TREND ANALYSIS SUMMARY

TRANSPORTATION BEHAVIOR

Transportation Behavior, Mobility as a Service, Teleworking & e-Shopping

As Minnesota's population, environment, and economy change so too will the state's transportation needs. Anticipating these needs and preparing for them can help to ensure that people and goods are able to move from place to place.

There are many drivers behind why people might choose to change their transportation patterns. Changing patterns of urbanization may make some modes more appealing than others. Demographic changes and economic circumstances may push people towards a more affordable mode of travel. New technologies are changing the way that people think about the trips that they take and provide options that did not exist even a decade ago.

Transportation Behavior

STATEWIDE

Automobile Travel

In Minnesota the automobile continues to be the primary way that people travel, though there are signs that more and more people are utilizing other options. MnDOT estimates vehicle miles traveled (VMT) in the state as a way to gauge how much people are driving. Since the early 2000s VMT has been relatively stagnant on the whole (due to population growth), and has dropped on a per-capita basis, especially in the Twin Cities metropolitan area. The Great Recession accounted for some decline in VMT, but surprisingly, economic expansion in the last two years has not resulted in an increase in VMT. Figures 1 and 2 show the total VMT in Minnesota and the per-capita VMT going back to 1992.

Figure 1: Total vehicle miles traveled in Minnesota

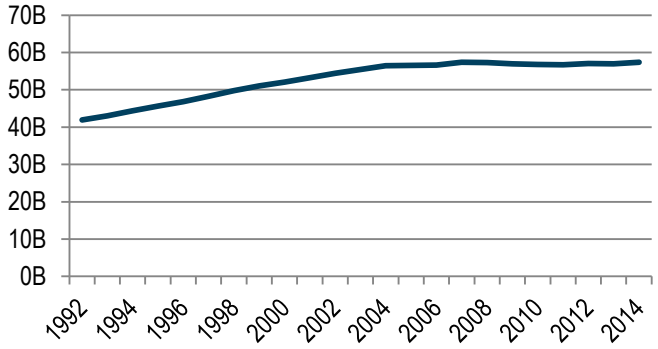
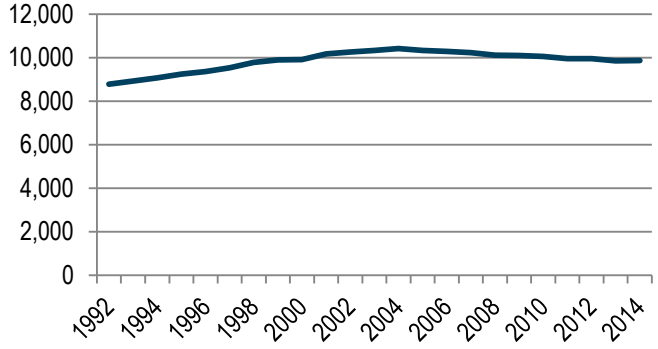


Figure 2: Per-capita vehicle miles traveled in Minnesota



In 2009 the average number of cars owned by each household in the United States dropped below two for the first time in ten years.[1] This may be due in part to changing household compositions, especially in instances of single-parent families.

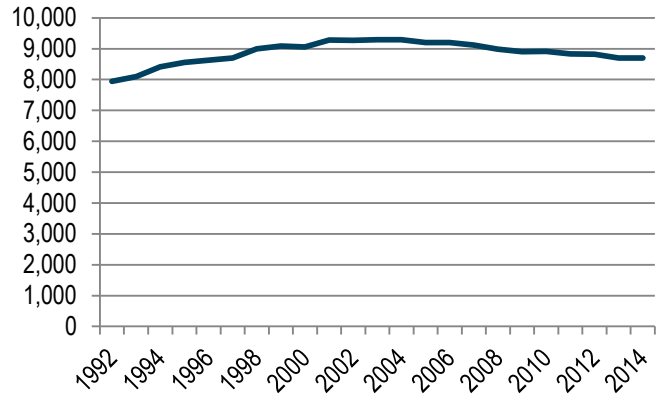
TWIN CITIES METRO

Data on transportation behavior in the Twin Cities is quite robust, thanks to efforts by the Metropolitan Council and other service providers who make data available to the public. Understanding the implications of this data is an important step to maintaining a strong transportation system in the Twin Cities.

Automobile Travel

Driving rates in the Twin Cities Metro mirror those for Minnesota as a whole, though per capita miles driven per year are significantly less than for residents of Greater Minnesota. Figure 3 shows the per-capita VMT for residents of the Twin Cities Metro.

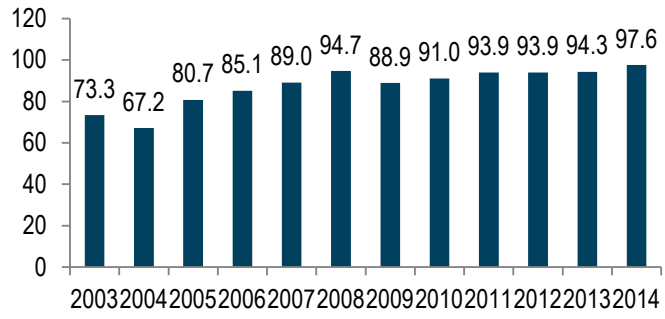
Figure 3: Per-capita VMT in the 7-county Metropolitan Area



Transit Use

Transit ridership has increased by roughly 24 million rides per year in the Twin Cities since 2003 (Figure 4).[2] Ridership in the Twin Cities has been buoyed by the opening of the Metro Green Line, which carried over 6 million passengers during the seven months of 2014 that it was in operation.

Figure 4: Transit ridership (millions) in the Twin Cities, 2003-2014



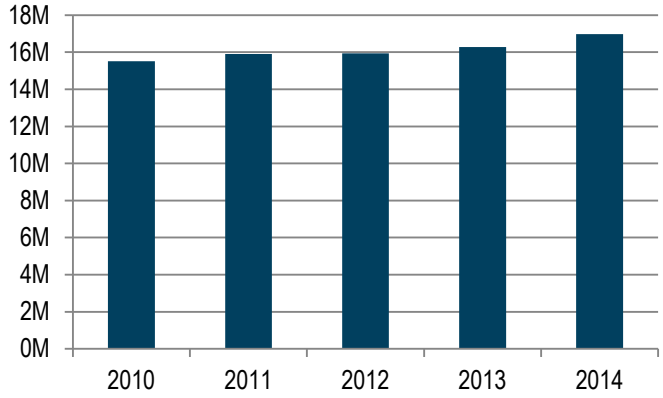
Biking & Walking

Two percent of trips in the Twin Cities are completed by bike, while 6 percent are completed on foot.[3] Bicycle ridership in the Twin Cities has been boosted by users of the Nice Ride Minnesota bike-sharing system in Minneapolis and Saint Paul.

Air Travel

Minneapolis-Saint Paul International Airport has seen steady growth in the number of passengers served since 2010, as is shown in Figure 5.[4] MSP is the 16th busiest airport in the United States, unchanged from its rank in 2010.

Figure 5: Number of boardings at MSP International, 2010-2014



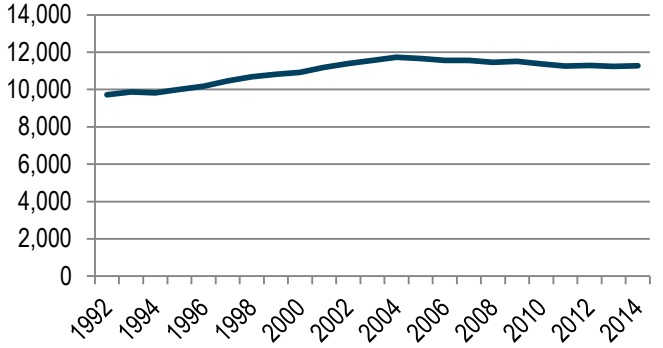
GREATER MINNESOTA

It is difficult to find consistent data about transportation behavior trends in rural Minnesota due to complications in defining the difference between urban and rural areas. Additionally, the lack of institutionalized data collection like there is in the Twin Cities through the Metropolitan Council's Travel Behavior Inventory adds further complication, especially at such a vast geographic scale.

Automobile Travel

Rural areas in Minnesota have similar driving trends to those observed in statewide statistics above, including a decline in overall VMT. 2014 saw a slight uptick in per-capita VMT for Greater Minnesota (Figure 6),

Figure 6: Per-capita VMT in Greater Minnesota

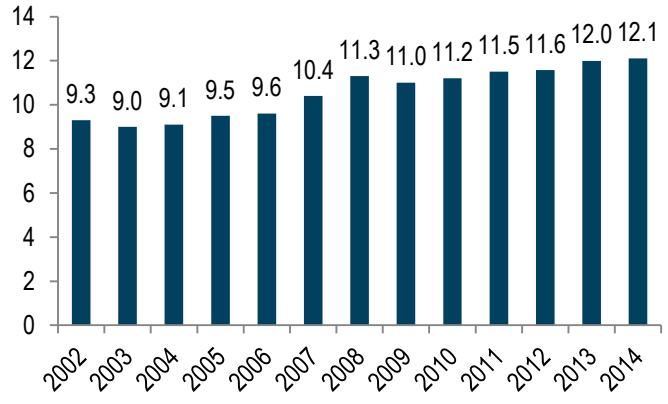


suggesting that persistent declines since 2008 may be reversing.

Transit Use

Transit use in Greater Minnesota has increased significantly during the last decade, as is shown in Figure 7.[5]

Figure 7: Transit ridership (millions) in Greater Minnesota, 2002-2014



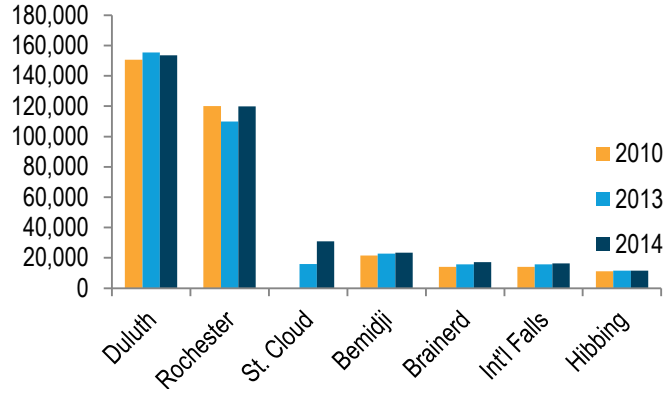
Biking & Walking

Two percent of Greater Minnesota residents ride their bike every day, while 14% ride at least once a week.[6] When combined, these two categories are only 5% less than the same categorical responses in the Twin Cities. Little additional data on bicycle ridership or rates of walking exists for Greater Minnesota. However, this is likely to change as an ongoing collaborative research project between MnDOT and the University of Minnesota recently deployed counters for bicycle and pedestrian counting.

Air Travel Trends

Generally speaking, air travel is growing throughout the state. Figure 8 shows how the number of passengers traveling to and from Greater Minnesota's airports has changed since 2010.[7]

Figure 8: Number of boardings by airport, 2010-2014



Mobility as a Service

New companies have encouraged people to re-think how they use transportation, especially in urban areas. The emerging idea of mobility as a service offers new options in the realm of the "sharing economy." In Minneapolis and Saint Paul residents might utilize car-sharing services like Zipcar, HOURcar, or Car2Go in addition to having a subscription to the Nice Ride Minnesota bicycle-sharing system, using on-demand ride services like Uber, Lyft, or iHAIL, or traditional taxi and transit services. The competition between services and modes creates additional choice for travelers, resulting in the perception of transportation as a service to be purchased.

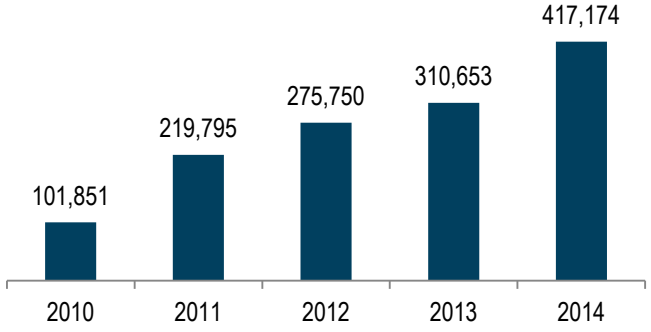
CAR SHARING

Two basic types of car sharing exist in Minnesota. The more traditional car sharing model involves shared vehicles that are parked at a designated location, are reserved by members for a set amount of time, and are returned at the end of their reservation. Zipcar and HOURcar operate under this model in the Twin Cities, Mankato, and Winona. Car2Go presents an alternate model that allows members to drive a car from nearly any public parking spot in Minneapolis or Saint Paul to another, leaving the car for another user to pick up.

BIKE SHARING

Nice Ride Minnesota is the largest bike-sharing operation in Minnesota, with bicycles available in Minneapolis, Saint Paul, and Bemidji. Ridership on the Nice Ride System has grown dramatically since 2010, as is shown in Figure 9.[8] Other communities in Minnesota like Willmar and have implemented informal bike-sharing systems using donated bikes that are available to any member of the public for use on the honor system.

Figure 9: Number of rides taken using Nice Ride Minnesota, 2010-2014



RIDE SHARING

Recent years have seen the emergence of ride sharing services like Uber and Lyft that recruit people to pick-up and transport people using their personal vehicle. Uber and Lyft essentially operate as a taxi service, though riders "donate" to drivers as a way to exempt these companies from taxi regulation. Ridesharing companies have begun to offer shared van and senior focused services to further expand

their business. These companies are seen as extraordinarily valuable; Uber was recently valued at $50 billion.[9] iHAIL, an app developed by traditional taxi service providers in the Twin Cities to counter the advantages that Uber and Lyft have in mobile platforms.

UNANSWERED QUESTIONS

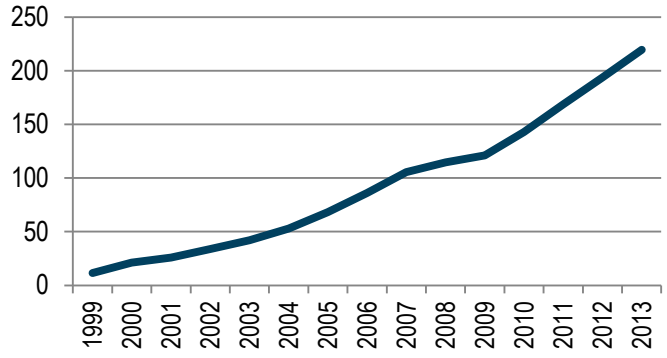
Many questions remain unanswered about how mobility services will evolve in the future. Currently, it is not uncommon for a person to use anywhere from 3 to 5 mobility services, and brand loyalty seems to be easily trumped by convenience or price at this time. Compatibility between membership services will be an interesting area to watch. The future impact of autonomous vehicles on this space also has the potential to make these services even more disruptive to transportation systems as we know them today. The way that people get around in Minnesota's urban areas is changing rapidly, and will continue to change as these services grow and evolve.

Teleworking & e-Shopping

Technological advances in recent years have made it possible for people to complete many tasks from the comfort of their own home, including working and shopping. Increases in the prevalence of teleworking seem to be occurring in situations where individuals work remotely only on a part-time basis. People who telework seem to shift their trip times to non-traditional commute hours; working remotely does not seem to reduce the total number of trips that a person takes.

From 2000 to 2014 the amount of money spent by people in the United States while shopping online increased from $27.5 billion to $297.5 billion (Figure 10).[10] Just like in teleworking, e-shopping does not seem to reduce the number of trips that individuals take to stores, though trip patterns may change. The impacts of changing delivery patterns on transportation and freight systems must be considered as they present challenges to the ways that goods move in Minnesota today.

Figure 10: Total spent through e-shopping in the United States



CONCLUSION

There are many factors that lead people to change their transportation behaviors. Emerging technologies, changing economic realities, environmental considerations and more might push or pull people toward one means of travel or another. Understanding these push and pull factors can help to identify ways that peoples' transportation preferences might be changing. Despite this, it should not be assumed that the future will match the trends of the recent past. Few would have predicted the emergence of Uber and Lyft as direct competitors to taxis, and a decade ago car-sharing services like Car2Go might have seemed like outlandish concepts. No matter what changes the future brings, Minnesota's transportation system must be in a position to adapt and accommodate the needs of the traveling public.

CITATIONS

1. Sivack, 2013
2. Metropolitan Council
3. Metropolitan Council Travel Behavior Inventory
4. Federal Aviation Administration
5. MnDOT Annual Performance Report, 2014
6. MnDOT Omnibus Survey
7. Federal Aviation Administration
8. Nice Ride Minnesota
9. Wall Street Journal, 2015
10. United States Census

For more information about the the Statewide Multimodal Transportation Plan update please visit our website: www.minnesotago.org