

## CHAPTER 5: STREETS AND HIGHWAYS

Streets and highways comprise a large portion of transportation planning as motor vehicles make up the vast majority of commuter trips made within the SIMPCO MPO planning area. This chapter describes street and highway performance measures, the road network characteristics, the travel demand model, and future recommendations.

### CHAPTER CONTENTS

- Performance Measures
- Current Traffic Conditions
- Current and Proposed Improvements
- Future Traffic Trends
- Future Projects
- Environmental Justice
- Recommendations

### PERFORMANCE MEASURES

The performance of the street and highway network in the SIMPCO MPO area will be quantified with a series of measures, as required by MAP-21. These measures will provide important feedback for future transportation planning efforts. As stated in Chapter 1 of the plan, a base for each performance measure will be calculated after approval of the 2040 LRTP. SIMPCO transportation staff will track changes throughout the calendar year and submit a report to the MPO TTC and Policy Board each January with performance measure updates.

### PERFORMANCE MEASURES and TRENDS

- Miles of improved/good road pavement condition | Increase
- Level of service (i.e. congestion) | Decrease
- Vehicle miles traveled (VMT) | Decrease
- Crashes and fatalities | Decrease

### HISTORY

The SIMPCO MPO planning area is located in the tri-state area of Iowa, Nebraska, and South Dakota. These states are divided by the Missouri and Big Sioux Rivers. The area has a rich transportation history stemming from the presence of the Missouri River and its waterborne transportation. The rivers, in addition to the Loess Hills land formation, have contributed to a uniquely challenging geomorphology for creating and expanding the transportation network, in the Iowa portion of the SIMPCO metropolitan planning area particularly. Consequently, road construction has proved to be challenging, resulting in major arterial roads following existing valleys. Attempts have been made to lay the local network in a grid like manner, which has resulted in very steep roads in some areas and gaps in the network in other areas. This unusual street pattern poses challenges for long range planning in the area.

### CURRENT TRAFFIC CONDITIONS

#### ROAD NETWORK

The SIMPCO MPO planning area is located at the intersection of many major Midwest highways that radiate in all directions, providing a very effective pattern of highway connections for the region.. Most north-south traffic is served by I-29, which connects the area to Omaha, NE, Kansas City, MO, Sioux Falls, SD, Fargo, ND, and Winnipeg, Manitoba, Canada. Additional north-south routes include US 75, which connects to Omaha, NE, Topeka, KS, and Manitoba, Canada, and US 77, which connects to Lincoln, NE. Much of the east-west traffic is carried by US 20, which services eastern Iowa and Illinois to the east, and Wyoming, Montana, and Oregon to the west. To the northeast, the area has access to controlled access highway, IA 60, which leads into Minnesota. Finally, to the southwest, NE 35 provides access to the major farming areas of northeastern Nebraska.

## CHAPTER 5: STREETS AND HIGHWAYS

### TRAFFIC VOLUME

Map 5.1 illustrates the most recent annual average daily traffic (AADT) count figures for the metropolitan area. Primary roads see the largest AADT counts (Table 5.1).

The primary facilities that go through the SIMPCO MPO planning area represent many of the facilities with the highest AADT counts for 2010 (i.e. those roads one standard deviation higher than the mean; Table 5.1). Other major traffic corridors of note that are non-primary facilities are on W 6<sup>th</sup> St and 1<sup>st</sup> Avenue at the intersections of Riverview Drive and US77, respectively, in South Sioux City, Harbor Drive, W 19<sup>th</sup> St at Hamilton Blvd, and Singing Hills near I29 in Sioux City. These carry approximately 15,000 to 34,000 AADT.

**Table 5.1: 2010 Base Year Primary Roads AADT Statistics.** *Source: SIMPCO 2010-2040 Travel Demand Model*

Primary Roadway	AADT Average	AADT Range
US77: Urban (Veterans Memorial Bridge to Dakota City)	8,317	395-17,210
US77: Rural	7,988	3,440-17,210
I29: Urban (McCook Lake to Sergeant Bluff)	14,407	5,190-23,514
I29: Rural	7,507	6,170-9,250
US20/Gordon Drive	7,728	4,700-11,750
US20/75 Bypass	9,354	4,700-16,200
US75	9,066	380-20,900

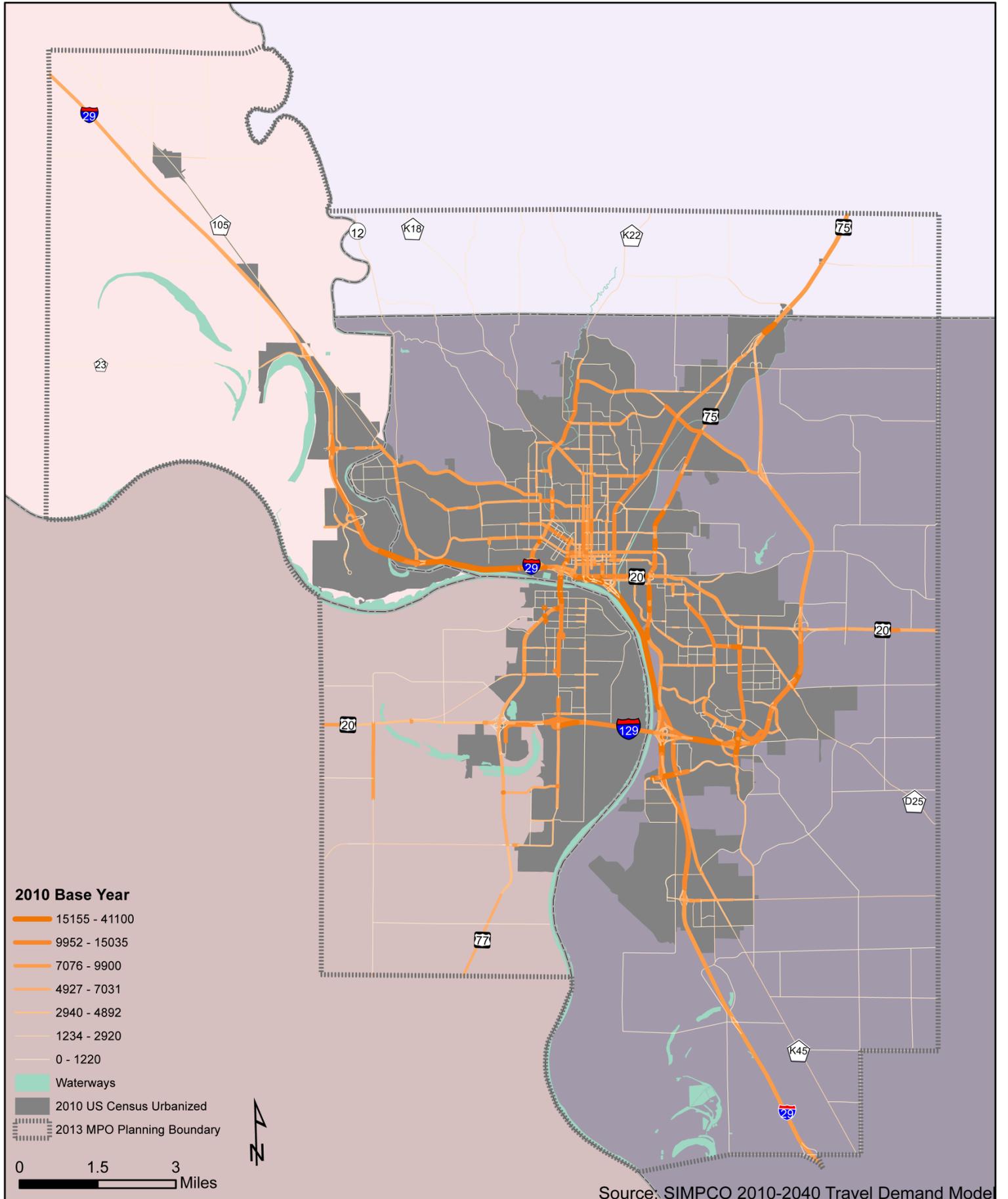
### BRIDGES

In addition to the roadways, large amounts of traffic cross the inter-state bridges within the SIMPCO MPO planning area. It is important that traffic flows safely and efficiently across these structures. As seen in Table 5.2, these bridges carry large amounts of traffic and serve as vital links within the transportation system.

In addition to the main river bridges, there are three other transportation bridge structures of note which are: the Outer Drive/Irving Jensen Jr. Bridge, the newly reconstructed Wesley Way/I-29/US77 interchange bridge, and the 3,970-foot Gordon Drive/Business Highway 20 viaduct. The Gordon Drive viaduct is an aging facility and its replacement or upgrade is scheduled to occur between the approval of this plan in 2016 and the 2030 interim year.

**Table 5.2: 2010 AADT for Major Bridges.** *Source: Iowa DOT 2011 Traffic Count Program.*

Major Bridge	Roadway	Waterway	AADT
Siouxland Veterans Memorial Bridge	US 77/Business Highway 20	Missouri River	31,200
Russell E. Christiansen Bridge	I-29	Big Sioux River	35,700
Gordon Drive Viaduct	Gordon Drive/ Business Highway 20	Floyd River	21,575
Sergeant Floyd Memorial Bridge	I-129/US 20/75	Missouri River	23,200
Military Road Bridge	Military Road	Big Sioux River	9,200



## CHAPTER 5: STREETS AND HIGHWAYS

### CURRENT AND PROPOSED IMPROVEMENTS

#### DOGWOOD TRAIL CONSTRUCTION

Located in Sergeant Bluff, Dogwood Trail will connect Port Neal Rd. near the I-29 overpass to Lewis Blvd on the south side of town. It will allow truck traffic to bypass the schools on south Port Neal Dr. and improve connectivity to Sergeant Bluff's growing southwest side. The project was funded with RISE and Woodbury County Tax Increment Finance Funding.

#### U.S. HIGHWAY 20 COMPLETION

In June 2015, the Iowa DOT Highway Commission approved the completion of U.S. Highway 20's four-lane expansion in Woodbury, Ida, and Sac Counties, stretching from Merville, to Early, Iowa. Currently, a four-lane stretch of U.S. Highway 20, built in 1960, reaches from Merville to Sioux City. The improvements will not only address safety concerns, but also provide economic development opportunities. The SIMPCO MPO planning area will benefit from a complete, modern four-lane highway east to west connection for these reasons. The project is scheduled to be completed by 2018 and the 2015-approved gas tax revenue will provide the means to complete the project.

#### PORT NEAL/SOUTHBRIDGE ROAD IMPROVEMENTS

In 2015, due to the new CF Industries plant expansion, Woodbury County improved County Road D51 from Port Neal Rd. to the I-29 interchange. The project was funded using STP and RISE funds. The county continues to improve the road network in this area to alleviate traffic congestion related to the fertilizer plant expansion.

In addition to road improvements in the Port Neal area, Woodbury County, Sioux City and Sergeant Bluff have identified the need for an interchange near mile post 138 on I-29. This proposed interchange, Southbridge Interchange, has been an identified need for over a decade. The 2025 LRTP was amended to include the interchange and it was named as a priority project in both the 2030 and 2035 LRTP. The recent Woodbury County Envision 2050 plan centers on the proposed Southbridge Interchange that will service the new Southbridge Industrial Park (south of the Sioux Gateway Airport and west of Sergeant Bluff, Iowa). The Interchange Justification Report is currently being developed.

#### BRIDGEPORT IMPROVEMENTS

In May of 2015, Seaboard Foods and Triumph Foods announced the development of a 250-acre site for a pork processing plant in the Bridgeport area of Sioux City. The opening of the plant is slated for the spring/summer of 2017 and in preparation for the anticipated daily high truck traffic volume, the city of Sioux City is conducting a traffic study around the proposed site and in the Bridgeport area. In addition to truck traffic, the plant's estimated 1,100 daily workers will also impact the traffic in the Bridgeport area. In addition to road improvement projects, city staff is looking at the feasibility of a transit solution study to help alleviate traffic congestion. Possible funding for these improvements includes RISE and ICAAP.

#### 18TH STREET VIADUCT CONSTRUCTION

The proposed 18<sup>th</sup> St. Viaduct design will divert motorized traffic over the Union Pacific Railroad rail yard between Hoeven St. and Floyd Blvd. south of 19th St. The 19<sup>th</sup> St. at-grade crossing and potentially one or two other at-grade crossings are proposed to be eliminated with the construction of the plan. A reconfiguration of truck access to the Cargill processing plant near and at this site will be created as well. The Hoeven Valley Transportation Plan Update centers around this project, which is being designed with the assistance of TIGER grant design dollars.

#### INTERSTATE 29 RECONSTRUCTION

Reconstruction of I-29 began in August 2008. The goal of this multi-year project is to improve traffic operations and safety, provide for enhanced driver expectancy, and improve roadway infrastructure conditions. The project termini are the Iowa/South Dakota state line and the city of Sergeant Bluff. Improvements to the system include upgrading the mainline of I-29 from a four-lane system to a modern six-lane system, and reconfiguring several of the interchanges along the corridor. The estimated project completion is in 2019.

## CHAPTER 5: STREETS AND HIGHWAYS

### GORDON DRIVE VIADUCT REPLACEMENT

Built in 1934, the Grand Avenue Viaduct (now the Gordon Dr. Viaduct) has been, and still is, an important transportation connection in the metropolitan area. The bridge allows motorists and pedestrians to travel over several railroad crossings, and the new and old Floyd River channels. For 50 years the viaduct has served as a vital east/west connection through Sioux City. While the viaduct underwent significant maintenance and repairs in the last 10 years, the replacement of the bridge continues to be a priority project for the SIMPCO MPO planning area and the Iowa DOT. With the completion of I-29 reconstruction in the near future, the Gordon Dr. Viaduct project will be the next step in improving the downtown transportation network.

### SAFETY

#### CRASHES

Crash data for the SIMPCO MPO planning area was secured from the three state transportation agencies for the year 2013. There were 470 crashes with injuries, 7 of which were fatal (Map 5.2). The Iowa DOT maintains a list of top [200 safety improvement candidate locations/intersections](#). There are four of these in the SIMPCO MPO planning area, and are listed in Table 5.3. These high-crash intersections are suggested to be reviewed by city staff to determine if the configuration can be enhanced to reduce the amount of crashes. SDDOT and NDOR maintain somewhat similar programs, but SDDOT's are for all rural intersections, and NDOR's are not available for release.

**Table 5.3:** Iowa DOT's 200-Safety Improvement Candidate Locations (Data: 2009-2013).

Intersection	Crashes	Injuries	Total Vehicles
W 1st St. & Hamilton Blvd.	20	12	38
28th St. & Floyd Blvd.	10	7	19
Lewis Blvd. & Outer Dr. N	52	56	103
14th St. & Nebraska St.	29	14	58

#### INCIDENT MANAGEMENT

The Tri-State Incident Management Team (TSIM) is a group that meets monthly to plan for and coordinate responses to roadway incidents that are primarily safety related. This group is comprised of officials from local, regional, and state law enforcement, state transportation departments' safety personnel, county emergency response dispatchers, SIMPCO MPO staff, and others. Currently, the incident management group has focused much of their efforts on the I-29 reconstruction work and issues related to staging and detour routes.

In addition to the TSIM, SIMPCO MPO staff consults with the state transportation departments to reducing the number of and severity of crashes on public roadways. In Iowa, the transportation safety division of the DOT is split into two work groups, including the Safety Analysis division and the Safety Programs division. The Safety Analysis division includes crash analysis resources and the Safety Program division offers programs and funding opportunities to implement safety improvements on the road network.

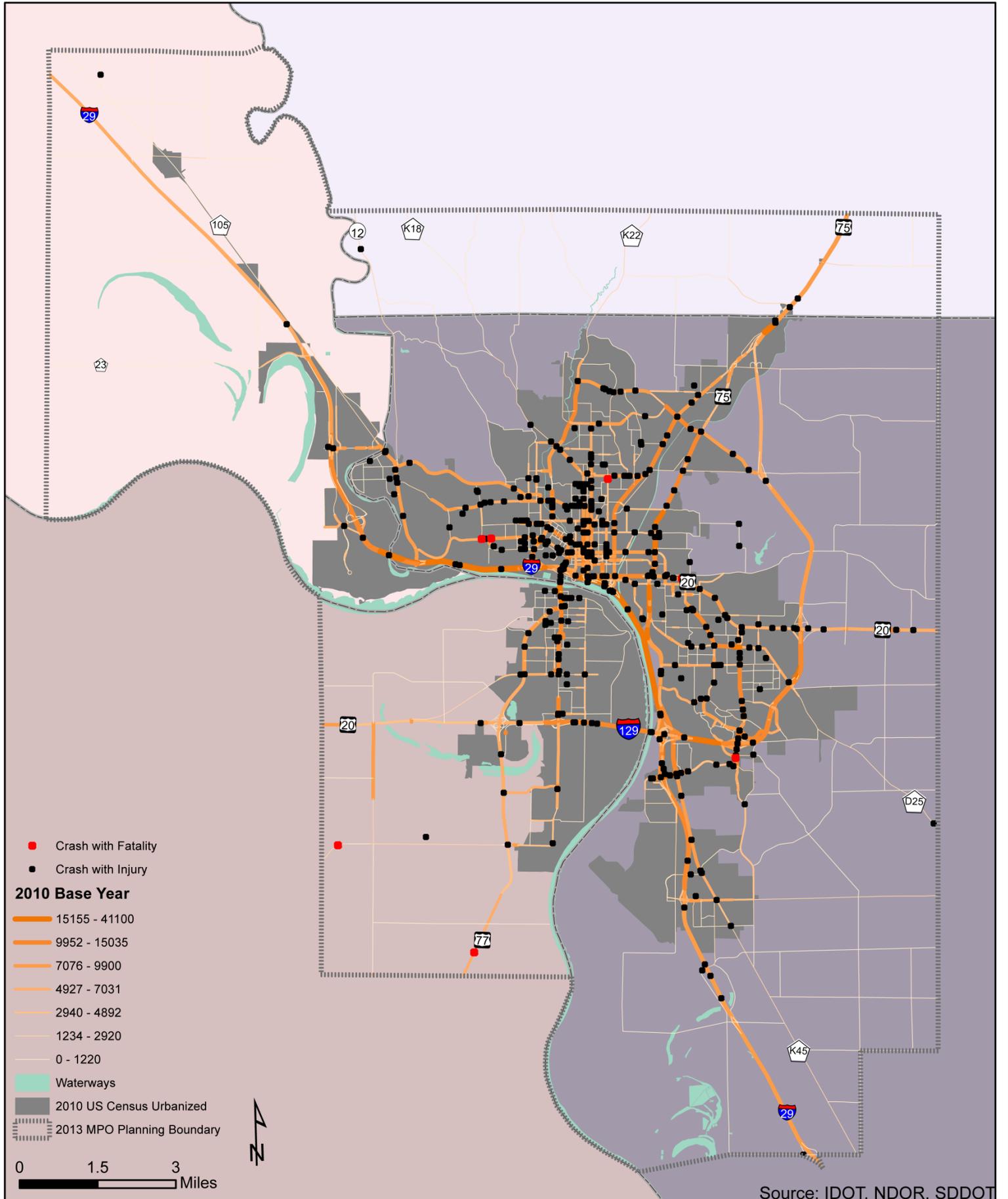
On the Nebraska side, special funds are included in the regular TIP programming for safety improvements. Such work may include signal optimization, upgrading signage to Manual on Uniform Traffic Control Devices (MUTCD) specifications, correcting geometric deficiencies, and others.

South Dakota has teams evaluating intersections with high crash histories. Items considered include signal operation, sight distance, roadway geometry, and road operating speeds. It is anticipated correcting identified deficiencies will aid in safe operation of such intersections.

Map 5.2

# SIMPCO MPO Crash Data: 2013

Nebraska crash data was available for 2013 only, so 2013 data was extracted from Iowa's and South Dakota's datasets. There were 7 fatal crashes, and 463 crashes with injuries.



## CHAPTER 5: STREETS AND HIGHWAYS

In addition, the SIMPCO MPO staff aims to coordinate and incorporate the priorities, goals, countermeasures, and projects contained in the Iowa, Nebraska, and South Dakota Strategic Highway Safety Plans which can be found at the following links:

**Iowa Comprehensive Highway Safety Plan:**

<http://www.iowadot.gov/traffic/shsp/pdf/SHSP.pdf>

**Nebraska Strategic Highway Safety Plan:**

<http://www.transportation.nebraska.gov/traffeng/shsp/shsp-current.pdf>

**South Dakota Strategic Highway Safety Plan:**

<http://www.sddot.com/transportation/highways/traffic/safety/docs/FinalSHSP.pdf>

### AUTONOMOUS VEHICLES

Autonomous vehicles, or self-driving cars, are a future technology that is being rapidly developed. Several developers have announced that their models will be ready for public use in upcoming years. This could have major implications for transportation. These vehicles have the potential to reduce crashes and fatalities since the vast majority of crashes are caused by human error. They could change the way transit and taxi services are provided to the public. Additionally, they could eliminate transportation barriers for those unable to drive or operate vehicles on their own. While it is still unclear when this technology will be readily available and to what extent it will impact the transportation system, policy should be designed to take advantage of the vehicles' potential while promoting the goals outlined in this plan.

### TRAVEL DEMAND MODEL

For this plan, the SIMPCO MPO 2035 Forecast Year Travel Demand Model was updated using U.S. Census Bureau 2010 Decennial Census population and household data, as well as employment data from Iowa's Department of Labor, and Infogroup's 2010 employment data for Nebraska and South Dakota, and the 2010 Census Transportation Planning Products. Using this 2010 socioeconomic (SE) data to update the model's base year data, as well as known and planned land use changes, including residential, commercial, industrial, and new school development, the SIMPCO MPO 2040 Forecast Year Travel Demand Model was created. Projected future SE data development methodology and population, household, and employment change details, are detailed in Appendix B.

### VOLUME TO CAPACITY RATIO, LEVEL OF SERVICE, AND FLOW

The volume to capacity ratio (V/C) is a method used to evaluate congestion and assess how well the transportation network is functioning, and is often converted to and referred to as Level of Service (LOS), which is described below in the LOS box. Roadway capacity coded into the model network is based on a level of service (LOS) E which begins when the V/C ratio is 0.90 or greater. Any identified segments flagged with V/C ratio greater than 0.90 correspond to congestion over LOS E, and are represented on the following LOS maps by a thick red line. Flow, or forecasted traffic trips, is also a variable used to describe changing traffic patterns and will be discussed in the *Future Traffic Trends* section. This model does not reflect peak hour traffic LOS, only daily traffic LOS, however.

LOS	LEVEL OF SERVICE	
	V/C Ratio	% of free flow speed
LOS A (Uncongested)	< .59	90% or greater
LOS B (Uncongested)	.60 - .69	70% to 90%
LOS C (Uncongested)	.70 - .79	50%
LOS D (Congesting)	.80 - .89	40%
LOS E (Congested)	.90 - .99	33%
LOS F (Congested)	> .99	25% or less

## CHAPTER 5: STREETS AND HIGHWAYS

### 2010 BASE YEAR (EXISTING)

For the 2010 base year, LOS-related congestion was not a significant issue in the SIMPCO MPO planning area. Only a few short segments amounting to ~1.5 miles of road network were congested, and only a few short segments amounting to ~0.5 miles of road network were congesting (Map 5.3).

#### 2010 CONGESTED SEGMENTS

- US77 on the Veterans Memorial Bridge from Sioux City's Wesley Way to Riverview Dr.
  - I-29 between the Hamilton Blvd. Interchange and the northbound exit ramp for Wesley Way.
  - Westbound Gordon Dr., before from the right turn onto Nebraska St. and through the intersection.
  - Southbound S Lakeport Rd., after the Sergeant Rd. intersection until the US75 Bypass westbound entrance ramp.
  - S Lakeport Rd. at the US75 Bypass eastbound exit and entrance ramp intersection.
  - I-29 at the Hamilton Blvd interchange
- \*This is ~ 1.5 mile of streets. Segments are listed in descending order of V/C ratio.

#### 2010 CONGESTING SEGMENTS

- US77 south of Riverview Dr. to the US77 Bypass at E 9<sup>th</sup> St.
  - Westbound Gordon Dr. at the intersection of S Westcott St.
  - Wesley Way between 3<sup>rd</sup> and 5<sup>th</sup> Sts.
- \*This is ~ 0.5 mile of streets. Segments are listed in descending order of V/C ratio.

With the completion of the I-29 construction in 2019, all construction related congestion in the downtown area will be alleviated. City staff and officials know that the Singing Hills Mall and Lakeport Commons area (S Lakeport Rd and Sergeant Rd intersection) has congestion issues. This is currently being monitored and will continue to be in the future, as more commercial development occurs to the east in the Sunnybrook area.

### 2015 CURRENT STATE (EXISTING)

Between 2010 and 2015, residential development continued to occur in the Dakota Dunes CID, SD, and Whispering Creek in Sioux City, as well as infill in all member agencies. Significant commercial development in the Lakeport Commons and Sunnybrook areas occurred, as well as along South Sioux City's US77 commercial corridor. During this time, Hamilton Blvd. in Sioux City saw much commercial redevelopment and new businesses. Commercial development expanded in the Southbridge area with the new CF Industries plant expansion. Traffic in this area increased greatly due to construction workers and the large quantity of materials needed for the construction.

Many new elementary schools were built in Sioux City at this time. Most replaced and combined older schools, resulting in many elementary schools with enrollments of 500-800 students, up from enrollments of 300-500 students.

For the 2015 current state year, LOS-related congestion was not a significant issue in the SIMPCO MPO planning area. Only a few short segments amounting to ~1.5 miles of road network were congested and only a few short segments amounting to ~0.8 miles of road network were congesting (Map 5.4).

## CHAPTER 5: STREETS AND HIGHWAYS

### 2015 CONGESTED SEGMENTS (THOSE THAT ARE NEW FROM 2010)

- US77 on and south of the Veterans Memorial Bridge from Sioux City's Wesley Way to Riverview Dr.
- I-29 between the Hamilton Blvd. Interchange and the northbound exit ramp for Wesley Way.
- S Lakeport Rd at the US75 Bypass eastbound exit and entrance ramp intersection.
- Westbound Gordon Dr., before from the right turn onto Nebraska St. and through the intersection.
- Southbound S Lakeport Rd., after the Sergeant Rd. intersection until the US75 Bypass entrance ramp.
- I-29 at the Hamilton Blvd. interchange

\*This is ~ 1.5 mile of streets. Segments are listed in descending order of V/C ratio.

### 2015 CONGESTING SEGMENTS (THOSE THAT ARE NEW FROM 2010)

- US77 south of Riverview Dr. to the US77 Bypass at E 9<sup>th</sup> St.
- Westbound Gordon Dr. at the intersection of S Westcott St.
- Sergeant Rd. east of S Lakeport Rd. in the Lakeport Commons shopping area.
- Wesley Way between 3<sup>rd</sup> and 5<sup>th</sup> Sts.

\*This is ~ 0.8 mile of streets. Segments are listed in descending order of V/C ratio.

### 2020 FORECAST YEAR (EXISTING & COMMITTED)

Between 2015 and 2020, significant residential, commercial, and industrial growth is expected to happen in the SIMPCO MPO planning area. However, as calculated by the travel demand model, the current transportation network is capable of handling the added volume from this development. New congestion issue spots are along I-129 in South Sioux City, NE, at the Dakota Ave. exit, and on the US75/20 Bypass eastbound S Lakeport Rd. exit ramp, in Sioux City, IA (Map 5.5).

Due to increased capacity on the reconstructed I-29, traffic is expected to increase post-reconstruction, thereby contributing to congestion between the Hamilton Blvd. interchange and the southbound entrance ramp from the Wesley Way interchange.

Due to new residential development east of the South Sioux City corporate limits and to the Missouri River, congestion becomes a concern for the westbound I-129 Dakota Avenue exit ramp and at that intersection. As development continues to occur in the future, this area will require attention. In this area, two new residential roads were added to the network during this time, and based on the model the roads will be at a LOS A in 2020.

No capacity-affecting projects were added to the model for this band year.

### 2020 CONGESTED SEGMENTS

- Wesley Way south of 3 St., on to the interchange and into South Sioux City.
- Southbound S Lakeport Rd., after the Sergeant Rd. intersection until the US75 Bypass southbound entrance ramp.
- US77 on and south of the Veterans Memorial Bridge, from Wesley Way to Riverview Dr.
- S Lakeport Rd at the US75 Bypass eastbound exit and entrance ramp intersection.
- I-29 between the Hamilton Interchange and the northbound exit ramp for Wesley Way.

\*This is ~ 2.1 mile of streets. Segments are listed in descending order of V/C ratio.

### 2020 CONGESTING SEGMENTS

- Sergeant Rd. east of S Lakeport Rd. in the Lakeport Commons shopping area.
- US77 south of Riverview Dr. to the US77 Bypass at E 9<sup>th</sup> St.
- I-129 westbound Dakota Ave. exit ramp and intersection.
- Westbound Gordon Dr. at the intersection of S Westcott St.
- US75/20 Bypass eastbound S Lakeport Rd. exit ramp before the fork.

\*This is ~ 1.5 mile of streets. Segments are listed in descending order of V/C ratio.

## CHAPTER 5: STREETS AND HIGHWAYS

### 2030 FORECAST YEAR (EXISTING, COMMITTED, & PLANNED)

Between 2020 and 2030, residential, commercial, and industrial growth is expected to continue, albeit at a less aggressive rate than between 2015 and 2020. Nonetheless, the congestion issues of the previously mentioned time snapshots are expected to remain, unless addressed otherwise.

The segment between the intersections on Dakota Ave. at the I-129 exit and entrance ramps are expected to be nearing congestion. This is almost certainly due to planned industrial growth south and west of this area (Map 5.6).

At this time, the proposed 18<sup>th</sup> St. Viaduct was added to the existing road network. The segment of Floyd Blvd. south of the viaduct and to 13<sup>th</sup> St. is expected to be congesting at this time. This is likely due to new trip generation attributed to the removal of the 19<sup>th</sup> St. at-grade crossing.

At this time, the proposed Southbridge interchange was added to the existing/committed road network. This interchange diverts most traffic from the Port Neal interchange and distributes it to this interchange. The I-29 segments north and south of this interchange see a decrease in traffic, which is due to this new access point.

#### 2030 CONGESTING SEGMENTS (THOSE THAT ARE NEW FROM 2020)

- Between the intersections on Dakota Ave. at the I-129 exit and entrance ramps.
- Floyd Blvd. south of the proposed 18<sup>th</sup> St. Viaduct.  
\*This is ~0.2 miles of streets.

### 2040 FORECAST YEAR (EXISTING, COMMITTED, & PLANNED)

Between 2030 and 2040, residential, commercial, and industrial growth is expected to continue, albeit at a less aggressive rate than between 2015 and 2020. Nonetheless, the congestion issues of the previously mentioned time snapshots are expected to remain, unless addressed otherwise.

The I-129 westbound Dakota Ave. exit ramp and intersection are expected to be congested, while the I-129 eastbound Dakota Ave. exit ramp and intersection are expected to still be congesting (Map 5.7). Again, this is almost certainly due to planned industrial growth south and west of this area.

The segment of Outer Dr. from Floyd Blvd. to Indian Hills Dr. is congesting in 2040. This is almost certainly due to increased residential development between Outer Dr. and the Sioux City north corporate limits.

No capacity-affecting projects were added to the model for this band year.

#### 2040 CONGESTED SEGMENTS (THOSE THAT ARE NEW FROM 2030)

- I-129 westbound Dakota Avenue exit ramp and intersection.
- As well as those 2030 congested segments.

#### 2040 CONGESTING SEGMENTS (THOSE THAT ARE NEW FROM 2030)

- Outer Dr. from Floyd Blvd. to Indian Hills Dr.
- As well as those 2030 congesting segments.

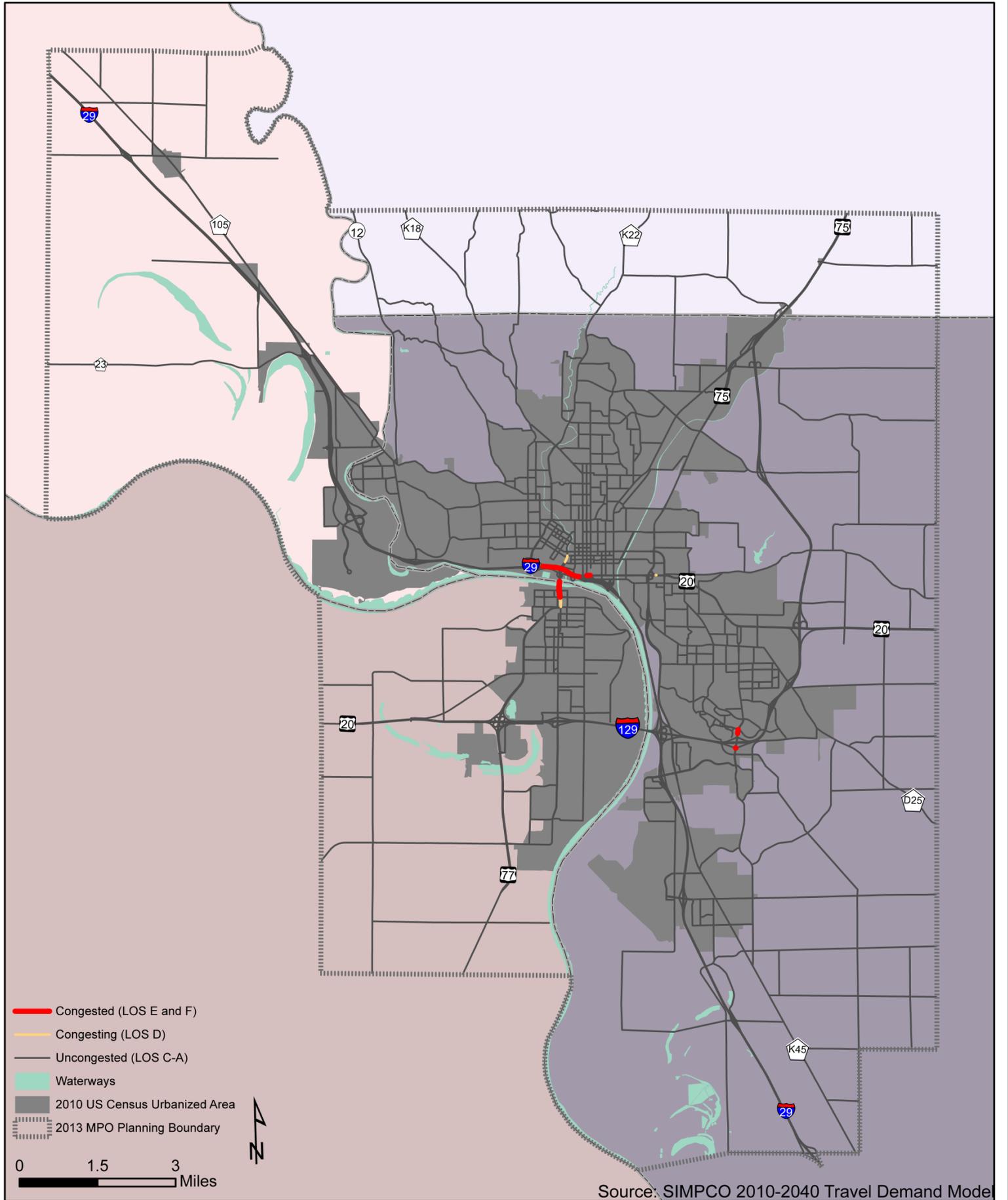
### FUTURE TRAFFIC TRENDS

- **Southbridge Interchange:** The proposed Southbridge interchange will continue to see traffic increase (~200 trips per day increase between 2030 and 2040) as Southbridge Industrial Park is developed. The segments of interstate around this interchange show a decrease in traffic that is likely due to the new interchange access, reducing trips north and south of it.
- **18<sup>th</sup> St. Viaduct:** The 18<sup>th</sup> St. Viaduct and the segments of Floyd Blvd. north and south of it see an increase in traffic by ~1,500 trips a day, due to the closing of the at-grade crossings on 19<sup>th</sup> St. and the increased capacity of this proposed intersection. The viaduct itself, when added to the network in 2030, has an expected flow of 4,167, and in 2040 4,230. 19<sup>th</sup> St. in 2020 has a flow of 4,530. The smaller flow count on the proposed viaduct, compared to the flow count on the existing 19<sup>th</sup> St., is likely due to trips being generated to the north crossing of Floyd at 28<sup>th</sup> St.
- **Dogwood Trail:** The 2015-constructed Dogwood Trail in Sergeant Bluff will see increased flow from 66 trips in 2020 to 151 trips in 2030 and 206 trips in 2040, due to increased capacity and new industrial development along the road and in the Southbridge and Port Neal areas to the southwest, and from new residential and commercial development on the south side of Sergeant Bluff.
- **Lakeport Commons Area:** From 2010-2040, the Lakeport Commons area shows traffic increases due to increased commercial development in this area and in the Sunnybrook area.
- **Unity Point Area:** Segments around Unity Point Medical Center, in Sioux City, show slight and gradual decline in trips throughout the interim years. This is due to the decrease in population in the TAZs adjacent and near this area that was interpolated based on the population change between the 2000 and 2010 censuses.
- **South Sioux City Residential Development:** The new residential development and roads in South Sioux City, between the east corporate limits and the Missouri River, generates increasing traffic in and around this area due to its new construction that was coded in the model for the 2020 interim year and through 2040.
- **South Sioux City and Dakota City Industrial Development:** The new industrial development on the south side of South Sioux City and in Dakota City, as well as the new residential development and roads in South Sioux City, between the east corporate limits and the Missouri River, generates increasing traffic along I-129 between 2020 and 2040.
- **I-29 Corridor:** Overall, the I-29 corridor will have moderate traffic increases each interim year, due to the reconstruction and capacity increase from 4 to 6 lanes.
- **US20:** Traffic flow along US20 is projected to increase by ~3-4% each interim year, which is a significant increase. This is likely due to increased capacity east of the SIMPCO MPO planning area that has and will continue to occur throughout the duration of this plan.
- **Metropolitan Area Colleges:** The segments around all of the metropolitan area colleges (Briar Cliff University, Morningside College, Western Iowa Technical Community College, and Northeast Community College) show moderate traffic flow increases due to moderate enrollment increases.

**SIMPCO MPO**

**Level of Service: 2010 Base Year**

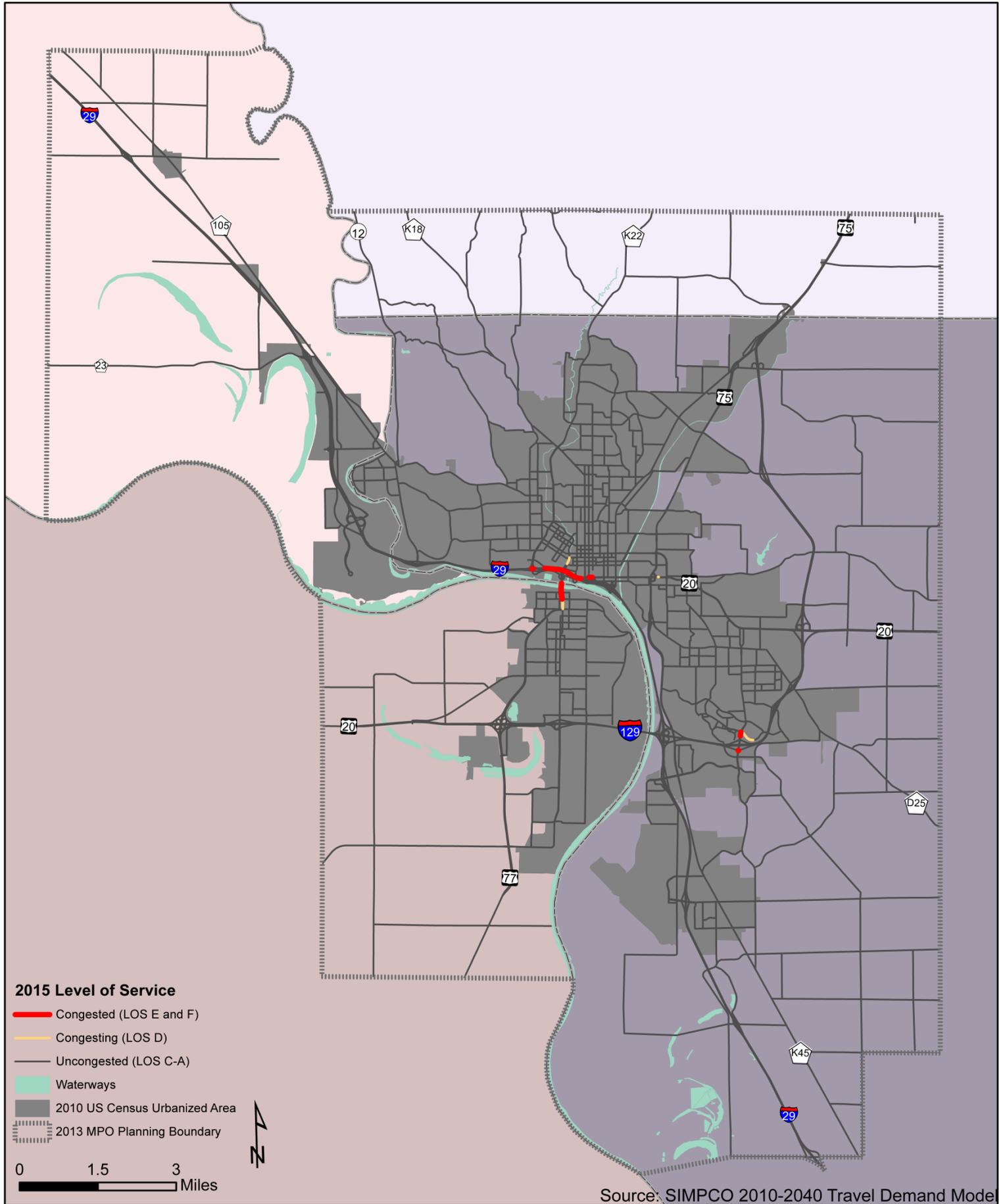
Existing Network



**SIMPCO MPO**

**Level of Service: 2015 Current State**

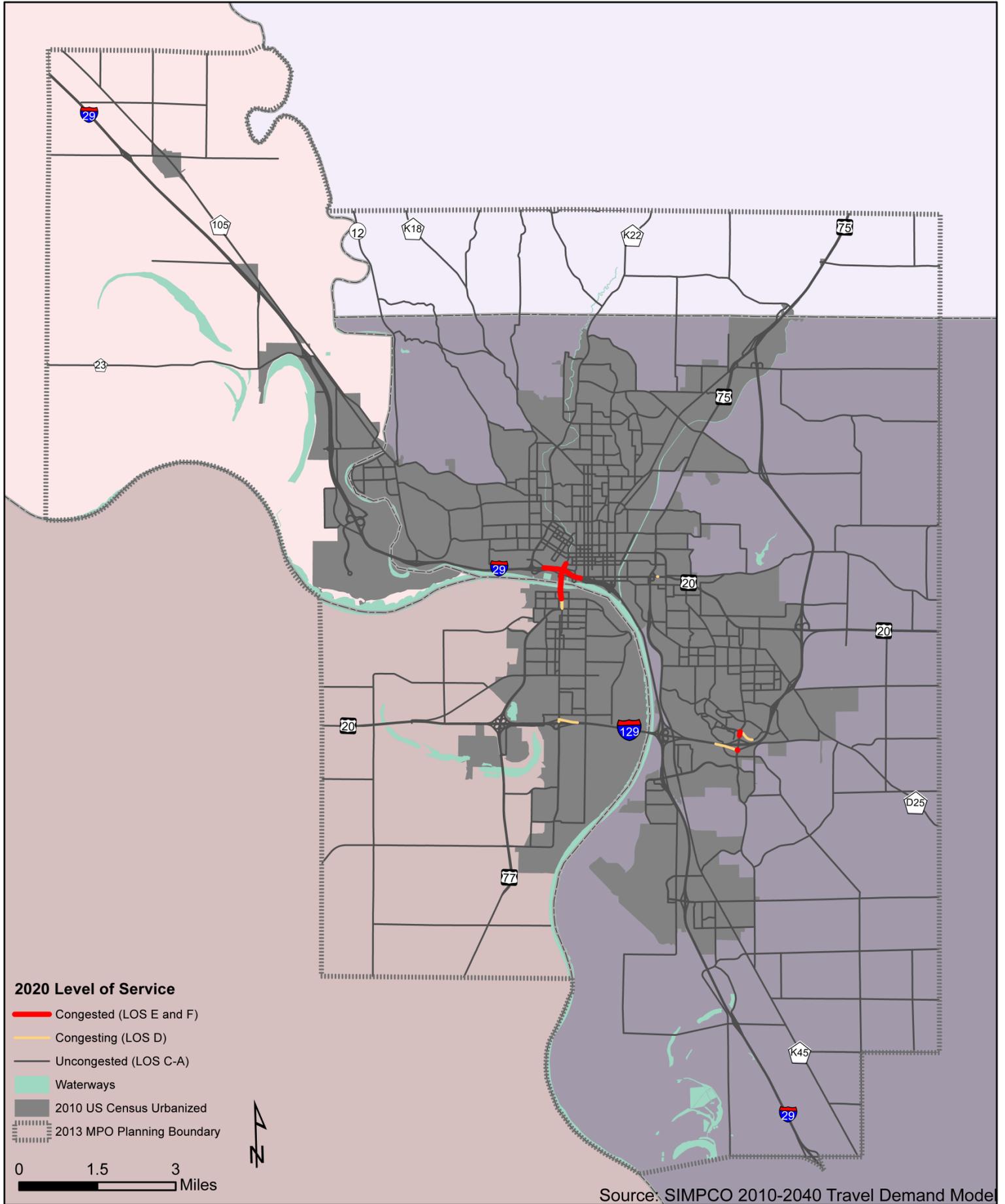
Existing Network

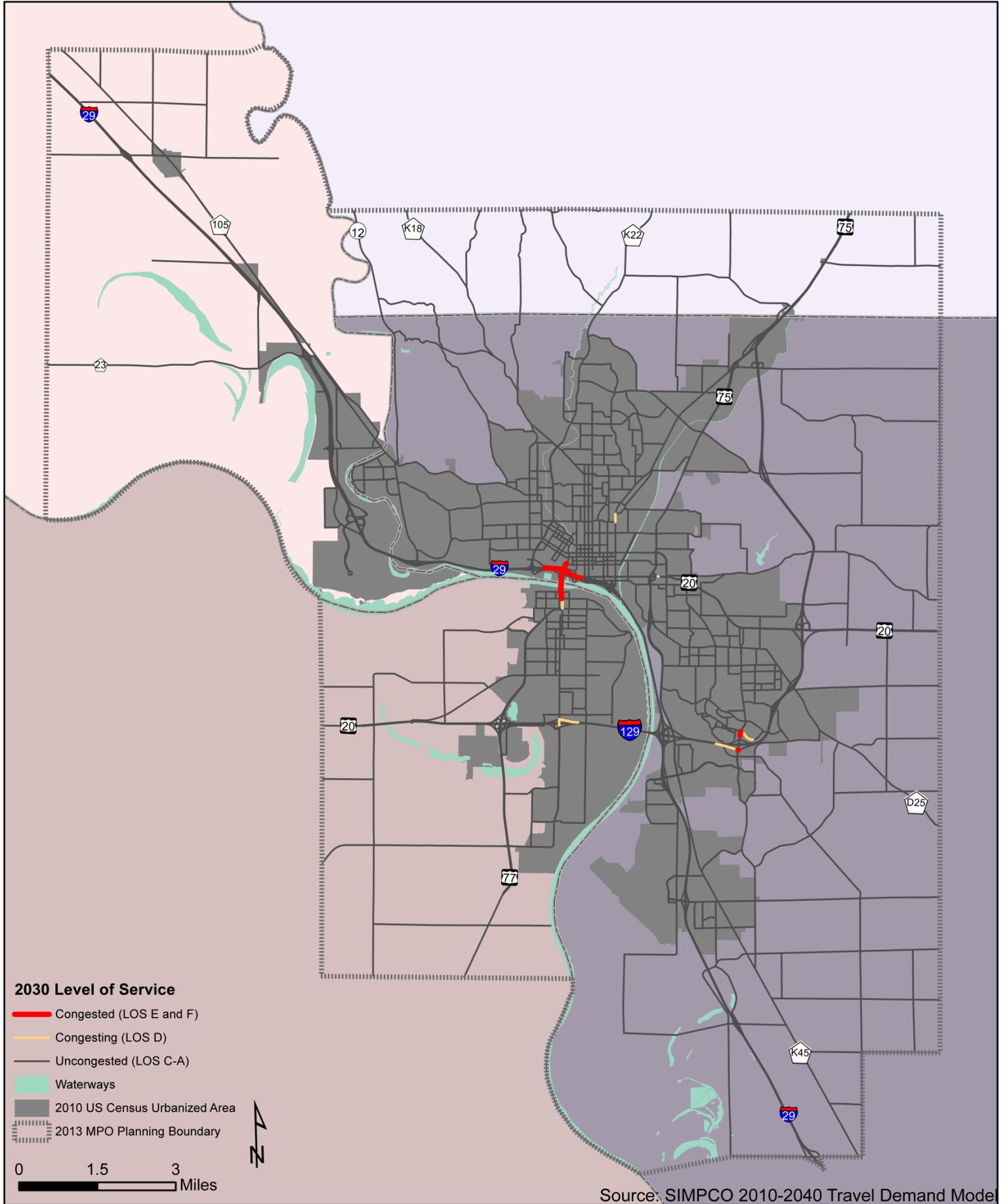


**SIMPCO MPO**

**Level of Service: 2020 Forecast Year**

Existing & Committed Network  
-No new capacity-affecting projects

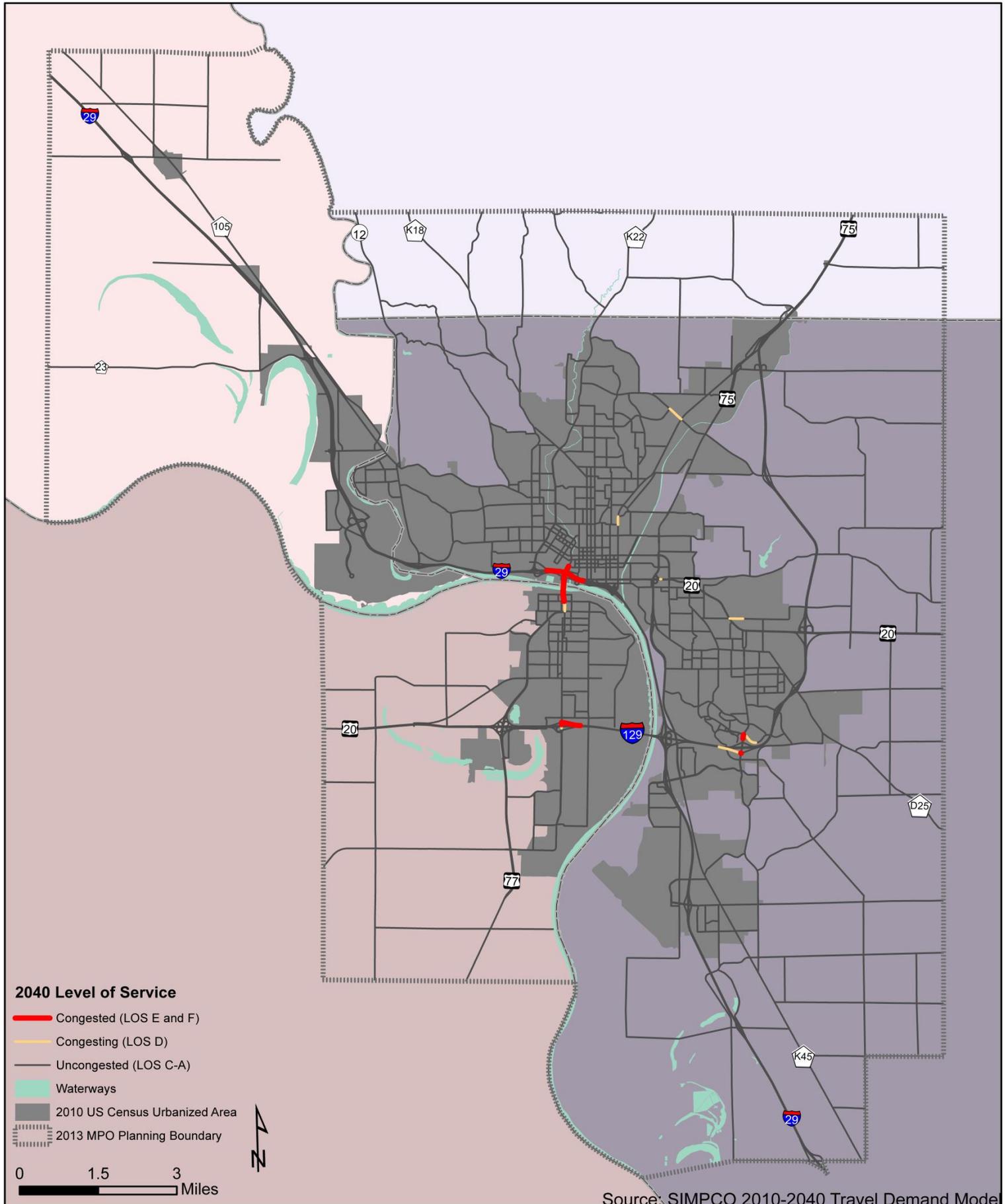




**SIMPCO MPO**

**Level of Service: 2040 Forecast Year**

Existing, Committed, & Planned Network  
-No new capacity-affecting projects



## CHAPTER 5: STREETS AND HIGHWAYS

### TRANSPORTATION PROJECTS

---

#### FY 2016-2019 TIP WITH 2020-2029 AND 2030-2040

Map 5.8 shows the current FY 2016-2019 Transportation Improvement Plan for the SIMPCO MPO Planning Area, as well as the fiscally constrained projects for the 2020-2029 and 2030-2040 band years. Project details are in Chapter 8 and Appendix D. On Map 5.8, each project is labeled with a unique ID that is also coded into the project tables in Chapter 8 and Appendix D, linking the map to the table, and allowing readers to identify projects geographically on the map and temporally and financially in the tables. The project selection methodology and fiscally constrained plan can be found in Chapter 8. Illustrative projects are identified by an underlined project number label.

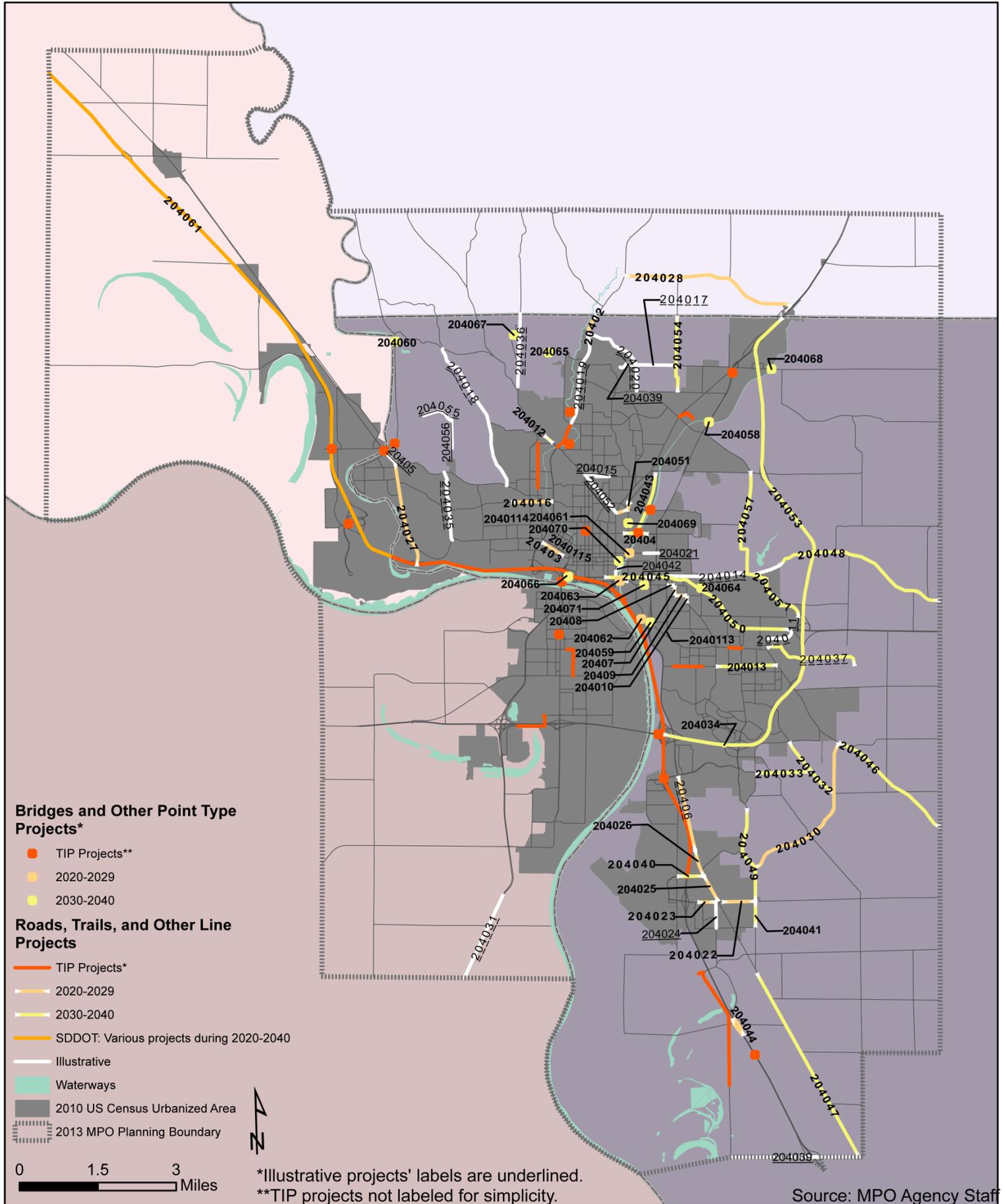
### ENVIRONMENTAL JUSTICE

---

The most prominent form of transportation discrimination in the SIMPCO MPO planning area is ignoring the needs of those without access to a private automobile in an auto-dominant transportation system. The limited availability and excessive travel times associated with public transit, coupled with the scarcity of facilities to accommodate pedestrians and cyclists, should be considered an important matter of social equity in determining priority transportation improvements. Many of the SIMPCO MPO 2040 LRTP goals consider these issues, including *Accessibility, Connectivity and Compatibility, Livability, And Safety*.

The environmental justice data have been compared to the trail and transit systems in Chapters 3 and 4, respectively. It is important that disadvantaged populations are accounted for as transportation projects are planned and developed, with attention to how they might use the various modal systems once the projects are complete. Providing transit and trail links between low-income, minority, and age-specific households to existing and future employment areas will be beneficial. Investing in transportation improvements in these areas promotes local investments as well.

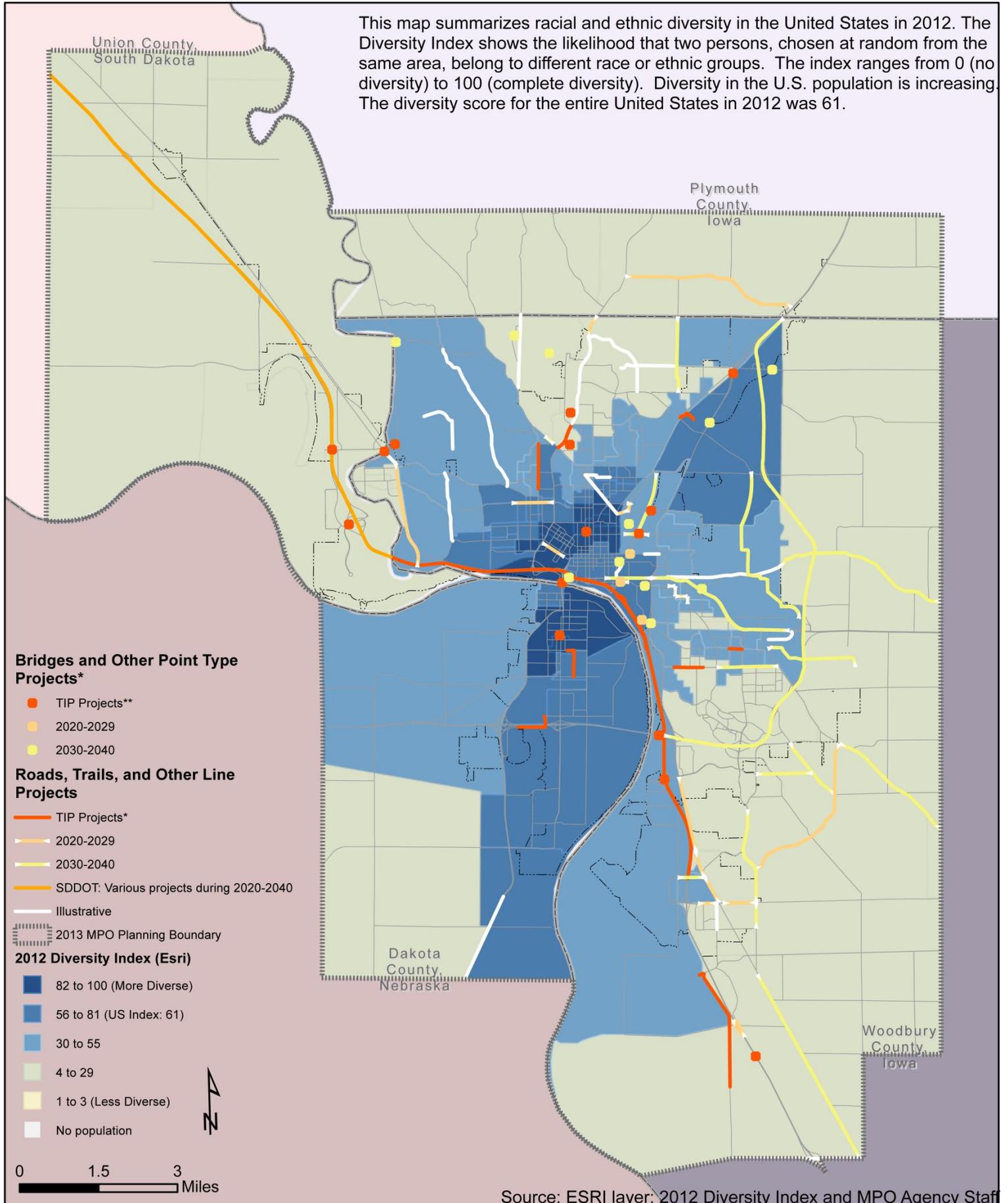
It is important that the major projects listed in this chapter (18th Street Viaduct, Bridgeport, and Southbridge Improvements) pay close attention to the environmental justice factors. Many of these projects will/do lead to major employer areas, or may cause major changes in the current transportation system. By taking these environmental justice areas into account, and looking at how all modes of transportation (motorized and non-motorized) are affected by future projects SIMPCO MPO staff and member agency staff can make a more efficient and accessible transportation system for all users. Maps 5.9-5.12 provide staff and decision makers with information on project locations overlaid onto the area's diversity index (described on the map), poverty ratio, populations 65 and older, and populations 18-64.



**SIMPCO MPO**

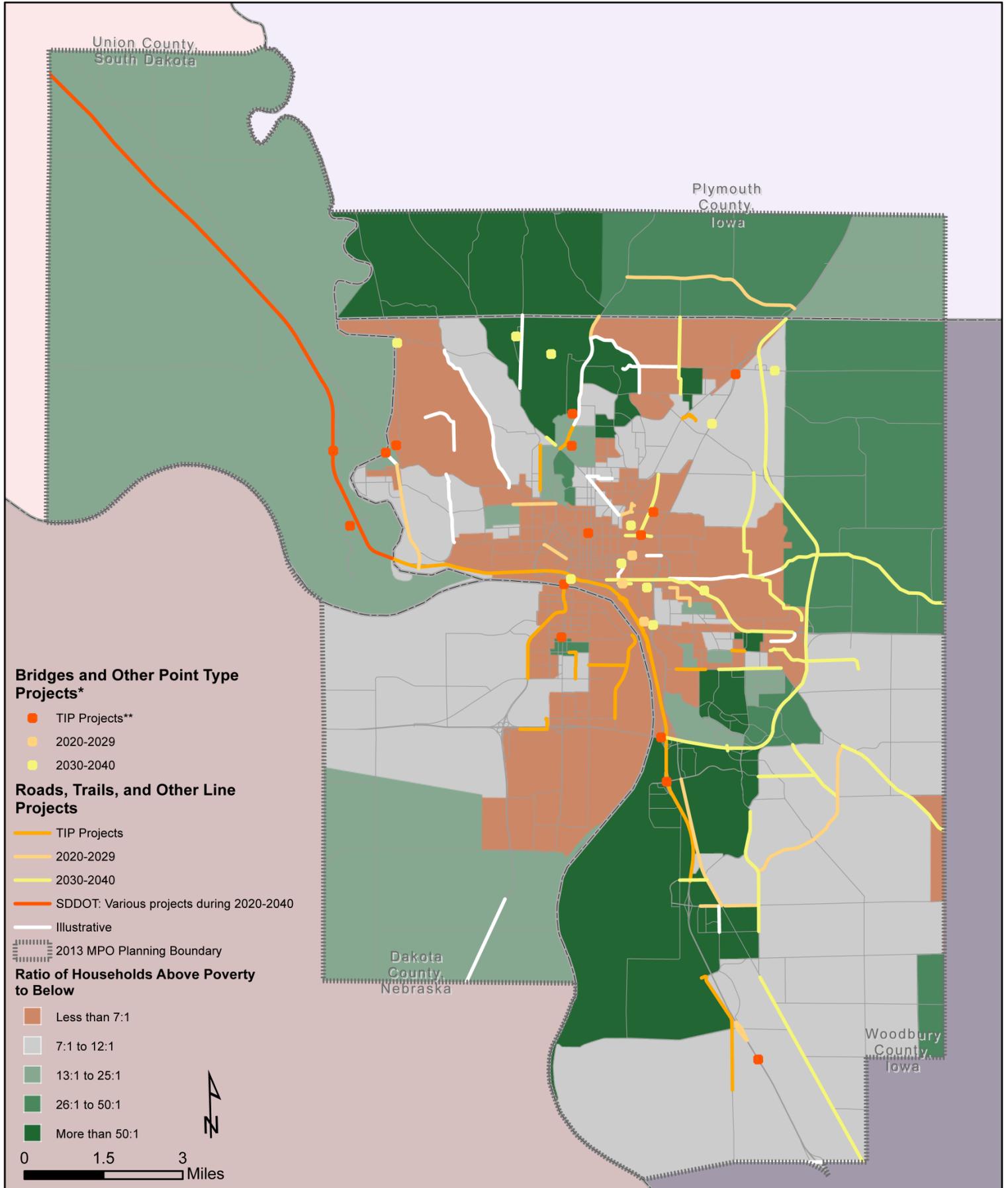
**Projects and Diversity Index**

This map summarizes racial and ethnic diversity in the United States in 2012. The Diversity Index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity). Diversity in the U.S. population is increasing. The diversity score for the entire United States in 2012 was 61.



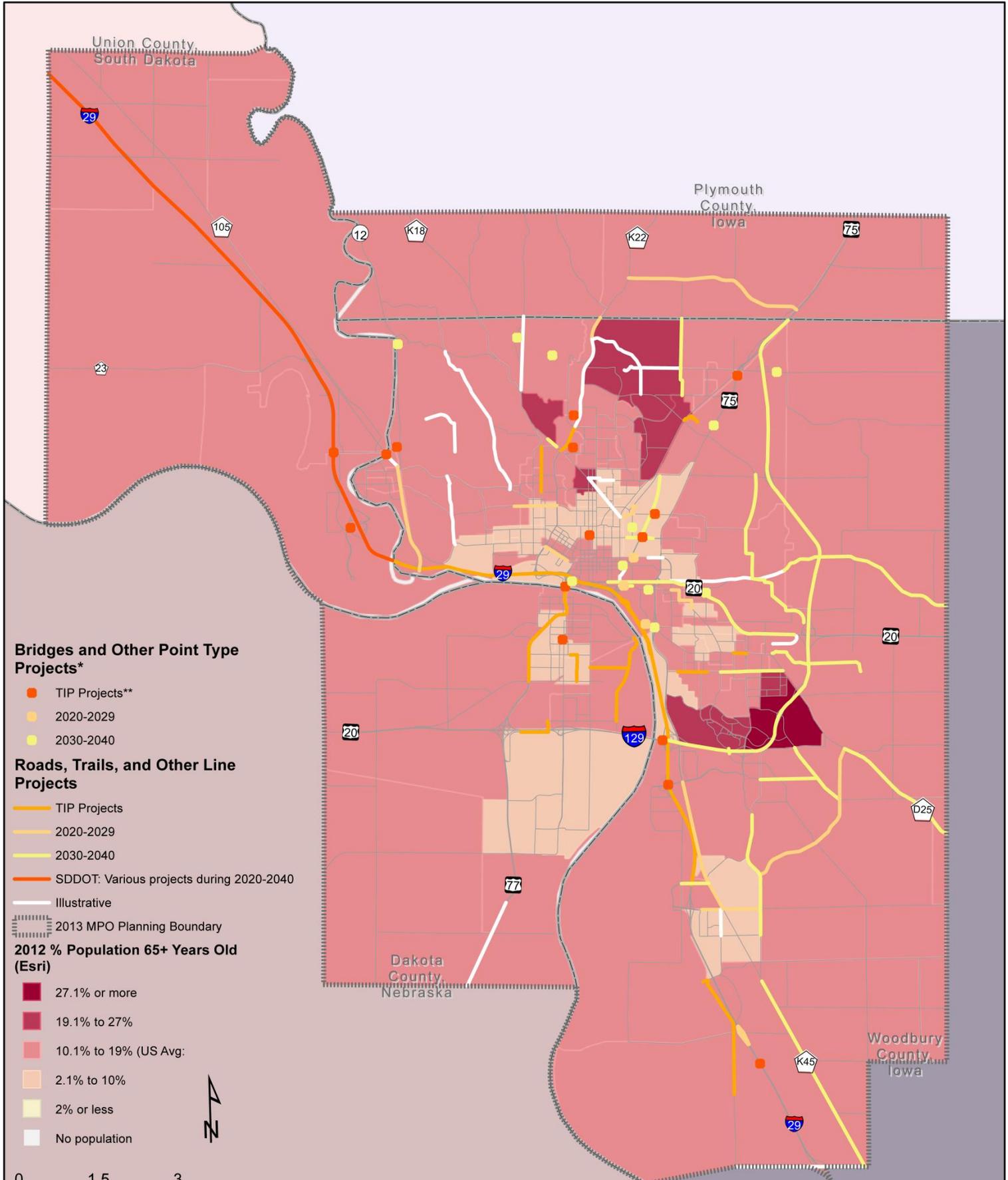
# SIMPCO MPO

## Projects and Ratio of Households Above Poverty to Below Poverty



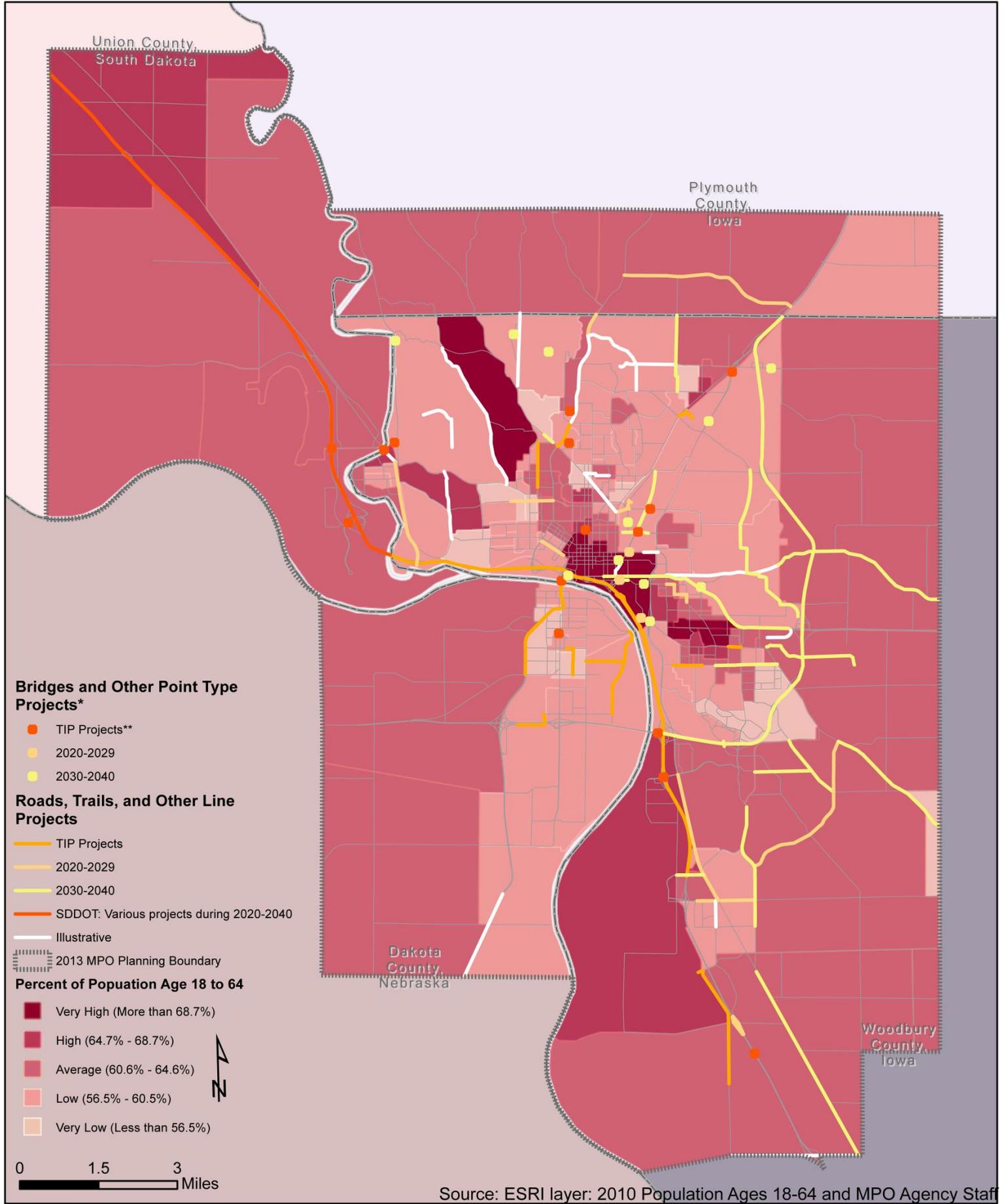
# SIMPCO MPO

## Projects and Population 65 Years of Age and Older



# SIMPCO MPO

## Projects and Population Ages 18-64



## CHAPTER 5: STREETS AND HIGHWAYS

### RECOMMENDATIONS

---

The recommended streets and highway projects identified in this plan are a mix of infrastructure rehabilitation, reconstruction, and some select strategic infrastructure addition projects. Examples of major projects include the completion of the I-29 in the metro area, 18th St. Viaduct project, Southbridge Interchange, and the Gordon Drive Viaduct. Major pavement rehabilitation is planned on several city arterials including U.S. 75 up to Plymouth County, Iowa 12, Hamilton Blvd., Gordon Dr., and South Lewis Blvd.

A series of parkways through undeveloped areas are planned, should funding become available to open up areas presently lacking transportation links. To facilitate economic development, roadway capacity upgrades will continue in the industrial areas in the southern portion of the SIMPCO MPO planning area. In addition, Hoeven Valley continues to be a priority area for transportation improvements.

The full list of projects is shown in *Chapter Eight: Financial Summary*. Projects are detailed by funding source, sponsor agency, timeframe, and potential federal funding available (i.e., fiscally constrained vs. illustrative).