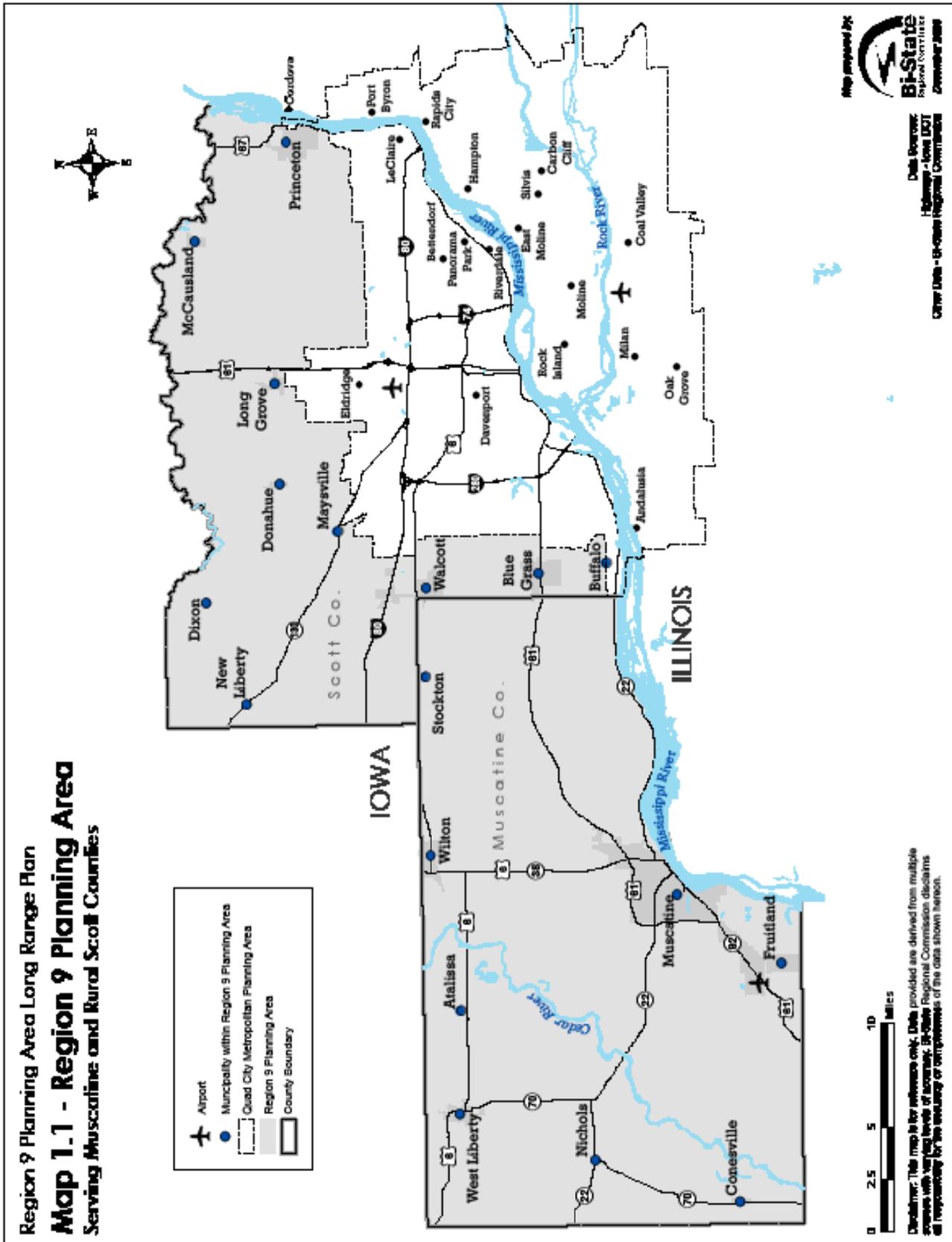
*According to the US Environmental Protection Agency, stormwater management prevents water pollution, reduces flooding, protects water resources and aid climate resiliency among other benefits.*

*Source: [epa.gov/soakuptherain](http://epa.gov/soakuptherain)*

Transportation is one type of infrastructure that supports development. Access within cities and between communities is important. Providing access from rural agricultural areas to modal facilities, such as grain elevators or barge terminals, enhances the distribution of agricultural products, be it grain or livestock. Roads, railroads, and barge and intermodal terminals are components of the transportation network and will be discussed in subsequent chapters of this plan. Map 1.5 shows how land is envisioned to be used in the future. Through the comprehensive planning process, each county identified where and what type of land use would be allowed. These visions will influence the transportation network as it evolves with the development.

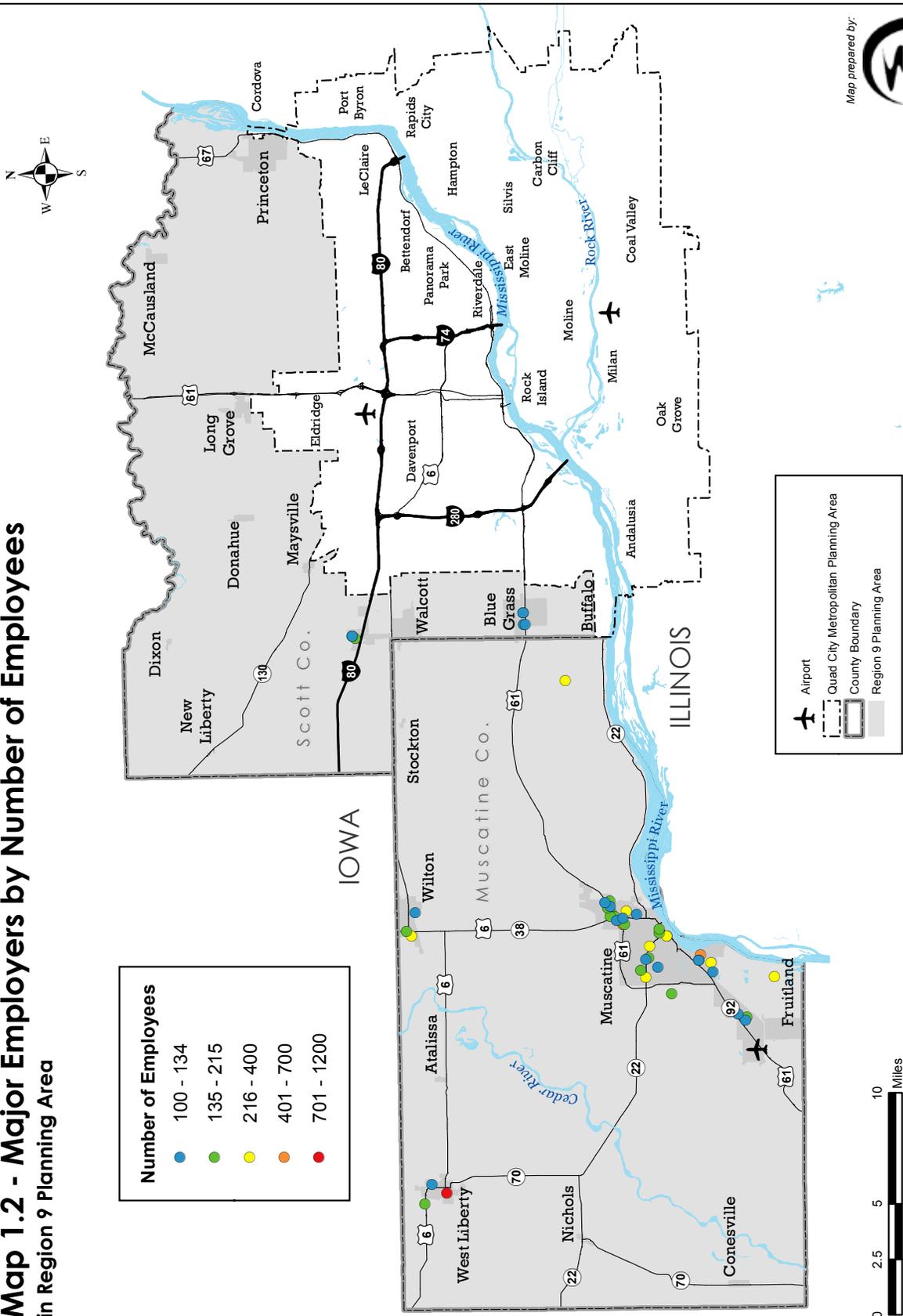
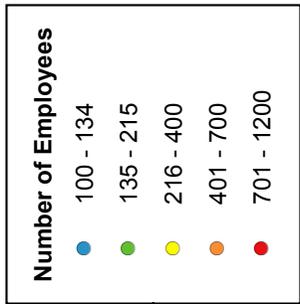
### ***Geographic and Environmental Considerations***

Land development considerations depend not only on the human impact to the land but environmental and geographical aspects as well. In both Muscatine and Scott Counties, watersheds and floodplains play an important part in how land is used. Significant floodplain areas are located along the Mississippi and Cedar Rivers and along Mad Creek in Muscatine County. Floodplain areas in Scott County include the Wapsipinicon River, Duck Creek, and the Mississippi River. Rivers and streams create barriers and require bridges to provide crossings. These natural features also are natural hazards to be avoided where possible to reduce loss of life or property when flooding occurs. These factors are important to locating and constructing transportation connections and facilities. Based on the FAST Act, improving the transportation system to be more resilient to extreme weather and natural disasters through hazard mitigation measures, and stormwater management best practices will contribute to more reliable mobility within Region 9. Chapter 6 will discuss and map consideration of effects related to improving or expanding the transportation network. The environment is an important aspect to be considered early in the transportation planning process to identify obstacles, consider effects, mitigate effects, and determine costs all prior to construction.

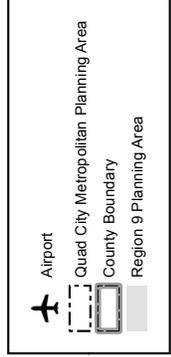


Region 9 Planning Area Long Range Plan

**Map 1.2 - Major Employers by Number of Employees**  
in Region 9 Planning Area

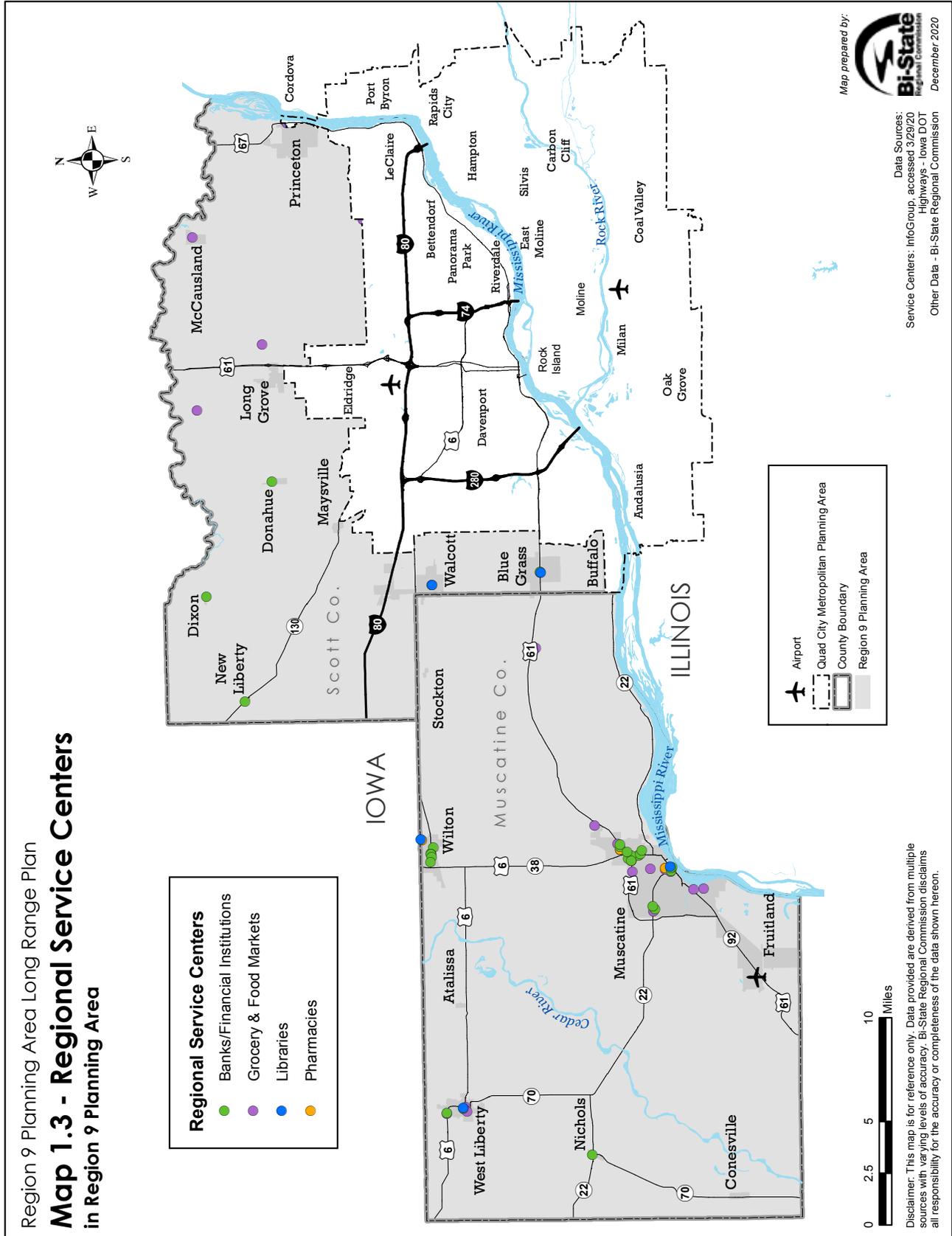


Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying levels of accuracy. Bi-State Regional Commission disclaims all responsibility for the accuracy or completeness of the data shown hereon.

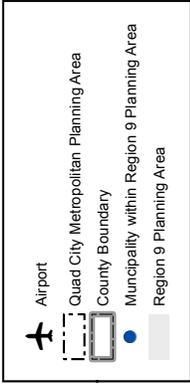
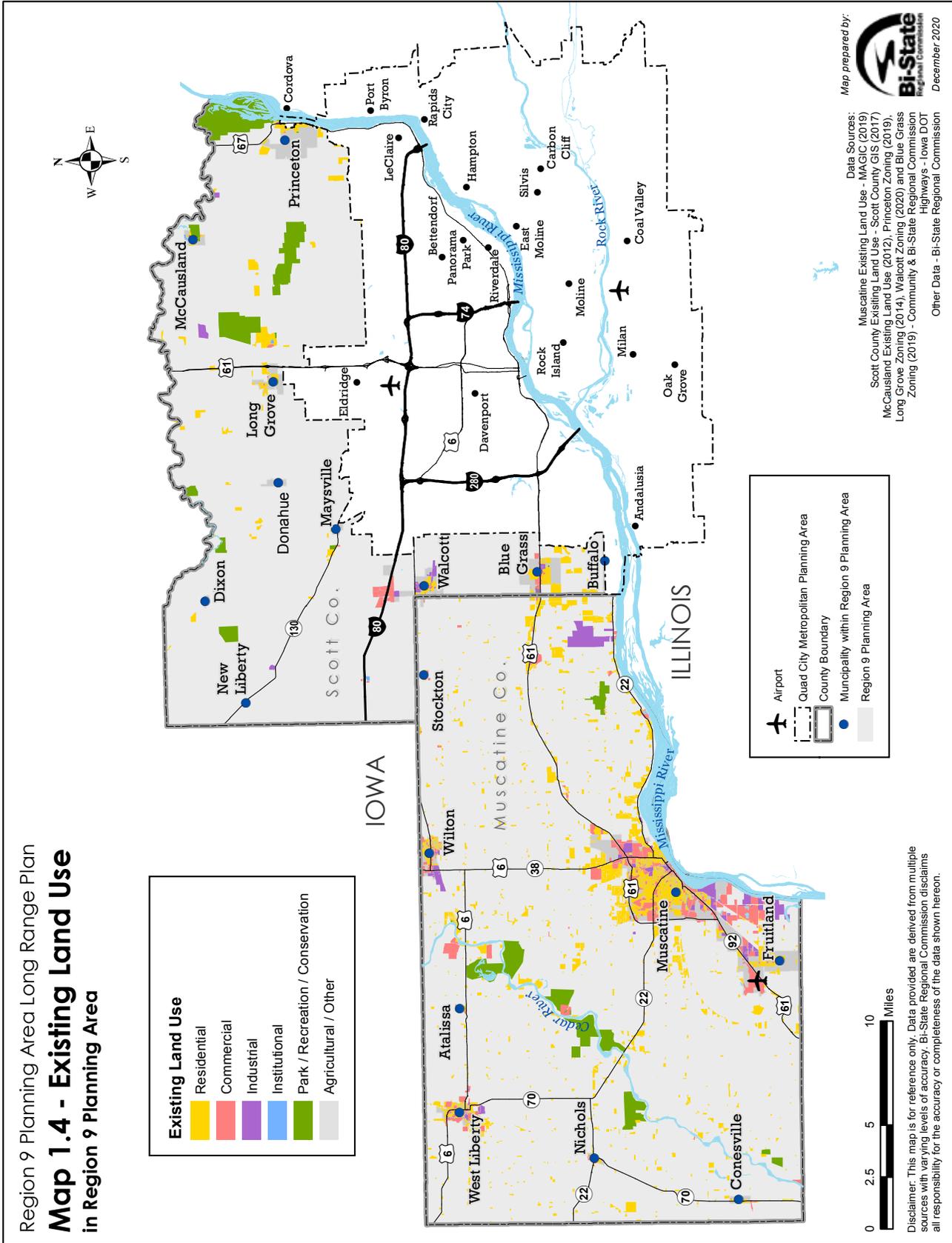
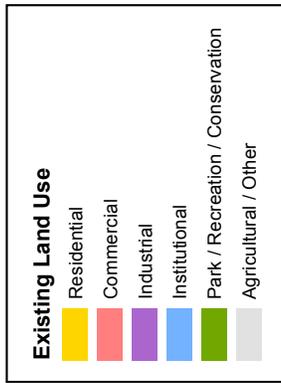


Major Employers: InfoGroup, accessed 3/29/20  
Highways - Iowa DOT  
Other Data - Bi-State Regional Commission





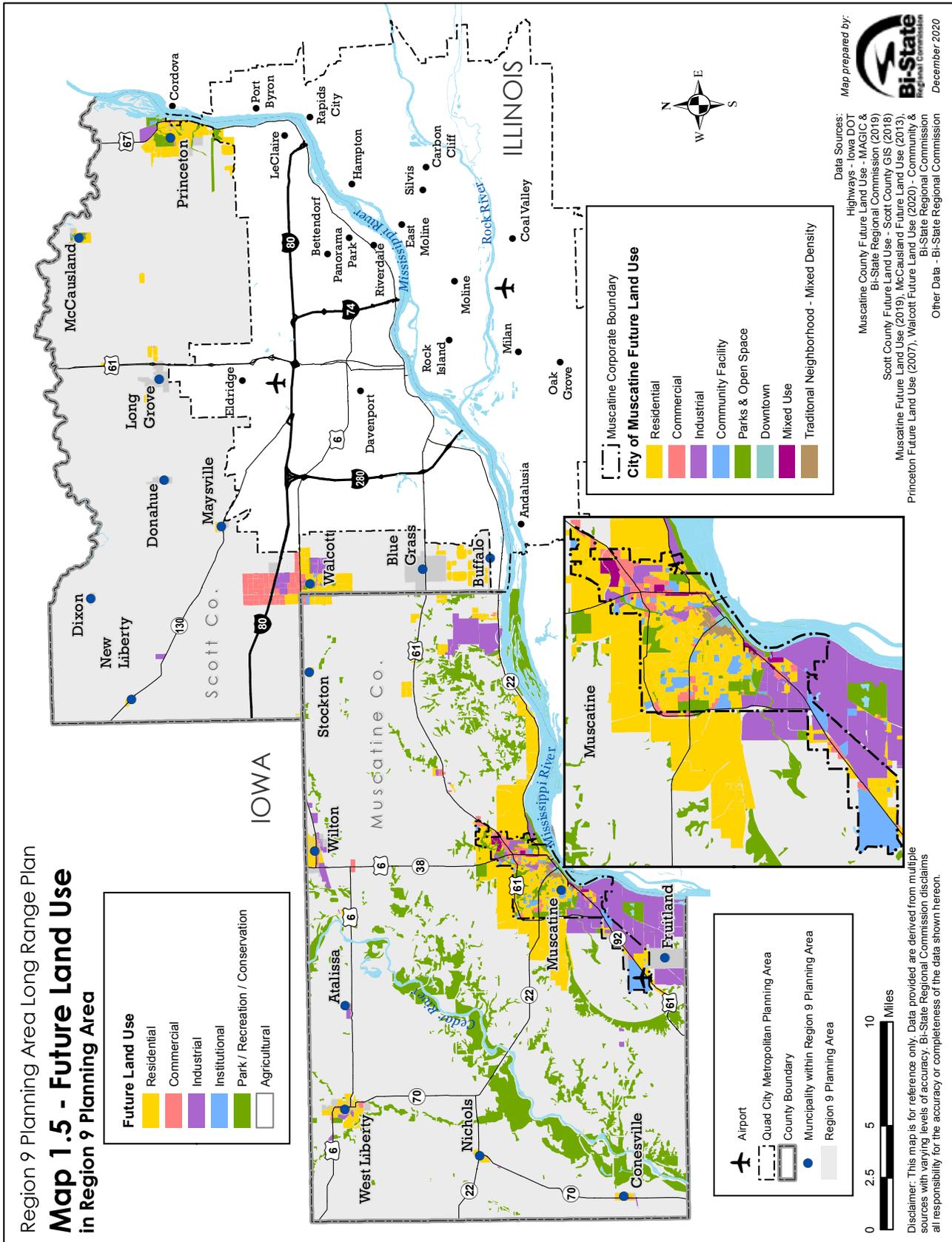
Region 9 Planning Area Long Range Plan  
**Map 1.4 - Existing Land Use**  
 in Region 9 Planning Area



Map prepared by:  
  
 December 2020

Data Sources:  
 Muscatine Existing Land Use - MAGIC (2019)  
 Scott County Existing Land Use - Scott County GIS (2017)  
 McCausland Existing Land Use (2012), Princeton Zoning (2019),  
 Long Grove Zoning (2014), Walcott Zoning (2020) and Blue Grass  
 Zoning (2019) - Community & Bi-State Regional Commission  
 Highways - Iowa DOT  
 Other Data - Bi-State Regional Commission

Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying levels of accuracy. Bi-State Regional Commission disclaims all responsibility for the accuracy or completeness of the data shown hereon.



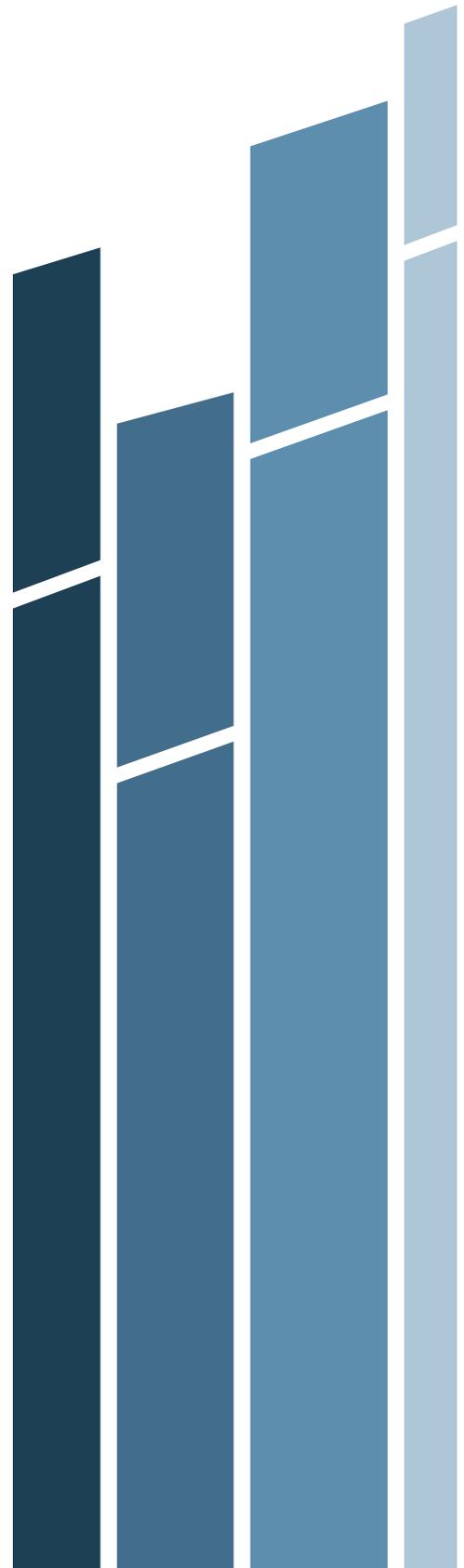
## CHAPTER 2 – ROADWAY NETWORK

### Existing Roadway Network

Region 9 is characterized by its extensive roadway network. One interstate highway, several United States primary highways, and a high-quality secondary highway system provide for the movement of goods, services, and people within the region and to other market locations. Interstate 80 bisects Scott County and carries significant passenger and freight traffic across Iowa. It is a vital thread connecting the Region 9 economy to national and international markets. Maps 2.1 and 2.2 illustrate the roadway networks within Muscatine and Scott Counties by Federal Functional Classification (FFC). These maps also include the 2019 Annual Average Daily Traffic (AADT) volume. (Maps are found at the end of the chapter.)

### Federal Functional Classification

FFC defines the roadway by the services provided. For example, an interstate highway is the highest functionally classified arterial road. An arterial road provides the highest level of service at the greatest speed for the longest uninterrupted distance. The next FFC level is defined as a collector. A collector road provides less highly developed service at lesser speeds than an arterial for shorter distances. Roadways shown as rural major collectors or above may be eligible for federal transportation funding. A roadway providing the lowest service is considered a local road with the shortest distances and the least amount of traffic. A local road provides access to abutting land with little or no through movement. Beyond the interstate and U.S. highways, key roadways in Muscatine County include state and/or county highways 22, 92, F58, and F70.; and in Scott County include state and/or county highways 130, Allens Grove Road, Scott Park Road, and Utica Ridge Road. Fifty-nine percent of the roads in Region 9 are classified as local roads, while only one percent are classified as interstates. Table 2.1 shows roadway mileage by FFC by county.

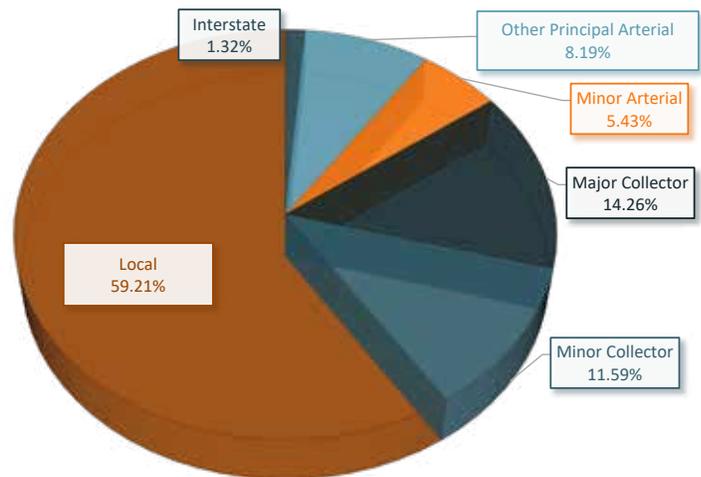


**Table 2.1**  
**Iowa Region 9 RPA Federal Functional Classification in Miles**  
**by County (2020)**

Functional Classification	Scott County	Muscatine County	Region 9
Interstate	19.54	0	19.54
Other Principal Arterial	27.39	93.72	121.11
Minor Arterial	12.42	67.98	80.40
Major Collector	106.34	104.68	211.03
Minor Collector (Rural)	59.91	111.51	171.42
Local	329.66	546.24	875.90
<b>Total</b>	<b>555.26</b>	<b>924.18</b>	<b>1479.44</b>

Source: Iowa Department of Transportation, 2020

**Figure 2.1**  
**Mileage by Federal Functional Classification**



Source: Iowa Department of Transportation, 2020

**Traffic Information**

Having traffic information provides an opportunity to measure number of vehicles, speed, vehicle type and other parameters. Maps 2.1 and 2.2 show the annual average daily traffic in Muscatine and Scott Counties, respectively. The most heavily traveled roadways within Region 9 are along Interstate 80 with over 36,000 vehicles per day, U.S. 61 with from 10,000 to 20,000 vehicles per day, and U.S. 67 with over 4,000 vehicles per day.

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Maps 2.3 and 2.4 illustrate the primary truck routes in Muscatine and Scott Counties, respectively. These maps also show 2019 average annual truck traffic for large trucks on these primary routes. As would be expected, I-80 carries the heaviest amount of truck traffic with over 12,600 to 13,000 trucks per day. This represents 36% of the vehicles traveling along the roadway or more than one-third being trucks. Other primary routes comparably carried from 14-15% trucks compared to other vehicles.

### ***Road Surface and Pavement Condition***

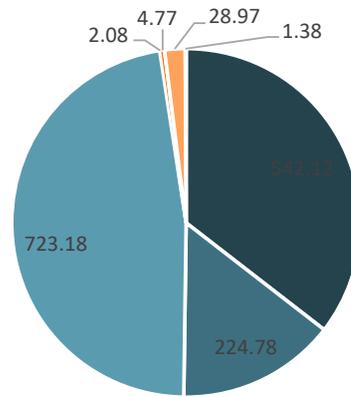
One of the goals in Region 9 is to preserve the transportation network. This includes repairing and/or replacing existing roadways. Roads can be characterized by their surface type and the condition of the surface. The State of Iowa has developed a statewide pavement management system (PMS). The project, Iowa Pavement Management Program (IPMP), covers 38,000 km (23,500 miles) of roads operated under three levels of government (state, county, and city). The program mission is to develop and maintain a geographic information system (GIS) pavement management database to support local governmental agencies and the Iowa Department of Transportation pavement management efforts. The information is available to local governments. Local engineers utilize this data to determine road maintenance and reconstruction needs.

The database includes information on general roadway attributes, pavement history, and pavement distress data. Maps 2.5 and 2.6 illustrate the road surface type, whether the road is concrete, asphalt, bituminous, granular, or dirt. A visual survey of these maps shows the majority of roads are granular surface, figure 2.2 displays the miles of road based on surface type for Region 9. In most cases, cities within these counties are connected via a paved surface and to the larger urban center, either Muscatine or the Quad Cities Area. Maps 2.7 and 2.8 show pavement conditions in Region 9 based on the PMS data from 2018 and 2019. Roads with a pavement condition index of 40-55 would be considered poor or very poor, 55-70 fair condition, and above 70 good to excellent. In the City of Muscatine, the majority of roadways are classified as fair to good condition, but may be in need of resurfacing in the future, while in Muscatine County, G28 between Highway 70 and Muscatine City limits, Y14, and portions of X43 South of G28 have been improved in recent years to good or excellent condition. In Scott County, the roadways within Blue Grass and Princeton have also improved pavement conditions in recent years, while rural Scott County has a wide variety of poor, fair, good, and excellent pavement conditions.

**Figure 2.2**  
**Total Miles of Road by Surface Type**



*Iowa Route 92 Bridge in Muscatine*



■ Asphalt ■ Concrete ■ Gravel or Stone ■ Brick ■ Combination ■ Dirt ■ Unknown

### **Bridges**

River crossings often limit access or create barriers to traffic flow within regions. There are three major rivers in Region 9: the Mississippi River, Wapsipinicon River, and Cedar River. Rivers can also become natural hazards and limit access due to flooding. Iowa Route 92 at Muscatine provides a bridge crossing into Illinois over the Mississippi River with the remaining crossings within the Quad Cities metropolitan area. There are five crossings of the Wapsipinicon River in Scott County and four crossings of the Cedar River in Muscatine County. In addition to the major crossings, numerous streams and creeks traverse the landscape of the planning area. All of these bridge crossings require varying degrees of maintenance and inspection.

Map 2.9 displays the bridge age of each bridge in Muscatine and Rural Scott County. This analysis helps identify older bridges in the area that may require more attention and maintenance.

Maps 2.10 and 2.11 show bridge sufficiency/condition ratings for primary system structures in Muscatine and Scott Counties, respectively. According to Iowa Department of Transportation (DOT), a bridge sufficiency rating is calculated on a scale of 1 to 100 for the National Bridge Inventory maintained by the Federal Highway Administration, with 100 being the highest. The rating is determined following a complex bridge inspection process, which examines its structural components. For Highway Bridge Program funding, bridges with sufficiency ratings of 60 or less are classified as ‘poor’ and eligible for replacement or rehabilitation. Bridges with a sufficiency rating of 61 to 80 are only eligible for rehabilitation, unless approved by the

Iowa DOT Local Systems Bureau. For state bridge funding, bridges with a sufficiency rating of 80 or less are eligible for either replacement or rehabilitation. There are approximately 29 bridges in total within Muscatine County with a bridge sufficiency of 60 or less. In rural Scott County, there are approximately 14 bridges in total with a bridge sufficiency of 60 or less. Consideration should be given to pursuing federal bridge funds or other funds to improve the road network.

### **Crashes/Safety**

Crash severity data for Muscatine County and the rural areas of Scott County is provided in Tables 2.2 and 2.3. The data included is over a five-year period from 2015 to 2019. The number of persons injured is listed next to the severity of injury sustained. General definitions for severity types are: Fatality – loss of life; Major Injury – incapacitating; Minor Injury, not incapacitating; Possible Injury – injury suspected but not confirmed; and Unknown Injury – severity not classified. Scott County had a total of 8 crash-related fatalities and 43 major injuries in that time frame. Muscatine County had 19 fatalities and 106 major injuries. Over the five year-period, that is an average of 1.6 fatalities and 8.6 major injuries in Scott County, and 3.8 fatalities and 21.2 major injuries in Muscatine County.

Rural Scott County experienced the most in fatalities in 2018. The total number of crashes in the rural parts of the county have varied from year to year. Crashes in Muscatine County have remained relatively unchanged over the five-year period.

Within Muscatine County, heavy concentrations of intersection crashes occurred along U.S. 61 just west of Wilton, at the intersections of U.S. 61 with Y26 and Y36, and along various segments of U.S. 61. However, the highest concentrations of intersection crashes occurred within city limits of Muscatine, Wilton, and West Liberty. In Rural Scott County, high concentrations of intersection crashes occurred on I-80, U.S. 61 (both north and west of Davenport), and along Y40. The number of intersection crashes is greatest in the Iowa Quad Cities area and in Muscatine, where the volume of traffic and crash potential are greater. Maps 2.12 and 2.13 identify the location of all crashes in Region 9 for Muscatine and Scott Counties.

In the State of Iowa, the *2019 Strategic Highway Safety Plan* outlines 18 safety emphasis areas: lane departures, roadside collisions, speed-related, unprotected persons, young drivers, intersections, impairment involvement, older drivers, distracted drivers, local roads, motorcycles, heavy trucks, other vehicles, work zones, bike, pedestrian, trains, and winter driving conditions. However, they only prioritize



*Source: Iowa DOT 2019 Strategic Highway Safety Plan*

eight of these Safety Emphasis Areas for strategies, which includes: lane departures and roadside collisions, speed-related, unprotected persons, young drivers, intersections, impairment involvement, older drivers, and distracted drivers. The overall vision of this plan is “*One Death is Too Many*”, emphasizing the need to decrease fatalities related to crashes. Because this chapter only includes a brief summary of crash safety, it is recommended for Region 9 to examine its crash data history and create a more detailed report in the near future as a means to continually monitor and improve safety pertaining to crashes.

The highway safety plan has targeted U.S. 61 from I-280 to Muscatine and from Eldridge north to the Scott County limits with increased enforcement, signing, and fines. These segments have a high occurrence of speed and impaired driver-related incidents. Muscatine County has a Local Road Safety Plan in place, but have not had any projects from this plan funded yet. However, the county has still implemented numerous safety projects, including extra wide edge line pavement markings, paved shoulders in high accident curves, a safety overrun constructed, and large street name signs on U.S. 61. Scott County also has a Local Road Safety Plan in place. The county has been paving shoulders with all resurfacing projects for several years now, and has also implemented rumble strip panels at the majority of their paved road intersections. A TEAP study was performed in Scott County at the intersection of U.S. 61 and 112<sup>th</sup> Avenue/Oak Street for safety measures, and the county is working to build a restricted crossing U-turn (RCUT) at this intersection. For traffic safety purposes, the Kwik Star set to be built in FY2022 in Scott County is also implementing a traffic signal at the intersection of U.S. 61 and 115<sup>th</sup> Avenue/118<sup>th</sup> Street.

**Table 2.2**  
**Scott County (Region 9 Only) Reported Crash Severity History, 2015-2019**

Severity	Number of Injuries by Year					Severity Type Total	5 Year Average
	2015	2016	2017	2018	2019		
Fatalities	2	1	1	3	1	8	1.6
Major Injury	7	9	13	10	4	43	8.6
Minor Injury	26	40	21	35	17	139	27.8
Possible Injury	27	33	28	30	28	146	29.2
Unknown Injury	0	4	1	3	1	9	1.8
<b>Total</b>	<b>62</b>	<b>87</b>	<b>64</b>	<b>81</b>	<b>51</b>	<b>345</b>	

Source: Iowa Department of Transportation, Iowa Crash Analysis Tool (2015-2019 data)

**Table 2.3**  
**Muscatine County Reported Crash Severity History, 2015-2019**

Severity	Number of Injuries by Year					Severity Type Total	5 Year Average
	2015	2016	2017	2018	2019		
Fatalities	1	5	4	5	4	19	3.8
Major Injury	27	19	33	11	16	106	21.2
Minor Injury	88	84	107	79	69	427	85.4
Possible Injury	135	108	113	107	104	567	113.4
Unknown Injury	5	8	7	10	12	42	8.4
<b>Total</b>	<b>256</b>	<b>224</b>	<b>264</b>	<b>212</b>	<b>205</b>	<b>1,161</b>	

Source: Iowa Department of Transportation, Iowa Crash Analysis Tool (2015-2019 data)

### Transportation System Management and Operations (TSMO)

Definition: Integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services and projects designed to preserve capacity and improve security, safety and reliability of the transportation system.

Examples of Strategies:

- Active Transportation
- Demand Management
- Arterial or Corridor Management
- Bottleneck Mitigation
- Road Weather Management
- Real Time Traveler Information
- Traffic Incident Management
- Work Zone Management

Source: Federal Highway Administration [ops.fhwa.dot.gov](https://ops.fhwa.dot.gov)

### Other Transportation Considerations

**Congestion.** According to the Federal Highway Administration (FHWA), congestion results when traffic demand approaches or exceeds the available capacity of the system. While this is a simple concept, it is not constant. Traffic demands vary significantly depending on the season of the year, the day of the week, and even the time of day. Also, the capacity, often mistaken as constant, can change because of weather, work zones, traffic incidents, or other non-recurring events.

Congestion can be measured knowing roadway capacity based on level of service and physical roadway characteristics compared to the number of vehicles using a facility. While recurring congestion is a national problem, it is very localized and primarily associated with small segments of the roadway in Region 9. Non-recurring events, such as crash detours, special events, or work zones are a more frequent cause of congestion within Region 9. Within the Iowa In Motion 2045 Plan, the Iowa Department of Transportation (DOT) created the Interstate Condition Evaluation (ICE) tool to evaluate primary highway systems as a composite rating of roadway and traffic conditions, which takes a Congestion Index Value into consideration as part of this rating.<sup>1</sup> The goal of the ICE tool is to serve as an initial screening and prioritization tool to assist in identifying areas that should be considered for further study, with Region 9 very much included by portions of I-80, US 61, US 67, and several other primary highways.

**Operations and Management.** Operations is an integrated approach to managing the performance of the roadway network to meet travel needs. It is the application of programs, technology, and business processes that support the flow of vehicles, travelers, and goods on the existing roads. These activities support improvements to the day-to-day operations through asset management, application of traffic control devices, real time traveler information, and use of traffic analysis tools to better understand problems and possible solutions. Examples of these include traffic detection and surveillance, arterial management, freeway management, demand management, work zone management, emergency management, electronic toll collection, automated enforcement, traffic incident management, roadway weather management, traveler information services, commercial vehicle operations, traffic control, freight management, and coordination of highway, rail, transit, bicycle, and pedestrian operations.

In Region 9, there are few of these operational systems in place, and they are primarily located in or near urban centers, such as the Quad Cities and Muscatine. Traveler information is available through the

statewide 511 program to access real time information on major roadways for construction and weather-related restrictions. Region 9 is included in the *Bi-State Regional Intelligent Transportation System (ITS) Architecture Plan*. The plan looks at deployment of transportation technologies within the Bi-State Region to improve transportation safety, security, and system efficiency. The plan is reviewed annually to determine whether updates are needed. Initial deployment of an incident management system with dynamic message signs and traffic detection occurred along I-74 in the Quad Cities and surrounding Interstates 80 and 280. In addition, similar technology was deployed in the Iowa City area along I-80.

Region 9 is encompassed within the Iowa DOT’s Traffic Management Center (TMC) Annual Report, which tracks, reports, and monitors all traffic related needs. This includes incidents, crashes, Highway Helper, work zones, weather, etc. District 5 includes Muscatine County, while District 6 includes Rural Scott County from Region 9. For each District, the 2019 TMC Annual Report outlines incident totals, Highway Helper locations and response totals, work zone crashes, and snow plow hits. District 5 had a total of 1,526 incidents and District 6 had a total of 12,473. Highway Helper was deployed only in major urban areas within Iowa, such as Davenport, but Davenport is a neighbor to the region – specifically Rural Scott County and thus, can be used for comparison. Davenport saw a total of 780 responses for the Highway Helper, all categorized as a stalled vehicle type of incident. The Highway Helper ‘responses to crashes only’ was a total of 68. Work zone crashes were over 80 crashes for District 5 and 6. Snow plow hits were over 45 hits for the Districts. The TMC is shown to be useful and important for meeting daily operation and management needs for the transportation system by proactively monitoring traffic in real-time.

**Connectivity.** An important component to a complete transportation network is the integration of all modes. The roadway network provides motor vehicle and bicycle access to multi-purpose trails, transit facilities, airports, railroad stations and terminals, and intermodal facilities. In many areas within Region 9, sidewalks accompany roads and provide access and connections for pedestrians within cities and towns. Roads intersect these various modes and provide a connection to land, air, and water transportation.

From a regional perspective, the interstates provide important corridors for thru-traffic and traffic moving between regions, either for travel or freight movement. For example, arterial roads from the rural areas carry agricultural products. These roads allow freight to be transported to a barge terminal located at the Mississippi River. This

#### Ways to increase connectivity:

- Choose to build in/near central business districts
- Reduce distances between key destinations
- Improve local pedestrian and bicycle facilities
- Consider transit in new developments
- Support Complete Streets, where appropriate
- Align transportation choices with public health and quality of life

Source: U.S. Department of Transportation [transportation.gov/misson/health/connectivity](https://www.transportation.gov/misson/health/connectivity)

### Major Road/Highway Project Development Phases

- Feasibility Study (Pre-Engineering Process)
- Engineering Phase I (with Environmental Impact Statement-EIS)
- Engineering Phase II (with Plan Preparation)
- Land Acquisitions
- Utility Relocations
- Environmental Mitigation
- Bridge Work (if Applicable)
- Construction (Grading, Paving, and Other)
- Lighting and Signing

freight can then be carried to other ports regionally, nationally, and internationally. Other examples include roads that provide the routes for transit buses, where a bicyclist may ride a bicycle trail, then board a bus and complete a trip via local roads after exiting the bus. There are a host of other connections that can be illustrated to support regional economic vitality, increased accessibility and mobility, enhanced connectivity, and system efficiency.

Because interstates play a key role in thru-traffic and traffic moving within Region 9, it is important to acknowledge the growing capacity concern of I-80. According to the Iowa DOT Iowa In Motion 2045 Plan, I-80 is approaching or will be over capacity in 2040. The portions of I-80 within Region 9 are greatly affected by this growing capacity issue. Mobility and safety improvements are being analyzed to reduce this concern within this I-80 corridor.

To continually monitor connectivity and traffic movement throughout the state of Iowa, the DOT has created the Interstate Condition Evaluation (ICE) and INRIX Bottleneck Ranking Tools that aid in the goal to improve mobility and safety of all modes of transportation. These tools can cover more areas by collecting data from various GPS sources to determine real-time traffic speed information. Within Scott County, I-280 to U.S. 67, U.S. 67 to U.S. 6, and U.S. 6 to I-80 are all being monitored for highway improvements that will lead to better connectivity for Region 9.

### Future Roadway Network Priorities

Future roadway improvement needs were determined through input from the various jurisdictions and the public in Region 9. Planners and engineers from the jurisdictions used the existing comprehensive development or land use plans, where available, and the data on the existing roadway network when developing suggested roadway improvements. While roadway preservation projects may take less time for planning and engineering, an expansion project for a road or highway typically includes a number of major phases over several years (See inset.)

Each of these major phases also includes bidding and contract negotiations between the jurisdiction that is developing a new road and the people completing that particular phase of the project.

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### **Network Preservation**

The roadway network is a series of interconnected roads and bridges. Preserving these facilities can reap major benefits such as increased customer satisfaction, improved pavement condition and ride quality, safer roads, and lower life-cycle costs.

Maintenance of the existing roadway network is critical to efficient, safe operation and continuing usage of the transportation system. Regular maintenance of roadways and associated structures can increase the useful life of a street or bridge. Roadways are constructed with life cycles calculated into their design. Life cycles are developed by taking the average actual life of different surfaces and structures. These can be influenced by climate, construction materials, traffic volumes, and usage based on the weight of vehicles. In general, roads are constructed with a 15- to 20-year life span. Bridges are constructed with a 30- to 50-year life span. Restoration or rehabilitation of these facilities can add 10 to 20 years of life to an existing facility. Therefore, regular maintenance for all existing roadways and associated structures is important. State and local governments are responsible for the maintenance of the existing roadways through planned repairs and rehabilitation.

Federal Highway Administration (FHWA) offers guidance on pavement maintenance. It can be classified into three categories: preventative maintenance, minor rehabilitation (non-structural), and routine maintenance. Preventative maintenance is typically for pavements in good condition to extend a roadway's service life. Rehabilitation projects restore existing structural capacity through elimination of age-related, environmental cracking of a roadway surface, or by increasing the pavement thickness to strengthen a section of roadway. Routine maintenance addresses specific conditions and events that restore the roadway to an adequate level of service and requires regular recurring attention. (Source: *Federal Highway Administration Pavement Preservation Definitions Memorandum 02-25-2016.*)

As noted earlier in the chapter, the local jurisdictions in Region 9 participate in the statewide pavement management system. The data is utilized to prioritize pavement maintenance needs through the respective jurisdictions' five-year programs. In Region 9, gravel dust control, surface sealing, resurfacing, and bridge replacement are pri-



*Extreme weather resilience includes addressing road maintenance prior to pavement failure.*

mary maintenance needs. Both Scott and Muscatine Counties outline resurfacing projects in their 5-year program. Currently, the Region 9 programming of Surface Transportation Block Grant (STBG) funds does not directly address pavement condition as part of the evaluation criteria, and pavement condition is recommended to be reviewed to support the plan's system preservation goal.

### ***Network Expansion***

In addition to maintaining the existing network, this plan considers what is needed to expand roadway capacity through 2045. The future roadway system is presented in general terms related to corridor improvements. The final chapter of this plan outlines future roadway costs and projected revenues. In the short term through 2025, bridge replacements are in process within Region 9. As of 2020, the I-74 Bridge within Scott County is in the final stages of construction and being replaced. The largest project in Scott County identified is the need for a study of widening I-80 from 4 lanes to 6 throughout the county. A corridor analysis was conducted on I-80, showing that many communities in Region 9 directly connect to I-80 and thus, it is important to follow I-80 improvements.

The City of Muscatine anticipates roadway improvements on, among other improvements outlined in Table 2.4 and on Map 2.14. The City of Muscatine intends to incorporate their complete streets policy into every major reconstruction project.

Roadway projects where costs have not been identified would require a locational or feasibility analysis. As these projects become more fully defined and costs and funding are identified, they can shift from conceptual elements to be studied to planned elements to be programmed. The following listed proposed priority roadway projects in Table 2.4 are suggested by Region 9 to be improved to enhance the region's roadway network in the future. Not all projects are currently in the Iowa Department of Transportation five-year program and will require further study, either locally or by the Department of Transportation, prior to their implementation. Maps 2.14 and 2.15 highlight where future roadway priorities are planned or envisioned.

Approved projects over the next four years are included in the Region 9 Transportation Improvement Program (TIP). Please see the Region 9 TIP document, or Appendix B in this plan, for more detailed information on upcoming approved projects.

**Table 2.4**  
**Proposed Future Priority Roadway Projects**

<b>Jurisdiction</b>	<b>Location</b>	<b>Description</b>
Muscatine County	IA38 (U.S. 61 to I-80)	Widening or Super-2 Design Standards
Muscatine County	Hwy 61	Planning Study for Commuter Traffic & Other Modes
Muscatine County	Hwy 6 (West Liberty to Muscatine County Line)	Widening
Muscatine County	Historic U.S. 6/200th St. (Walcott to Durant Corporate Limits)	Reconstruction
Muscatine County	F58 (Wilton to Muscatine County Line)	Reconstruction
Muscatine County	X54 (U.S. 6 to F70)	Reconstruction
Muscatine County	F70 (Hwy 70 to X54)	Reconstruction
Muscatine County	X61 (City of Muscatine Corporate Limits to Muscatine County Line)	Reconstruction
City of Muscatine	Hershey Ave. (Green St. to Houser St.)	Reconstruction
City of Muscatine	Cedar St. (Mississippi River Dr. to Parham St.)	Reconstruction
City of Muscatine	Cleveland St. & Park Ave. Intersection	Intersection Reconstruction
City of Muscatine	2 <sup>nd</sup> Ave. & U.S. 61 Intersection	Intersection Reconstruction
City of Muscatine	Mulberry Ave. (3 <sup>rd</sup> St. to Houser St.)	Reconstruction
City of Muscatine	Lucas St. (Houser St. to 8 <sup>th</sup> St.)	Reconstruction
City of Muscatine	Houser St. (Mulberry Ave. to Grandview Ave.)	Reconstruction
City of Muscatine	Bidwell Rd. (U.S. 61 Bypass to Leroy St.)	Reconstruction
City of Muscatine	Isett Ave. (Bidwell Rd. to U.S. 61)	Reconstruction
City of Muscatine	Fulliam Ave. (Houser St. to Cedar St.)	Reconstruction
City of Muscatine	Logan St. (Fulliam Ave. to Cedar St.)	Reconstruction
City of Muscatine	Stewart Rd. (Sampson St. to Dick Drake Way)	Reconstruction
City of Muscatine	Dick Drake Way (Grandview Ave. to Stewart Rd.)	Shoulder Widening and Reconstruction
City of Muscatine	8 <sup>th</sup> St. (Cedar St. to Cypress St.)	Reconstruction
City of Muscatine	11 <sup>th</sup> St. (Mulberry Ave. to Bidwell Rd.)	Reconstruction

Jurisdiction	Location	Description
City of Muscatine	Leroy St. (Mulberry Ave. to Bidwell Rd.)	Reconstruction
City of Muscatine	Lake Park Blvd. (Park Ave. to Isett Ave.)	Reconstruction
City of Muscatine	Washington St. (Park Ave. to Cypress St.)	Reconstruction
City of Muscatine	5 <sup>th</sup> St. (Mulberry Ave. to Park Ave.)	Reconstruction
City of Muscatine	Main St./8 <sup>th</sup> St. (Grandview Ave. to Lucas St.)	Reconstruction
City of Blue Grass	E Telegraph Rd. (N. Mississippi St. to E. Mayne St.)	Reconstruction
City of Long Grove	1 <sup>st</sup> St. (E. Grove Rd. to N. Corporate Limits)	Reconstruction and Complete Streets Design Standards
City of Wilton	Historic U.S. 6/5 <sup>th</sup> St. (E. Corporate Limits to U.S. 6)	Resurfacing
City of Wilton	3 <sup>rd</sup> St. (Hwy 6 to Liberty St.)	Resurfacing and Culvert Replacement
Scott County	Allens Grove Rd. (275 <sup>th</sup> St. to 115 <sup>th</sup> Ave.)	Grade and Pave
Scott County	240 <sup>th</sup> Ave./Z30 (205 <sup>th</sup> St. to 260 <sup>th</sup> St.)	Resurfacing
Scott County	240 <sup>th</sup> St./F45 (180 <sup>th</sup> Ave. to 240 <sup>th</sup> Ave.)	Resurfacing
Scott County	240 <sup>th</sup> St./F45 (115 <sup>th</sup> Ave. to 155 <sup>th</sup> Ave.)	Resurfacing
Scott County	115 <sup>th</sup> Ave./Y52 (Hwy 130 to 1 <sup>st</sup> Ave.)	Resurfacing
Scott County	115 <sup>th</sup> Ave./Y52 (1 <sup>st</sup> Ave. to Wapsipinicon River)	Resurfacing
Scott County	162 <sup>nd</sup> Ave./Y64 (Eldridge N. Corporate Limits to 267 <sup>th</sup> St.)	Resurfacing
Scott County	20 <sup>th</sup> Ave./Y30 (200 <sup>th</sup> St. to Hwy 130)	Resurfacing
Scott County	Big Rock Rd./Y42E (60 <sup>th</sup> Ave. to N. Scott County Line)	Resurfacing
Scott County	60 <sup>th</sup> Ave./Y40 (200 <sup>th</sup> St. to Big Rock Rd.)	Resurfacing

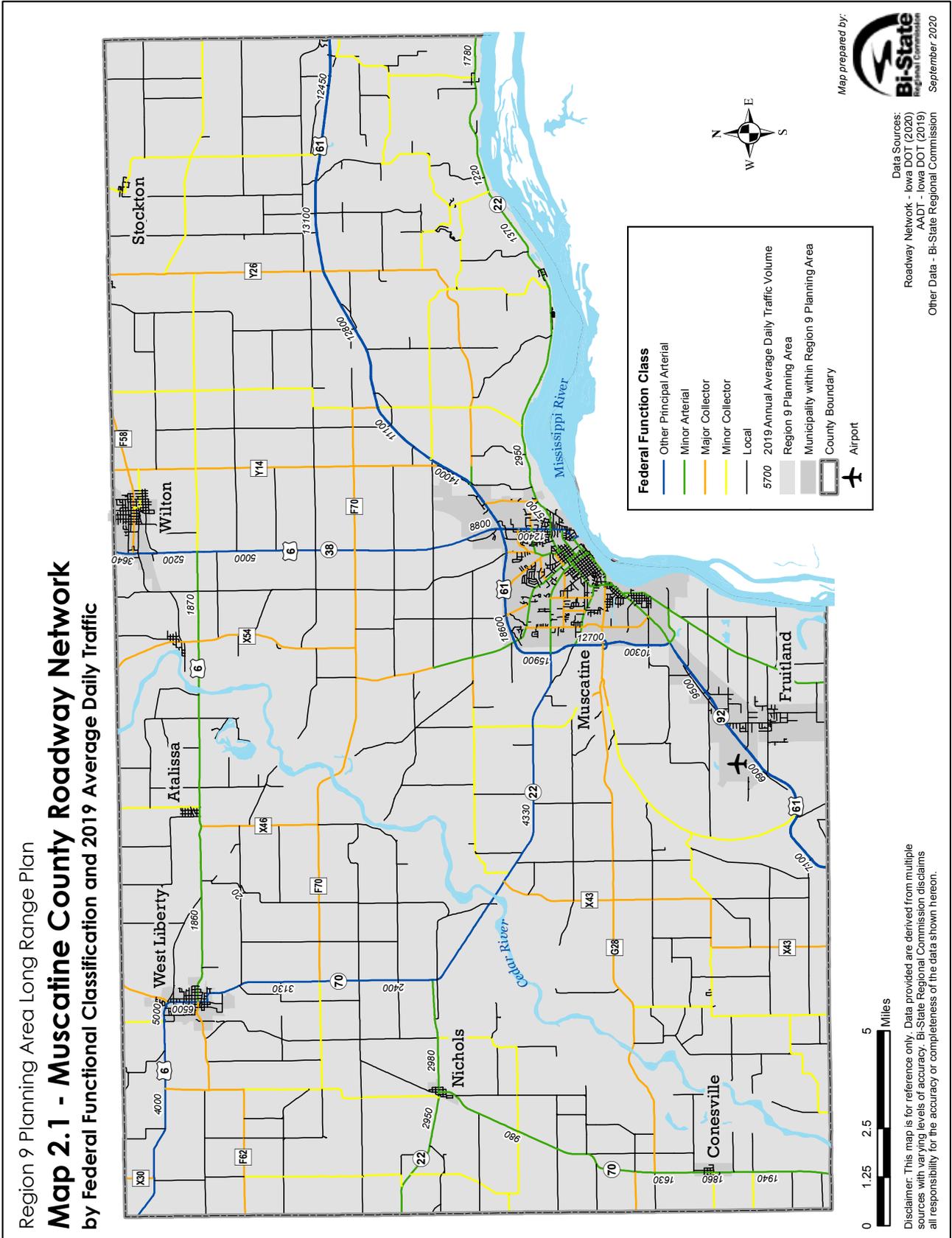
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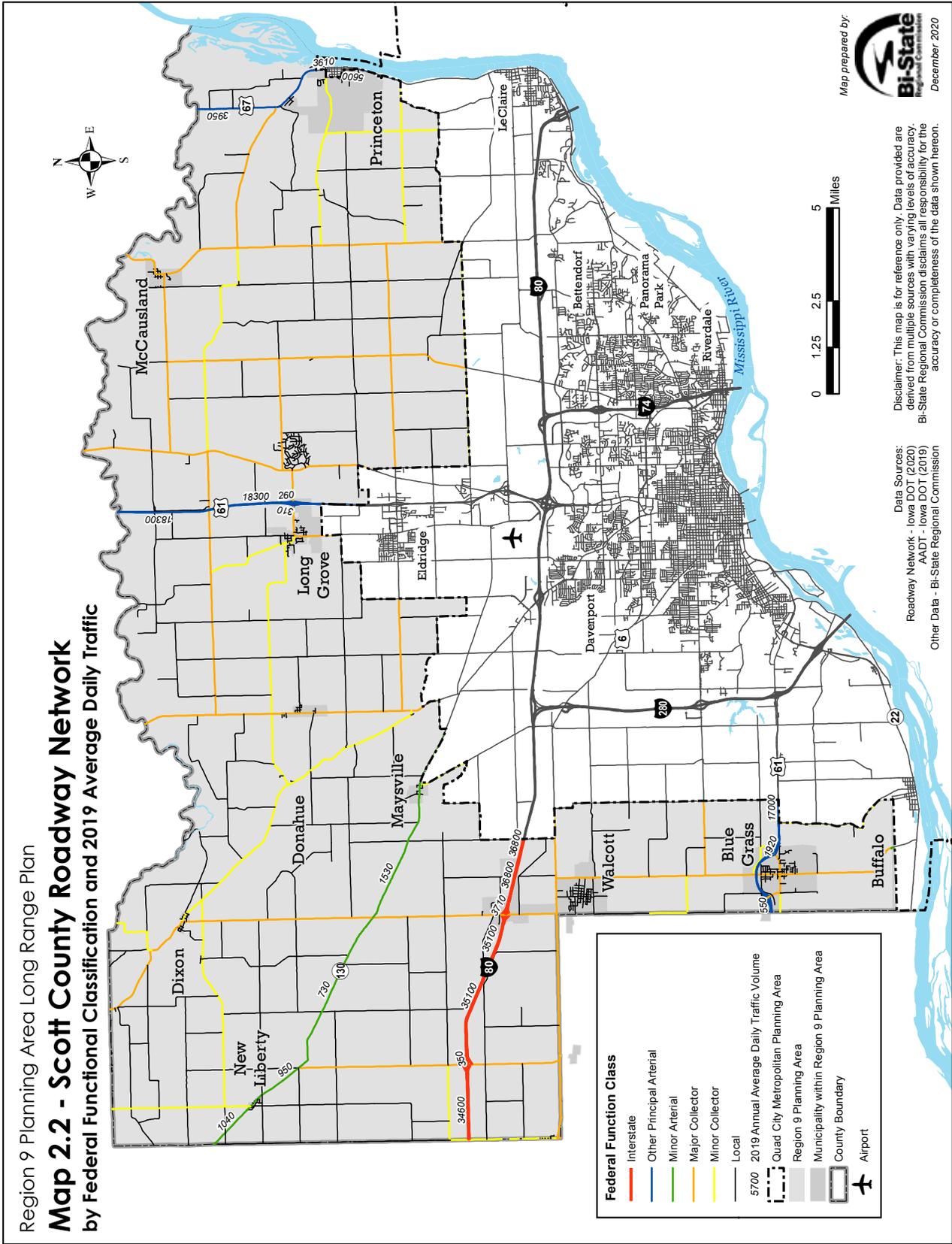
### ***Other Transportation Considerations***

***Access Management.*** Planning for limited highway access helps improve the safety and efficiency of a roadway corridor. By limiting access points, access management reduces the number of traffic conflicts and potential crashes. An access management program has been suggested for the U.S. 61 corridor, particularly the by-pass area within the City of Muscatine. Access management along U.S. 61 will continue to be explored so future projects are compatible with Iowa DOT access policy, specifically to provide efficient and safe highway operation while utilizing the full potential of the highway investment.

***Potential Safety Corridors.*** In the 2019-2023 Iowa Strategic Highway Safety Plan, a safety emphasis area analysis has been conducted. The safety emphasis area analysis identifies crashes and attributes them to a certain emphasis area, such as roadside collisions and distracted drivers. Within Region 9, U.S. 61 between I-280 in Davenport through Muscatine, a small section of I-80 in Scott County, and U.S. 61 north of the Quad Cities are the major roadways included with this safety emphasis area analysis. The three highest safety emphasis areas of concern in Region 9 are lane departures, local roads, and speed related.

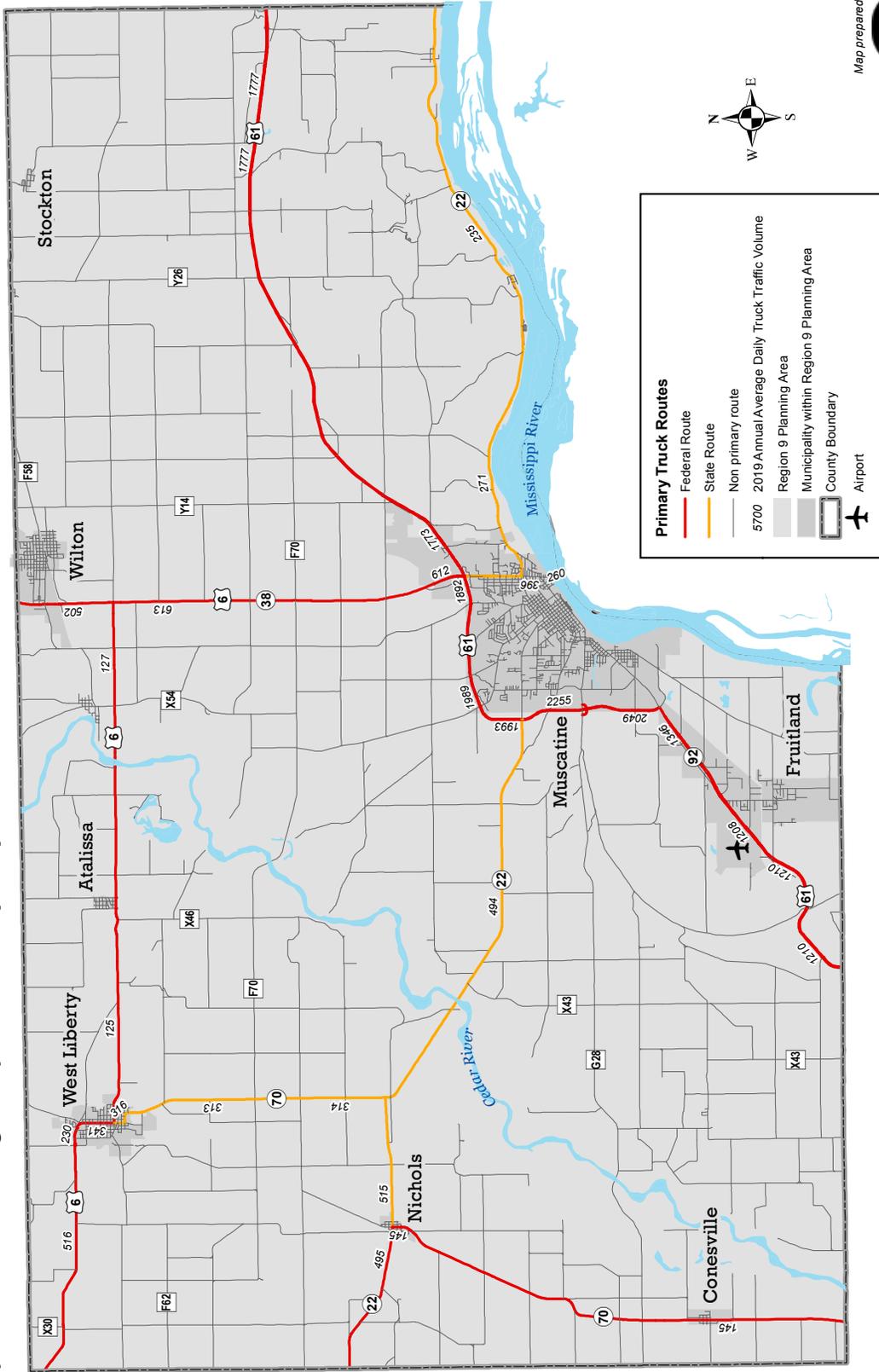
The Community Awareness of Roadway Safety (CARS) interdisciplinary team of engineers and public safety and emergency responders in Scott County have partnered with the Iowa Department of Transportation and interdisciplinary representatives from the City of Muscatine and Muscatine County to work on safety solutions for this corridor. Initial discussions for potential solutions include increased fines, special signing, increased enforcement for impaired drivers and speed, and access control.





Region 9 Planning Area Long Range Plan

### Map 2.3 - Muscatine County Primary Truck Routes by 2019 Annual Average Daily Truck Traffic (AADT) Volume



Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying levels of accuracy. Bi-State Regional Commission disclaims all responsibility for the accuracy or completeness of the data shown hereon.

Data Sources:  
 Truck Routes & Roads - Iowa DOT (2020)  
 Truck AADT - Iowa DOT (2019)  
 Other Data - Bi-State Regional Commission

Map prepared by:

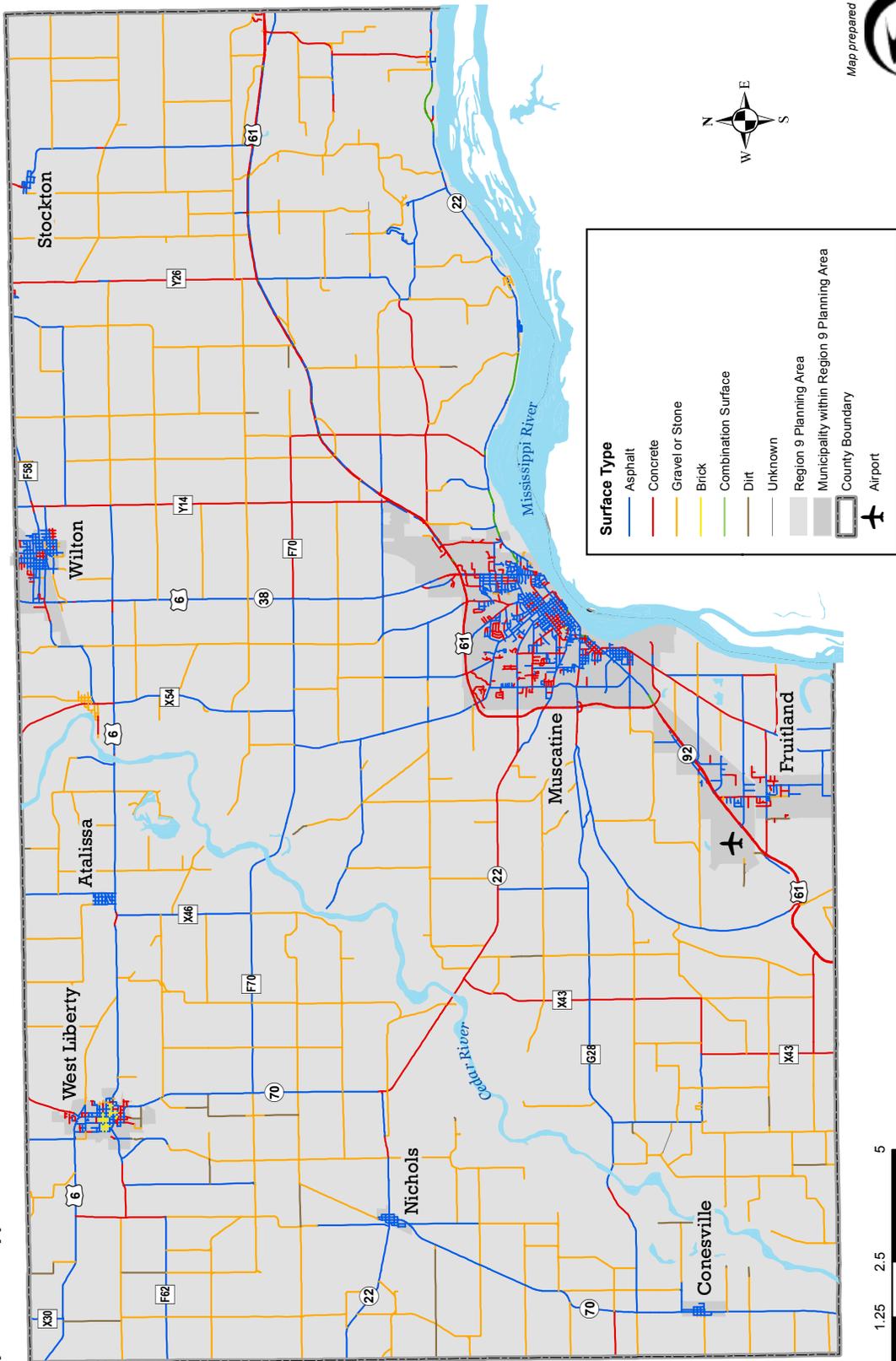


September 2020



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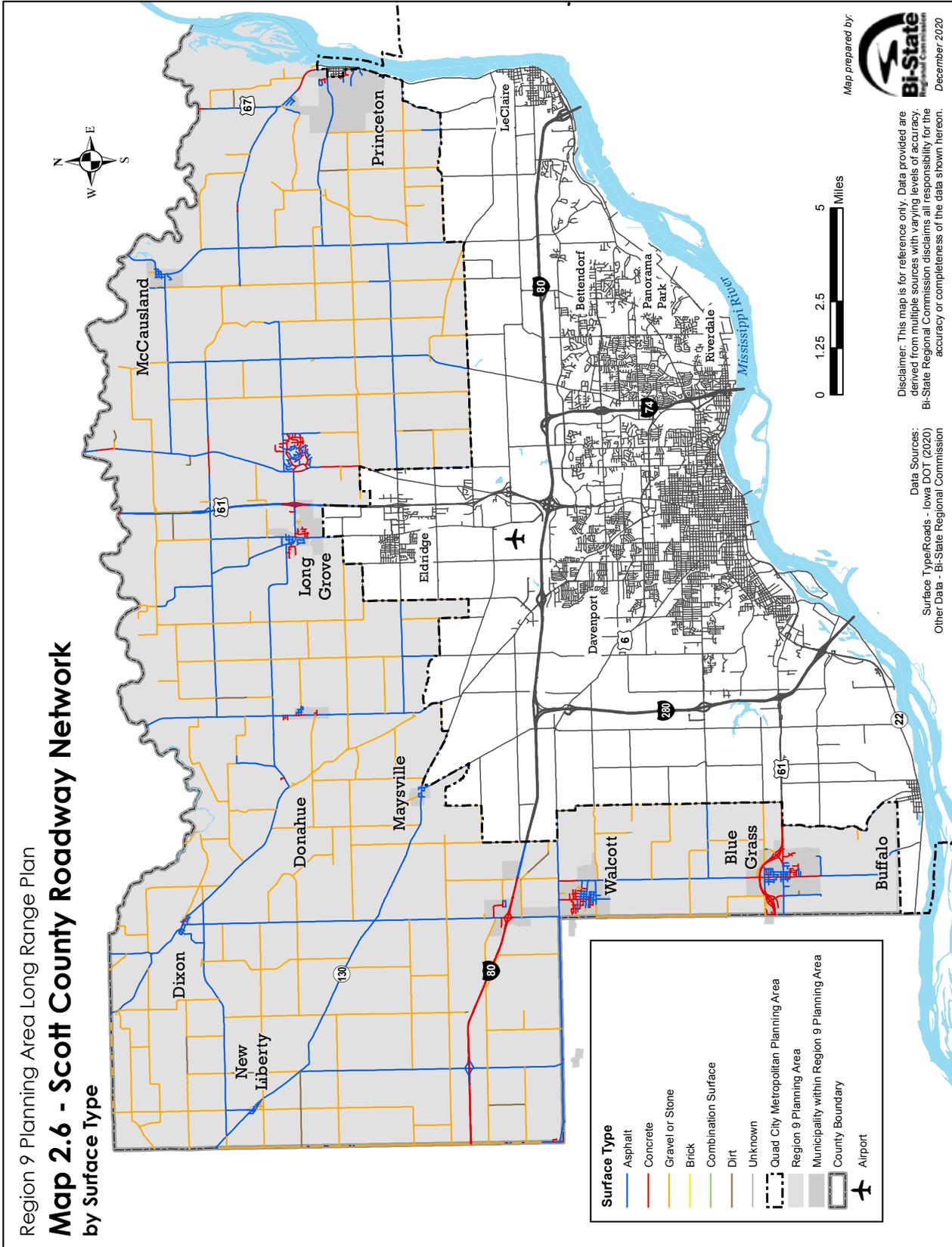
# Map 2.5 - Muscatine County Roadway Network by Surface Type



Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying levels of accuracy. Bi-State Regional Commission disclaims all responsibility for the accuracy or completeness of the data shown hereon.

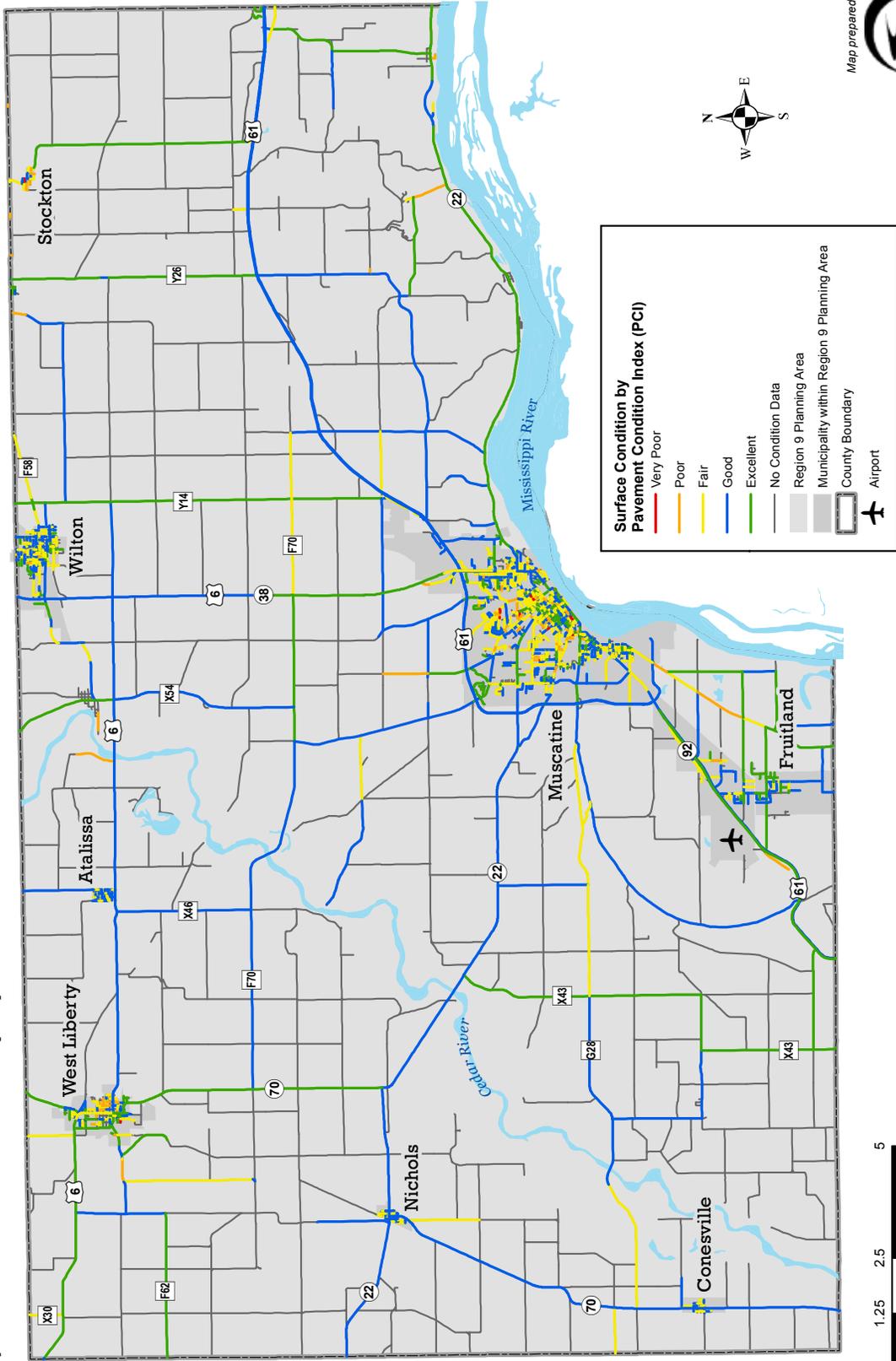
Data Sources:  
 Surface Type/Roads - Iowa DOT (2020)  
 Other Data - Bi-State Regional Commission  
 September 2020





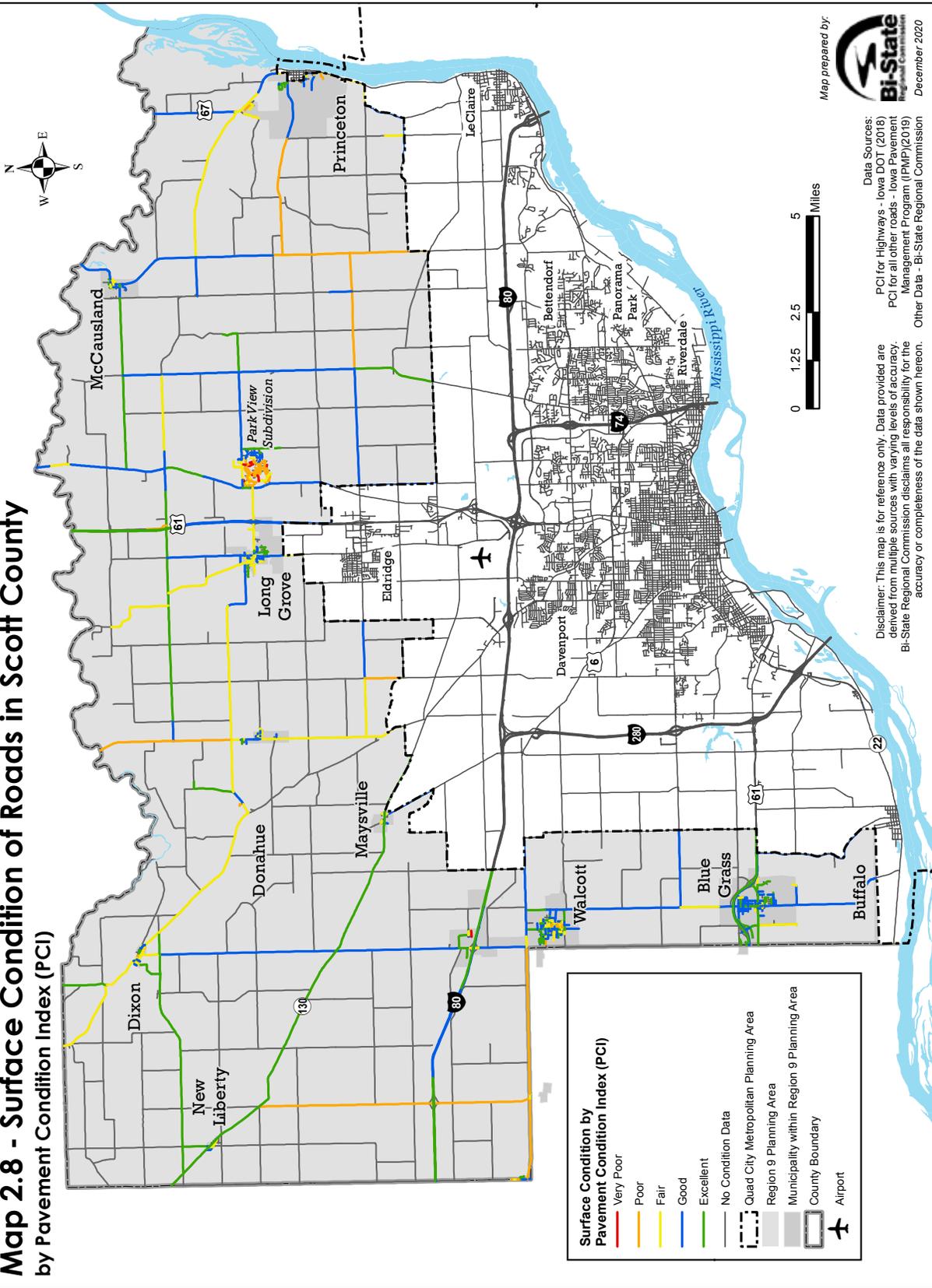
Region 9 Planning Area Long Range Plan

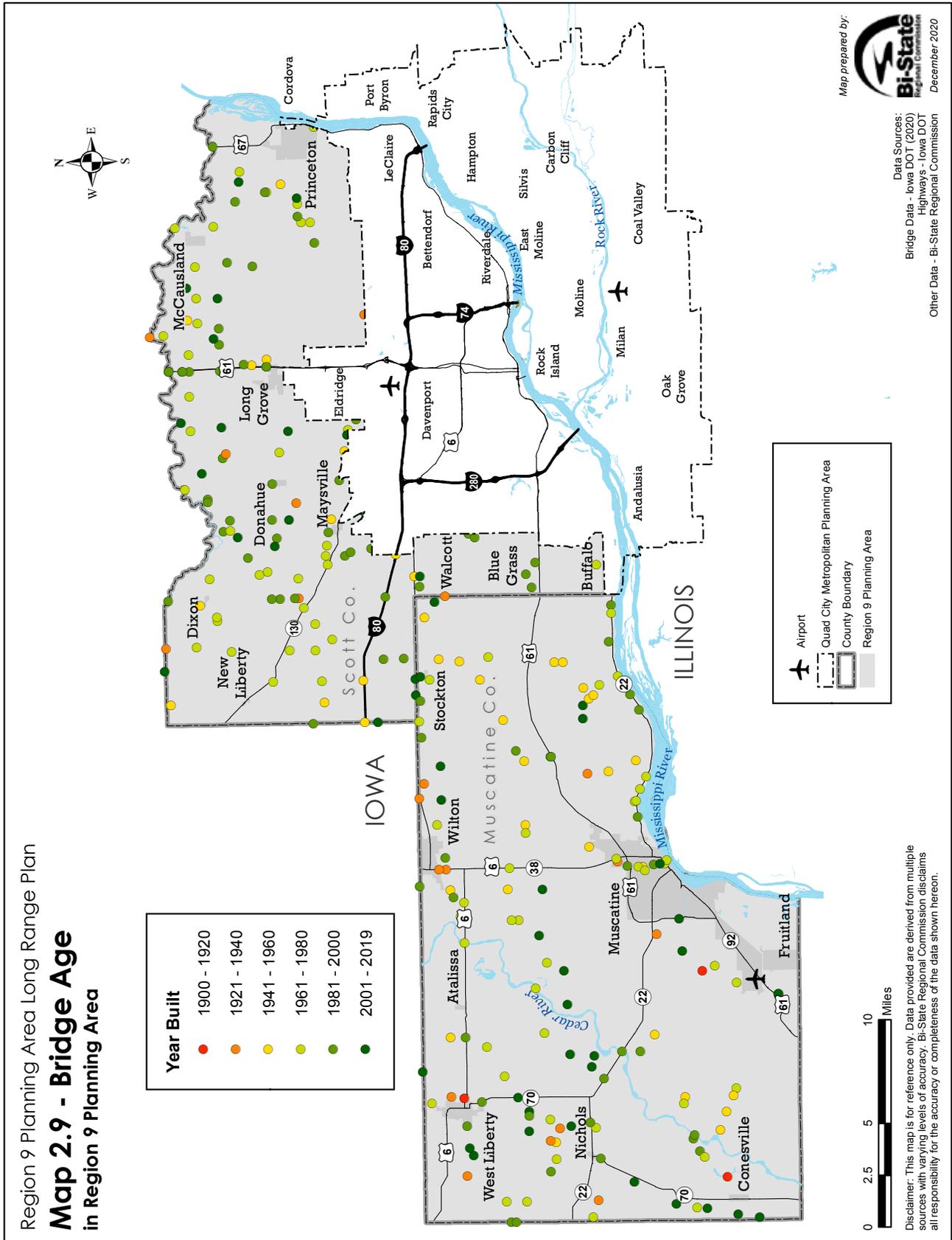
### Map 2.7 -Surface Condition of Roads in Muscatine County by Pavement Condition Index (PCI)

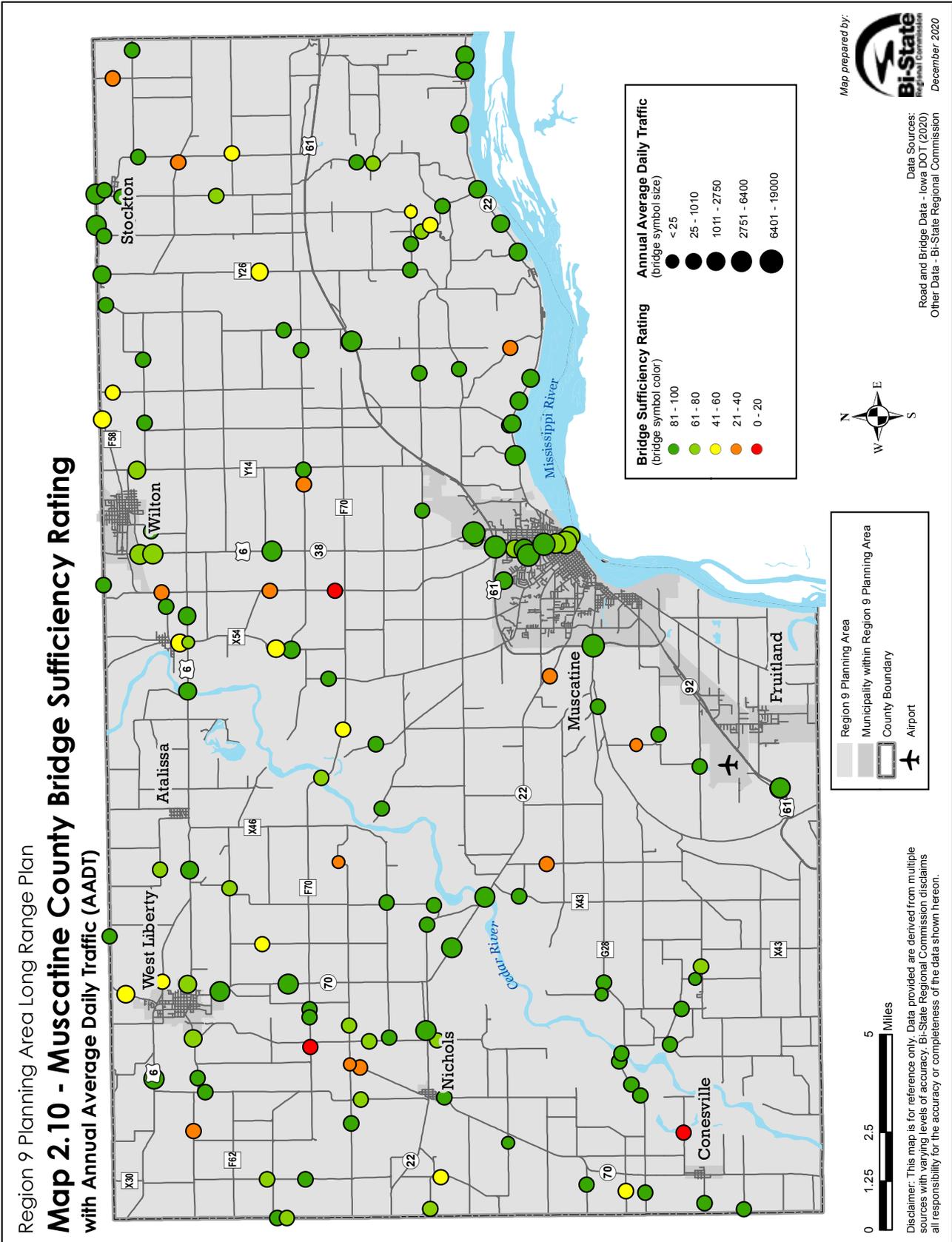


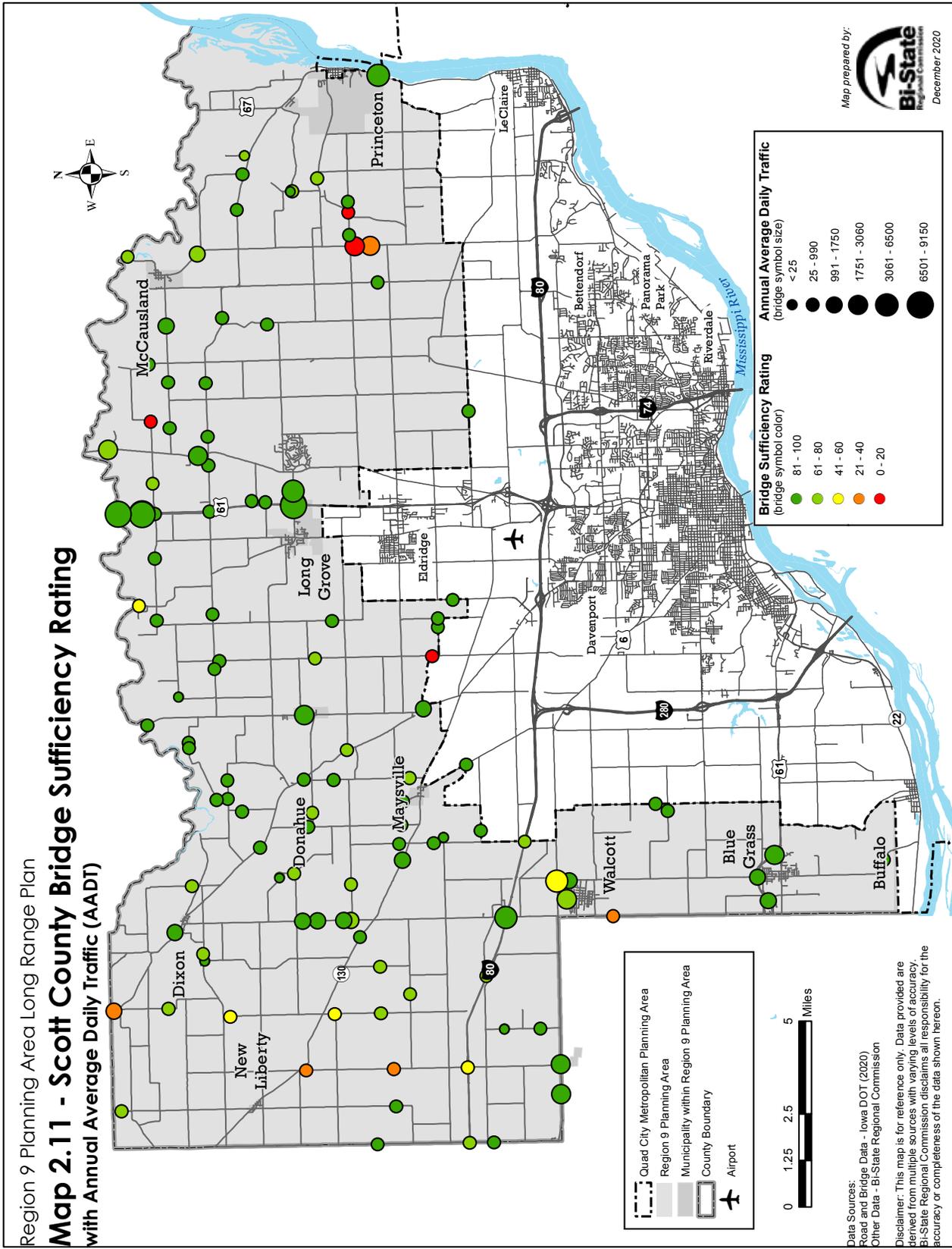
Region 9 Planning Area Long Range Plan

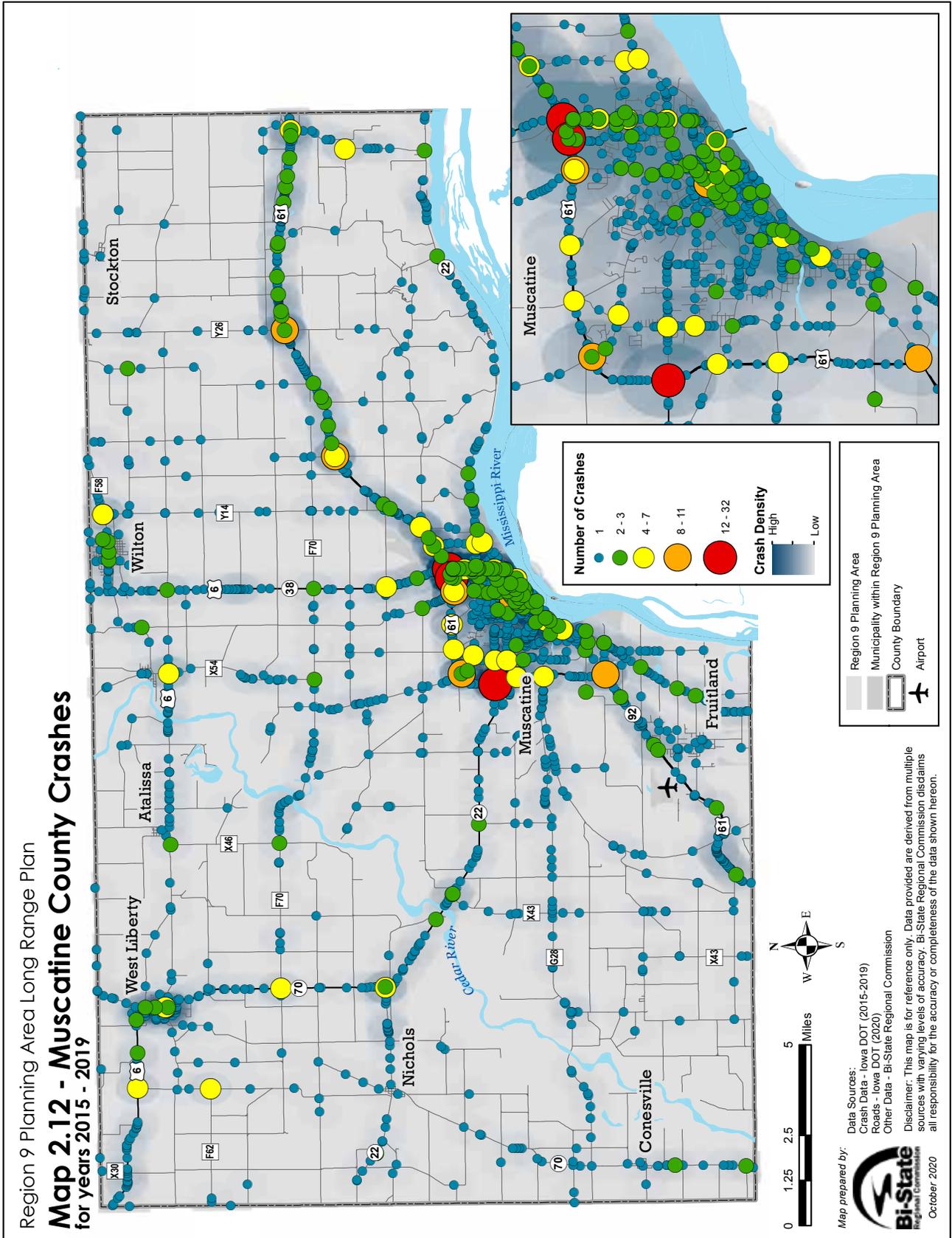
## Map 2.8 - Surface Condition of Roads in Scott County by Pavement Condition Index (PCI)

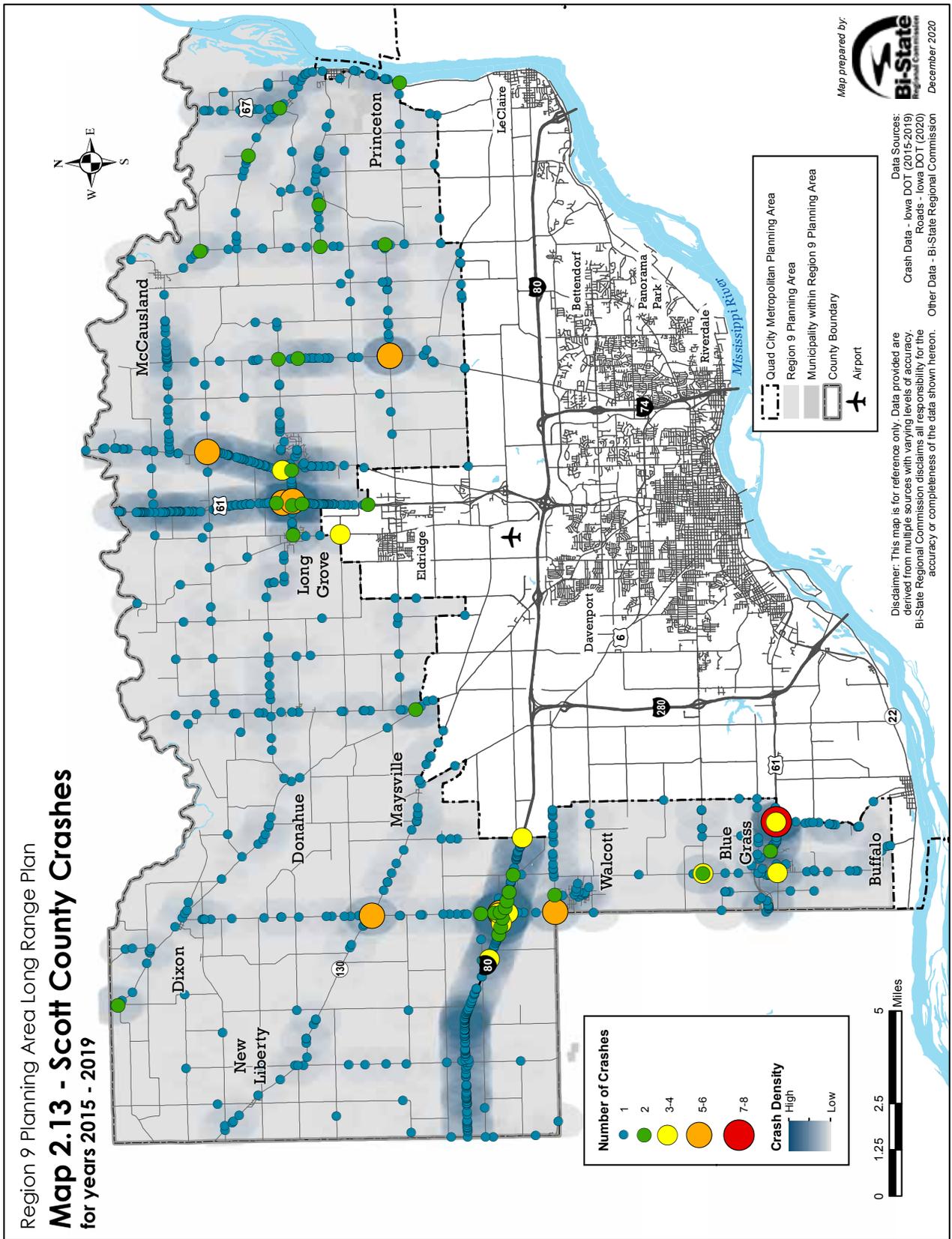




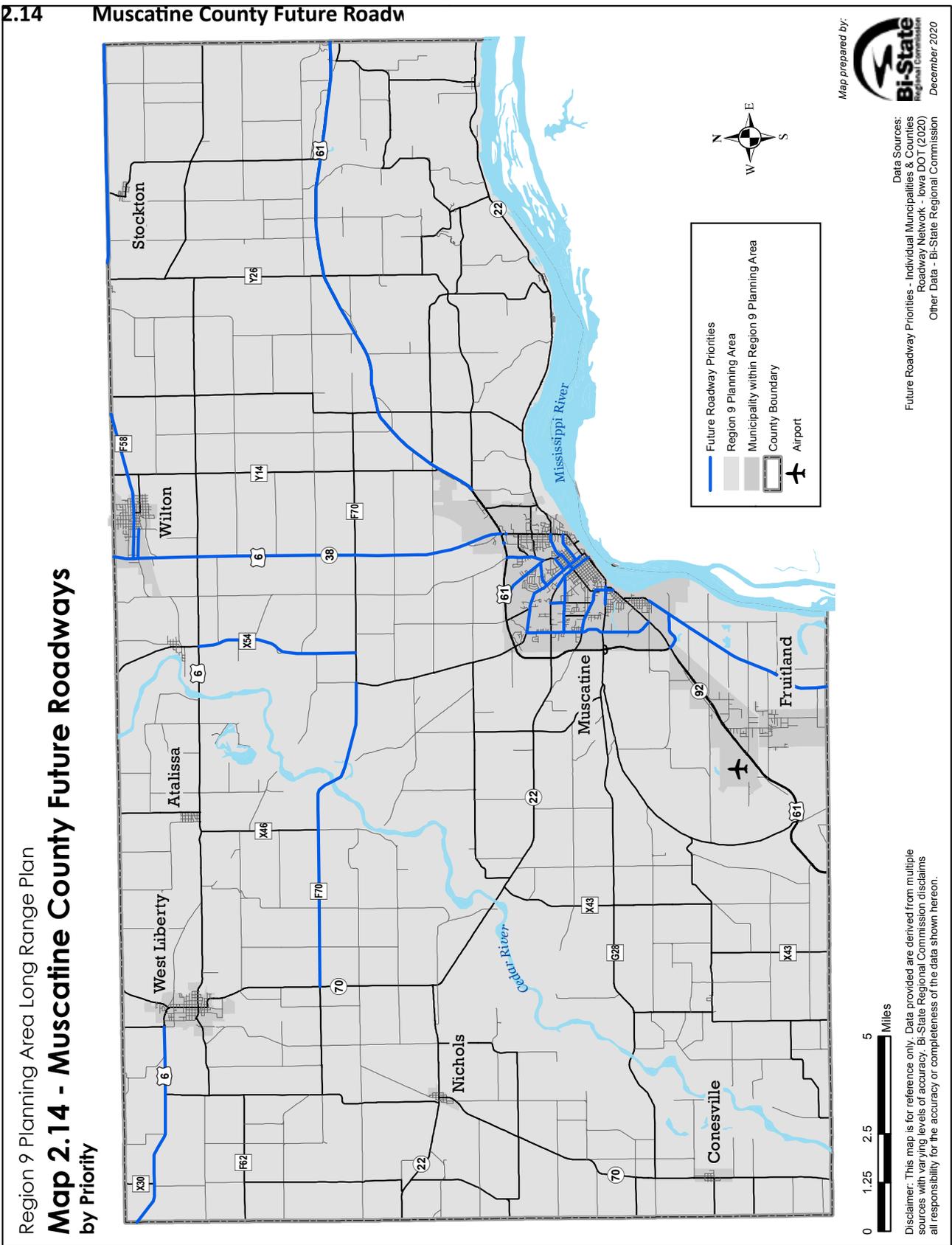






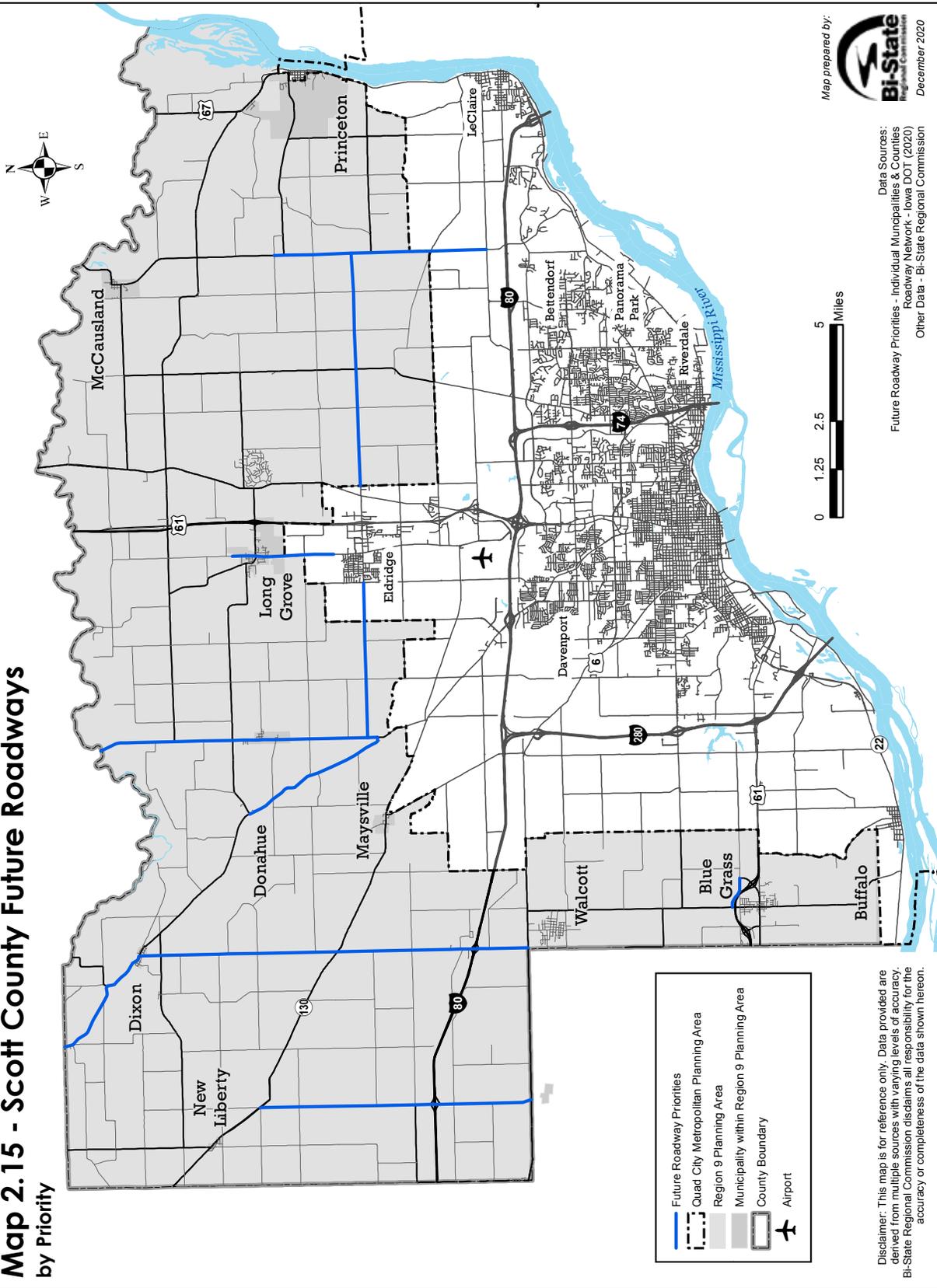


Map 2.14 Muscatine County Future Roadways



Region 9 Planning Area Long Range Plan

# Map 2.15 - Scott County Future Roadways by Priority



Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying levels of accuracy. Bi-State Regional Commission disclaims all responsibility for the accuracy or completeness of the data shown hereon.

Future Roadway Priorities - Individual Municipalities & Counties  
 Roadway Network - Iowa DOT (2020)  
 Other Data - Bi-State Regional Commission

Map prepared by:  
**Bi-State**  
 Regional Commission  
 December 2020

# CHAPTER 3 – REGIONAL TRANSIT NETWORK

## Existing Regional Transit Network

Transit is simply defined as moving or conveying passengers from one place to another. A transit system can take many forms and use a variety of vehicle types, such as buses, vans, taxis carpools, or trains. Transit can be provided by a variety of methods, either publicly, privately, or a combination of these efforts. The ultimate goal is to create a system that provides the greatest mobility options and choices to get people to and from their destinations.

In Region 9, there is one fixed-route public transit system and one regional not-for-profit transit provider. Table 3.1 summarizes the number of vehicles, weekday and weekend hours of service, service frequencies, and adult basic fares.



**Table 3.1  
Public Transit Systems Information**

Transit System	Type of System	# of Routes	Total # of Vehicles	Weekday Hours	Weekend Hours	Service Frequency on Routes	Adult Basic Fare
Muscatine Transit System (MuscaBus)	Fixed-Route & Paratransit	4	11	6:30 a.m. -5:00 p.m.	8:30 a.m. – 4:15 p.m. Saturday only	30 or 60 minutes by route	\$1.00
River Bend Transit	Demand Response	N/A	74	5:30 a.m. - 11:00 p.m.	7:00 am - 5:00 pm, Saturday- per contract	N/A	Suggested Donation

Source: Muscatine Transit System & River Bend Transit System, 2018

***Muscatine Transit System (MuscaBus)***

The City of Muscatine operates a fixed-route transit system, locally known as MuscaBus, and a door-to-door paratransit service within its municipal boundaries. Services are open to the general public, and principal clients are 7% elderly, 40% individuals with disabilities, and 53% other. Regular operating hours are 6:30 a.m. to 5:00 p.m. Monday through Friday and 8:30 a.m. to 4:15 p.m. on Saturday. Fares for fixed-route trips are \$1.00 with free transfers and \$2.00 for paratransit shuttle rides, which must be scheduled a day in advance. Fixed-routes are displayed in Map 3.1.

In addition to its regular hours of service, MuscaBus provides a night-time commuter service from 5:30 p.m. to 12:00 a.m. Monday through Saturday. MuscaBus also provides services beyond those required by the Americans with Disabilities Act (ADA) and operates from 5:30 p.m. to 9:30 p.m. on Tuesday and Thursday evenings. Although monies are no longer provided through New Freedom funding dollars, the service provided by MuscaBus maintains the same name, the New Freedom Expanded Bus Service. Both services are funded by FTA money with a municipal match. Rides are demand-response and scheduled a day in advance. Same-day rides are provided if space is available. All rides are open to the general public and accessible to persons with disabilities. Fares for both routes are \$2.00. MuscaBus offers an additional year-round service that operates twice daily or by appointment from Muscatine Public Works Area to Shell Express Mart, located at 4804 South Highway 61 as a good point of access for passengers on the southern end of Muscatine. This route is used to service the industrial park, picking up and dropping off passengers as requested. The service operates late August through May annually with a fare of \$1.50 per ride.

MuscaBus operates a fleet of eleven light-duty buses. Four of them are 16 passenger, three are 18 passenger, and the remaining three are 20 passenger buses. MuscaBus also operates one 9 passenger conversion van. All vehicles meet ADA standards, and four are equipped with bike racks to encourage multi-modal transportation. Currently, the City of Muscatine utilizes the city's Public Works Building as both the administrative and maintenance center for the transit system. The building is ADA accessible and was constructed in 1985. Currently, there is no facility expansion expected for Muscatine City Transit Regional Public Transit Operators.

In order to protect employees and prevent vandalism, MuscaBus has built fencing around its bus garage lot. To provide safety and security while buses are in use, a coding system has been developed that allows drivers to immediately contact a dispatcher should a problem occur. In addition, drivers also receive training on safety and security measures by local law enforcement. Surveillance systems are installed in all of the 12 vehicles, including in the four new replacement vehicles.

Table 3.2 displays an overall increase in total passengers from 2004-2014, then a steady decrease the past five years (2015-2019). Though there's been a recent decline in ridership, revenue hours have continued to increase over the past fifteen years of service. There are many variables that play into public transit ridership, including gasoline prices, unemployment rates, and general state of the economy. An important variable to note is the privatization of Medicaid at the state level in 2016, allowing benefits for private, nonemergency transportation providers. Some of the system's major accomplishments include the addition of nighttime service in 1999 and a New Freedom project implemented in 2007. Both routes still exist and continue to be utilized by Muscatine's residents.



*MuscaBus Green Route. The MuscaBus operates many routes, color coordinating them for ease of use by the public.*

**Table 3.2  
MuscaBus Ridership & Revenue Hours**

Fiscal Year	Total # of Passengers	Total # of Revenue Hours	Average # of Passengers Per Revenue Hour
2004	131,117	17,138	7.65
2005	136,476	17,508	7.80
2006	136,265	18,470	7.38
2007	151,434	19,424	7.80
2008	180,371	19,779	9.12
2009	188,303	20,273	9.29
2010	172,306	19,804	8.70
2011	172,580	20,593	8.38
2012	188,277	20,644	9.12
2013	175,548	20,787	8.45
2014	179,919	20,418	8.81
2015	180,390	20,418	8.83
2016	168,712	21,323	7.91
2017	167,689	21,926	7.65
2018	156,209	21,817	7.16
2019	149,140	21,796	6.84

Source: MuscaBus Transit System, 2020

**Table 3.3  
MuscaBus Fleet Information**

Vehicle Type	# Of Vehicles
16-passenger bus	4
18-passenger bus	3
20-passenger bus	4
9-passenger conversion van	1

Source: MuscaBus Transit System, 2020

### *River Bend Transit, Inc.*

River Bend Transit, Inc. (RBT), is a not-for-profit corporation that has been designated by the counties per the Iowa Code, Chapter 324A, as the regional transit provider for the Counties of Muscatine and Scott in Region 9, as well as Cedar and Clinton Counties in Region 8. Its service area covers 2,157 square miles, and also includes trips to University Hospitals and Clinics in Iowa City, Iowa. Map 3.2 illustrates the service area for River Bend Transit.

River Bend Transit utilizes a contractual relationship with counties, municipalities, social service agencies, and other organizations within its service area to provide curb-to-curb paratransit service to specific clients of these organizations and to the general public for medical appointments, work, school, and education trips. Principal clients are 52% individuals with disabilities, 33% seniors, and 15% other. Over 20 individual contracts are administered annually. In order to fulfill the specific and/or individual needs of the contracted agencies and their clients, routes are designed to handle their requests. Examples include door-to-door service, special hours of service, destinations, etc.

RBT operates 5:30 a.m. to 7:00 p.m. Monday through Saturday. Like all FTA Section 5311 rural public transportation funding recipients, the system must provide equal access to the general public. However, services can be designated around the needs of specific population subgroups. The system's revenue sources are suggested donations based on trip mileage and fees per contract. Same-day service is possible, but RBT recommends clients schedule trips at least one day in advance.

In addition to its regular hours of service, RBT began receiving supplemental funding from FTA for the Job Access Reverse Commute (JARC) in 1999. This program allowed RBT to offer extended evening and Saturday service through its JARC program. Designed to aid the transition from welfare-to-work, the service coordinates with fixed-routes in Bettendorf and Davenport for rides to work, job training, and related activities, such as childcare. Priority for rides is given to persons referred by social service agencies that participate in the planning and implementation of this service.

RBT's JARC funds were officially ceased in July 2014. For FY2015, the City of Davenport provided all of the funding for RBT's JARC service for Davenport residents. Effective in FY2016, the City of Davenport, took over RBT's JARC service contract with RBT to provide the service.



*River Bend Transit Bus. River Bend Transit is especially designed for ADA handicap purposes.*

Employment-related trips are also funded through the Iowa Clean Air Attainment Program (ICAAP) with the purpose of reducing the number of single-occupant vehicle trips between the urbanized Quad Cities and Muscatine.

A New Freedom program was implemented beginning in spring 2007 and offered services that went beyond ADA requirements. The service is no longer funded using New Freedom dollars, but still operates from 5:00 a.m. to 7:00 p.m. Monday through Friday. The service accommodates Quad City Kidney Dialysis Center patients and also offers extended driver-assisted service, same day service, routine booking that exceeds 50% of scheduled trips, trips beyond the ¾-mile rider corridor, and flexibility to provide modification when necessary.

In FY2014, RBT was awarded an ICAAP grant for partial operation and partial capital (bus) funding with the goal of expanding RBT's Iowa City services. Initially, the service utilized three buses and provided trips Monday through Friday. After the grant was expended, operation has been reduced to a single trip on Monday where one bus travels to Iowa City in the morning and returns in the evening. This service assists in lowering the single-occupant trips traveling to and from Iowa City.

RBT has a 15-year replacement goal of its entire fleet. However, discretionary capital funding appropriated to Iowa is inadequate to meet this replacement schedule. The federal threshold for useful life of the types of vehicles RBT uses is four years or 100,000 miles. Typically, RBT cannot replace its vehicles until they are approximately 7-9 years of age and have accumulated 160,000+ miles. The extended use of vehicles results in higher maintenance and repair costs as the wear and tear on vehicles is magnified by the rural conditions of the service area. Table 3.5 provides current fleet information by vehicle type.

RBT uses state-of-the-art scheduling and mapping systems, allowing all vehicles to be in constant communication. Each vehicle is radio-equipped, and a global positioning system makes it possible to track each vehicle at all times. RBT has 24/7 video surveillance of its facility and grounds; security card access to parking lot gates; restricted/video surveillance buzz-to-open access to administration part of the facility. In addition, 7-foot barbwire fencing surrounds the RBT bus garage lot. Upon hire, drivers receive training on suspicious packages and behaviors that may indicate problems while in-route.

Table 3.4 displays annual ridership, revenue hours, and average passengers per revenue hour over a 10-year period. From 2004 to 2009, RBT achieved a steady increase in total passengers each year. However, from 2010 to 2014, RBT's ridership fluctuated by increasing one

year and decreasing the next. In 2014, RBT experienced a decrease in ridership by approximately 25 percent. The decline in ridership is attributed to RBT's contract ending with the Davenport Community Schools District in FY 2014. This steady decrease in ridership ended in 2017 when RBT saw a 13 percent increase, but ridership has since been decreasing, with 2019 reporting the lowest total passengers since 2004.

**Table 3.4**  
**River Bend Transit Ridership & Revenue Hours**

Fiscal Year	Total Passengers	Total Revenue Hours	Average Passengers Per Revenue Hour
2004	194,919	63,839	3.05
2005	200,075	61,782	3.24
2006	208,131	63,052	3.30
2007	217,786	70,290	3.10
2008	238,013	82,117	2.90
2009	243,849	85,859	2.84
2010	208,389	70,616	2.95
2011	222,378	55,914	3.98
2012	206,602	63,024	3.28
2013	221,516	55,367	4.00
2014	194,121	46,408	4.18
2015	192,179	47,989	4.00
2016	188,061	49,619	3.79
2017	212,076	57,910	3.66
2018	195,621	64,058	3.05
2019	182,188	57,751	3.15

Source: River Bend Transit, 2020

**Table 3.5**  
**River Bend Transit Fleet Information**

Vehicle Type	# Of Vehicles
Buses with Lifts	72
ADA Minivans with ramps	2

Source: River Bend Transit, 2020

### ***Other Providers***

In addition to River Bend Transit, there are hospitals, nursing homes, social service agencies, and for-profit providers in both Scott and Muscatine Counties providing specialized transit.

#### **Non-Emergency Transport Inc. (NET) and Pearl City Shuttle**

NET provides transportation services 24 hours a day, 7 days a week for non-emergency trips. The service primarily frequents destinations such as doctor and dentist appointments, hospitals and clinics, nursing homes, physical therapy centers, dialysis centers, and family or special events. Transportation for Medicaid patients is available as well as for non-emergency medical transportation. Medicaid covers rides to and from approved care visits. NET offers service to Muscatine and surrounding areas, including Iowa City, Davenport, and the Quad Cities for individuals in the community who are elderly and/or disabled. NET now has 14 wheelchair vans and nine non-wheelchair accessible vans. The company also has a 12-passenger limo bus, commonly used for wedding parties, large family transport, and local corporate gatherings. The limo service primarily offers rides for more local trips, such as entertainment purposes or visiting friends and family in the Muscatine area.

#### **Senior Express, Inc.**

Senior Express, Inc. has been in service since 2012 and is a family-owned and operated service that is located in Davenport, Iowa. It is approved through the Iowa Department of Transportation and available to provide transportation services 24 hours a day, 7 days a week. Some of the most frequented travel requests include doctor's appointments, shopping, special outings, the airport, and long distance appointments to other medical facilities.

#### **Volunteers & Information**

Volunteers & Information provides transportation to clients eligible for reimbursement by the Department of Human Services. The organization is based out of Muscatine, Iowa, but commonly provides services to Davenport and Iowa City, Iowa. The service requires reservations one week in advance and is only provided if a volunteer is available.

### **Regional Mobility**

#### ***Transit Development Plan***

A directive was given to coordinate transportation under President Bush's 2004 Executive Order 13330, which established the Inter-agency Transportation Coordinating Council on Access and Mobility

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(CCAM). This group continues to actively update a strategic plan to that end. The plan serves to reduce duplication, improve cost efficiency, and simplify customer access to transportation for individuals with disabilities, seniors, and those with lower incomes. More information on CCAM can be found at: <https://www.transit.dot.gov/creating-council-access-and-mobility>.

To comply with federal requirements, Iowa Department of Transportation requires that Iowa's 9 Metropolitan Planning Organizations (MPOs) and 18 Regional Planning Affiliations (RPAs) develop Passenger Transportation Plans (PTPs). The process is designed to promote joint, coordinated passenger transportation planning programs that further the development of the local and regional public transportation systems. Public transportation systems in Iowa include the 35 public transit systems plus a wide array of human service and private transportation providers.

As a result, a passenger transportation plan was established locally. The Bi-State Region Transit Development Plan represents a coordinated effort by the region to provide information, guidance, and priorities for passenger transportation. The purpose of the plan is to provide a framework for efficient and effective transit services related to resource allocation, service development, coordination of services, and addressing gaps or service needs. Updated annually, the plan is based on input from local governments, human service agencies, transit operators, and the public.

### ***Transit Needs***

Common transit issues defined by the region include the need for extended hours and days of service, availability of funding, affordability for the customers, access to medical services, and the need for education on services available. Barriers to effective transit service include fragmented systems, issues of complexity and lack of convenience, disconnections between needed destinations faced by commuters, lack of personal vehicles, and non-standard work hours.

Bi-State Regional Commission surveyed human service agencies in Region 9 for feedback on transit needs. These agencies provide resources to local residents, many of whom rely heavily on transit. The survey asked human service professionals to describe some of the barriers their clients/patrons experience when utilizing transit options in Region 9. Of the 12 human service agencies that responded to the survey, eight (75%) reported that many of their clients rely on public transportation for getting around. It was found through the survey

that clients of various human service agencies struggle with the following public transit related issues:

- Affording bus fares/passes
- Inconvenient hours of operation
- Days of operation
- Routes are limited
- Live outside the service area
- Lack of awareness of transit options
- Getting to and from pick-up locations

Among accessing public transit, survey responses also alluded to more general barriers clients of human service agencies experience. These included issues related to low-income/financial barriers, lack of access to a personal vehicle, and lack of a driver's license for getting around.

Agencies within Region 9 and the Bi-State Region as a whole are working to alleviate these common barriers by providing public transportation services outside of the regular business hours and extending further out from the inner city areas, as evidenced by MuscaBus' continued JARC and New Freedom Expanded Bus Services described elsewhere in the chapter, as well as service to the Shell Express Mart near the Muscatine Airport. The transit systems aspire to improve the public's knowledge of their services through better mapping of service areas, the translation of existing materials into other languages, and improved websites. In addition, the systems work closely with human service providers who can help inform their clients of transit options.

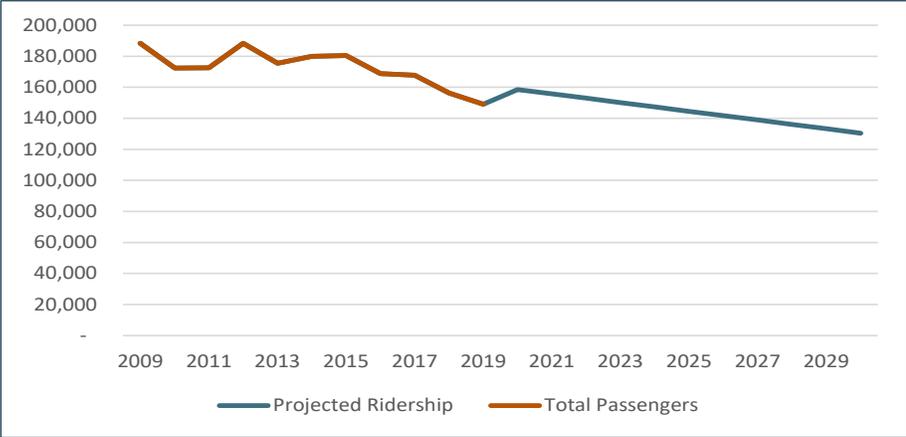
### ***Ridership Projections***

Several methods of projecting ridership were examined. The first was a linear regression projection applied to the ridership data from the past 16 years (2004-2019). Figures 3.1 and 3.2 show the projected ridership for both systems through 2028 according to this method. In past plans, Bi-State staff have used a yearly average increase within the formula to determine the projected outcomes for the next ten years. MuscaBus experienced an average annual increase between FY 2004 and 2014, but then a decrease from FY2015-19. Comparably, RBT only experienced an average annual increase between FY 2004 and 2009 and has been since decreasing on average (FY2009-2019). After performing the linear regression, it was estimated that there would be 189,220 annual rides for MuscaBus and 183,148 annual rides for River Bend Transit by the year 2029. Using the same method, it was projected that by 2045, MuscaBus would complete 213,025

annual rides, and River Bend Transit would complete 159,175 annual rides.

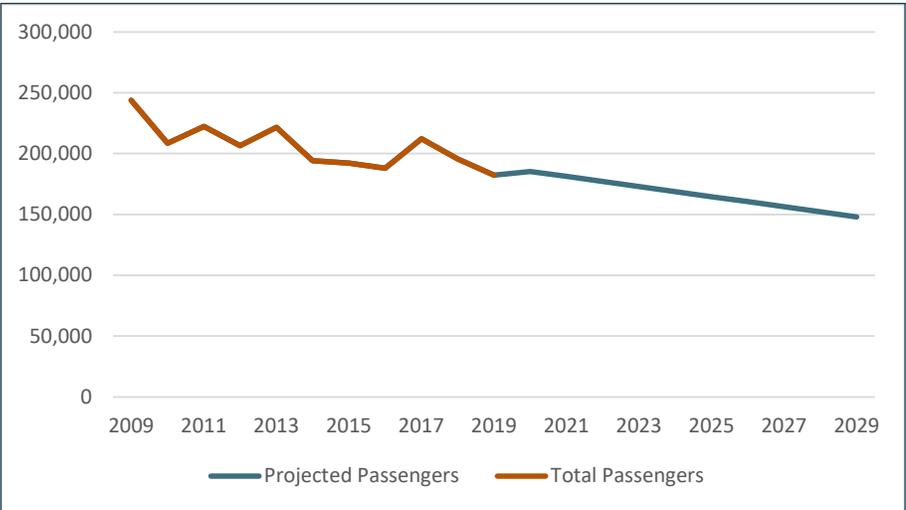
**Figure 3.1**  
**10-Year MuscaBus Ridership Projections**

Source: Muscatine Transit System and Bi-State Regional Commission, 2019



**Figure 3.2**  
**10-Year River Bend Transit Ridership Projections**

Source: River Bend Transit System and Bi-State Regional Commission, 2019



Both MuscaBus and RBT have reported decreasing annual ridership since 2015, and projections using the past 16 years may not accurately reflect this trend. Many variables can impact transit ridership and revenues. A more recent policy change affecting ridership in Iowa since 2018 is the privatization of Medicaid and funding limitations for Medicaid waiver individuals. Public transit agencies across the state have reported reductions in the number of trips by Medicaid waiver

riders, leading to a reduction in revenue.

It is important to note that RBT is under contract with other service providers, resulting in a number of rides provided by RBT to be counted as a passenger ride under another service. For example, all paratransit rides provided by RBT are under contract with either Dav-  
enport CitiBus or Bettendorf Transit, and are calculated under their respective city's ridership.

### ***Programs for Mobility***

The U.S. General Accounting Office (GAO-20-205, January 7, 2020) found factors adversely affecting rural transit coordination include availability of resources, availability of formal coordinating mechanisms, alignment of program requirements, and long distances. Under SAFETEA-LU, state-level human services coordination groups were established, and human services coordination plans (Bi-State Region Transit Development Plan) were created to assess and identify better ways to coordinate resources and ultimately improve mobility. The GAO study found that while FTA has provided technical assistance and funding for mobility, there is still more work needed with federal interagency coordination, and with methods to coordinate trips.

### **Job Access**

Job Access and Reverse Commute (JARC) was a program of the Federal Transit Administration (FTA) initiated in 1998 to address transportation barriers identified by the welfare reform movement, and was repealed in 2012 under MAP-21. Projects formerly eligible under the program remain eligible for FTA's Urbanized Area Formula Grants (Section 5307) and the Formula Grants for Rural Areas (Section 5311) under the FAST Act. These funds can be utilized to address a geographic gap between concentrations of low-income persons and new jobs where access to work is difficult for those without reliable transportation. In an effort to make the best use of existing public transit systems, a human services passenger transportation plan was developed, and efforts were made to review how individuals supported by human services funding could direct funds to include transit as an option for mobility.

Lack of transportation is a major barrier for job access. Public transit can assist persons who find jobs near the regular stops; however, the complication of also getting children to childcare often prohibits its use. Currently, public transit has difficulty mobilizing quickly to meet changing work force demands and nontraditional hours. Transportation subsidies to recipients from social service agencies cover a portion of operational expenses and do not cover repairs needed to make

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their cars reliable.

River Bend Transit and MuscaBus continue to offer extended hours of service to cater to those working nontraditional work hours. MuscaBus continues to operate a nighttime commuter service Monday through Saturday from 5:30 p.m. to midnight. River Bend Transit provides extended hours of service to low-income persons referred by partnering social service agencies for work-related activities. This service coordinates with existing fixed-route services in Davenport and Bettendorf whenever possible. Since FY2016, Davenport has acted as lead agency for RBT's JARC service, but contracts with RBT to provide the service. The dial-a-ride service fills the gaps in fixed-route service by addressing the nontraditional hours and extra trips for child care. MuscaBus has a curb-to-curb service that uses FTA funds matched with municipal funds to provide extended hours of service. The nighttime commuter service operates Monday through Saturday from 5:30 p.m. until 12:00 a.m.

### Access for All

The New Freedom program was legislated under SAFETEA-LU to help Americans with disabilities overcome existing mobility barriers. The program was later repealed under MAP-21. Today there is a shift to utilize existing funding sources and provide access to all persons. The New Freedom program was initiated to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act of 1990. The U.S. State Department launched an Access for All program in 2020 to celebrate the 30<sup>th</sup> Anniversary of the Americans with Disabilities Act. Efforts continue in Region 9 to provide a quality transit experience for all riders.

FTA's current Section 5310 Enhanced Mobility focuses on maintaining and improving mobility for individuals with disabilities and for seniors. MuscaBus operates an evening service that operates Tuesdays and Thursdays from 5:30 p.m. to 9:30 p.m. called New Freedom. Although Enhanced Mobility funds for this service have expired (formerly 5317), the service's name remains the same, but is now funded under FTA money with a municipal match. As ridership increases, it may be necessary to hire an additional driver and purchase an additional vehicle to meet service demands. River Bend Transit continues its Enhanced Mobility program, providing transportation beyond ADA requirements for seniors and individuals with disabilities. The service operates Monday through Friday from 5:30 a.m. to 7:00 p.m. and crosses seamlessly between Davenport and Bettendorf with door-to-door pick-ups. The route offers additional services, including extended driver assisted

service, same day service, routine booking that exceeds 50% of scheduled trips (no special application to qualify), bus travel beyond ¾-mile rider corridor, and flexibility to modify when necessary.

### United We Ride

In 2004, President George W. Bush signed Executive Order 13330 requiring coordination of human services transportation service across more than 60 federally-funded programs. Today the program coordinates with more than 80 federal funding programs to support transportation. United We Ride is a federal initiative with a mission *“to improve the availability, quality, and efficient delivery of transportation services for older adults, people with disabilities, and individuals with lower incomes.”* The Executive Order specifically calls for federal agencies to simplify access for consumers, enhance efficiencies, and reduce duplications in federal rules and regulations. To accomplish this task, United We Ride builds opportunities for federal, state, and local partners to work together to accomplish these objectives.

Through the United We Ride Program, state-coordination grants, technical assistance for states and local communities, policy analysis, and other key initiatives have sought to address transportation gaps for individuals with disabilities, older adults, and people with lower incomes. The legacy of United We Ride is FTA’s Coordinating Council on Access and Mobility and its 2019 strategic plan for equal access for all Americans. FTA offered funding in 2020 for Mobility for All Pilot Program Grants to improve mobility and access to public transportation for older adults, people with disabilities, and individuals of low income.

### ***Regional Coordination***

#### From JARC to Human Services Coordination

In the Quad Cities Area between 1995 and 1998, human service and transportation service providers had identified the same barriers, as were later identified federally with the initiation of the Job Access Reverse Commute (JARC) Program in 1998. Bi-State Regional Commission used the information supplied in this collaboration to prepare an area-wide JARC plan. River Bend Transit submitted an application for JARC funding subsequent to the plan development process. The resulting JARC program began service in late November of 1999. Starting with one van providing after hours and weekend service, the program has continued to grow.

MuscaBus has also continued to utilize a JARC-like program, targeting low-income individuals, public assistance recipients, and persons with disabilities who have transportation needs. MuscaBus continues to

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transport persons to child-care destinations and job-readiness classes. The objective is to provide transportation to as many individuals as possible in order to help them become more independent and self-sufficient. All of the services are ADA-accessible. The only gaps in service are between midnight and 6 a.m. and major holidays. Requests for trips on Sundays are limited; therefore, implementing the extension of JARC-like services to include Sunday service would not be cost-effective at this time.

### **Iowa Transit Coordinator Position**

From 2002 to 2004, River Bend Transit along with the two other transit systems in the Iowa Quad Cities evaluated the feasibility of creating consolidated transit operations. The report determined that incremental steps toward consolidation would include separating coordination of planning and marketing from coordination of operations and management. Coordinated planning and marketing activities for the Iowa Quad Cities would provide a more seamless service structure, promote area transit without the need to restructure, foster cooperation, and interline bus services between jurisdictions. As part of the implementation, the three systems supported a transit coordinator position jointly to facilitate planning efforts, marketing, and progress toward consolidation until the contract concluded in July 2017. Bi-State Regional Commission initiated quarterly transit manager meetings between the urban systems and River Bend Transit to facilitate coordination in lieu of a dedicated coordinator position.

### **Future Regional Transit Network Priorities**

The Bi-State Region Transit Development Plan (TDP) is a document that evaluates transit needs and policy direction. Common transit issues identified in the 2018 TDP update continue to include the following needs: better education and marketing of services; extended hours and days of service; geographic coverage; funding and resources for service providers; non-emergency medical transportation; transit-friendly infrastructure; cross-boundary territorial issues; and need for drivers and volunteers. There will be continued progress on access for all and access to jobs as part of the region's transit priorities.

### ***Network and System Preservation***

#### **Management**

Management needs include those related to staffing levels, office equipment, and policy board arrangements. Both MuscaBus and River Bend Transit propose continued funding for administrative and maintenance equipment in order to meet client demands.

### Operating

Existing fixed-route transit and regional transit providers will require on-going funding for operations. In 2020, additional operational assistance under the global pandemic helped sustain the systems and retrofit buses to improve protections of the driver and passengers from spreading the COVID-19 virus. In Region 9, the systems receive both state and local assistance to support transit operations. Both MuscaBus and River Bend Transit propose the continuation of their late night commuter services as funds are available and extended service programs in order to promote air quality. These efforts will accomplish this goal by reducing the number of single occupant vehicle trips in the region, provide transportation to and from work or work-related locations, and provide transportation beyond ADA requirements.

### Capital needs

There are a number of capital needs in Region 9 for maintaining existing fleets and also for replacement and/or the expansion of fleets to meet service demands. A large majority of the expected capital needs will be to maintain existing fleets. Both systems participate in the Iowa DOT's transit asset management plan. In the future, it may be necessary to expand current parking, maintenance, and/or administrative facilities based on ridership growth and an increase in vehicle size.

### Fleet Utilization and Replacement

Replacement of accessory equipment (cameras, fare-boxes, wheelchair lifts, etc.) is included under this category. Fleet utilization is based on a vehicle utilization analysis to indicate whether the need is currently being met by each transit provider. Fleet replacement cycles for Region 9 range from 5 to 15 years, depending on the system. RBT has a 15-year replacement goal of its entire fleet. However, discretionary capital funding appropriated to Iowa is inadequate to meet this replacement schedule. The extended use of the vehicles results in higher maintenance and repair costs as the wear and tear on vehicles is magnified by rural conditions of the service area.

### Safety & Security

Ever since SAFETEA-LU, transportation acts have emphasized the need to include improved security of those individuals who choose to use public transportation in the planning process. National Cooperative Highway Research Program (NCHRP) Report 525 distinguishes between safety and security. Safety is defined as the protection of persons or property from unintentional damage or destruction caused by accidental or natural events. Security is the protection of persons or property from intentional damage or destruction caused by van-

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dalism, criminal activity, or terrorist events. In Region 9, transit safety and security have been and will be addressed on an ongoing basis.

#### **Education/Marketing**

No education or marketing needs have been reported at this time.

### ***Network and System Expansion***

#### **Management**

Management needs include those related to staffing levels, office equipment, policy board arrangements, and marketing. Education, communication, and marketing of available services were identified as priorities.

#### **Operations**

In the past, MuscaBus has proposed the expansion of its services to include Sunday service, but at this time does not feel that the demand is high enough to offer a cost-efficient service. River Bend Transit is experiencing a greater demand to provide employee shuttle services from employment sites located away from the Iowa Quad Cities Area and hopes to form additional contracts with employers throughout its four-county service area to meet this demand. The request for services to travel to medical facilities, such as the University of Iowa, Mercy, and VA Hospitals and Clinics, has also increased. Currently, RBT provides service to Iowa City on Mondays only.

#### **Facilities**

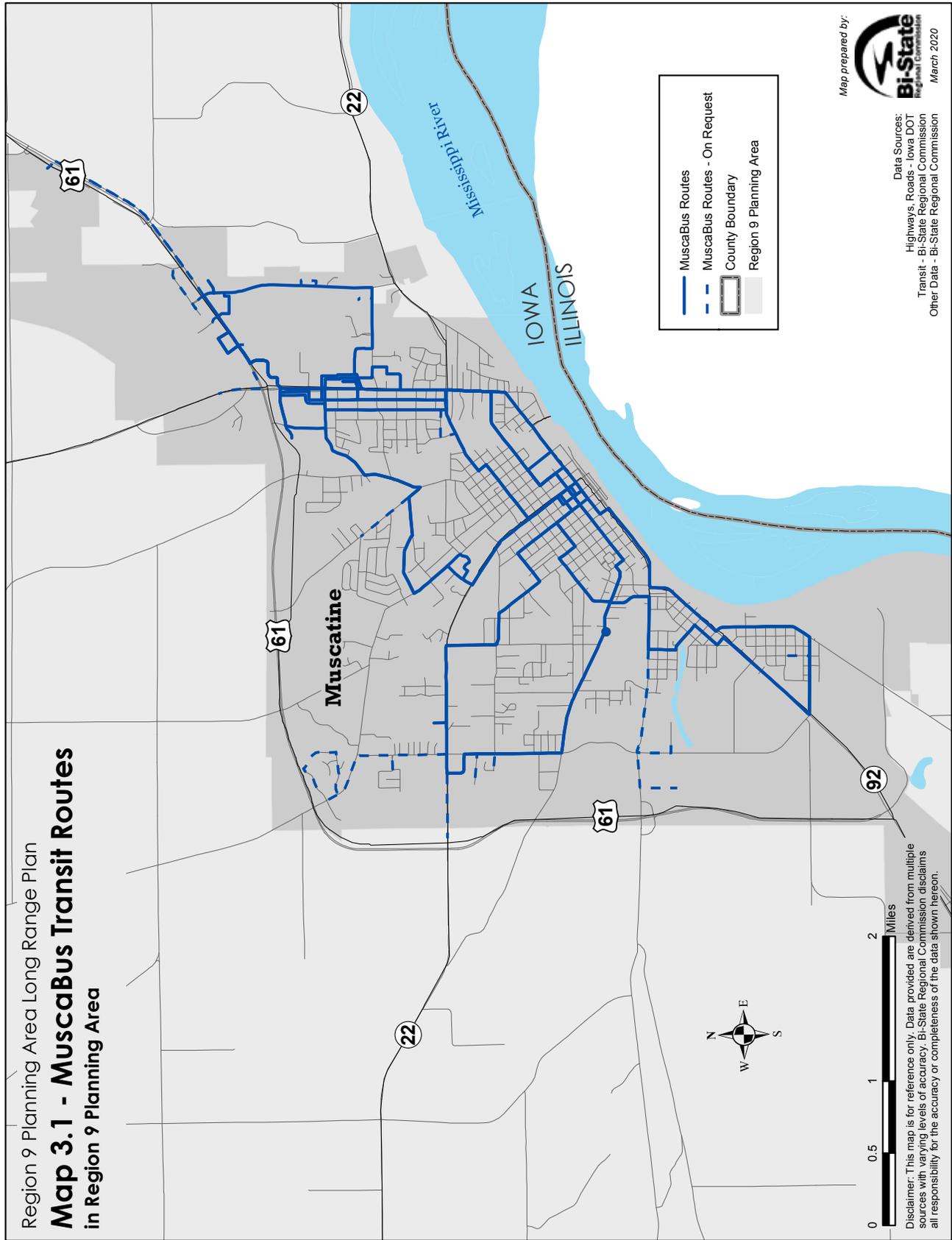
No expected facility growth has been reported for either system at this time.

#### **Capital**

There are capital needs in Region 9 for replacement and/or the expansion of fleets to meet service demands. With the increase in evening ridership, MuscaBus may have to expand its fleet to meet future ridership demand. As River Bend Transit continues to pursue employee shuttles throughout the four-county region, there is a likelihood that the system will need to expand its fleet to include vehicles with a higher capacity of 25-45 passengers.

#### **Safety & Security**

All of River Bend Transit and MuscaBus' revenue vehicles are equipped with surveillance systems. Future needs may be tied to cybersecurity and increased dependence on technology and communications support transit operations.





## CHAPTER 4 – INTERMODAL NETWORK

### Existing Intermodal Network

This chapter outlines information related to air, motor freight, rail, and water navigation in Region 9. A viable transportation network considers the ease of freight movement, system reliability and safety. The Federal Highway Administration outlines a freight service spectrum where costs correlate to speed, reliability, weight, and cargo value. Air transportation is the fastest mode, most reliable, most visible and most costly (\$1-\$10,000/lb.). Air freight transports the lowest weight, highest value, and most time sensitive cargo. In contrast, pipelines are the slowest, least reliable, least visible and lowest cost per pound (<\$0.01/lb.) mode for shipping commodities. Pipelines can carry the highest weight, lowest value, least time-sensitive cargo. Truck, rail, and water freight transportation fall between the two ends of the continuum.

Freight movements are frequently a complex chain of intermodal and interregional trips. These trips take diverse and competing factors into consideration. Freight movement has an integral role in the Region 9 economy, providing not only the delivery of goods and services, but also employment opportunities, including for-hire freight carriers, private transportation providers, freight forwarders, logistics providers, and companies that serve and maintain vehicles. A depiction of the multimodal system and its relation to the Regional 9 economy can be seen in Map 4.1. Region 9 strengths include its good transportation infrastructure, access for movement of both goods and employees, and the physical condition of the farm-to-market system.

According to the most recent Commodity Flow Survey from the Bureau of Transportation Statistics for fiscal year 2017, 11.6 billion tons of domestic goods were moved by freight in the United States, valuing approximately \$11.7 trillion. Trucks transport the majority of goods, which accounts for approximately 76.2 percent of the total tonnage and 88.6 percent of the total value. Rail is the next largest contributor at 10.8 percent of the tonnage and 2.2 percent of the total value. Water navigation, air, and pipeline are smaller contributors with about 6.9, 0.1, and 6.0 percent of the annual tonnage, and 2.1, 4.2, and 2.9 percent of the total dollar value of domestic freight shipments respectively.



**Table 4.1**  
**Value and Percent of Total Tonnage by Transport Mode**

Mode of Transportation	2017 Value (Millions \$)	Value (Percent of Total)	2017 Tons (Thousands)	Tons (Percent of Total)
Truck	10,398,910	88.6%	8,843,334	76.2%
Rail	254,209	2.2%	1,251,240	10.8%
Water	243,855	2.1%	804,392	6.9%
Air (includes truck and air)	496,637	4.2%	8,019	0.1%
Pipeline	344,357	2.9%	697,778	6.0%
<b>Total</b>	<b>11,737,968</b>		<b>11,604,763</b>	

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics and U.S. Department of Commerce, U.S. Census Bureau, Economic Census: Transportation Commodity Flow Survey, 7/16/2020.

According to the Federal Highway Administration, by 2045, trucks are expected to haul 48.2 percent of the total domestic tonnage, followed by pipeline (15.6 percent), rail (14.6 percent), water (7.3 percent), and air (0.5 percent).<sup>1</sup> From a location perspective, Region 9 is geographically situated in the heartland along a major interstate highway (I-80) with access to interstate railroads and pipelines, the Mississippi River navigation channel, and general aviation airports. Map 4.1 highlights the Bi-State Region Economy and the Intermodal Network in the five-county region.

**Davenport Transload:** A container transfer facility in Davenport operated by the former I & M Rail Link closed after 2001. Since then, the City of Davenport was awarded an EDA grant to establish operations of a new (truck/rail) transload facility, which opened in 2016. The facility has indoor loading/unloading capabilities and 20,000 square feet of indoor warehousing space and over 20 railcar spots. It is adjacent to the Canadian Pacific (formally known as DME) Railroad. Improvements were completed in 2019 to construct two interchange tracks on the rail line servicing the facility and the addition of a 4<sup>th</sup> spur utilizing approximately \$4 Million in EDA funding. The facility itself is located in the Eastern Iowa Industrial Center with Sterilite as its primary customer, facilitating receipt of raw materials onsite via rail. It is owned by the City of Davenport and Operated by Davenport Industrial Rail through a lease and operations agreement.

<sup>1</sup> Source: U.S. Department of Transportation, Bureau of Transportation Statistics and Federal Highway Administration, Freight Analysis Framework

## Air – Passenger and Freight

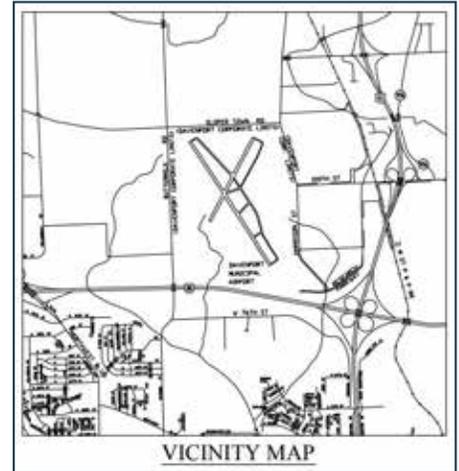
### Commercial Aviation

Residents in Region 9 have several air service options. Table 4.2 identifies the public airports in Region 9. For commercial air service (both passenger and freight), residents and businesses can use either the Eastern Iowa Airport in Cedar Rapids, Iowa or the Quad City International airport in Moline, Illinois. The Eastern Iowa Airport offers five passenger carriers, including Allegiant Air, American Eagle, Delta Airlines, Frontier Airlines, and United Airlines. The Quad City International Airport offers four passenger carriers, including Allegiant Air, American Eagle, Delta Airlines, and United Airlines. Both airports handle approximately 400,000-500,000 enplanements annually. Currently, the air freight carriers operating aircraft from the Eastern Iowa Airport include DHL, FedEx, UPS, and the U.S. Postal Service. DB Schenker, Inc. provides cargo services at the Quad City International Airport.

### General Aviation

For other general aviation needs, there are three general aviation airports in and near Region 9 located in Davenport, Iowa City, and Muscatine. The Iowa City airport is based outside of Region 9 but serves business interests in the region. General aviation airports are important to businesses, as they provide vital connections and access to their customers. These airports offer excellent opportunities for business flights for companies that own and operate their own aircraft. Both commercial airports in Cedar Rapids and Moline also offer general aviation services.

The Davenport Municipal Airport, a general aviation airport, is located in northern Davenport, Iowa providing basic transport with a full instrument landing system (ILS). The ILS runway is 5,500 ft. long, while the secondary runway is 4,001 ft. Recently, the City of Davenport finished an analysis of the facility that recommended various airport improvements. In 2004, a new hanger was added. In 2005, the airport added a Global Positioning System (GPS). As of 2009, there were approximately 120 aircraft housed at the Davenport Municipal Airport and approximately 28,000 take-offs/landings per year (14,000 arrivals/14,000 departures), according to their website. According to the Iowa Department of Transportation's *Economic Impact of Aviation* (2009) report, the Davenport Municipal Airport generated 209 full time equivalent jobs and induced another 133 as a result of on-airport activity.



*Davenport Municipal Airport Vicinity Map. Airport Layout Plan. 2014.*

The Muscatine Municipal Airport is categorized for basic transport and has runway lengths of 4,400 and 5,500 feet. There is an average of 39 flights per day with 30 aircraft based on the field. According to the *Economic Impact of Aviation* report, 45 jobs are associated with on-airport activity at Muscatine Municipal Airport. The Iowa City Municipal Airport is also categorized for basic transport and has runway lengths of 2,533, 3,900, 4,355 feet. There is an average of 53 flights per day and 85 aircraft based on the field. These three general aviation airports are considered Level II airports by the Iowa Department of Transportation and therefore, they are of national regional significance and eligible for federal funding.

**Table 4.2  
Public Airports in Region 9**

Airport	Location	F.A.A. Category	Highway Access	Runway Lengths
Eastern Iowa Airport	Cedar Rapids, IA	Certified Air Carrier	I-380	8,600 ft. 6,199 ft.
Quad City International	Moline, IL	Certified Air Carrier	I-74, I-280 U.S. 6 U.S. 150	10,002 ft. 7,301 ft. 5,015 ft.
Davenport Municipal	Davenport, IA	Basic Transport	U.S. 61 I-80	5,511 ft. 4,001 ft.
Muscatine Municipal	Muscatine, IA	Basic Transport	U.S. 61	5,500 ft. 4,000 ft.

Source: Bi-State Regional Commission, AirNav.com

### **Motor Freight**

Motor freight traffic in the non-urban Region 9 is served primarily by one interstate highway, three United States primary highways, and a high-quality secondary highway system to provide for the movement of goods, services, and people within the region and to other market locations. Interstate 80 bisects Scott County and carries significant freight traffic across Iowa. It is a vital thread connecting the Region 9 economy to national and international markets. Some sections of I-280 and all of I-80 in the Bi-State Region carry over 5,000 trucks per day on average and at some locations up to 12,000 trucks per day or nearly 37% truck traffic. According to 2007 Freight Analysis Framework data aggregated for the Bi-State Region in the 2015 Bi-State Region Freight Plan, inbound truck tonnage is greater than outbound tonnage, while outbound value is greater than inbound value. Table

4.3 displays these tonnages for the Bi-State Region, which includes Region 9, using 2007 data and aggregating it out to 2040. These two indicators point to a high number of manufacturing and processing employers in the Metropolitan Quad Cities Area and surrounding the Region 9 area. Key manufacturing and processing industries are shown in Map 4.1.

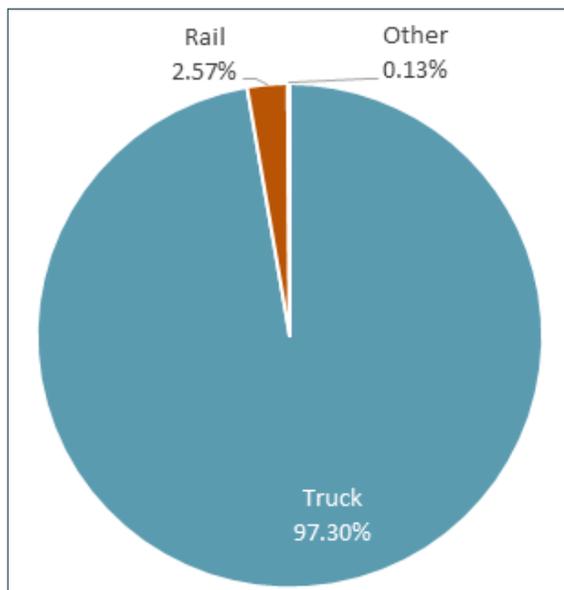
**Table 4.3**  
**Bi-State Region Inbound & Outbound Truck Tonnage**

Year	Inbound Tons (Thousands)	Outbound Tons (Thousands)
2007	28,123	21,998
2040 (aggregated)	45,356	30,028

Source: 015 Bi-State Region Freight Plan

Data from the Iowa DOT estimates that over 30 million tons, or 97.3%, of freight moving into and out of Scott and Muscatine Counties occurs on trucks. While this data includes the urban Quad Cities, it provides a representative picture of freight flows in Region 9. Rail represented 2.6% of freight flow tonnage, see Figure 4.1. Interestingly, the tonnage has increased by 19 million tons (172%) since 2014, but the percentage breakdown by mode has remained constant.

**Figure 4.1**  
**Estimated Freight Movement Originating and Terminating in Scott and Muscatine Counties**



Source: Iowa Department of Transportation, 2020 interpolation of base year 2010 data



*Illinois Passenger Rail, Chicago to Quad Cities Corridor.*

The Unified Carrier Registration Act of 2005 (UCR) became effective January 1, 2007, and replaced the Single State Registration System. This program requires all individuals and companies that operate commercial motor vehicles in interstate or international commerce to register their business and pay an annual fee based on the size of the fleet. The program applies to motor carriers, freight forwarders, and brokers.

Weight restrictions have a bearing on road durability and bridge capacity, and impacts to maintenance of roadway facilities. In Iowa, typically vehicles over 80,000 pounds require oversize/overweight permits, issued by the Iowa Department of Transportation, Department of Motor Carriers. Due to the COVID-19 pandemic, requirements were loosened to allow greater weights by 12.5% without a permit and with other specifications to facilitate timely freight movement. There is one embargoed bridge in Scott County identified by the Iowa DOT as southbound Iowa 461/Business 61 0.6 miles south of junction U.S. 6 over Duck Creek. Other structural impediments to freight movement include structure with vertical clearance restrictions.

### ***Rail – Passenger and Freight***

Railroads have been an integral part of history within Region 9. The first railroad crossing of the Mississippi River occurred in Davenport with the first railroad tracks from Davenport to Muscatine being opened in November 1855. Today, rail continues to play a role in the regional transportation network. In Region 9, there are approximately 109 miles of rail. One Class I railroad, Canadian Pacific Railroad (CP), and one Class II railroad, Iowa Interstate Railroad (IAIS), operate in Region 9.

Region 9 currently does not have passenger rail service. However, passenger rail can be accessed by Region 9 residents via stations in Kewanee or Galesburg, Illinois or Burlington, Iowa. Amtrak passengers use intercity bus service to make connections to the Quad Cities, which is not currently served by passenger rail, on Amtrak Thruway service.

In January 2008, Amtrak completed feasibility studies for passenger rail service between Chicago and the Quad Cities and for service between the Quad Cities and Iowa City. Both service initiatives were found to be most feasible along the Chicago-Naperville-Quad Cities route via Burlington Northern Santa Fe and Iowa Interstate railroad lines. Optimal service would be at 79 mph and take less than 3.5 hours from the Quad Cities to Chicago with two daily roundtrip departures from the Quad Cities and Chicago. Ridership is projected at

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110,800 annual passenger trips. To initiate this service, a connection at Wyanet, Illinois was needed as well as decisions on stations, rolling stock availability, and service subsidies. In 2016, work was begun to reestablish passenger rail service between Moline, Illinois and Chicago. A passenger station has been constructed in Moline called “The Q” and is awaiting service to be established. Currently, Illinois Department of Transportation is completing the environmental work and engineering, and a construction timeline is expected to follow in 2021.

In Iowa, a statewide advisory committee was formed in 2008 to further passenger rail service development in the state. The report on the route through Region 9 predicted 76,100 passengers annually from Quad Cities to Iowa City at 79 mph service speed. Plans to extend service to Iowa City with the route running through Region 9 are currently uncertain and will have to be monitored as they develop.

Within the State of Iowa, freight rail plays an important part in the economic vitality of many communities and regions. According to the Iowa Rail System Plan, “A great variety of commodities ranging from fresh fish to textiles to optical products are moved by rail. However, most of the Iowa rail shipments consist of bulk commodities, including grain, grain products, coal and fertilizers. The railroad network performs an important role in moving bulk commodities produced and consumed in the state to local processors, livestock feeders, river terminals and ports for foreign export. The railroad’s ability to haul large volumes, long distances at low costs will continue to be a major factor in moving freight and improving the economy of Iowa.”

Along the Iowa Interstate Railroad, according to the Quad Cities-Iowa City Amtrak Passenger Rail Feasibility Study (April 2008), total traffic west of Rock Island represents 14.8 million gross tons per year with 50 miles of a 60-mile stretch operating at speeds of 40 mph. There are sidings at Walcott (6,520 feet), Twin States (4,980 feet), Wilton (12,272 feet), West Liberty (4,200 feet), and Iowa City (8,676 feet).

### ***Water – Passenger and Freight***

On the shores of the Mississippi River, Region 9 has an opportunity uncommon in the State of Iowa for water transportation. The Mississippi River links the region with its tributaries, the Gulf of Mexico, the Great Lakes, and connections to foreign ports. The navigation season lasts approximately 10 months (March-December) with the average channel depth of nine feet. While barge transportation requires more shipping time than other forms of transport, the lower shipping rates and energy efficiency of this mode of transportation provide a significant cost savings to bulk material shippers. According to the



*Mississippi River Ports of Eastern Iowa and Western Illinois – Port Statistical Area Approved October 2020*

U.S. Army Corps of Engineers, barge transportation is 7.5 times more economical than by truck when measured by weight. Locks and Dams 14, 15, and 16 are located in or near the planning area and are maintained by the Rock Island District of the U.S. Army Corps of Engineers. They were built in the 1930s and are 600 feet in length. Both Locks 14 and 15 have auxiliary locks of 320 and 360 feet in length, respectively. These are primarily used seasonally for locking through recreational craft. Due to age and length of tows at 1,100 feet, it takes 90 to 120 minutes for this size tow to lock through a 600 foot lock.

Figure 4.2 indicates the barge traffic by tonnage between 1980 and 2019 at Lock and Dam 14 near LeClaire, Iowa and Lock and Dam 17 near Keithsburg, Illinois to illustrate patterns in and outside the planning area. Decreases in 2008 and 1993 tonnages are a result of major flood events in those years that halted barge traffic. North-bound traffic has been relatively static since 2000 at both locks. Over the same time, south-bound traffic has been on a steady decline.

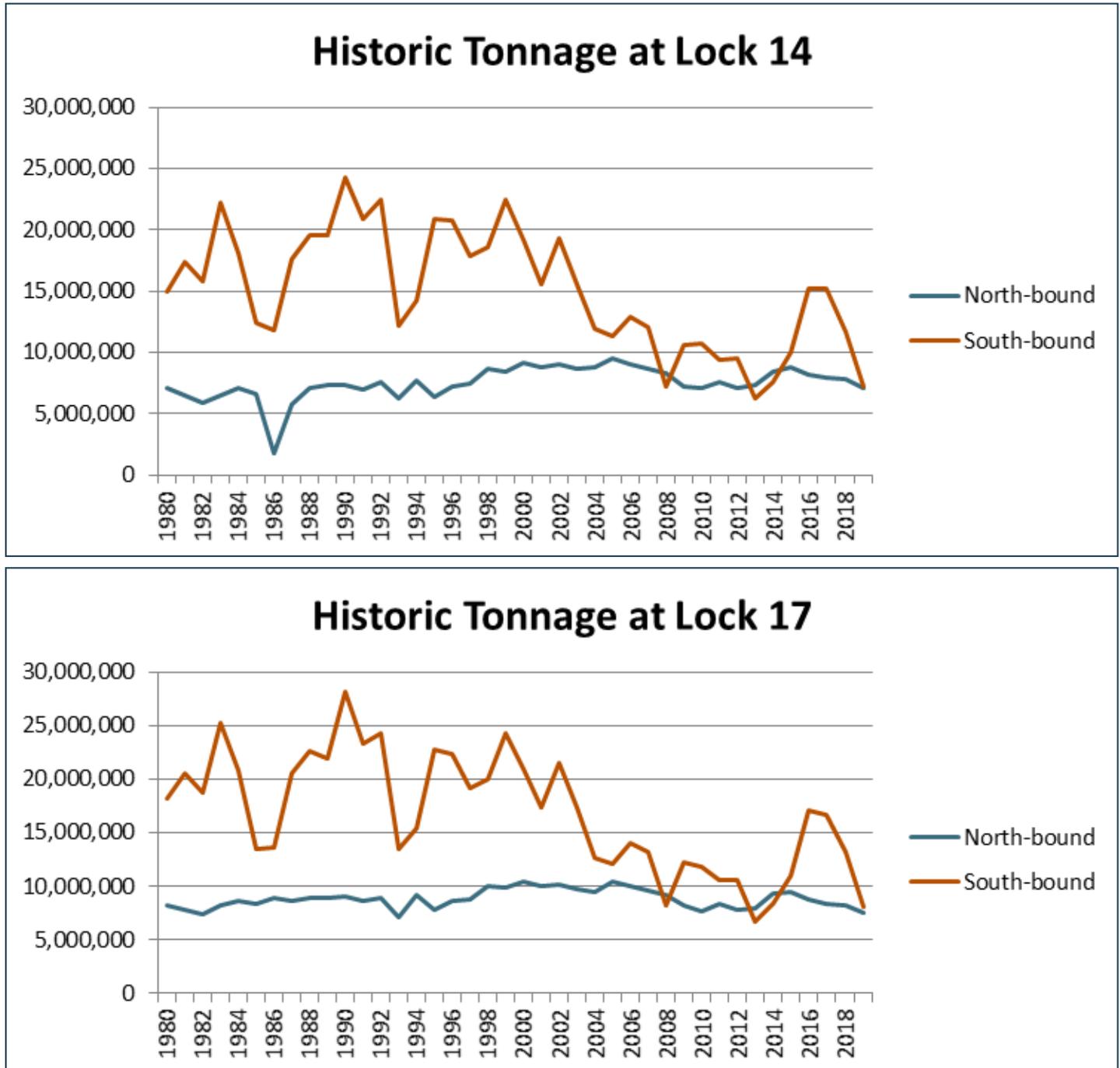
There are a number of barge terminals in the Region 9 vicinity, most of them are located on the Iowa bank of the Mississippi River (see Table 4.4). Table 4.5 illustrates the type of freight moved within the Bi-State Region. In 2019, food and farm products represented 49 percent of the tonnage shipped through this stretch of the Mississippi River. Chemical products followed representing 18 percent of the tonnage shipped in 2019. Food and farm products fluctuate much more than any other commodity in the region.

Water passenger transportation on the Mississippi River is primarily recreational craft. There is a passenger ferry service operating in the pool above Lock 15 within the Quad Cities Metropolitan Area. There are no ferry boats operating in the Region 9 planning area.

In October 2020, the Mississippi River Ports of Eastern Iowa and Western Illinois was designated by the U.S. Army Corps of Engineers as a port statistical area (PSA) under the Navigation Data Center responsible for collecting, processing, distributing, and archiving commercial vessel trip and cargo data. The PSAs are an aggregation of complex data to provide publically, and provide for an understanding of how tonnage exists within a given segment of the nation’s maritime system. MRPEIWI includes 15 counties from the north border of Iowa to the south border, and includes 221.5 total river miles. There are seven counties with a legislative conflict, which is under discussion. Based on the tonnage of 5.0 million, MRPEIWI ranks #81 of 100 for waterborne commerce in the United States.

The Iowa Department of Transportation funded a pilot freight grant program, Linking Iowa's Freight System (LIFTS). The program purpose is to improve multimodal freight transportation to meet changing demands for shipping products. The City of Muscatine secured \$80,000 of LIFTS funding and \$20,000 in public/private partner matching funds to conduct a feasibility study for their port idea. Following completion of the study in May 2015, an inland multimodal container terminal port facility was determined to be feasible for a site in southwest Muscatine, Iowa located on the Upper Mississippi River M-35 Marine Highway. The feasibility study and concept design with approximate cost estimates outlined key steps to move the project forward. The 100-acre site is privately owned and to be annexed into the City of Muscatine, Iowa. There is 2,500 linear feet of access along the Mississippi River with sufficient depth for barge and towboat handling. An active rail line operated by the Canadian Pacific Railroad is adjacent to the property and serves other industrial users in the vicinity of the proposed project. There is access to U.S.61. The site is suited to handle various cargoes such as container on barge, liquid bulk, and dry bulk commodities. A phased approach is anticipated to scale the terminal port for different cargoes to meet market demand. The initial project costs are anticipated to be \$12.2-23 million under the governance of a Port Commission enabled by the City of Muscatine with an appointed board. A significant partner in its development is the Kent Corporation who was evaluating the market feasibility and interested shipping partners in the region. Changes in local community and business champions has slowed the progress of this development.

**Figure 4.2**  
**Historic Tonnages at Lock 14 & Lock 17**  
**1980-2019**



Source: US Army Corps of Engineers Lock Performance Monitoring System Summarized Monthly Tonnage Report <https://corpslocks.usace.army.mil/lpwb/f?p=121:1:14927714142398>

**Table 4.4**  
**2020 Mississippi River Barge Terminals in the Bi-State Region**

River Mile	Terminal	City	Major Commodity/Use	Rail Connection
486.5	Channel Cat Water Taxi, Dock	Moline	Commuter Boat Mooring	None
486.4	Celebration River Cruises Dock	Moline	Excursion Boat Mooring	None
486.3	Riverstone Group Moline Dock	Moline	Sand, Gravel	None
483.3	W. G. Block Co., Davenport Dock	Davenport	Sand, Gravel	None
483.2	River/Gulf Grain Co., Davenport Dock	Davenport	Grain	None
483.1	Builders Sand And Cement Co. Wharf	Davenport	Sand, Gravel, Stone	None
482.5	Rhythm City, Casino Boat Dock	Davenport	Casino Boat Mooring	None
480.8	Rock Island River Terminal Corp. Dock.	Rock Island	Steel	Iowa Interstate
480.1	Rock Island River Terminal Corp. Mooring Dock.	Rock Island	Barge Mooring	None
475.9	Harvest States Cooperatives, Davenport East Grain Elevator Dock.	Davenport	Dry Bulk Goods	Chicago & Eastern
475.9	Blackhawk Fleet Terminal Wharf	Davenport	Coal, Fertilizer, Steel	Chicago & Eastern
475.7	Harvest States Cooperatives, Davenport West Grain Elevator Dock..	Davenport	Grain	Chicago & Eastern
475.5	Texpar Energy, Davenport Terminal	Buffalo	Asphalt	None
475.4	Koch Materials Co., Davenport Dock	Davenport	Asphalt	Chicago & Eastern
475.2	Linwood Mining & Minerals Corp. Dock	Davenport	Coal, Coke, Stone	None
475	Harvest State Cooperatives, Davenport Grain Elevator Dock	Davenport	Grain	Chicago & Eastern
474.5	Lafarge North America, Davenport Plant Wharf	Buffalo	Coal, Sand, Gravel, Cement	Chicago & Eastern
472.1	Blackhawk Fleet Middle Fleet Moorings	Buffalo	Barge Mooring	None
469.9	AGRI Grain Marketing, Buffalo Grain Elevator Dock.	Buffalo	Grain	Chicago & Eastern
469.8	Cargill Buffalo Terminal Dock.	Buffalo	Fertilizer	Chicago & Eastern
469.7	Blackhawk Fleet, Buffalo Terminal Dock	Buffalo	Coal, Dry Bulk Goods	None
467.7	Central Iowa Power Cooperative, Fair Station Wharf	Montpelier	Coal	None
454.3	AGRI Grain Marketing, Muscatine Grain Elevator Dock	Muscatine	Grain	Chicago & Eastern
453.9	Grain Processing Corp., Alcohol Dock.	Muscatine	Grain alcohol	Chicago & Eastern
453.8	Grain Processing Corp., Feed Loading Dock.	Muscatine	Grain	Chicago & Eastern
453.5	Grain Processing Corp., Coal-Unloading Dock.	Muscatine	Coal	Chicago & Eastern
453.3	Grain Processing Corp., South Grain Elevator Dock.	Muscatine	Grain	Chicago & Eastern
452.9	Muscatine Power And Water, Coal Dock	Muscatine	Coal	Chicago & Eastern
451.4	River Term Corp./CK Processing Co. Wharf	Muscatine	Molasses, Fertilizer, Coal	Chicago & Eastern
451.2	Acme Fuel And Material Co. Dock	Muscatine	Sand, Gravel	Chicago & Eastern

Chapter 4 – Intermodal Network

River Mile	Terminal	City	Major Commodity/Use	Rail Connection
450.9	K. A. Steel Chemicals Dock	Muscatine	Chemicals	Chicago & Eastern
450.8	River Trading Co., Muscatine Dock	Muscatine	Coal	None
450.3	Agriliance, Muscatine Dock	Muscatine	Dry Bulk Goods	Chicago & Eastern
450	Monsanto Co., Muscatine Plant Barge Dock	Muscatine	Not Used	Chicago & Eastern

Source: U.S. Army Corps of Engineers (<https://publibrary.planusace.us/#/series/Port%20Facilities>)

**Table 4.5**  
**Bi-Directional Freight Tonnage 2010-2020**  
**Upper Mississippi River Lock and Dam 14 and 17**  
**On the Illinois and Iowa Banks (Bi-State Region)**

Commodity Type	Year											Grand Total
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
All Manufactured Equipment and Machinery	59,950	57,860	284,517	146,780	61,602	190,590	257,458	127,330	46,900	479,840	118,060	1,830,887
LOCK AND DAM 14	31,200	29,300	143,626	92,730	27,102	79,830	145,150	56,800	30,280	234,460	46,285	916,763
LOCK AND DAM 17	28,750	28,560	140,891	54,050	34,500	110,760	112,308	70,530	16,620	245,380	71,775	914,124
Chemicals and Related Products	5,017,976	5,929,538	6,099,377	6,802,112	7,536,896	7,489,150	8,326,729	8,225,542	7,063,207	5,985,982	7,090,236	75,566,745
LOCK AND DAM 14	2,375,690	2,812,396	2,900,230	3,153,663	3,557,169	3,546,364	3,952,992	3,915,510	3,365,554	2,649,551	3,410,096	35,639,215
LOCK AND DAM 17	2,642,286	3,117,142	3,199,147	3,648,449	3,979,727	3,942,786	4,373,737	4,310,032	3,697,653	3,336,431	3,680,140	39,927,530
Coal, Lignite And Coke	5,360,620	4,540,346	3,780,136	3,660,000	4,058,300	4,890,800	3,170,748	3,305,348	3,043,420	2,092,800	1,706,400	39,608,918
LOCK AND DAM 14	2,396,463	1,948,192	1,608,343	1,648,800	1,845,800	2,329,100	1,464,500	1,562,824	1,428,920	951,700	799,600	17,984,242
LOCK AND DAM 17	2,964,157	2,592,154	2,171,793	2,011,200	2,212,500	2,561,700	1,706,248	1,742,524	1,614,500	1,141,100	906,800	21,624,676
Crude Materials, Inedible, except Fuels	4,509,922	4,841,769	4,005,337	4,610,753	5,970,954	4,706,320	4,094,098	3,958,854	4,790,532	4,296,187	5,053,881	50,838,607
LOCK AND DAM 14	2,526,611	2,662,694	2,376,439	2,613,537	3,138,582	2,611,940	2,298,936	2,183,762	2,550,482	2,238,423	2,775,281	27,976,687
LOCK AND DAM 17	1,983,311	2,179,075	1,628,898	1,997,216	2,832,372	2,094,380	1,795,162	1,775,092	2,240,050	2,057,764	2,278,600	22,861,920
Empty Barges	0	0	0	0	0	0	0	0	0	0	0	0
LOCK AND DAM 14	0	0	0	0	0	0	0	0	0	0	0	0
LOCK AND DAM 17	0	0	0	0	0	0	0	0	0	0	0	0
Food and Farm Products	19,820,709	17,805,431	17,804,989	9,614,084	12,381,299	18,934,667	30,151,342	29,405,468	23,067,636	14,483,196	27,134,456	220,603,277
LOCK AND DAM 14	9,212,684	8,247,722	8,170,492	4,425,122	5,732,112	8,780,376	14,066,470	13,892,089	10,716,748	7,043,678	12,799,863	103,087,356
LOCK AND DAM 17	10,608,025	9,557,709	9,634,497	5,188,962	6,649,187	10,154,291	16,084,872	15,513,379	12,350,888	7,439,518	14,334,593	117,515,921
Others, NEC	117,503	43,682	22,930	9,700	3,000	7,920	7,000	17,800	7,900	32,000	3,200	272,635
LOCK AND DAM 14	57,155	23,631	10,700	4,800	1,500	4,700	3,800	9,800	4,700	15,700	1,600	138,086

Commodity Type	Year											Grand Total
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
LOCK AND DAM 17	60,348	20,051	12,230	4,900	1,500	3,220	3,200	8,000	3,200	16,300	1,600	134,549
Petroleum and Petroleum Products	724,133	495,326	418,000	1,045,965	856,552	386,100	350,764	427,100	398,200	565,850	594,700	6,262,690
LOCK AND DAM 14	367,946	282,842	200,800	559,900	441,165	190,400	145,907	204,400	188,900	272,550	292,800	3,147,610
LOCK AND DAM 17	356,187	212,484	217,200	486,065	415,387	195,700	204,857	222,700	209,300	293,300	301,900	3,115,080
Primary Manufactured Goods	1,639,605	2,216,364	2,461,563	2,273,578	2,879,866	2,613,794	2,869,666	2,526,142	2,506,054	1,894,243	2,740,590	26,621,465
LOCK AND DAM 14	769,274	1,005,819	1,122,939	1,020,964	1,356,408	1,206,662	1,373,500	1,230,896	1,248,749	939,143	1,481,390	12,755,744
LOCK AND DAM 17	870,331	1,210,545	1,338,624	1,252,614	1,523,458	1,407,132	1,496,166	1,295,246	1,257,305	955,100	1,259,200	13,865,721
Waste Material, Garbage, Landfill, Sewage Sludge and Waste Water		300	29,800	36,600	6,005	4,700	1,800		10,980		25,400	115,585
LOCK AND DAM 14			15,800	15,100	3,000	4,700	1,800		7,880		12,700	60,980
LOCK AND DAM 17		300	14,000	21,500	3,005				3,100		12,700	54,605
Grand Total	37,250,418	35,930,616	34,906,649	#####	33,754,474	39,224,041	49,229,605	47,993,584	40,934,829	29,830,098	44,466,923	421,720,809

Source: US Army Corps of Engineers Lock Performance Monitoring System Summarized Monthly Tonnage Report  
<https://corpslocks.usace.army.mil/lpwb/f?p=121:1:14927714142398>

### Future Intermodal Network Priorities

Based on research by the University of Wisconsin as part of the Mississippi Valley Freight Corridors Coalition, key suggestions for upper Midwest states include the following, which can be framed for Region 9:

- Need for investment in the transportation infrastructure by maintaining facilities in good condition and repairing/replacing structures, and deteriorating or functionally obsolete bridges, locks, rail, and terminals
- Reduce metropolitan traffic delays through efficient traffic operations and design, sufficient urban fringe truck parking or transition areas for better delivery, use of traveler information systems, and consideration of truck lanes
- Examine rail-trucking connectivity, investment shifts between these modes and freight movement productivity, such as weight limits, truck or rail car size/height
- Support inland waterway investment
- Encourage trained and quality workforce in transportation logistics, such as driver training, certification, and undergraduate programs
- Participate in solutions for financing transportation infrastructure

Maintaining the quality multi-modal transportation network and its connectivity will continue to be a priority in the future for Region 9. With its diverse modes for movement of goods, local jurisdictions and business interests will need to partner with the state to facilitate efficient and safe freight movement on the I-80 corridor. The Bi-State Region completed a Freight Commodity Study in 2015 highlighting numerous key facts regarding the movement of freight within and through the region, such as what is traveling on the system, what mode is used, and where the goods are coming from and going to. Key facts from this commodity study included cereal grains as the highest commodity in total freight tonnage; fertilizers as the highest commodity by total value; Iowa as the major domestic trading partner for the region; and a long-term trend of increased manufacturing and e-commerce within the area. Also included in the study is a commodity flow tool that visually depicts the data for easy interpretation.

As part of the network priorities, cultivating a local workforce trained in efficient movement of goods will be critical to compete in a global economy. It will start with building a foundation of transportation logistics education to move products through the Bi-State Region. Black

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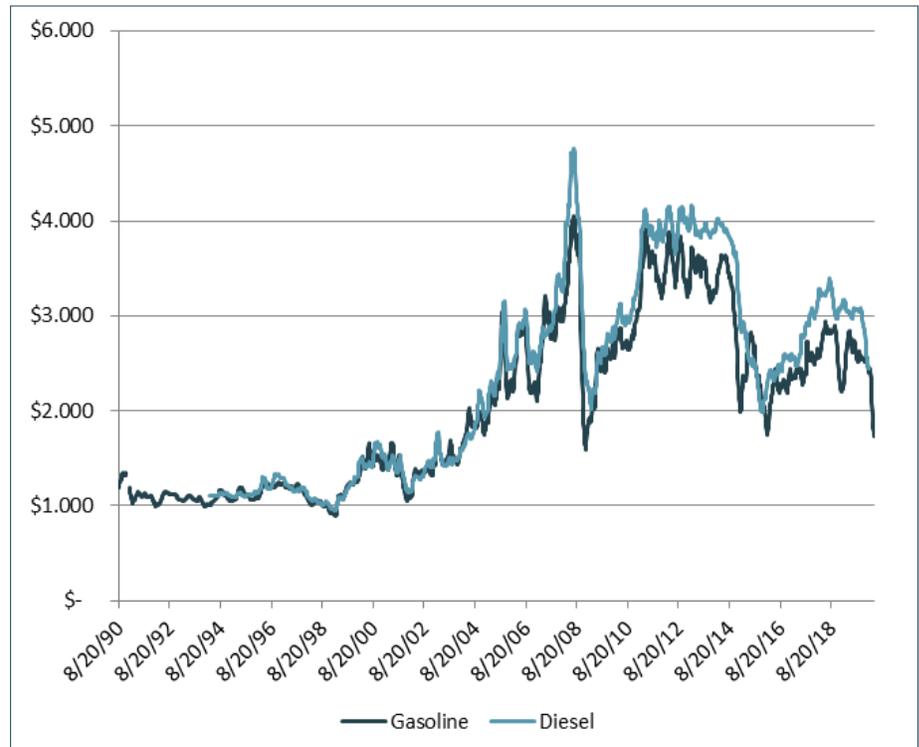
Hawk College, Moline, Illinois and Eastern Iowa Community College District partnered and received a \$1.56 million U.S. Department of Labor grant in 2007 entitled “Joined By A River” to train current and future employees in transportation logistics. The program provides bridging opportunities for area high school students who receive training and exposure to the logistics field. The field involves purchasing, scheduling, transportation, inventory control, and warehousing among other aspects of Just-in-Time manufacturing. Providing certification programs and undergraduate opportunities within the region will allow Region 9 to achieve a competitive edge and capitalize on its location to key transportation corridors. This Supply Chain & Logistics Program has evolved over the past five years in the strengthening of the course offerings to reflect ever-changing needs in the areas of supply chain and logistics. Most of the program’s students are employed while they are in the program. Emphasis has been on students building and strengthening relationships with employers, which has resulted in students being provided opportunities for growth that did not exist in the past. The program will be moving to a 100% online offering through the Iowa Community College Online Consortium (ICCO) to increase the availability to students in the region and the country. The year 2021 will mark the second time the program will have gone through an official program review in the past five years. Program modifications have, and will continue to be, made at the time of review to ensure the Supply Chain & Logistics Program remains strong and relevant.

With increasing long-range fuel costs, a greater modal shift is anticipated from highway to rail. However, recently gas and diesel prices have begun to drop significantly, as seen in Figure 4.3. This is a reflection of falling crude oil prices world-wide. In November 2014, OPEC chose to leave production targets unchanged, signaling a lower long-term outlook on the price of oil. The price of fuel is crucial to the movement of goods into, out of, and through Region 9 and affects the modal choice of shippers and travelers nationwide. Price fluctuations will need to be monitored to ensure that needs of freight and passenger transportation are met adequately.

As passenger rail service is implemented, there will be a need for track and crossing improvements, which will benefit efficient freight movement by rail as well. As indicated in the passenger rail feasibility study by Amtrak between Quad Cities and Iowa City, significant improvements need to be made. “As is typical for any Midwest rail operations, there are numerous public at-grade street and highway crossings along the entire corridor and, in the more rural areas, private crossings as well. Although many are equipped with train activated

devices, i.e., gates and/or flashers, there are still numerous crossings with only cross-buck signs. It is recommended discussions be initiated with the State of Iowa about any additional grade crossing warning devices or closures that may be deemed appropriate for the route.”

**Figure 4.3**  
**Weekly U.S. Retail Price per Gallon of Gasoline and Diesel**



Source: U.S. Energy Information Administration (not adjusted for inflation, last updated 5/5/2020)

Beginning in 2016, Class I railroad main lines will be required to implement Positive Train Control (PTC). Additional lines that must comply with the mandate include any lines handling any poisonous-inhalation-hazardous (PIH) materials or intercity passenger rail service. According to the Federal Railroad Administration (FRA), “this new system utilizes technology to prevent train-to-train collisions, over-speed derailments, incursions into established work zone limits, and the movement of a train through a main line switch in the improper position.” The only Class I railroad located in the Region 9 area is Canadian Pacific (CP), which runs adjacent to the Mississippi River. Burlington Northern Santa Fe (BNSF) also maintains track rights on the CP line. According to the 2017 Iowa State Rail Plan, U.S. freight railroads had

until the end of 2018 to fully implement PTC.<sup>2</sup> A PTC Implementation Status update in 2018 showed that not all railroads met this requirement.<sup>3</sup> However, as of 2020, the FRA announced that PTC technology is in operation on all required freight and passenger railroads.<sup>4</sup>

General aviation airports will continue to meet business needs. Adequate technology to ensure safety, adequate land use buffering, runway extensions, and terminal upgrades will keep these facilities viable.

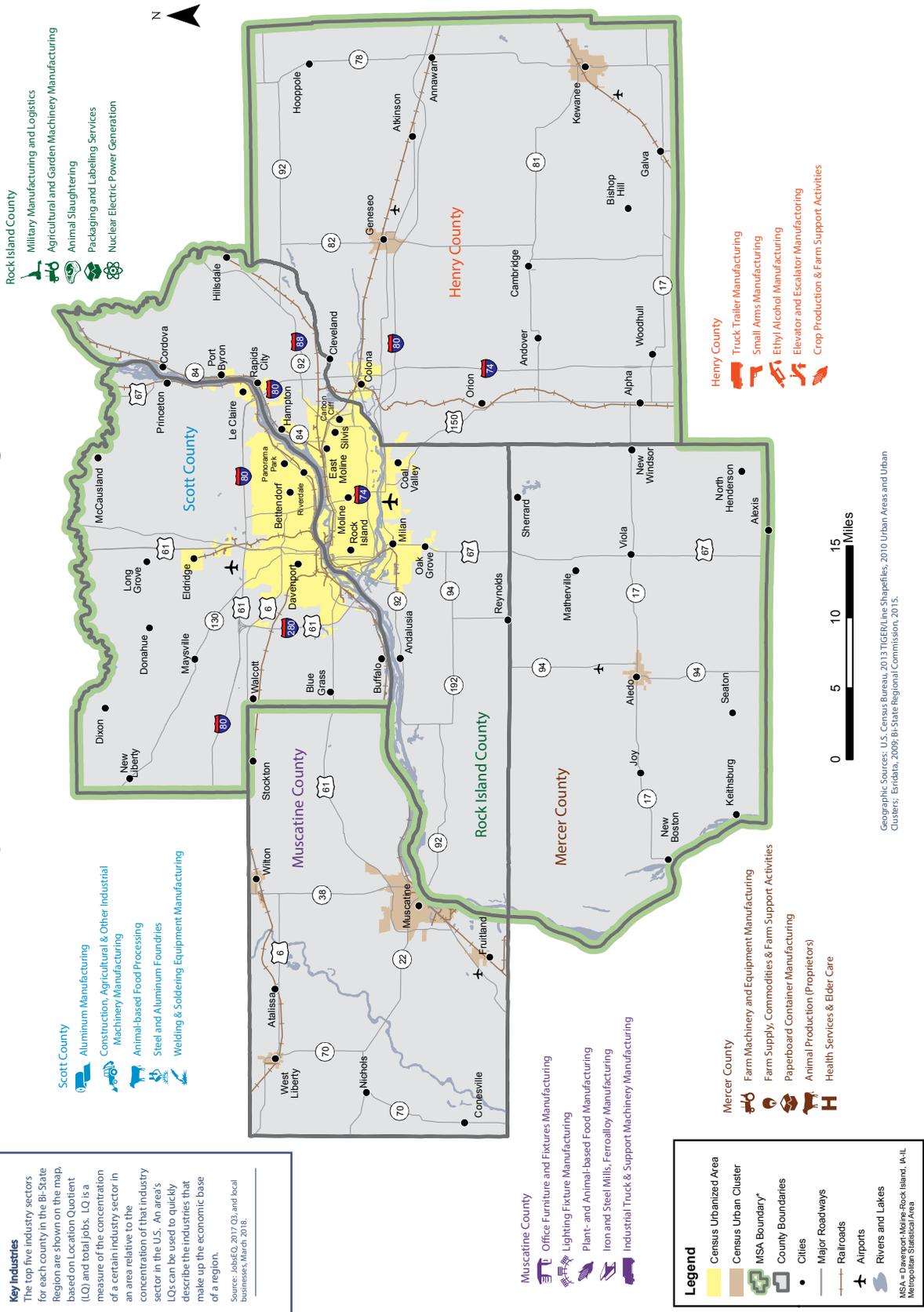
The U.S. Army Corps of Engineers completed a updated their major study of the inland waterway system in 2020, the Upper Mississippi River-Illinois Waterway System Navigation Study (NESP), confirming the original study recommendations for lock improvements. This study looked at needs for over 50 years that includes \$2.4 billion in navigation improvements and \$5.3 billion in ecosystem restoration. The reports indicated a need for additional capacity at Lock and Dam 15 in Rock Island, by extension of the guide wall; the installation of moorings at Lock 14 allowing tows to wait closer to a lock when another tow is completing the lockage process; and the expansion of Lock 16 near Muscatine.

The U.S. Army Corps of Engineers has also stated that container shipping may occur by barge in the future, especially with products shipped on a regular schedule from a single origin to a single destination. This development would most likely increase the use of the Mississippi River as a means of transportation and represents a potential opportunity for the region.

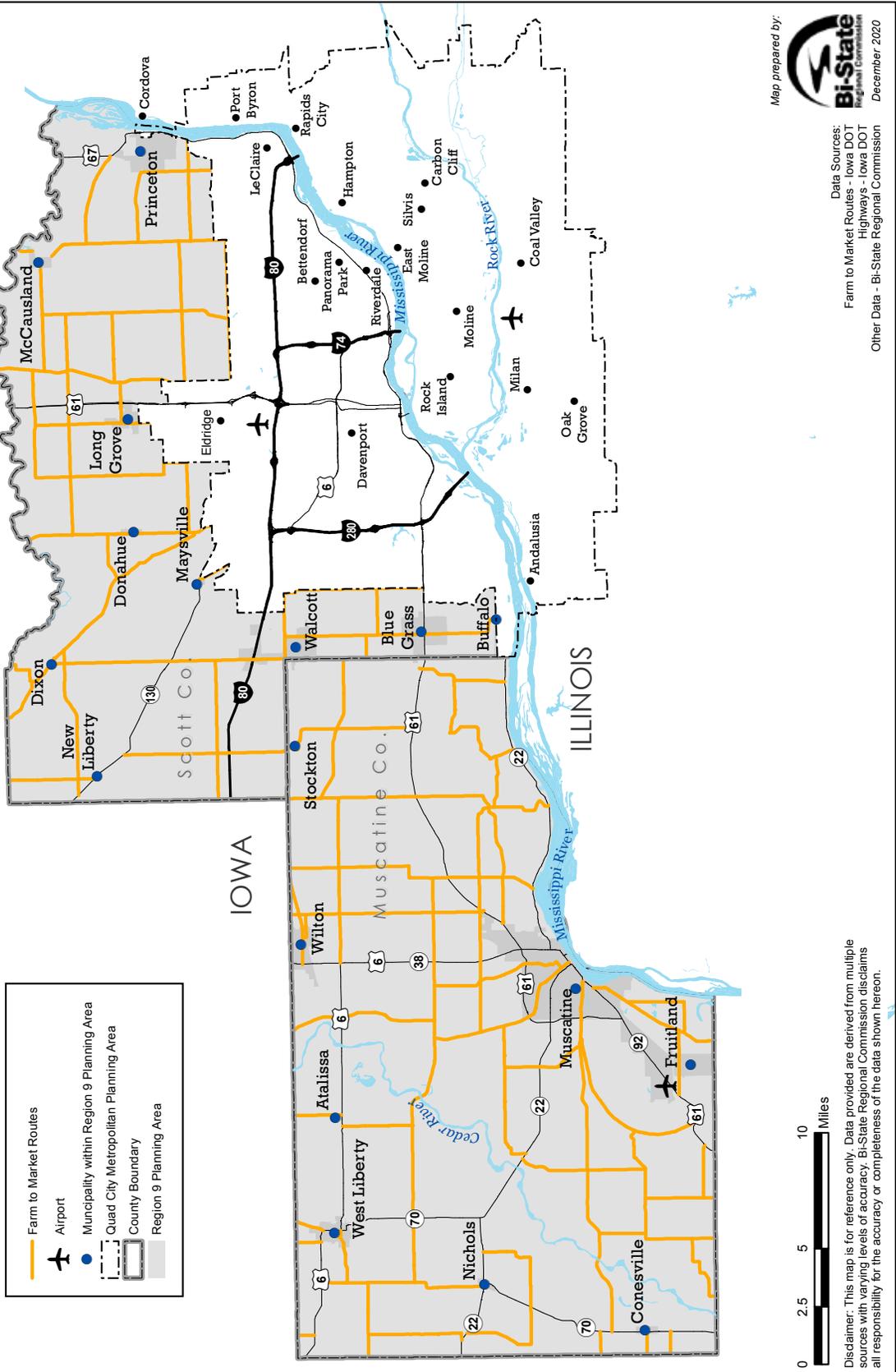
A number of natural gas and hazardous liquid pipelines run throughout Region 9, as seen in Maps 4.5 and 4.6. With the development and increased extraction of oil and gas in the Bakken Oil Field of North Dakota, Region 9 and the State of Iowa may see increased movement of crude oil via either pipeline or rail as it is shipped to refineries in Texas and on the Gulf Coast. Currently, crude oil is not shipped through Region 9, but trains carrying over one million gallons of Bakken crude oil pass through neighboring Clinton County on the Canadian Pacific Railway regularly. Development of these issues as it pertains to the overall freight network will have to be monitored to ensure a safe and reliable transportation system.

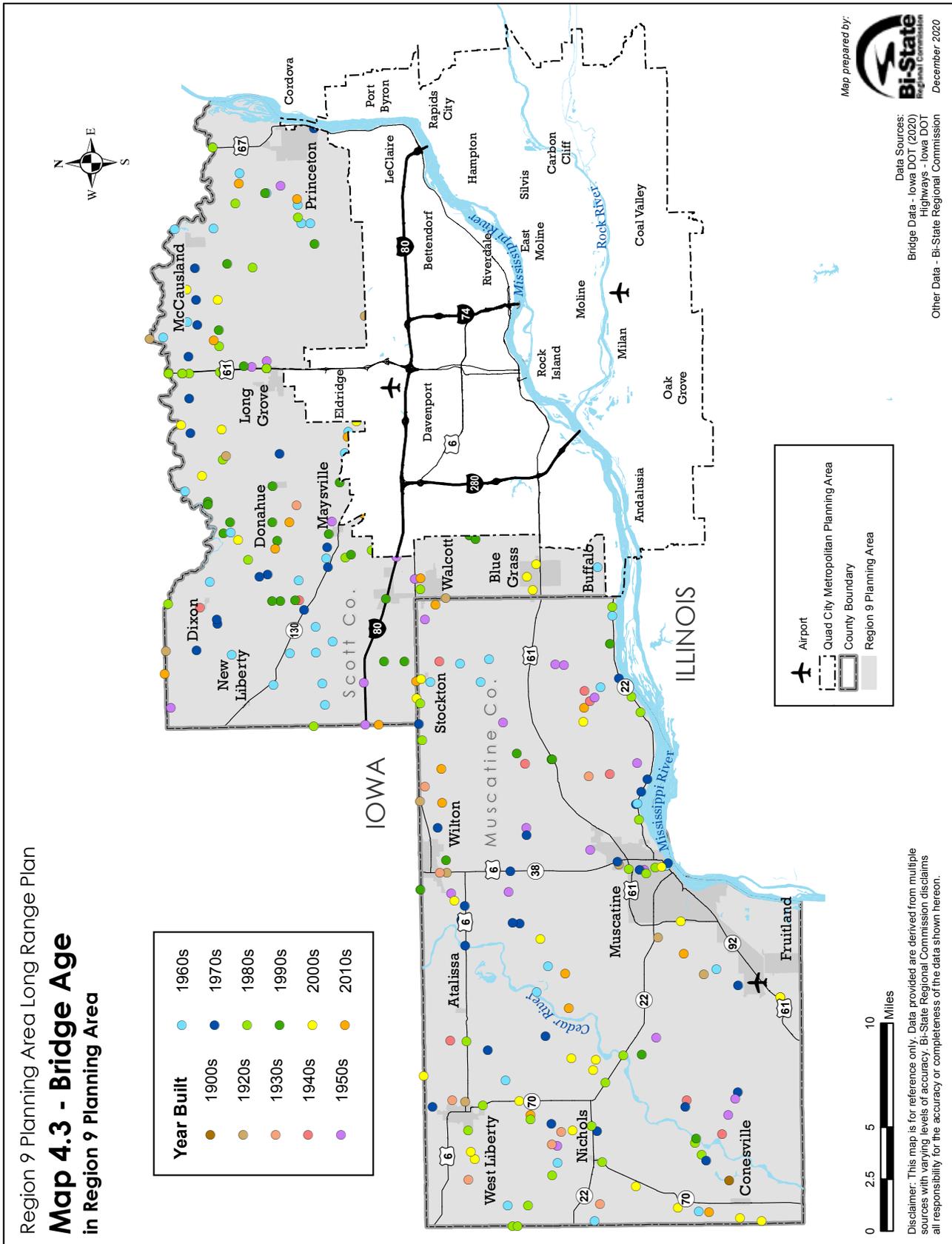
Lastly, quickly adapting to changes in technology will be important in Region 9. Whether it relates to changes in vehicle size, weight, pavement techniques, or modal shifts, these issues may impact how intermodal transportation evolves over time.

# Map 4.1 - Economy & Intermodal Network Key Industries in the Bi-State Region

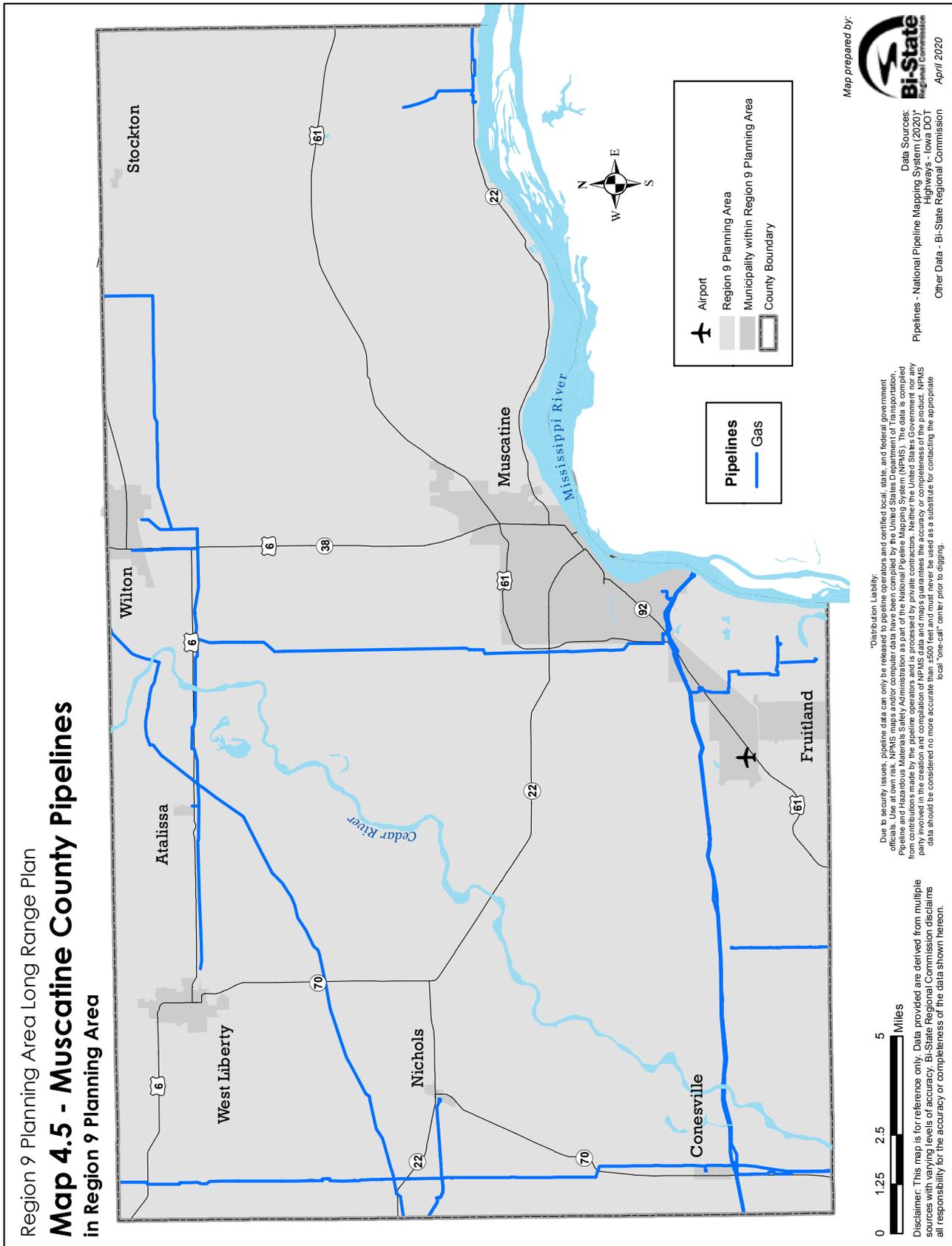


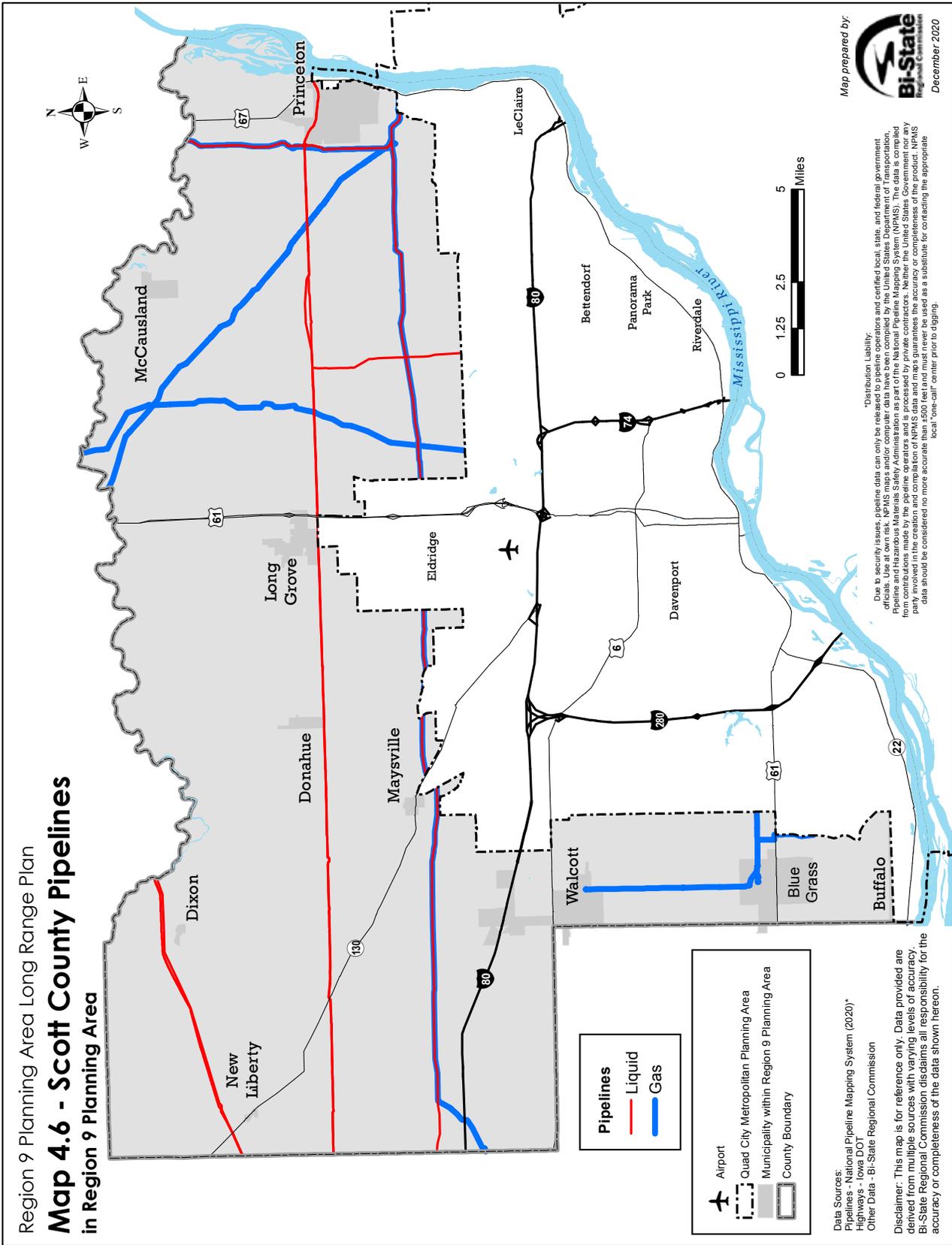
Region 9 Planning Area Long Range Plan  
**Map 4.2 - Farm to Market Routes**  
 Serving Muscatine and Rural Scott Counties











## CHAPTER 5 – MULTIPURPOSE TRAILS AND PEDESTRIAN NETWORK

### Background and Overview

Over the past two decades, bicycling has grown in popularity as a viable mode of transportation. Beginning with the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1994 that started funding bicycle projects, the growth of bicycling as recreation and transportation has affected urban, suburban, and rural areas in different ways. In each successive federal transportation bill, alternative forms of transportation have been funded at varying levels. Pedestrians and bicyclists have seen great progress in the expansion of facilities, allowing for easier access to all kinds of destinations.

Soon after Congress commissioned the National Bicycling and Walking Study (NBWS) in the early 1990s, it also passed ISTEA that made available billions of dollars of transportation funds that could be used for a range of transportation projects including bicycling and walking improvements. The success of ISTEA from 1992-1997 subsequently led Congress to pass the Transportation Equity Act of the 21st Century (TEA-21). During the five years of TEA-21, from 1998-2003, spending of federal transportation funds on bicycling and walking improvements nearly doubled that of ISTEA. In August 2005, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law and continued to fund alternative transportation projects. This bill renewed and expanded funding opportunities for multipurpose trails and pedestrian safety projects.

A more recent federal transportation bill, Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), passed in 2012, consolidated many programs under SAFETEA-LU into larger programs that must compete among larger pools for funding. MAP-21 was soon replaced by the Fixing America's Surface Transportation Act (FAST Act), signed into law in 2015. The primary federal transportation funding program for bicycling projects, known as the Transportation Alternatives Program (TAP) under the previous transportation act, MAP-21, was replaced with a set-aside of Surface Transportation Block Grant Program (STBG) funding for transportation alternatives (STBG-TA). These funds encompass a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, and safe routes to school projects.

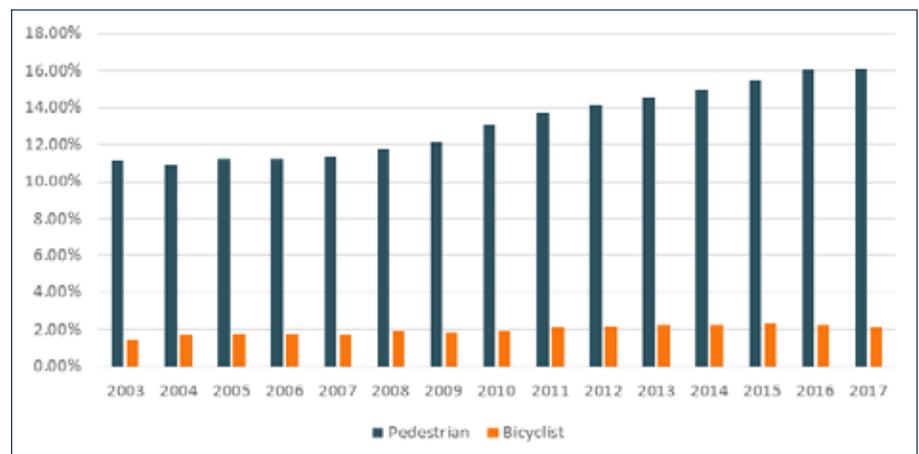


During the process of developing the NBWS 10 Year Status Report in 2004, the U.S. Department of Transportation identified three areas deserving further attention, that were also later reconfirmed in the 15 Year Status Report in 2010:

- Better documentation of bicycle and walking activity
- Improving internal support and commitment to bicycling and walking
- Improving external awareness and support for bicycling and walking

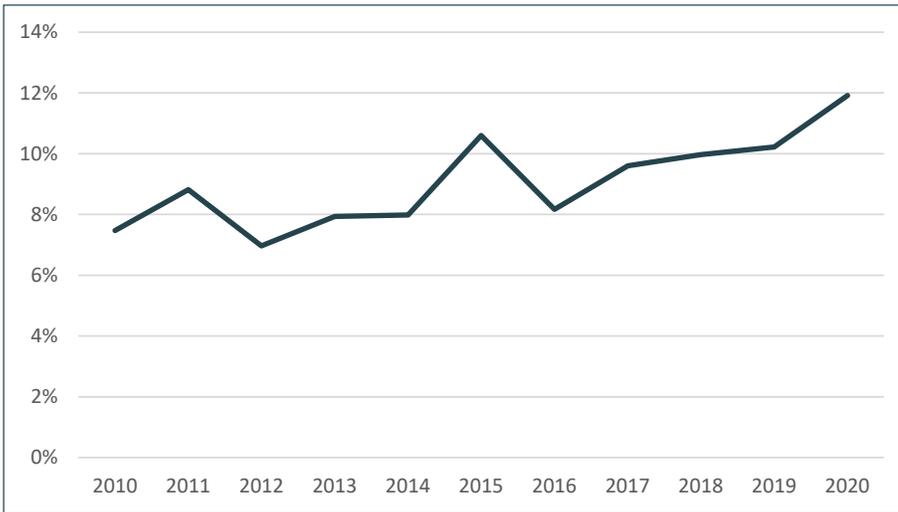
Since the original NBWS was released over 25 years ago, bicycling and walking issues have increasingly become a part of the day-to-day activities of federal, state, and local transportation agencies in the United States. Progress has been made towards the twin goals of increasing use while improving the safety of the two modes, though they can be further developed to improve the whole system. In addition, recent increases in pedestrian and bicyclist fatalities nationwide and their increasing share of total traffic fatalities raise concern about the level of safety of these modes when interacting and sharing road space with automobiles. See Figure 5.1 for recent trends in fatalities among these two groups. Similarly, pedestrian and bicyclist fatalities statewide have been increasing in recent years, as shown in Figure 5.2. However, Figure 5.3 shows that statewide crashes in Iowa have been decreasing overall in recent years. This means that the total number of crashes and severe crashes are decreasing, but due to larger vehicles and higher speed limits leading to a higher impact on pedestrians, total pedestrian and pedalcyclist fatalities are on the rise.

**Figure 5.1**  
**Percent of Total Fatalities Nationwide**



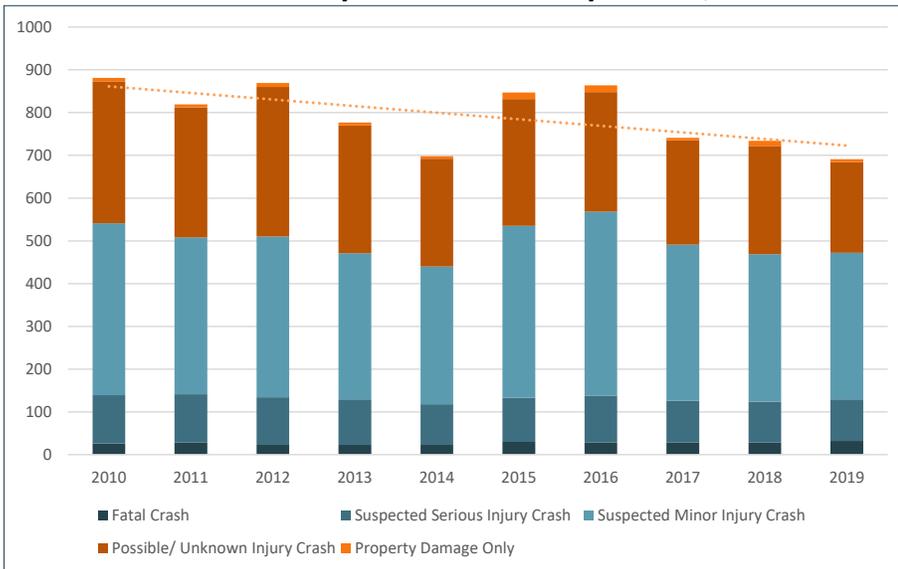
Source: National Highway Traffic Safety Administration, 2017

**Figure 5.2**  
**Percent of Total Pedestrian & Pedalcyclist Fatalities Statewide**



Source: Iowa Department of Transportation Crash Analysis Tool, 2020

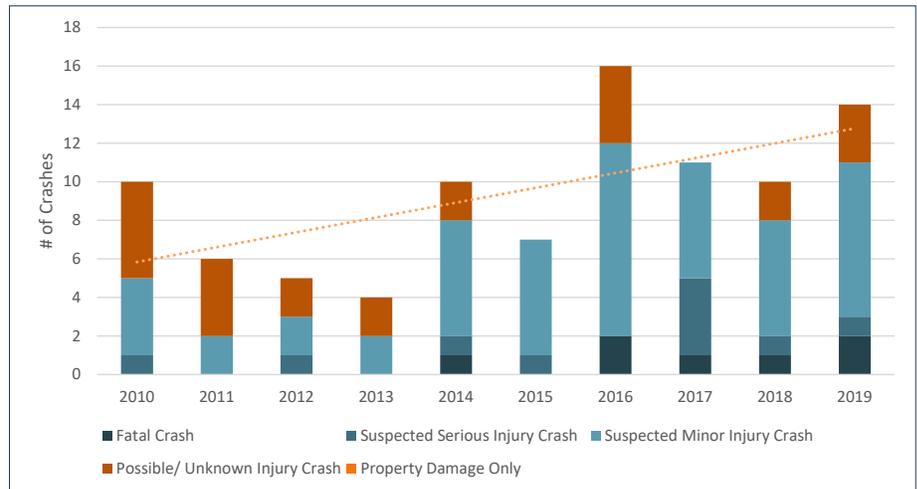
**Figure 5.3**  
**Pedestrian & Pedalcyclist Crash Severity in Iowa, Statewide**



Source: Iowa Department of Transportation Crash Analysis Tool, 2020

When comparing this data to Region 9, there have only been 8 total pedestrian and bicyclist fatalities recorded from 2010 to 2020 in the area, and thus, not a significant percentage of total crashes. However, Figure 5.4 displays the severity of crashes with pedestrians and bicyclists as increasing within the region.

**Figure 5.4**  
**Pedestrian & Bicyclist Crash Severity in Region 9**



Source: Iowa Department of Transportation Crash Analysis Tool, 2020

In addition to the two overall goals, the NBWS 10 Year Status Report identified three other high priority goals:

- Increase the number of bicyclists and pedestrians utilizing the transportation network
- Improve and increase the connection among bicycle, pedestrian, and transit systems
- Allow people to bicycle safely, conveniently, and pleurably within five miles of their home, and make streets and roads “bi-cycle friendly” and well-designed to accommodate both motorized and non-motorized transportation modes

To achieve the specific goals of the study and to realize the NBWS vision of “a nation of travelers with new opportunities to walk or ride a bicycle as part of their everyday life,” the U.S. DOT must renew its commitment to elevating bicycling and walking to become part of the transportation mainstream in future federal transportation bills.

Much of the ongoing and future spending on transportation infrastructure should take into account the need for multi-use corridors, especially as approximately one-third of the population of the United States is unable to drive, according to Smart Growth America. This proportion is expected to increase over the coming years and decades as the Baby Boom generation ages to the point where driving alone is no longer a safe transportation option. With recent attention on health aspects of transportation, the Department of Transportation has joined with the health community to promote bicycling and walking as a means of easily achievable exercise for individuals whose

health is threatened by weight and inactivity. In 2001, a partnership between the Centers for Disease Control, the National Highway Traffic Safety Administration and the Federal Highway Administration released the National Strategies for Advancing Bicycle Safety – A Call to Action. From that report, five key goals were stated and have been advanced since that time:

- Motorists will share the road
- Bicyclists will ride safely
- Bicyclists will wear helmets
- The legal system will support safe bicycling
- Roads and paths will safely accommodate bicyclists

In 2009, the U.S. Departments of Housing and Urban Development, Transportation, and the Environmental Protection Agency began an interagency partnership called the Partnership for Sustainable Communities to “improve access to affordable housing, increase transportation options, and lower transportation costs while protecting the environment.” Pedestrian and bicycle promotion played a large part in this partnership, as these modes were seen as integral in the six Livability Principles set forth by the partnership. Efforts such as the National Strategies and the Partnership for Sustainable Communities are innovations unforeseen at the time when the National Bicycling and Walking Study was released in 1994. They are proving to be a crucial technique for improving walking and bicycling conditions, as an interdisciplinary approach produces more comprehensive results. Bicycle and pedestrian safety also remains a high priority of the U.S. DOT, which in September 2014 announced a new initiative to reduce the growing number of fatalities and deaths sustained by bicyclists and pedestrians. Design improvements, the promotion of behavioral safety, education on travel safety, and vehicular awareness are all part of the initiative. More recent federal policy and regulation updates have increased the national effort to improve the connectivity, safety, and accessibility of bike and pedestrian infrastructure.

### Local Impacts

One of the components to be considered in this chapter is the impact of a bicycle and pedestrian network on communities. These networks can affect communities in a positive way through improved public health, more robust economies, and an improved environment. Trail development, accessibility, and connectivity are integral factors in evaluating livability in communities. A good multipurpose trail and pedestrian network adds a desirable attribute to the entire



*Bicyclists utilizing the riverfront trail in Muscatine.*

transportation network and quality of life for residents, and may attract new residents and businesses to a community. They enrich the quality of life by promoting active lifestyles and improving health through physical activity while having a positive impact on congestion and air quality by encouraging a reduction in the usage of motorized transportation on streets and roadways. According to the Centers for Disease Control and Prevention, 33 percent of residents in Scott County, 37 percent of residents in Muscatine County, and 33 percent of Iowans were obese in 2016. Recreational opportunities could help alleviate the obesity epidemic in the United States, Iowa, and Region 9. Additionally, the types of commutes that people take affect their health. Researchers in the UK have found evidence that people who walked, biked, or took public transportation reported positive psychological benefits in their lives and at work.<sup>1</sup>

Economic benefits from a robust trail and pedestrian network can be derived through a variety of ways. According to the Iowa Bicycle Coalition's report *Economic and Health Benefits of Bicycling in Iowa*, "the economic impact of recreational cyclists' spending generates \$364.8 million in direct and indirect impacts to the State of Iowa." The economic benefits of bicycling in Region 9 also include long-distance touring cyclists travelling on the two national trails, the Mississippi River Trail (MRT) and the American Discovery Trail (ADT). Long-distance cyclists spend more money per mile and normally travel away from the Interstates, stopping in small towns along their route where their impact on local economies is larger than if they stopped with the majority of traffic along the highway. Additionally, large events, races and rides such as RAGBRAI (the Register's Annual Great Bicycle Ride Across Iowa) can have a tremendous impact on the economies of small towns and cities through which the route runs. Region 9 has hosted RAGBRAI numerous times, the most recent of which being in 2018.

### **Multipurpose Trails**

The Federal Highway Administration (FHWA) supports a flexible approach to bicycle and pedestrian facility design. This support often affects urban areas the most, but could have effects on rural facilities as well. According to The American Association of State Highway and Transportation Officials (AASHTO), selection of a bicycle facility type is dependent on many factors, including the ability of the intended user (including children, "Experienced and Confident" and "Casual and Less

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1 Source: Martin, A., Goryakin, Y., & Suhrcke, M. (2014). Does active commuting improve psychological wellbeing? Longitudinal evidence from eighteen waves of the British Household Panel Survey. *Preventive Medicine*.

Confident”), specific corridor conditions, and facility cost. The following is a description of each facility type and general design as stated in the AASHTO Guide for the Development of Bicycle Facilities, 2012.

**Shared Roadway (No Bikeway Designation):** Most bicycle travel in the United States now occurs on streets and highways without bikeway designations. In some instances, a community’s existing street system may be fully adequate for efficient bicycle travel and signing or striping for bicycle use may be unnecessary. In other cases, some streets and highways may be unsuitable for bicycle travel, and it would be inappropriate to encourage bicycle travel by designating the routes as bikeways. Finally, some routes may not be considered high bicycle demand corridors, and it would be inappropriate to designate them as bikeways regardless of roadway conditions (e.g., minor residential streets).

Some rural highways are used by touring bicyclists for intercity and recreational travel. In most cases, such routes should only be designated as bikeways where there is a need for enhanced continuity with other bicycle routes. However, the development and maintenance of 4-foot paved shoulders with 4-inch edge stripe can significantly improve the safety and convenience of bicyclists and motorists along such routes<sup>2</sup>.

**Signed Shared Roadway:** Signed shared roadways are designated by bike route signs, and serve either to provide continuity to other bicycle facilities (usually bike lanes) or designate preferred routes through high-demand corridors.

As with bike lanes, signing of shared roadways should indicate to bicyclists that particular advantages exist to using these routes compared with alternative routes. This means that responsible agencies have taken actions to assure that these routes are suitable as shared routes and will be maintained in a manner consistent with the needs of bicyclists. Signing also serves to advise vehicle drivers that bicycles are present.

**Bike Lane or Bicycle Lane:** Bike lanes are established with appropriate pavement markings and signing along streets in corridors where there is significant bicycle demand and where there are distinct needs that can be served by them.



*Shared Roadway (No Bikeway Designation) Example*



*Signed Shared Roadway Example*

<sup>2</sup> Chapter 3 of the Iowa Department of Transportation Office of Design - Design Manual, originally issued January 23, 2004, outlines the State’s Paved Shoulders and Milled Rumble Strips policies.



*Bike Lane or Bicycle Lane Example*



*Shared Use Path Example*

The purpose should be to improve conditions for bicyclists on the streets. Bike lanes are intended to delineate the right-of-way assigned to bicyclists and motorists and to provide for more predictable movements by each. Bike lanes also help to increase the total capacities of highways carrying mixed bicycle and motor vehicle traffic. Another important reason for constructing bike lanes is to better accommodate bicyclists where insufficient space exists for comfortable bicycling on existing streets; this can be accomplished by reducing the width of vehicular lanes or prohibiting parking in order to delineate bike lanes. In addition to lane striping, other measures should be taken to ensure that bicycle lanes are effective facilities. In particular, bicycle-safe drainage inlet grates should be used, pavement surfaces should be smooth, and traffic signals should be responsive to bicyclists. Regular maintenance of bicycle lanes should be a top priority, since bicyclists are unable to use a lane with potholes, debris, or broken glass.

If bicycle travel is to be improved, special efforts should be made to assure that a high quality network is provided with these lanes. However, the needs of both the motorist and the bicyclist must be considered in the decision to provide bike lanes.

**Shared Use Path:** Generally, shared use paths should be used to serve corridors not served by streets and highways or where wide utility or former railroad right-of-way exists, permitting such facilities to be constructed away from the influence of parallel streets. Shared use paths should offer opportunities not provided by the road system. They can provide a recreational opportunity or, in some instances, can serve as direct commute routes if cross flow by motor vehicles and pedestrians is minimized. The most common applications are along rivers, ocean fronts, canals, utility rights-of-way, former or active railroad rights-of-way, within college campuses, or within and between parks. There may also be situations where such facilities can be provided as part of planned developments. Another common application of shared use paths is to close gaps in bicycle travel caused by construction of cul-de-sacs, railroads, and free-ways or to circumvent natural barriers (rivers, mountains, etc.). While shared use paths should be designed with the bicyclist's safety in mind, other users such as pedestrians, joggers, dog walkers, people pushing baby carriages, per-

sons in wheelchairs, skate boarders, in-line skaters, and others are also likely to use such paths.

In selecting the proper facility, an overriding concern is to assure that the proposed facility will not encourage or require bicyclists or motorists to operate in a manner that is inconsistent with the rules of the road. The needs of both motorists and bicyclists must be considered in selecting the appropriate type of facility.

Another important consideration in selecting the type of facility is continuity. Alternating segments of shared use paths and bike lanes along a route is generally inappropriate and inconvenient because street crossings by bicyclists may be required when the route changes character. Also, wrong-way bicycle travel with a higher potential for crashes may occur on the street beyond the ends of shared use paths because of the inconvenience of having to cross the street.

**Sidewalks:** Sidewalks generally are not acceptable for bicycling. However, in a few limited situations, such as on long and narrow bridges and where bicyclists are incidental or infrequent users, the sidewalk can serve as an alternate facility, provided any significant difference in height from the roadway is protected by a suitable barrier between the sidewalk and roadway<sup>3</sup>.

There is no universal definition to adequately describe each and every multipurpose trail existing today. For many communities, a multipurpose trail serves as a close-to-home recreational area accommodating a range of users including equestrians, walkers, bicyclists, joggers, cross-country skiers, roller and in-line skaters, people in wheelchairs, hikers, bird-watchers, persons with strollers, snowmobilers, and anglers. Coupled with these recreational uses is the functional role of virtually every multipurpose trail. Whether used for a shortcut to a local library or for a 20-mile bicycle commute into a major metropolitan area, these trails serve an important transportation purpose. Because of their linear nature and previous or concurrent uses (i.e. abandoned rail corridors, utility easements), multipurpose trails connect places and amenities together – neighborhoods to community and cultural resources (libraries, schools, businesses, museums, etc.), small towns to metropolitan areas, and city centers to the countryside – intrinsically serving as transportation corridors.



*Sidewalks Example*

3 Source: The American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*, Fourth Edition, 2012



*Liberty Path: A multipurpose trail located in Blue Grass.*

Pedestrian-only facilities, such as sidewalks, are very common in all communities within Region 9. Sidewalks offer residents and visitors the most fundamental of transportation options. Ubiquitous in historic municipality centers, sidewalks are used for a variety of purposes including transportation, recreation, and commerce in the form of outdoor seating at restaurants and sidewalk stalls. However, they are not provided everywhere. Areas that have been built in the last few decades do not uniformly have sidewalks. Many communities still have portions or sections of their towns without any sort of pedestrian facility/sidewalk. Pedestrian facilities are also non-existent between communities within Region 9 due to the long distances/stretch-ches of roads from community to community. Sidewalks deteriorate over time depending on age, construction material, and location. The importance of maintaining these non-motorized networks is not lost on local communities or their state partners. Individual communities are largely responsible for the construction and maintenance of their sidewalk networks. However, federal funding is available through the Transportation Alternatives Set-Aside (TASA) program.

Increasing amounts of research are focusing on the fiscal impacts of bicycling in communities and states. Long distance bicycle riders stop more often and spend more money per mile than motorized vehicular traffic, often while travelling through rural towns away from the Interstate highways. According to a 2013 study and survey by Trails for Illinois, which included the nearby Hennepin Canal State Trail, trail users spent an average of \$30.40 for all reported trail visit expenditures. The survey indicated that 35 percent of respondents spent money in nearby restaurants and bars. Interregional trails attract visitors from nearby metropolitan areas as well as tourists from farther afield. The Trails for Illinois study found that the trails throughout the state attracted tourism spending and overnight stays in nearby hotels. The Iowa Bicycle Coalition estimates that recreational cyclists' spending generates \$364.8 million in direct and indirect impacts to the State of Iowa every year. Tapping into this economic reality is seen as an opportunity in Region 9.

In the next 25 years, other users of the multipurpose trail network will undoubtedly appear. The advent of electric bicycles, battery or motor driven scooters, and "personal mobility devices" is already an issue in considering trail usage. The authority for determining the types of allowable uses on these transportation and recreation corridors is in the hands of the communities or agencies that have jurisdiction over them. For example, on shared roadways where there is a low traffic count, such as rural and county roads, equestrians, bicyclists, pedestrians, and many other users may be seen utilizing these cor-

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ridors. The Bi-State Regional Trails Committee has passed a draft *Quad City-Wide Unified Trail Use Ordinance*, which can be adopted by individual communities, should they see fit. This draft ordinance contains language that identifies trails within cities to be used only for “human-powered activities.”

A well-planned and integrated system of trails throughout the Region 9 Planning Area can supplement other alternative transportation modes creating a more accessible, accommodating, and balanced transportation network. The Region 9 Area continues to plan and develop trails providing transportation alternatives, commuting options, and important connections. In addition, a robust alternative transportation system can attract bicycle tourism that can benefit local economies. As mentioned above, the region has been host to the Register’s Annual Great Bicycle Ride Across Iowa, or RAGBRAI, on multiple occasions, the most recent of which being in 2018, from West Liberty through Atalissa, Moscow, Wilton, and Blue Grass to Davenport. Existing trails in the region are utilized on the order of hundreds of users per day. Approximately 220 users on average were counted using the riverfront trail near downtown Muscatine. This data was collected over four years (2014-2018) between April and August, totaling 152 days of counts.

The following identifies the current status and proposed development for multipurpose trail and pedestrian projects in the planning area. Map 5.1 provides a visual representation of the existing and proposed multipurpose trails for the Region 9 Planning Area.

### ***Muscatine County***

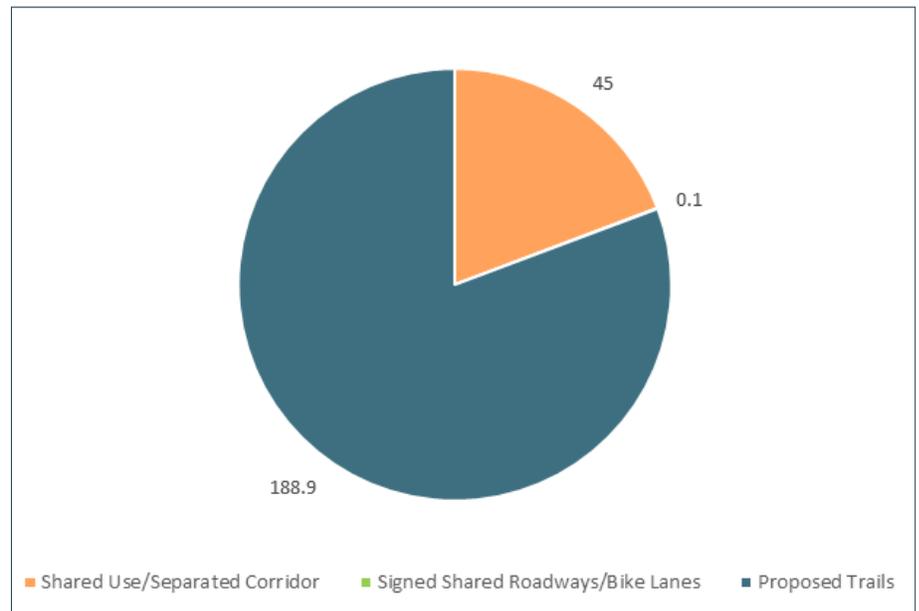
The 2019 *Muscatine County Trails Plan* identifies approximately 234 total miles of trails, detailed in Figure 5.5. Forty-five miles of this total are shared use/separated corridor trails throughout the county, and 0.1 miles are signed shared roadways and/or bike lanes. The remaining 188.9 miles are proposed trails within Muscatine County. The county trails plan identifies trails connecting communities and adjacent counties and emphasizes completing national, state, and regionally-significant connections and links<sup>4</sup>. An effort by counties north of Muscatine is underway to plan and expand trails eventually to connect the American Discovery Trail in Muscatine County to Cedar Falls and Waterloo in Black Hawk County, a distance of approximately 120 miles. In 2019, the Rails to Trails Conservancy began promoting the Great American Rail Trail, which largely follows rail trail corridors from Washington, D.C. to Washington State. In Iowa, the corridor

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<sup>4</sup> The 2019 Muscatine County Trails Plan should be referenced for more specifics on existing and proposed trails throughout the county.

roughly follows the American Discovery Trail. The goal of this plan is promote these trail networks. The *Iowa Bicycle and Pedestrian Long Range Plan* also emphasizes trail completion and networks, specifically through their Complete Streets Policy, which was implemented in 2018 and serves as a means to improve trail conditions statewide.

**Figure 5.5**  
**Total Trail Miles by Facility Type in Muscatine County**



The City of Muscatine has approximately 14 miles of trails already in place, with an additional 20 miles of proposed trails. Muscatine has several projects in the development stages and many additional miles of interconnected trails proposed in the county and as a part of The Running River Bike and Pedestrian Trail System in the city. In accordance with the adopted comprehensive plan, one of the next focused will be to establish a trail across the north side of the city along the U.S. 61 corridor and add an extension to the Mad Creek Trail to the riverfront. Once completed, the interconnected system of trails will provide a complete trail beltway around the City of Muscatine for alternative transportation, commuting, and recreation opportunities.

The City of West Liberty plans to complete the American Discovery Trail (ADT) segment through the community. Additional trail and pedestrian paths will link neighborhoods within the city to the national trail. Efforts will be made to connect to Cedar County and beyond along the ADT to Black Hawk County.

The City of Wilton recently completed a trail around the perimeter of West View Park. Trail links to adjacent neighborhoods and extensions

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of the existing pedestrian system in the community will further enhance transportation options throughout the community.

For more detailed information on Muscatine County trails, see the 2019 Muscatine County Trails Plan.

### **Scott County**

Trails in Scott County are dominated by the urban area and connect to the rural areas of Scott County. National and regional trails of significance, such as the Mississippi River Trail, the American Discovery Trail, and the Duck Creek Trail, all draw bicyclists and other users from around the region and country. Trails in the Region 9 portion of Scott County largely tie into these larger trail systems. However, some proposed trails, like those in Walcott and Blue Grass, offer recreational opportunities to residents in the form of loops around their respective communities. Proposed trails in Muscatine County, in comparison, are largely rural routes and may be realized as paved shoulders along the roadways. Winding through mostly rural Scott County, the Cody Trail is a 25.5 mile shared access trail named after “Buffalo” Bill Cody. The trail extends from North First Street in Eldridge to the riverfront city of LeClaire. The trail is labeled as a recreational and historical tour providing a glimpse of Scott County heritage. A majority of this trail lies within the Region 9 transportation planning area. The Cody Trail is significant to this plan for its proposed connections to the Quad Cities metropolitan area network of trails. The first leg of the trail from Eldridge to Long Grove has been completed. It is a 3-mile-long, 10-foot wide multi-use path running parallel to 1<sup>st</sup> Street/Y-64. There is now an approved project to begin work in FY23 to extend a spur (a part of the Cody Trail) bike trail north through Long Grove, ending at 1<sup>st</sup> and Pine Streets.

The City of Blue Grass has proposed a perimeter green belt trail. The loop system will link neighborhoods, schools, parks, and community facilities. The city is planning to connect the loop system to a similar perimeter green belt proposed in the City of Walcott. The two community loop trails would eventually connect to the MRT in Buffalo, which is currently under development.

The Scott County Board of Supervisors has adopted a trail funding resolution revising the Capital Improvement section of the Scott County Financial Management Policies. Scott County’s Bike Trail Funding Policy is as follows:

#### **Bike Trail Funding**

- The Board of Supervisors supports the development and construction of bike trails that will connect communities within

the county. The Board encourages state and federal legislators to fund grant opportunities to fund these bike trails. The Board will support grant applications to appropriate state and federal agencies for grant funding of these trails.

- The Board will participate in funding the local match grant requirement of bike trail development and construction that connect non-contiguous cities within Scott County. The Board will also consider allowing the use of the county's right-of-way for portions of proposed trails along county roads.
- The Board of Supervisors will fund 10% of the local match grant requirement up to a 30% local match requirement. For example, for a \$1 million grant with a 30% local match requirement (\$300,000), the county would fund \$30,000 toward the local match, or 10% of the total local match. If the same \$1 million grant had a 40% local match requirement, the county would still only fund \$30,000 of the local match. If the grant is a multi-county application, the 10% county local match funding amount will be based on the percentage of bike trail mileage in Scott County.
- The county encourages communities to secure additional local grant funding toward the local match requirement (i.e., riverboat grants, foundations, businesses, etc.). The county will not reduce its 10% local match commitment by any additional funding secured by the communities toward their 90% share of the local match.
- The county will not participate in any ongoing maintenance costs of bike trails<sup>5</sup>.

### ***National, State, and Regional Trails***

The Mississippi River Trail (MRT) and the American Discovery Trail (ADT) are two prominent national trail systems. Portions of both of these systems are located in Scott and Muscatine Counties. The MRT and ADT in Scott County share the same alignment and are located entirely within the MPO boundary. Various plans for Muscatine County recommend both shared alignments and separated portions of the two national trail systems. Following are portions of the two national trails that have been or still yet to be completed within the Region 9 planning area. The sections are identified as either short or long-term projects.

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<sup>5</sup> Source: Scott County Financial Management Policies; Capital Improvement Budget Policies; Item 10; pg. XXXIII-6; Revised: 06/14/07

Along the 4-mile stretch from the Scott-Muscatine County line to Wildcat Den Road, the MRT and ADT would use the same alignment. An alignment study has been completed along this portion of trail and would extend the ADT and MRT along Route 22 from Y-40 in Buffalo to Wildcat Den Road.

In the short term, both national trails would also utilize a shared alignment from Wildcat Den Road to the Solomon Avenue Trailhead in Muscatine. Establishing a separate alignment for the MRT, closer to the river, is a long-term goal.

The ADT and MRT have the same alignment as they travel west from the Solomon Avenue Trailhead along 6.7 miles of the City of Muscatine's multipurpose trail network. The MRT and ADT diverge at the western end of Kent-Stein Park, where the Kent-Stein Park Trail, Westside Trail, and Deep Lakes Park Trail all intersect.

The MRT follows the Kent-Stein Park Trail to Deep Lakes Park Trail, which is 4.5 miles south to the southern boundary of Deep Lakes Park at 57<sup>th</sup> Street. Departing the City of Muscatine's multipurpose trail network at 57<sup>th</sup> Street, the MRT uses a shared roadway to travel the 2.6 miles south to the Muscatine-Louisa County line and the edge of the Region 9 planning boundary. From the diverging point with the MRT, the ADT travels north a short distance along the Westside Trail until it intersects Hershey Avenue. The ADT follows Hershey Avenue as it goes under the U.S. 61 Bypass and turns into County G-28. The ADT continues west for approximately 14 miles along G-28 until reaching the existing Hoover Nature Trail near the City of Conesville. The Muscatine County Trails Plan recommends a visually separated facility, such as widened and paved shoulders, be added along the roadway due to traffic volumes and the national significance of the ADT. Shoulder improvements, bike lane accommodations, or development of a completely separated shared use path, though more ideal, would be long-term objectives.

At the intersection of County G-28 and U.S. 70, the ADT turns north and continues through much of the remainder of Muscatine County and Region 9 as a separated shared-use path utilizing the old Rock Island Railroad right-of-way. Along the western edge of Muscatine County, the ADT shares the same alignment as the Hoover Nature Trail (HNT). Muscatine County prefers to use the more nationally recognized ADT designation to acknowledge this corridor. The trail as it exists today is a grassy corridor, making it difficult for bicyclists to ride on. A few components are needed to fully connect the ADT from north of Conesville to the Muscatine-Cedar County line, and trail

maintenance has become an issue. Among these components are a trail bridge, just south of Nichols, spanning Hockey’s Slough and the development of approximately two miles of trail near West Liberty. These remaining segments within Region 9 are identified as short-term initiatives.

### Construction/Development

The cost of new trail construction is difficult to generalize because of the many variables that are involved. Trail surface, width, location, needed structures (such as bridges), signage, amenities, and time-frame all affect total construction cost. During preliminary engineering phases of development, the optimal routing, trail classification, and materials for construction need to be determined.

Within the Region 9 planning boundary, 43 miles of existing trails and roughly 184 miles of various types of trails have been identified for implementation. Trails of national, state, and/or regional importance comprise 49 miles of the total with approximately 31 miles designated as the MRT/ADT and 18 miles as the Cody Trail. Some portions of the MRT and ADT are located along state routes, which may have paved shoulders added to the roadway in the future as part of the Iowa Department of Transportation’s policy to achieve pavement preservation and driver safety benefits. In addition, some county roads are also likely to see paved shoulders for the same reasons.

According to pedbikesafe.org, a website published by the FHWA, the cost of bicycle and pedestrian improvements varies greatly from state to state. Thus, a 2013 report by the University of North Carolina Highway Safety Research Center for the FHWA compiled a database of bicycle and pedestrian infrastructure improvements from 40 states to better understand their costs. According to the study, the mean cost per mile of a paved multi-use trail was \$430,000 and \$121,390 for an unpaved trail.

Bike lanes are another option for implementing alternative transportation infrastructure in Region 9. According to the UNC study, bike lane striping costs between \$1,000 and \$11,000 per mile. Demarcated bike travel lanes are becoming more prominent in many areas across the country. Where little or no modification to the roadway is required, bike lanes could be a lower cost option for Region 9. Comparatively, the cost of adding paved shoulders to the roadway can range from \$100,000 to \$350,000 per mile for a five-to-six-foot-wide shoulder per mile depending on existing conditions.

#### What does it cost per mile to construct ?

- Bike lane striping \$1,000-11,000
- Paved shoulders \$100,000-350,000
- Unpaved multi-use trail \$121,390
- Paved multi-use trail \$430,000

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## Maintenance and Operation

Maintenance and operation can also have a broad definition. Routine maintenance can be defined as upkeep that is needed to keep the trail operating in a safe and usable condition, not involving major development for reconstruction. Routine maintenance activities might include:

- Annual facility evaluation to determine the need for minor repairs
- Removing encroaching vegetation
- Mowing
- Map/signage updates
- Trash removal/litter clean-up
- Flood or rain damage repair (i.e. silt removal, culvert clean out, etc.)
- Patching, minor re-grading, or concrete panel replacement
- Planting, pruning, and general landscaping
- Snowplowing

Annual per mile maintenance and operation costs fluctuate due to a broad range of factors. Following are some examples of annual maintenance and operation costs from a variety of different sources to illustrate the variation. (The estimates below have not been adjusted for inflation.)

- \$1,500/mile includes a mixture of different trail surfaces (Iowa Trails 2000 Plan, Iowa Department of Transportation)
- \$2,525/mile for all asphalt paths (Milwaukee County Park System)
- \$1,200/mile as an absolute minimal cost (Rail Trail Maintenance and Operation Manual, Rails-to-Trails Conservancy)
- \$2,077/mile for government run trails (Rail Trail Maintenance and Operation Manual, Rails-to Trails Conservancy)
- \$2,042.06/mile of unpaved trail (Trail Cost Model – Wisconsin Department of Natural Resources)

According to the Milwaukee County Trails Network Plan (2007) snow removal costs range from \$24.13/mile to \$154.13/mile.

### Conclusion

It is perhaps a measure of how far the U.S. DOT as a whole has come that in 1999 the FHWA Administrator wrote, “We expect every transportation agency to make accommodation for bicycling and walking a routine part of their planning, design, construction, operations, and maintenance activities.” In the two decades since those comments were made, federal, state, and local units of government have continued to make significant investments in alternative transportation infrastructure.

Within the Region 9 Planning area, improvements are needed to enhance the multipurpose trail and pedestrian network. Planners and engineers from the communities, the Department of Transportation, and other agencies need to maintain constant communication to facilitate these efforts. Information needs to be made easily accessible and shared freely in order to assure adopted plans are being followed, or at least referenced, before the initial design work begins. Consideration should always be given to provisions for multipurpose trails and pedestrian accessibility when designing new roadways or upgrading existing ones.

The Region 9 Planning Area will continue to design and build its multipurpose trails and pedestrian network to meet or exceed ADA compliance. Alternative transportation projects must be inclusive of all demographic groups, but especially the rapidly growing elderly population, people with special needs or who are otherwise disabled or handicapped, as well as any other person or group that may utilize non-motorized or alternative transportation. These groups must be informed and should be involved in the planning, designing, and implementation of trail and pedestrian projects.



## CHAPTER 6 – REGIONAL INTEGRATED TRANSPORTATION SYSTEM CONCLUSION

### Consideration of Environmental Effects

#### General

When developing transportation projects, the environmental and social effects of those projects must be considered. The U.S. Department of Transportation Act of 1966 (49 U.S.C.) first provided provisions for considering park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development, as noted in the Federal Highway Administration Section 4(f) toolkit. Projects funded with federal funds are further required to follow procedures outlined in the National Environmental Policy Act (NEPA) of 1969. It should be noted that many state funded projects require consideration of alternatives and effects as well.

Impact analysis generally occurs during the preliminary engineering stage of a project when the location of the project is known. If an analysis is performed prior to this stage, work may be required to be significantly revised because the actual location of the project has moved or because regulatory agency sign-offs may have expired. Project sponsors are encouraged to begin coordination with environmental, regulatory, and resource agencies early in the project development process to afford the best possible transportation project. For all projects, a determination of wetland, air quality, community, and other effects must be considered. As listed in 49 CFR Parts 622 and 623, there are three classes of impact analysis: Class I, Environmental Impact Statements; Class II, Categorical Exclusions; and Class III, Environmental Assessments. Environmental Impact Statements are required for new access-controlled freeways, four or more lane highways on a new alignment, new fixed-rail transit facilities, new separate roadways for buses or high occupancy vehicle lanes, new intercity railroad on new rights-of-way, and new intermodal facilities requiring any of the previous actions.

Categorical Exclusions encompass “actions that do not individually or cumulatively have a significant environmental impact. As a result, it is not required to conduct an environmental assessment nor an environmental impact statement.” These may apply to activities such as non-construction activities, highway resurfacing, routine maintenance and equipment purchases, incorporation of Intelligent Transportation Systems (ITS) into existing transportation facilities, highway and



### Environmental Justice Principles of the USDOT

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on EJ populations;
- To ensure the full and fair participation by all potentially affected communities in transportation decision-making processes; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

railroad safety activities, improvement of rest areas and weigh stations, car and vanpool projects, emergency repairs, transit operating assistance, transit vehicle acquisition and rehabilitation, existing track improvements, bicycle accommodations within an existing transportation right-of-way, alterations for accessibility to persons with disabilities, fencing, signs, signals, lighting, streetscaping, noise barriers, and habitat conservation.

Environmental Assessments are conducted on projects for which the scope of environmental effects is not clear and result in the determination of a Finding of No Significant Impact (FONSI) or the need for an Environmental Impact Assessment (EIA).

In regard to the efforts listed in this document, it has been noted that a significant amount of funding will be devoted to maintenance of the existing transportation system. These activities generally meet the criteria for Categorical Exclusion and would include reconstruction of existing roadways, transportation system management (TSM) and ITS deployment, fleet replacement and continued operation of transit, and use of existing rail lines for freight and passenger efforts. Projects that include paving of existing gravel or sealcoat facilities would also fall into this category. Major federally-funded new projects on new alignments generally require an Environmental Impact Statement (EIS). The construction of a new river crossing on a new alignment or the construction of new rail lines on a new right-of-way would likely fall into this category. Projects that may require environmental assessments are those that increase the number of lanes of existing roadways utilizing existing rights-of-way and the construction of new separate trail facilities.

There are a number of environmental, cultural, and social considerations in regard to planning in particular. These are described in the following sections.

### *Natural/Cultural Resources*

#### **Water Resources**

In both Muscatine and Scott Counties, watersheds, floodplains, and wetlands play an important part in how land is used. Significant floodplain and wetland areas are located along the Mississippi and Cedar Rivers and along Mad Creek in Muscatine County. Floodplain and wetland areas in the Region 9 portion of Scott County are mainly located along the Mississippi and Wapsipinicon Rivers and their tributaries. It is important to examine how floodplains and wetlands may impact a project. Map 6.1 shows wetlands and floodplains in Region 9 in relation to proposed future roadway projects. The U.S. Army Corps of Engineers regulates navigable waterways and should be consulted

as transportation project planning occurs. The Federal Emergency Management Agency (FEMA) has mapped both counties for special flood hazard areas. Wetlands in Region 9 can be identified using the U.S. Fish and Wildlife National Wetland Inventory Maps.

### **Historic and Cultural Resources**

The Region 9 planning area has many historic and cultural resources. There are potential archaeologically significant sites within the planning area. Native Americans historically lived along the shores of the rivers and streams where remains of their cultures may be found. There is a rich history of Early European settlement in the Region 9 planning area as westward expansion of the United States created a crossroads of rail and river navigation in the American heartland. Map 6.2 identifies some of the many historic, cultural, park, and conservation areas in the regional planning area. Contact with the Iowa State Historic Preservation Office, Iowa Department of Natural Resources, and other state or federal agencies is often part of the transportation project development process.

### **Endangered Species**

There are known endangered and/or threatened species in the planning area. The Higgins Eye (pearlymussel), Indiana Bat, Sheepnose Mussel, Rusty Patched Bumblebee, and the Spectaclecase Mussel are listed as endangered in both Muscatine and Scott Counties. The Northern Long-eared Bat, Eastern Massasauga (rattlesnake), Western Prairie Fringed Orchid, and the Prairie Bush-clover are considered threatened species in both counties. The U.S. Fish and Wildlife Service website ([www.fws.gov/midwest/endangered/lists/iowa\\_cty.html](http://www.fws.gov/midwest/endangered/lists/iowa_cty.html)) provides a listing of Endangered, Threatened, Proposed, and Candidate species by county.

### **Land Use**

The planning area abounds with prime farmland. Agriculture is rooted in the history and traditions of the area. Both Muscatine and Scott Counties encourage development to be located within existing corporate limits to preserve farmland as part of their respective land development plans. Farmland determinations are often related to soil suitability, which can be obtained from the Natural Resources Conservation Service (NRCS). In addition to soil suitability, slope is often a consideration in determining environmental effects. With the river valleys and bluffs, there are many areas with significant slope where erosion and runoff may be an issue in the planning area. Map 6.3 shows proposed future roadway projects related to the future land uses in the planning area. The terrain within a project area may effect transportation facility design. Subsurface effects should also be reviewed.

### ***Other Effects***

When evaluating transportation project effects, consideration should be given to noise control, man-made hazards, and environmental justice. With the commercial and general aviation airports in the planning area, Runway Clear Zones have been designated with development height limitations in the vicinity of these facilities. Consultation with authorities at these airports should occur if a project is adjacent to or in proximity of the runway clear zones of the airport.

Environmental justice addresses adverse human health and environmental effects to minority and low-income populations. Transportation projects should be reviewed as to whether they would significantly alter the demographic characteristics of the community or land use. Direct displacement of individuals or families is also a consideration. Proximity to essential services, such as police, fire, and emergency medical services is another aspect examined when evaluating transportation facility effects. Map 6.4 displays proposed future roadway projects overlaid with regional service centers and areas of concern within the planning area.

### ***Air Quality Planning***

Since 1998, Bi-State Regional Commission staff has coordinated a coalition of local government and private sector representatives committed to clean air and protection of citizen health in the Bi-State Region. The task force works toward voluntary emission reductions and education to address National Ambient Air Quality Standards (NAAQS). Through the Clean Air Act, air pollution standards are reviewed every five years.

The U.S. Environmental Protection Agency announced July 25, 2013 that the city of Muscatine and areas to the east, west, and north were in nonattainment of the one-hour national ambient air quality standard for sulfur dioxide (SO<sub>2</sub>). The remainder of Muscatine County is designated as unclassifiable, and the nonattainment area is part of the State of Iowa's implementation plan. The 2017-2019 SO<sub>2</sub> design value for Muscatine was 25 ppb with a standard of 75 ppb. Reported through July 15, 2020, there were no exceedances of sulfur dioxide. Effective on December 17, 2020, the EPA approved Iowa's attainment plan for Muscatine County, also determining that Iowa's current regulations during SSM events do not need revision and are consistent with federal policy. Therefore, the EPA withdrew Iowa from the original June 12, 2015, SSM "SIP Call."

While the trend for air quality both nationally and in Iowa is decreasing, the standards continue to promote cleaner air for the health and well-being of citizens. Muscatine and Scott Counties are currently

designated as in attainment for annual and 24-hour PM<sub>2.5</sub> NAAQS. The highest 2017-2019 24-hour design values for PM<sub>2.5</sub> in both counties is 21  $\mu\text{g}/\text{m}^3$  with a standard of 35  $\mu\text{g}/\text{m}^3$ . The monitors in Davenport and Muscatine are the second highest design value in the state. In 2020 through July 15, there were six PM<sub>2.5</sub> exceedances statewide, and including monitors in Davenport and Muscatine. For ozone, the 2017-2019 design value is 62 ppb with a standard of 70 ppb in Scott County. The monitor at Scott County Park is the third highest design value in the state. Muscatine County is designated as unclassifiable for ozone. There were no exceedances of ozone reported through July 15, 2020 in Iowa.

Over the past 5 years, various education and outreach efforts have included:

- Furthering multipurpose trail network for alternative travel modes
- Collaboration with Quad City Health Initiative and Iowa Department of Public Health
- Update of the Outdoor Air Quality Strategic Plan
- Collaborating with Iowa Clean Cities Coalition
- Alternative Fuels and Alternative Energy Workshops
- Partnering on an Electric Vehicle Readiness Study with Eastern Iowa

These efforts among others will continue to aid voluntary emission reduction goals and contribute to improving air quality in Region 9 over the long term.

## Financial Considerations

### *General*

An underlying component in the development and implementation of any future transportation network is the availability of funding sources. Funding for transportation projects is available through several federal, state, and local funding mechanisms or programs. However, forecasting the future resources that will be available to meet the long-range transportation needs is a difficult task.

The FAST Act requires the long-range transportation plan be fiscally constrained for Metropolitan Planning Organizations (MPOs). For Regional Planning Affiliations (RPAs), the Iowa Department of Transportation requires a short-term, fiscally constrained plan representing one to five years and a long-term plan representing six to 20 plus years. The short-term plan is generally the program of projects from

the Transportation Improvement Program (TIP). There is not a requirement for the long-term plan to be fiscally constrained or project specific, though it is preferable to at least see projections of revenues, a discussion of priority projects and/or corridors, and a discussion of needs outside of projected revenues. Although it is not required that the long-range plan be fiscally constrained, there should be a reasonable chance of getting it implemented. A fiscally reasonable plan illustrates that planned projects are fiscally possible within the plan's time horizon and assists local jurisdictions in the prioritization process. However, the process of determining whether a long-range plan is financially balanced is complex.

For the purposes of this plan, some general financial forecasting procedures and predictions have been produced. In creating these forecasts, key assumptions have been made about the future funding sources of transportation. The most significant assumption relates to the availability of future federal funding mechanisms. It is assumed throughout this plan that the federal government will continue to fund its existing transportation programs into the future.

### ***Available Financial Revenues***

Before any future revenue forecasts can be made, there must be an understanding of what is "reasonably available" transportation revenue. "Reasonably available," as defined by federal regulations, includes all those transportation resources for which documentation can be produced to justify that there is a reasonable expectation that the funds from that resource will be available in the future.

The following is a list of some of the financial resources utilized for transportation projects:

#### **Federal Transportation Assistance Programs**

- Federal Surface Transportation Block Grant Program (STBG)
- Congestion Mitigation and Air Quality Improvement (CMAQ)
- FTA Section 5304, 5309, 5310, and 5311 Programs
- Federal Transportation Alternatives Set-Aside Program Funds (TAP/TASA)
- Highway Safety Improvement Program (HSIP)
- National Highway Performance Program (NHPP)
- Demonstration Funding (DEMO)
- STBG Highway Bridge Program (STBG-HBP)
- Public Transit Infrastructure Grant (PTIG)

### **State Transportation Assistance Programs**

- City Bridge Program
- Highway Safety Improvement Program – Secondary (HSIP-Secondary)
- Iowa Clean Air Attainment Program (ICAAP) Funds/ Intelligent Transportation System (ITS) Program
- Transportation Safety Improvement Program
- Transportation Safety Improvement Program (TSIP)
- Recreational Trail Program
- Iowa Swap Federal Aid Exchange Program

### **Various Other Funding Resources and Programs**

- Farm to Market
- Secondary Road Fund
- City Street Fund
- General Funds
- Special Taxes
- Fares or User Fees
- Other Local Resources

Some of the resources are discretionary and/or competitive programs. Further, some projects, because of their scope, may require direct appropriations of funding from federal or state programs.

### ***STBG and TAP Funds***

Under the FAST Act, the Transportation Alternatives Set-Aside Program (formerly the Transportation Alternatives Program-TAP) provides funds for the various non-motorized transportation projects, such as trails, pedestrian facilities, historic preservation of transportation facilities, and landscaping of transportation facilities. In addition to these programs, TAP also recognizes projects including recreational trails, Safe Routes to Schools types of projects, and some construction items, such as turnouts and overlooks, from the former Scenic Byway Program. Programming of these funds is the responsibility of Bi-State Regional Commission. The Commission has, in turn, delegated the authority for programming TAP funds to the Region 9 Transportation Policy Committee (TTC). Prior to voting from the Policy Committee, the Region 9 Technical Committee evaluates and ranks each candidate project using a criteria developed by Bi-State staff in cooperation with the Technical Committee and approved by the Policy Committee.

Projects are reviewed for consistency with the long range transportation plan to support the region's transportation goals. Recommendations and scoring of projects submitted from the Region 9 area are provided from the Technical Committee to the Policy Committee. It is the Policy Committee that then reserves the right to make the final selection of what project(s) receive TAP funding. TAP funds are typically a matching ratio of 80% federal and 20% local. The Policy Committee can require more local match to distribute the funds to a greater number of projects.

Surface Transportation Block Grant Program (STBG) funds are allocated to Region 9 on an annual basis by the Iowa Department of Transportation. Similar to the TAP funds, Bi-State Regional Commission delegates planning and programming authority to the Region 9 Policy and Technical Committees for this funding source. The total amount allocated to Region 9 is a portion of the STBG funds that are available to the State of Iowa for roadway improvements or non-roadway projects. STBG funds may be used on either National Highway System (NHS) or Federal-Aid roads, although bridge safety, carpooling, and bicycle/pedestrian projects may be on public roads. STBG projects are solicited from the Region 9 area as needed (typically on a every other year cycle), then evaluated and ranked in relation to each other using an STBG evaluation process. Projects are reviewed for consistency with the long range transportation plan to support the region's transportation goals. Recommendations are provided from the Technical Committee to the Policy Committee, but once again, the final decision is determined by the Policy Committee. In 2018, the Iowa Department of Transportation Commission approved the policy to allow a federal exchange of certain federal funds in exchange, dollar-for-dollar in state funds. Region 9 participates in the exchange where STBG funds become state STBG-Swap funds. These projects are typically 100% state share, unless the Policy Committee requires a local match to distribute the STBG-Swap funds to a greater number of projects.

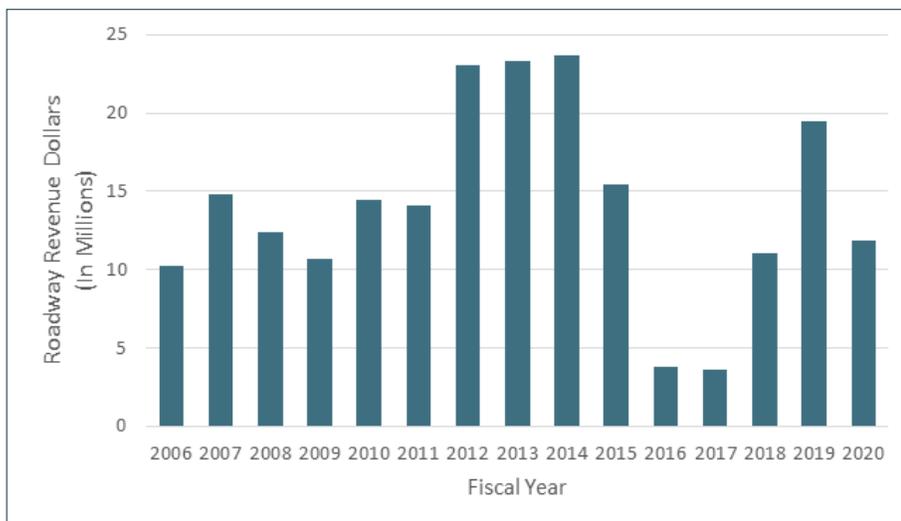
Region 9 also has access to Transportation Alternative Program (TAP) Flex funds. The Region 9 Transportation Policy Committee has decided to maintain the flexibility of these additional funds and to allow programming of them to fall under STBG and/or TAP funds.

The FAST Act expired in September 2020. Congress extended the act for one year. A reauthorization of the transportation act may change the funding mentioned above. Region 9 Policy and Technical Committees will monitor its status and adjust transportation planning and programming based on the requirements of reauthorization.

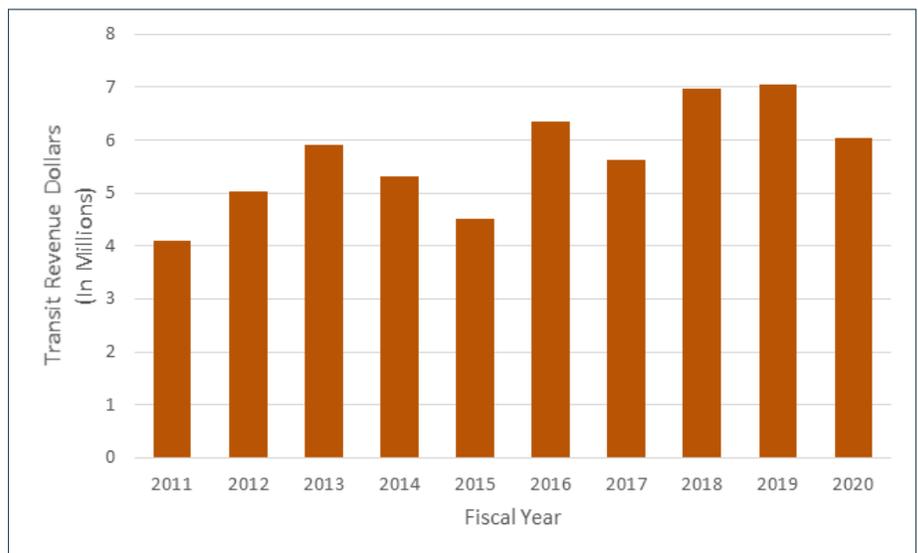
### Forecasting Methodologies

Forecasting future transportation funds can be achieved by a variety of different methodologies. The financial resources for the Region 9 Planning Area were estimated using the projection method. The process included an analysis of current and past Region 9 Transportation Improvement Program (TIP) funding efforts; an assessment of federal aid and non-federal aid revenues and expenditures data; review of program targets; and consultation with the Iowa Department of Transportation. Based on the results, an annual average increase of two percent was determined for the transportation roadway and enhancement revenues; a four percent average annual increase was determined for roadway operations, maintenance expenses, and system expansion costs; and a three percent average annual increase was assessed to both transit revenues and transit expenses. The percentages listed above were applied to the base year 2020 and computed linearly annually through 2045 to project the Region 9 transportation revenues and expenditures. Figure 6.1 summarizes the revenue spent on roadway projects in Region 9 for FY2006 through FY2020. These 14 years were averaged to select the base year for the roadway projections. Figure 6.2 summarizes the revenue spent on transit projects in Region 9 for FY2011 through FY2020. These ten years were averaged to select the base year for the transit projects.

**Figure 6.1**  
**Region 9 – Historical Annual Roadway Revenue**



**Figure 6.2**  
**Region 9 – Historical Annual Transit Revenue**



**2045 Transportation Revenue Forecasts**

Table 6.1 summarizes the 2045 revenue forecasts. A total of \$310,075,544 was estimated for roadway revenues; \$3,264,000 for transportation enhancement revenues; and \$295,416,526 for transit revenues. These forecasts include various federal, state, and local funds. While the table shows that Region 9 will plan for projects within its means based on the funding available, there will always be greater need for resources than available funding; and with tighter budgets due to job loss, less travel, and changing consumption, the next five years are expected to see flat funding levels at best. Sixty percent of the roadways are under local government jurisdiction and not eligible for federal funds. Projects that are eligible require local matching funds typically from 20 to 50% of the total cost of the project. Local governments will be pressed to prioritize needs as revenue resources from property tax, sales tax, and other fees see short term impacts from the pandemic. This plan will be a resource to support decision-making on transportation investments.

**Projected 2045 Transportation Expenses**

Among the highest priorities in the Region 9 planning area is operating and maintaining the existing transportation network. It is estimated that 90% of roadway revenues will be expended on operation and maintenance of the existing transportation network. This includes repairing/replacing existing roadways, bridges, and structures; repairing/replacing existing trails; retaining the existing level of transit service, and replacing existing transit vehicles as

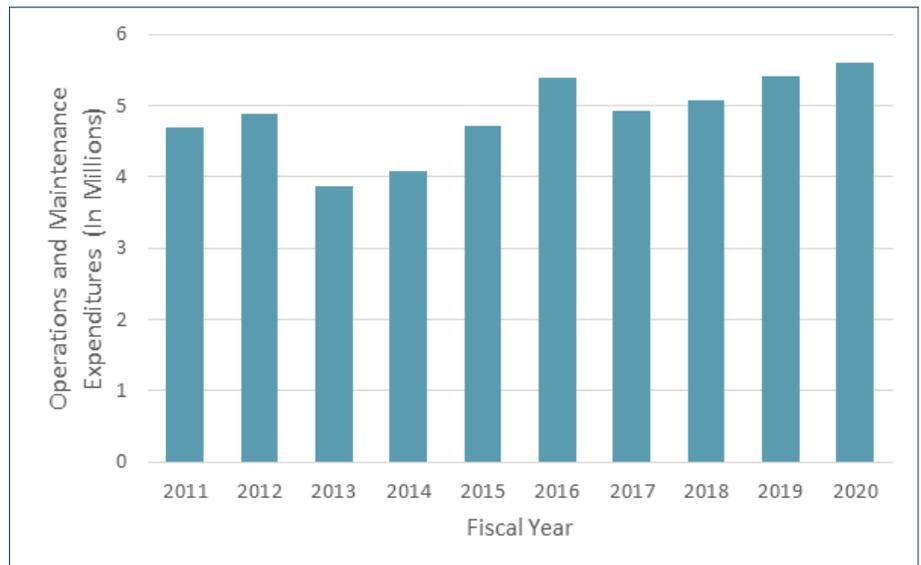
they reach their life-cost cycle. The remaining 10% of projected roadway expenses are anticipated for system expansion or capacity modification including projects requiring further analysis or feasibility studies and implementation of short and long-term project needs. The distribution of estimated roadway expenses was derived from input received for the development of this plan. Table 6.1 summarizes the 2045 projected expenses for the Region 9 planning area.

**Table 6.1**  
**2045 Region 9 – Financial Summary**

<b>Transportation Revenue Resources</b>	<b>2020-2045</b>
Forecasted Roadway Revenues – Various Sources	\$310,076,000
Forecasted Enhancement Revenues w/ 20% match	\$3,264,000
Forecasted Transit Revenues (River Bend & Musca-Bus)	\$295,417,000
<b>Forecasted Transportation Resources Subtotal</b>	<b>\$608,757,000</b>
<b>Transportation Expenses</b>	<b>2020-2045</b>
Projected Operations and Maintenance (90%)	\$279,068,000
Projected System Expansion or Capacity Modification (10%)	\$31,008,000
Projected Transportation Enhancement Projects/ Alternatives Program	\$3,264,000
Projected Transit Operations and Maintenance (River Bend & MuscaBus)	\$295,417,000
<b>Projected Transportation Expenses Subtotal</b>	<b>\$608,757,000</b>
<b>Financial Difference (Enhancements; &amp; Transit Zero Out)</b>	<b>\$0</b>

Figure 6.3 illustrates the historical data of targets for operations and maintenance expenditures for FY2011 through FY2021. The figures have remained fairly consistent from FY2011 to FY2021. This information is also included in the Region 9 Transportation Improvement Program (TIP) annually, per federal guidance requirements to document the amount of funds being used to operate and maintain the federal aid system.

**Figure 6.3**  
**Region 9 Historical Annual Operations**  
**and Maintenance Expenditures on Federal-Aid System**



### Conclusion

An excellent foundation for the programming of transportation projects in the Region 9 Area is provided with the *2045 Long Range Transportation Plan*. Roadways, transit systems, bike/pedestrian ways, and intermodal facilities are an integral part of the plan. The majority of the financial effort related to the transportation network is directed toward operations and maintenance activities. The remaining financial effort is directed toward implementation of the various transportation improvements. This reiterates that the highest priority is to preserve the existing transportation network, emphasizing system reliance to minimize disruptions. The financial implications of the plan were discussed above.

The plan will be shaped by several key considerations including choice of mobility offered, impact on regional development, availability of financial resources, and impact on the environment. These align with the plan goals noted in Chapter 1. Priorities outlined in this document will provide a high level of service, promote regional stability, and be designed to have the least environmental impact. Identified projects will increase accessibility and mobility efforts within the region, provide more intermodal connections, and improve system reliability.

### *Public Involvement Process*

Chapter 1 outlined the public involvement process, which was utilized in this plan update and referenced the minimum requirements

for outreach in Region 9, featured in Appendix C. Beyond the direct involvement, each plan from which the regional plan is derived also included public input opportunities, and the respective jurisdictional projects come forth from needs within the cities and counties.

From the Region 9 Public Input Survey, citizens commented on several key considerations: improvements they would like to see; transportation issues they have noticed; Region 9 goals that are important to them; and services/activities they utilize in the area. Future improvements mentioned by citizens in this survey included better road repair/maintenance, more bike/recreational trails, increased safety/separation of bike lanes, and optimizing traffic flow. Similar to future improvements, current transportation issues mentioned by citizens included bad/poor roads, traffic congestion, unsafe bike routes, and intersection safety. However, the general condition of streets used in their daily commute was rated as fair (mostly smooth ride but some rough patches).

Citizens were also asked to rank Region 9 goals based on their importance. The highest ranked goal was Safety/Security, followed by Balance, Modes, and Movement. Within this input survey, the following goals were defined:

- **Safety/Security** – enforcing and enhancing programs designed to ensure the safe, secure operations and utilization of all transportation facilities/systems
- **Balance** – optimizing all modes of transportation, protecting and enhancing the environment, and supporting both the rural and urban economic vitality and tourism
- **Modes** – increasing connectivity, accessibility, and mobility options to encourage the multi-modal aspects of the system, such as bicycle/pedestrian, transit, air, and rail facilities and their integration
- **Movement** – providing for the efficient movement of people and goods

As for services provided within Region 9, most citizens ranked ease of travel by car as good. However, ease of travel by bus, bicycle, and walking were all ranked as don't know/use, bad, and neither good nor bad, respectively. Access to schools or services by foot, bike, or bus were both ranked heavily as bad and neither good nor bad. Similarly, street repair and sidewalk repair for the area were ranked as bad and neither good nor bad, respectively. Activities that the citizens have done/used were also similar in regard to services provided in the area. For example, the majority of citizens that responded to this survey did

not use MuscaBus, River Bend Transit, carpool/ride share, or on-demand ride services (Uber, Lyft, Taxi, etc.) at all in the last year. This correlates with how citizens within Region 9 travel to work most frequently, which is driving alone. However, the majority of citizens did use a bicycle trail within the area more than 24 times in the last year. The use of an on-road bike lane in the last year was evenly spread across none, once or twice, and more than 24 times. While driving alone is the most frequent way that citizens travel to work in Region 9, the majority of citizens stated within the survey that they did not check bridge restrictions/traffic online, did not use the Bi-State Regional Commission website, and did not attend a transportation-related meeting at all in the last year.

Lastly, 50% of the citizens that participated in this survey agreed that Region 9 should invest more funds in maintaining the existing roadway system rather than constructing new roads, and strongly agreed that Region 9 should encourage alternative modes of travel, such as public transit, bicycling, and walking. Fifty percent or more citizens strongly agreed that the area should add sidewalks along streets where none exist and also provide designated on-street bicycle lanes.

Other opportunities for public input included the use of human services groups whose clients utilize public transit or include households without or limited access to a personal vehicle. Other input included citizen contact with staff, and opportunities to participate in the Region 9 Technical and Policy Committee meetings. One comment received expressed interest in passenger ferry service between New Boston or Keithsburg and Muscatine. There was interest in prior plans, and such an effort would require sufficient volume of travel demand between these communities, a stable funding source such as federal ferry boat discretionary funds with local matching dollars, and an operator to implement the service.

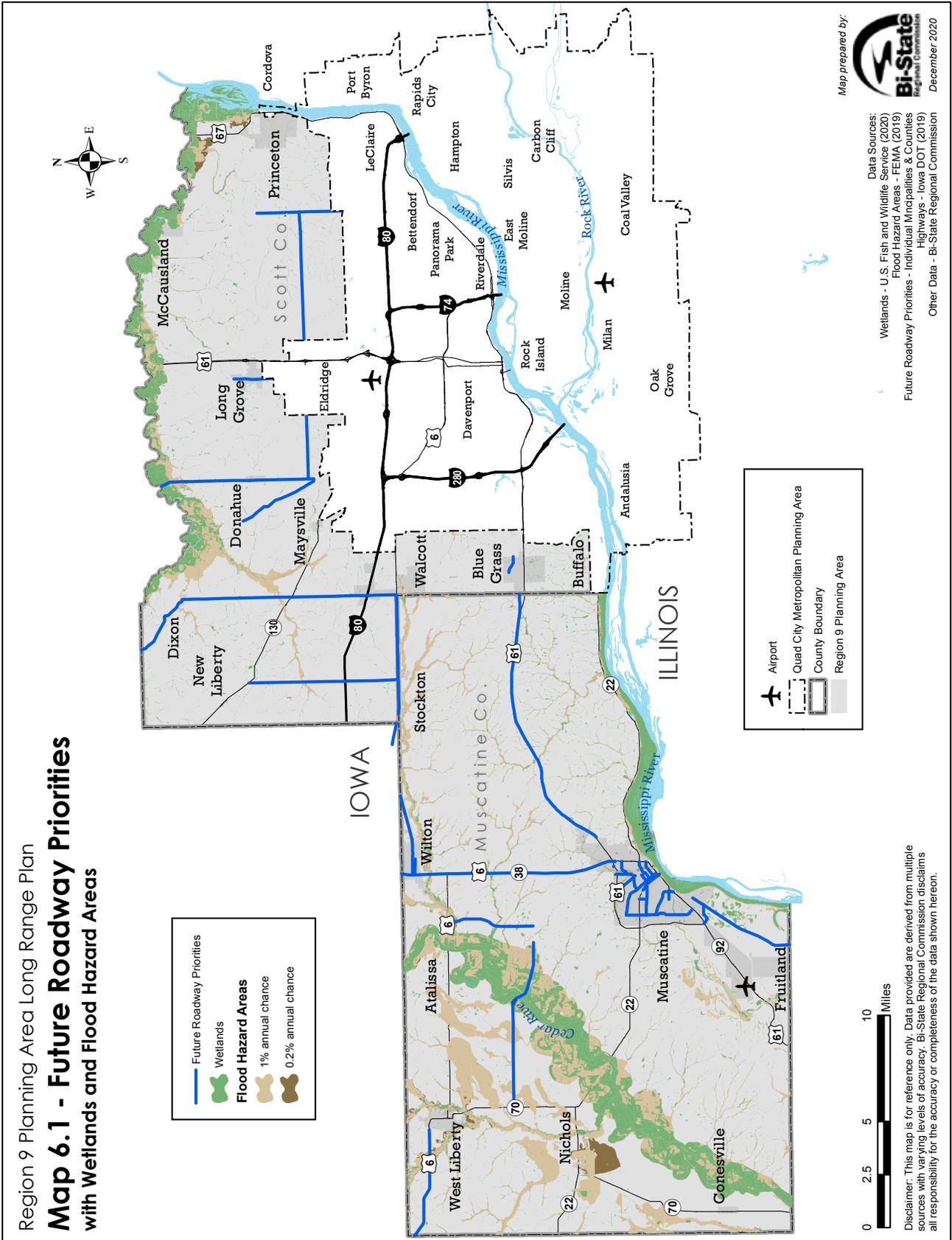
### ***Planning to Implementation***

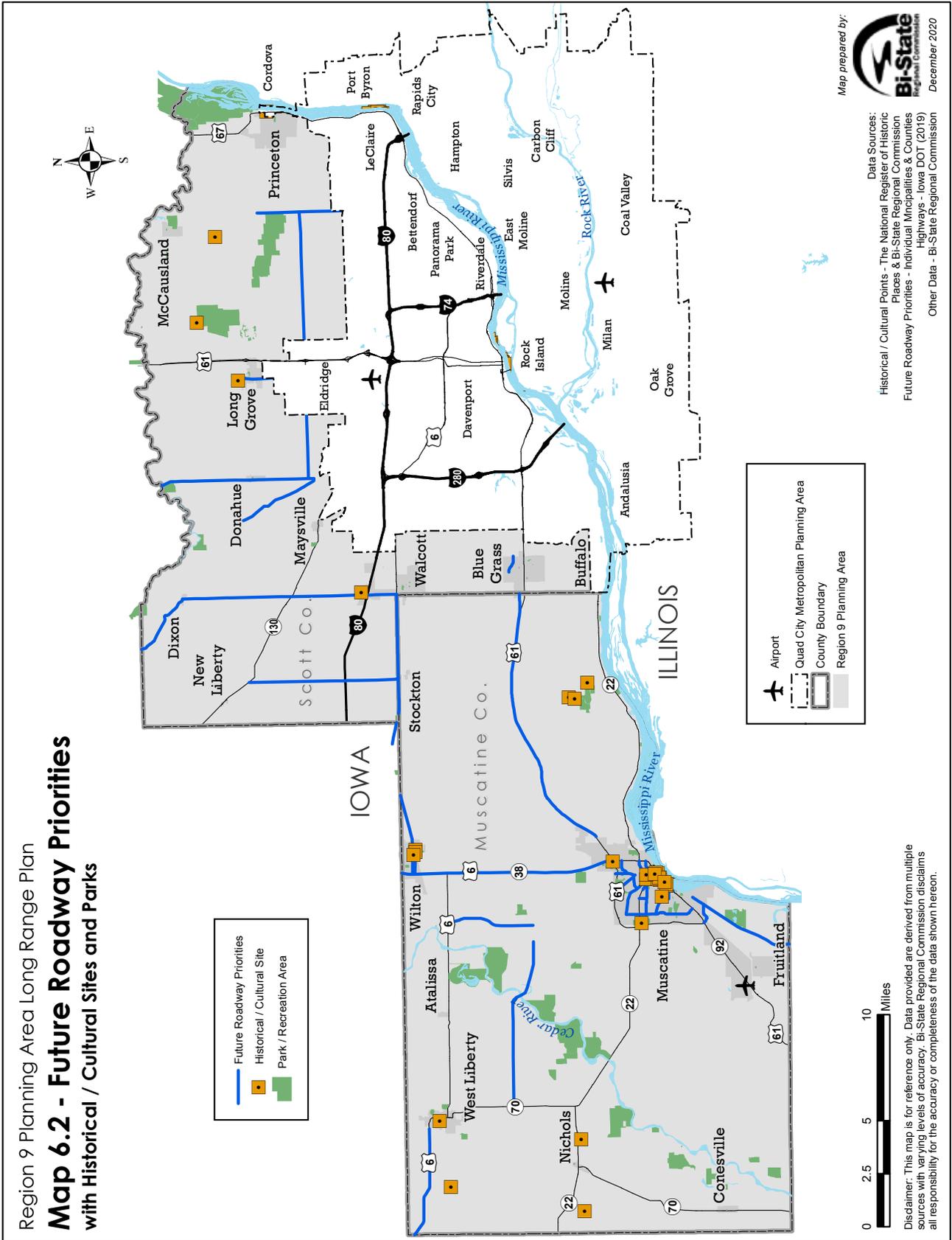
A significant amount of time and effort by many participants has been applied to data collection, analysis, coordination, and preparation of this document. The state and regional investment in the transportation planning process becomes effective with a process that is dynamic and continuing. The comprehensive, continuing, and coordinated (3Cs) planning process is designed to:

- Assist in plan implementation
- Provide service by furnishing information
- Monitor the changes in the planning area
- Reappraise the plan on a periodic basis
- Refine and interpret the plan if needed

Implementation of the plan will be accomplished in four-year increments through the programming of funding toward projects in the Region 9 Transportation Improvement Program (TIP). This will ensure funding and scheduling of projects are conducted in an orderly fashion. As additional resources become available, the program can be expanded until the recommended plan is achieved. If resources diminish, project prioritization will become more critical to address the needs of Region 9. The plan will be reexamined at a minimum of five-year intervals while amendments may be considered as needed. The same perseverance required of local, state, and federal agencies to prepare this plan will be required for its realization. This will include investments in project readiness through project planning, conceptual design and engineering, and seeking funding opportunities through grants, loans and other partnerships in order to move projects from concept to construction or implementation.

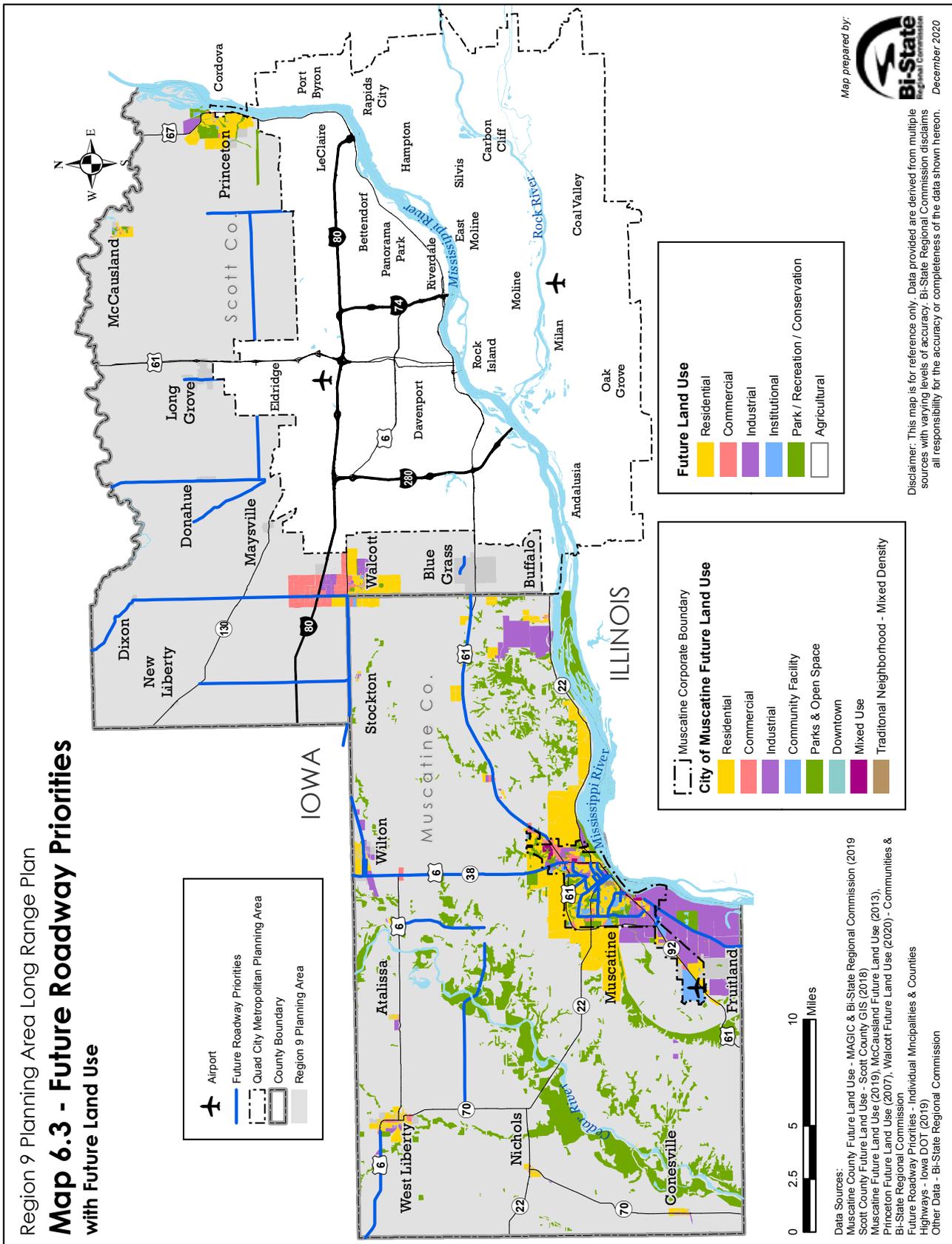
As referenced in Chapter 1, the Region 9 Transportation Policy Committee is the delegated authority to carry out the transportation planning process in cooperation with the local jurisdictions, and state/federal partners.



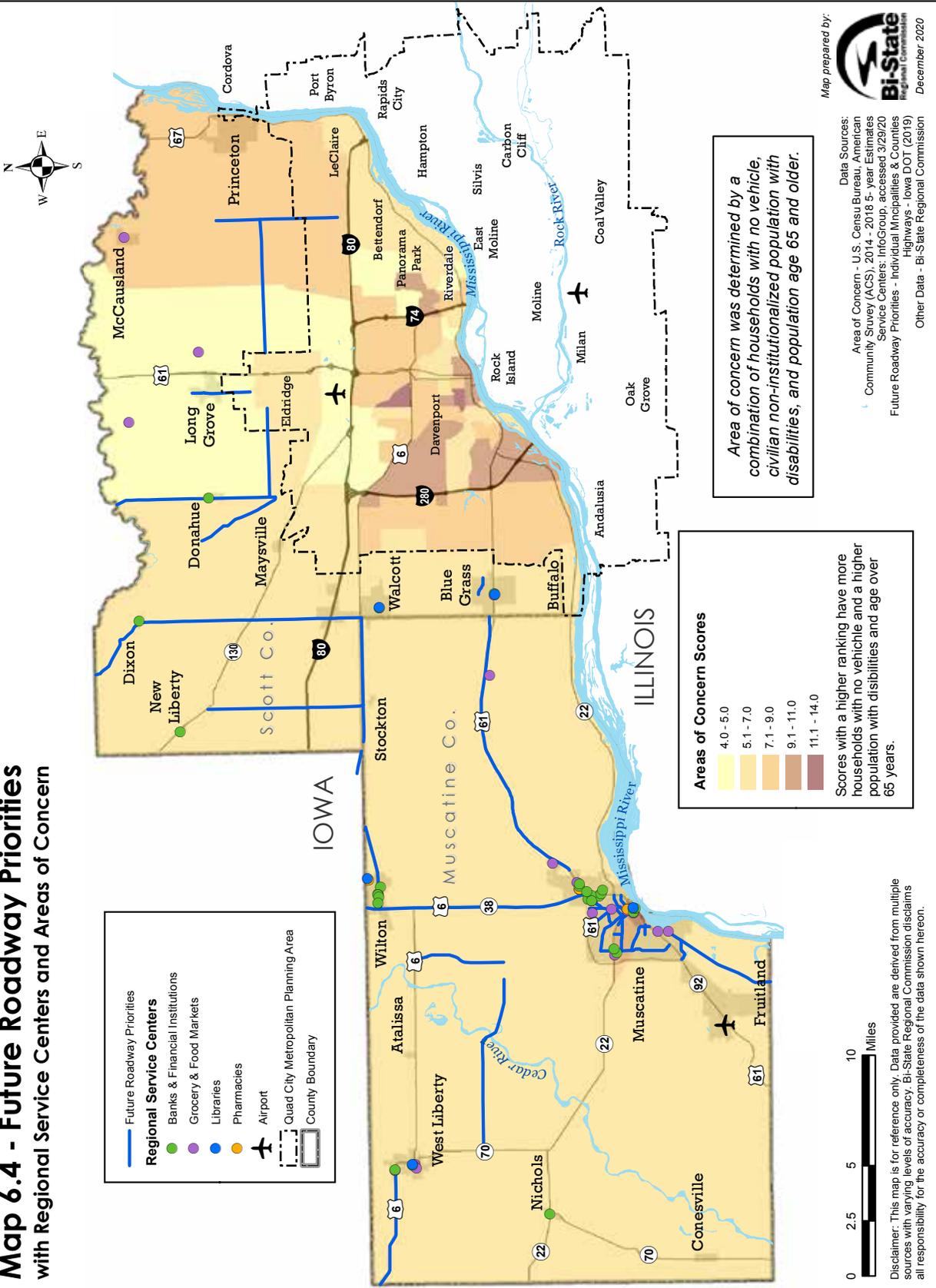


Region 9 Planning Area Long Range Plan

# Map 6.3 - Future Roadway Priorities with Future Land Use



Region 9 Planning Area Long Range Plan  
**Map 6.4 - Future Roadway Priorities**  
 with Regional Service Centers and Areas of Concern



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**APPENDIX A**



**Table A.1**  
**Selected Demographic Characteristics**

	Total	Percent		Total	Percent
SEX AND AGE			RACE		
Total Population	215,238	(X)	Total Population	215,238	(X)
Male	105,991	49.2%	One Race	208,923	97.1%
Female	109,247	50.8%	White	187,078	89.5%
			Black or African American	13,869	6.6%
AGE GROUPS			American Indian and Alaska Native	693	0.3%
Under 5 years	13,952	6.5%	Cherokee tribal grouping	70	10.1%
5 to 9 years	14,637	6.8%	Chippewa tribal grouping	36	5.2%
10 to 14 years	14,762	6.9%	Navajo tribal grouping	29	4.2%
15 to 19 years	13,919	6.5%	Sioux tribal grouping	70	10.1%
20 to 24 years	13,076	6.1%	Asian	5,076	2.4%
25 to 34 years	28,411	13.2%	Asian Indian	1,628	32.1%
35 to 44 years	26,886	12.5%	Chinese	281	5.5%
45 to 54 years	27,796	12.9%	Filipino	532	10.5%
55 to 59 years	14,290	6.6%	Japanese	117	2.3%
60 to 64 years	14,299	6.6%	Korean	486	9.6%
65 to 74 years	19,123	8.9%	Vietnamese	1,285	25.3%
75 to 84 years	9,501	4.4%	Other Asian	747	14.7%
85 years and over	4,586	2.1%	Native Hawaiian & Pacific Islander	41	0.0%
	Muscatine Co	Scott Co	Native Hawaiian	0	0.0%
Median age	38.1	38.3	Guamanian or Chamorro	34	0.0%
			Samoan	0	0.0%
			Other Pacific Islander	7	0.0%
18 years and over	163,183	(X)	Some Other Race	2,166	1.0%
Male	79,496	48.7%			
Female	83,687	51.3%	Two or More Races	6,315	2.9%
			White & Black or African American	3,532	55.9%
65 years and over	33,210	(X)	White and American Indian and Alaska Native	856	13.6%
Male	14,732	44.4%	White and Asian	975	15.4%
Female	18,478	55.6%	Black or African American and American Indian and Alaska Native	58	0.9%
RACE			Race alone or in combination with one or more other races		

	Total	Percent		Total	Percent
Total population	215,238	(X)	Total population	215,238	(X)
One race	208,923	97.1%	White	193,012	89.7%
Two or more races	6,315	2.9%	Black or African American	17,834	8.3%
			American Indian & Alaska Native	1,770	0.8%
HISPANIC OR LATINO			Asian	6,353	3.0%
Total population	215,238	(X)	Native Hawaiian & Other Pacific Islander	137	0.1%
Hispanic or Latino (of any race)	19,011	8.8%	Some other race	2,626	1.2%
Mexican	16,031	84.3%			
Puerto Rican	1,157	6.1%			
Cuban	164	0.9%			
Other Hispanic or Latino	1,659	8.7%			
Not Hispanic or Latino	196,227	91.2%			

Source: U.S. Census Bureau, American Community Survey, 5-year estimates (2014-2018)

Note: Data is for Muscatine County, IA and Scott County, IA

**Table A.2**  
**Selected Social Characteristics**

	Total	Percent		Total	Percent
HOUSEHOLDS BY TYPE			DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION		
Total households	83,561	(X)	Total civilian noninstitutionalized	213,056	(X)
Family households	53,245	63.7%	With a disability	22,322	10.5%
With own children under 18 years	23,685	44.5%	Under 18 years	51,976	24.4%
Married couple family	41,110	49.2%	With a disability	1,923	3.7%
With own children under 18 years	15,873	38.6%	18 to 64 years	129,088	60.6%
Male householder, no wife present	3,360	4.0%	With a disability	10,639	8.2%
With own children under 18 years	2,293	68.2%	65 years and over	31,992	15.0%
Female householder, no husband present	8,775	10.5%	With a disability	9,760	30.5%
With own children under 18 years	5,519	62.9%			
Nonfamily households	30,316	36.3%	PLACE OF BIRTH		
Householder living alone	25,016	82.5%	Total population	215,238	(X)
65 years and over	9,689	32.0%	Native	205,352	95.4%
			Born in the United States	203,033	94.3%
	Muscatine Co	Scott Co	State of residence	133,873	62.2%
Average household size	2.56	2.52	Different state	69,160	32.1%
Average Family size	3.13	3.16	Born in Puerto Rico, U.S. Island areas, or born abroad to American parents	2,319	1.1%
			Foreign born	9,886	4.6%
RELATIONSHIP			Naturalized U.S. citizen	4,475	45.3%
Population in households	211,341	(X)	Not a U.S. citizen	5,411	54.7%
Householder	83,561	39.5%			
Spouse	41,244	19.5%	LANGUAGE SPOKEN AT HOME		
Child	64,619	30.6%	Population 5 years and over	201,286	(X)
Other relatives	8,959	4.2%	English only	185,554	92.2%
Nonrelatives	12,958	6.1%	Language other than English	15,732	7.8%
Unmarried partner	5,531	42.7%	Speak English less than "very well"	5,974	38.0%
			Spanish	9,118	58.0%
MARITAL STATUS			Speak English less than "very well"	3,423	37.5%
Population 15 years and over	171,887	(X)	Other Indo-European languages	3,043	19.3%
Never married	52,643	30.6%	Speak English less than "very well"	648	21.3%
Now married, except separated	86,996	50.6%	Asian and Pacific Islander languages	2,817	17.9%
Separated	2,175	1.3%	Speak English less than "very well"	1,738	61.7%
Widowed	10,390	6.0%	Other languages	754	4.8%
Divorced	19,683	11.5%	Speak English less than "very well"	165	21.9%
SCHOOL ENROLLMENT			ANCESTRY		

	Total	Percent		Total	Percent
Population 3 years and over enrolled in school	53,368	(X)	Total population	215,238	(X)
Nursery school, preschool	3,784	7.10%	American	9,295	4.30%
Kindergarten	3,007	5.60%	Arab	765	0.40%
Elementary (grades 1-8)	23,135	43.30%	Czech	2,041	0.90%
High School (grades 9-12)	11,630	21.80%	Danish	1,533	0.70%
College or graduate school	11,812	22.10%	Dutch	4,707	2.20%
			English	15,647	7.30%
EDUCATIONAL ATTAINMENT			French (except Basque)	3,577	1.70%
Population 25 and over	144,892	(X)	French Canadian	368	0.20%
Less than 9th grade	4,183	2.90%	German	67,735	31.50%
9th to 12th grade	7,576	5.20%	Greek	578	0.30%
High School graduate (includes equivalency)	44,657	30.80%	Hungarian	410	0.20%
Some college, no degree	29,601	20.40%	Irish	32,178	14.90%
Associates degree	15,504	10.70%	Italian	4,199	2.00%
Bachelor's degree	27,614	19.10%	Lithuanian	100	0.00%
Graduate or professional degree	15,757	10.90%	Norwegian	4,221	2.00%
			Polish	3,733	1.70%
Percent high school graduate or higher	(X)	91.90%	Portuguese	124	0.10%
Percent bachelor's degree or higher	(X)	29.90%	Russian	512	0.20%
			Scotch-Irish	1,424	0.70%
VETERAN STATUS			Scottish	3,207	1.50%
Civilian population 18 years and over	163,022	(X)	Slovak	216	0.10%
Civilian veterans	13,965	8.60%	Subsaharan African	1,226	0.60%
			Swedish	6,309	2.90%
			Swiss	698	0.30%
			Ukrainian	166	0.10%
			Welsh	1,354	0.60%
			West Indian (excluding Hispanic origin groups)	657	0.30%

Source: U.S. Census Bureau, American Community Survey, 5-year estimates (2014-2018)

Note: Data is for Muscatine County, IA and Scott County, IA

**Table A.3**  
**Selected Economic Characteristics**

	Total	Percent		Total	Percent
EMPLOYMENT STATUS			INCOME AND BENEFITS (IN 2012 INFLATION-ADJUSTED DOLLARS)		
Population 16 years and over	168,845	(X)	Total households	83,561	(X)
In labor force	110,753	65.6%	Less than \$10,000	4,692	5.6%
Civilian labor force	110,592	99.9%	\$10,000 - \$14,999	3,267	3.9%
Employed	106,335	96.0%	\$15,000 - \$24,999	7,909	9.5%
Unemployed	4,257	3.8%	\$25,000 - \$34,999	8,144	9.7%
Armed Forces	161	0.1%	\$35,000 - \$49,999	11,338	13.6%
Not in labor force	58,092	34.4%	\$50,000 - \$74,999	16,296	19.5%
			\$75,000 - \$99,999	11,429	13.7%
COMMUTING TO WORK			\$100,000 - \$149,999	12,037	14.4%
Workers 16 years and over	105,050	(X)	\$150,000 - \$199,999	4,836	5.8%
Car, truck, or van - drove alone	90,365	86.0%	\$200,000 or more	3,613	4.3%
Car, truck, or van - carpooled	6,857	6.5%			
Public transportation (excluding taxicab)	735	0.7%	Total families	53,245	(X)
Walked	1,586	1.5%	Less than \$10,000	1,998	3.8%
Other means	890	0.8%	\$10,000 - \$14,999	1,076	2.0%
Worked at home	4,617	4.4%	\$15,000 - \$24,999	2,654	5.0%
			\$25,000 - \$34,999	3,743	7.0%
	Muscatine Co	Scott Co	\$35,000 - \$49,999	6,765	12.7%
Mean travel time to work	17.4	19	\$50,000 - \$74,999	10,556	19.8%
			\$75,000 - \$99,999	8,783	16.5%
OCCUPATION			\$100,000 - \$149,999	10,081	18.9%
Civilian employed population 16 years and over	106,335	(X)	\$150,000 - \$199,999	4,421	8.3%
Management, business, science, and arts occupations	37,528	35.3%	\$200,000 or more	3,168	5.9%
Service occupations	18,309	17.2%			
Sales and office occupations	22,163	20.8%	Total households	83,561	(X)
Natural resources, construction, and maintenance occupations	8,870	8.3%	With earnings	64,936	77.7%
Production, transportation, and material moving occupations	19,465	18.3%	With social security	25,337	30.3%
			With retirement income	16,293	19.5%
			With supplemental security income	3,686	4.4%
			With cash public assistance income	1,296	1.6%
			With food stamps/SNAP benefits in the past 12 months	8,122	9.7%
INDUSTRY			Income and Benefits (in 2012 Dollars)		

	Total	Percent		Total	Percent
Civilian employed population 16 years and over	106,335	(X)		Muscatine Co	Scott Co
Agriculture, forestry, fishing & hunting, & mining	1,543	1.5%	Mean earnings	\$70,782	\$80,865
Construction	6,772	6.4%	Mean social security income	\$19,699	\$19,880
Manufacturing	21,068	19.8%	Mean retirement income	\$18,927	\$25,345
Wholesale trade	2,520	2.4%	Mean supplemental security income	\$10,472	\$10,560
Retail trade	11,847	11.1%	Mean cash public assistance income	\$1,731	\$2,917
Transportation and warehousing, and utilities	5,220	4.9%			
Information	1,796	1.7%	Poverty status in the past 12 months	<b>Total</b>	<b>Percent</b>
Finance & insurance, & real estate & rental & leasing	5,648	5.3%	Total population for whom poverty status was determined	211,010	(X)
Professional, scientific, & management, & administrative and waste management	8,056	7.6%	Below poverty level	24,713	11.7%
Educational services, & health care & social assistance	23,894	22.5%	0-17	8,287	3.9%
Arts, entertainment, & recreation, & accommodation & food services	9,537	9.0%	18-24	1,812	0.9%
Other services, except public administration	4,742	4.5%	25-34	1,649	0.8%
Public administration	3,692	3.5%	35-44	1,012	0.5%
			45-54	1,354	0.6%
HEALTH INSURANCE COVERAGE			55-64	1,720	0.8%
Civilian noninstitutionalized population	213,056	(X)	65-74	899	0.4%
With health insurance coverage	203,061	95.3%	75 and over	652	0.3%
No health insurance	9,995	4.7%	Above poverty level	186,297	88.3%
			0-17	42,806	20.3%
INCOME AND BENEFITS (IN 2012 DOLLARS)			18-24	2,719	1.3%
	Muscatine Co	Scott Co	25-34	6,285	3.0%
Median household income	57,348	58,803	35-44	4,013	1.9%
Median family income	69,805	76,123	45-54	5,302	2.5%
Per capita income	28,137	31,873	55-64	5,515	2.6%
			65-74	4,880	2.3%
			75 and over	5,003	2.4%

Source: U.S. Census Bureau, American Community Survey, 5-year estimates (2014-2018)

Note: Data is for Muscatine County, IA and Scott County, IA

**Table A.4**  
**Selected Housing Characteristics**

	Total	Percent		Total	Percent
HOUSING OCCUPANCY			SELECTED CHARACTERISTICS		
Total housing units	91,966	(X)	Occupied housing units	83,561	(X)
Occupied housing units	83,561	90.9%	Lacking complete plumbing facilities	183	0.2%
Vacant housing units	8,405	9.1%	Lacking complete kitchen facilities	558	0.7%
			No telephone service available	2,613	3.1%
UNITS IN STRUCTURE					
Total housing units	91,966	(X)	VALUE		
1-unit, detached	64,715	70.4%	Ower occupied units	58,612	(X)
1-unit, attached	3,790	4.1%	Less than \$50,000	3,629	6.2%
2 units	3,097	3.4%	\$50,000 to \$99,999	10,928	18.6%
3 or 4 units	3,582	3.9%	\$100,000 to \$149,999	14,213	24.2%
5 to 9 units	4,556	5.0%	\$150,000 to \$199,999	10,496	17.9%
10 to 19 units	4,703	5.1%	\$200,000 to \$299,999	10,774	18.4%
20 or more units	4,450	4.8%	\$300,000 to \$499,999	7,057	12.0%
Mobile home	3,066	3.3%	\$500,000 to \$999,999	1,264	2.2%
Boat, RV, van, etc.	7	0.0%	\$1,000,000 or more	251	0.4%
YEAR STRUCTURE BUILT				Muscatine Co	Scott Co
Total housing units	91,966	(X)	Median value owner occupied units	\$127,100	\$158,200
Built 2014 or later	904	1.0%			
Built 2010 to 2013	2,870	3.1%	MORTGAGE STATUS		
Built 2000 to 2009	9,744	10.6%	Owner occupied housing units	58,612	(X)
Built 1990 to 1999	9,241	10.0%	Housing units with a mortgage	38,323	65.4%
Built 1980 to 1989	6,482	7.0%	Housing units without a mortgage	20,289	34.6%
Built 1970 to 1979	15,925	17.3%			
Built 1960 to 1969	11,934	13.0%	SELECTED MONTHLY OWNER COSTS		
Built 1950 to 1959	8,909	9.7%	Housing units with a mortgage	38,323	(X)
Built 1940 to 1949	4,547	4.9%	Less than \$500	577	1.5%
Built 1939 or earlier	21,410	23.3%	\$500 to \$999	10,028	26.2%
HOUSING TENURE			\$1,000 to \$1,499	14,204	37.1%
Occupied housing units	83,561	(X)	\$1,500 to \$1,999	7,643	19.9%
Owner occupied	58,612	70.1%	\$2,000 to \$2,499	2,981	7.8%
Renter occupied	24,949	29.9%	\$2,500 to \$2,999	1,597	4.2%
			\$3,000 or more	1,293	3.4%
Year Moved into Unit					
Occupied housing units	83,561	(X)	Housing units without a mortgage	20,289	(X)
Moved in 2017 or later	3,245	3.9%	Less than \$250	1,172	5.8%
Moved in 2015 to 2016	9,957	11.9%	\$250 to \$399	4,452	21.9%
Moved in 2010 to 2014	24,866	29.8%	\$400 to \$599	7,910	39.0%
Moved in 2000 to 2009	21,689	26.0%	\$600 to \$799	4,174	20.6%

	Total	Percent		Total	Percent
Moved in 1990 to 1999	11,849	14.2%	\$800 to \$999	1,576	7.8%
Moved in 1989 and earlier	11,955	14.3%	\$1,000 or more	1005	5.0%
			GROSS RENT		
VEHICLES AVAILABLE			Occupied units paying rent	23,721	(X)
Occupied housing units	83,561	(X)	Less than \$500	2,495	10.5%
No vehicles available	4,920	5.9%	\$500 to \$999	15,273	64.4%
1 vehicle available	27,339	32.7%	\$1,000 to \$1,499	4,522	19.1%
2 vehicles available	33,508	40.1%	\$1,500 to \$1,999	905	3.8%
3 or more vehicles available	17,794	21.3%	\$2,000 to \$2,499	172	0.7%
			\$2,500 to \$2,999	203	0.9%
HOUSE HEATING FUEL			\$3,000 or more	151	0.6%
Occupied housing units	83,561	(X)			
Utility gas	62,096	74.3%	No rent paid	1,228	4.9%
Bottled, tank, or LP gas	4,643	5.6%			
Electricity	15,763	18.9%	MEDIAN MONTHLY COSTS (DOLLARS)		
Fuel oil, kerosene, etc.	63	0.1%		Muscatine Co	Scott Co
Coal or coke	7	0.0%	Housing units with a mortgage	1,216	1,278
Wood	309	0.4%	Housing units without a mortgage	499	509
Solar energy	23	0.0%	Rent	810	779
Other fuel	291	0.3%			
No fuel used	366	0.4%			

Source: U.S. Census Bureau, American Community Survey, 5-year estimates (2014-2018)

Note: Data is for Muscatine County, IA and Scott County, IA



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**APPENDIX B**



REGION 9 FFY 2020-2023 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
TRANSPORTATION PROJECTS  
FFY 2020 STATUS REPORT (October 1, 2019 - September 30, 2020)

PROJECT NUMBER	PROJECT LOCATION	PROJECT DESCRIPTION	TOTAL ESTIMATED COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		TPMS REFERENCE NUMBER AND/OR INFORMATION	PROJECT STATUS/NOTES
				DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE		
<b>STATE OF IOWA - N/A</b>											
IA-20-01	092: Mississippi River in Muscatine (State Share) BRFN-092(L)-99-70	Bridge Washing	\$25,000	\$0		\$25,000	PRF	\$0		TPMS # 37991	
IA-20-02	IA 130: E Branch Mud Creek 1.8 MI E OF CO RD Y40	Bridge Deck Overlay	\$201,000	\$0		\$201,000	PRF	\$0		TPMS # 38027	Moved to FFY2021
IA-20-03	130: 0.1 MI E of CO RD F31 to 2.0 MI W of CO RD Y40	Culvert Replacement	\$953,000	\$0		\$953,000	PRF	\$0		TPMS # 38292	Moved to FFY2021
IA-20-04	IA 38: IA 92 to Harrison St in Muscatine (State Share)	Pavement Rehab	\$600,000	\$0		\$600,000	PRF			TPMS # 38312	Changed sponsor to Muscatine
IA-20-05	I-80: 1.1 Miles E of CO Rd Y40 to CO Rd Z30 (WB)	Erosion Control	\$518,000	\$0		\$518,000	PRF			TPMS # 38351	Moved to FFY2021
IA-20-06	I-280: 0.6 MI S of I-80 to 0.2 MI S of IA-22	Culvert Replacement	\$404,000	\$0		\$404,000	PRF			TPMS # 38137	Moved to FFY2021
	<b>TOTAL</b>		<b>\$2,701,000</b>	<b>\$0</b>		<b>\$2,701,000</b>		<b>\$0</b>			
<b>SCOTT COUNTY</b>											
SC-20-02	On Y30: Over Tributary to Mud Creek in S33 T80 RE1	Bridge Replacement	\$525,000	\$191,170	CHBP	\$333,830	SWAP-HBP	\$0		TPMS # 23403	To be let September 2020
SC-20-03	On Y30: Over Mud Creek, S9 T79 RE1	Bridge Replacement	\$600,000	\$245,790	CHBP	\$354,210	SWAP-HBP	\$0		TPMS # 34659	To be let September 2020
SC-20-04	On F58: Over creek, S6 T78 RE2	Culvert Replacement	\$500,000	\$191,170	CHBP	\$308,830	SWAP-HBP	\$0		TPMS # 35827	Let April 21, 2020
SC-20-05	On Z30: Over Lost Creek, S7 T79 RES	Bridge Replacement	\$350,000	\$191,170	CHBP	\$158,830	SWAP-HBP	\$0		TPMS # 37469	Let April 21, 2020
	<b>TOTAL</b>		<b>\$1,975,000</b>	<b>\$819,300</b>		<b>\$1,155,700</b>		<b>#REF!</b>			
<b>MUSCATINE COUNTY</b>											
MC-17-01	On 120th STREET: Near NE Corner NW-NW	Bridge Replacement	\$330,000	\$0		\$330,000	SWAP-HBP	\$0		TPMS # 20378	Moved to FFY2021
MC-16-01	G-28: High Prairie Road to Lutheran Homes	Pavement Rehab/Widen	\$4,294,000	\$0		\$1,894,000	SWAP-STBG	\$2,400,000	FM	TPMS # 20382	Let Nov. 19, 2019
MC-20-01	On Douglas Avenue, Near SW Corner NE-NE, S3 T77 RAW	Bridge Replacement	\$350,000	\$0		\$350,000	SWAP-HBP	\$0		TPMS # 36076	Moved to FFY2021
	<b>TOTAL</b>		<b>\$4,974,000</b>	<b>\$0</b>		<b>\$350,000</b>		<b>\$0</b>			
<b>CITY OF MUSCATINE</b>											
M-20-01	Business 61 (2nd St and Park Ave): 1.4 miles from Oak st to Harrison St	Pavement Rehab	\$1,819,000	\$0		\$1,296,000	PRF/ADA/UST EP/TSP	\$521,000	Local	TPMS # 38312	Letting date 8/16/2020
	<b>TOTAL</b>		<b>\$1,819,000</b>	<b>\$0</b>		<b>\$1,296,000</b>		<b>\$521,000</b>			
<b>BI-STATE REGION</b>											
BS-20-01	Region	Slate Transportation Planning	\$37,683	\$30,146	STBG/FHWA-SPR	\$0		\$7,537	MEM	TPMS # 533	Underway, Revised federal share
	<b>TOTAL</b>		<b>\$37,683</b>	<b>\$30,146</b>		<b>\$0</b>		<b>\$7,537</b>			

REGION 9 FFY 2020-2023 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
PUBLIC TRANSIT SYSTEMS  
FFY 2020 STATUS REPORT (October 1, 2019-September 30, 2020)

PROJECT NUMBER	PROJECT DESCRIPTION	PROJ. TYPE	# OF UNITS	COST PER UNIT	ESTIMATED TOTAL COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		PROJECT STATUS/NOTES
						DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	
<b>CITY OF MUSCATINE</b>												
MTS-20-01	FFY 2020 Transit Operations (includes Admin./Maintenance \$)	O	1	\$1,089,770	\$1,089,770	\$422,807	SEC. 5311	\$249,563	STA	\$425,994	LCL	Underway
<b>TOTAL</b>						<b>\$422,807</b>		<b>\$249,563</b>		<b>\$425,994</b>		
<b>RIVER BEND TRANSIT</b>												
RBT-20-01	FFY2020 Transit Operations (includes Admin./Maintenance \$)	O	1	\$3,391,475	\$3,391,475	\$444,680	SEC. 5311	\$371,381	STA	\$2,575,141	LCL	Underway; Revised Underway
RBT-20-02	Replace (13) 158" w.b. ADA Light Duty Buses Vehicle #s 516, 517, 518, 522, 523, 524, 525, 526, 527, 528, 529, 530, 328	C	13	\$89,100	\$1,158,300	\$984,555	SEC. 5339	\$0		\$173,745	LCL	
RBT-20-03	Replace (2) 176" w.b. ADA Light Duty Buses Vehicle #s 507, 552	C	2	\$94,500	\$189,000	\$160,650	SEC. 5339	\$0		\$28,350	LCL	Underway
<b>TOTAL</b>						<b>\$1,569,865</b>		<b>\$371,381</b>		<b>\$2,777,236</b>		
<b>BI-STATE REGION</b>												
BS-20-02	Transit Planning	P	1	\$25,184	\$25,184	\$20,147	SEC. 5304	\$0		\$5,037	MEM	Underway; Revised Federal Share
<b>TOTAL</b>						<b>\$20,147</b>		<b>\$0</b>		<b>\$5,037</b>		

REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
TRANSPORTATION PROJECTS  
FFY 2021 ANNUAL ELEMENT (October 1, 2020 - September 30, 2021)

PROJECT NUMBER	PROJECT LOCATION	PROJECT DESCRIPTION	TOTAL ESTIMATED COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		TPMS REFERENCE NUMBER AND/OR INFORMATION	PROJECT STATUS/NOTES
				DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE		
<b>STATE OF IOWA - N/A</b>											
IA-21-01	092: Mississippi River in Muscatine (State Share) BRFN--092(I)--39-70	Bridge Washing	\$25,000	\$0		\$25,000	PRF	\$0		TPMS# 37991	
IA-21-02	US6: 1.2 MI E of CO Rd X46 to 1.1 MI W of IA 38 (VAR LOC)	Slope Improvement, Right of Way	\$271,000	\$0		\$271,000	PRF	\$0		TPMS# 39311	
	<b>TOTAL</b>		<b>\$296,000</b>	<b>\$0</b>		<b>\$296,000</b>		<b>\$0</b>			
<b>MUSCATINE COUNTY</b>											
MC-17-01	On 120th STREET: Near NE Corner NW-NW	Bridge Replacement	\$330,000	\$0		\$330,000	SWAP-HBP	\$0		TPMS # 20378	
MC-20-01	On York Avenue, from Near E 1/4 Corner, S2 T78 R1E	Bridge Replacement	\$450,000	\$0		\$450,000	SWAP-HBP	\$0		TPMS# 32310	
MC-21-01	On Douglas Avenue, Near SW Corner NE-NE, NE-NE	Bridge Replacement	\$350,000	\$0		\$350,000	SWAP-HBP	\$0		TPMS # 36076	
	<b>TOTAL</b>		<b>\$1,130,000</b>	<b>\$0</b>		<b>\$1,130,000</b>		<b>\$0</b>			
<b>BI-STATE REGION</b>											
BS-21-01	Region	State Transportation Planning	\$37,828	\$30,262	STBGFHWA-SPR	\$0		\$7,566	MEM	TPMS# 533	

REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
PUBLIC TRANSIT SYSTEMS  
FFY 2021 ANNUAL ELEMENT (October 1, 2020-September 30, 2021)

PROJECT NUMBER	PROJECT DESCRIPTION	PROJ. TYPE	# OF UNITS	COST PER UNIT	ESTIMATED TOTAL COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		PROJECT STATUS/NOTES
						DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	
<b>CITY OF MUSCATINE</b>												
MTS-21-01	FFY 2021 Transit Operations (Includes Admin./Maintenance \$)	O	1	\$1,109,300	\$1,109,300	\$443,900	SEC. 5311	\$262,000	STA	\$403,400	LCL	
MTS-21-02	Replace (2) 176" wb ADA Light Duty Bus Vehicle #'s 251, 252	C	2	\$106,605	\$213,210	\$181,229	SEC. 5339	\$0		\$31,982	LCL	
MTS-21-03	Replace (1) 158" wb ADA Light Duty Bus Vehicle #'s 247	C	1	\$101,040	\$101,040	\$85,884	SEC. 5339	\$0		\$15,156	LCL	
	<b>TOTAL</b>				<b>\$1,423,550</b>	<b>\$711,013</b>		<b>\$262,000</b>		<b>\$450,538</b>		
<b>RIVER BEND TRANSIT</b>												
RBT-21-01	FFY2021 Transit Operations (Includes Admin./Maintenance \$)	O	1	\$3,404,355	\$3,404,355	\$356,881	SEC. 5311	\$347,474	STA	\$2,700,000	LCL	
RBT-21-03	Replace (5) 176" w.b. ADA Light Duty Buses Vehicle #'s 440, 441, 442, 443, 444	C	5	\$99,198	\$495,990	\$421,592	CMAQ	\$0		\$74,399	LCL	
RBT-21-02	Replace (10) 158" w.b. ADA Light Duty Buses Vehicle #'s 516, 517, 522, 523, 524, 526, 527, 528, 529, 530	C	10	\$93,637	\$936,370	\$795,915	SEC. 5339	\$0		\$140,456	LCL	
	<b>TOTAL</b>				<b>\$4,836,715</b>	<b>\$1,574,387</b>		<b>\$347,474</b>		<b>\$2,914,854</b>		
<b>BI-STATE REGION</b>												
BS-21-02	Transit Planning	P	1	\$25,328	\$25,328	\$20,262	SEC. 5304	\$0		\$5,066	MEM	
	<b>TOTAL</b>				<b>\$25,328</b>	<b>\$20,262</b>		<b>\$0</b>		<b>\$5,066</b>		

REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
TRANSPORTATION PROJECTS  
FFY 2022 ANNUAL ELEMENT (October 1, 2021 - September 30, 2022)

PROJECT NUMBER	PROJECT LOCATION	PROJECT DESCRIPTION	TOTAL ESTIMATED COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		TPMS REFERENCE NUMBER AND/OR INFORMATION	PROJECT STATUS/NOTES
				DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE		
<b>STATE OF IOWA - N/A</b>											
IA-22-01	092: Mississippi River in Muscatine (State Share) BRFN-092(-)-39-70	Bridge Washing	\$25,000	\$0		\$25,000	PRF	\$0		TPMS# 37991	
IA-22-02	US 6: Sugar Creek 2.3 MI W of IA 38	Bridge Deck Overlay	\$184,000	\$0		\$184,000	PRF	\$0		TPMS# 37990	
	<b>TOTAL</b>		<b>\$209,000</b>	<b>\$0</b>		<b>\$209,000</b>		<b>\$0</b>			
<b>MUSCATINE COUNTY</b>											
MC-23-01	On 150th St, near S 1/4 Corner, S30 T78N R1W	Bridge Replacement	\$270,000	\$0		\$270,000	SWAP-HBP	\$0		TPMS # 37447	
MC-23-02	On Holly Ave, Near NW Corner SW-SW, S20 T78N R3W	Bridge Replacement	\$260,000	\$0		\$260,000	SWAP-HBP	\$0		TPMS # 37452	
MC-23-03	On Old HWY 927 F58, from Durant Corp. to Walcott Corp.	Pavement Rehab/Widen	\$2,500,000	\$0		\$2,100,000	SWAP-STBG	\$400,000	FM	TPMS # 35023	
	<b>TOTAL</b>		<b>\$3,030,000</b>	<b>\$0</b>		<b>\$2,630,000</b>		<b>\$400,000</b>			
<b>BI-STATE REGION</b>											
BS-22-01	Region	State Transportation Planning	\$37,828	\$30,262	STBG/FHWA-SPR	\$0		\$7,566	MEM	TPMS# 533	
	<b>TOTAL</b>		<b>\$37,828</b>	<b>\$30,262</b>		<b>\$0</b>		<b>\$7,566</b>			

**REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)**  
**PUBLIC TRANSIT SYSTEMS**  
**FFY 2022 ANNUAL ELEMENT (October 1, 2021-September 30, 2022)**

PROJECT NUMBER	PROJECT DESCRIPTION	PROJ. TYPE	# OF UNITS	COST PER UNIT	ESTIMATED TOTAL COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		PROJECT STATUS/NOTES
						DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	
<b>CITY OF MUSCATINE</b>												
MTS-22-01	FFY 2022 Transit Operations (includes Admin/Maintenance \$)	O	1	\$1,139,900	\$1,139,900	\$452,700	SEC. 5311	\$267,200	STA	\$420,000	LCL	
MTS-22-02	Replace (2) 176" w.b. ADA Light Duty Buses Vehicle #'s 253, 254	C	2	\$109,800	\$219,600	\$186,660	SEC. 5339	\$0		\$32,940	LCL	
<b>TOTAL</b>						<b>\$1,359,500</b>		<b>\$267,200</b>		<b>\$452,940</b>		
<b>RIVER BEND TRANSIT</b>												
RBT-22-01	FFY2022 Transit Operations (includes Admin./Maintenance \$)	O	1	\$3,404,355	\$3,404,355	\$356,881	SEC. 5311	\$347,474	STA	\$2,700,000	LCL	
RBT-22-02	Replace (3) 158" w.b. ADA Light Duty Buses Vehicle #'s 772, 773, 774	C	3	\$96,266	\$288,798	\$245,478	SEC. 5339	\$0		\$43,320	LCL	
RBT-22-03	Replace (2) 176" w.b. ADA Light Duty Buses Vehicle #'s 745, 747	C	2	\$101,994	\$203,988	\$173,390	SEC. 5339	\$0		\$30,598	LCL	
<b>TOTAL</b>						<b>\$3,897,141</b>		<b>\$347,474</b>		<b>\$2,773,918</b>		
<b>BI-STATE REGION</b>												
BS-22-02	Transit Planning	P	1	\$25,328	\$25,328	\$20,262	SEC. 5304	\$0		\$5,066	MEM	
<b>TOTAL</b>						<b>\$25,328</b>		<b>\$0</b>		<b>\$5,066</b>		

**REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)**  
**TRANSPORTATION PROJECTS**  
**FFY 2023 ANNUAL ELEMENT (October 1, 2022 - September 30, 2023)**

PROJECT NUMBER	PROJECT LOCATION	PROJECT DESCRIPTION	TOTAL ESTIMATED COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		REFERENCE NUMBER AND/OR	PROJECT STATUS/NOTES
				DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE		
<b>STATE OF IOWA - N/A</b>											
IA-23-01	IA 92: Mississippi River in Muscatine (State Share)	Bridge Washing	\$25,000			\$25,000	PRF	\$0		TPMS # 37991	
IA-23-02	US6: IAS RR 1.2 MI E of IA 38	Bridge Deck Overlay	\$513,000			\$513,000	PRF	\$0		TPMS # 39309	
IA-23-03	US 6: Sugar Creek 1.7 MI W of W JCT IA 38	Bridge Deck Overlay	\$855,000			\$855,000	PRF	\$0		TPMS # 39310	
<b>TOTAL</b>			<b>\$1,393,000</b>	<b>\$0</b>		<b>\$1,393,000</b>		<b>\$0</b>			
<b>MUSCATINE COUNTY</b>											
MC-23-04	On N Issett Ave, Over Mosquito Creek, Near NE Corner, S27 T78 R02	Bridge Replacement	\$540,000	\$0		\$540,000	SWAP-HBP	\$0		TPMS # 44842	
MC-22-01	On Trolley Avenue, Near SE Corner NE-NE, S27 T77 R1W	Bridge Replacement	\$540,000	\$0		\$540,000	SWAP-HBP	\$0		TPMS# 36077	
<b>TOTAL</b>			<b>\$1,080,000</b>	<b>\$0</b>		<b>\$1,080,000</b>		<b>\$0</b>			
<b>SCOTT COUNTY</b>											
SC-23-01	On F58, from Y40 West 6 miles to the Scott County line	Pavement Rehab/Widen	\$2,600,000	\$0		\$2,600,000	SWAP-STBG	\$0		TPMS # 35835	
SC-22-01	On Y68; Over Wapsi River Overflow S31 T81 RE4	Bridge Replacement	\$1,000,000	0		\$1,000,000	SWAP-HBP	\$0		TPMS # 35837	
<b>TOTAL</b>			<b>\$3,600,000</b>	<b>\$0</b>		<b>\$3,600,000</b>		<b>\$0</b>			
<b>LONG GROVE</b>											
LG-23-01	On 1st St, from Grove Rd to Long Grove corporate limits	Ped/Bike Grade and Pave (DOT Code)	\$480,000	\$384,000	TAP	\$0		\$96,000	LCL	TPMS # 39494	
<b>TOTAL</b>			<b>\$480,000</b>	<b>\$384,000</b>		<b>\$0</b>		<b>\$96,000</b>			
<b>BI-STATE REGION</b>											
BS-23-01	Region	State Transportation Planning	\$37,828	\$30,262	STBG/FHWA-SPR	\$0		\$7,566	MEM	TPMS # 533	
<b>TOTAL</b>			<b>\$37,828</b>	<b>\$30,262</b>		<b>\$0</b>		<b>\$7,566</b>			

REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
PUBLIC TRANSIT SYSTEMS  
FFY 2023 ANNUAL ELEMENT (October 1, 2022-September 30, 2023)

PROJECT NUMBER	PROJECT DESCRIPTION	PROJ. TYPE	# OF UNITS	COST PER UNIT	ESTIMATED TOTAL COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		PROJECT STATUS/NOTES
						DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	
<b>CITY OF MUSCATINE</b>												
MTS-23-01	FFY 2023 Transit Operations (includes Admin/Maintenance \$)	O	1	\$1,174,097	\$1,174,097	\$461,700	SEC. 5311	\$272,500	STA	\$439,897	LCL	
MTS-23-02	Replace (1) Conversion Van Vehicle #256	C	1	\$68,110	\$68,110	\$57,894	SEC. 5339	\$0		\$10,217	LCL	
MTS-23-03	Replace (1) 158" w.b. ADA Light Duty Buses Vehicle # 257	C	1	\$107,200	\$107,200	\$91,120	SEC. 5339	\$0		\$16,080	LCL	
MTS-23-04	Replace (1) 176" w.b. ADA Light Duty Buses Vehicle # 255	C	1	\$113,100	\$113,100	\$96,135	SEC. 5339	\$0		\$16,965	LCL	
<b>TOTAL</b>						<b>\$1,462,507</b>	<b>\$706,849</b>	<b>\$272,500</b>		<b>\$483,159</b>		

<b>RIVER BEND TRANSIT</b>												
RBT-23-01	FFY2023 Transit Operations (includes Admin./Maintenance \$s)	O	1	\$3,404,355	\$3,404,355	\$356,881	SEC. 5311	\$347,474	STA	\$2,700,000	LCL	
RBT-23-02	Replace (2) 158" w.b. ADA Light Duty Buses Vehicle #'s 998, 999	C	2	\$98,974	\$197,948	\$168,256	SEC. 5339	\$0		\$29,692	LCL	
RBT-23-03	Replace (7) 176" w.b. ADA Light Duty Buses Vehicle #'s 200, 201, 202, 241, 242, 243, 901	C	7	\$104,874	\$734,118	\$624,000	SEC. 5339	\$0		\$110,118	LCL	
<b>TOTAL</b>						<b>\$4,336,421</b>	<b>\$1,149,137</b>	<b>\$347,474</b>		<b>\$2,839,810</b>		
<b>BI-STATE REGION</b>												
BS-23-02	Transit Planning	P	1	\$25,328	\$25,328	\$20,262	SEC. 5304	\$0		\$5,066	MEM	
<b>TOTAL</b>						<b>\$25,328</b>	<b>\$20,262</b>	<b>\$0</b>		<b>\$5,066</b>		

REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
TRANSPORTATION PROJECTS  
FFY 2024 ANNUAL ELEMENT (October 1, 2023 - September 30, 2024)

PROJECT NUMBER	PROJECT LOCATION	PROJECT DESCRIPTION	TOTAL ESTIMATED COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		REFERENCE NUMBER AND/OR	PROJECT STATUS/NOTES
				DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE		
<b>STATE OF IOWA - N/A</b>											
IA-24-01	IA 92: Mississippi River in Muscatine (State Share)	Bridge Washing	\$25,000			\$25,000	PRF	\$0		TPMS # 37991	
IA-24-02	IA92: Mississippi River in Muscatine (State Share) BRFN--092()--39-70	Bridge Rehabilitation	\$200,000	\$0		\$200,000	PRF	\$0		TPMS# 45252	
IA-24-03	IA22: Wapsiponoc Creek 1.6 MIE of W JCT IA 70	Bridge Deck Overlay	\$600,000	\$0		\$600,000	PRF				
<b>TOTAL</b>			<b>\$825,000</b>	<b>\$0</b>		<b>\$825,000</b>		<b>\$0</b>			
<b>BI-STATE REGION</b>											
BS-23-01	Region	State Transportation Planning	\$37,828	\$30,262	STBG/FHWA-SPR	\$0		\$7,566	MEM	TPMS # 533	
<b>TOTAL</b>			<b>\$37,828</b>	<b>\$30,262</b>		<b>\$0</b>		<b>\$7,566</b>			

REGION 9 FFY 2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)  
PUBLIC TRANSIT SYSTEMS  
FFY 2024 ANNUAL ELEMENT (October 1, 2023-September 30, 2024)

PROJECT NUMBER	PROJECT DESCRIPTION	PROJ. TYPE	# OF UNITS	COST PER UNIT	ESTIMATED TOTAL COST (\$)	FEDERAL SHARE*		STATE SHARE		LOCAL SHARE		PROJECT STATUS/NOTES
						DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	DOLLARS (\$)	SOURCE	
<b>CITY OF MUSCATINE</b>												
MTS-24-01	FFY 2023 Transit Operations (Includes Admin./Maintenance \$)	O	1	\$1,209,300	\$1,209,300	\$475,500	SEC. 5311	\$280,600	STA	\$453,200	LCL	
MTC-24-02	Replace (1) 158" w.b. ADA Light Duty Bus Vehicle # 258	C	1	\$110,400	\$110,400	\$93,840	SEC. 5339	\$0		\$16,560	LCL	
MCT-24-03	Replace (1) 176" w.b. ADA Light Duty Bus Vehicle # 259	C	1	\$116,400	\$116,400	\$98,940	SEC. 5339	\$0		\$17,460	LCL	
<b>TOTAL</b>						<b>\$1,436,100</b>		<b>\$280,600</b>		<b>\$487,220</b>		
<b>RIVER BEND TRANSIT</b>												
RBT-24-01	FFY2023 Transit Operations (Includes Admin./Maintenance \$)	O	1	\$3,404,355	\$3,404,355	\$356,881	SEC. 5311	\$347,474	STA	\$2,700,000	LCL	
RBT-24-02	Replace (12) 158" w.b. ADA Light Duty Buses Vehicle #'s 825, 826, 828, 829, 812, 813, 814, 815, 817, 818, 819, 821	C	12	\$101,763	\$1,221,156	\$1,037,983	SEC. 5339	\$0		\$183,173	LCL	
RBT-24-03	Replace (2) 176" w.b. ADA Light Duty Buses Vehicle #'s 820, 827	C	2	\$107,840	\$215,680	\$183,328	SEC. 5339	\$0		\$32,352	LCL	
<b>TOTAL</b>						<b>\$4,841,191</b>		<b>\$347,474</b>		<b>\$2,915,525</b>		
<b>BI-STATE REGION</b>												
BS-24-02	Transit Planning	P	1	\$25,328	\$25,328	\$20,262	SEC. 5304	\$0		\$5,066	MEM	
<b>TOTAL</b>						<b>\$25,328</b>		<b>\$0</b>		<b>\$5,066</b>		

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**APPENDIX C**



**PUBLIC PARTICIPATION PLAN FOR  
TRANSPORTATION PLANNING  
IN THE  
REGION 9 AREA**

In compliance with the provisions of the Fixing America's Surface Transportation (FAST) Act, the Region 9 Transportation Planning Region has approved the following public participation plan to engage interested parties and resource agencies in the transportation planning process.

The transportation planning process takes place at local, regional, tribal, state, and federal levels. It is based on comprehensive, continuing, and coordinated activities that work together to identify, prioritize, and meet transportation needs at these various levels. Public participation in this process begins with finding what opportunities are available and expressing interest or concern.

Bi-State Regional Commission is the Regional Planning Agency (RPA) designated to cooperatively facilitate public participation in the Region 9 transportation planning process in rural Scott County and all of the Muscatine County are in Iowa in cooperation with the communities and counties, and state/federal departments of transportation, and among the various modes of transportation. The RPA is charged with carrying out regional transportation planning that provides early and ongoing opportunities for involvement, timely information, reasonable access to information, adequate notification, diverse participation, and periodic review and evaluation of the participation process. This public participation plan outlines the parameters for conducting these requirements.

**Public Notices**

All meeting announcements and agendas of the Region 9 Transportation Technical Committee and Policy Committee shall be sent to local news media and the Regional Transportation Advisory Group (RTAG) prior to the actual meeting date no less than **48 hours** in advance. It is common practice to send meeting announcements and agendas one week in advance of a meeting. Agendas of these Committees are posted at Bi-State Regional Commission offices and on the Bi-State Regional Commission website ([www.bistateonline.org](http://www.bistateonline.org)) while minutes are web-posted following approval by these Committees. In addition, proposed amendments to the annual Transportation Improvement Program shall be sent to the same local media and RTAG, as well as local jurisdictions within the Region 9 area, as part of the Technical and/or Policy Committee agenda. Other transportation-related advisory committees may be posted on this website to provide added transportation-related information, such as the Bi-State Regional Trails Committee and Bi-State Region Air Quality Task Force meetings. Notice of public hearings will be published in local newspapers of general circulation and posted on the Bi-State Regional Commission website per the time period noted in "Public Hearings" of this plan.

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### **Regional Transportation Advisory Group**

The intent of the federal transportation legislation is to provide a special effort for an early and continuing public involvement process which seeks out and considers the transportation needs of a diverse public, including traditionally underserved populations (Executive Order 12898-Federal Action to Address Environmental Justice in Minority and Low-Income Populations, 1994), as well as providing an opportunity for consultation with resource agencies as defined in the current transportation act. The Regional Transportation Advisory Group (RTAG) will fulfill that role (see attachment). Involvement in the RTAG is open to any interested party, business, organization, or interested citizen within the Region 9 area wanting to be involved in the transportation planning process. RTAG serves as the diverse, multi-modal advisory group to the Transportation Technical Committee. Input from RTAG members are taken and concerns expressed and relayed to the members of the Transportation Technical Committee. Members will receive all meeting notices, as noted in Public Notices above, for the Technical and Policy Committee meetings. In addition, members will receive proposed Transportation Improvement Program amendments, Surface Transportation Block Grant (STBG) Program and Transportation Alternatives Set-Aside (TASA) submission notices and proposed changes to the Public Participation Plan, Regional Transit Development Plan (TDP), Regional Intelligent Transportation System (ITS) Architecture Plan or the Iowa Region 9 Long Range Transportation Plan (LRTP).

### **Annual TIP Project Request Notifications**

Individual jurisdictions, members of RTAG, and the media shall be informed as to when Region 9 is seeking projects for inclusion in the annual Transportation Improvement Program through an announcement requesting Transportation Improvement Program annual element additions, modifications or deletions for the proposed fiscal years, as part of an annual update cycle, typically thirty (30) days prior to a draft document review by the Technical Committee.

### **Public Comment/Notification**

The general public shall be afforded the opportunity to provide comments via the Technical and Policy Committee meetings on the annual Transportation Planning Work Program (TPWP) activities, Transportation Improvement Program, Regional ITS Architecture Plan, Regional Transit Development Plan, Long Range Transportation Plan (LRTP), and the Public Involvement Process (PPP) through the process outlined under "Public Notices" above. In the case of the Iowa Region 9 Long Range Transportation Plan (LRTP), the Public Participation Plan (PPP), and the prioritization process for the Surface Transportation Block Grant (STBG) Program and the Transportation Alternatives Set-Aside (TASA) Program, a minimum of a thirty (30) day comment period shall be provided prior to action by the Policy Committee. In matters involving adoption of or amendments to the Transportation Improvement Program (TIP), Regional Transit Development Plan (TDP), and Regional ITS Architecture Plan, a minimum seven (7) day comment period shall be utilized prior to approval by the Transportation Policy Committee. The prioritization

process of both the Surface Transportation Block Grant (STBG) Program and Transportation Alternatives Set-Aside (TASA) Program will require a minimum thirty (30) day comment/notification period to be provided prior to action by the Region 9 Transportation Policy Committee. In matters involving adoption or amendments to the Transportation Planning Work Program, Transportation Improvement Program (TIP), Regional Transit Development Plan, and Regional ITS Architecture Plan, a minimum of 48 hours, but typically seven (7) day comment period shall be utilized prior to approval by the Transportation Policy Committee. Additional notice may be provided through meetings of the Transportation Technical committee in advance of action by the Policy Committee.

### **Publications**

The RPA shall publish or otherwise make available for public review, at a minimum, the Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) in an electronically accessible format and means (to the maximum extent practicable), such as the World Wide Web. The LRTP and TIP publications developed by the RPA will be placed on the Bi-State Regional Commission website, [www.bistateonline.org](http://www.bistateonline.org). Other transportation planning publications may be posted to allow for interested parties to review and access additional RPA transportation planning information. Within these publications, the RPA may employ visualization techniques to help clarify transportation planning issues and/or activities. At a minimum, visualization techniques shall be applied to the LRTP and TIP. Visualization techniques may include maps, graphs, charts, tables, diagrams, or other methods. The LRTP will include a specific public participation outline during the update process that will be reviewed by the Technical and Policy Committees, and the results will be documented in the LRTP.

### **Public Hearings**

Prior to approval of the final Transportation Improvement Program (TIP), the Region 9 Transportation Policy Committee shall hold a public hearing on all the projects being considered for approval in the TIP. The Region 9 Transportation Policy Committee shall hold public hearings, as deemed necessary, for TIP amendments and prior to the approval of the Iowa Region 9 Long Range Transportation Plan. Fourteen (14) days prior notice will be given for all public hearings. No other documents noted will require a public hearing but shall afford public comment opportunities, as noted under "Public Comment."

### **Data**

As part of non-discrimination requirements, Bi-State Regional Commission will maintain information on protected class (race, color, national origin, gender, age, or disability) and Limited English Proficiency (LEP) populations within the Region 9 Area, including demographics and identification of potential barriers (language, mobility, temporal, or other) that may prevent underserved persons from effectively participating in the metropolitan transportation planning process. This information is contained in the Bi-State Regional Commission Title VI Program and Non-Discrimination Policy.

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## Accommodation

Persons requiring special material or presentation formats will be asked within a public notice for advance request of at least one week prior to a public hearing prior to consideration of adoption or approval by the Policy Committee. Reasonable accommodations to provide documents in an accessible format, as required by the Americans with Disabilities Act and Executive Order 13166 (Improving Access for Persons with Limited English Proficiency, 2000), will be made when requested by the public. For meeting notices and agendas, requests at least one working day in advance of the meeting is requested for reasonable accommodation prior to consideration of adoption or approval. Persons requesting assistance will be referred to the appropriate Bi-State Regional Commission staff who will make reasonable accommodations for translation services or other accommodations based on the request. Meetings will be held at convenient and accessible locations and times with emphasis to engage minority, low-income, and LEP populations. Receipt of public input will be taken in a variety of formats – written, oral, or other means – where accommodations are requested and reasonable.

Approved Revisions March 22, 2019

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**Minutes of the**  
**REGION 9**  
**TRANSPORTATION POLICY COMMITTEE**  
*Serving Rural Scott County and all of Muscatine County*

Friday, January 29, 2021 – 11:00 a.m.  
WEBINAR MEETING  
Jeff Sorenson, Chair

Policy Committee Members Present

Diana Broderson	City of Muscatine
Michael Limberg	City of Long Grove
John Maxwell	Scott County Board Supervisor
Scott Sauer	Muscatine County/River Bend Transit
Sam Shea	Iowa Department of Transportation
Jeff Sorenson	Muscatine County

Others Present

Gena McCullough	Bi-State Regional Commission
Katelyn Miner	Bi-State Regional Commission

1. Public Hearing on the 2045 Long Range Transportation Plan for Iowa Region 9. Ms. McCullough reviewed those in attendance. No one from the public was present for this public hearing or the public input meeting that was held on Tuesday, January 26, 2021. Ms. Miner presented to the committee, briefly describing each chapter in the Region 9 LRTP and edits that were made based on feedback. Chapter 1 only had one minor citation edit. Chapter 2 focused on the final list of Future Roadway Priorities Projects. Chapter 3 had edits on the transit section, updating MuscaBus and River Bend Transit verbiage. Chapter 4 had the most feedback, focusing on freight tonnage, weight restrictions, and a follow-up on the Supply Chain & Logistics Program at Eastern Iowa Community College. Chapter 5 had several figures added to represent the total fatalities and severity of crashes with bicyclists and pedestrians in the Region 9 area. Chapter 6 had minor edits to the forecasting revenues and TAP/STBG funds section. All chapters had sidebar information added. Next steps for the Region 9 LRTP were outlined at the end of the presentation. Mr. Sauer motioned to close the public hearing. Ms. Broderson seconded the motion. The motion to close the public hearing was approved. The public hearing started at approximately 11:05 a.m. and ended at approximately 11:20 a.m.

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2. Approval of Minutes and Ratification of Actions made at the September 8, 2020 Transportation Policy Committee Meeting. Mr. Sorenson asked if the committee had any questions or comments on the minutes from the September meeting. Mr. Maxwell motioned to approve and ratify the minutes. Mr. Limberg seconded the motion. The minutes were approved and ratified.
  3. Review and Approval of the 2045 Long Range Transportation Plan for Iowa Region 9 Chapters. Mr. Sorenson asked the committee if they had any questions or comments regarding the 2045 Region 9 LRTP. Mr. Limberg asked about the future roadway priority projects and if they were included in this plan. Ms. Miner confirmed that they were included in Chapter 2. Mr. Limberg asked for a copy of the presentation to be emailed to him for review. Ms. Broderson motioned to approve the 2045 Region 9 LRTP. Mr. Sauer seconded the motion, and the plan was approved by the committee.
  4. Public Comments. There were no public comments.
  5. Other Business.
    - a. *STBG and TAP Funding Evaluation Process* – Ms. McCullough presented on the STBG Program and TAP funding evaluation criteria process, with no consideration of revisions from the TTC. The FAST Act continues all prior STBG eligibilities and awards up to 100% with SWAP funds. Awards to transit would remain federalized. TAP funding evaluation criteria was reviewed to determine if it remains relevant. Ms. McCullough asked the committee if they had any questions on this process. The committee had no questions and unanimously agreed to continue with the current evaluation processes already in place, as recommended by the TTC.
    - b. *Upcoming Grants* – Ms. McCullough reviewed and listed upcoming grants. Upcoming grants included RISE – a local development grant with dates of February 1 and September 1; Volkswagen Settlement – for low emission transit buses and off-road vehicles or no emission vehicles; LIFTS – for multimodal freight projects already solicited in late 2020 with awards held in February or March; and ICAP, TAP, CARES Act, and Federal Recreational Trails Grant in the fall.
  6. Adjournment. The meeting was adjourned by consensus at 11:45 a.m.