Understanding Telecommuting Trends for Traffic Management

What Was the Need?
During the COVID-19 pandemic, private and public organizations allowed many employees to work from home to comply with the stay-at-home orders. Employee telecommuting caused drastic reductions in traffic congestion, with a long-term shift to traffic more evenly spread out over the day.

Teleworking trends and resulting traffic congestion levels have significant implications for highway system planning and state efforts to reduce vehicle miles traveled to help meet climate change goals. To mitigate congestion, highway planners need to understand where, when and how much traffic is predicted to be on a specific roadway.

While telecommuting is an effective tool to alleviate traffic burden, the extent to which employers will support it post-pandemic is unclear. Future telework trends have implications for short- and long-term transportation planning and congestion mitigation efforts. MnDOT wanted to know how employers in the state view the future of telecommuting post-COVID. The shift in traffic patterns experienced during the pandemic is unprecedented and offers an opportunity to explore how it impacted the workforce and the extent to which telework will continue post-pandemic.

What Was Our Goal?
The goal of this project was to assess the effects of telecommuting during the pandemic on employees and the workplace, identifying any differences among geographic areas or employee demographics and life circumstances, and to explore perceptions of how prevalent remote work will be in the future.

What Did We Do?
Researchers undertook an in-depth effort to understand both worker and employer perceptions and perspectives on telecommuting during and after the pandemic to inform MnDOT’s highway traffic management efforts.

They first conducted six focus groups of human resources professionals from a variety of organizations representing different geographic locations within Minnesota. Each group had at least five participants who answered questions on their organizations’ remote work policies and any changes made as a result of the pandemic, work hours and other expectations, impacts on the workplace, employee support and longer-term plans of the organization.

The focus group findings, along with a review of the literature, provided insight for the researchers to develop separate online surveys for employers and employees regarding experiences, perspectives and expectations for teleworking post-COVID. Specifically, the employee survey collected demographic and life circumstances data, and asked employees whether their job was conducive to telecommuting. Employees were also asked about their remote work experiences, including productivity, employer support for working at home and interest in continuing to telecommute.
Telecommuting directly impacts traffic and congestion, yet also contributes to the sustainability and livability of communities, including helping the state reach its carbon goals.

In addition to gathering information about company location, size and industry type, the employer survey included questions on worker productivity, telecommuting policies and willingness to continue supporting remote work post-pandemic.

What Did We Learn?
The investigation of employee and employer perspectives on telecommuting resulted in a comprehensive picture of the teleworking community and the frequency of teleworking. Researchers also found some unexpected variations in the opportunities available for different populations to work remotely.

Employee survey respondents came from a wide variety of industries and sectors. Investigators found that over half of the respondents teleworked prior to the pandemic. Interestingly, whether and how much workers telecommuted depended on geographic location, demographic characteristics and life circumstances. Several groups, in general, were found to be less likely to work remotely, or work remotely for fewer days:

- Younger workers (Generation X, millennials and Generation Z).
- Workers with children at home.
- Those with high school or less education and income less than $50,000 a year.
- Those using reasonable accommodations.

Employer respondents came from a wide variety of industries and sectors and were relatively evenly spread among organizations with fewer than 100 employees to more than 1,000. Less than 60% of employers reported they had telework policies, though some indicated policies were under development. Half of employer respondents said they would support remote work several days a week or less, where only 14.6% reported supporting unlimited telework.

Researchers found different perceptions between workers and employers. Workers, for example, thought they were more productive when working remotely, whereas employers believed productivity was either unchanged or declined. Employees felt performance expectations were higher while teleworking and employers reported there was no change. Employers also believed they allowed workers to take equipment and furniture home to a greater extent than workers reported. The two surveyed groups were consistent, however, in perceptions of employers’ support of schedule flexibility and work-life balance.

What’s Next?
MnDOT plans to broadly share these findings with economic development commissions, metropolitan planning organizations and others through presentations and other communication tools, including an upcoming public webinar. The findings, in addition to supporting highway planning and congestion mitigation, will inform telework policies for state employees, including how best to structure hybrid schedules.

“This research has given us a glimpse into the future of telecommuting, which will help us manage traffic flows and volumes. It will also inform our own telework policies.”

—Duane Hill, District Engineer, MnDOT District 1

“These findings can inform MnDOT on how to manage traffic patterns and volumes in the future. Interestingly, the results also contradict stereotypes regarding who is telecommuting as there are many factors that may influence whether employers allow, and whether employees take advantage of, remote work.”

—Xinyi Qian, Director, University of Minnesota Tourism Center

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