

Wisconsin Policy Forum: Changing traffic patterns during COVID-19

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The COVID-19 pandemic has caused traffic on Wisconsin's roads to plummet, with lower traffic counts seen in all parts of the state, not just hard-hit areas. This shift largely predates a statewide order for Wisconsinites to limit travel and stay home. The decline has potential implications for public health, the economy, traffic safety, and a key state revenue stream that funds transportation projects.

The number of vehicles on Wisconsin's highways has dropped precipitously in recent weeks as schools and many business and leisure activities came to a halt. Across 61 locations where the state's Department of Transportation (DOT) collects data on a continuous basis, traffic decreased by more than 40% from roughly 2.5 million vehicles on Tuesday, March 3, to 1.5 million on Tuesday, April 7. The DOT selected most (52) locations included in this analysis to provide a representative sample of statewide traffic patterns, which we supplemented with nine additional locations in Milwaukee and Dane counties for further insight into the state's two largest metro areas.

Strikingly, while more than two-thirds of [confirmed COVID-19 cases](#) in Wisconsin have been in the southeastern part of the state – including roughly half in Milwaukee County alone – traffic is down everywhere. Traffic volumes have declined between 22% and 56% at each of the 61 locations; aggregated regionally, all areas of the state have seen decreases of at least 36%. (See Figure 1.) From a public health perspective, this may be a positive indicator that residents in all parts of Wisconsin are staying home when possible to help prevent spread of the virus.

Notably, the DOT data only include locations on state, U.S., and interstate highways, so the extent to which traffic has declined on local streets is not yet fully known. If, for example, Wisconsinites have greatly reduced or eliminated longer-distance trips,

which typically involve highway driving, but in some areas continued to make local trips at closer to normal levels, that will not be captured by DOT monitors. With that caveat, data collected on state highways that function as thoroughfares in Madison and Milwaukee show traffic has declined in those locations at levels similar or larger than the statewide average.

Influence of State Orders

Though COVID-19 cases began to appear in Wisconsin in early March, the plunge in traffic appeared to coincide with Gov. Tony Evers' March 13 decision to [close K-12 schools](#) and the declaration that same day of a national emergency by President Donald Trump. (See Figure 2.)

By the time the governor's [Safer at Home](#) order was introduced on March 24, traffic counts already had fallen abruptly. In fact, traffic volumes have remained relatively stable since the Safer at Home order took effect, suggesting that Wisconsinites already had sharply curbed their use of highways even before the state closed or curtailed the operations of many businesses and strongly encouraged residents to avoid non-essential travel.

Figure 2 also shows that thus far, freight traffic on the state's highways has decreased much more modestly. As passenger travel has dropped, trucks have made up a larger share of total traffic. These figures reflect all locations for which passenger and truck traffic counts were available separately. Depending on the length of the economic shutdown and the ripple effects it has on demand for products and raw materials of many kinds, truck traffic could decline to a greater extent as well in the coming weeks.

Flattening the Rush Hour Curve

With schools and many businesses closed, typical rush hour traffic spikes have been greatly reduced. From the first Monday in March (3/2) to the last (3/30), traffic volumes across 16 locations in Madison and Milwaukee decreased most sharply during what are typically peak morning and afternoon travel times. For example, 44,000 vehicles were counted between 7am and 8am on March 30, which was less than half the number during the same hour on March 2 (98,000). (See Figure 3.)

Whereas traffic on March 2 was considerably lower during the middle of the day than at morning and afternoon peak travel times, that drop-off was less pronounced on March 30.

Potential Impact on Traffic Safety

One likely benefit of having fewer vehicles on Wisconsin's roadways is the potential for fewer crashes, but that benefit still must be borne out by data that are not yet available. According to the DOT, agencies are given up to one year to submit crash information to the state, and 95% of all crashes typically are reported within three months. Thus, it will take until June or July to begin to understand better whether the pandemic brought about a substantial improvement in traffic safety.

If fewer crashes are indeed taking place, it is likely fewer injuries and fatalities are occurring as a result, though that is not certain. Speed often is a factor in traffic fatalities, and there is some evidence that [people are driving at higher speeds](#) in at least some U.S. cities where congestion has declined in recent weeks. If trends are similar in Wisconsin, it could mean increased risk of fatalities when crashes do occur.

Less Revenue for State Transportation Fund

The steep decline in driving will lower state gas tax collections significantly. The Department of Revenue does not yet have data to quantify the impact, however, as the published March motor fuel tax collections primarily reflect February activity before the crisis. The effect will come from decreased fuel consumption, since the recent decline in oil and gas prices will not directly affect collections of the 30.9 cents per gallon fuel tax (plus 2-cent environmental cleanup fee).

The loss of gas taxes will further exacerbate longstanding funding challenges for highways and other transportation infrastructure, including local roads. At \$1.07 billion in 2019, the state's motor fuel tax accounts for just over half of the state's revenues in its transportation fund.

Gov. Tony Evers proposed a gas tax increase in the last budget but lawmakers

instead approved increases in vehicle title and registration fees. Though the registration fee revenues should be more stable, title fees could also take a hit if consumers defer major purchases such as vehicles. All of that could mean difficult choices ahead, including whether to defer or cancel state highway projects, limit state funding for local roads, increase state borrowing to make up for lost revenues, or raise taxes or fees.

The Road Ahead

The sharp, statewide reduction in driving shown in the DOT data will have significant and broad impacts ranging from traffic safety to state transportation financing. There are other potential impacts that we do not cover here, like positive effects on air quality and the negative consequence of reduced municipal fine collections from parking and traffic violations. In many cases, the data do not yet allow us to quantify those impacts, but some may require policy or budget adjustments.

A key question is how long this trend will last. Higher traffic levels may reemerge in a matter of weeks or months as restrictions on businesses and non-essential travel recede. Yet other factors likely will preclude a quick return to the old normal, including high unemployment levels, continued health concerns, and perhaps a long-term shift toward more work from home.

Going forward, it will be important to consider not only the immediate, financial consequences of lower levels of automobile traffic that have resulted from the COVID-19 crisis, but also how any positive benefits might be captured. For example, while the decrease in driving will negatively impact the state transportation budget, a lasting reduction also may allow policymakers to revisit project or spending plans. If sustained, a greater affinity for video conferencing might allow employers to adjust the hours when employees are at their desks and perhaps reduce congestion during traditional rush hours, benefiting the larger community.

As with virtually all elements of the COVID-19 crisis, it is too early to determine the long-term impacts it will have on transportation policy and budgets. Our analysis does verify the short-term impacts have been substantial and may linger for some time to come.