

New Visions 2050

Draft Current and Emerging Issues and Trends

For review by CDTC Freight Advisory Committee

Current and Emerging Issues and Trends

The following is a list of current and emerging issues and trends affecting the freight industry, for review by the CDTC Freight Advisory Committee. For each issue/trend, a brief description is provided. These issues were identified in CDTC's Regional Freight Plan (2016), or by the CDTC Freight Advisory Committee, by the American Transportation Research Institute (ATRI), and/or in other prominent freight industry publications. The list is not meant to be exhaustive, but rather identify those issues that have the greatest potential impact on the CDTC region for further monitoring.

Trucking - Driver shortage

Growing demand for truck transportation has exacerbated industry capacity constraints as carriers continue to struggle with recruiting and retaining a qualified truck driver workforce. Year after year, older drivers are retiring with fewer younger drivers taking their places. Being a truck driver is difficult - it involves working long hours, driving long distances, being away from home for long periods and less-than-ideal pay. Fewer drivers mean fewer trucks on the road to haul an increasing volume of freight, which, in turn, drives up shipping rates because of the premium placed on securing a truck.

Trucking - Driver hours of service restrictions

The hours a truck driver may spend behind the wheel per day or work per week are an important factor for shippers, carriers, and drivers. Shortening those hours can decrease a truck driver's earnings, and make delivering goods on time more difficult. By law, drivers are allowed to drive for 11 hours with a mandatory, continuous rest period of 10 hours, daily. In addition, a driver may not drive beyond the 14th consecutive hour after coming on duty, following 10 consecutive hours off duty.

Trucking - Electronic logging device mandate

The electronic logging device (ELD) mandate requires all motor carriers to install electronic devices in their trucks that automatically track drivers' hours of service. Prior to the mandate, drivers kept manual logbooks to track their hours of service, while some of the larger carriers used ELDs. Most smaller carriers have become compliant, but some are having issues with the cost of installing the devices and dislike the automatic tracking of their movements. Regulations such as these are implemented with the intention of creating safer roads, however, they are also perceived by drivers as an infringement on their personal workspace.

Trucking - Truck parking

With the hours of service restrictions for truck drivers, drivers need to find safe and convenient places to park when they reach their driving limit. The growing scarcity of available truck parking creates a dangerous and costly dilemma for truck drivers who are often forced to drive beyond allowable hours of service rules or park in undesignated and/or unsafe locations.

Trucking – Congestion

Traffic congestion has a large and measureable impact on the cost of goods movement. A truck sitting in traffic represents lost time and money. With carriers expected to meet specified delivery windows, or constructing driver schedules to meet hours of service regulations, a traffic delay could be detrimental.

Trucking - Driver distraction

Distracted driving and its impact on highway safety is a major issue for the trucking industry. The growing use of smartphones has raised the profile of distracted driving as a major public safety issue.

Maritime – Increased capacity to east coast ports

With the completion of the Panama Canal expansion project, more and larger container ships are serving east coast ports. In addition, more carriers are ordering larger container ships, ensuring a continued capacity increase.

All modes - Autonomous vehicle technology

All freight modes have some level of autonomy available for purchase and use.

For the trucking industry, autonomous vehicles could use technological advancements to allow trucks to navigate the roadway system with little or no human interaction. There are currently multiple companies testing automated trucking technology, and several large purchases of semi or fully autonomous trucks have been made by large companies. Broad adoption of this new technology could lead to substantial changes to the freight and logistics industry. There is potential for companies to reduce labor costs, the impacts of the driver shortage, and the impacts of hours-of-service regulations. There is also broad speculation the technology will reduce crashes and increase overall safety, therefore reducing liability exposure.

Higher levels of autonomy have already been implemented in the rail, maritime, and airline industry. Further adoption of these technologies could have additional safety and other operational benefits.

All modes - Transportation infrastructure funding

Poorly maintained transportation infrastructure creates unneeded wear and tear on vehicles, creates additional stress for operators, and negatively impacts industry productivity. There is a well-documented backlog of maintenance projects, exacerbated by increasing scarcity of funding, and lack of

new, innovative funding streams. Without more public funding for infrastructure, there will be more incidents, more delays and less profit for companies in the future.

New technology/trucking – cashless tolling on New York State Thruway System

The New York State Thruway Authority has announced an initiative to implement cashless tolling for the entire Thruway system. This new technology will potentially decrease delays at toll plazas; however, it will require many of the current tandem lots to be relocated. The proposed new locations of the tandem lots, and the circulation patterns to/from the lots are concerning for users.

New technology – on-demand freight apps (Uber Freight, Convoy, etc.)

Uber Freight launched last spring and is essentially an app for freight that operates like Uber's ride-sharing service. Both Convoy and Amazon have similar apps that target on-demand freight, as well. These apps operate by matching trucking companies with shippers who have freight that needs to move.

New technology/trucking – electric vehicles

Several major truck manufacturers are developing vehicles with electric drive systems. Tesla's electric semi-truck has a range of 500 miles on one charge, with significant pre-orders from large asset companies. No longer having to pay for diesel fuel or the upkeep of maintaining a combustion engine, while having increased visibility from the streamlined cabin of this truck are alluring factors to many drivers. The lack of charging stations and uncertainty with range are currently barriers to adoption.

New technology – changes in manufacturing

New production technologies, such as 3D printing, have the potential for great impact on the freight industry. 3D printing may change the production methods of many products, their parts, and/or the raw materials needed in their manufacturing process. 3D printing technology eliminates the mold manufacturing method in favor of a less expensive digital process. More products can be made locally, thereby reducing the distance required to ship the finished goods to market. Materials with high shipping costs made of most any plastics based material could be candidates for 3D printing technology. Moving away from the mold form of manufacture could reduce the need to import plastic based goods from half way around the world.

New technology – e-commerce and the new retail economy

More consumers are purchasing goods online, with a noticeable decline in brick-and-mortar retail locations. This has led to a massive increase in package deliveries, and many potential new technologies to facilitate last-mile deliveries, such as drones and autonomous robots. The evolving economy has led to the emergence of large new online retailers, such as Amazon, forcing the retail industry to accommodate customer's delivery expectations.