



# Urban Freight Perspectives on Minnesota's Transportation System

Metro District/Greater Twin Cities

## EXECUTIVE SUMMARY



August 2019

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# FREIGHT PERSPECTIVES FOR MnDOT

Manufacturers and other freight-related businesses are an important customer segment for the Minnesota Department of Transportation (MnDOT) and a critical component of the economy for the state and the Twin Cities area. Within MnDOT’s 8-county Metro District alone, there are thousands of manufacturing firms, plus warehouses, distribution centers, and other freight-related companies. For these reasons, MnDOT engaged in a 2018-19 Urban Freight Perspectives (UFP) study involving semi-structured, in-person interviews with manufacturing and other freight-related businesses in the Twin Cities region.

For the interviews, MnDOT concentrated mostly on businesses in targeted zones with high concentrations of freight-related firms located in the heart of the metro area along Interstate 94, which carries significant freight movement between Minneapolis and Saint Paul. In this way, the study primarily reflects business transportation impacts along the area of MnDOT’s Rethinking I-94 project between those two central cities’ downtowns<sup>1</sup>. The interviews allowed MnDOT to systematically collect and analyze customer information and develop relationships with freight-related firms, in order to better understand their transportation perspectives and priorities and simultaneously provide the businesses with information about metro area construction projects with significant freight impacts.

This report presents the findings from that 2018-19 UFP study, based on MnDOT interviews with 48 businesses that generate or carry freight.<sup>2</sup> The business classifications for those 48 firms include Manufacturing (19), Wholesale Trade (18), and Transportation and Warehousing (11) consisting mostly of businesses engaged in general and specialized freight transportation. Of the 48 businesses interviewed, 11 are freight carriers and 37 are freight generators, including five that handle all their own shipping, 19 that use their own trucks but also ship through carriers, and 13 that use only carriers to ship their freight.

During the interviews, MnDOT staff captured many suggestions and requests for location-specific actions to improve routes and transportation in the Twin Cities area. Subsequently, the project staff compiled location-specific comments that MnDOT is reviewing, categorizing, prioritizing, and considering for possible short-term action or for longer-term work plans and project scoping.



<sup>1</sup> See Rethinking I-94 Area Map on page 11.

<sup>2</sup> Two additional MnDOT interviews were conducted with passenger transportation companies (for a total of 50 business interviews), yielding useful ideas and suggestions regarding the Twin Cities area transportation system but not relating directly to freight transportation. See page 12 for additional details on businesses interviewed.

# STEPS TOWARD CONTINUOUS IMPROVEMENT IDEAS FOR FREIGHT TRANSPORTATION



The comments from freight-related businesses in the Metro District offered support for – and validation of – much of MnDOT’s work and priorities. Businesses also provided useful input to inform and enhance both existing efforts and future initiatives. Based on analysis of the interview comments, MnDOT’s Central Office and the Metro District might consider the following to help drive continuous improvement:



**Address useful suggestions** pulled from the interview notes and compiled as potential items for short-term action and longer-term planning and project scoping.



**Continue to invest** in and focus on effective congestion management to ameliorate problems such as bottlenecks and the costs that congestion poses for freight-related businesses.



**Keep freight-related businesses well informed about construction projects** and pursue strategies that lessen the adverse impacts of construction on their operations.



**Consider adding more dynamic, electronic signs** and make the messages conveyed on those signs as clear as possible.



**Explore opportunities for partnerships** with city and county governments to address items such as truck parking challenges and safety improvements for bicyclists and pedestrians sharing the road with trucks, where appropriate.



**Continue MnDOT’s general communication and 511 information efforts**, perhaps with an expanded focus on outreach to freight-related businesses and efforts to promote and increase awareness of the 511 mobile-based application and 511’s Truckers’ webpage portal.



**Build upon the 2018-19 UFP study** and its interviews to strengthen relationships with freight-related businesses going forward.

# THEMES AND FINDINGS FROM BUSINESS INTERVIEWS

In all cases, the guides that MnDOT staff used for the UFP interviews included questions about the topics featured below. The full 2018-19 UFP report provides more detail about each of these areas, presents additional findings, and covers several additional topics not noted in this executive summary, including pavement conditions, distracted drivers, rail transportation, policies for trucks and drivers, and unauthorized roadside encampments for homeless people.

## Congestion's Impacts on Shipping, Receiving, and the Last Mile

Congestion problems, including “last mile” issues, stand out as a key topic for freight-related firms. Different businesses talked about congestion creating challenges for shipping products out, receiving supplies in, scheduling trucks and drivers, and the “last mile” of delivery to both their customers’ locations and their own. Businesses said congestion increases their costs and requires adjustments in delivery routes, timing, and the number and size of their loads. Some businesses said congestion affects their plans, with a few noting that congestion and last mile issues will or might prompt them to relocate. A few noted, too, that increased congestion is a sign of more people and a stronger economy, both of which expand their customer base.

## Congestion Management

MnDOT asked businesses with trucks about two congestion management methods: metering on highway entrance ramps and MnPASS. With regard to ramp metering, over half the businesses that expressed opinions generally supported ramp meters and said they are useful. Only a few mentioned not liking ramp meters. Nonetheless, a number of businesses discussed concerns about ramp meters, saying the ramps are too narrow and short, MnDOT activates meters inappropriately or inconsistently, and passenger vehicles ignore the ramp meters and drive incorrectly in metered lanes.

When it comes to MnPASS lanes, about two-thirds of the businesses that talked about this congestion management option said they do not use the lanes. The reasons cited by businesses included that they operate on routes where there are no MnPASS lanes, they operate on shorter routes where MnPASS would have only limited impacts, they operate trucks that weigh more than the MnPASS weight limit, or they were unaware that trucks weighing less than 26,000 pounds are permitted to use MnPASS lanes.

## Construction

The vast majority of the businesses talked with MnDOT about construction projects. A number of businesses called for more MnDOT information in advance of construction – from notice of plans as far as 10 years out to shorter-term alerts about developments three to six months ahead of time. Many businesses commented on the adverse impacts of construction, including delayed deliveries, routing challenges, reduced access to their facilities, and financial costs. Among the businesses that talked specifically about weekend and nighttime work by MnDOT construction crews, about three-fourths said it works better for their operations than weekday disruptions. A few businesses said MnDOT exacerbates the impacts of construction when it carries out projects on parallel routes, further complicating rerouting efforts. A few businesses also noted that while construction projects cause problems for their operations, those projects are necessary to maintain and improve the roadway system.

## Snow and Ice Removal

Nearly three-quarters of the businesses that discussed snow and ice during their interviews said MnDOT is doing a good job of removing them from its routes. Many of these businesses used strong, positive adjectives to describe MnDOT’s efforts, including “fantastic,” “phenomenal,” and “very well prepared.” Several businesses called on MnDOT to improve snow and ice removal, and a few others with generally positive opinions of MnDOT’s efforts still offered suggestions for how to make them better. Overall, businesses that called for improvements said routes need to be cleared of snow and ice more quickly than they currently are. Other suggestions for improvement included more pre-treatment of roads in anticipation of weather events and better removal of compacted snow and ice.



## Interchanges



Nearly two-thirds of all the businesses interviewed discussed interchanges. A number of businesses noted challenges with cloverleaf designs, citing them as dangerous and prone to causing accidents. In addition, a few businesses discussed diverging diamond interchanges, saying they are useful but challenging to navigate. A number of businesses brought up problems with executing zipper merges – problems they say cause accidents. Most who talked about the zipper merge suggested MnDOT should educate the public on the proper approach for this procedure.

## Intersections

Just over half of the 48 businesses talked with MnDOT about intersections. Most of this group offered opinions – mostly negative ones – about roundabouts. Businesses cited problems for trucks navigating roundabouts, including issues with small and difficult turning radiuses, narrow lane widths, and poor visibility.

Other businesses expressed positive opinions. A few businesses said that they like J-turns, an intersection design that reduces the potential for conflict and crashes by having drivers who otherwise would turn left across fast-moving traffic instead turn right and then execute a U-turn to head in their intended direction.

## Lanes

Over half of all the businesses interviewed discussed lane widths, truck-climbing lanes, truck lanes, and turn and acceleration lanes. The majority of the businesses that talked about lane width said they have no issues

with current lane widths and no preference between 11- and 12-foot widths. Just over half of the businesses that discussed truck-climbing lanes indicated these lanes are useful. Several businesses urged MnDOT to allow all trucks to travel in MnPASS lanes or create truck-only lanes, separate from general traffic. A few businesses said truck-specific turn lanes and wider left-turn lanes would increase safety for non-truck vehicles. A few, too, said longer acceleration lanes would help trucks reach highway speeds prior to merging.

## Signage

Many businesses talked about MnDOT signage, noting possible improvements and offering generally positive opinions about dynamic, electronic signs. Businesses commented on the importance of clear signage at interchanges and of advance warning for traffic challenges or changes, including lane shifts and restrictions, variations in speed limits, congestion, and sharp turns. A few businesses called for better signage to mark truck routes. A great majority of the businesses that commented on MnDOT's dynamic, electronic overhead signs viewed them positively, with some noting that the information on the signs helps drivers select better and faster routes. A number of businesses urged MnDOT to install more of these signs. Some businesses had positive comments, too, for a specific type of dynamic, electronic sign that MnDOT uses to alert truck drivers prior to curves that pose high risks for rollovers. Several noted that these curve signs are particularly helpful for new drivers and out-of-state drivers unfamiliar with the roads in the Twin Cities area.



## Truck Parking

Some businesses discussed problems with truck parking, including parking for deliveries and parking for stopovers and sleepovers. A number of businesses cited inadequate parking for trucks that make deliveries in dense, urban areas, especially within Minneapolis and Saint Paul.

Several other businesses cited issues with trucks – from other businesses, not their own – parking on streets in industrial areas and frontage roads near their facilities, making travel on those streets difficult to navigate, reducing visibility, and sometimes blocking access to their business driveways and loading docks.

## Bike and Pedestrian Safety Issues and Infrastructure

The UFP interview guides for carriers and businesses with their own freight shipping trucks included questions about truck travel on roads with bikes and pedestrians, even though most of these shared roadways in the Twin Cities area are local rather than MnDOT routes. A number of businesses expressed concerns about the danger posed by mixing motor vehicles and bikes on roads. Bike lanes drew both negative and positive comments. Businesses cited problems with them, including safety issues at intersections, reduced traffic lanes for motor vehicles, narrower lane widths for trucks, increased congestion, and inappropriate bike lane locations.

Some businesses noted benefits from having dedicated, marked bike lanes, including increased visibility and safety for bikers. A few businesses offered suggestions for improved pedestrian and bike infrastructure, including rumble strips to mark the edges of bike and pedestrian areas, more visible markings for those areas, and different material for crosswalk markings because some existing crosswalk surfaces are slippery and make braking difficult.

## MnDOT Communications and 511

Staff recorded interview comments about MnDOT's communications and its 511 traveler information system in a great majority of the business interviews. Just over half the businesses interviewed reported they have heard of the 511 system, but much smaller shares said drivers use it for information about winter roads, construction projects, congestion, or crashes. A number of businesses mentioned the usefulness of 511's live camera view for assessing road conditions. Among the

businesses that offered general remarks about how well MnDOT keeps them informed, there were as many that made positive comments as negative ones. The most commonly cited communications issue specific to construction projects was the need to have MnDOT provide advance notice of plans and developments earlier than it currently does. MnDOT might consider outreach efforts to freight businesses about 511 and other communication channels because a number of businesses were unaware of what MnDOT currently offers, such as the 511 smart phone application, 511's Truckers' webpage portal, and sign-up options for electronic push-notifications about specific routes and projects of interest to specific users.

## Weight Restrictions

A few businesses noted adverse impacts from weight restrictions, including inefficient shipping, problems finding useable routes, and delays from unnecessary weigh-station stops and inspections. Two businesses objected to lower than normal weight restrictions on a section of Interstate 35E in Saint Paul, and one noted that state's weight restrictions create problems for Minnesota businesses that ship products in from neighboring states with higher limits.







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