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DEPARTMENT OF TRANSPORTATION

OFFICE OF RESEARCH & INNOVATION

# TECHNICAL SUMMARY

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**Investigator:**
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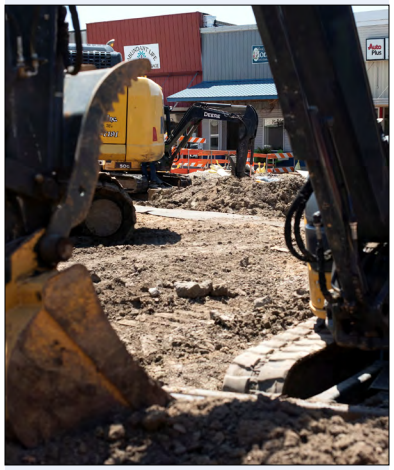
**PROJECT COST:**
$100,000



Road construction can result in both positive and negative impacts to businesses.

# Impacts of Highway Improvements on Adjacent Businesses

## What Was the Need?

Highway improvements benefit drivers by providing safer roads and increased access to businesses. Business establishments can benefit from increased traffic. Road projects, however, may have negative impacts on some business establishments. Long-standing independent businesses may suffer, for example, as new chain stores move into an area. Further, equity concerns may arise if the impacted businesses are in low-income areas or owned by an underrepresented segment of the population.

Repaving streets, building new exits and overpasses, replacing bridges and completing other infrastructure work during construction may also negatively impact adjacent businesses. Transportation agencies must consider a variety of potential impacts when planning and implementing road projects, whether they are maintenance-oriented or larger projects that change the character of the highway or improve traffic flow.

MnDOT strives to promote equitable implementation of transportation projects that benefit the state economically and socially. Recent research analyzed how new transit project development impacted local businesses. The agency wanted to build on this research and further compare and understand the effects of road construction on nearby established businesses.

*Highway improvements can increase access to surrounding businesses but may also negatively impact some establishments. New analyses and tools will help MnDOT when planning and implementing highway improvement projects to target assistance to local stores, restaurants and other firms to help mitigate adverse effects from road construction.*

## What Was Our Goal?

The goal of this project was to assess the impacts of highway construction projects on adjacent businesses to inform MnDOT's outreach and assistance to business owners.

## What Did We Do?

Several data sets informed an analysis of transportation projects and any resulting impacts to nearby businesses in the seven-county Twin Cities metropolitan region. MnDOT records on highway improvement projects from 2007 through 2024 that cost more than $15 million included detailed construction dates, type and location of each project, and narratives of project history and benefits.

The Metropolitan Council provided geographic information system (GIS) boundaries of census tracts, which detail the statistical subdivisions of counties in the Twin Cities metro area. InfoUSA, a research company that compiles market data, provided annual business survey data from 2000 to 2019, including closures, sales and employment numbers. Establishments included retail stores, food and hospitality locations, and personal services shops. Researchers distinguished smaller, single-location firms from multiple-location businesses that were part of local, regional or national chains.

The merged data set allowed researchers to evaluate businesses within half a mile of 35 identified highway improvement projects implemented between 2007 and 2018, and road projects planned between 2019 and 2024. Improvement projects included replacing or improving the condition of infrastructure and enhancing traffic flow. An additional analysis of construction type, construction period length, tract geography and business type identified if individual factors seemed to correlate to impacts on businesses. Lastly, researchers used transit models and analyses from a

*continued*

*"These results will help guide MnDOT in our outreach to businesses along project routes. We strive to provide whatever assistance we can to help them avoid negative impacts from construction activity."*

**—Kimberly Zlimen,**
Transit Advantages Coordinator, MnDOT Metro District

*"This project identified impacts from highway projects involving major changes in infrastructure and long construction periods as potentially problematic, particularly for single-location food establishments in urban areas."*

**—Yingling Fan,**
Professor, University of Minnesota Humphrey School of Public Affairs

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Construction that improves infrastructure condition without benefiting traffic flow reduced sales and employment for smaller, single-location establishments. Larger chain store business, on the other hand, increased after projects that improved traffic flow.

previous project to compare the effects of highway improvements and transit projects on business establishments.

## What Did We Learn?

While researchers found no significant negative effects on nearby businesses in general, specific factors appeared to impact some businesses more than others. The purpose of construction, for example, correlated with stronger outcomes for both single- and multiple-location establishments compared to duration of construction. Longer construction periods, however, did appear to drive negative effects on smaller businesses while larger businesses seemed to benefit from shorter construction periods.

Smaller food services businesses experienced statistically significant declines in sales and employment during and after construction, though some evidence indicates the businesses were declining before construction. Retail and personal services establishments, whether large or small, did not show much change from construction. Lastly, smaller businesses in urban areas experienced a statistically significant increase in closures during construction. In general, businesses located in suburban locations showed fewer impacts from construction.

A comparison of the effects from transit projects described in previous research with effects from highway projects found that transit construction projects had greater impacts to small businesses than the highway projects.

Finally, GIS researchers assisted the team in creating a publicly available interactive mapping tool. Searchable by project type, start year and corridor name, the map illustrates the connections between transportation projects in the Twin Cities region and business impacts, including establishment counts, sales volume and employment size at the census tract level. The tool also predicts future business performance under different transportation infrastructure improvement scenarios.

## What's Next?

While the analysis did not consider local land use and economic conditions and trends over time, these results will be helpful to MnDOT in working with small businesses along a construction route during project development and as construction progresses. Providing assistance with signage, communications or other strategies, particularly to more vulnerable small businesses in urban areas, can help mitigate any negative impacts establishments might experience.

*This Technical Summary pertains to Report 2023-30, "The Effects of Highway Improvement Projects on Nearby Business Activity," published August 2023. More information is available at* http://mdl.mndot.gov.