

TPEC Advisory Board Update: March 2022



Thank you for your continued support of the TPEC program. We have made important strides in all three research areas and we are pleased to share the progress we have made and what we have in store for the coming months.

A Warm Welcome to our Newest Advisory Board Members

The Center for Transportation Studies (CTS) has welcomed new Director, Dr. Kyle Shelton, to its organization. [Kyle Shelton](#) joins CTS from his previous role as Deputy Director of the Kinder Institute for Urban Research at Rice University. In addition to his new role at CTS, Kyle will also serve on the TPEC Advisory Board.

Long standing TPEC Advisory Board member, Greg Lindsey, has stepped down from serving on the TPEC Advisory Board. Greg Lindsey has been a professor at the Humphrey School of Public Affairs and has served on the TPEC Advisory Board since its inception in 2012. The TPEC program appreciates his years of service and commitment to TPEC.

The Humphrey School of Public Affairs welcomes new dean, Dr. Nisha Botchwey. [Dean Botchwey](#) joins the Humphrey School from her previous role as Associate Dean of Academic Programs at Georgia Institute of Technology. Catherine Squires will return to her role as Associate Dean and member of the TPEC Advisory Board.

Thank you for your commitment to the TPEC program. We look forward to meeting with you and the rest of the Advisory Board at our next board meeting. **We hope to schedule our next Advisory Board meeting for spring/summer 2022.** We will be sure to stay in touch in the coming weeks as we organize this event.

Research Area Updates: **Industry Clusters and Freight**



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Minnesota Medical Industry Cluster Research

TPEC recently held two forums related to the medical device industry cluster and transportation and supply chain implications as a result of the COVID-19 pandemic.

Minnesota Supply Chain Forum: *Transportation and Consumer Considerations in the Age of COVID-19*

On January 25th, 2022, TPEC, in collaboration with the Center for Transportation Studies (CTS), hosted a virtual Supply Chain Forum for members of the MN legislature and others interested. In particular, TPEC Advisory Board Member Representative Frank Hornstein encouraged TPEC to examine the ongoing supply chain issues impacting the lives of Minnesotans. The purpose of the forum was to examine business and industry supply chains that are key to Minnesota's economy, with attention to the ongoing impacts of the COVID-19 pandemic, through key presentations and wide-ranging discussions. The discussion was organized around two panels, Consumer and Freight Transportation Considerations and Industry and Economic Considerations.

Speakers from Panel 1, "Consumer and Freight Transportation Considerations," included:

- William Gardner, Director, MnDOT Office of Freight and Commercial Vehicle Operations

- Jeff Davidman, Vice President of Government Affairs, Delta Airlines
- Deb DeLuca, Executive Director, Port of Duluth
- Gregg Zody, General Director Consumer Products, BNSF Railway
- Moderator: Barb Rohde, Researcher, University of Minnesota

A key takeaway from Panel 1 was that national global supply chains challenges as a result of the COVID-19 pandemic impacted Minnesota's Port of Duluth, the largest port by tonnage on the Great Lakes. In particular, the Port of Duluth was immediately affected by the COVID-19 pandemic and while tonnage flowing to and from the port has rebounded, lack of available containers and lack of access to ships remains a significant problem for the port.

Speakers from Panel 2, “Industry and Economic Considerations,” included:

- Thomas Petersen, Commissioner, MN Dept. of Agriculture
- Ben Bidwell, Director of North America Customs and Compliance, CH Robinson
- Bob Kill, CEO, Enterprise Minnesota
- Connie Carlson, Statewide Co-Director, University of Minnesota RSDP
- Trevor Sutton, Fellow, Center for American Progress
- Moderator: Tom Horan, Senior Researcher, University of Minnesota

Overall, Panel 2 produced valuable insights, such as that the MN Manufacturer Survey published by Enterprise MN shows supply chain and workforce concerns are among the top challenges facing manufacturers in Minnesota.

A recording of the event can be accessed here:

[Recording Link: Minnesota Supply Chain Forum: Transportation and Consumer Considerations in the Age of COVID-19](#)

Ensuring Minnesota's Competitiveness: Pandemic Influenced Priorities for Infrastructure

On October 1, 2021, TPEC hosted the Medical Industry Cluster Forum. The purpose of the forum was to have a multi-sector discussion of the importance of the Medical Industry Cluster to Minnesota’s economy and its implications for infrastructure use and economic development. The discussion was organized around the key dimensions: Minnesota Infrastructure Implications, National and Minnesota Industry Cluster Opportunities, and the Minnesota Medical and Health Industry Cluster. Jeff Davidman, Vice President of Government Affairs at Delta Airlines, was the keynote speaker for the forum. Additional panelists included elected officials, representatives from the private sector, Minnesota Department of Employment and Economic Development (MnDEED), MnDOT, GREATER MSP, Metropolitan Airports Commission (MAC), and Brookings Institution.

Overall, the forum led to rich discussion on the key transportation linkages to ensure the continuation of MN’s strong medical industry cluster. Key findings are highlighted below. CTS will have a summary of the event prepared in the coming weeks, which can be found on the [TPEC Publications webpage](#).

Finance



Minnesota Transportation Finance Database

The [Minnesota Transportation Finance Database](#) (MTFD) is updated with most of the files with data up to 2020. The most recent file added to the database was the Wheelage Tax by County.

We are continuing conversations with staff at the Minnesota Department of Transportation to have access to more detailed data and collaborate on future data needs. We are also looking for additional sources of information to compile electric vehicle registration in the state.

Data Visualization for the MTFD

We updated data visualization for the Minnesota Transportation Finance Database. Currently, we have graphs and state maps to compare Minnesota with other states and county maps that show the distribution of funding or expenditures across Minnesota. All the variables included in the data visualization tool are from the MTFD. The tool also presents some per capita, per driver, and per vehicle measures.

Minnesota Roadway Funding: Revenue Sources and Distribution

The research team is updating the white paper that details how roadway revenues are generated and distributed in Minnesota, as well as how funding mechanisms have evolved over time. This updated version looks into transportation revenues and expenditures between 2016 and 2020.

- The largest sources of state roadway revenue are the state motor fuel tax, the registration tax (tab fee), and the motor vehicle sales tax. Smaller amounts of state transportation revenue are generated from sources such as the motor vehicle lease sales

tax and auto parts sales taxes. The purchasing power of Minnesota's gas tax has declined since it was last adjusted between 2008 and 2013, but state legislation has also increased the amount of dedicated highway funding sources in recent years.

- Nearly all state roadway revenue passes through the Highway User Tax Distribution Fund (HUTDF) and flows to roadways under state, county, and city jurisdiction across the state. About 3 percent of the total motor fuel tax revenue is attributed to non-highway activities (such as operating all-terrain vehicles and motorboats) and is transferred to designated accounts within the Natural Resources Fund. Forty percent of the VMST proceeds are dedicated to the Transit Assistance Fund.
- Most local roadway funding comes from the general funds of counties, cities, and townships made up primarily of property taxes and special assessments. Local governments in Minnesota, particularly counties, also have some dedicated transportation taxes that raise roadway revenue such as local option sales taxes, excise taxes, wheelage taxes, and gravel taxes.

Upcoming from the Finance Research Area

Electric Vehicles Contributions to Transportation Revenues across 50 States

The research team is evaluating the contributions of electric vehicle owners and internal vehicle combustion engine vehicle owners to transportation funding. We are currently investigating the states that have adopted a fee levied on electric and hybrid vehicles, the rationale for adoption, and the use of the proceeds. In addition, we are collecting data across the state to identify the factors that impact state's decision-making to adopt registration surcharges levied on electric vehicles and to determine the contributions of ICE vehicles through the motor fuel tax relative to the contributions of EVs through the EV fee. We believe EV fees at most compensate for the state part of the motor fuel tax, but not for the federal part.

Technology



Technology and Telecommuting

TPEC research on telecommuting has become increasingly relevant as the COVID-19 pandemic continues to encourage members of the workforce to work remotely, despite businesses and downtowns beginning to reopen. TPEC researcher Adeel Lari has been exploring how traffic patterns have changed due to the impacts of COVID-19 at multiple intersections across the Twin Cities area. Preliminary findings show traffic has bounced back to pre-pandemic levels in some areas and continued to decrease in other areas, and differences between travel rates across days of the week. Figure 1 shows the travel demand on I-494 & France Avenue heading east across 2019, 2020, and 2021. The team is eager to share these findings with relevant management agencies, nonprofits, and other informational stakeholders as we begin discussions and continue to analyze these trends across racial, wealth, and educational attainment demographics. Additionally, the team will consider how habit forming, electric vehicles, and transportation planning in a post-COVID world impact these preliminary findings.

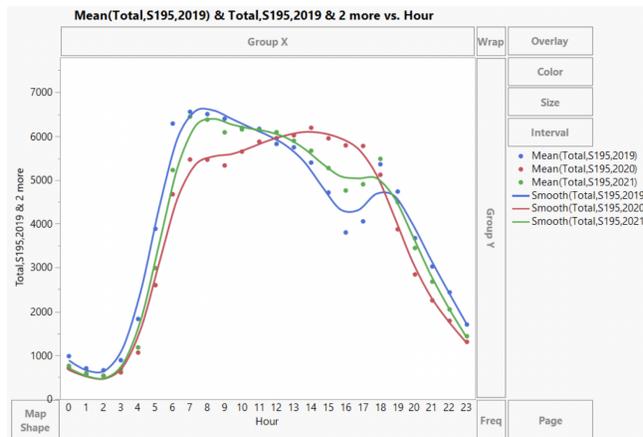


Figure 1: I-494 & France Ave (Eastbound)

TPEC researcher Adeel Lari gave a presentation in March 2021 to the University of Minnesota's Center for Transportation Studies Education and Engagement Council on the telecommuting impacts of COVID-19. This presentation highlighted some of the key research takeaways on telecommuting in the pandemic to date, including:

- Approximately 43.5 percent of households had at least one person telecommuting in Minnesota (Bureau of Transportation Statistics).
- Minnesota's traffic volume reduction is one of the largest in the country.
 - April 2020: 40 percent traffic volume reduction
 - November 2020: 10 percent traffic volume reduction
 - Urban traffic volume reduction is higher than rural areas

- The equity implications of telecommuting suggest White Americans are able to telecommute in higher numbers (29.9%) than Black Americans (19.7%) and Hispanic Americans (16.2%).
- Metropolitan Council survey results from Spring and Fall 2020 indicate there is strong preference among employees for continuing to telework (64.6%)

The research team will build on this initial information by exploring several topics regarding the overall impact of telecommuting, including:

- Potential long-term impact on vehicle miles traveled, congestion, transit, finance, emissions
- Impact on women, minority communities, low income communities, and strategies to overcome disparities
- Strategies to sustain environmental benefits
- Viability of transportation capacity improvement projects
- Strategies to maintain transit services

Upcoming from the Technology Research Area

In addition to the ongoing telecommuting work discussed above, TPEC researchers continue to monitor developments related to Self-Driving Vehicles, giving presentations when invited and continuing to be part of conversations for pilot demonstrations.

Changes to the TPEC Team

The TPEC team welcomes two new members, Maya Sheikh and Kribashini Narayana Moorthy. Maya joins the TPEC team as a research team working on understanding best practices for innovative uses of interstate and highways right of ways, as well as technology and teleworking. Kribashini will also join the TPEC team as a research assistant focusing on supporting the supply chain and industry cluster research, as well as telecommuting and technology.

Graduate Research Assistant Kim Napoline will graduate in May 2022 and finish her time with the TPEC program. Graduate Research Assistant Maya Sheikh will continue working at TPEC to carry on supporting medical device industry clusters and technology research as they finish their Masters programs. Please look out for an email from Maya (or someone else) to schedule a Board Meeting in May or June.

Thank You and Stay in Touch!



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