UNIVERSITY TRANSPORTATION CENTER

RESEARCH BRIEF

Measuring the Impacts of COVID-19 on the Trucking industry: A Spatial and Econometric Framework to Capture the Impacts of the Hours-of-Service (HOS) Emergency Declaration and Congestion Effects on Truck Driver Safety

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Background

In normal times, the trucking industry is the backbone of the nation's economy with roughly 3.5 million truck drivers moving over 70% of the nation's freight (The American Transportation Research Institute, 2020). However, this has changed quite dramatically under the current COVID-19 pandemic. In past pandemics the trucking industry and its drivers had proven resilient moving essential goods like medicines, medical equipment and other necessary supplies from warehouses and distribution centers to medical facilities without any major changes to how truck drivers operate. Given the magnitude of COVID-19 pandemic, and the limited impact of previous pandemics to impact the US, current literature on measuring the impacts of pandemics on the trucking industry is scarce and limited to rudimentary stated preference surveys (The American Transportation Research Institute, 2020). Therefore, the objective of the proposed work is to fill the gap in the literature and develop a spatial and heterogeneity-based econometric framework to capture the impacts of the hours-of-service (HOS) emergency declaration and reduced congestions effects on truck driver safety. This will be accomplished through exploring new and innovatively collected data source in terms of on the ground freight transportation via a current partnership with EROAD and recently completed extensive 67 question National Truck Driver COVID-19 State Preference Survey.

Research Project

The goal of this research is to develop a heterogeneity-based econometric framework to capture the impacts of the hours-of-service (HOS) emergency declaration instituted by FMSCA and reduced congestions effects. This will be centered on telematics technology from EROAD and a recently completed COVID-19 National Truck Driver Survey conducted by the PI. To accomplish this, the Pacific Northwest will be used as a case study which will allow for the evaluation of truck driver safety and cross referencing it with existing state motor carrier crash databases. The findings of this study have the potential to generate truck driver safety performance measures and influencing factors to assess changes in truck driver behavior due to reduced congestions effects and regulatory rule changes during events like pandemics and/or similar system disruptions.

ABOUT THE AUTHORS

The research team consisted of Salvador Hernandez of Oregon State University.

ABOUT THE FUNDERS

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EXPECTED DATE OF COMPLETION

August 2022

FOR MORE INFORMATION

http://depts.washington.edu/pactrans/research/projects/measuring-the-impacts-of-covid-19-on-the-trucking-industry-a-spatial-and-econometric-framework-to-capture-the-impacts-of-the-hours-of-service-hos-emergency-declaration-and-congestion-effects-on-tru/