

White Paper #2: The Statewide Importance of Addressing Traffic Congestion in the Twin Cities

January 27, 2020

It would be easy to assume that Twin Cities' highway congestion is solely a Twin Cities problem. However, congestion in the Twin Cities greatly impacts people and businesses across the state. This white paper identifies why making investments in Twin Cities' highways is an issue of statewide importance.

In the Minnesota Statewide Highway Investment Plan 2018-2037 (MnSHIP), the Minnesota Department of Transportation (MnDOT) directs capital resources for the next 20 years into 14 different investment categories. One of these investment categories is "Twin Cities Mobility" and includes, but is not limited to, investments in MnPASS lanes, new interchanges, and additional highway lanes. Funding in this MnSHIP investment category is directed to the MnDOT Metro District, which includes the eight counties surrounding Minneapolis and Saint Paul, where congestion and delay issues are the worst in the state.¹ The negative effects of Twin Cities congestion, however, impact residents and businesses across the entire state.

The required update of MnSHIP during 2021 and 2022 will provide an opportunity to further explore Twin Cities highway mobility needs as they relate to Governor Walz administration's One Minnesota vision. Some of the key observations on how investments in Twin Cities highway mobility projects have statewide benefits include the following:

1. Twin Cities highways are heavily used by residents from all corners of the state for professional sporting events, shopping, higher education, recreational opportunities, specialized medical care, and cultural events.
2. Around 360,000 workers travel into or out of the seven-county metro area each day to jobs.
3. The Minneapolis-St. Paul International Airport is one of the state's competitive advantages, featuring a Delta hub and nonstop air access to 163 domestic and international markets. Every day on I-494 in Bloomington near the airport alone there are 34,000 vehicles coming from Greater Minnesota, representing trips from 85 of the 87 counties in the state.² Highway congestion on routes leading to the airport detract from this competitive advantage.
4. Nearly 60 percent of all of the truck traffic in the state goes through the seven-county metropolitan area during some point of its trip.² Congestion in the metro area significantly gets in the way of supply chains for businesses across the state and affects Minnesota consumers through higher prices.

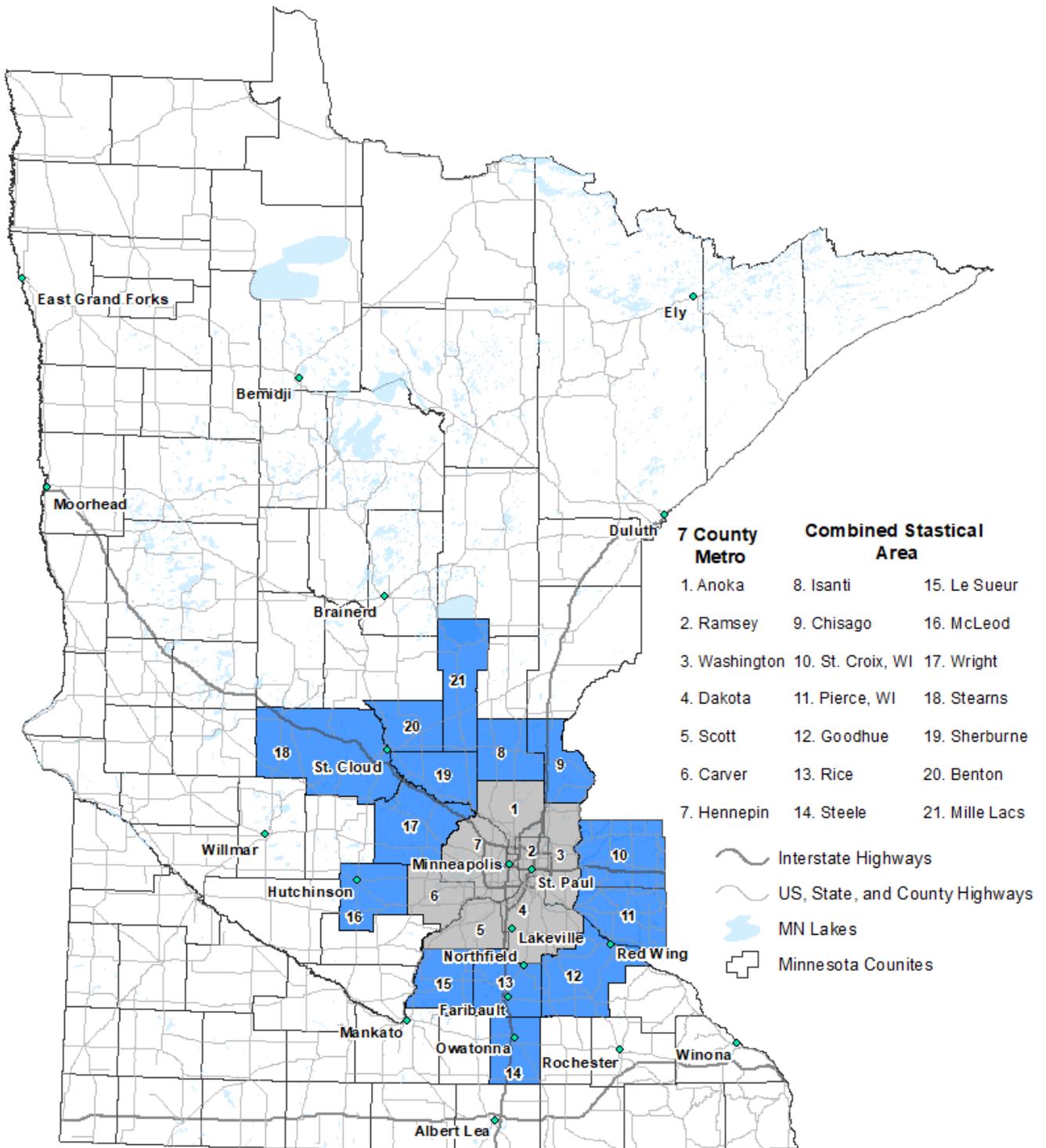
The 21-County Combined Minneapolis-St. Paul Statistical Area

The Twin Cities metropolitan area extends well beyond the traditional seven-county metropolitan area surrounding Minneapolis and St Paul. The 21-county Combined Minneapolis-St. Paul Statistical Area, defined by U.S. Census Bureau, captures a much larger metropolitan area based on social and economic interactions, including commuting patterns, wholesaling, commodities, and distribution activities (see Figure 1).

¹ Texas A&M Transportation Institute, "2019 Urban Mobility Report." August 2019.

² Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.

Figure 1: The 21 Counties in the Minneapolis-St. Paul Combined Statistical Area



Source: US Census Bureau.

A good example of these economic connections is the distribution center that Costco is constructing in Owatonna to supply Costco stores in the seven-county metropolitan area. The population of the Minneapolis-St. Paul Combined Statistical Area, about 4 million people in 2018, accounts for nearly 70% of the state's total population of 5.6 million. This area includes cities like Faribault, Northfield, Hutchinson, Owatonna, Red Wing, and St. Cloud.³

Twin Cities Congestion Impacting Residents from Across the State

According to 2018 data, drivers from across the state heavily use Twin Cities roadways (see Table 1 and Figure 2).⁴ For that reason, people across the state experience the negative effects of congestion within the metro area. When investments are aimed at reducing Twin Cities congestion, residents across Minnesota will also benefit from these improvements.

Table 1 shows the starting location of trips that traveled on six different Twin Cities highways on an average day in 2018. Table 1 includes the total average annual daily traffic (AADT), the heavy commercial average annual daily traffic (HCAADT), the percent of the total volume from both Greater Minnesota and the metro area, and the number of counties where a trip originates from on an average day.

Some highlights of this analysis include:

1. On all six of the roadways in Table 1, there are trips originating from 70 or more of the 87 Minnesota counties. As shown on Figure 3, there are trips from 86 of the 87 counties on I-94 in Maple Grove. On I-494 in Bloomington there are trips from 85 of the 87 counties.
2. Over 40% of the drivers on both Highway 212 in Cologne and I-94 in Maple Grove originated in Greater Minnesota.
3. The estimated traffic volumes on Twin Cities highways originating from Greater Minnesota are high: 20,000 Greater Minnesota drivers on Highway 169 in Shakopee; 34,000 on I-494 in Bloomington; and nearly 50,000 on I-94 in Maple Grove. These traffic volumes are higher than the total traffic volumes of almost any roadway in Greater Minnesota.
4. Twin Cities roadways are instrumental in the movement of freight trips originating from Greater Minnesota. On I-94 in Maple Grove and Highway 212 in Cologne, more than 50% of the total trucks travel to/from Greater Minnesota.
5. There are over 3,000 Greater Minnesota trucks on I-494 every day in Bloomington and nearly 7,000 trucks on I-94 in Maple Grove.

³ US Census Bureau, OMB Bulletin No 18-04, September 14, 2018

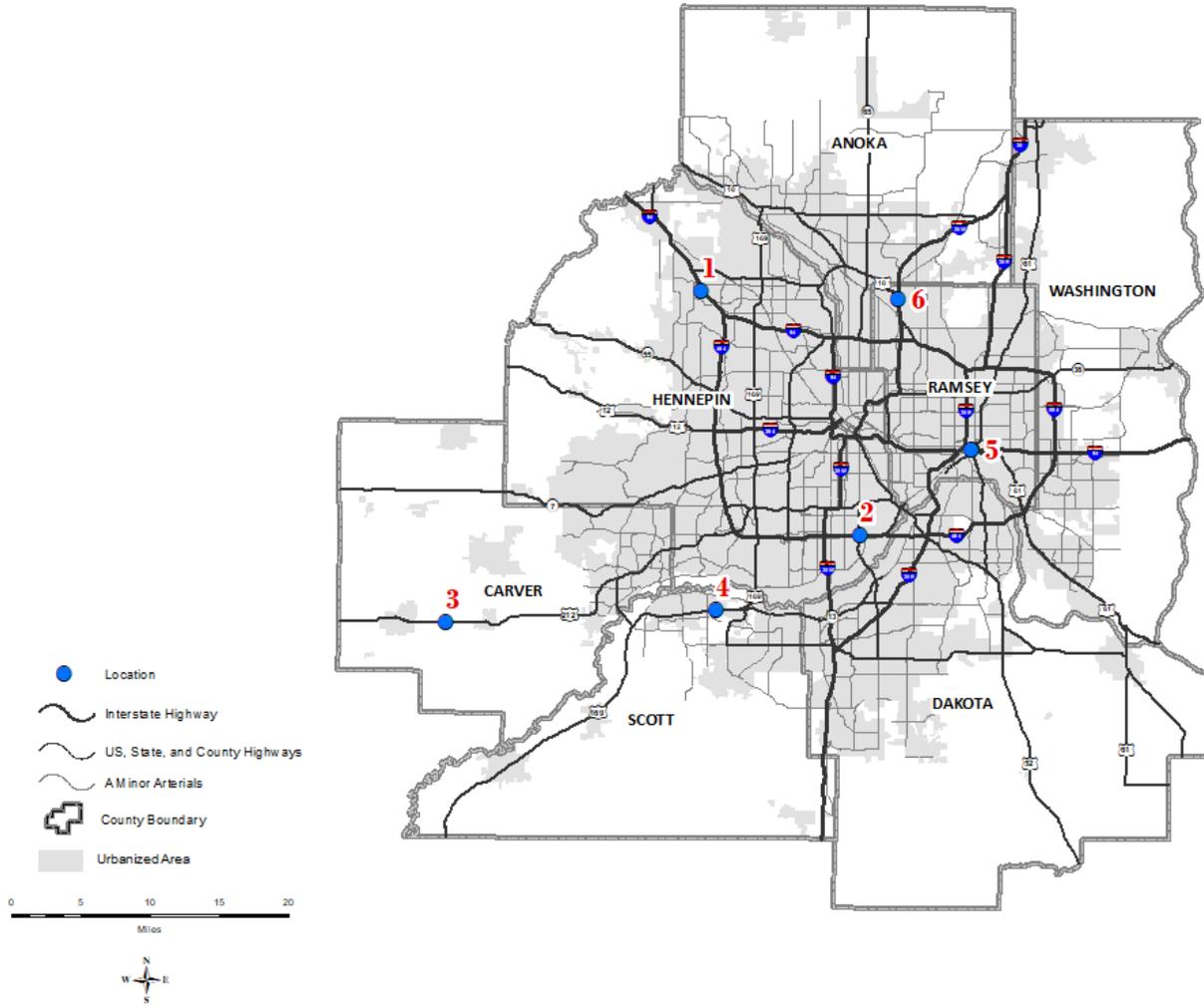
⁴ Based on Metropolitan Council analysis using StreetLight Insights, 2018 data

Table 1: Origin of Trips Using Twin Cities Roadways on an Average Day in 2018

All Traffic					Trucks	Only	
Location	Area	% of Total Volume	Estimated AADT	# of Counties Served	% of Total Volume	Estimated HCAADT	# of Counties Served
1. I-94 (Maple Grove)	7-County Metro	59%	70,210	7	43%	4,945	7
	Greater Minnesota	41%	48,790	79	57%	6,555	79
	Total	100%	119,000	86	100%	11,500	86
2. I-494 (Bloomington)	7-County Metro	77%	115,000	7	58%	4,350	7
	Greater Minnesota	23%	34,000	78	42%	3,150	76
	Total	100%	149,000	85	100%	7,500	83
3. Highway 212 (Cologne, Carver County)	7-County Metro	54%	6,858	7	44%	607	7
	Greater Minnesota	46%	5,842	63	56%	756	60
	Total	100%	12,700	70	100%	1,350	67
4. Highway 169 (Shakopee)	7-County Metro	79%	78,000	7	69%	3,450	7
	Greater Minnesota	21%	20,000	74	31%	1,550	71
	Total	100%	98,000	81	100%	5,000	78
5. Highway 52 (South of downtown Saint Paul)	7-County Metro	91%	72,800	7	75%	4,125	7
	Greater Minnesota	9%	7,200	71	25%	1,375	68
	Total	100%	80,000	78	100%	5,500	75
6. I-35W (Mounds View)	7-County Metro	87%	129,630	7	71%	5,325	7
	Greater Minnesota	13%	19,370	74	29%	2,175	72
	Total	100%	149,000	81	100%	7,500	79

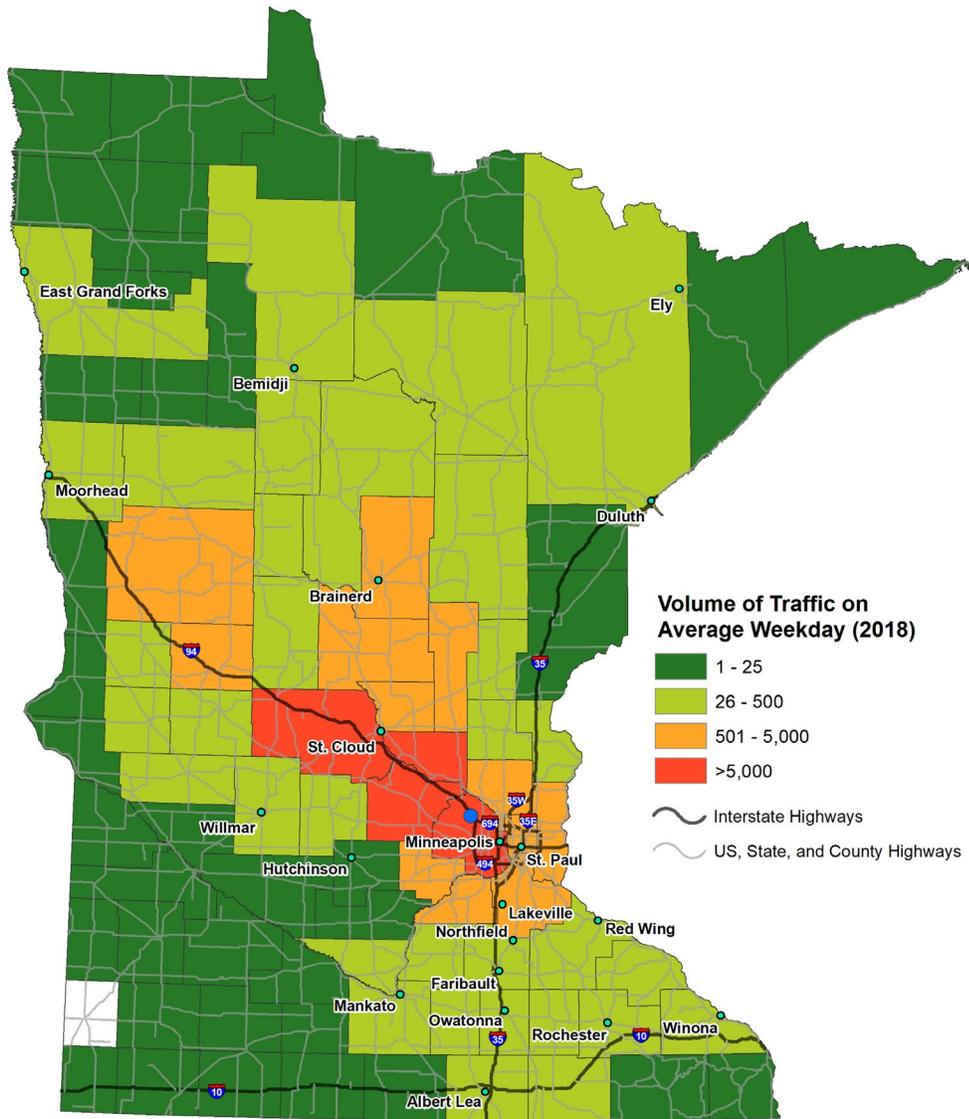
Source: Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.

Figure 2: Location of the Metro Area Corridors Examined in Table 1



12/13/2019

Figure 3: Origin of Traffic on I-94 in Maple Grove, 2018



Source: Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.

221,000 Workers Travel to the Metro for Employment

Approximately 14%, or 258,000 out of the 1,763,000 people, who work in the seven-county metro area live outside of it, according to U.S. Census Bureau's 2017 Longitudinal Employer-Household Dynamics (LEHD) data. Nearly 900 workers included in this number are from Greater Minnesota who travel to work at the Minneapolis-St. Paul International Airport.⁵ The 16 Fortune 500 companies in the Twin Cities are also a major draw for people traveling into metro for work.

As shown in Figure 4, most Greater Minnesota workers are coming from the 14 counties that are part of the Minneapolis-St. Paul Combined Statistical Area. For instance, Wright County has nearly 40,000 residents per day commuting to the seven-county metropolitan area. Given the anticipated population growth of the Twin Cities (500,000 more residents in the next 20 years) and the resulting increase in congestion, many Greater Minnesota residents may have trouble commuting to metro employers in a reasonable amount of time.⁶

Figure 5 shows there are approximately 102,000 Twin Cities residents who leave the metro area for jobs. This metro workforce is helping to keep businesses in Greater Minnesota strong and competitive. Collectively, there are 360,000 workers coming to or leaving the Twin Cities each day for work, showing the economic interdependence between the Twin Cities and Greater Minnesota, and supporting the need for efficient highway travel.

A Statewide Hub for Professional Sports, Shopping, Higher Education, Recreational Opportunities, Specialty Medical Care, and Cultural Events

Minnesota State Statute 174.01, Subdivision 2 identifies one of the state's transportation goals is "to encourage tourism by providing appropriate transportation to Minnesota facilities designed to attract tourists and to enhance the appeal, through transportation investments, of tourist destinations across the state."

According to Explore Minnesota's 2017 list of most visited tourist attractions, nine of the top 10 and 17 of the top 20 Minnesota tourist destinations are in the Twin Cities metropolitan area⁷. These Twin Cities attractions draw people from every corner of the state, the country, and the world. Mall of America tops this list with an estimated 40 million visitors in 2017. Cultural and civic destinations on the top 40 list include the Hennepin Avenue theaters, the Minnesota Zoo, the Minneapolis Institute of Art, the Science Museum of Minnesota, the Minnesota Children's Museum, and the Walker Art Center. Addressing congestion for Minnesota residents who want to access these tourist sites is important and directly ties back to a statewide goal.

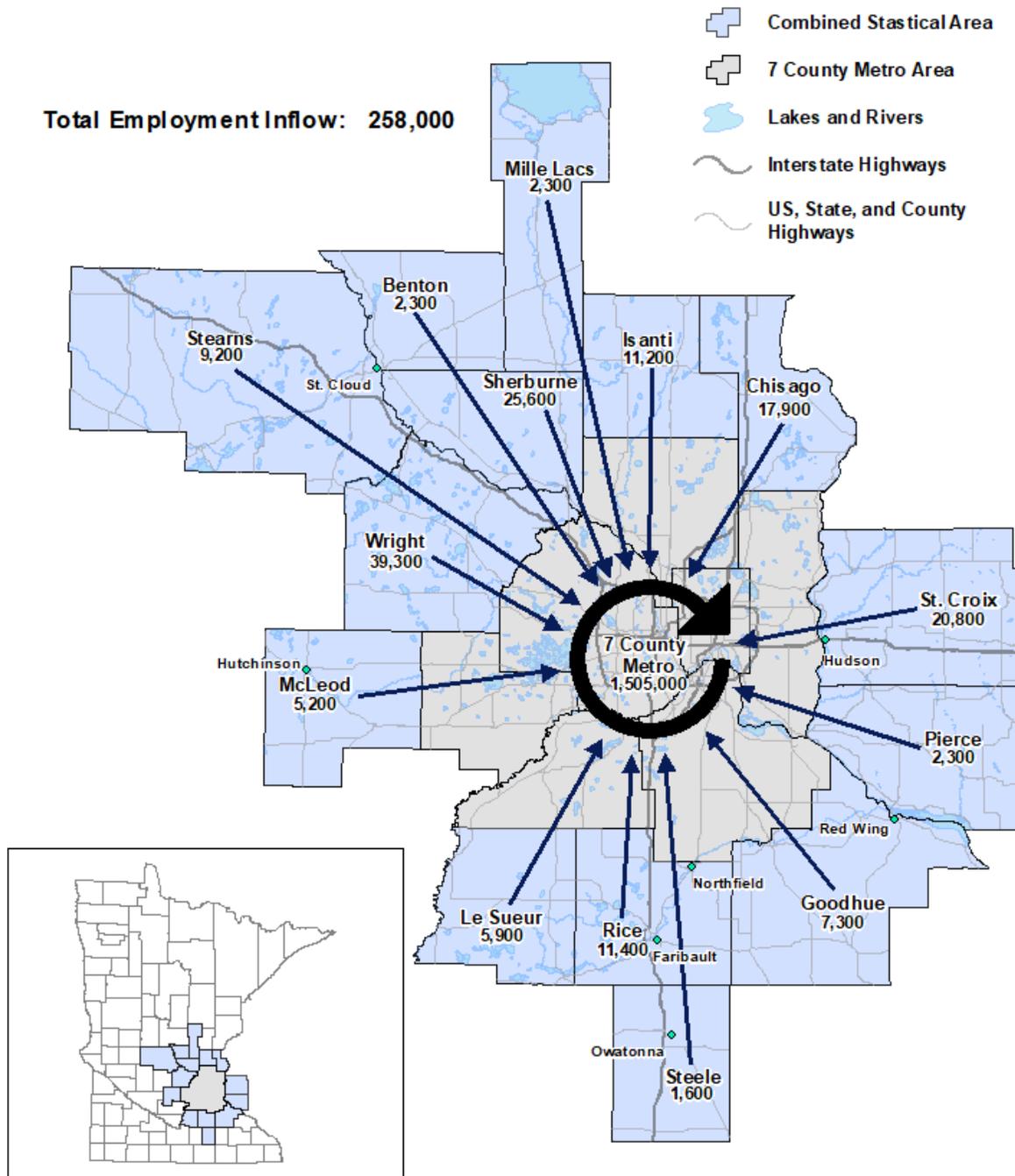
Visitors also frequent the state's professional sports teams that make their home in the Twin Cities. Destinations include Target Field, Target Center, Xcel Energy Center, and US Bank Stadium, which are all on the top 40 list. In addition, there are dozens of colleges and universities in the Twin Cities area that serve students from across the entire state. The largest is the University of Minnesota-Twin Cities, home to over 50,000 students.

⁵ International Arrival Passenger Point of Origin to MSP International Airport, 2018: https://mn.gov/tourism-industry/assets/2017-Annual-International-Arrival-Passenger-Point-of-Origin-to-MSP_tcm1135-370200.pdf

⁶ 2019 biennial population forecasts, Metropolitan Council.

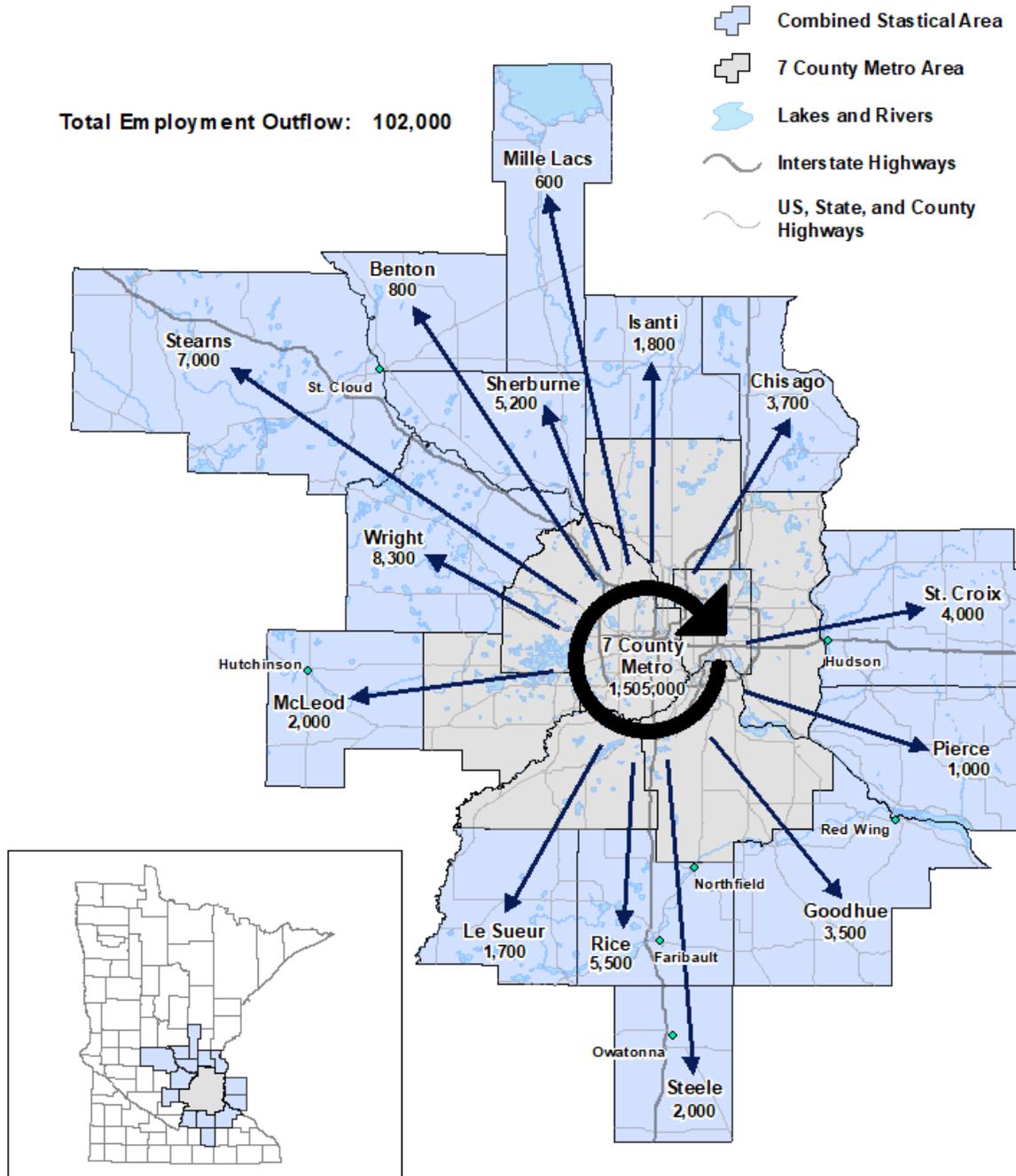
⁷ Explore Minnesota, "Top 40 Minnesota Tourist Attractions." October 2018.

Figure 4: Number of Employees Traveling to the Metro for Work (2017)



Source: US Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) data, 2017

Figure 5: Number of Employees Traveling from the Metro for Work (2017)



Source: US Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) data, 2017

People from across the state travel to the Twin Cities to receive specialized medical care. Medical centers like Children’s Minnesota, Abbott Northwestern, University of Minnesota Medical Center Fairview, St. Jude, or one of many cancer care centers like Saint Paul’s Regions Hospital provide that care. There are also three Level 1 Trauma Centers in the Twin Cities.

Whether traveling to a Twins game at Target Field, the state high school hockey tournament, an appointment at Children’s Minnesota, the State Capitol, or the Minnesota State Fair, congestion in the Twin Cities impacts people from across Minnesota. For travelers from Greater Minnesota, this means building in extra time for potential congestion or traffic incidents to avoid being late to a theater performance or an important medical appointment.

Tourism is a \$15 billion industry in Minnesota, according to Explore Minnesota’s 2018 Annual Report. That translates into about \$42 million per day⁸ and accounts for 270,000 full and part-time jobs in the state. Dollars spent at Twin Cities attractions flow back into the state budget to help all Minnesotans, generating nearly \$1 billion in state sales tax, 18% of the state’s total sales tax revenue,

Minneapolis-St. Paul International Airport

Over 1.1 million international travelers arrived at Minneapolis St. Paul International (MSP) Airport in 2017⁹. For out-of-state travelers, efficient travel from MSP Airport to canoe in the Boundary Waters, reach an appointment at the Mayo Clinic, or fish at Lake Mille Lacs is also important. If it becomes too difficult for international travelers to navigate congestion on Twin Cities roadways, it discourages tourists from returning, and they will take their tourist dollars to other states.

Beyond tourism, MSP airport is a significant competitive advantage for the state. According to a recent study conducted by the Metropolitan Airports Commission, the airport served over 38 million passengers in 2018 and has 163 nonstop markets (136 domestic and 27 international). Having a high number of nonstop flights makes MSP Airport a valuable asset for efficient personal and business travel. The 16 Fortune 500 companies located here along with other businesses rely on convenient access to other markets. These advantages can help attract residents and business to the state. “The airport’s 3,400 acres arguably comprise the most valuable economic generator between the St. Croix River and Seattle, supporting more than 86,900 jobs, \$15.9 billion in business revenue, \$3.7 billion in personal income, \$2.5 billion in local purchases, and \$546 million in state and local taxes.”¹⁰

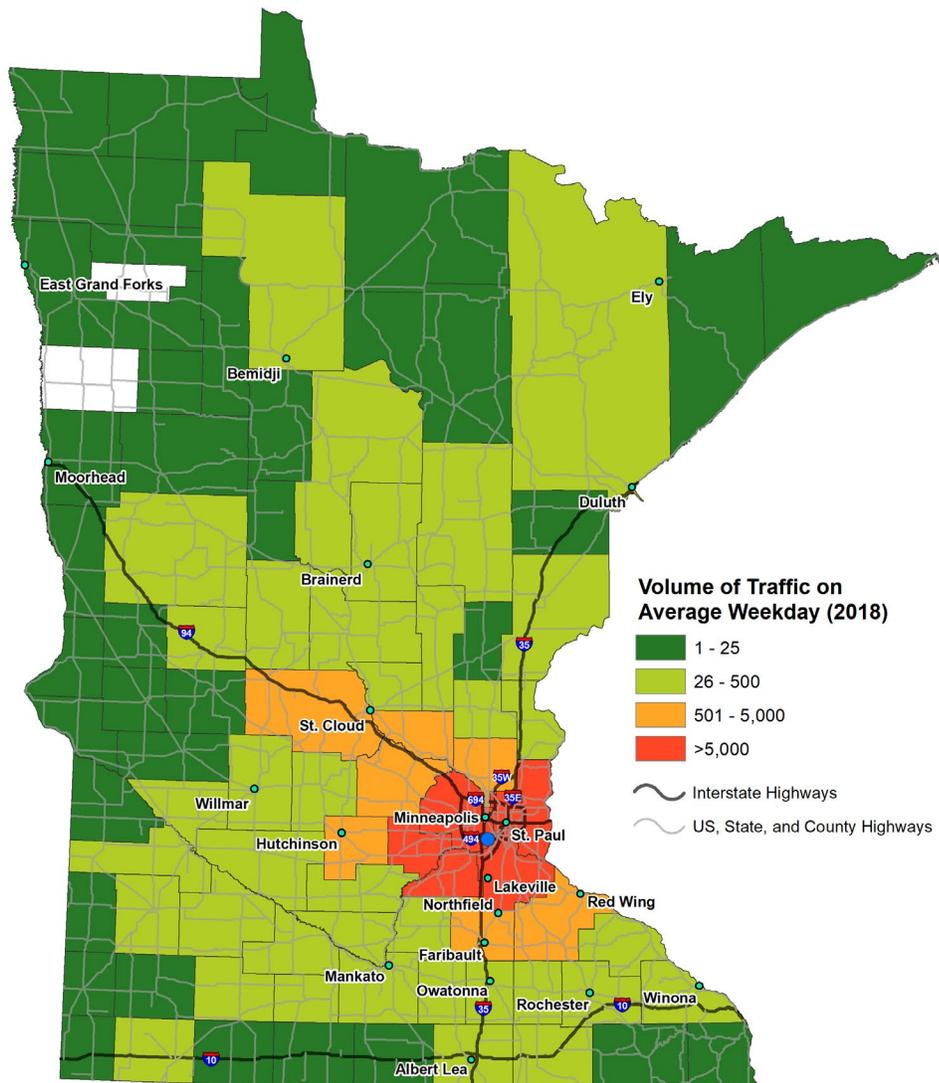
The roadways leading to Minneapolis-St. Paul International Airport are heavily used by travelers from all over the state. As shown on Figure 6, the stretch of I-494 west of the airport has approximately 149,000 vehicles per day with 23% of the vehicles originating in Greater Minnesota, that’s 34,000 vehicles per day. The vast majority of these Greater Minnesota trips originate from over 100 miles away.

⁸ Explore Minnesota, “2018 Annual Report.” www.leg.state.mn.us/docs/2019/other/190709.pdf.

⁹ International Arrival Passenger Point of Origin to MSP International Airport, 2018: https://mn.gov/tourism-industry/assets/2017-Annual-International-Arrival-Passenger-Point-of-Origin-to-MSP_tcm1135-370200.pdf

¹⁰ Minneapolis-St. Paul International Airport: Economic Impact of its Operations 2016: [https://www.mspairport.com/sites/default/files/2017-09/MSP%20Economic%20Impact%20Study%202016%20FINAL%20DRAFT%20REPORT%20\(14Sep2017\).pdf](https://www.mspairport.com/sites/default/files/2017-09/MSP%20Economic%20Impact%20Study%202016%20FINAL%20DRAFT%20REPORT%20(14Sep2017).pdf)

Figure 6: Origin of Traffic on I-494 in Bloomington near MSP Airport



Source: Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.

On an average day on I-494 near the Airport, there are trips originating from 85 of the 87 Minnesota counties. Getting stuck in unexpected congestion on the way to the MSP airport can be costly if it causes a traveler to miss a flight. Costs may include flight change fees and/or an extra night in a hotel near the airport, not to mention missed reservations, like a cruise ship departure, at the traveler's ultimate destination.

Statewide Freight and Economic Ties to the Metro Area

A Local Example

Freight interviews conducted as part of Carver County and MnDOT's Highway 212 Corridor Access Management, Safety, and Phasing Plan, brought to light the interdependence of the Twin Cities and Greater Minnesota businesses. Highlights of the 2014 interviews included the following responses from Greater Minnesota companies:

1. 3M in Hutchinson noted the importance of efficient freight shipments through the Twin Cities, especially along Highway 212 in Carver County. "Many production inputs at our 1,500-person Hutchinson facility come via the Highway 212 corridor. Any delay in receiving these inputs hurts our bottom line."¹¹
2. Specialty Systems, a Granite Falls-based manufacturer, identified the global nature of their supply chains and the importance of Twin Cities roadways in the success of their business. The company requires inputs to production from across the United States and then ships finished products worldwide.
3. Southern Minnesota Beet Sugar in Renville remarked that supplies and parts are often shipped on the same day from the Twin Cities to their facility in Renville. Congestion delays in the metro can impact production. The company is also producing a perishable product, liquid sugar, so timely delivery of finished products is also key.

The use of StreetLight data further highlights the importance of Highway 212 to the state and specifically to western Minnesota (see Figure 7). Greater Minnesota contributes 46% of all traffic along this corridor near Cologne, with over 5,800 daily trips on an average weekday.¹² McLeod County in Greater Minnesota produces the highest percentage of traffic along this corridor, comprising nearly 20% of all traffic. Further, more than 83% of trips were greater than 10 miles, indicating that this corridor is used for longer, regional, or statewide trips. In addition, 56% of the truck trips in this location (750 trucks per day) originate in Greater Minnesota.

Statewide Freight Flows

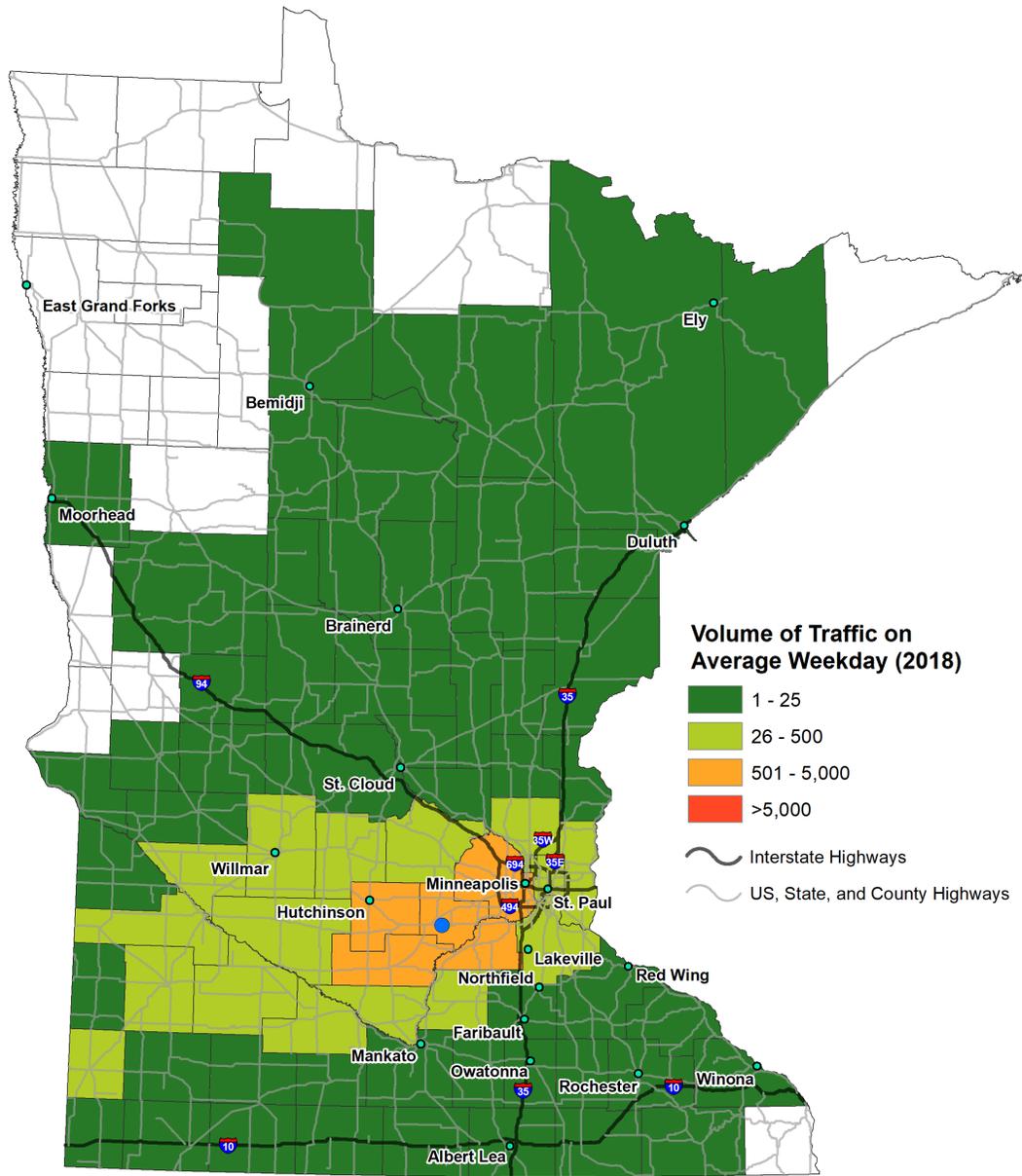
Nearly 60% of the trucks traveling in Minnesota enter the seven-county metropolitan area during their trip.¹³ Approximately 80% of all freight traffic that enters the metro area has a destination within the metro area, and the remaining 20% is passing through to other destinations. I-94 is the most used roadway for truck freight entering and exiting the metro area, followed by I-35.

¹¹ Freight Interviews: TH 212 Corridor Access Management, Safety, and Phasing Plan, September 26, 2014.

¹² Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.

¹³ Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.

Figure 7: Origin of Trips Using Highway 212 in Carver County



Source: Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.

Figure 8 shows the origin and destination of Minnesota freight trips on an average day in 2018. It clearly displays the importance of the Twin Cities to statewide freight movements. These freight flows also suggest:

1. Greater Minnesota businesses heavily rely on inputs to production that are either supplied by other businesses in the Twin Cities or are flown into MSP Airport. These are then trucked to a Greater Minnesota facility.
2. The Twin Cities is a market of three million plus people who purchase finished products manufactured in Greater Minnesota. Other finished products from Greater Minnesota manufacturing facilities are trucked to MSP Airport and then shipped overseas.
3. Greater Minnesota consumers benefit from products manufactured in the Twin Cities and trucked to Greater Minnesota retailers.
4. Greater Minnesota businesses use the state's only two rail-to-truck container terminals, which are in the Twin Cities.

Without adequate investment in Twin Cities highway mobility, problems with truck reliability and congestion through the metro area will increase, leaving the state at a competitive disadvantage. According to National Transportation Research Nonprofit TRIP, "the delivery of freight is expected to increase rapidly as a result of economic growth, increasing demand, growing international trade, changing business and retail models, and a significantly increased reliance on e-commerce by businesses and households."¹⁴ This report estimates that the weight of truck freight shipped in Minnesota will increase by 43% by 2045, while the value of truck freight will increase by 75%. Given that most truck freight goes through the metro area during its trip, investments in Twin Cities mobility will benefit businesses and consumers statewide.

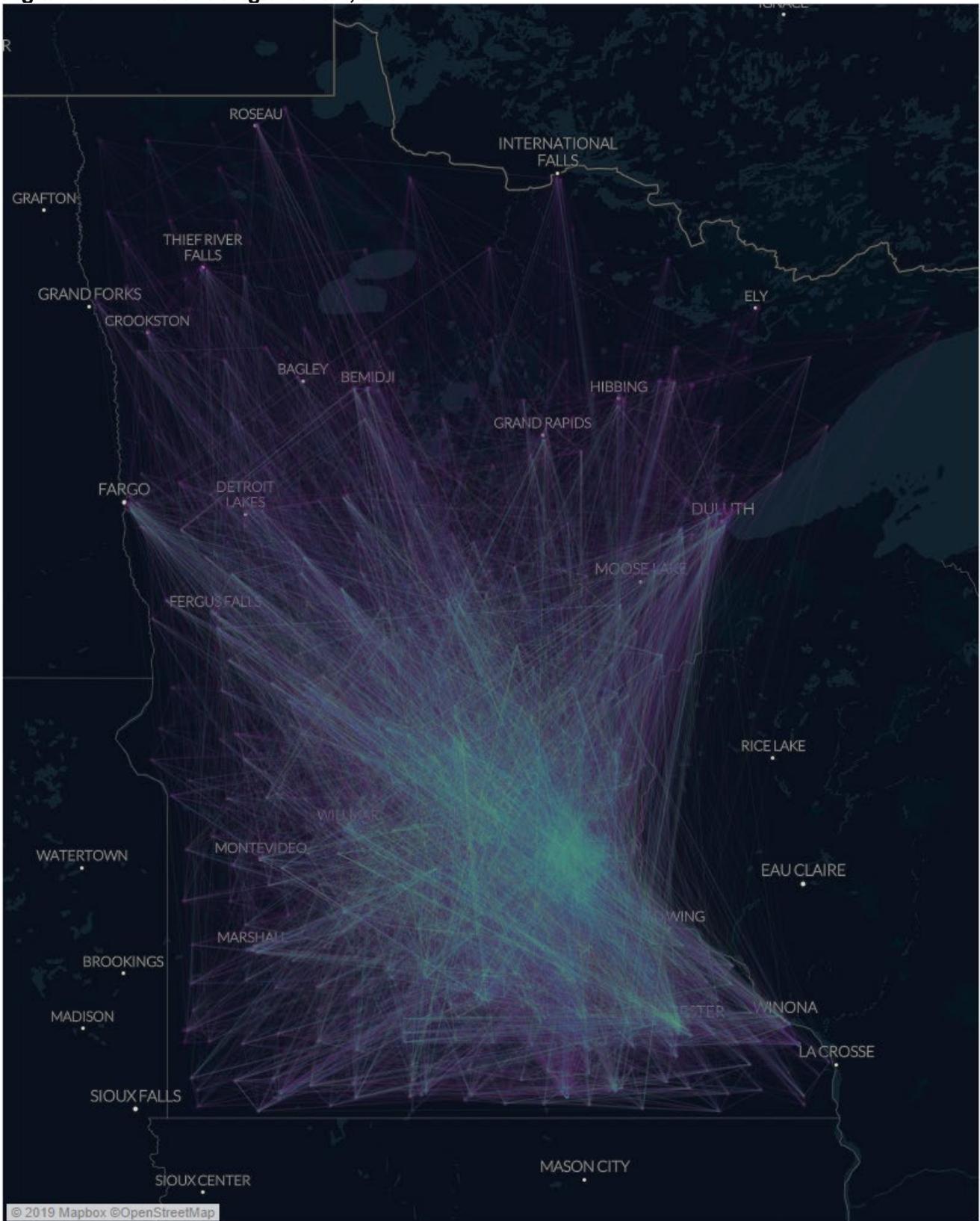
Given the strong interdependence of the metro area economy to the Greater Minnesota economy, congestion has the potential to limit the entire state's economic growth. With the just-in-time nature of businesses, any delays in deliveries can shut down manufacturing plants waiting on parts. Delays translate into lost revenue for the manufacturer, so congestion directly impacts economic competitiveness of Minnesota businesses.

Summary

While the state's congestion is concentrated on roadways that are physically located in the Twin Cities metropolitan area, the negative effects of this congestion extend statewide. People from nearly every county in the state are using roads like I-494 to access MSP Airport, the Mall of America, specialized medical care, or any number of destinations. In addition, 360,000 workers travel into or out of the seven-county metro area each day to reach jobs. The statewide impact of Twin Cities congestion is also felt by the nearly 60% of truck traffic in the state that go through the metro, including Greater Minnesota manufacturers bringing finished products to market. For these reasons, investments that address Twin Cities congestion are of statewide importance and warrant attention.

¹⁴ America's Rolling Warehouses: Opportunities and Challenges with the Nation's Freight Delivery System, October 2019.

Figure 8: Statewide Freight Flows, 2018



Source: Based on Metropolitan Council analysis using StreetLight Insights, 2018 data.