

COMMERCIAL MOTOR VEHICLE SAFETY IN HIGHWAY WORK ZONES

JIAN JIAO*

Highway work zones play a key role in maintaining and upgrading our nation's transportation system. In recent years, many industry leaders as well as state and federal legislators had recognized the urgency of repairing and upgrading the transportation infrastructures.¹ With the Infrastructure Investment and Jobs Act signed into law by President Biden on November 15, 2021, the federal government planned to invest over \$110 billion to construct and repair roads, bridges, and other major transportation projects over the next five years.² May 16, 2022 marks the six-month anniversary of President Biden's signing of the infrastructure legislation and the White House said it had released the \$110 billion funding from the infrastructure package.³ It is foreseeable that automobile drivers of the U.S. will see more orange cones and work zone signs on major highways in the next few years.

Repairing and upgrading the U.S. transportation infrastructures, though temporarily burdensome for travelers, will certainly benefit the public in the long run. While construction areas are necessary for any repair or new building project, work zones on a highway may substantially increase the risk of automobile accidents. The daily changes in traffic patterns, more limited right-of-way, and other construction activities are often a combination of factors that can result in crashes,

* Jian (Philip) Jiao is a Class 2022 J.D. candidate at The Ohio State University Moritz College of Law and writes for THE OHIO STATE BUSINESS LAW JOURNAL ONLINE.

¹ Letter from Metropolitan Planning Council to Nancy Pelosi, Speaker of the U.S. House of Representatives (Apr. 2020) (on file with Metropolitan Planning Council); see *Over 220,000 U.S. Bridges Need Repair, Latest Analysis of Federal Data Finds*, Am. Road & Transp. Builders Ass'n (2020), <https://www.artba.org/2021/03/23/over-220000-u-s-bridges-need-repair-latest-analysis-of-federal-data-finds>; see also Infrastructure Investment and Jobs Act, 117 P.L. 58 (2021).

² *Fact Sheet: The Bipartisan Infrastructure Deal*, The White House (Nov. 6, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal>.

³ David Shepardson, *White House says \$110 billion in infrastructure funds released in first 6 months*, Reuters, May 16, 2022, <https://www.reuters.com/world/us/white-house-says-110-bln-infrastructure-funds-released-first-6-months-2022-05-16/>.

injuries, and fatalities.⁴ Each year, around 120,000 crashes occur in or around work zones and result in approximately 47,000 injuries.⁵ According to the report of the Federal Motor Carrier Safety Administration (“FMCSA”), while commercial motor vehicles comprised only 5% of vehicular traffic, they were involved in one third of all fatal crashes occurring in work zones.⁶ Of all the fatal crashes on the nation’s roadways, around 13.2% involved at least one commercial motor vehicle (“CMV”).⁷

A commercial motor vehicle is defined in 49 CFR 390.5 as “any self-propelled or towed motor vehicle used on a highway in interstate commerce to transport passengers or property when the vehicle (1) [h]as a gross vehicle weight rating . . . of 10,001 pounds or more . . .; or (2) [i]s designed or used to transport more than 8 passengers (including the driver) for compensation; or (3) [i]s designed or used to transport more than 15 passengers, including the driver, and is not used to transport passengers for compensation; or (4) [i]s used in transporting material found by the Secretary of Transportation to be hazardous . . .”⁸ In more common terms, CMVs are large motor vehicles, such as semi-trucks, box trucks, vans, or buses, for which the federal government decided to establish separate regulations due to their large size, commercial activities, larger number of passengers, and potentially hazardous materials that these vehicles might be transporting.

This essay aims to explore three interrelated questions: why do CMVs cause more accidents in work zones? What is the scope of government immunity for highway construction companies? What specific actions trucking companies could undertake proactively to reduce safety risk? Respectively, this essay is divided into three sections. The first section discusses how work zone accidents happen, including driver distractions,

⁴ *Work Zone Traffic Crash Trends and Statistics*, Am. Road & Transp. Builders Ass’n (last accessed June 4, 2021), <https://workzonesafety.org/work-zone-data/work-zone-traffic-crash-trends-and-statistics>.

⁵ *Id.*

⁶ *Large Trucks are Involved in 1/3 of All Fatal Crashes Occurring in Work Zones*, Fed. Motor Carrier Safety Admin. (April 26, 2021), <https://www.fmcsa.dot.gov/newsroom/large-trucks-are-involved-13-all-fatal-crashes-occurring-work-zones>.

⁷ U.S. Dep’t of Transp., *Commercial Motor Vehicle Traffic Safety Facts*, FMCSA-ADO-19-001 (2019).

⁸ 49 C.F.R. § 390.5 (2022).

neglected road safety, and work zone hazards. The second section discusses the legal and financial consequences of CMV accidents, the various forms of liabilities, and explores the topic of government immunity. Finally, the last section discusses how we, as a society and individuals, can prevent work zone accidents from occurring.

I. CAUSES OF WORK ZONE ACCIDENTS FOR CMVs

Driving a semi-truck or school bus through a work zone is not an easy task. There is a substantial difference between CMVs and regular passenger cars in terms of size, weight, turning radius, and stopping distance. A CMV traveling at 55 mph typically requires 50% greater stopping distance than a common size car.⁹ This requires truck drivers to make early decisions when they are approaching a work zone. Furthermore, CMV drivers have blind areas, known as the “No-Zones.”¹⁰ The No-Zones are along the sides, in front of the grill, and at the rear of trucks where the driver usually cannot see even with the extra mirrors CMVs often have equipped.¹¹ An FMCSA report shows that about one third of all crashes between CMVs and cars happened in the No-Zones.¹² Accidents commonly occur when a vehicle in a significant blind spot tries to merge as it enters the work zone. The truck driver may not see vehicles in the travel lane and standard vehicle drivers might be reluctant to let the truck merge. Additionally, slow traffic and sudden stops are regular features in work zones. CMVs require a greater stopping distance due to their massive weight and have a difficult time when the vehicle ahead stops suddenly. Additionally, accidents can happen when a CMV, such as a semi-truck or long bus, is making a wide turn on a multi-lane road. If the driver turns too sharply or the car in the lane beside the truck does not see or regard the CMV’s turn signal and warning bumper sticker, accidents can occur.

A truck driver’s driving habit or personal behavior may also contribute to the high ratio of truck-related work zone accidents. With the increased amount of technology available to drivers, the risk of distraction related accidents is much higher today than twenty years ago, prior to the current abundance of smartphones. According to the Center

⁹ U.S. Dep’t of Transp., Most Common Types of Crashes by Work Zone Area, FHWA-SA-03-010 (last accessed June 4, 2021).

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

for Disease Control and Prevention (“CDC”), about 8 people in the U.S. are killed every day in crashes that are reported to involve a distracted driver.¹³ Over the past decade, more than 3,000 people have died each year in accidents involving a distracted driver.¹⁴ Any drivers who are eating, drinking, or otherwise engaged in any type of physical or cognitive distractions may miss important road signs or changes in lane alignment due to construction or road repair that could result in an accident.¹⁵ Truck drivers are not immune to these increasingly common distractions. According to a recent survey that questioned 350 commercial drivers over the age of 18, 81% of commercial drivers believe that distracted driving is increasing and 71% of those believe that social media and surfing the internet are common distractions while driving.¹⁶

Driver fatigue is the result of physical or mental exertion that typically results from extended hours of driving, lack of adequate sleep, strenuous activities, or a combination of those and other factors. It is reported that about 13% of commercial truck drivers are fatigued at the time of a crash and driver fatigue is ranked as the sixth most relevant factor contributing to truck crashes.¹⁷ According to the CDC, commercial drivers who operate large vehicles and drivers who work night shifts or long shifts are more likely to drive tired or fatigued.¹⁸ There can be many reasons that driver fatigue is more common among commercial drivers. Although commercial drivers are mandated to drive no more than 60 hours in a week or 70 hours in eight days, commercial drivers still need to stop driving to rest for 10 hours once they have reached 14 hours of straight driving.¹⁹ Nevertheless, 11 hours of driving is still an extensive period of driving and can be fatiguing in itself. More often than not, truck

¹³ *Distracted Driving*, Ctrs. for Disease Control & Prot. (last updated Apr. 26, 2022), https://www.cdc.gov/transportationsafety/distracted_driving/index.html.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Survey Finds 81% of Commercial Drivers See Rise in Distracted Driving*, Heavy Duty Trucking (Apr. 21, 2020), <https://www.truckinginfo.com/356237/survey-finds-81-of-commercial-drivers-see-rise-in-distracted-driving>.

¹⁷ U.S. Dep’t of Transp., Report to Congress on the Large Truck Crash Causation Study (2006).

¹⁸ *Drowsy Driving: Asleep at the Wheel*, Ctrs. for Disease Control & Prot. (last updated Oct. 28, 2021), <https://www.cdc.gov/sleep/features/drowsy-driving.html>.

¹⁹ Fed. Motor Carrier Safety Admin., Interstate Truck Driver’s Guide to Hours of Service (Oct. 2016).

drivers may feel pressured to drive over the Federal limits because of traffic delays or because trucking companies have set deadlines for goods to be delivered. Drivers can also feel stressed about their earnings because different transportation companies may pay by mile, time, or payload. This can cause drivers to speed or drive recklessly while they worry about how many trips they can make before they hit their driving limit for the week.

Due to truck drivers' irregular work schedules and long driving hours, truck drivers may turn to a variety of drugs, such as caffeine, ephedrine, alcohol, marijuana, amphetamines, and cocaine, to keep themselves on the road, focused, awake, and on-schedule.²⁰ Although many of these drugs are legal to use, they may cause dangerous side-effects that impair driving ability, examples being marijuana and alcohol causing drowsiness and slower reaction times. Drug use is the highest recorded human factor contributing to truck crashes. According to the FMCSA, 26.3% of all truck crashes are associated with prescription drug use, 17.3% are associated with over-the-counter drug use, and 2.3% are associated with illegal drug use.²¹ In their testimony to Congress in 2019, the Trucking Alliance stated: "[t]he trucking industry has no greater safety issue, than to aggressively address illegal drug use among commercial truck drivers."²² According to a survey provided by the Trucking Alliance, the estimated number of drivers who would fail or refuse a hair analysis for illegal drug use is about 8.6% of the total commercial truck drivers.²³ In other words, among the 3.5 million commercial truck drivers, 301,000 of them would most likely fail or refuse an illegal drug test. Due to the worker shortage in the trucking industry, the applicants who fail the drug test at one company would

²⁰ Kathryn Doyle, *Drug Use High Among Commercial Truck Drivers: Study*, Reuters, Oct. 25, 2013, <https://www.reuters.com/article/us-drug-truckdrivers/drug-use-high-among-commercial-truck-drivers-study-idUSBRE99O0T520131025>.

²¹ Commercial Motor Vehicle Traffic Safety Facts, *supra* note 7.

²² *Trucking Alliance Submits Comments to Congressional Sub-Committee*, The Trucking All. (June 12, 2019), <https://truckingalliance.org/trucking-alliance-submits-comments-to-congressional-sub-committee>.

²³ *Id.*; The Alliance for Driver Safety & Security, also known as the Trucking Alliance, is an industry-based, nonpartisan coalition non-profit organization of freight and logistics companies and other business partners. The Trucking Alliance mission is to advance safety reforms that can reduce and ultimately achieve zero large truck crash fatalities. *See* The Trucking All., <https://truckingalliance.org> (last accessed April 21, 2022).

likely find another job at another truck company with less rigorous testing requirements.

While many of the accidents caused within work zones are the result of drivers, improper work zone staging such as missing cones or barriers, missing or misleading signage, lack of speed warning signs, and poor lighting may also increase the risk of work zone accidents. The Occupational Safety and Health Administration (“OSHA”), has established specific guidelines as to how work zones should be sectioned, what worker safety attire should be worn by road workers, and how proper signage should be posted to keep both workers and drivers from having accidents in the area.²⁴ Paired with the Federal Highway Association (“FHWA”) Work Zone Management Program, these rules and regulations are there to create a safe and efficient flow of traffic, allowing both drivers and roadside workers to remain safe. Additionally, each state generally has its own manual on how to properly set up a highway work zone. Not following these regulations increases the risk of accidents.

II. LIABILITIES INVOLVED IN A CMV ACCIDENT AND THE SCOPE OF IMMUNITY FOR CONSTRUCTION COMPANIES

Three parties may commonly be involved in a CMV accident lawsuit: the CMV driver, the driver’s employer, and the construction company. Each state has established statutes governing work zone safety. Although an accident may take place on an interstate, an accident caused by traffic code violation is generally governed by the laws of the state in which the accident took place.²⁵

For cases resulting from a truck driver’s negligent or reckless behaviors, such as speeding, distracted driving, driving tired, drug impairment, or a combination of these factors, the driver is generally held liable. If the accident resulted in death or serious bodily injury, a negligent or reckless driver may be subjected to criminal charges. For instance, in July 2020, a truck driver from Ohio was under the influence of multiple drugs and crashed into general traffic within a work zone on

²⁴ *Highway Work Zones and Signs, Signals, and Barricades*, Occupational Safety & Health Admin., <https://www.osha.gov/highway-workzones> (last accessed June 4, 2021).

²⁵ For a list of state statutes that are applicable to roadway work zones, *see Laws, Standards & Policies*, Nat’l Workzone Safety Info. Clearinghouse, <https://workzonesafety.org/laws-standards-policies/> (last accessed June 4, 2021).

I-70 in Cambridge, Indiana.²⁶ Four children between the ages of 5 and 15 were killed as a result of this accident. The responsible driver was charged with nine felonies.²⁷ Police later found that the driver had a long record of drug addiction and was arrested three times for drug possession in Ohio.²⁸ Thus, the injured parties filed an action holding the driver's employer to be vicariously liable for both the accident and the company's negligent hiring, supervision, and lack of frequent drug testing.²⁹

Trucking companies have a responsibility to ensure that the drivers they hire have been properly trained on various aspects of operating a large vehicle and meet all the federal and local licensure requirements. The company also has a duty to ensure that their drivers are well looked after, meaning they are taking their mandated breaks to avoid driver fatigue, passing regular drug screenings, and receiving regular safety training. The injured parties in the case described above argued that the employer knew of the driver's prior drug convictions and knew that the driver had a high risk of driving under the influence, but the employer still allowed the driver to operate the vehicle knowing that the driver may cause or be involved in a serious collision.³⁰

Road construction sites in the middle of major roads and freeways create a hazardous condition for both the workers and the drivers if either party is not cautious. Construction companies have a duty to properly warn the general public of the upcoming hazards by providing adequate signs, signals, and/or devices, including but not limited to speed limit readers, "Road Work Ahead" signs, orange safety cones, and barriers with proper reflective strips. The injured party may establish a prima facie case against the construction company if the work site a) failed to stage proper signage and b) if that failure to provide adequate warning of the upcoming site was the cause of the accident. While nearly all highway constructions are commissioned by the state, a private

²⁶ Rich Nye, *Truck Driver Charged with Killing Four Children in Fiery I-70 Crash*, WTHR (July 10, 2020), <https://www.wthr.com/article/news/truck-driver-charged-in-fatal-crash/531-5eb02f96-e1e7-4e02-ab81-85912869723b>.

²⁷ Mike Emery, *9 Felonies Filed Against Truck Driver in Deadly I-70 Crash*, Pal Item (July 13, 2020), <https://www.pal-item.com/story/news/crime/2020/07/13/9-felonies-filed-against-truck-driver-deadly-70-crash/5427126002>.

²⁸ *Id.*

²⁹ *Bruce v. Barnets, Inc.*, 2021 U.S. Dist. LEXIS 67524 (S.D. Ind. 2020) (No. 1:20-cv-02855-SEB-MJD).

³⁰ *Id.*

contractor may be entitled to governmental immunity in situations where the contractor is merely implementing a policy-making decision from the state.³¹ In other words, the state would be immune from tort liability for any injury, death, or loss to persons or property in connection with the performance of a governmental or proprietary function.³²

In the context of a work zone-related traffic accident, the determination for governmental or proprietary function is if the construction company's actions at issue were discretionary.³³ The key to determining what type of decision is discretionary typically depends on the Manual of Uniform Traffic Control Devices' ("MUTCD" or the "Traffic Manual") use of the word "should" and "shall".³⁴ While the word "shall" establishes a mandatory duty, the word "should" requires the corresponding construction company to use its discretion and engineering judgment.³⁵ "When the manual does not prescribe the duty, or standard of care, the proper standard is that of a reasonable engineer using accepted practices at the time."³⁶

For example, in a truck accident that occurred on U.S. Route 30 outside of Wooster, Ohio, the trucking company alleged negligent planning and improper temporary road design against the state.³⁷ The trucking company argued that the state was supposed to use cement barriers to divide the traffic lanes as opposed to using double yellow lines.³⁸ The plaintiff argued that the damages were the direct result of the construction company's failure to install barriers. Regardless, the court held that this claim is barred under the principle of governmental immunity because the choice of channelizing device was not a mandatory requirement, but a discretionary decision for the construction company.³⁹

³¹ *Pylypiv v. City of Parma*, 2005-Ohio-6364.

³² *Id.*

³³ *Id.*

³⁴ *Dunlap v. W.L. Logan Trucking Co.*, 161 Ohio App. 3d 51, 2005-Ohio-2386, 829 N.E.2d 356.

³⁵ *Jeska v. Ohio DOT*, Nos. 98AP-1402, 98AP-1443, 1999 Ohio App. LEXIS 4246, at *2, (Ohio Ct. App. Sept. 16, 1999).

³⁶ *Dunlap*, 161 Ohio App.

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

The scope of a construction company's liability in a work zone accident depends substantially on the textual language of the Traffic Manual. It is jurisprudentially advantageous for a court to follow the plain language of the Traffic Manual, which contains bright-line rules. The Traffic Manual provides that provisions with "shall" communicate stipulations that the construction companies and employees must follow and that provisions with "should" stand as a strong recommendation but ultimately leave the decision up to company discretion. Courts can make clear rulings based on these rules; however, it is debatable whether simply following the Traffic Manual would make the work zones safer.

Scholars in the field of city planning and transportation law have argued that the Traffic Manual is biased against transportation behavior in dangerous and inequitable ways.⁴⁰ For instance, the Traffic Manual adopts the 85th Percentile Speed rule — the speed, above or below speed limit, at which 85% of common traffic travels — when revising the speed limit of highways.⁴¹ In other words, the Traffic Manual empowers traffic officials to raise the limit for that stretch of road to the speed chosen by the top 15% of drivers traveling at their average speed.⁴² In some areas, the 85th Percentile rule could empower officials that have a mind to speed to rewrite the legal limit, legalizing an unsafe speed that could lead to more serious vehicular or pedestrian accidents.⁴³

Another bias discussed by the scholars concerns one method of adding or changing a crosswalk by requiring a certain amount of human and material losses. Five or more serious crashes — crashes that exceed the reporting threshold for injury, death, and/or property damage — within a twelve-month period is the necessary requirement to add a crosswalk under the Crash Experience warrant.⁴⁴

The Traffic Manual was crafted under the "road throughput ethos", which measures the number of vehicles able to enter or exit the recorded area within the analysis period. The FHWA bases its road safety decisions on what is called the Measures of Effectiveness ("MoEs"), of which there are two types: the basic MoEs for rapid assessment and the

⁴⁰ Gregory H. Shill & Sara C. Bronin, *Rewriting Our Nation's Deadly Traffic Manual*, 135 Harv. L. Rev. 1 (2021).

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Commercial Motor Vehicle Traffic Safety Facts, *supra* note 7, at § 4C.08.

more in-depth MoEs that engineers work on over time.⁴⁵ The basic MoEs consist of five measures: “throughput, mean delay, travel time index, oversaturated freeway segments, and surface street intersections with turn bay overflows and exit blockages.”⁴⁶ These five measures make up the basic data input for redesigning road safety requirements in the area analyzed, including crosswalks, road medians, turn lanes, and U-turn availability. Though there are many other MoEs that the planning crews and engineers will also use, these are the MoEs used for the fast analysis of streets and intersections when accidents occur. Furthermore, officials have final say over speed limits and other road safety implementations, which can be subject to individual bias.

Therefore, the Traffic Manual tends to establish “a hierarchy of vehicular speed over public safety, vehicular mobility over other uses of public space, and driving over other modes of mobility.”⁴⁷

III. TRUCKING COMPANIES CAN ACT PROACTIVELY TO REDUCE RISK IN WORK ZONES

Human error plays a significant role in CMV fatal accidents in work zones. Many of the crashes are preventable, though some trucking companies need to implement more rigorous safety measures. As the FMCSA Deputy Administrator, Meera Joshi, stated in her report, “[f]atal crashes occurring in work zones are both tragic and absolutely preventable.”⁴⁸ There are many safety actions a truck company can enforce to reduce the risk of fatal crashes. Below are a number of routine practices a trucking company can implement to increase its overall operational safety and a number of technologies that trucking companies can utilize to further increase safety measures.

A. ESTABLISH WRITTEN SAFETY POLICIES

Every trucking company should have a comprehensive written manual that covers all safety topics related to the business, including the requirements for safe driving, the company’s policy on driving hours, steps to check the vehicle before each trip for maintenance, road safety,

⁴⁵ 6 U.S. Dep’t of Transp., *Chapter 6: Recommended MOEs*, in *Traffic Analysis Toolbox Volume VI: Definition, Interpretation, and Calculation of Traffic Analysis Tools Measures of Effectiveness* 101 (2007).

⁴⁶ *Id.*

⁴⁷ Shill, *supra* note 40.

⁴⁸ *Large Trucks are Involved in 1/3 of All Fatal Crashes*, *supra* note 6.

etc.⁴⁹ This manual should be as significant as the employment agreement. In other words, the trucking company should make it clear that driver's employment at the trucking company depends on the driver's consent and compliance with the manual. The best practice is for the trucking company to carefully walk through the safety manual with each driver, every one or two years. The driver should sign off on the manual after he has fully reviewed it.

B. HIRE DRIVERS CAREFULLY

A trucking company is vicariously liable for the negligent conducts of its drivers during the scope of employment. A trucking company should do its due diligence to make sure that the candidates are safe drivers, including a driving history background check and regular drug testing, prior to making any hiring decisions. This would ensure that the commercial drivers hired by each company would be less likely to have accidents caused by poor decision making (e.g. illegal or unprescribed drug use, regular speeding and/or reckless driving, or misuse of the vehicle and/or trailer for activities such as smuggling, overweight carrying, or other activities deemed by the company-driver contract to be unsuitable).⁵⁰

C. PREVENT DISTRACTED AND FATIGUE DRIVING

According to the National Highway Traffic Safety Administration, 9% of fatal crashes and 15% of all police-reported motor vehicle traffic crashes in 2019 were distraction crashes. It is extremely crucial to inform the drivers that they cannot be distracted by their phone or other things while driving. A trucking company may also consider implementing a commercial vehicle camera system to encourage good driving behaviors.

This point also presses on the importance of the drivers getting adequate sleep during their travel. Sleep deprivation can cause the driver to become distracted more easily, even without a phone. The drivers need to understand the importance of a full rest and focus on staying awake in a healthy way, not using excessive stimulants, and pulling over to rest

⁴⁹ Fed. Motor Carrier Safety Admin., *The Role of Safety Culture in Preventing Commercial Vehicle Crashes: A Synthesis of Safety Practice* (2007); *see also* Ronnie Wendt, *How to Build a Safety Culture at Your Fleet*, Heavy Duty Trucking (Dec. 20, 2021), <https://www.truckinginfo.com/10157187/how-to-build-a-safety-culture>.

⁵⁰ *Selecting and Hiring Safe Drivers*, Northland Ins. (last accessed April 22, 2022), <https://www.northlandins.com/services/risk-control/truck/rc-truck-dm-hiring-safe-driver.aspx>.

when they need to without worrying about consequences for a potentially late delivery. It is better that the load gets there late than for an accident to occur, damaging both driver and product.⁵¹

D. CONDUCT ROUTINE SAFETY MEETINGS

Having a weekly or monthly safety meeting can help the trucking company emphasize and refresh the safety policies. It would also give the drivers opportunities to ask questions and communicate to the company about any safety related issues or suggestions. Communication between managers and employees is exceedingly important since the managers are generally not the ones acting within those policies. The drivers must communicate their experiences to the company they drive for so both the company and drivers can be better prepared for future situations. Managers also need to communicate any changes in policy to all drivers so that the whole process can run safely and efficiently.

E. DRUG TESTING

Making sure that the drivers are drug-free is an essential requirement for a trucking company. The trucking company should state clearly in the employment agreement and safety manual that “a driver testing positive for drugs will be terminated.” The trucking company should consider administering both a pre-employment drug test as well as random drug testing. Furthermore, administering a drug test after any driver is involved in an accident before allowing them to return to duty, regardless whether or not the driver caused any injury, will discourage drivers from using substances in the first place.

F. PRE-TRIP VEHICLE INSPECTION

According to the FMCSA, vehicle brake problems are associated with 29% of all CMV crashes.⁵² It is important to go through the necessary vehicle inspection procedures prior to operation. Moreover, the trucking company should implement a preventive maintenance program so the trucks are professionally inspected on a regular basis, ensuring safe travel and operation of all equipment and limiting equipment failure related accidents.

⁵¹ *CMV Driving Tips - Driver Distraction*, Fed. Motor Carrier Safety Admin. (last updated Feb. 11, 2015), <https://www.fmcsa.dot.gov/safety/driver-safety/cm-v-driving-tips-driver-distraction>.

⁵² Commercial Motor Vehicle Traffic Safety Facts, *supra* note 7.

G. INSTALL A GPS SYSTEM

Having a tracking system or GPS that can monitor the route and speed of the drivers and operators would discourage the drivers from speeding, taking unsafe routes, and participating in illegal activities as well as reduce the risk of accidents.

H. SAFE DRIVER RECOGNITION

The trucking company can use weekly or monthly meetings to recognize the drivers who operate their vehicle safely without an accident or traffic violation for an extended period. The company should also consider rewarding these drivers by giving them a bonus at the end of the year or an additional cent-per-mile reward. Adding incentives for good behavior would give the drivers and operators more incentives to follow the rules and guidelines, resulting in a safer environment for everyone in the area of operation.

IV. CONCLUSION

While it is important for every company to efficiently deliver their goods or services and meet deadlines, it is arguably more important to follow the safety measures so that fewer injuries and deaths occur involving construction workers, commercial truck drivers, civilian drivers, and pedestrians. By following the rules and regulations that the construction and trucking companies set, accident rates can drop exponentially. To do that, certain things have to be addressed: first, why these accidents happen; second, what the consequences are for those liable for the accidents; and third, how to prevent these accidents from happening in the first place. If the companies employing the CMV drivers and operators update their regulations and requirements for safety parameters and ensure they are being enforced, drivers will be less inclined to break those rules. Trucking companies also need to ensure that their drivers maintain a healthy routine, making sure the drivers are resting or sleeping every 8 to 12 hours, not letting the drivers push over 60 hours of straight driving a week, and paying them well enough that they feel financially safe stopping to rest instead of pushing through to the next job. When the drivers feel less pressured, the need for stimulants will decrease, dropping the rate of drug related accidents. The goal is to make the roads safe and, through proper safety regulations, signs, driver care, and communication between all parties. This is an attainable goal that will make the logistics and distribution and construction work industries far more efficient.