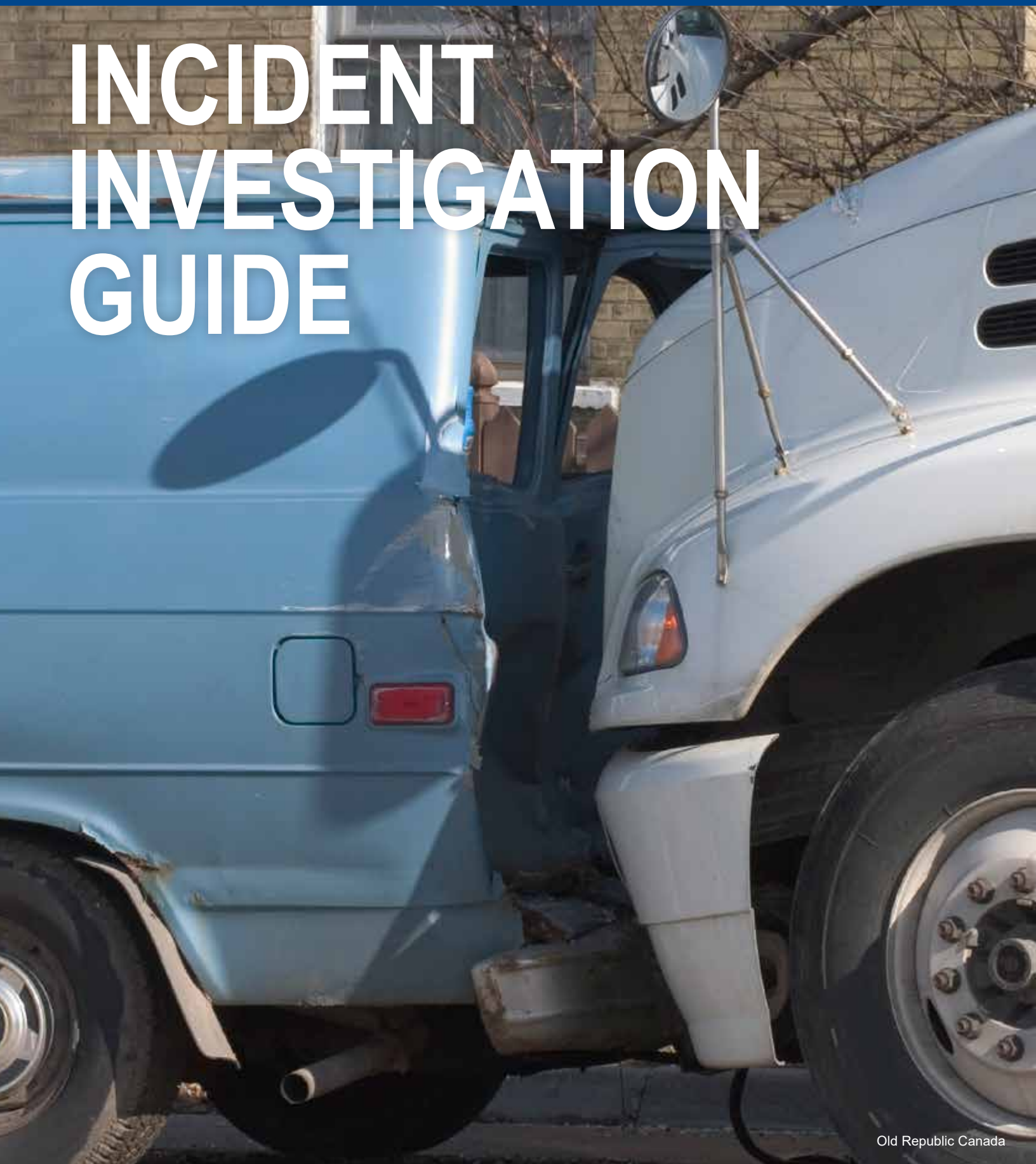


INCIDENT INVESTIGATION GUIDE





WHAT IS A LOSS EXPOSURE?

There are four types of loss exposures affecting motor carriers: personnel, property, net income, and liability. Any unplanned incident—a vehicle accident, cargo claim, workplace injury, etc.—has the potential to injure an employee or others, damage your equipment, reduce the company's revenue and increase expenses. If a third party is involved, this could result in a potential liability claim seeking monetary damages or litigation involving civil damages or criminal penalties. From a purely financial point of view, the impact of the loss could negatively impact the motor carrier's bottom line, employee morale, customer service, and more.

WHY ARE INCIDENT INVESTIGATIONS SO IMPORTANT?

When an incident occurs, it is easy to rush to judgment and blame it on a one-time event or worker error. However, an incident could involve multiple factors that represent deeper systemic issues within the organization. This is why a motor carrier should consider investigating each incident thoroughly to determine if other factors were present beforehand that contributed to the incident. By conducting an investigation, identifying the root causes, and taking corrective actions, there is a better chance of preventing the incident from happening again.

THE BENEFITS OF INCIDENT INVESTIGATIONS

Investigating all work-related incidents can benefit a motor carrier in a number of ways, including:

- Preventing recurrences of similar incidents,
- Boosting employee morale,
- Avoiding regulatory audits and potential fines,
- Increasing efficiency and productivity,
- Defending against claims and litigation,
- Decreasing employee health care costs, and more.

AN IMPORTANT NOTE ON LITIGATION

Every incident has the potential for future claims and/or litigation; it is a reality in today's trucking environment. It is crucial to understand that in the event litigation ensues, you could be required to produce all materials from your investigation, including things such as written investigation reports and recommendations. You may wish to consult legal counsel, an attorney who can offer guidance on the protection of investigative materials, prior to conducting any investigation.

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HOW TO USE THIS GUIDE

When an incident occurs, a motor carrier's first actions will be responding to the emergency. This can be a chaotic period. One way to alleviate confusion and ensure consistency in your team's response to the incident is to create a written emergency action plan.

After responding to the incident, motor carriers then turn their focus to determining what happened, why, and how it can be prevented from happening again. Regardless of your fleet size or experience conducting investigations, the Incident Investigation Guide can help you answer these questions. However, this guide is not intended to be all-inclusive and there is not a one-size-fits-all method to incident investigations. Also, you should NOT rely on this guide alone to implement incident investigation protocols or to determine the cause of an incident. You should consider reviewing the educational materials in this guide, along with other processes suggested by the Occupational Safety and Health Administration (OSHA), North American Transportation Management Institute (NATMI), Canadian Council of Motor Transport Administrators (CCMTA), and other groups. Consider drawing from each of these sources to develop an investigative process that best suits your operations. As noted above, your legal counsel is also a valuable resource.

PRE-INVESTIGATION

Before starting your incident investigation, consider taking the time to determine who will conduct the investigation and how it will proceed. Below is a set of sample questions to consider before the investigation begins.

- **Who will conduct the investigation?**

Typically, the safety department leads the investigation, but depending on the size of the company, this may fall on one person or many. Consider using a safety committee and manager from the affected driver's department as additional contributors. Reminder: Legal counsel should be consulted prior to determining who should conduct the investigation. In fact, you may choose to delegate this investigative process entirely or in part to your legal counsel.

- **What experience or expertise should the investigator have (i.e., training, work history, etc.)?**

There is not a set standard for education and experience. Using someone with prior investigative experience or knowledge of the affected equipment is an added benefit.

- **What techniques will be used to conduct the investigation?**

As mentioned earlier, there are various investigation techniques to choose from depending on the nature of the incident and your operations. In addition to your legal counsel, this guide, along with the other sources recommended above, are great resources to consider in developing your investigation procedure.

- **How long will it take to complete the investigation?**

Investigations vary in length, but it is good to set a timetable for conducting the investigation, developing recommended solutions, taking corrective actions, and evaluating the effectiveness of your solutions.

- **Who will receive the investigator's recommendations?**

The recommendations should be presented to senior management, who will consider each recommendation and make the final decision on corrective actions.

- **Who will be responsible for implementing corrective actions?**

Senior management will assign this task to the appropriate personnel. Corrections may be made internally or require an outside vendor.

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SHADE – INCIDENT REVIEW PROCESS

SHADE is an acronym for Situation, History, Analysis, Decision, and Execution. This example of a review process takes you step by step through an entire investigation. Read each step below, then follow the examples on the next page to track your progress.

STEP 1: SITUATION

The first step in your investigation is to gather information about the incident so you can paint a picture of what happened. Additional information about the incident may be gleaned from other supporting documentation, such as police reports. By the end of this step, you should have a good understanding of what happened and possibly why.

STEP 2: HISTORY

The cause of the incident might seem obvious, but prudence dictates digging deeper to find the root cause. In this step, you will look at historical data for red flags (aka leading indicators) that may point to an issue within the organization that may have contributed to the incident. Examples of historical data include the driver's motor vehicle record (MVR), facility inspections, previous reference checks, maintenance records, etc. By the end of this step, you should have gathered enough information about the incident and historical performance to begin your root cause analysis.

STEP 3: ANALYSIS

The goal of any investigation is to determine the exact causes of the incident. With that knowledge, you can then brainstorm ideas to implement an effective solution. In this step, you will analyze all of your data from Steps 1 and 2 to determine the causes of the incident. Analysis involves asking tough questions, determining what factors contributed to the incident, and deciding where accountability truly lies. At the end of this step, you should have identified the root causes of the incident.

STEP 4: DECISION

Now that you know the root causes of the incident, decide how best to try to prevent it from happening again. Options may include conducting training, revising policies and procedures, implementing engineering controls, etc. Before a decision is made, consider the following:

- **Buy-in:** Include affected employees and departments in the discussion to gain their insight and support.
- **Impact:** Determine the requirements for operational change.
- **Solutions:** Solutions should be Specific, Measurable, Attainable, Relevant, and Time-bound (SMART).
- **Risk Tolerance:** Differentiate between lesser risks that do not implicate public safety and therefore may be tolerated vs. incidents that could result in severe losses, which are not tolerable.

STEP 5: EXECUTION

Successfully implementing your solutions includes the actual execution of management's decision and a follow-up evaluation to determine if the solution effectively achieved the desired result. Before implementing operational changes or purchasing engineering controls, gain support by including employees and key stakeholders in the process. Communicate the solution beforehand and conduct necessary training. Afterwards, measure the effectiveness of the solution over time. If the desired results are achieved, your investigation is complete. If not, find out why and tweak the solution or start over. By the end of this step, your solution will be implemented and, through measurement, deemed effective.

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SHADE INVESTIGATION PROCESS

STEP 1: SITUATION - REVIEW INFORMATION ABOUT THE INCIDENT.

A. For vehicle accidents, consider having the driver at the scene do the following, if applicable:

1. Complete the Post-Accident Checklist found in the Accident Kit provided by Old Republic Canada. This includes:
 - Taking appropriate pictures of the general scene and vehicles, such as:
 - The roadway from all angles, from the proper perspective, including any skid marks;
 - The license plates of witnesses that are present;
 - Vehicles and cargo involved in the crash from varying distances; and
 - Any traffic signals or signs applicable to the crash scene.
 - Collecting insurance information from third-parties.
2. Secure dash camera data to prevent over-recording.
3. Obtain a copy of the police report, if possible.

B. For vehicle accidents, consider reviewing the following:

- Driver's phone call records
- Onboard camera footage from the truck
- Vehicle damage/repair records
- Driver's drug and alcohol test results (if required)

C. For workplace injuries, consider documenting the following details:

- Take photographs of the scene.
- Obtain site security video, if available.
- Conduct interviews.
- Review all supporting documentation about the incident to gather an initial picture of what happened.
- Enter the incident in the Accident Register, if applicable.
- Enter the incident in the Provincial Health & Safety register, if applicable.

STEP 2: HISTORY - REVIEW HISTORICAL INFORMATION FOR LOSS TRENDS.

A. For vehicle accidents, consider reviewing the following information:

- Affected worker's Pre-employment Screening report
- Driver's motor vehicle record
- Driver's Drug & Alcohol Clearinghouse queries
- Driver's road test evaluation
- Vehicle's maintenance records
- Past performance evaluations
- Training records
- History of prior incidents
- Company's history of similar incidents (i.e., accident register, CCOHS, etc.)
- Company policies and work procedures

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SHADE INVESTIGATION PROCESS (cont.)

STEP 3: ANALYSIS - CONDUCT A ROOT CAUSE ANALYSIS TO IDENTIFY THE CAUSE(S) OF THE INCIDENT.

A. Consider if individual factors could have contributed to the incident, for example:

- Unsafe work activity
- Alcohol/Drugs
- Lack of training
- Ignored training
- Improper motivation
- Illness/Fatigue
- Ignored safety policy
- Lack of experience
- Improper equipment inspection
- Inadequate skills

B. Consider if company factors could have contributed to the incident, for example:

- Mechanical defect
- Inadequate training
- Inadequate onboarding
- Improper procedures
- Improper equipment/tools
- Poor communication
- Poor supervision
- Improper inspections
- Inadequate policies
- Ineffective controls

C. Consider if external factors contributed to the accident.

STEP 4: DECISION - BRAINSTORM IDEAS TO CORRECT THE ROOT CAUSE(S) OF THE INCIDENT AND PICK A SOLUTION.

Consider the following when determining your solution:

- Research possible solutions to help minimize the risk of a future incident.
- Present solutions to key stakeholders and obtain their buy-in.

STEP 5: EXECUTION & EVALUATION - IMPLEMENT CORRECTIVE ACTIONS AND MEASURE THEIR EFFECTIVENESS.

Consider the following before and after implementing a solution:

- Communicate the solution to all employees.
- Conduct employee training, if needed.
- Measure the effectiveness of the solution.
- Determine if the solution fixed any identified problems.

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ROOT CAUSE ANALYSIS

The underlying causes of an incident are not always straightforward and may require significant analysis. Often, there could be leading indicators – contributing factors that were visible before the incident occurred – including a lack of training, leadership and culture issues, unsafe work practices, etc. Such leading indicators may point to root causes and uncover a company problem.

Below are examples of root cause analysis tools that you may want to consider to help you through the investigative process. The list is not intended to be all-inclusive.

BRAINSTORMING

Brainstorming is an opportunity to bring together a group of people with working knowledge of the incident, processes, equipment involved, etc., to collectively analyze an incident, identify the root causes, and find a solution. If a large amount of information is collected, one way to organize and consolidate this data is using affinity diagrams, which allow ideas to be easily grouped together to stimulate discussions and examine possible solutions. Sample affinity diagrams can be found on the internet.

FLOWCHARTS

Flowcharts can prove useful by displaying the events of an incident or a process to help identify where decisions are made and what the expected outcomes are. If it is determined that a breakdown occurred, the investigator can determine why and work to find solutions, such as closing a gap in skills or training. Try to keep flowcharts as simple as possible.

THE FIVE WHYS

This process involves asking and answering five “why” questions to get to the root cause. Sometimes it may take fewer or more than five whys, but below is an example of how asking five whys can help drill down to the root cause.

WHY?

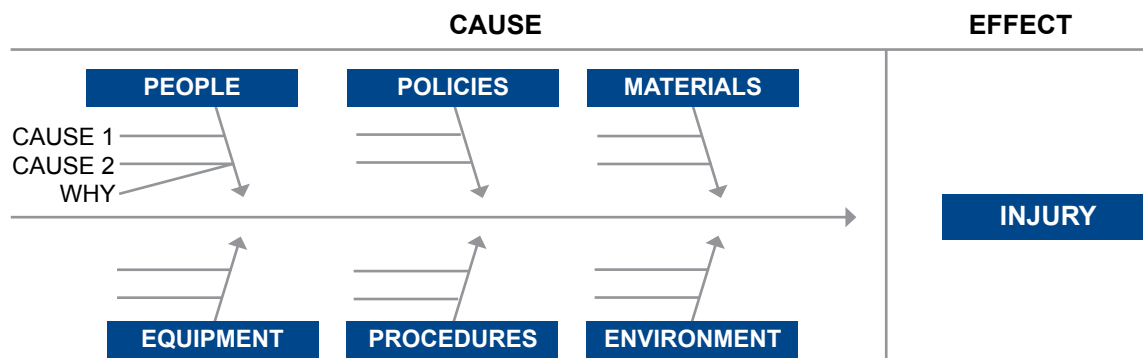
Why is Steve injured?
 Why did he fall?
 Why was the floor wet?
 Why was there water on the floor?
 Why was the sink leaking?

BECAUSE...

... he slipped and fell.
 ... the floor was wet.
 ... there was water on the bathroom floor.
 ... the sink was leaking.
 ... the rubber drain gasket wasn't tightened properly.

ISHIKAWA OR “FISHBONE” DIAGRAM

Also referred to as a cause-and-effect diagram, this tool is used to identify the possible causes of an incident (the effect) by asking questions such as “What actually happened?”, “When?”, “Where?”, “Why?”, and “How?”. The causes are grouped into categories which are not pre-defined; some common categories are shown in the fishbone diagram below.



SHADE SCENARIOS

SITUATION

Analyze all possible contributing factors to the incident in question. Often the process starts and ends with the individual involved. To be effective, any contributing factors should be considered.

Example: A truck driver experiences a steer tire blowout resulting in a collision with another vehicle in an adjoining lane. The truck driver indicated that he had tried to get the tire replaced prior to leaving the terminal, but the shop mechanic was too busy and promised to replace the tire when the driver returned. The steer tire was bald and needed to be replaced.

HISTORY

Records on past performance by the individual involved and prior incidents throughout the company should be gathered and reviewed to determine if additional factors contributed to the incident in question.

Example: No prior issues or unsafe behaviors were found with this employee. However, there had been similar reports of the shop being too busy to address maintenance issues.

ANALYSIS

The purpose of root cause analysis is to determine what caused the incident and, ultimately, who was responsible. Accountability is important, especially if the root causes point to systemic issues in the organization.

Example: The driver did complete a maintenance request to have the tires replaced, but the shop did not complete the work. Upon examining the tire, the mechanic should have directed the driver to a local tire shop to have the tires replaced before starting his or her trip.

DECIDE

After conducting a root cause analysis, consider if corrective action can be taken to help prevent a similar incident from happening again. Investigations typically do not involve disciplinary action. However, management or the human resources department may consider the investigation findings and determine appropriate action.

Example: The incident occurred because of a breakdown in communication between the driver and maintenance shop. A new written procedure will be implemented regarding safety-related mechanical defects. All operations personnel will be trained on the new procedure.

EXECUTE

Implement the solution and evaluate if it effectively addressed the root cause of the incident.

Example: After implementing the new procedure and training all operations personnel, the safety manager tracked the fleet's performance over the next six months. No incidents of steer tire blowouts or unresolved mechanical defects were reported.

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KEY TERMS

The following terms may be used in this guide as well as in other incident investigation methods.

Accident: For this guide, Great West uses the term 'accident' when referring to a vehicle crash.

At Fault: According to Black's Law Dictionary, "Fault is a traditional element in determining the legal responsibility for an injury suffered by another."¹ In auto insurance, the conduct of each driver is examined to determine if either is legally responsible for causing an accident and, if so, to what extent.

Frequency: The number of incidents that have occurred in a specified period.

Incident: Any unintended event resulting in a loss, including vehicle accidents and work-related injuries and illness.

Incident Rate: The OSHA incident rate calculation is based on the number of actual recordable injuries and illnesses in a calendar year. The OSHA injury frequency rate is determined by the frequency of injuries. The formula used is: Number of Injuries/Illnesses x 200,000 ÷ Number of Hours Worked by All Employees.

Leading Indicators: Leading indicators are factors that contributed to an incident which could have been measured and identified before the loss occurred.

Liability Loss Exposure: A third party may file a claim against a motor carrier alleging legal responsibility for a loss. A liability loss is a claim for monetary damages that can result from bodily injury, property damage, libel, etc.

Near Miss: A near miss is an incident that almost happened, but no loss occurred. For example, a vehicle crash was avoided or an employee escaped injury.

Net Income Loss Exposure: Net income loss exposure refers to lost revenue, increased expenses, or both that result from an incident.

Personnel Loss Exposure: A personnel loss exposure is the possibility of a loss to a business because of the death, disability, retirement, or resignation of key employees.

Property Loss Exposure: Property is divided into two categories: real property and personal property. Real property is a fixed asset like land, buildings, and other structures. Personal property can be tangible or intangible, such as tractors, trailers, furniture, etc.

Root Cause: A condition or a causal chain found to have directly led to a loss.

Severity: The direct and indirect costs of a loss.

Trailing Indicators: Trailing, or lagging, indicators measure the effectiveness of a safety program after the fact, such as the number of incidents, number of roadside violations, etc.

Vehicle Accident Frequency Rate: Vehicle accident frequency rate is determined by the frequency of accidents per million miles. The formula used is: Number of Accidents x 1,000,000 ÷ Total Miles.

¹Retrieved from "Fault," Black's Law Dictionary, 11th ed., 2019.

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