

WORKING FROM HOME PUTS THE BRAKES ON WEEKDAY TRAFFIC

The onset of the COVID-19 pandemic significantly decreased traffic on Wisconsin’s roads. Today, weekend traffic has largely returned to pre-pandemic levels, yet weekday traffic – a much greater part of the total – has not. Ridership levels on Wisconsin’s major transit systems also remain far below what they used to be, reinforcing the conclusion that the pandemic’s impact on transportation in Wisconsin could have long-term implications.

The COVID-19 pandemic engendered many permanent changes to daily life, including a shift to “working from home” at least part of the time for many white-collar workers. One result can be seen on roads across the state. Data from the Wisconsin Department of Transportation (DOT) show that weekend traffic at hundreds of statewide sites has generally recovered to pre-pandemic levels but weekday traffic continues to lag.

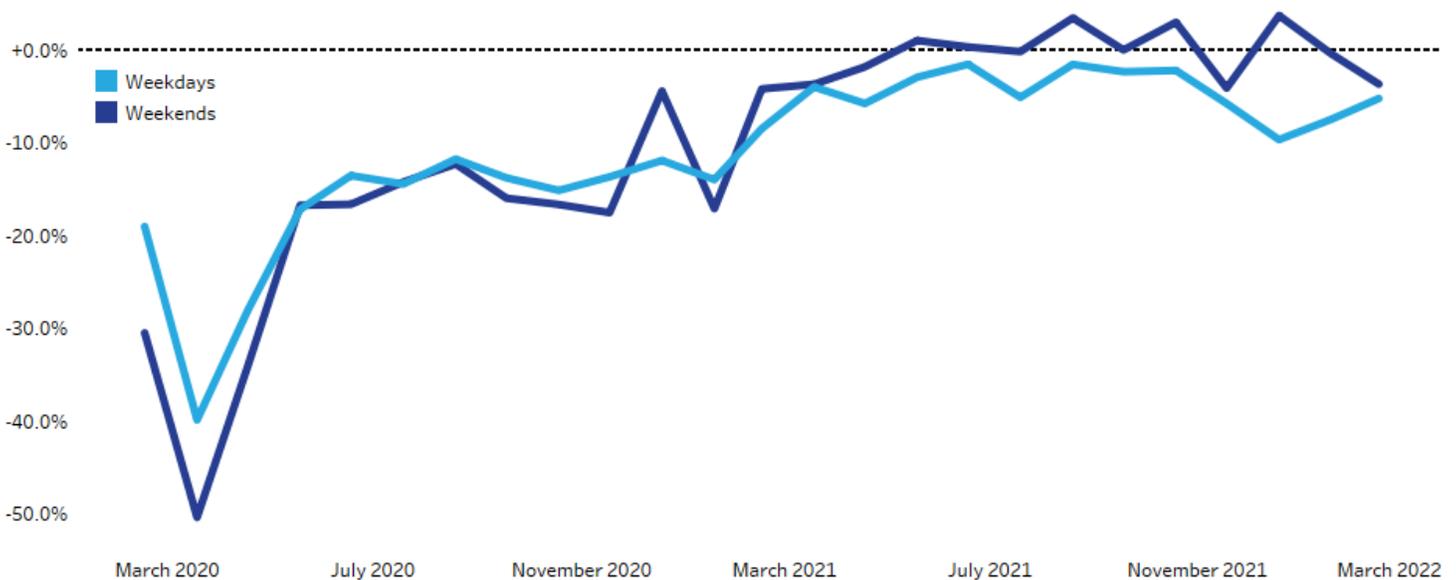
Comparing average daily traffic over the last year (April 2021 to March 2022) to traffic in the year preceding the pandemic, weekend traffic is down just 0.2%, while weekday traffic is down by 4.4% (see Figure 1). In fact, DOT data indicate that weekend traffic volumes have

shown stronger recoveries than weekday volumes in each of the last 13 months, starting in March 2021. Traffic levels in Wisconsin’s most populous urban counties, as well as ridership on the state’s largest transit systems, show the likely cause is a reduction in the number of people commuting to work. Though weekday traffic may still further recover, the potential for a long-term shift should be considered when it comes to future road construction and transit route decisions.

These findings come from a WPF analysis of DOT traffic volume data from more than 230 sites across the state, as well as data from the Federal Transit Administration. It should be noted that the DOT data mostly come from

Figure 1: Weekend Traffic Recovers; Weekdays Lag Behind

Change in average daily traffic volume by month compared to same month pre-pandemic*, March 2020-2022



Source: Wisconsin Department of Transportation. *March 2019 to February 2020. Data from 239 sites with ample collections in every month from March 2019 to March 2022.



state, U.S., and interstate highways and only capture a handful of local roads. That said, data near major centers of activity in Madison and Milwaukee show that the findings within this report extend to those types of roadways as well, at least in urban centers.

WEEKDAYS AND WEEKENDS DIVERGE

When businesses shut down during the early days of the pandemic and a “stay at home” order was put in place on March 25, 2020, traffic patterns in Wisconsin [changed significantly](#). Compared to the same months in 2019, Wisconsin’s 2020 traffic volumes were down 21.1% in March, 42.4% in April, and 30.3% in May.

By March 2021 – when many Wisconsinites began to receive their first or second dose of COVID-19 vaccines – average daily volumes recovered to just 6.4% below March 2019 numbers. This was the first month in which average traffic volumes had not been down by at least 10% relative to the same month in the year preceding the pandemic (as our baseline, we use the 12 months running from March 2019 to February 2020). Since then, traffic volumes have remained below pre-pandemic levels in every month except September 2021.

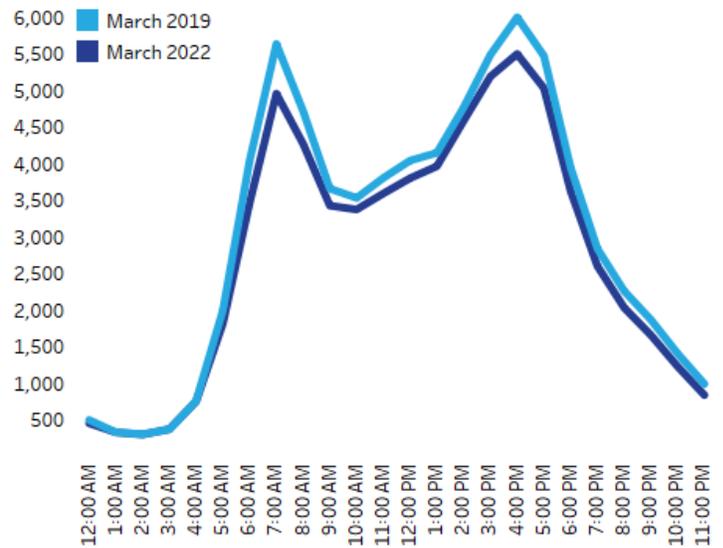
However, the totals obscure a more complicated story. Over the last year (April 2021 to March 2022) and excluding holidays, weekend traffic exceeded pre-pandemic levels in six out of 12 months, including volumes that were 3.7% higher on weekends in January 2022 compared to January 2020. Meanwhile, there has not yet been a single month in which weekday traffic topped pre-pandemic levels (see Figure 1).

Traffic in Wisconsin’s most populous counties mirrors these trends. Across 15 sites in Milwaukee County, average weekday traffic was down 5.3% in March 2022 compared to March 2019, but weekend volumes were only down 3.6%. In Dane County during the same months, weekday traffic was down 9.8%, while the reduction was just 6.1% on weekends.

In recent [decades](#) in the United States, car volume and vehicle miles travelled (VMT) can fluctuate but tend to increase over time. However, today, volume in Wisconsin appears to be only back to what it was at in 2015 or 2016, according to DOT data. That said, DOT notes that truck traffic is up notably (7% from March 2019 to March 2022). The increase may reflect an underlying shift in consumer spending away from

Figure 2: Rush Hour Traffic Below Pre-Pandemic Levels

Average hourly traffic at 16 sites in Dane & Milwaukee Counties by hour, weekdays only



Source: Wisconsin Department of Transportation. Data from 9 sites in Dane County and 7 sites in Milwaukee County.

services and towards goods during the pandemic: truck volumes have been above pre-pandemic levels in every month since December 2020.

Still, for all vehicles, a closer look allows us to confirm that commuting has played the primary role in this divergence. DOT collects information at certain sites by the hour, allowing for an examination of traffic patterns over the course of a day.

Across 16 sites in Dane and Milwaukee counties that track hourly data, average weekday traffic volumes during daytime hours declined from March 2019 to March 2022. But they were down the most during morning and evening rush hours. Compared to declines of 3% to 7% during mid-day (9 a.m. to 4 p.m.), rush hour traffic declined by at least 9.5% in each hour between 6 a.m. and 9 a.m. and by at least 8.0% in each hour between 4 p.m. and 8 p.m. (see Figure 2). Notably, weekday traffic was down by an even greater amount – between 10% and 16% – in the evening and late night hours at these sites. This could indicate that in addition to commuting patterns changing, Wisconsin residents have also changed their behavior when it comes to post-work and post-school activities.

Meanwhile, average weekend traffic also remained down at the same 16 sites, but with more uniform decreases. Weekend traffic in March 2022 was down



no more than 4% during all hours from 11 a.m. to 9 p.m.

Determining exactly how many cars travel Wisconsin's roads each day is difficult, and the numbers in this report represent only a sample of the hundreds of sites at which DOT collects volume data. On a month-to-month basis, data may be erratic, especially in winter months that have inconsistent weather from year to year. That said, DOT and WPF analyses indicate that while overall traffic volumes are beginning to look similar to those in the mid-2010s, the new reality is weekend travel that has largely returned to normal and weekday rush hours that are less intense than they used to be.

TRANSIT DECLINES EVEN MORE

While traffic on Wisconsin's roads has yet to fully recover since the onset of the COVID-19 pandemic, ridership on Wisconsin's major transit systems shows an even more drastic picture.

The FTA's National Transit Database (NTD) tracks monthly ridership numbers for hundreds of systems throughout the country, and includes full data through January 2022. In Wisconsin, there are nine bus systems that have complete ridership data in every month since January 2007, which include those serving the cities of Appleton, Eau Claire, Green Bay, Kenosha, Madison,

Oshkosh, Racine, and Waukesha, as well as the Milwaukee County Transit System.

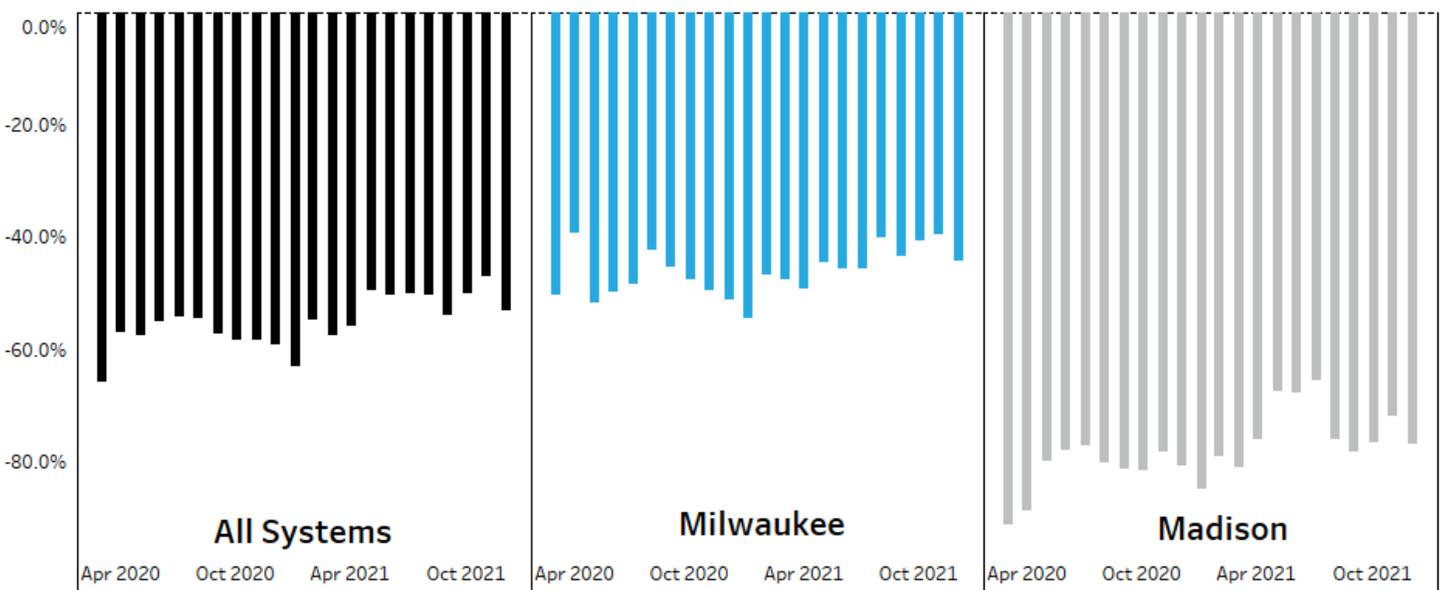
In 2019, Wisconsinites rode on these nine transit systems a total of 48.5 million times – a number that represented a stark but gradual decrease from the 72 million rides they took in 2007. In 2020, that number plummeted to 26.4 million, a decline of 45.6% that is unrivaled by any other year of data. In 2021, bus ridership declined once again to 22.6 million, a decrease of 14.6% that was larger than any previous year-over-year decline other than the year prior.

Since the earliest months of the pandemic, Wisconsin saw its fewest reported COVID cases in June and July 2021; by this time, Pfizer and Moderna vaccines had also been made widely available to the general public. Still, in those two months, ridership on these nine bus systems was down 49.5% and 50.4%, respectively, compared to June and July 2019 (see Figure 3).

In Wisconsin, car traffic showed a recovery in 2021 after plummeting in 2020. The same cannot be said of Wisconsin's transit systems, in which ridership levels remain alarmingly low for all nine bus systems. There has yet to be a single month where even one bus system reached the same number of rides as the corresponding month prior to the pandemic.

Figure 3: Driven by Big Systems, Wisconsin's Bus Ridership Plummeted

Decline in bus ridership relative to same month pre-pandemic* by month, nine major Wisconsin bus systems



Source: Federal Transit Administration's National Transit Database. *March 2019 to February 2020. Includes Appleton, Eau Claire, Green Bay, Kenosha, Madison, Milwaukee County, Oshkosh, Racine, and Waukesha



Madison, however, has seen a much bigger drop in riders than other systems. Figure 3 shows this sharp difference using March 2019 to February 2020 as a “pre-pandemic” year. Since the first full month of the pandemic in April 2020, transit ridership in Madison has been down 65% or more from pre-COVID-19 levels. This may be due to factors such as Madison having a higher concentration of its workforce in white-collar jobs with the ability to work from home.

FUTURE IMPLICATIONS

We have previously detailed the [various challenges](#) that face local public transit systems in Wisconsin in the coming months and years if ridership fails to rebound. Federal pandemic relief funds have allowed most systems to weather a sharp decline in passenger revenue. Once those funds are exhausted, however, they may be faced with a choice of cutting or altering service, making up the difference with property tax levy or other revenues, or a combination of the two.

We also have noted that a drop in traffic volume has a [direct impact](#) on fuel tax revenues for the state, which in turn fund transportation spending such as maintenance and construction projects for state and local roads. The data so far bear out this concern from our February 2021 research brief:

“Even if the virus is in retreat by late 2021, it remains unclear if more widespread adoption of remote work or online shopping may cause longer-term changes in travel patterns...This only compounds pre-pandemic concerns about how the fund is being affected by increasing vehicle fuel efficiency and the 2006 elimination of automatic gas tax increases that tracked the rate of inflation.”

Beyond the impact on transportation revenues, state and local policymakers should consider the declines in both traffic and transit ridership as they make decisions on transit routes and roadway improvements, and as they contemplate related issues like the need for parking and bicycle and pedestrian amenities. Between various rounds of federal COVID relief funds and the federal infrastructure legislation, Wisconsin has and [will receive](#) massive influxes of monies for both transit and highways. Those funds will help to make up for losses in state and local revenues in the short term but would ideally be used also to help address the long-term implications of changing commuting habits.

Some uptick in roadway commuting and transit ridership is possible as COVID-19 recedes or state residents simply learn to live with it and re-engage in old patterns and activities. That said, even with the receding of the Omicron wave of COVID-19 in March 2022, Wisconsinites are still not driving cars to the same extent they did in 2019 and early 2020. State and local leaders may need to rethink the state’s roads and transit services to reflect the way Wisconsinites travel in a post-pandemic world.

