

SAFETY AND ENFORCEMENT IMPACTS REPORT TO CONGRESS

Pursuant to Section 5525 of the Fixing America’s Surface Transportation Act (Pub. L. 114-94)
February 2023

Section 5525 of the Fixing America’s Surface Transportation (FAST) Act, Pub. L. 114-94, required the Secretary of Transportation to submit to Congress a report addressing the safety and enforcement impacts of sections 5520, 5521, 5522, 5523, 5524, and 7208 of the FAST Act. In preparing this report, the Department was required to consult with States, State law enforcement agencies, and other impacted entities, as appropriate. The study was conducted by analyzing existing data sources as well as surveying the Federal Motor Carrier Safety Administration’s (FMCSA) field staff who are directly involved in the enforcement of and compliance with Federal regulations. The study was unable to find any conclusive evidence of safety or enforcement impacts directly attributable to the FAST Act provisions. There were significant limitations in identifying potential safety impacts, given the very specific nature of the regulatory revisions mandated by the FAST Act, and difficulty with precisely identifying many of the vehicle types in the crash and inspection data utilized. Additionally, survey respondents indicated that the types of vehicles addressed by some of the FAST Act sections are rarely seen in enforcement or compliance activities. The following report details the study approach, study findings, and conclusions.

STUDY APPROACH

On behalf of the Secretary, FMCSA conducted a survey of FMCSA field operations staff who directly engage in enforcement activities related to the relevant FAST Act sections. FMCSA also analyzed data from the Fatality Analysis Reporting System (FARS) and FMCSA’s Motor Carrier Management Information System (MCMIS). The FARS database is publicly available and contains data on all fatal crashes involving at least one motor vehicle on public roadways. MCMIS contains data on commercial motor carriers; crashes involving commercial motor vehicles; and inspections of commercial motor vehicles and commercial driver’s license holders.

In July 2020, 35 of FMCSA’s Division Administrators completed a survey about safety-related issues for the six vehicle types shown in Table 1. The survey had 47 questions. The majority of survey respondents felt that there were no safety or enforcement impacts caused by these sections of the FAST Act. These findings are summarized in Table 1.

Table 1. Survey findings on the safety and enforcement impacts of FAST Act sections 5520–5524 and 7208.

FAST Act Section	Did these revisions lead to a decrease in overall safety? (Percent answering “No”)	Did these revisions impact your ability to prepare enforcement cases? (Percent answering “No”)	Did these revisions impact your compliance activities? (Percent answering “No”)
5520: Automobile Transporters	76%	n/a	n/a
5521: Ready-Mix Concrete Delivery Vehicles	94%	100%	82%

FAST Act Section	Did these revisions lead to a decrease in overall safety? (Percent answering “No”)	Did these revisions impact your ability to prepare enforcement cases? (Percent answering “No”)	Did these revisions impact your compliance activities? (Percent answering “No”)
5522: Transportation of Construction Materials and Equipment	94%	94%	88%
5523: Commercial Delivery of Light- and Medium-Duty Trailers	85%	n/a	n/a
5524: Welding Trucks Used in the Pipeline Industry	92%	75%	92%
7208: Hazardous Materials Endorsement Exemption	94%	100%	88%

Data from FARS and MCMIS were pulled for the period from 2006 to 2015 (pre-FAST Act) and the period from 2016 to 2019 (post-FAST Act). Based on overall crash trends, the period from 2014 to 2016 (2 years prior to the FAST Act and 1 year following the FAST Act) were analyzed more closely, as the national crash rates involving large trucks were following a linear trend during this time. A least squares regression estimate was used by calculating the coefficient of determination, R^2 , to measure the goodness of fit for each vehicle type where data was available. A high R^2 would indicate that there was no impact to the crash trends as a result of the FAST Act provisions. The crash data is summarized in Table 2.

Table 2. Crash data for FAST Act sections 5520–5524 and 7208 with calculated coefficient of determination (R^2).

Relevant FAST Act Section	2014	2015	2016	Coefficient of Determination (R^2)¹
N/A: National Count of Large Trucks in Fatal, Injury, and Tow-away Crashes	146,952	154,873	161,073	0.995
5520: Automobile Transporters	1,628	1,830	2,127	0.998
5521: Ready-Mix Concrete Delivery Vehicles	1,341	1,421	1,495	0.999
5522: Transportation of Construction Materials and Equipment	13,008	13,372	14,168	0.956
5523: Commercial Delivery of Light- and Medium-Duty Trailers	64	73	83	0.999
5524: Welding Trucks Used in the Pipeline Industry	Unknown	Unknown	Unknown	n/a
7208: Hazardous Materials Endorsement Exemption	Unknown	Unknown	Unknown	n/a

STUDY FINDINGS

Section 5520: Automobile Transporters

Section 5520 of the FAST Act revised the definition of an “Automobile Transporter” to allow transport of cargo or general freight on return trips (i.e., “backhaul”) and increased the vehicle

¹ The R^2 value is a coefficient of determination which in this analysis is measuring how well the data fit a linear regression. An R^2 of 1.0 would indicate a perfect fit; generally speaking, an $R^2 > 0.90$ is considered to be a good fit. In this analysis, the data fitting a linear model well indicates that there are no identifiable changes to the trendline after the FAST Act was signed into law.

length and overhang allowances. Given that FMCSA does not have the authority to enforce the length of vehicles and what they transport on backhaul, there was no possibility for these changes to impact enforcement and compliance activities. The results from the survey showed that the majority of respondents (76 percent) felt the FAST Act revisions did not lead to a decrease in overall safety (Table 3). Survey respondents provided additional comments indicating that overall they were unsure of whether there was an impact on safety.

Table 3. Summary of survey responses to section 5520.

Survey Questions	Yes	No	Total Responses
Did the automobile transporter revisions found in section 5520 lead to a decrease in overall safety?	7	22	29

Auto transporters are easily identified in FARS and MCMIS crash data; however, vehicle length and type of freight are generally not available. As a result of these limitations, it was not possible to determine which auto transporters in crashes fell under the FAST Act revisions to carry alternative freight or utilize an increased vehicle length. Analysis of crash data showed that the increase in crashes remained steady from 2014 through 2016, which mirrors the national crash trend. The crash data are shown in Figure 1, which shows the number of crashes involving auto transporters by year; the linear regression model for this data; and what percentage of national crashes involving large trucks those crashes represent. These crashes increased slowly but steadily, both before and after the FAST Act went into effect (illustrated by a high coefficient of determination ($R^2 = 0.998$)), and the percentage of national crashes involving auto transporters also remained somewhat consistent—around one percent. The survey results and analysis of crash data provide no evidence that the FAST Act revisions impacted safety or enforcement actions.

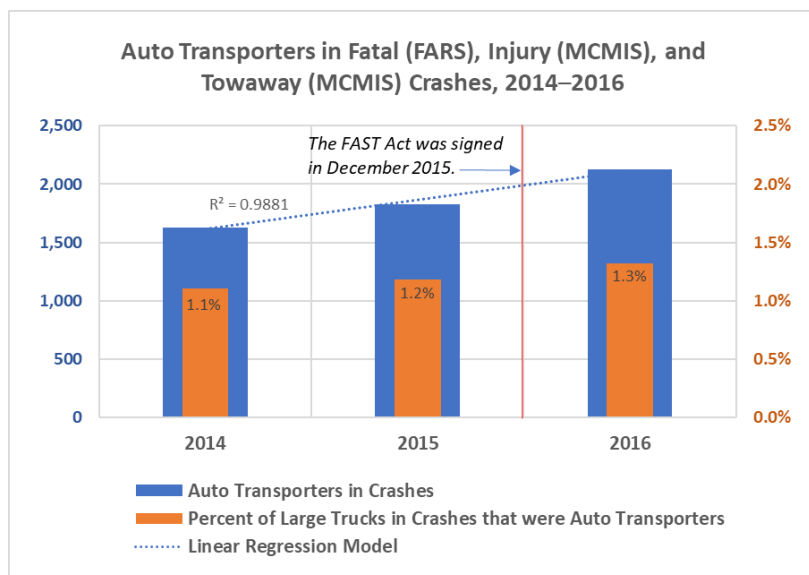


Figure 1. Number of crashes involving auto transporters using FARS and MCMIS data.

Section 5521: Ready-Mix Concrete Delivery Vehicles

Section 5521 of the FAST Act added an exemption to the hours-of-service (HOS) rules to allow drivers of ready-mix concrete delivery vehicles to work additional hours, as required under section 395.1(e)(1)(ii), (iii), and (iv) of Title 49, Code of Federal Regulations. Drivers utilizing this exemption must (1) operate within a 100-mile radius of a normal work reporting location; (2) return to this location and be released from work within 14 hours; (3) have at least 10 hours off duty following each consecutive 14 hours on duty; and (4) not exceed 11 hours driving time following 10 consecutive hours off duty. Motor carriers employing these drivers must maintain accurate time records for a period of 6 months.

The results from the survey showed that the majority of respondents (82 percent) felt the FAST Act revisions did not lead to a decrease in overall safety (Table 4). Survey respondents provided additional comments indicating that it was unlikely these revisions impacted safety. The one respondent who reported an impact on compliance activities felt it was a positive impact—that the 14-hour on-duty allowance had increased compliance. Respondents did note there were potential safety impacts if drivers were fatigued or working long hours, but overall felt that these changes were not significant given that these vehicles often do not travel long distances or operate in interstate commerce.

Table 4. Summary of survey responses to section 5521.

Survey Questions	Yes	No	Total Responses
Has the ready-mix concrete delivery vehicles exemption found in section 5521 impacted your compliance activities?	1	16	17
Has the ready-mix concrete delivery vehicles exemption impacted your ability to prepare enforcement cases?	0	17	17
Did the ready-mix concrete delivery vehicles exemption lead to a decrease in overall safety?	3	14	17

Although concrete mixers can be easily identified in FARS and MCMIS crash data, specifications involving hours worked and distances from work locations cannot be determined. As a result, statistics on all concrete mixers in crashes are presented, without any granularity into whether or not these concrete mixers were operating under FAST Act revisions. Analysis of crash data on the entire population of concrete mixers showed that the increase in crashes followed a linear trend from 2014 to 2016, which mirrors the national crash trend. The crash data are shown in Figure 2, which shows the number of crashes involving concrete mixers (used to approximate ready-mix concrete delivery vehicles); the linear regression model for this data; and what percentage of national crashes involving large trucks were represented by crashes involving these vehicles. The consistency in crash trends is seen by a high coefficient of determination ($R^2 = 0.999$), as well as the percentage of national crashes represented by concrete mixers remaining consistent—around one percent. The survey results and analysis of crash data provide no evidence that the FAST Act revisions impacted safety or enforcement actions.

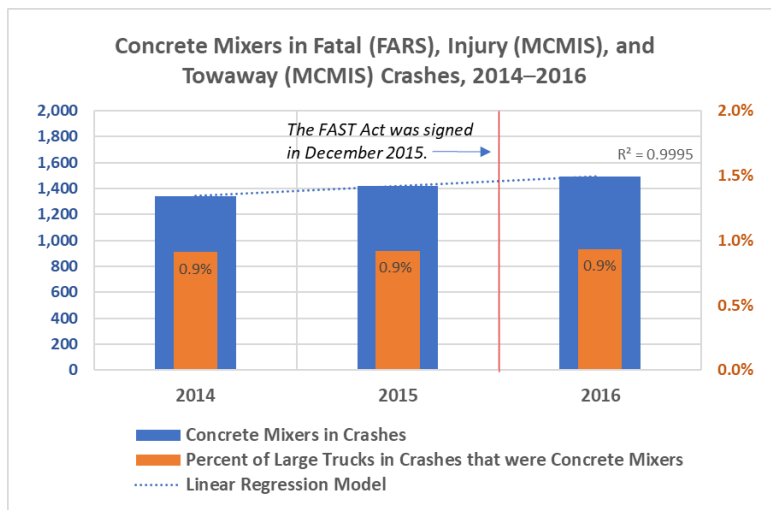


Figure 2. Number of crashes involving concrete mixers using FARS and MCMIS data.

Section 5522: Transportation of Construction Materials and Equipment

Section 5522 of the FAST Act extended the air-mile radius of a normal work-reporting location to 75 miles (previously 50 miles). The FAST Act allows individual States to establish a different air-mile radius of between 50 and 75 miles, provided they notify the Secretary. As of this report, FMCSA has no knowledge that any States utilize this provision.

The results from the survey showed that the majority of respondents felt the FAST Act revisions did not lead to a decrease in overall safety (Table 5). Survey respondents provided additional comments indicating that it was unlikely these revisions impacted safety. Responses noted that these carriers are more likely to operate in intrastate commerce and would therefore be outside of FMCSA’s regulatory authority. One respondent felt that exemptions to the HOS regulations always negatively impact safety but did not attribute any identifiable safety impacts to this revision.

Table 5. Summary of survey responses to section 5522.

Survey Questions	Yes	No	Total Responses
Has the change in the air-miles radius impacted your compliance activities?	1	15	16
Has the change in the air-miles radius impacted your ability to prepare enforcement cases?	1	15	16
Did the change in the air-miles radius lead to a decrease in overall safety?	2	14	16

Analysis of crash data was approximated by vehicles identified as “dump trucks,” which are most commonly associated with motor carriers involved in construction. There are several other types of vehicles involved in the transportation of construction materials and equipment, such as flatbed trucks and large vans; however, these vehicles are commonly used for transportation of other goods as well. FARS and MCMIS crash data do not contain information related to the air-mile radius of a work-reporting location, which further limits the precision of estimates on this modification’s effects on safety. The analysis showed that the increase in crashes followed a linear trend from 2014 to 2016, which mirrors the national crash trend. The crash data are shown in Figure 3, which displays the number of crashes involving dump trucks (used to approximate

transportation of construction materials and equipment); the linear regression model for this data; and what percentage of national crashes involving large trucks were represented by crashes involving these vehicles. The consistency in crash trends is seen by a high coefficient of determination ($R^2 = 0.956$), as well as the percentage of national crashes represented by dump trucks remaining consistent—around nine percent.

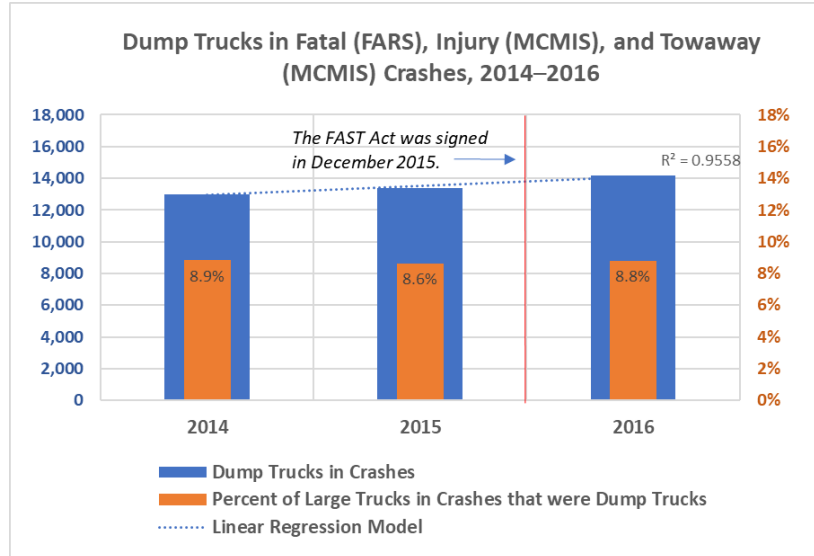


Figure 3. Number of crashes involving dump trucks using FARS and MCMIS data.

The survey results and analysis of crash data provide no evidence that the FAST Act revisions impacted safety or enforcement actions.

Section 5523: Commercial Delivery of Light- and Medium-Duty Trailers

Section 5523 of the FAST Act prohibited any State from imposing an overall length limitation of under 82 feet on a tow-away trailer transporter combination (defined as a combination of vehicles consisting of a trailer transporter towing unit and two trailers or semitrailers). Given that FMCSA does not have the authority to enforce vehicle length limits, there was no possibility that these changes could impact the Agency’s enforcement and compliance activities.

The results from the survey showed that the majority of respondents (85 percent) felt the FAST Act revisions did not lead to a decrease in overall safety (Table 6). Survey respondents provided additional comments indicating that there was no known decrease of safety, although one commenter raised concerns over the risk of longer vehicles on rural roads.

Table 6. Summary of survey responses to section 5523.

Survey Questions	Yes	No	Total Responses
Did the restriction on a State's ability to limit the length of tow-away trailer transporter combinations lead to a decrease in overall safety?	4	22	26

The closest available approximation in the MCMIS crash data of the vehicle type described by this section was double and triple trailers with a gross vehicle weight rating (GVWR) of less than 26,000 lbs., but these vehicles were not necessarily being commercially delivered. In spite of

this limitation, analysis of this data, shown in Figure 4, indicated that the increase in crashes remained steady from 2014 through 2016, which mirrors the national crash trend. The crash data are shown in Figure 4, which displays the number of crashes involving double and triple trailers with a GVWR of less than 26,000 lbs.; the linear regression model for this data; and what percentage of national crashes involving large trucks were represented by crashes involving these vehicles. The consistency in crash trends is seen by a high coefficient of determination ($R^2 = 0.999$), as well as the percentage of national crashes represented by these vehicles remaining consistent—around 0.05 percent.

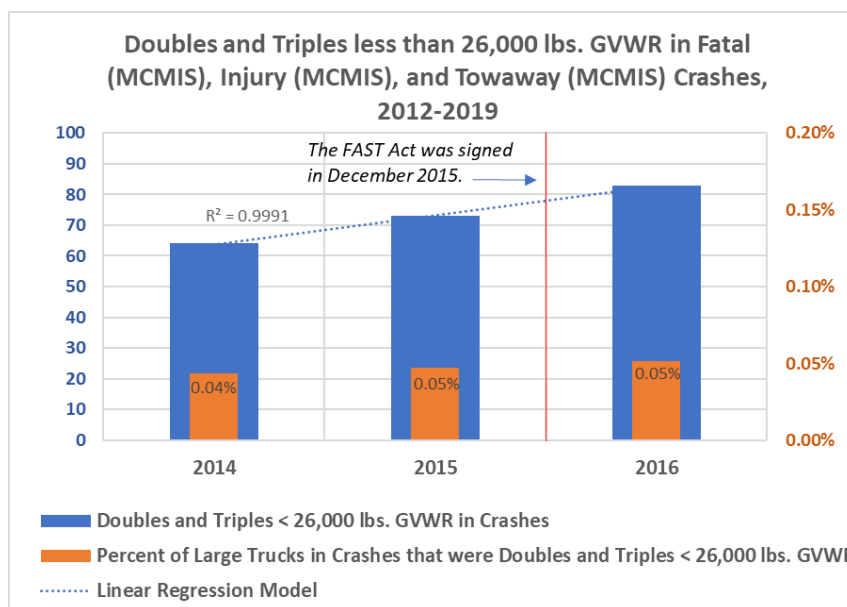


Figure 4. Number of crashes involving double and triple trailers less than 26,000 lbs. GVWR using FARS and MCMIS data.

The survey results and analysis of crash data provide no evidence that the FAST Act revisions impacted safety or enforcement actions.

Section 5524: Exemptions from Requirements for Certain Welding Trucks Used in Pipeline Industry

Section 5524 of the FAST Act exempts welding trucks, operators, and operator employees in the pipeline industry from requirements related to registering as a motor carrier; driver qualifications; hours of service; driving a commercial motor vehicle; parts, accessories, and inspections; and repair and maintenance of commercial motor vehicles.

The results from the survey showed that the majority of respondents (92 percent) felt the FAST Act revisions did not lead to a decrease in overall safety (Table 7). While the majority of respondents (75 percent) also felt there was no impact on enforcement activities, a number reported an impact. Survey respondents provided additional comments indicating that there was no known decrease of safety, although the exemption could lead to a decrease in safety if these drivers exceeded HOS regulations. Respondents felt that the exemption was vague and could not be enforced sufficiently due to limited registration and driver qualification information available

to the investigator. In other words, the exemption relies on self-certification and can be difficult to confirm, so investigators must rely on the driver to be honest about the exemption’s applicability.

Table 7. Summary of survey responses to section 5524.

Survey Questions	Yes	No	Total Responses
Have the exemptions for welding trucks listed in section 5524 impacted your compliance activities?	1	11	12
Have the exemptions for welding trucks listed in section 5524 impacted your ability to prepare enforcement cases?	3	9	12
Do the exemptions for welding trucks listed in section 5524 lead to a decrease in overall safety?	1	11	12

Analysis of crash data could not be conducted, due to limitations in identifying the specific covered motor vehicles as defined in the FAST Act.

The survey results provide no evidence that the FAST Act revisions impacted safety; however, minor impacts on enforcement activities may have occurred from these FAST Act revisions.

Section 7208: Hazardous Materials Endorsement Exemption

Section 7208 of the FAST Act allows individual States to waive the requirement for a commercial driver’s license holder to have a hazardous materials endorsement under specific circumstances.

The results from the survey showed that the majority of respondents (88 percent) felt the FAST Act revisions did not lead to a decrease in overall safety (Table 8). One respondent felt that this could be harder to enforce as it would not be uniform across all States. Respondents felt that the exemption could lead to unqualified drivers operating on highways; however, they noted that there were no noticed safety impacts at the time of their response. Multiple respondents in FMCSA’s Division (i.e., State) offices noted their States chose not to waive the requirement, precluding any safety impact.

Table 8. Summary of survey responses to section 7208.

Survey Questions	Yes	No	Total Responses
Has the State option to waive hazardous materials endorsements for Class A CDL holders in the transportation sectors specified in section 7208 impacted your compliance activities?	1	16	17
Has the State option to waive hazardous materials endorsements for Class A CDL holders in the transportation sectors specified in section 7208 impacted your ability to prepare enforcement cases?	0	17	17
Does the State option to waive hazardous materials endorsements for Class A CDL holders in the transportation sectors specified in section 7208 lead to a decrease in overall safety?	2	15	17

Analysis of crash data could not be conducted, due to limitations in identifying crashes occurring specifically under the circumstances defined in the FAST Act, as well as lack of information on which States have chosen to waive this requirement.

The survey results provide no evidence that the FAST Act revisions impacted safety or enforcement actions.

LIMITATIONS

When analyzing the commercial motor vehicle crash and inspection data, it was often difficult or impossible to precisely identify many of the vehicle types identified in the FAST Act because FMCSA’s inspections do not collect detailed operational information. Where it was possible to identify the vehicle types in the data, it was often impossible to determine whether those vehicles were, in fact, operating under one of the FAST Act revisions (e.g., whether an auto transporter in a crash was actually travelling on the backhaul, whether drivers of ready-mix concrete delivery vehicles met all of the criteria in Section 5521). Additionally, there is no information related to air-mile radius or duty hours in the FARS and MCMIS data sets. This impacted FMCSA’s ability to determine which crashes may have been related to the revisions and which crashes would have occurred regardless of the revisions. Some of the data used in analysis was approximated, namely transportation of construction materials and equipment, due to an inability to isolate the specific types of vehicles operated.

The revisions in the FAST Act applied to a very small portion of commercial vehicles, and some of these revisions are not enforceable by FMCSA (e.g., vehicle length). This led to an inability to isolate and identify the potential safety impacts of these revisions from all the other factors that contribute to crashes.

CONCLUSIONS

Based on the available data, and acknowledging the significant limitations outlined in the section above, there is no evidence that the FAST Act revisions impacted safety. Furthermore, there were no reports that the FAST Act greatly impacted enforcement activities, although revisions to the definition of welding trucks used in the pipeline industry may have had minor impacts on enforcement of these vehicles. There were significant limitations in determining the safety impacts, since it was often difficult or impossible to precisely identify many of the vehicle types in these revisions, and some of the survey respondents indicated they rarely encounter some of these vehicle types.

Table 9. Summary of safety and enforcement impacts of various FAST Act sections.

FAST Act Section	Safety Impacts	Enforcement Impacts
5520: Automobile Transporters	None identified	n/a
5521: Ready-Mix Concrete Delivery Vehicles	None identified	None identified
5522: Transportation of Construction Materials and Equipment	None identified	None identified
5523: Commercial Delivery of Light- and Medium-Duty Trailers	None identified	n/a
5524: Welding Trucks Used in the Pipeline Industry	None identified	Potentially minor impacts
7208: Hazardous Materials Endorsement Exemption	None identified	None identified