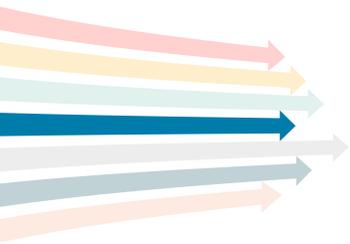




4

**ECONOMIC GROWTH
THROUGHOUT THE
REGION**



The transportation system supports economic growth in a variety of ways, including the movement of goods and people. How efficiently goods and people can move about the region is an important part of our region's economy and maintaining our region's competitiveness. Annual congestion cost truck operators \$41M in 2017, a cost which has grown roughly 8% a year from 2015 to 2017. A transformative approach will be required to slow this growing trend while considering other transportation system users. As more freight traffic travels our highways and local streets or rail lines cross communities, an increasing focus on safety and infrastructure preservation is required. Solutions will involve collaboration amongst metropolitan and regional partners in concert with public support.

Ensuring the health and well-being of residents in our region is important to our region's economy as

well. A key component of this as it relates to the transportation system is ensuring that people can move safely throughout the region. While we have made progress towards reducing serious injuries as traffic has increased, in recent years fatalities have risen and vulnerable roadway users like pedestrians and motorcyclists have seen increases in recent years. These trends indicate that more action is needed to ensure the safety of these residents. Another important aspect of our region's overall health and well-being is our region's air quality. MAPA has worked closely with partners throughout the region to reduce ground-level ozone and protect the health of residents. Ensuring that our future transportation investments and land use decisions align with these goals will be an important part of our success.

4.1 FREIGHT & GOODS MOVEMENT

The Omaha-Council Bluffs region is dependent upon freight and freight-related activities for our economic strength. Compared to many of our peer regions in the upper midwest, transportation, and warehousing comprise a larger share of our region's Gross Domestic Product (GDP). The region's reliance on these industries; however, should not preclude the ability to improve and build future segments of the transportation network to provide safe, equitable access to all

users—particularly as the uses in neighborhoods shift throughout the region. Additionally, the movement of goods cannot be viewed just at our MPO boundaries, but instead should consider, and benefit from, collaboration across regional and state boundaries to achieve these goals. The Heartland Freight Technology Plan is an ongoing effort to align policy priorities between four State DOTs and numerous MPOs to foster this mega-regional collaboration.



Background & Freight Planning Activities

As a bi-state MPO, MAPA participated in the development of state freight plans by both Iowa DOT and NDOT. The Nebraska Freight Plan seeks to guide short and long-term freight investment decision-making and performance measurement. This document, guided by NDOT's mission, includes freight-specific goals and objectives NDOT developed, as well as National freight policy goals defined in the Fixing America's Surface Transportation Act (FAST Act) and the National Highway Freight Program (NHFP). Specifically, the plan's goals and objectives were informed by:

- The Freight Advisory Committee, comprised of public and private sector stakeholders
- NDOT goals, including the LRTP (Vision 2032) and the Transportation Investment Act and Build Nebraska Act programs; and
- National freight policy goals in the FAST Act and NHFP mentioned previously

Since 2012, the Iowa Department of Transportation has completed, or is still in the process of twelve freight planning initiatives. As quoted in the Iowa

State Freight Plan Purpose, "The Iowa State Freight Plan is a way to connect all of these initiatives and allow them to move forward towards a common goal of optimal freight transportation in the state." The State Freight Plan's (2016) strategic goals are consistent with the national priorities laid out in the FAST Act and lay out a multimodal strategy for freight across the state.

The Metro Area Travel Improvement Study (MTIS) was a collaborative effort between the Nebraska Department of Transportation (NDOT) and the Metropolitan Area Planning Agency (MAPA). This comprehensive transportation study recognizes future interstate and freeway system needs are linked intrinsically with arterial, local roads and transit system needs and investment decisions in the MAPA region. As part of the performance-based planning process in that study, freight reliability was incorporated in the planning process. Through the ConnectGO initiative, the Greater Omaha Chamber of Commerce has convened a Freight Working Group of local shippers, parcel delivery companies, industry leaders, and local technical staff to better understand the freight issues in the region.

Freight in the Omaha-Council Bluffs Region

Nationally, the movement of freight and measure of its economic impact is measured traditionally using the Federal Highway Administration (FHWA) Freight Analysis Framework (FAF). The Omaha FAF region was established in 2012, and is one of 84 non-State regions which incorporates Commodity Flow Survey (CFS), Census Bureau, and FHWA freight transportation data to forecast future freight flows and values.

The Omaha FAF Region is shown below in Figures 1 and 2. Baselined in 2012 (with the next baseline anticipated in 2017), the FAF data provides forecasting for 2045. Data from the Omaha FAF region (consisting of six Nebraska counties) are tabulated below. Significantly, more than 80% of this increase in the domestic freight tonnage (whether Omaha is the origin or destination) is transported by truck.



FAF4 Forecast Freight Growth 2017-2045

	2017	2045	% Change
Total Flow (Tons, in thousands)	98,708	126,350	28.0%
Truck	81,092	98,439	21.4%
Rail	10,793	13,748	27.4%
Water	0	0	0
Air (includes truck-air)	14	63	337.0%
Multiple modes & mail	1,542	3,572	131.6%
Pipeline	5,253	10,427	98.5%
Other and unknown	22	102	363.0%
Value, Origin (\$2012 constant, millions)	41,069	81,851	99.3%
Value, Destination (\$2012 constant, millions)*	46,723	75,128	60.8%

The FAF4 projections provide estimates of growth by mode of transportation. For the Omaha region from 2017 to 2045 a majority of freight growth originating from the region is expected to move initially by truck, whether to complete transit to its final destination, or move to a multi-modal distribution center to continue via another mode. The FAF4 output, available on the FHWA website, illustrates this growth for freight

originating in the Omaha FAF region by total flow in tons and by value in \$2012. From 2017 to 2045, this growth is anticipated to result in an increase of 86.1% in value by mode (from 33,651 - 62,613 in \$2012, in millions) with only a 34% increase in tonnage (from 40,529 to 54,316 tons, in thousands) for products leaving the region.

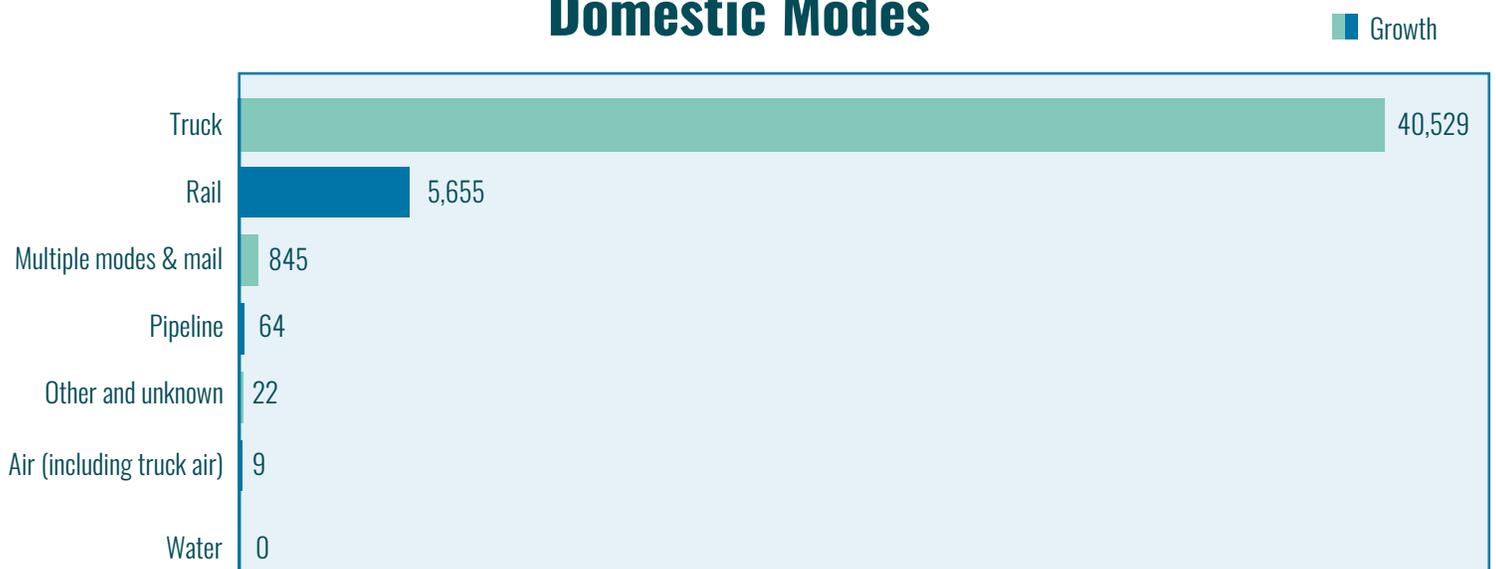
¹FHWA FAF4 Dashboard. https://explore.dot.gov/views/FAF_Dashboard_451/FAFRegionOverview?iframeSizedToWindow=true&%3Aembed=y&%3Adisplay_count=no&%3AshowAppBanner=false&%3AshowVizHome=no

Domestic Modes



Freight Originating from Region by Mode from 2017 to 2045
(in \$2012, in millions)

Domestic Modes



Tonnage Originating from Region by Mode from 2017 to 2045 (Tons, in thousands)

These estimates would imply that the region should anticipate growth in freight flow by trucking, and that the commodity types could shift in response to demand, changing local truck travel patterns as well. This is supported by the FAF4 estimates for commodity type being shipped from the region. The figure

below shows projections (by value) for growth in the top 10 commodities in the region in 2017. In particular, meat and seafood rely heavily on trucks (131% growth), as well as pharmaceutical products, which rely heavily on both multimodal and truck transportation.

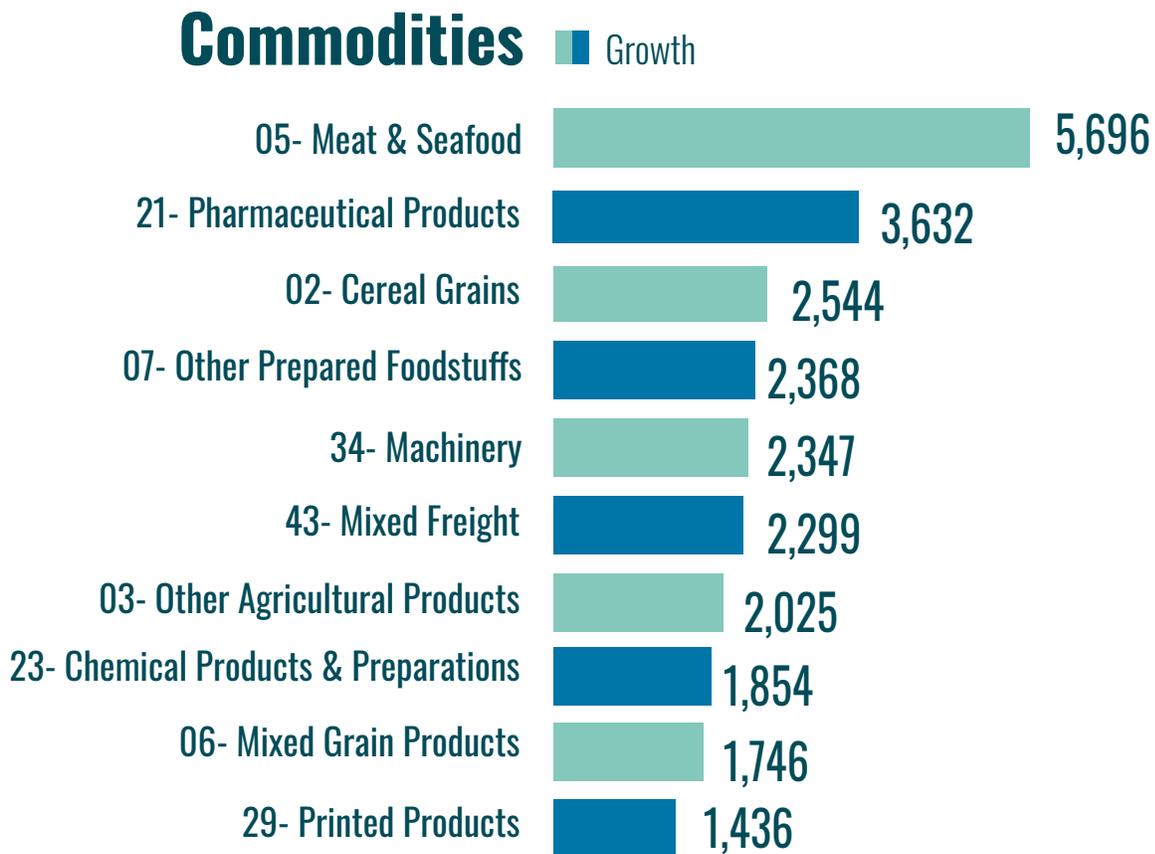
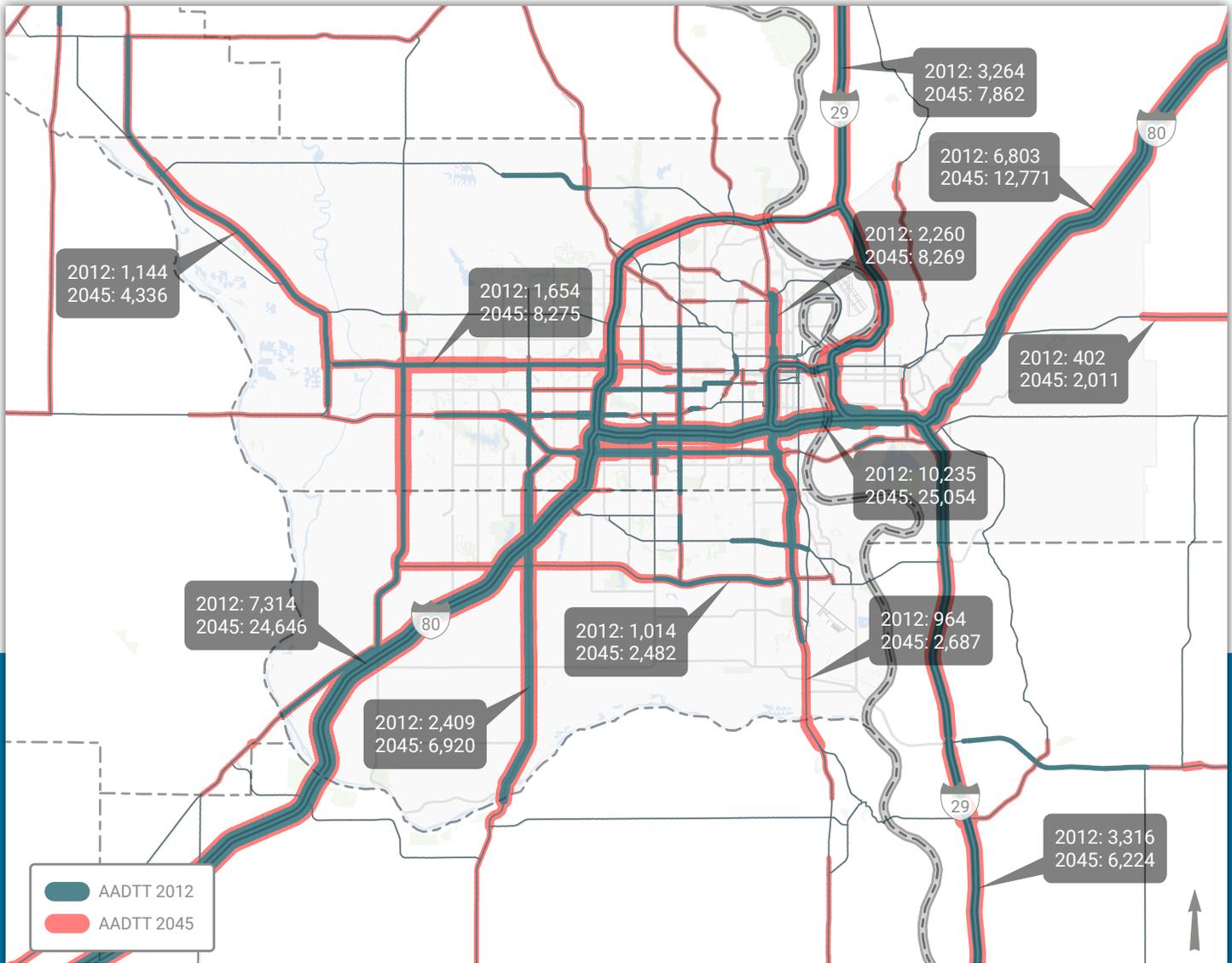


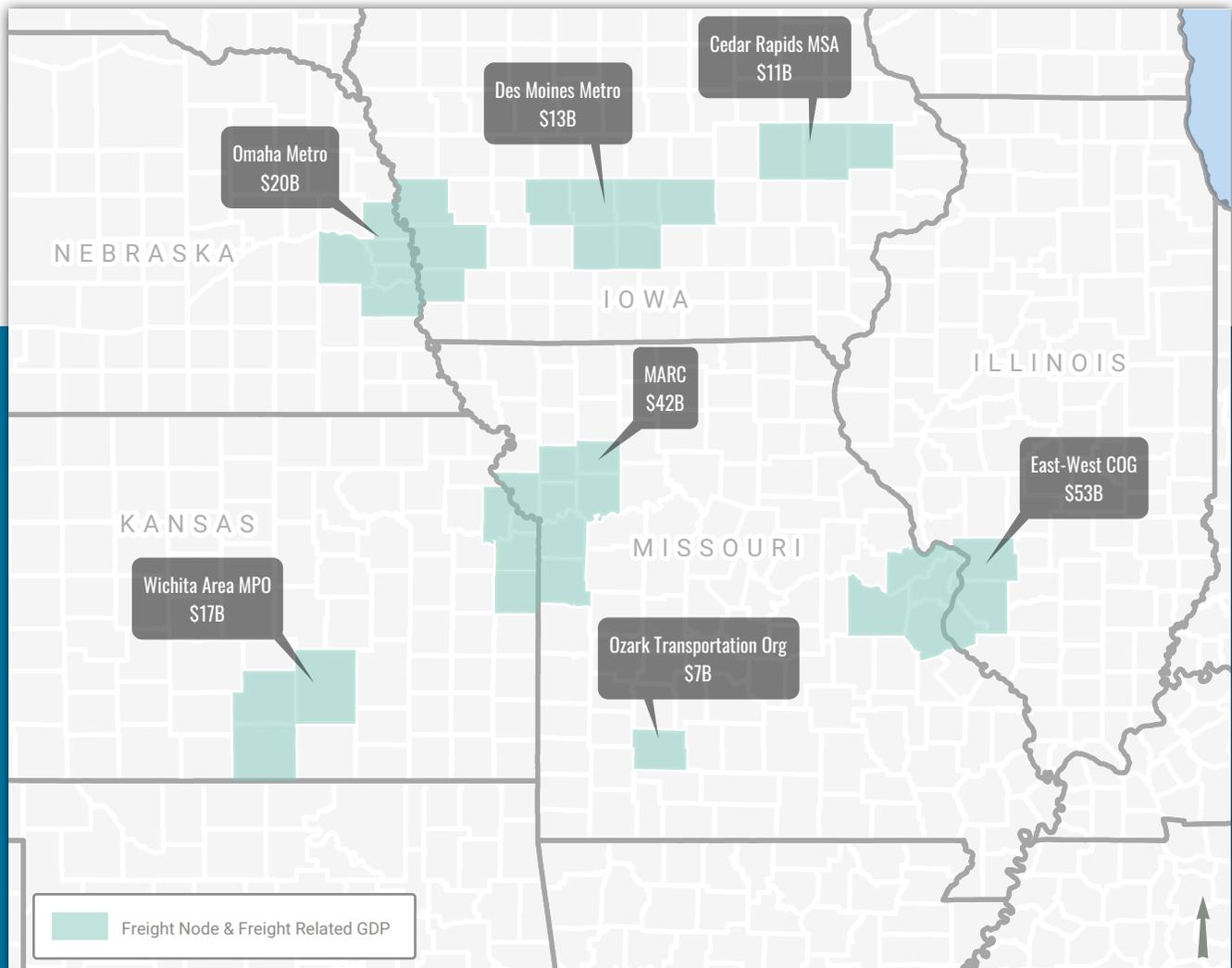
Figure 4.1: Average Annual Daily Truck Traffic: 2012 and 2045 Projected



Megaregion View of Omaha

The first task completed within the Heartland Freight Technology Plan (HFTP) was an analysis of economic nodes and drivers for the region. Shown below are the participating states and Metropolitan Planning Organizations (MPO)—the MPO's having been identified as the primary nodes for freight both in economic impact, employment, and volume of goods.

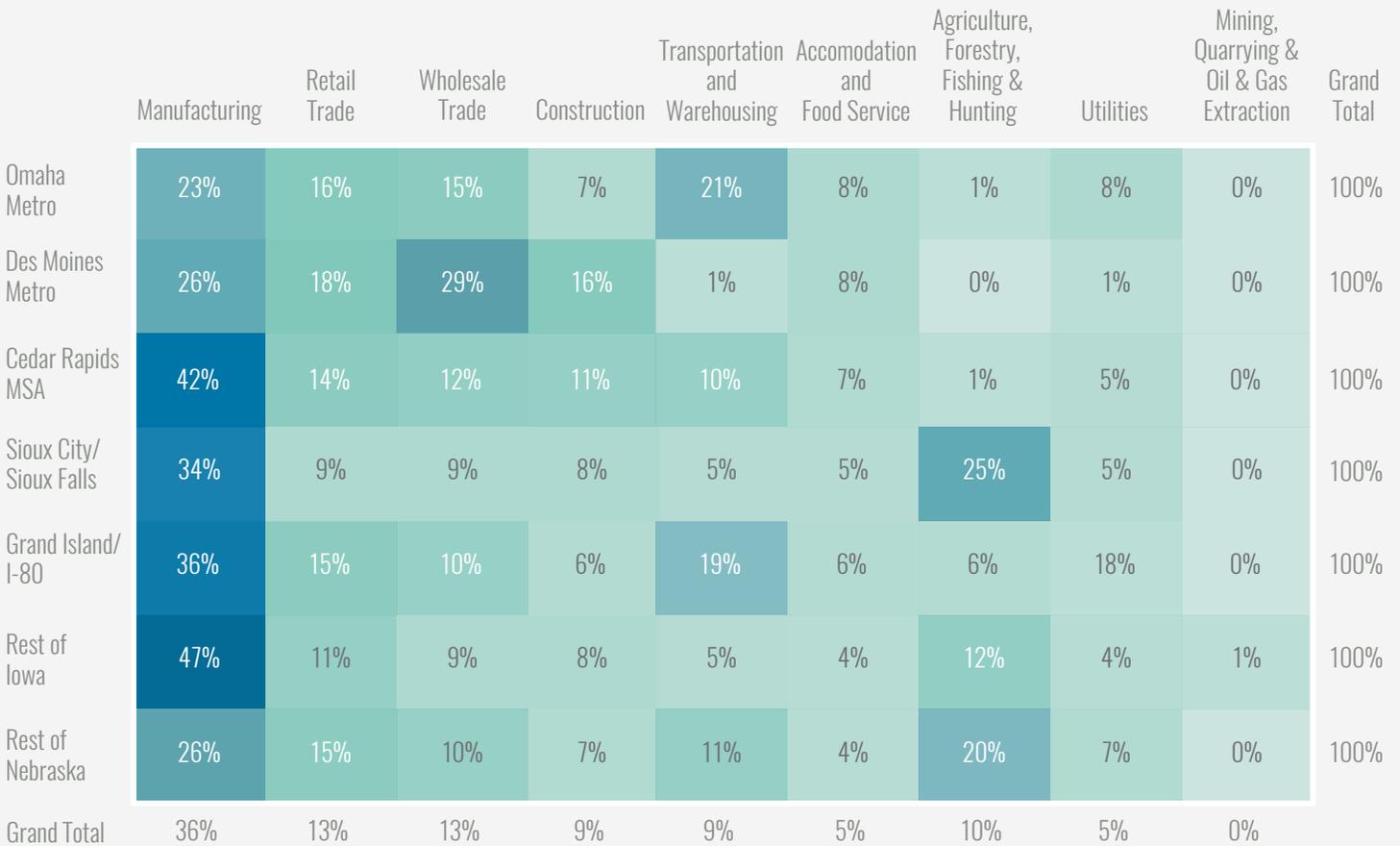
Figure 4.2: Heartland Freight Technology Plan Economic Nodes



The analysis was conducted using FAF4 data for 2017 and was disaggregated by county. The MAPA MPO is made up of six counties: Cass, Sarpy, Douglas and Washington Counties in Nebraska; Pottawattamie and Mills Counties in Iowa. Freight-related industry contribution to GDP was more than one-third of the MAPA combined \$59.6B.

The HFTP snapshot for 2017 is a unique dataset, which is very different from the data presented previously for the Nebraska-only FAF4 region. In addition to analyzing state and MPO totals, the HFTP also identified two non-MPO nodes in Iowa and Nebraska (Grand Island, NE & west on I-80, and Sioux City, IA/Sioux Falls, SD) which contribute significantly to freight-related GDP. The table below helps define the contribution to GDP from the various freight-related industries.

2.10 (CHART) Heartland Region Freight-Oriented Industry GDP Shares (2017) by Node



% of Total 2017 GDP broken down by Industry Sector vs. Regional Nodes 2. Color shows % of Total 2017 GDP. The marks are labeled by % of Total 2017 GDP. The data is filtered on Study Area, Urbanized level, County (2) and State. The Study Area filter keeps Study Area. The Urbanized level filter keeps Completely rural, Mostly rural and Mostly urban. The County (2) filter keeps 1,786 of 1,786 members. The State filter keeps IA and NE. The view is filtered on Regional Nodes 2 and Industry Sector. The Regional Nodes 2 filter excludes Outside Heartland. The Industry Sector filter keeps 9 of 20 members.



Taking a closer look at the Omaha Metro (MAPA MPO) the following chart provides a breakdown by industry sector, and urban/rural contribution to GDP. The distinction between rural and urban should

not take away from the impact of freight traveling through rural areas between locations within the Heartland Region, or traveling through the Heartland Region to further destinations.

Bottlenecks and Truck Travel Time Reliability (TTTR)

The Iowa and Nebraska State Freight Plans have identified locations on the transportation network where freight (trucks, rail, water) experience excessive delay. For the MAPA region, the significant bottlenecks are experienced primarily by truck traffic. Nebraska bottlenecks are indicated within the project listings in the State Freight Plan Strategic Project List, and highlight areas of recurring congestion for trucks.

Iowa DOT takes a holistic approach to reviewing transportation infrastructure through the Infrastructure Condition Evaluation (ICE) program. Segments on the Iowa Primary Highway System are evaluated against a set of seven measures, to include Average Annual Daily Truck Traffic for single and multi-unit trucks, as well as total traffic. The ongoing construction of the Council Bluffs Interstate System precludes any effective assessment of bottlenecks or slowdowns. However, the design of the dual-divided sections passing through Council Bluffs should by definition only improve truck travel reliability. Other than I-80 through Council Bluffs, the Iowa State Freight Plan also identified I-29 at the Pottawattamie/Mills County border as a second freight bottleneck. Subsequent review of speed data from the National Performance Management Research Data Set indicates that this may not have continued to cause significant delay.

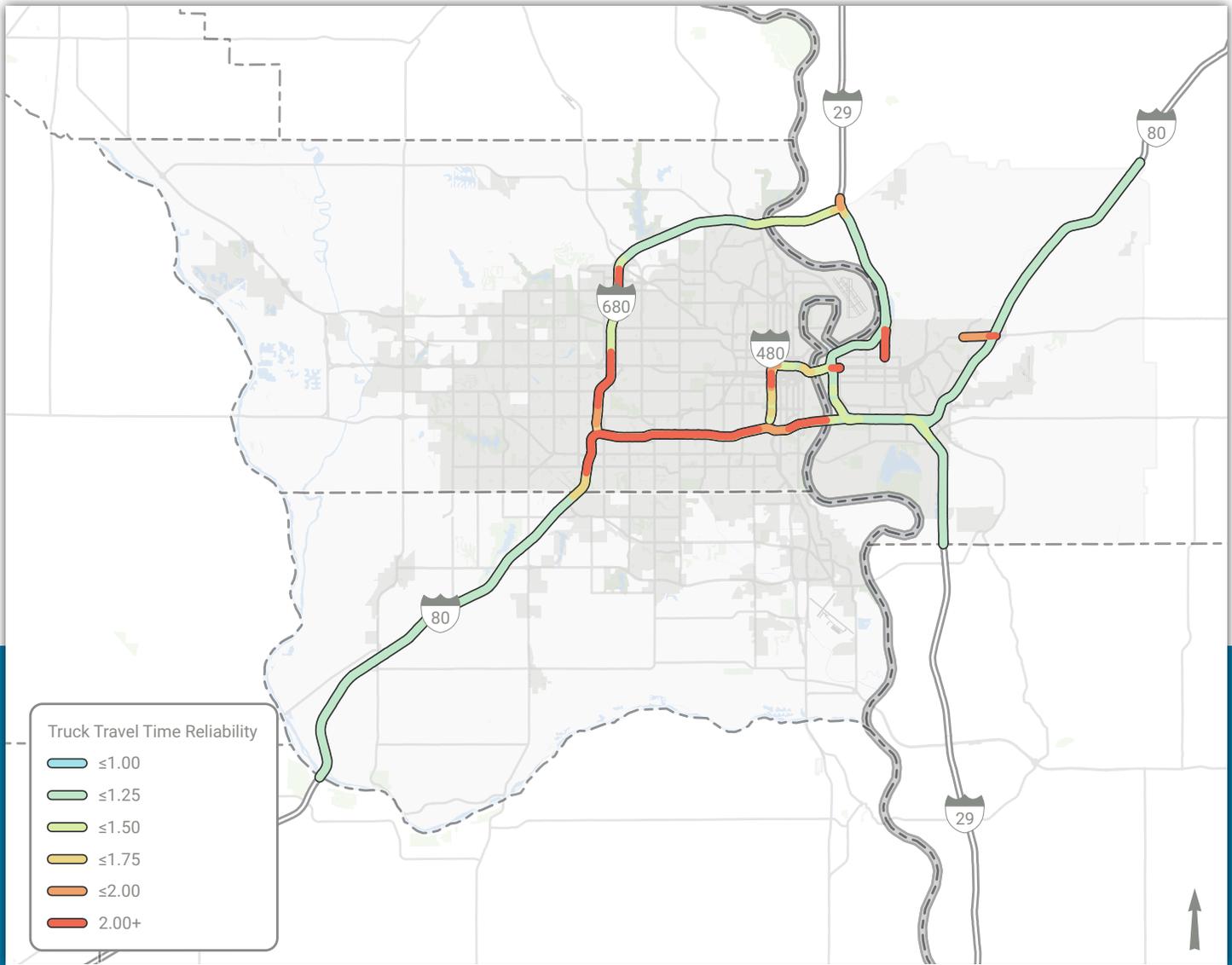
Crashes involving trucks place extra stress on the transportation system and impact the reliability of the region's interstate corridors in particular. The Iowa DOT Traffic Management Center reported in its 2019 Annual Report that:

Incidents involving a semi have the potential to be more impactful on traffic since they are a larger vehicle which may take additional time to clear. The TMC specifically tracks when an incident or crash involves a semi to better understand these traffic impacts.

The Iowa 2019 TMC reports that the average clearance time for a crash involving truck(s) takes on average 2 hours and 6 minutes to clear, whereas the average crash clearance time for District 4 is currently 1 hour and 14 minutes. One of the Federal transportation performance measures is the Truck Travel Time Reliability (TTTR), which assesses truck performance on the interstate system. Shown below in the figure is TTTR for 2019. These figures illustrate that the corridors with the highest levels of total traffic are also the least reliable corridors for freight. As such as we look ahead to the traffic growth forecast by MAPA's travel demand model, we can assume readily that these traffic increases will impact the reliability of truck travel times on these major corridors.



Figure 4.3: Average Annual Daily Trip Totals: 2012 and 2045 Projected



Goods Movement & Safety

In 2018 there were 400 regional heavy-truck and bus related crashes in the MAPA region. These crashes resulted in 7 fatalities or slightly more than 1 in 8 suffered in the MAPA TMA. In 2019 there were 440 crashes resulting in 8 fatalities—maintaining the same rate as in 2018. As truck and other motor vehicle volumes grow, so will crashes, unless steps are taken to mitigate the impacts of this growth. For example, the stretch of I-80 south of Honey Creek was estimated in the FAF4 database as having a baseline Annual Average Daily Truck Traffic (AADTT) of 2,814 out of 17,800 total Annual Average Daily Traffic (AADT). The current traffic log book reports heavy truck and bus volumes at 3,143 (an 11.7% increase) while AADT remained constant at 17,800. The estimated truck traffic in 2045 for this segment is 6,778 AADTT and an AADT of 42,875. Whether or not these volumes are actually realized, even just doubling the number of trucks on the interstate will assuredly result in an increased safety and efficiency challenge.

In addition to safety on interstate highways, Connect-GO and this LRTP 2050 consider future development,

and the safe integration of freight. Some of this planning results in characteristics of future transportation infrastructure, but it also must consider detours for incidents, or diversion during prolonged planned or unplanned impacts (such as flooding). Safety also includes a continued focus on safety where freight interacts with communities, such as at-grade railroad crossings, and first and last mile delivery. Safety and the security of the transportation system are therefore a result of established coordination between communities and partner stakeholders involved in maintaining the transportation network, and providing public safety services.

Finally, there is an ever-growing network of data and information feeds that can be used to predict, identify, and minimize the impact of incidents on the region's roadways. Rather than reacting, this data, combined with tools to analyze and present necessary information for travelers and decision makers should make it possible to reduce the frequency, size, and risk of secondary crashes from incidents.

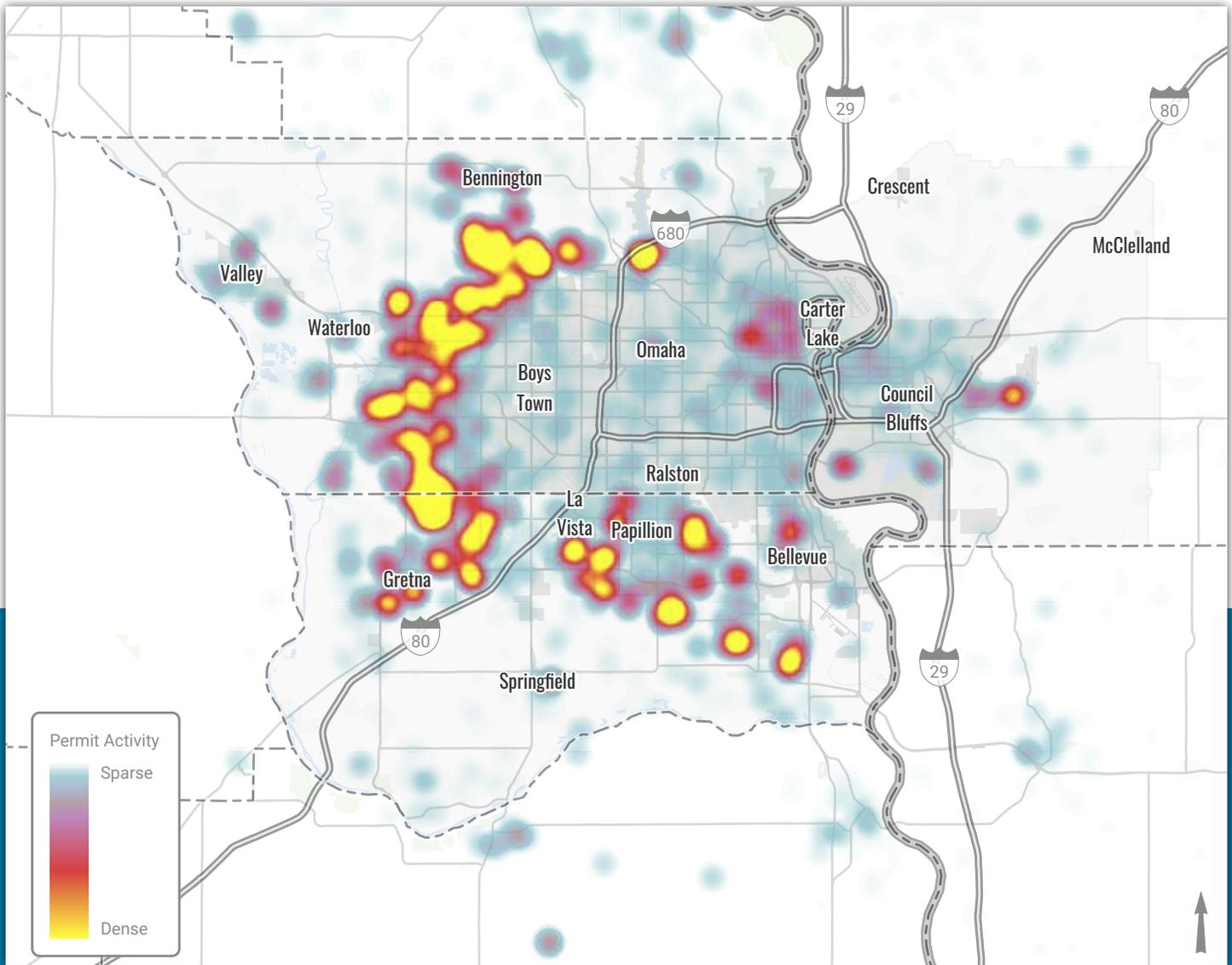
4.2 COMPACT GROWTH & FISCAL HEALTH OF COMMUNITIES

In times of increasing fiscal strain, continued growth will require leaders to use what we have efficiently and spend public funds wisely. Infill and redevelopment strategies are needed to improve existing communities, and add more jobs, housing, transportation and important services that revitalize existing cities, towns and neighborhoods. Currently, infill development accounts for a smaller share of overall growth in the MAPA region, but in other regions with policies in place to encourage this kind of investment,

infill can represent 20-30% of overall growth. The total permit activity shown in the map below illustrates how most of the growth in the MAPA region has occurred at the fringe of existing development in suburban areas of the region. Managing this growth and balancing it with infill and redevelopment strategies during the next 20 years is crucial to reducing the fiscal burden of infrastructure required to support this low-density pattern of development.



Figure 4.4: Regional Building Permit Activity, 2010-2019

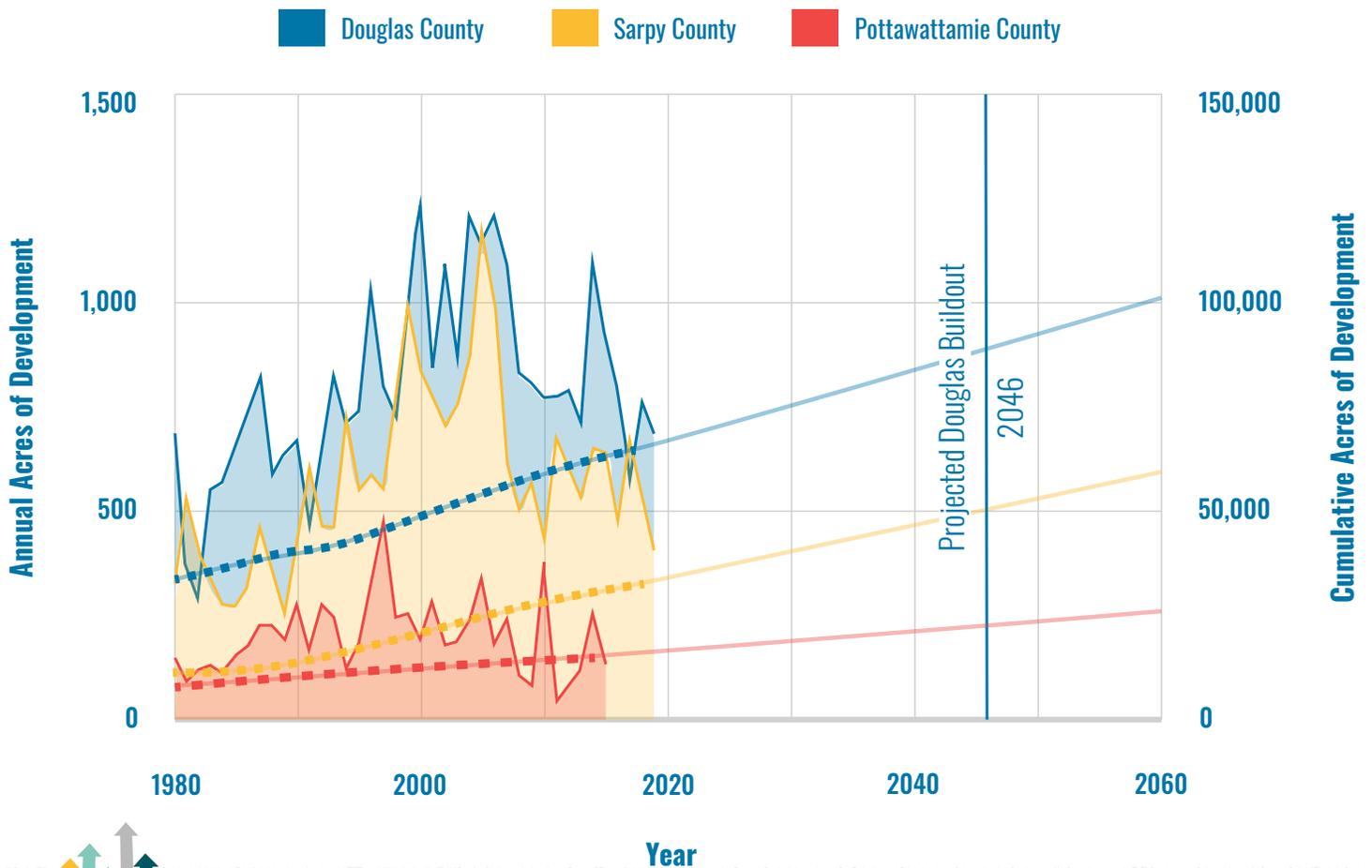


Growth and Development in the Omaha-Council Bluffs Region

Major transportation investments have a tremendous impact on the development patterns in a region. Likewise, the development patterns of a region shape the transportation investments that are most effective in moving goods and people. While MAPA is a transportation-focused agency we recognize that these two areas of local policy go hand-in-hand, supporting the quality of life for residents in our region and the fiscal health of our communities. MAPA's Regional Development Report tracks growth and development trends in the MAPA region in recent decades—analyzing local building permit and parcel data to analyze trends. This report examined available data in the region to assess how we are growing, what areas are being affected, and what conclusions we can draw about current development patterns.

Since 1980 the annual level of development has fluctuated at the county level. However, these annu-

al acres of development mirror national economic trends largely, most notably the housing crisis in 2008. Annual development activity has not yet returned to the levels seen prior to this recession. In spite of these fluctuations, cumulative development has seen a steady increase over time. Projecting this development outward and applying the linear trend to Greenfield Areas in the region we can forecast when the available land will be consumed. If we only developed remaining greenfield areas, Douglas County would be built out fully by 2046. Sarpy County, the fastest developing county in the region, would reach build out by 2078. When considering the portion of Pottawattamie County within MAPA's Transportation Management Area, the projection for full-build out is 2149. However, we believe it is likely that other parts of the county would attract some of that development and that this horizon is likely even further out.



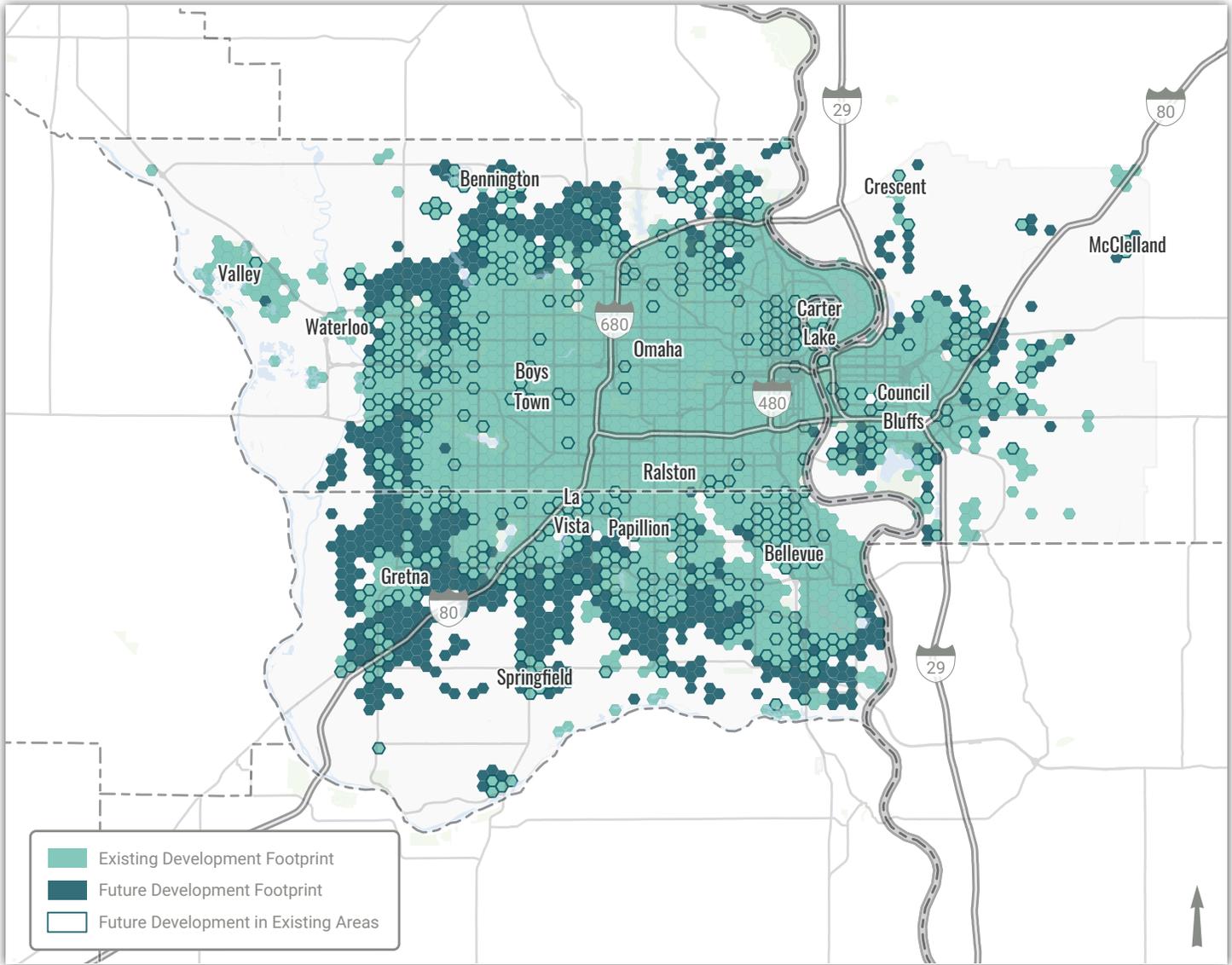
Compact Development & Infrastructure Cost Savings

Through its land use scenario planning during the Heartland 2050 visioning process, MAPA staff and regional leaders observed a relationship between the amount of infrastructure provided to neighborhoods throughout our region and the amount of people served by those investments. The density of development determines how many people are served by the streets, sewers, and other elements of infrastructure needed to support businesses and homes. These decisions about how our communities develop are crucial to ensure we can provide and maintain this infrastructure efficiently into the future. Although not all growth can take place in dense and clustered development (such as data centers, trucking, large construction -- which provide good jobs with high wages) prioritizing growth in this compact manner is important in moving toward the future.

These maps show existing and forecasted residential development density from low to high. The darker areas indicate higher levels of density. In the Heartland 2050 Vision scenario, the footprint of our region's development grows during the next 30 years; however, the development that does occur is more compact than the sprawling, trend scenario based on the last 40 years of development activity in the MAPA region. These shifts in land use are the result of communities in the region taking advantage of many redevelopment and infill opportunities and aligning local land use policies with these regional goals. MAPA has developed multiple future land use scenarios for the region that range from sprawling to dense conditions.



Figure 4.5: Current Development vs Heartland 2050 Vision Scenario



In 2017 the City of Omaha received technical assistance from Smart Growth America to develop a market assessment to evaluate the fiscal impact of development and readiness for Transit Oriented Development (TOD). This analysis looked at the cost of infrastructure such as roadways and utilities for typical development densities across the city. The

findings indicate that only in high density areas is the fiscal impact of development a net positive— that is, where the revenue generated by development exceeds the new infrastructure costs.

More information about the City of Omaha's Transit-Oriented Development policy and Technical Assistance Report can be found [here](#).



Fiscal Impact Summary (\$ in millions)

Source: Smart Growth America, 2017

Scenario	Comparable Neighborhood	People per acre	Cost of new infrastructure	Net fiscal impact*
Low Density	Suburban	7.8	\$240.0	-\$145.7
Medium Density	Midtown	15.0	\$106.7	-\$12.4
High Density	Downtown	30.0	\$68.9	\$25.4

* Cost of new infrastructure offset with additional tax revenue

This analysis helps us understand how we can support the fiscal health of our communities through more compact, higher density development throughout the region. Using the assumptions developed for the City of Omaha, MAPA estimated the potential added infrastructure cost of each future land use scenario for the region as a whole. These three scenarios

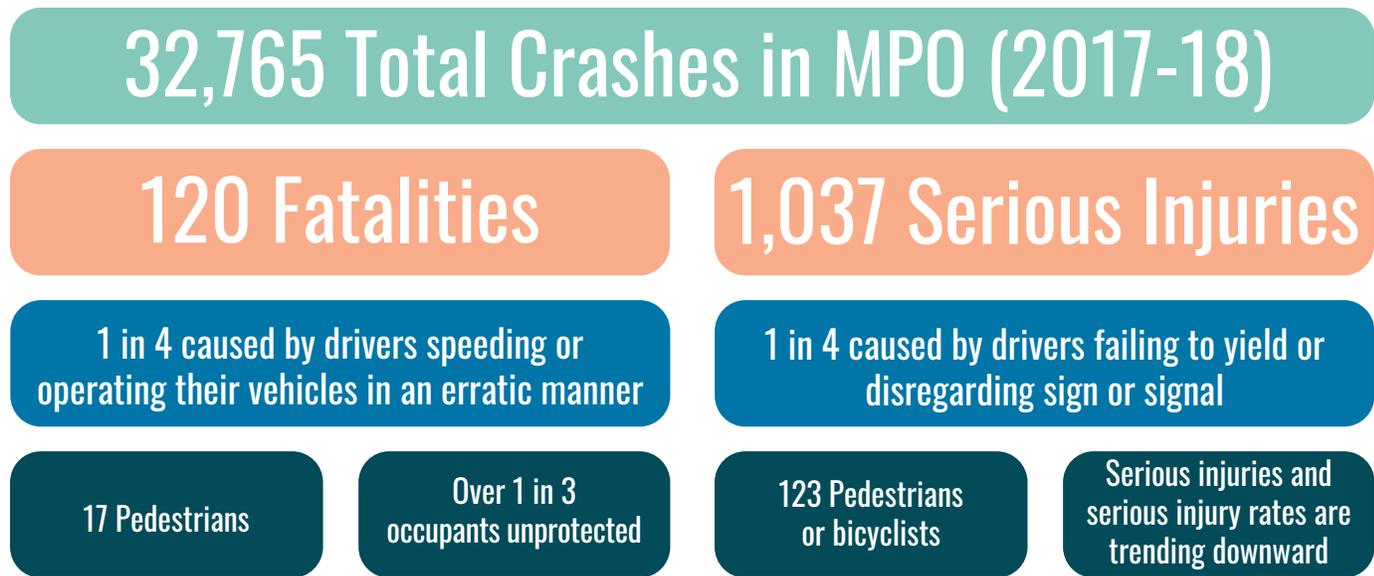
include assumptions for different land use densities and development types. However, the total population estimate (or control total) remains the same for each scenario so by comparing them we are able to assess generally the infrastructure cost of the differing development decisions.



Safety of the Regional Transportation System

Ensuring traffic safety is a crucial element of planning for our region's transportation system. Like our state and federal partners, MAPA's safety planning process focuses on the reduction of fatal and serious crashes. Crashes between motorists and other users of the roadway result in dozens of fatalities each year in the MAPA region—cutting short the lives and opportunities of people. Moreover, hundreds of serious injuries impact the daily lives and prosperity of people in the

region as well. Many factors combine to impact the safety of the roadway users, including the design of the roadway and behaviors of individual roadway users. This complexity can make prioritization difficult, and MAPA's safety planning activities in recent years have focused on identifying and prioritizing focus areas where state and local agencies can make an immediate impact.



MAPA Regional Safety Report

MAPA developed a Regional Safety Committee to bring new voices to the conversation about traffic safety and to assist with MAPA's safety performance management activities. This group brings together state DOT officials, traffic engineers, planners, and safety advocates from all parts of the MAPA region to discuss traffic safety trends and set priorities for the upcoming year. The work of this group resulted in MAPA's first Regional Safety Report to summarize

and visualize the crash data for the MAPA region and develop new insights about reducing the number of serious injury and fatal crashes in the region.

The Omaha-Council Bluffs area consists of urban and rural areas, each presenting their own safety issues. The tables and charts that follow summarize fatal and serious injuries to a number of different geographies. Urban areas tend to have more crashes than rural areas, however, in rural areas we observe a higher fatality and serious injury rate. Much of this

can be attributed to higher speeds in rural areas and lower overall traffic volumes on these corridors. As a bi-state MPO, this effort presented some challenges to unify the crash data between Iowa and Nebraska to make direct comparisons. However, the report illustrated that driver behaviors are a central cause of most serious injury and fatal crashes (when a cause is identified):

- Failure to Yield (18.4%)
- Operating in an Erratic Manner (16.5%)
- Failure to Keep in Lane or Running Off the Road (16.3%)
- Disregarding a Sign or Signal (10.8%)

The impact of driver behaviors becomes even more clear when the region’s crash data is broken down by time of day. MAPA summarized the region’s crash data by hour and day of the week to understand when most crashes have occurred. When looking at all crashes (including property damage only crashes), we noted that the pattern of all crashes mirrors the overall level of traffic on our region’s roadways. However, when we isolate fatal crashes we see that night and weekend hours have the highest incidences of fatal crashes. This time of day is associated with more reckless behaviors like excessive speeding and impaired driving (whether under the influence of alcohol or other drugs).

Crashes by Time of Day: All Crashes vs. Fatal Crashes

23.9% of all crashes

occurred between

4:00 p.m. and 7:00 p.m.

19.9% of serious injuries

occurred between

4:00 p.m. and 7:00 p.m.

17.0% of fatal and serious injuries

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sun	172	114	166	108	74	45	51	53	70	105	147	143	207	198	216	243	207	207	187	153	121	135	107	80
Mon	87	47	55	41	34	59	167	364	291	172	171	226	269	251	242	337	425	465	246	149	127	94	87	67
Tue	83	36	38	31	25	69	162	425	353	188	176	192	227	236	225	379	455	492	288	145	132	159	109	81
Wed	75	35	39	29	22	63	172	446	355	209	193	184	222	218	214	411	441	484	297	194	153	135	124	92
Thu	86	37	48	37	30	53	141	347	267	179	142	205	241	214	251	409	433	513	306	191	149	126	147	92
Fri	109	59	60	32	29	61	176	378	280	182	196	264	285	281	290	475	491	481	331	213	183	176	169	162
Sat	140	102	146	79	52	46	50	82	117	145	211	230	265	249	218	251	266	224	237	202	170	180	167	182

18.3% of fatalities

occurred on a **Friday**, and

17.4% of fatalities

occurred on **Monday or Sunday**

28.6% of Friday fatalities

occurred between

1:00 p.m. and 2:00 p.m.

20.9% of bike and pedestrian fatalities and serious injuries

occurred between

5:00 p.m. and 8:00 p.m.

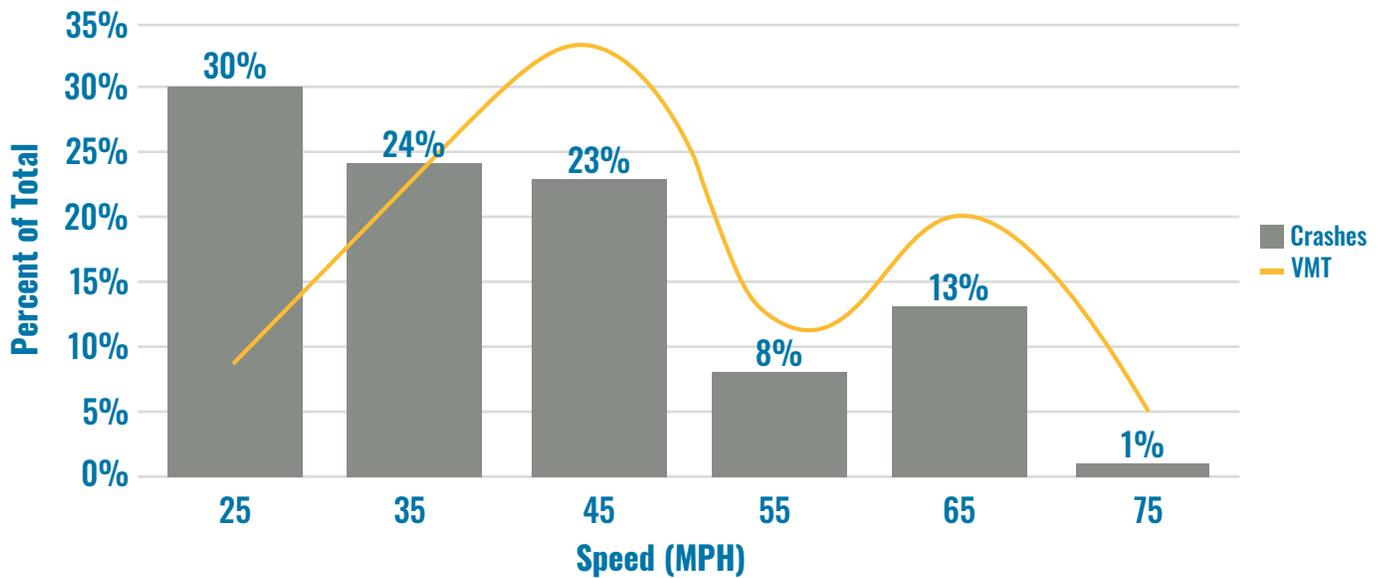
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sun	3	2	0	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	1	1	0	0	0	1
Mon	2	0	0	0	1	0	0	1	1	3	0	1	0	1	0	2	4	2	1	0	0	0	0	1
Tue	1	1	0	0	0	1	0	1	0	0	1	0	0	1	2	0	0	0	0	0	0	1	2	0
Wed	0	1	0	0	0	1	2	1	1	0	0	0	2	1	1	0	0	1	0	1	0	1	0	0
Thu	0	0	1	0	1	0	3	1	1	0	0	1	0	2	0	1	1	2	1	1	0	0	3	0
Fri	0	0	0	2	1	0	2	1	1	0	0	0	0	6	0	0	0	2	0	0	0	1	0	4
Sat	0	1	3	0	0	0	0	0	1	0	0	0	0	0	0	1	2	2	4	2	1	0	0	3



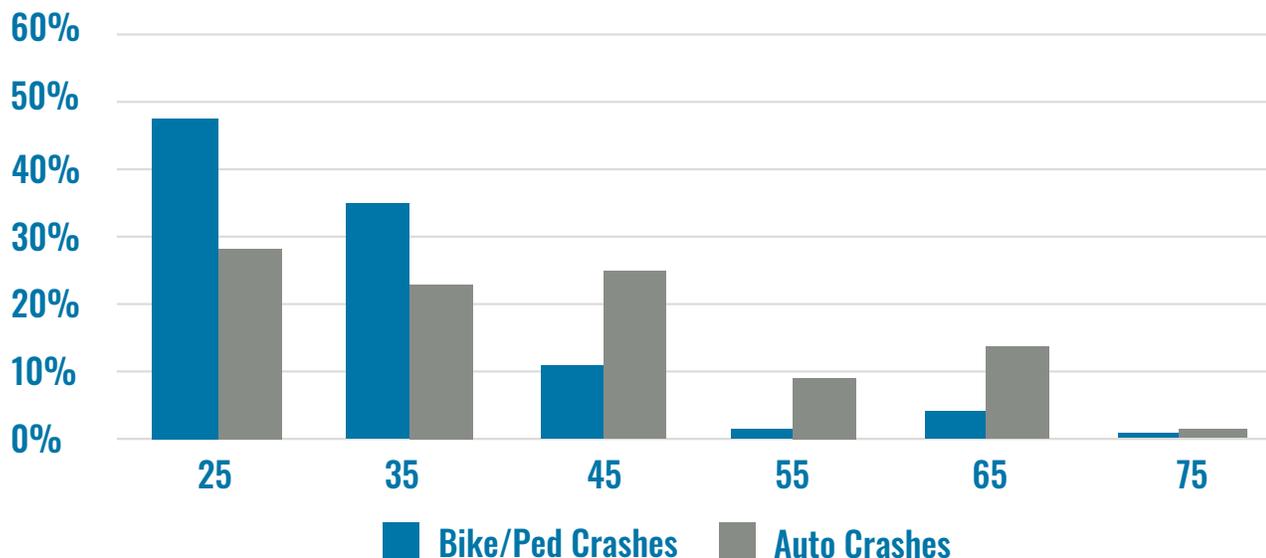
Another focus of the Regional Safety Report was to better understand the role that vehicle speeds play in contributing to the seriousness of crashes—particularly of vulnerable roadway users like pedestrians and cyclists. By analyzing the posted speed limit of the roadways on which crashes occurred, MAPA staff were able to show the percentage of fatal and serious crashes that occurred on roadways with different posted speed limits. Crashes that occur on higher-speed facilities (such as freeways, expressways, and arterials) have a greater chance of resulting in

fatalities or serious injuries. However, there are more total miles of local roads in the region, and statistically more serious crashes happen on these facilities. Importantly, most crashes with vulnerable roadway users such as cyclists and pedestrians occur on lower speed facilities with less traffic—including 68% of fatalities of children 12 and under occurring on neighborhood streets. These facts reinforce the strategies discussed previously about operating speeds in these areas to reduce the severity of crashes that do happen.

Serious and Fatal Crashes by Speed Limit



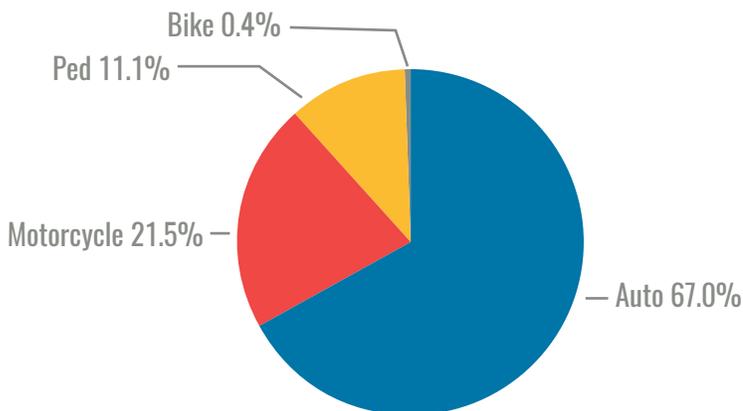
Serious and Fatal Crashes by Mode



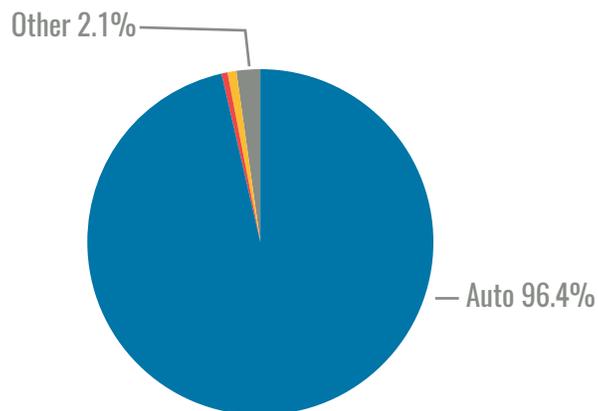
Another key finding in the Regional Safety Report was that vulnerable roadway users such as pedestrians and motorcyclists comprise a larger share of the number of fatalities on our region’s roadways than they do a proportion of total traffic. While the number

of pedestrian serious injuries has trended downward in recent years, fatalities have increased—a worrying trend that has been observed across the state of Nebraska.

Fatalities By Mode



Commute Mode



On-Going Safety-Related Efforts

MPOs have an important role in supporting federal and state priorities at a local level, and helping to develop and implement regional policies on the many issues that affect the transportation system. In addition to the MAPA Regional Safety Committee, other examples of MAPA's on-going safety efforts include the agency's participation in Transportation Incident Management (TIM) meetings and administration of the Metro Area Motorist Assistance Program (MAMA). MAPA also works to implement its safety performance measures through the project selection criteria for its regional Surface Transportation Block Grant (STBG) and Transportation Alternative Programs (TAP) funding programs. A summary of these criteria is included in the sidebar.

Surface Transportation Block Grant (STBG) The Crash Severity Index (CSI) rates the severity of a crash based upon factors relating to the injuries sustained by those involved.

Likewise, Crashes per Million Vehicles seeks to quantify safety issues in the transportation system. By factoring these crashes per million vehicles, the Project Selection Committee (ProSeCom) can compare more effectively the locations that have significant crash issues, and assign priority accordingly.

Crash Severity Index of the facility – 1-5 pts

Crashes per Million Vehicles - 1-5 pts



Factor	Weight	Selection Criteria	Data Source	Buffer (if applicable)
Support	5	Local Match %	Project Application	--
		Multi-Jurisdictional/ Partnerships	Project Application and Documentation	--
Safety	7	Physical Separation of Proposed Facility	Project Application and MAPA Review	--
		Density of Pedestrian Crashes (Pedestrian Crashes (2011-2013)/ Route Length)	NDOR Highway Safety Improvement Database; ITRANS Crash Database	--
		Posted Speed Limit	Project Application and MAPA Review	--
		Future Traffic Volume (ADT)	MAPA Travel Demand Model	Volume within Project Corridor
Demand	6	Population density within 1/2 mile	MAPA Land Use Activity Allocation Model (LUAAM)	1/2 Mile
		Employment density within 1/2 mile	MAPA Land Use Activity Allocation Model (LUAAM)	1/2 Mile
		Proximity to Schools (including Universities)	INFOGROUP data and MAPA Review	1/4 Mile
Connectivity	9	Level of Transit Service	Metro Transit	1/4 Mile
		Connectivity to Existing Facilities	MAPA Regional Bicycle-Pedestrian Master Plan	1/4 Mile
		Connectivity to MAPA Priority Corridors	MAPA Project Selection Committee (ProSeCom)	1/4 Mile
Equity	6	Proximity to Environmental Justice Areas	MAPA Transportation Improvement Program (TIP)	Within EJ Area; partially within EJ area
		Community Access to a Vehicle (% No Vehicle Households)	2012 American Community Survey	1/2 Mile

Traffic Incident Management (TIM)

The Traffic Incident Management (TIM) Committee serves as the Multi-Jurisdictional Safety Team for the Omaha-Council Bluffs region. TIM meetings are designed to help first responders, traffic engineers, tow trucking companies, and freight companies improve safety coordination across state lines by providing them with a space to discuss traffic crashes that have happened recently and potential improvements to future crash responses. These meetings have been important particularly during major construction projects in the city of Omaha and Sarpy County, and are part of the ongoing Council Bluffs Interstate System (CBIS) project. Continued coordination with these partners is an important strategy for maintaining the safety of the region's busiest roadways and for managing congestion caused by crashes.

As big data grows and tools are developed to present the traffic and infrastructure conditions, users and maintainers of the region's transportation network are better informed continually. The inherent risk becomes individual platforms making individual recommendations to drivers when these decisions impact the region as a whole. Although typically thought of as just response to interstate and railroad incidents, the floods of 2019 showed that the loss of bridges and roadways caused a major shift in traffic patterns, impacting local main streets without access to control measures and information systems available to other larger metro areas.

Metro Area Motorist Assist (MAMA)

The MAMA program provides assistance to stranded motorists on highways in Douglas and Sarpy Counties, while Council Bluffs and Pottawattamie County participate in the Iowa DOT

motorist assistance program called Highway Helpers. The work of the MAMA program is coordinated by the Nebraska Department of Transportation and Nebras-

ka State Patrol from the District Operations Center in Omaha. Assistance from these programs comes in many forms, including transport to purchase fuel, fixing flat tires, and removing debris from the roadway—functions which contribute greatly to the safety of the traveling public. These services are important safety initiatives that reduce the number of crashes on the roadway and provide assistance to those who experience issues while traveling the region's highways.

Block Talks

A walk audit, a.k.a. Block Talk, is a facilitated walk that surveys the active transportation environment of a community for ways to make it more safe, enjoyable, and convenient for all. MAPA has conducted more than 10 Block Talks with neighborhood leaders and public officials to understand what pedestrians and cyclists face while navigating a corridor. The Block Talk Tool-Kit focuses on three key areas where community input can be gathered to support improvements to safety at the neighborhood scale:

- **Programs** are community-driven efforts to raise awareness and create support for improvements in the neighborhood environment. These programs are usually quick to start and low cost. Programs can educate neighborhood residents, city officials, local organizations, and nonprofits about an issue affecting the wellbeing of the neighborhood as well as help to create more concrete plans for change.
- **Projects** are neighborhood-level actions that work to change the behavior of residents and others who use the streets, sidewalks, and neighborhood space. Projects might have the goal of encouraging more walking and bicycling, such as completing sidewalks or improving crosswalks; making the environment safer for residents through traffic calming efforts to reduce the speeds of vehicles or adding lights and cameras in alleys to ensure safety at night; or beautifying



an area by planting trees, putting up benches, etc. to encourage more outdoor activity.

- **Policies** are meant to reflect the long term goals of the neighborhood and address things that may have been poorly designed in the first place. Common plac- es neighborhoods look to foster long term behavioral change include making changes in zoning codes, rules and regulations for residential subdivisions, street standards, and standards for neighborhood schools as well as advocating that local businesses and organizations implement policies that promote the well-being of the neighborhood.

A recent partnership with the City of Omaha and Nebraska Department of Transportation has focused on the Maple Street corridor that has several distinct clusters of pedestrian fatalities and serious injuries. These efforts have brought neighborhood leaders, state decisionmak- ers, transit agency staff, and local leaders together to talk about ways in which the safety of the corridor can be improved. MAPA is working with other communities to identify other potential corridors that could benefit from the block talk strategy as well.

Air Quality & Economic Competitiveness

Since 2011 MAPA and local public health stake- holders have been concerned about the amount of ground-level ozone in the atmosphere during the summer months. Ground-level ozone is a pollutant that can cause a variety of health problems including chest pain, coughing, throat irritation, and conges- tion. Particularly susceptible are young children, the elderly, people with prior lung problems like emphyse- ma, bronchitis, and asthma, and, to a lesser degree, otherwise healthy individuals who work or exercise outdoors. Ozone at ground-level can harm sensitive vegetation, including crops and ecosystems too.

Little Steps, Cleaner Air Campaign

Ground-level ozone interacts with MAPA's transporta- tion planning process in many ways. Notably, motor vehicle emissions add carbon monoxide (CO), nitrous oxides (NO_x), sulfur oxides (SO_x), hydrocarbons, vola- tile organic compounds (VOC), and particulate matter (PM) to the atmosphere in addition to CO₂— a com- mon greenhouse gas. Two of these chemicals—NO_x and VOCs—combine during hot weather to create ground-level ozone.

Recent studies show that humans are impacted more negatively by ground-level ozone pollution than was understood previously. This has led the Environmen- tal Protection Agency (EPA) to reconsider the current air quality standard for ground-level ozone, most re- cently in 2015. While the MAPA region's "design value" (or average of the highest ozone readings over three- years) has remained below the standard, community leaders have been concerned about "non-attainment" of the ozone standard due to the severe impacts it would have on both the public and private sectors in the region beyond the severe public health impacts. These include:

- Stricter pollution controls that can create serious economic development consequences
- Increased paperwork and reporting for business
- More state oversight and control by the EPA
- Possible limits to transportation improvements that get funded



Guide to Air Quality Index Categories



MAPA's Little Steps, Cleaner Air ozone awareness campaign (formerly Little Steps, Big Impact) focuses on the fact that more than half of the emissions that cause ground-level ozone come from daily activities and products we use. By providing "little steps" that the public can take (like "switching a trip" to a non-polluting mode, mowing during the cooler hours of the day or using cleaner biofuels), the Little Steps campaign aims to provide members of the public with actionable information to guide their day. Furthermore, in partnership with the local public health authorities, MAPA publicizes areas of moderate AQI as "ozone action days"—days in which people should be mindful of the activities they take part in even before ozone levels become hazardous.

Electric Vehicle Infrastructure

One important strategy for reducing harmful emissions from the transportation sector is the electrification of vehicles. During the last five years MAPA has taken part in a number of successful efforts to expand the number of electric vehicle charging stations around the region. Many of these efforts have focused on cooperative purchases of electric vehicle charging infrastructure. Additionally, MAPA was successful in securing the designation of US-6 from Council Bluffs to Gretna as an alternative fuel corridor through FHWA. These corridors are part of the national network of charging infrastructure along the NHS and provide more attention to the importance of alternative fuels to the transportation system.