Trucking Industry Best Practices

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Executive Summary- 2005 Truckers Survey Auto Liability

Background
The Liberty Mutual Trucker's Survey is used to identify and quantify trucking company industry accepted and best practices and provide benchmarks for comparing your results with other trucking companies. The survey is not used to for rating and pricing your auto liability coverage.

Significant Conclusions
The crash frequency rate measured in crashes with costs over $1,000 was higher than the past two years. The overall driver quality measured as the percent of drivers with clear driving records (three years for moving violations five years for major violations) went down. Truckers with the best results have high quality drivers, establish performance expectations, closely monitor driver performance and place value on maintaining a good safety record. We continue to see a small number of companies with exceptional driver quality achieve excellent results with average programs due to the high driver quality.

Overview
The survey was sent to over 200 trucking operations insured by Liberty Mutual's Business Market. Over 84 percent of the truckers responded to our survey. The total miles for the truckers with auto coverage exceeded 845 million. The average miles per trucker were over 8 million.

Survey Process
We obtain exposure, operations and safety program information from our truckers. We obtain loss information, motor vehicle record summaries and coverage data from our systems. We obtain Safer and SafeStat data from public sources. Losses and miles were from 1.1.2005 thru 12.31.2005 with losses as of 4.30.2006. We then look for relationships between crash frequency rates and program elements taking into account the overall driver quality for each company using or not using a specific program element.

Successful Actions
Based on a review of the crash rates per million miles and the customer survey responses, we identified four key areas of high-performing programs. These programs:
- Selection

- management
- policies
- training

Best Practices

The report identified the main areas where a program area or practice was associated with lower crash frequency rates. The quality of the drivers was reviewed to determine if the results were achieved by using a program element or if the companies using a particular program element happened to have higher quality drivers. The items reviewed are categorized by selection, management, policies, equipment and training.

Selection:
- 60% or more of the drivers have clear driving records
- six months or longer probation period for new drivers
- longer probation periods based on driving records
- road tests of two hours or longer
- more extensive road tests based on driving records

Management
- measures crash rates, weekly fuel mileage, off route miles, operating costs and crash rates by driver manager
- names and phones numbers on trailers or toll free monitoring
- makes road observations
- uses GPS to monitor speed, hours of service and on time departure
- system to identify drivers most in need of training or management attention
- perceives selection as the strongest part of their safety program

Policies
- governors set below 68 miles per hour

Training
- provides in vehicle training for new drivers
- uses skid pan training

Industry Accepted Practices

The report identified industry accepted practices. These practices help reduce the potential for crashes and provide essential elements of a risk management program to defend a company after a crash. These elements were found at the majority of companies. Some had a relationship with lower losses but did not have as strong of relationship between driver quality and lower crash rates as the best practices.

Selection:
- less than 2% of the drivers have serious violations in the past five years

- less than 3% of the drivers have four or more moving violations or crashes in the past three years

Management
- provide cameras, written crash scene instructions and keep a database or spreadsheet with data on all crashes
- provide route plans for drivers
- download electronic control module data each time a vehicle is serviced
- document all safety related contacts with drivers
- written training outlines and training meeting agendas
- electronic control module data used to identify drivers needing training or management attention
- schedule departure times
- mirror check stations

Policies
- following distance of six to eight seconds and slightly slower than the flow in heavy traffic

Training
- provide in vehicle training for existing drivers
- provide post crash in vehicle training
- use one on one training
- provide regular training on mirror adjustment and use of the mirror check station

Equipment
- have right and left side fender mirrors on tractors

Crash Rate Benchmarks

The benchmarks for all truckers and those with three million or more miles were reviewed. The study used the over three million mile group to minimize the frequency rate impact one crash can have on a company with lower miles.

Only crashes with costs over $1,000 were used to measure frequency, in order to remove the impact of low dollar property damage claims that some companies may pay and others submit to Liberty Mutual. The best practice benchmarks represent the starting point of the upper third of the companies' results.

Table 1 Benchmark Comparison

	Your results	Survey median	Survey best practice group
$1,000 crash frequency per million miles		1.07	0.74
DOT recordable crash frequency per million miles		0.45	0.32

DOT preventable crash frequency per million miles		0.23	0.17
MVR % clear 3 years moving 5 years serious		54%	61%
MVR % serious violations past 5 years		2%	0.87%
MVR % four or more violations or crashes past 3 years		3.70%	1.45%

Cost and frequency medians are for companies with over 3 millions miles
Losses for 1.1.2005 to 12.31.2005 valued 4.30.2006
Best practice group is the starting point of the upper third

Safer and SafeStat

There has been an increased awareness of the Safer and SafeStat scores over the past year. There is a perception by some in the trucking industry that insurers use safer and SafeStat in the qualifying and underwriting process. The trends found during the 2005 survey were different than those we have seen in the past, with stronger relationships between Safer and SafeStat scores and crash rates. The exceptions would make it an unsound business practice for insurers to rely on these scores alone for selecting and underwriting trucking business.

The Safer and SafeStat scores were compared to the $1,000 crash frequency rates.

Table 2 Safer and SafeStat scores compared to crash rates

	National Average	Liberty Mutual 2005 Truckers Survey median	$1,000 Crash frequency for truckers at or below Truckers Survey median	$1,000 Crash frequency for truckers above Truckers Survey median
Safer Driver	6.8	4.2	0.86	1.26
Safer Vehicle	22.9	14	0.92	1.34
SafeStat Driver	50	44	0.85	1.27
SafeStat Vehicle	50	29	0.95	1.23

Trucking companies should review their safer and SafeStat scores on a regular basis and bring errors to the attention of the FMCSA. As shown above there are relationships between lower crash rates and Safer and SafeStat scores. Addressing the program areas such as driver selection, establishing policies and monitoring performance will help lower crash rates and Safer/SafeStat scores.

Table 3 Safer and SafeStat scores benchmark comparison

	Your results	Survey median	Survey best practice

Safer Driver		4.2	2.9
Safer Vehicle		14	9.7
SafeStat Driver		44	37
SafeStat Vehicle		29	25

Program Area Comparison

The following shows your program compared to the best and industry accepted practices.

Table 4 Program Elements

Program Area	Program Practice	Part of your program	Best or Industry Accepted Practice
Selection	60% or more of the drivers had clear MVRs		Best Practice
	Six months or longer probation period for new drivers.		Best Practice
	Longer probation periods based on driving records		Best Practice
	Road test two hours or longer that involve delivery of cargo		Best Practice
	More extensive road tests based on the driving record		Best Practice
	Better than the Truckers Survey median % of drivers with serious violations in the past five years		Industry Accepted
	Better than the median % of drivers with 4 or more violations or crashes in the past three years		Industry Accepted
Management	Management measures crash rates, weekly fuel mileage, off route miles, operating costs and crash rate by driver manager		Best Practice
	Name and phone number on trailers or toll free monitoring service		Best Practice
	Make road observations		Best Practice
	GPS in the trucks used to monitor speed, hours of service and on time departure		Best Practice
	System to identify drivers most in need of training or management attention		Best Practice
	Provides cameras, written crash scene instructions and maintains crash data in a database or spreadsheet		Industry Accepted

Program Area Comparison (continued)

Table 4 Program Elements (continued)

Program Area	Program Practice	Part of your program	Best or Industry Accepted Practice
Management	Plans routes for drivers		Industry Accepted
	Downloads ECM data at every service.		Industry Accepted
	Documents safety contacts with drivers.		Industry Accepted
	Uses written training outlines and agendas		Industry Accepted
	ECM data used to identify drivers most in need of training or management attention		Industry Accepted
	Scheduled departure times.		Industry Accepted
Policies	Governors set below 68 miles per hour		Best Practice
	Following distance policy of 6 to 8 with slightly slower than the flow in heavy traffic		Industry Accepted
Training	In vehicle training for new drivers		Best Practice
	Provides skid pan training		Best Practice
	In vehicle training for existing drivers		Industry Accepted
	Post crash in vehicle training		Industry Accepted
	One on one training		Industry Accepted
	Mirror check stations and training on their use		Industry Accepted
Equipment	Right and left side fender mirrors		Industry Accepted

Best and Industry Accepted Practice Discussion

Selection

The impact of clear driving records.
Clear driving records have significant impact on driving records. A clear driving record is defined as no serious violations in the past five years and no moving or other violations in the past three years. Companies with 60% or more clear MVRs had a 42% lower crash rate than those with less than 60% clear driving records.

Longer probation periods for new drivers.
The most common probation period was three months. Companies with six months or longer probation periods had a 26% lower crash rate than companies with 3 months or less.

Longer probation based on driving records.
Most truckers use the same probation period for all drivers, regardless of their driving record. Companies with longer probation periods based on the driving record had a 34% lower crash rate.

Longer road tests.
Crash frequency went down as the length of the road test increased. Companies with two hour or longer road tests that involved delivery of cargo had the lowest crash frequency. Companies with two hour or longer road tests that involved delivery of cargo had better quality drivers indicating the value they place on driver selection.

More extensive road test based on driving record.
Companies with more extensive road tests based on the driving record had 25% lower crash rates with slightly lower driver quality.

Drivers with serious violations.
Companies with less than the median % of drivers with serious violations had a 17% lower crash rate.

Drivers with four or more violations or crashes.
Companies with less than the median % of drivers with 4 or more violations or crashes in the past three years had a 28% lower crash rate.

Management
Measurements
Companies that measure crash rates, weekly fuel mileage, off route miles, operating costs and crash rate by driver manager had a 14% lower crash rate.

Name and phone number on trailers
Most companies have their name and phone number or their trailers or use a toll free monitoring service. Companies with names and phone numbers on the trailers or toll free monitoring services had a 19% lower crash frequency with lower driver quality.

Road observations
Most companies make some type of road observations. Companies making road observations had an 18% lower crash frequency with lower quality drivers.

GPS use
Companies with GPS in the trucks that used it to monitor speed, hours of service and on time departure had the same crash frequency as companies without GPS but achieved this crash rate

with lower quality drivers. Companies with GPS but not using it to monitor driver performance had a higher crash rate.

System to identify drivers needing training or management attention
Companies using a system to identify drivers most in need of training or management attention had a 29% lower crash rate with slightly lower driver quality.

Management perception of the strongest part of their program
Each company was asked what they believed was the strongest part of their safety program. Responses were broken down by communication, enforcement, management/culture, no answer, selection and training. Those indicating selection was the strongest part of their program had a 39% lower crash rate than the response with the next lowest crash rate.

Crash investigation
Over 75% of the truckers provides cameras, written crash scene instructions and maintain crash data on all crashes in a database or spreadsheet.

Route plans
Most companies provide route plans for drivers. Companies that provide route plans, have the route plans in a computer system and have a way for drivers to update route plans had a significantly lower crash rate but also had better driver quality.

ECM Data download
Because ECM data is typically not available from owner operator equipment we reviewed companies with 75% or more of the miles from company equipment. Most of these companies download the ECM data at every service. Those downloading randomly had a slight lower crash rate but had somewhat better driver quality.

Documenting safety contacts with drivers
Documenting safety contacts is a risk management tool that allows a company to prove how they communicate safety issues to drivers. Most companies document safety contacts with drivers.

Written training outlines and safety meeting agendas
Almost all companies use written training outlines and agendas. Those not using them had better results but had significantly better driver quality.

Using ECM data to identify drivers needing training or management attention
Companies with 70% or more company miles that use the ECM data to identify drivers most in need of training or closer monitoring had a slightly better result with slightly lower driver quality.

Scheduled departure times
Most of the companies use scheduled departure times.

Policies
Governor speed settings
Companies with governors set below 68 had 17% lower crash frequency. The driver quality for this group was higher.

Following distance policy

The most common following distance policy was 6 to 8 with slightly slower than the flow in heavy traffic. Companies with this policy had a 25% lower crash rate.

Training
In vehicle training for new drivers
Two out of three companies provide in vehicle training for new drivers. Companies providing in vehicle training for new drivers had a 15% lower crash rate with lower driver quality.

Skid pan training
Slightly less than 10% of the companies provide skid pan training. The companies providing skid pan training had a 46% lower crash rate with lower driver quality. Skid pan training is limited by skid pan availability.

In vehicle training for existing drivers
More companies provide in vehicle training for their existing drivers than do not provide in vehicle training. Those with in vehicle training had better results but had better driver quality.

Post crash in vehicle training
More companies have post crash in vehicle training than do not. Companies providing in vehicle post crash training had 29% lower crash rates with slightly better driver quality.

Training group size
One on one training was the most common training group size. Companies using one on one training had crash rates between 29 and 42% lower than companies using small groups and larger groups. Driver quality varied between the groups but was not significantly higher for companies using one on one training.

Mirror check stations
Most companies have mirror check stations and provide training on their use.

Equipment
Most companies have both right and left side fender mirrors.

Other Issues
Incentive programs
Close to 90% of the companies have incentive programs. Compliance with company policies and no crashes were the most common incentive program features. Companies without incentive programs had better results than those that did but had better driver quality.

Automatic transmissions
Use of automatic transmissions has increased. Less than 10% of the companies had fleets with 50% or more automatic transmissions. Companies with 10% or more automatic transmissions had a 21% lower crash frequency.