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IN TRANSPORTATION FOR MINNESOTA

Freight Transportation: Improving Travel Time and Efficiency for Trucks and Intermodal Freight

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A well-functioning freight transportation system is essential for a strong, growing state economy. The timely and efficient movement of goods, equipment, crops, ore and other freight matters to Minnesota. And freight's importance will increase, with freight loads in Minnesota expected to double from their 2002 level by about 2035.

Freight movement must be a key consideration in policy and planning for the roads, rails, water routes and airways that constitute Minnesota's transportation system. These transportation routes link Minnesota's communities to one another and link the state to the larger economies of the region, the nation and the world.

To assess transportation issues and options for Minnesota, Growth & Justice looked at research for four key freight topics — interregional corridors, intermodal freight movement, congestion, and roadways and bridges for heavy trucks. Here are the key findings and ideas.

Minnesota's Interregional Corridors

Minnesota's 2,960 miles of critical interregional corridors (IRCs) outside the Twin Cities area link the state's main centers of economic activity and boost the state's economic vitality through their function as important freight routes.

Key Points

- The IRC system in Greater Minnesota forms the backbone for travel by heavy freight haulers within and through the state.
- The IRC roads carry a disproportionately large share of the vehicles and freight moving throughout Minnesota.
- At present, congestion is only a minor problem for Minnesota's IRC system but it is expected to increase.

Potential Policies and Approaches

- Continue to assess conditions and needs within the IRC system and use them to set priorities for Mn/DOT investments in roadway maintenance and improvements.
- Reconfigure the IRC system as necessary over time to better reflect freight patterns in Greater Minnesota and to strengthen connections between the state's trade centers.
- Use intelligent transportation systems to improve the travel time and efficiency of freight movement on IRCs throughout Minnesota.



Freight Problems with Twin Cities Traffic Congestion

Traffic congestion poses problems for freight haulers in the Twin Cities area. While congestion is manageable on most routes in Greater Minnesota, it ranks as a major concern for truckers driving in the state's largest metropolitan region. Congestion reduces productivity and increases the cost of freight operations through decreases in vehicle availability, fuel efficiency and hours of productive service from drivers.

Key Points

- Both freight traffic and congestion will continue to grow in the Twin Cities area.
- The estimated cost of congestion delays for freight haulers is significantly higher than for commuters in passenger vehicles.
- The added costs from unexpected traffic delays are higher than those stemming from expected congestion due to normal traffic patterns – dramatically so for freight trucks.
- Tighter manufacturing and distribution arrangements, reflecting the move in recent decades toward just-in-time delivery, have increased the importance of predictable and reliable freight times.

Potential Policies and Approaches

- Pursue policies and strategies that reduce unexpected delays and clear traffic accidents and incidents more quickly from roadways in the Twin Cities area.
- Change state law to relieve law enforcement officials and public agencies from liability when removing disabled vehicles or spilled cargo from highways without the owner's consent.
- Improve the opportunities that freight haulers on interregional corridors have to pull off the road and into rest stops in order to avoid peak-hour traffic congestion in the Twin Cities.
- Make cost-effective changes in signage, lanes and rules to smooth the flow of trucks onto and off of expressways and other major highways.
- Provide guidance to local governments about design measures for improved truck movement on roads with heavy truck traffic or the potential for it.
- As a low-cost approach to increasing capacity, consider allowing more commercial trucks on the high-occupancy toll (HOT) lanes of Twin Cities expressways, but not the largest of the carriers.
- Encourage the shift of freight movement from truck to rail.

Intermodal Freight Movement: Trucks, Trains, Ships and Planes

Freight in Minnesota moves by truck, train, ship and plane and often is carried on different modes of transportation for different parts of the journey. This means that intermodal freight movement is important, and the transfer of freight between modes is a significant challenge and opportunity for shippers and haulers.

Key Points

- Minnesota relies more heavily than most states on rail and water for freight shipments because Minnesota is a major producer of bulk commodities, including iron ore, grain and other crops.



- Railways handle a significant share of the freight movement in Minnesota, accounting for about one-third of the shipments measured by weight.
- Minnesota's ports allow a share of the state's freight – notably grain, other agricultural commodities and iron ore – to travel by water across the Great Lakes and down the Mississippi.
- Although shippers increasingly move freight in secured containers that can be transferred between modes without the need to unpack and repack, Minnesota has few facilities and only limited capacity to handle containerized freight.
- Despite handling the largest freight volumes of any Great Lakes port, the Duluth-Superior port lacks facilities to handle containerized freight transfers between transportation modes.

Potential Policies and Approaches

- Assess options for improving the efficiency, condition and capacity of existing intermodal freight terminals through public-private partnerships and public programs to encourage private investment and action.
- Improve and expand intermodal freight facilities that can handle the transfer of containerized cargo among trucks, trains and ships.
- Target the Duluth area for policies and approaches to improve freight handling and hauling.
- Adequately fund state government programs for rail and port improvement and direct the resources to high priority freight infrastructure deficiencies.
- Involve the state in regional and national transportation policy initiatives that address freight infrastructure needs beyond Minnesota's borders but still critical to freight operations here, including efforts to reduce freight congestion in Chicago and investments in the public-sector system of locks on the rivers and the Great Lakes chain.

Truck Weights, Roads and Bridges

The recent trend in freight has been more weight and fewer restrictions. Allowable truck weights for Minnesota depend in large part on the strength of the road-and-bridge infrastructure that bears the load. Truck weights matter to a range of stakeholders, including the driving public, which faces safety concerns over heavier trucks.

Key Points

- Federal law limits truck weights on interstate highways to 80,000 pounds, although states establish maximum weights for other roadways.
- Heavy trucks shorten the life span of bridges, while trucks with heavy axle loads damage roads.
- The wear and tear on pavement from one fully loaded large commercial truck is estimated to be thousands of times the wear and tear caused by an automobile.
- Truck weight limits have an impact on Minnesota's economic competitiveness because freight movement matters to many sectors of the economy.
- Compared to Minnesota, most neighboring states and all Canadian provinces allow heavier truck weights, larger combinations of freight trailers, or both.



- Minnesota's legislature adjusted weight limits and configuration rules for heavy commercial trucks in 2008 and 2009 to allow for more heavy truck traffic on a greater range of roadways.
- When factored into planned construction projects, the incremental costs of building or upgrading transportation infrastructure for heavy trucks likely will be proportionately small for the resulting gain in allowable loads.

Potential Policies and Approaches

- Consider the importance of freight to Minnesota's economy when assessing the benefits and costs of the infrastructure improvements needed to allow for heavy loads.
- Target high-priority truck routes for investments in bridge upgrades and repair as a smart way to improve the state's freight infrastructure.
- Improve enforcement of existing truck weight restrictions and take other measures to improve compliance.
- Over time, upgrade Minnesota's existing roads and bridges and build its new ones to handle heavy truck weights.
- Assess the need to upgrade local roads and bridges that connect freight-generating facilities to interregional corridors and other major routes and adequately fund the state program that helps local governments afford roadway improvements.
- If changes are considered at all for weight limits on roads, tie them to axle, suspension and brake equipment requirements designed to reduce or eliminate the adverse impacts of the heavier loads.
- Look at new or increased fees on freight haulers as a way to help secure revenues for needed upgrades to Minnesota's freight routes.

More information on all these topics, as well as citations for the research, are available in the full research report at www.growthandjustice.org/Freight.

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