opposite direction sideways, which have a similar crash configuration to head-on crashes, the passenger vehicle encroached into the truck’s lane over seven times as often as the truck encroached into the passenger vehicle’s lane (Table 5). In same direction sideways, the passenger vehicle encroached into the truck’s lane about two and one half times as often as the truck encroached into the passenger vehicle’s lane.

The driver-related factors coding was consistent with this physical evidence. When the passenger vehicle encroached into the lane in which the truck was traveling, the encroaching passenger vehicle driver was assigned driver factors in 98 percent of the opposite direction sideways crashes and 97 percent of the same direction sideways crashes. When the large truck was the encroaching vehicle, the truck driver was coded with driver-related factors in 79 percent of the opposite direction sideways crashes and 83 percent of the same direction sideways crashes. The most common driver-related factor coded for the encroaching vehicles, whether they were a passenger vehicle or a large truck, was running off the road or out of the traffic lane, both for opposite and same direction sideways crashes.

Other Crash Configurations: In all other crash configurations not discussed above, the driver-related factors coding appeared to be consistent with the physical evidence. The physical evidence about each vehicle’s maneuver and position prior to the crash was available to help verify the coding of the driver-related factors. In these cases, the driver-related factors coding appeared to be consistent with the physical evidence.

Conclusion
In about one-half of the fatal crashes between one large truck and one passenger vehicle, physical evidence about each vehicle’s maneuver and position prior to the crash was available to help verify the coding of the driver-related factors. In these cases, the driver-related factors coding appeared to be consistent with the physical evidence. The drivers of vehicles that encroached into the other vehicle’s lane in head-on and sideways crashes and drivers of vehicles that struck the other vehicle in rear-end crashes were assessed driver-related factors or errors more often than the other driver. In the majority of these cases, the passenger vehicle driver was attributed with driver-related factors or errors more often than the driver of the large truck.

While many of the OMCHS programs focus on motor carrier and truck driver safety, this analysis supports the importance of focusing on behavior of the drivers of the other vehicles. OMCHS already has programs in place, such as No Zone and car-truck proximity research, that address these issues. However, more comprehensive data on the causes of large truck/passenger vehicle crashes of all severities would enhance OMCHS’s ability to develop effective countermeasures and prevent future crashes.

Table 6. All Other Fatal Crash* Configurations by Driver-Related Factors.

<table>
<thead>
<tr>
<th>Driver Related Factor</th>
<th>Number of Times Cited for Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to Yield Right of Way</td>
<td>417 1,622</td>
</tr>
<tr>
<td>Failure to Obey Traffic Devices</td>
<td>274 950</td>
</tr>
<tr>
<td>Inattentive</td>
<td>92 387</td>
</tr>
<tr>
<td>Driving Too Fast</td>
<td>160 358</td>
</tr>
<tr>
<td>Ran Off Road/Lane</td>
<td>108 246</td>
</tr>
<tr>
<td>Erratic/Reckless Driving</td>
<td>80 150</td>
</tr>
</tbody>
</table>

*Involving one large truck and one passenger vehicle


Distribution
This Analysis Brief is being distributed according to a standard distribution. Direct distribution is being made to the Resource Centers and Divisions.

Availability
This Analysis Brief is available through the OMCHS Office of Data Analysis and Information Systems, Telephone: (202) 366-1861.

Key Words
Large truck, passenger vehicles, driver-related crash factors, head-on crashes, rear-end crashes, side-swipes.

Notice
This Analysis Brief is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The Analysis Brief does not establish policies or regulations, nor does it imply FHWA endorsement of the conclusions or recommendations. The U.S. Government assumes no liability for its contents or their use.

US Department of Transportation
Federal Highway Administration

April 1999
Publication No. FHWA-MCR-99-011

Driver-Related Factors in Crashes Between Large Trucks and Passenger Vehicles

Introduction
Large trucks (trucks with a gross vehicle weight rating of more than 10,000 pounds) are involved in close to 400,000 police-reported crashes each year, of which 4,500 involve a fatality. About 60 percent of fatal truck crashes involve only a large truck colliding with a single passenger vehicle — a car, pickup truck, van, or sport utility vehicle. Prevention of these crashes requires understanding how and why these crashes occur to develop effective countermeasures.

The analysis of the relative contribution of the truck driver versus the driver of the other vehicle involved in a fatal crash has been limited in the past in an examination of the driver-related factors variable in the National Highway Traffic Safety Administration’s (NHTSA) Fatality Analysis Reporting System (FARS). The FARS analyst in each State records driver actions that may have contributed to the fatal crash. The coding is based on factors recorded on the crash report by the police officer. NHTSA’s “Traffic Facts 1996: Large Trucks” states that in 71 percent of two-vehicle fatal crashes involving a large truck and another vehicle, police reported “one or more errors or other factors related to the driver’s behavior” for the other vehicle driver and none for the truck driver.

Analysts have been skeptical of relying solely on the judgments of officers at the scene of a crash to attribute cause or fault in fatal crashes. Thus, the Office of Motor Carrier and Highway Safety (OMCHS), in conjunction with the University of Michigan Transportation Research Institute (UMTRI), examined the driver-related factors from FARS along with other data that could either verify or refute the factor data. This analysis brief presents the findings of this study.

Methodology
UMTRI maintains a fatal truck crash database called the Trucks Involved in Fatal Accidents (TIFA) file. In addition to including all the FARS data on fatal large truck crashes, the TIFA file contains additional information about these crashes collected from the truck drivers, the police officers, the truck companies and others with knowledge of the crash. The subject of this study were the 8,309 fatal crashes involving one large truck and one passenger vehicle in the 1994, 1995, and 1996 TIFA files. The analysis focused on two critical variables: driver-related factors and accident type (captures the relative movement and position of the vehicles prior to the crash). Since certain movements and positions of the vehicles prior to the collision may indicate relative contribution to the occurrence of the crash, the reliability of the coding of the driver-related factors was evaluated.

Discussion
In fatal crashes involving one large truck and one passenger vehicle, errors on the part of the passenger vehicle driver were recorded significantly more often than errors on the part of the truck driver. In fatal crashes, up to three driver crash-related factors may be coded for each driver involved in a crash. Tables 1 and 2 compare the crash-related factors assigned to large truck and passenger vehicle drivers in fatal crashes involving both types of vehicles. Reviewing the driver-related factors alone indicates that passenger vehicle drivers contributed disproportionately to fatal crashes involving a large truck and a passenger vehicle.
Involving one large truck and one passenger vehicle


Totals 8,309 100%

Unknown 127 1%

Vehicle Driver

Vehicle Driver

Factor(s) Coded for Passenger

Factor Coded

Table 2. Passenger Vehicle Driver-Related Factors in Fatal Crashes* with a Single Large Truck

Table 2.

No Passenger Vehicle Driver Number Percent

Vehicle Driver Coded

1,477 18%

Factor(s) Coded for Passenger

Vehicle Driver Only

5,875 71%

Factor(s) Coded for Passenger

Vehicle Driver and Truck Driver

830 10%

Unknown

127 1%

Totals

8,309 100%

*Involving one large truck and one passenger vehicle


Figure 1. Fatal Crashes* by Collision Type

Vehicular

Head-On 23.0%

Rear-End 15.0%

Sidewipe Opposite 10.0%

Sidewipe Same 3.0%

All Other 49.0%

*Involving one large truck and one passenger vehicle


In 15 percent of the crashes in the study, both drivers survived and may have been able to describe the crash to the investigating officer. In 73 percent of these cases, the passenger vehicle driver was coded with a factor, while the truck driver was coded with a factor only 34 percent of the time. The distribution of driver-related factors for these cases remained close to the overall distribution for all fatal crashes.

Next, the driver-related factors were examined in light of the crash configuration to gain further insight in the validity of the coding of driver-related factors. The TIFA variable accident type captures the relative movement and position of the two vehicles prior to impact. Both the location of the vehicle in regard to its travel lane prior to impact and which vehicle was the striking vehicle can be determined from this variable. In some types of fatal crashes, this physical evidence of the crash configuration strongly suggests that one driver may have contributed more heavily than the other.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (opposite and same direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. In some rear-ends, the evidence may point to the striking vehicle and vice versa. Whether the evidence was coded in the same or opposite directions. The driver that crosses into the other vehicle’s lane probably contributed more heavily to the crash. However, in some sideswipes the physical evidence of where the collision took place is not as clear as for head-ends and rear-ends. For those cases, coding which vehicle encroached into the other vehicle’s lane may depend on witness statements.

In other types of crashes — mostly angle collisions — the physical evidence does not give strong clues to implicate one vehicle or the other in the fatal crash. In one such type of crash, turning-across-path collisions, it is not clear which vehicle had the right of way. Similarly, in straight-path collisions, it is not clear which vehicle violated the right of way by running a stop sign or signal. Determining fault in these types of crashes depends on statements from the drivers and witnesses, and may, therefore, be less reliable.

Findings

Head-On Crashes: In 89 percent of these fatal crashes, the passenger vehicle crossed the center line into the truck’s lane, while in 11 percent of the crashes the truck encroached into the passenger vehicle’s lane. Thus, the passenger vehicle encroached into the truck’s lane of travel over eight times as often as the truck encroached into the passenger vehicle’s travel lane.

The driver-related factor coding was consistent with the physical evidence in these head-on crashes. In the 212 crashes where the truck encroached into the lane of travel of the passenger vehicle, 93 percent of the truck drivers but only 10 percent of the passenger vehicle drivers were assessed with driver-related factors.

When large trucks encroached into the lane of the passenger vehicle, 98 percent of the passenger vehicle drivers and only 9 percent of the large truck drivers were assessed with driver-related factors. The percentages do not add to 100 percent, since in some of the cases both drivers were assessed with driver-related factors.

Rear-End Crashes: In rear-end fatal crashes in the study, the passenger vehicle was the striking vehicle almost four times as often as the large truck. The physical evidence was consistent with the coding of the driver-related factor coding. The striking vehicle driver was assessed driver factors more often than the struck vehicle. In crashes where the passenger vehicle struck the truck, 94 percent of the passenger vehicle drivers and 19 percent of the truck drivers were assessed with driver-related factors. In rear-end crashes where the large truck was the striking vehicle, 73 percent of the truck drivers and 46 percent of the passenger vehicle drivers were assessed driver-related factors.
Table 1. Large Truck Driver-Related Factors in Fatal Crashes* with a Single Passenger Vehicle

<table>
<thead>
<tr>
<th>Large Truck Driver Factor Coding</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Truck Driver Factor Coded</td>
<td>6,051</td>
<td>73%</td>
</tr>
<tr>
<td>Factor(s) Coded for Truck Driver Only</td>
<td>1,325</td>
<td>16%</td>
</tr>
<tr>
<td>Factor(s) Coded for Passenger Vehicle Driver</td>
<td>830</td>
<td>10%</td>
</tr>
<tr>
<td>Unknown</td>
<td>103</td>
<td>1%</td>
</tr>
<tr>
<td>Totals</td>
<td>8,309</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Involving one large truck and one passenger vehicle

Table 2. Passenger Vehicle Driver-Related Factors in Fatal Crashes* with a Single Large Truck

<table>
<thead>
<tr>
<th>No Passenger Vehicle Driver Factor Coded</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Passenger Vehicle Driver Coded</td>
<td>1,477</td>
<td>18%</td>
</tr>
<tr>
<td>Factor(s) Coded for Passenger Vehicle Driver Only</td>
<td>5,875</td>
<td>71%</td>
</tr>
<tr>
<td>Factor(s) Coded for Passenger Vehicle Driver and Truck Driver</td>
<td>830</td>
<td>10%</td>
</tr>
<tr>
<td>Unknown</td>
<td>127</td>
<td>1%</td>
</tr>
<tr>
<td>Totals</td>
<td>8,309</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Involving one large truck and one passenger vehicle

Table 3. Head-On Fatal Crashes* by Driver-Related Factors and Vehicle Maneuver.

<table>
<thead>
<tr>
<th>Encroaching Driver-Related Factor Coded</th>
<th>Total Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Truck</td>
<td>93%</td>
</tr>
<tr>
<td>Passenger Vehicle</td>
<td>9%</td>
</tr>
<tr>
<td>Totals</td>
<td>1,724</td>
</tr>
</tbody>
</table>

*Involving one large truck and one passenger vehicle

Table 4. Rear-End Fatal Crashes* by Driver-Related Factors and Vehicle Maneuver.

<table>
<thead>
<tr>
<th>Driver-Related Factor Coded</th>
<th>Total Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Truck</td>
<td>73%</td>
</tr>
<tr>
<td>Passenger Vehicle</td>
<td>28%</td>
</tr>
<tr>
<td>Totals</td>
<td>100</td>
</tr>
</tbody>
</table>

*Involving one large truck and one passenger vehicle

Table 5. Sideswipe Fatal Crashes* by Driver-Related Factors and Vehicle Maneuver.

<table>
<thead>
<tr>
<th>Driver-Related Factor Coded</th>
<th>Total Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Truck</td>
<td>8%</td>
</tr>
<tr>
<td>Passenger Vehicle</td>
<td>28%</td>
</tr>
<tr>
<td>Totals</td>
<td>37%</td>
</tr>
</tbody>
</table>

*Involving one large truck and one passenger vehicle

Findings

Head-On Crashes: In 89 percent of these fatal crashes, the passenger vehicle crossed the center line into the truck’s lane, while in 11 percent of the crashes the truck encroached into the passenger vehicle’s lane. Thus, the passenger vehicle encroached into the truck’s lane of travel over eight times as often as the truck encroached into the passenger vehicle’s travel lane.

The driver-related factor coding was consistent with the physical evidence in these head-on crashes. In the 212 crashes where the truck was at fault, 93 percent of the truck drivers, but only 10 percent of the passenger vehicle drivers were assessed with driver-related factors.

When large trucks encroached into the lane of the passenger vehicle, 98 percent of the passenger vehicle drivers and only 9 percent of the truck drivers were assessed with driver-related factors. The percentages do not add to 100 percent, since in some of the cases both drivers were assessed with driver-related factors.

In crashes where the passenger vehicle struck the truck, 94 percent of the passenger vehicle drivers and 19 percent of the truck drivers were assessed with driver-related factors. In rear-ends where the large truck was the striking vehicle, 73 percent of the truck drivers and 46 percent of the passenger vehicle drivers were assessed driver-related factors.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (same and opposite direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed into the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. The evidence for sideswipes (same and opposite direction) is less reliable. In these crash configurations, the physical evidence exists that can indicate that one of the vehicles may have contributed more heavily to the crash occurring than the other. All other crash configurations account for 49 percent of the fatal crashes involving one large truck and one passenger vehicle. Each of the crash configuration categories is discussed below.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (same and opposite direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed into the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. The evidence for sideswipes (same and opposite direction) is less reliable. In these crash configurations, the physical evidence exists that can indicate that one of the vehicles may have contributed more heavily to the crash occurring than the other. All other crash configurations account for 49 percent of the fatal crashes involving one large truck and one passenger vehicle. Each of the crash configuration categories is discussed below.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (same and opposite direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed into the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. The evidence for sideswipes (same and opposite direction) is less reliable. In these crash configurations, the physical evidence exists that can indicate that one of the vehicles may have contributed more heavily to the crash occurring than the other. All other crash configurations account for 49 percent of the fatal crashes involving one large truck and one passenger vehicle. Each of the crash configuration categories is discussed below.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (same and opposite direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed into the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. The evidence for sideswipes (same and opposite direction) is less reliable. In these crash configurations, the physical evidence exists that can indicate that one of the vehicles may have contributed more heavily to the crash occurring than the other. All other crash configurations account for 49 percent of the fatal crashes involving one large truck and one passenger vehicle. Each of the crash configuration categories is discussed below.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (same and opposite direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed into the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. The evidence for sideswipes (same and opposite direction) is less reliable. In these crash configurations, the physical evidence exists that can indicate that one of the vehicles may have contributed more heavily to the crash occurring than the other. All other crash configurations account for 49 percent of the fatal crashes involving one large truck and one passenger vehicle. Each of the crash configuration categories is discussed below.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (same and opposite direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed into the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. The evidence for sideswipes (same and opposite direction) is less reliable. In these crash configurations, the physical evidence exists that can indicate that one of the vehicles may have contributed more heavily to the crash occurring than the other. All other crash configurations account for 49 percent of the fatal crashes involving one large truck and one passenger vehicle. Each of the crash configuration categories is discussed below.

Four types of crash configurations were examined: head-on, rear-end, sideswipe (same and opposite direction), and all other configurations. Physical evidence for head-on and rear-end collisions probably indicates driver error. In a head-on crash where one vehicle crossed into the oncoming traffic lane, the evidence may indicate a greater contribution to the crash on the part of the driver that left his lane. In a rear-end collision, the striking vehicle may have contributed more heavily than the struck vehicle. The evidence for sideswipes (same and opposite direction) is less reliable. In these crash configurations, the physical evidence exists that can indicate that one of the vehicles may have contributed more heavily to the crash occurring than the other. All other crash configurations account for 49 percent of the fatal crashes involving one large truck and one passenger vehicle. Each of the crash configuration categories is discussed below.
In all other crash configurations not discussed above, the passenger vehicle driver was attributed with driver-related factors or errors more often than the driver of the large truck. In fatal crashes involving one large truck and one passenger vehicle, errors on the part of each driver involved in a crash.

Discussion

In fatal crashes involving one large truck and one passenger vehicle, errors on the part of each driver involved in a crash. The driver-related factors coding was consistent with this physical evidence. When the passenger vehicle encroached into the lane in which the truck was traveling, the encroaching passenger vehicle driver was assigned driver factors in 98 percent of the opposite direction sidewipe crashes and 97 percent of the same direction sidewipe crashes. When the large truck was the encroaching vehicle, the truck driver was coded with driver-related factors in 79 percent of the opposite direction sidewipe crashes and 83 percent of the same direction sidewipe crashes. The most common driver-related factor coded for the encroaching vehicles, whether they were a passenger vehicle or a large truck, was running off the road or out of the traffic lane, both for opposite and same direction sidewipe crashes.

Conclusion

In aftermath of the fatal crashes between one large truck and one passenger vehicle, physical evidence about each vehicle’s maneuver and position prior to the crash was assessed to verify the coding of the driver-related factors. In these cases, the opposite direction sidewipe crashes, which have a similar crash configuration to head-on crashes, the passenger vehicle encroached into the truck’s lane over seven times as often as the truck encroached into the passenger vehicle’s lane (Table 5). In same direction sidewipe, the passenger vehicle encroached into the truck’s lane about two and one half times as often as the truck encroached into the passenger vehicle’s lane.

The driver-related factors coding was consistent with this physical evidence. When the passenger vehicle encroached into the lane in which the truck was traveling, the encroaching passenger vehicle driver was assigned driver factors in 98 percent of the opposite direction sidewipe crashes and 97 percent of the same direction sidewise crashes. When the large truck was the encroaching vehicle, the truck driver was coded with driver-related factors in 79 percent of the opposite direction sidewipe crashes and 83 percent of the same direction sidewipe crashes. The most common driver-related factor coded for the encroaching vehicles, whether they were a passenger vehicle or a large truck, was running off the road or out of the traffic lane, both for opposite and same direction sidewipe crashes.

Other Crash Configurations: In all other crash configurations not discussed above, the physical evidence does not provide conclusive driver contribution to fatal crashes. In the remaining 4,047 fatal crashes in this study, twice as many passenger vehicle drivers as truck drivers (77 percent versus 33 percent) are coded with driver-related factors (Table 6).

The major factors cited for the drivers are similar to those recorded for the crash configurations already discussed above.


driving errors more often than the other driver. In the majority of these cases, the passenger vehicle driver was attributed with driver-related factors or errors more often than the driver of the large truck.

While many of the OMCHS programs focus on motor carrier and truck driver safety, this analysis supports the importance of focusing on behavior of the drivers of the other vehicles. OMCHS already has programs in place, such as No Zone and car-truck proximity research, that address these issues. However, more comprehensive data on the causes of large truck/passenger vehicle crashes of all severities would enhance OMCHS’s ability to develop effective countermeasures and prevent future crashes.

Key Words

large trucks, passenger vehicles, driver-related crash factors, head-on crashes, rear-end crashes, side- swipes.

Notice

This Analysis Brief is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The Analysis Brief does not establish policies or regulations, nor does it imply FHWA endorsement of the conclusions or recommendations. The U.S. Government assumes no liability for its contents or their use.

Availability

This Analysis Brief is available through the OMCHS Office of Data Analysis and Information Systems, Telephone: (202) 366-1861.

April 1999
Publication No. FHWA-MCR-99-011

The Analysis Brief does not establish policies or regulatory flexibility analyses and cost/benefit analyses and program effectiveness in reducing crashes, and researches crash causation and exposure data. It also conducts cost/benefit analyses and regulatory flexibility analyses to address new or revised regulations and policies, and coordinates information and data analysis with information and analysis specialists in the resource centers.

Prevention of crashes involving large trucks, passenger vehicles, whether they were a passenger vehicle or a large truck, was running off the road or out of the traffic lane, both for opposite and same direction sidewipe crashes.

Methodology

UMTRI maintains a fatal truck crash database called the Trucks Involved in Fatal Accidents (TIFA) file. In addition to including all the FARS data on fatal large truck crashes, the TIFA file contains additional information about these crashes collected from the truck drivers, the police officers, the truck companies, and others with knowledge of the crash. The subject of this study were the 8,309 fatal crashes involving one large truck and one passenger vehicle in the 1994, 1995, and 1996 TIFA files. The analysis focused on two critical variables: driver-related factors and accident type (captures the relative movement and position of the vehicles prior to the crash). Since certain movements and positions of the vehicles prior to the collision may indicate relative contribution to the occurrence of the crash, the reliability of the coding of the driver-related factors was evaluated.

Summary

The mission of the Office of Motor Carrier and Highway Safety is to develop and promote, in coordination with other Departmental modes, data-driven, analysis-based, and innovative programs to achieve continuous safety improvements in the Nation’s highway system, intermodal connections, and motor carrier operations. The Office of Data Analysis and Information Systems provides analytic and statistical support for all FHWA motor carrier and highway safety infrastructure program development and evaluation.

The Analysis Division analyzes motor carrier and highway safety crash trends, monitors patterns in motor carrier inspection rates, evaluates program effectiveness in reducing crashes, and researches crash causation and exposure data. It also conducts cost/benefit analyses and regulatory flexibility analyses to address new or revised regulations and policies, and coordinates information and data analysis with information analysis specialists in the resource centers.

The Analysis Brief describes a study performed by the Center for Transportation Systems, UMTRI, and the Office of Motor Carrier Research and Standards, that are addressing these issues. However, more comprehensive data on the causes of large truck/passenger vehicle crashes of all severities would enhance OMCHS’s ability to develop effective countermeasures and prevent future crashes.

The major factors cited for the drivers are similar to those recorded for the crash configurations already discussed above.

<table>
<thead>
<tr>
<th>Driver Related Factor</th>
<th>Truck</th>
<th>Passenger Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to Yield Right of Way</td>
<td>417</td>
<td>1,622</td>
</tr>
<tr>
<td>Failure to Obey Traffic Devices</td>
<td>274</td>
<td>950</td>
</tr>
<tr>
<td>Inattentive</td>
<td>92</td>
<td>387</td>
</tr>
<tr>
<td>Driving Too Fast</td>
<td>160</td>
<td>358</td>
</tr>
<tr>
<td>Ran Off Road/Lane</td>
<td>108</td>
<td>246</td>
</tr>
<tr>
<td>Erratic/Reckless Driving</td>
<td>80</td>
<td>150</td>
</tr>
</tbody>
</table>

*Encroaching one large truck and one passenger vehicle.

Table 6: All Other Fatal Crash* Configurations by Driver-Related Factors.