

## REDSTONE RISK MANAGEMENT SUPPORT TOOLS

### Topic: Fleet Safety Assist



### Section 1. Overview

The expressed intent of this tool is to provide you with actionable intelligence as a Redstone Policyholder to support your Risk Management efforts in Fleet Safety.

Redstone recognizes that your company is committed to excellence in your fleet operations and risk management programs.

This information is designed to support your **continual improvement in Fleet Safety**, through industry research and analysis of several major factors that can help create a positive safety culture within your transport operations.

The overall purpose is to:

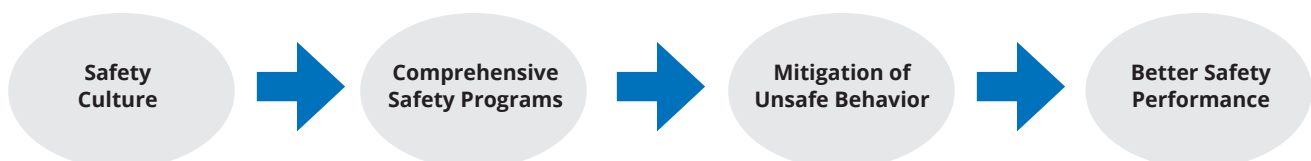
- Review the relationships between positive safety cultures and operational fleet safety practices.
- Evaluate high-level best practices for incorporating safe culture attributes into your existing Fleet Safety Programs.
- Consider the integration of certain organizational culture and leadership principles with your safety, risk and loss prevention techniques.

This material is a user-friendly executive summary of the extensive fleet safety research project sponsored by the Federal Motor Carrier Safety Administration (FMCSA), in collaboration with the Transportation Research Board of the National Academy of Sciences **for the role of safety culture in preventing commercial motor vehicle crashes.**

You can access the full research report by clicking on the following link:  
<http://www.trb.org/publications/blurbs/159031.aspx>

**Note:** Via the link you will have two options to obtain the complete research report:

- 1) View full report as PDF (click - download full book)
- 2) Buy this book (online directly from TRB)



## Section 2. Key Concepts and Relationship Framework Elements to Improve Fleet Safety

The National Academy of Sciences completed an extensive review of the literature on organizational culture, safety and the concept of “Safety Culture” by various recognized authors. This review consisted of research in the field of transportation, energy and chemical industries due to the high-risk nature of these sectors. The findings of this research identified the following key concepts for Fleet Safety:

### 5 Key Safety Culture Concepts:



In addition to the 5 Key Safety Culture concepts noted above, establishing a proper Safety Culture Relationship Framework will aid in the development of a positive culture of safety within Fleet operations, including the following elements:

- Developing internal company definitions of culture and safety with drivers and supervisors.
- Identifying and dispelling myths about safety culture.
- Establishing institutional safety knowledge development.
- Defining employee safety roles from top to bottom.
- Assessing the effectiveness of current safety communications and reengineering systems for new safety communication methods.
- Creating or enhancing a system of safety record data collection and analysis.
- Developing or redeveloping motivational tools.
- Improving driver retention to avoid potential for degrading a safety culture with high driver turnover.

The safety culture itself requires a multi-level, comprehensive series of safety program steps and procedures that act as a baseline for safety management efforts. When such programs are implemented, there is a tendency to seek to mitigate bad behavior by isolating such behavior and their relationships to future crashes. According to the research, this leads to greater levels of safety, thus linking safety culture and safety performance.

### **Section 3. Driver Beliefs and Attitudes can enhance Fleet Safety**

According to one of the recognized authors referenced in the research, “Every organization has a culture – a set of written and unwritten rules and assumptions that determine how things are done. However, not every culture is a safety culture dedicated to the health and safety of all employees”.

According to the research, it becomes obvious that organizational safety culture is generally defined as the norms, attitudes, values and beliefs maintained by members of an organization. Therefore, a collection of individually held norms, attitudes, values and beliefs when organized under one roof, creates an overriding culture that is defined by those attributes and beliefs that prevail in developing a positive fleet safety culture, including:

- A key set of safety culture-defining positions within an organization involving leadership and management.
- Identifying key employees in such roles attempting to guide the organization and behavior of its members through the use of tools, including official policies, rewards and remediation, planning and decision making.
- Recognizing the task of those in this position will rely heavily on communications, and top leadership must develop on-going communications to foster an organizations safety culture accordingly.
- Establishing consistent safety communications from top management via email, memos, official policies and regular teleconferences will enhance safety beliefs and attitudes of drivers and support personnel. [refer to Table 15. Means by which company safety policies are communicated]

The safety beliefs and attitudes of drivers can help define the culture in an organization and these are manifested in the behaviors of company employees. Therefore, there is a clear linkage between attitude and behavior; and behavior directly impacts driver safety.

Considering the increased business competition for qualified drivers, rapidly advancing technology and the changing workforce characteristics, it is suggested that company owners establish a solid foundation for fleet safety through recognition of current safety beliefs and attitudes in their workforce to position the company to improve fleet safety.

**Table 15. Means by which company safety policies are communicated.**

<b>Communications Type</b>	<b>% of Respondents Using Communications Type</b>
On-board computer systems/email	47%
Phone communications	33%
Meetings at terminals	27%
Brochures and mailings	27%

## Section 4. Key Organizational dynamics that impact a Fleet Safety Culture

It should be recognized that the research finds that there is a tendency to have a variation in safety culture within organizations at different physical locations as well as within two key subgroups of organizations.

### a) Top Leadership, Safety Professionals and Safety Departments

A safety culture depends critically upon first negotiating where the line should be drawn between unacceptable driver behavior and unsafe acts. This line should be set through top leadership. Such “line drawing” is the essence of the role of leadership in creating safety culture. What leaders decide is acceptable for the prevention and control of hazards is a reflection of an organizations culture, including:



Identifying acceptable or “tolerable” risks that need to be determined at the highest levels of an organization.



Recognizing the difficulty by management in controlling hazards and preventing crashes due to leadership (not) being physically present with core driver/road hazards is important to recognize.



Understanding that difficulties may exist for management influence with remote driver exposure, but that top management based safety requirements have proven to have a direct bearing on safety outcomes.

### b) Drivers and Stability of Driver Labor Pool

The Heavy truck driver culture is anecdotally tied to images of “the open road” and “independence”. This independence is exemplified with drivers that have many years of over-the-road experience. Drivers have a great level of responsibility, most of which have bottom-line consequences for company owners that impact a fleet safety culture. Additional considerations include:



That there is a clear link between a drivers’ attitude and overall driver safety performance based on tenure and employment stability.



Driver retention is perennially a top trucking industry challenge.



Lack of retention among the driving population creates a lack of stability, which in turn affects a company’s safety culture.



A positive Safety Culture does not occur instantly. Drivers must be part of an organization over the long term to learn the company’s culture.

It should be noted also that the research indicates that if this culture-building process is constantly interrupted due to labor instability with high driver turnover, the long-term viability of establishing an active safety culture to prevent motor vehicle crashes will be in-effective at best. Therefore, maintaining stability of Driver Labor will directly impact the success of your Fleet Safety Program efforts.

## Section 5. Recognize negative performance shaping factors that can be offset by positive Management organizational factors to improve fleet safety

---

The research indicates that there are (5) common performance shaping factors (PSF's) with many truck drivers that can have a negative impact on establishing a robust fleet safety program as follows:

1



Inattention to tasks and responsibilities

2



Lack of motivation

3



Poor physical condition  
(resulting in fatigue and other problems)

4



Inadequate knowledge of  
safety procedures, standards  
and regulations

5



Lack of awareness of  
responsibilities to company  
fleet safety standards

These common performance shaping factors (PSF's) can be offset by top management organizational factors (MOF's) including:

- a. **Workload:** Policies, procedures and practices for assigning driver workloads.
- b. **Formalization:** Identification and communication of safety rules.
- c. **Benefits:** Levels of pay and other benefits that connect with safe driver performance.
- d. **Quality of life:** In general, recognizing a driver's standard of living.
- e. **Performance Evaluation:** How the drivers' safety performance is evaluated.
- f. **Personnel Selection:** Who is hired and what qualification standards exist.
- g. **Personnel Turnover:** Results in drivers that have little experience within an organization.
- h. **Training:** What level of safety related education exists in the organization?
- i. **Supervision:** What type of oversight exists?
- j. **Organizational Learning:** How well is past data used to affect future safety.
- k. **Communications:** How effective are informal or formal safety communications.

Considering these (negative/positive) factors, it is suggested that fleet managers focus on establishing clear and concise Management Organizational Factors (MOF) in a effort to establish a baseline for effective fleet safety programs.

## Section 6. Methods and Messages that promote a Safety Culture

Considering that a robust fleet safety culture includes a uniform belief throughout all levels of a company, where everyone has the same goal and objective related to safe driving practices; the safety culture should be engrained in everything the company does. This includes methods for safety development by the members of senior management, safety personnel, drivers, operations and human resources.

Some of these methods to promote an active fleet safety culture include:

- ✓ **Training:** with ample driver opportunity for classroom education for gaining safety knowledge.
- ✓ **Incentives:** Bonuses, awards and prizes for safe driver performance.
- ✓ **Driver Involvement:** with drivers being involved in safety planning.
- ✓ **Safety Slogans:** Each phone conversation with a driver ends with a safety slogan.
- ✓ **Non-work Involvement:** involving driver's families with promotion of a safety lifestyle outside of work because safety always comes first.

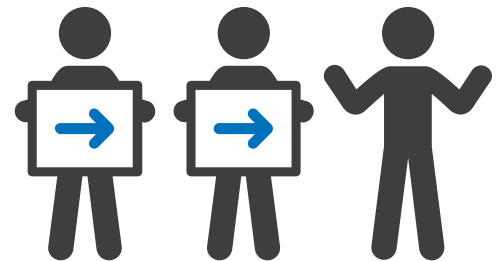
Additionally, it is important to recognize methods and messages (that work), along with those that (do not work) as follows:

### a. Methods & Messages that work to promote a Safety Culture

- Continually communicating safety messages of commitment from top leadership.
- Participation (buy-in) from all departments – not just safety.
- Creating internal cooperation with education & training.
- Establishing good balance between positive and negative motivations for continual safe driving
- Executing careful screening during hiring of new drivers.

### b. Methods & Messages that (do not) work to promote a Safety Culture

- Fear/ creating a culture of fear.
- Termination threats.
- "Cop & Robber" instead of "Coach & Team" approach.
- Incentives without recognition to back them up.
- Generic poster programs.
- "Dressing up a compliance program as a safety program".



These items can help guide a company with methods and messages to improve its fleet safety culture.

## **Section 7. Critical Action Steps to enhance Fleet Safety Culture**

According to the research by the National Academy of Sciences, there is a clear relationship between an organizations culture as it pertains to safety and the safety performance of that organization. The following action steps represent a summary of actions to enhance an organizations fleet safety culture:



### **Action 1:**

#### ***Develop Internal Definitions of Culture and Safety***

This first activity creates a baseline of where an organization is currently and determines where it would like to be regarding safety and culture. It is first proposed that the organization define “safety” with the following questions for company drivers:

- What does being safe mean to each of the drivers?
- What are the current safety goals; what should they be?
- What are the motivations / incentives to be safe?

With regard to defining culture, it is suggested that the organization first access the fundamental qualities of its culture including safety and all other aspects:

- What does the company strive to achieve; what does it value?
- What is the current knowledge base of the company; what do members believe?
- What defines a typical day in the operation; what are the norms?
- How do the organization and its members feel; what are the attitudes?



### **Action 2:**

#### ***Identify and Dispel Myths***

What drivers, safety managers and top leadership believe is tied to behavior. If something is not seen as a threat or risk, it will not be treated as such. Risks may in some cases be treated, illogical as it may seem, as safety measures.

For instance, a driver believes that wearing a seat belt might lead to his death (which is a myth held by some drivers). A typical story or legend describing the danger of seat belts might include the following elements: a driver rolls his/her truck; a fire begins; the driver is trapped by his safety belt; and finally, the driver is killed because of his seatbelt. The moral of this story: the mythical driver would have been saved had the safety belt not kept him/her in the cab.

- Such myths should be gathered from drivers and should be dispelled.

Likewise, downplaying the severity of CMV crashes through language myths is just as dangerous. Crashes and fatalities must be termed exactly as they are.

- Those who are to blame must be held accountable using language that does not indirectly pass the blame to other factors, such as through the use of terms accident or mishap.

## Section 7. *Continued*



### **Action 3:** ***Institutional Safety Knowledge Development***

According to the research, a company's knowledge of safety is a critical part of its safety culture and is embedded both in internal training practices and through the experience of the organization.



*Training:* Training programs should not (only) be used to build the initial safety knowledge base of drivers, they should continue to “learn” and “develop.” Thus, it is recommended that those in charge of safety training continually monitor the safety environment and the training programs, and identify ways to enhance the program continually.



*Experience:* Taking advantage of an organization's experiences can be a critical part of developing a safety culture. A good place to garner such information is from drivers themselves. Documenting crashes and near-crashes is key, as well as building a level of trust with experienced drivers whereby penalties are not given for truthful (and helpful) reporting of driver error.



*Mentoring:* More experienced drivers could be given the opportunity to advance their careers by (1) proving themselves as safe drivers and (2) mentoring new drivers to be safe drivers. This process also has the potential to increase the retention of experienced drivers.



### **Action 4:** ***Define or Redefine Employee Safety Roles from Top to Bottom***

The research indicates, this action involves assessment and possible change in the roles of all company employees regarding their safety role and its influence on the organization's safety culture. This task should focus on the environment that is created by top leadership and management regarding driver safety and may benefit from driver involvement in the development of a company's safety culture.



### **Action 5:** ***Assess Effectiveness of and Reengineer Approaches and Systems of Safety Communication***

The flow of information is key to communicating a safety culture, especially in the trucking industry where top leadership and management are physically removed from their remote drivers. It is important that top leadership be able to communicate directly with drivers or through driver management to drivers. Likewise, drivers must be able to give information to top leadership and management as efficiently and effectively as possible.



## Section 7. *Continued*



### **Action 6:**

#### ***Create or Enhance a System of Safety Record Data Collection and Analysis***

It can be said that no safety data should be overlooked. While this may be quite ambitious, it is true that data can often be very telling with regard to an organizations current state of safety culture. It is suggested that companies determine the following core items as the first step:



1. **What data exists currently?**
2. **How data is to be analyzed, and**
3. **How to use analysis results to positively change safety performance**

**System of Penalty-Free Driver Reporting.** It is important to learn from past crashes or near-crashes. As the research indicates, a system where mistakes are learned from, by open and honest reporting, should not carry a penalty, in the ongoing data collection effort.



### **Action 7:**

#### ***Develop or Redevelop Motivational Tools, Training, and Orientation Methods***

Though it is expected that all drivers behave safely, motivational tools are an effective means to increase safe behavior. Programs to reward drivers for safety should be simple and fair. Such tools may also involve tying driver career advancement with safety. Secondly, training and orientation are an important stage in bringing new drivers into the culture. Safety departments should play a key, if not central, role in training and orientation of new drivers.



### **Action 8:**

#### ***Driver Retention***

Driver retention is a goal of nearly every company, especially in the current labor shortage environment. While it is easy to ask an organization to work to retain drivers for longer periods of time, the fact remains that the trucking industry specifically has low barriers to entry that results in strong competition among carriers, as well as low profit margins.

Driver retention may play a key role in developing a safety culture only in that those who are part of the safety culture are retained. Many safety departments have better results training new drivers and introducing them to their safety culture. Likewise, if a driver is not part of this culture, it is not a loss to the organization when that driver is not retained.



## Section 8. Best Practice Guidelines to use Safety Culture to Reduce CMV Crashes

The research conducted by the National Academy of Sciences, on behalf of the Federal Motor Carriers Safety Administration (FMCSA), takes key findings from the literature review, data collection and discussion of the safety culture relationship to develop practical stages for fleet safety managers to use when developing their organizations safety culture. Because developing a safety culture is part policy course and part implementation, it is suggested that the four stages noted below, be thought of as a circular process, whereby stage 4 leads to a new cycle of Stage 1. *[Refer to figure 2: Safety Culture Improvement Cycle illustration found on page 14 of this Summary]*

### Stage 1: Assess Safety Culture

For a company that is seeking to create or enhance safety culture, an initial step is to assess the current safety culture through eight questions.

#### 1. What is the current state of our corporate culture?

Reviewing the definition of an organization's culture, organizations can first ask themselves, "how are things done around here?" How "things are done" in an organization is likely never perfect, and an initial inventory/overview of a company's state of safety culture will offer a baseline from which to work.

**Result:** An outline of how the organization operates, with a focus on safety.

#### 2. What makes up our safety culture?

This step will create a high-level inventory of a company's safety culture as discussed in Action 1 and will include a determination of the pervading company safety-related attitudes, values, norms, and beliefs. More detailed parts of what makes up a safety culture are found in the remaining questions.

**Result:** An outline of the organization's safety culture.

#### 3. What is the overall level of employee commitment to safety?

For instance, do drivers, safety managers, or even top leadership use their safety belts when driving their personal vehicles on the weekend? A safety culture is not something that is left in the CMV driver's seat or at the distribution center; it is something that influences all parts of life in and outside the corporate setting. What currently motivates safe behavior among drivers? Is a strong safety culture in place that is responsible for such motivations?

**Result:** An assessment of the role of specific employee groups (including drivers and operations, sales, and safety departments) in the safety culture.

#### 4. Are the safety training, orientation, and recognition and rewards programs effective?

Initial safety training and orientation programs act as a new employee's introduction to the company's culture. Additionally, safety rewards, recognition programs and ongoing formal safety training are effective methods to continue participation in the safety culture. To address this question, a safety manager will first assess the effects of training, orientation, and recognition and rewards programs. Pre- and post-program safety outcome data can be useful for this function.

**Result:** Outline of driver training, orientation, rewards and recognition program.

### 5. What data are collected?

Data drives the company's objectives and allows safety managers to understand the current safety performance of their drivers and company as a whole. Data are necessary to determine what safety data are collected, what safety data could be collected, how all the data can/should be analyzed, and what the analyzed data mean as far as improving the company's safety culture.

**Result:** Inventory of collected, used, and potentially useful safety data.

### 6. Is Driver Empowerment Sufficient?

Drivers should have a central role in the safety culture. The level of empowerment that drivers have can play a role in their safety-related behaviors.

**Result:** Outline of current driver empowerment.

### 7. What are the barriers and vulnerabilities?

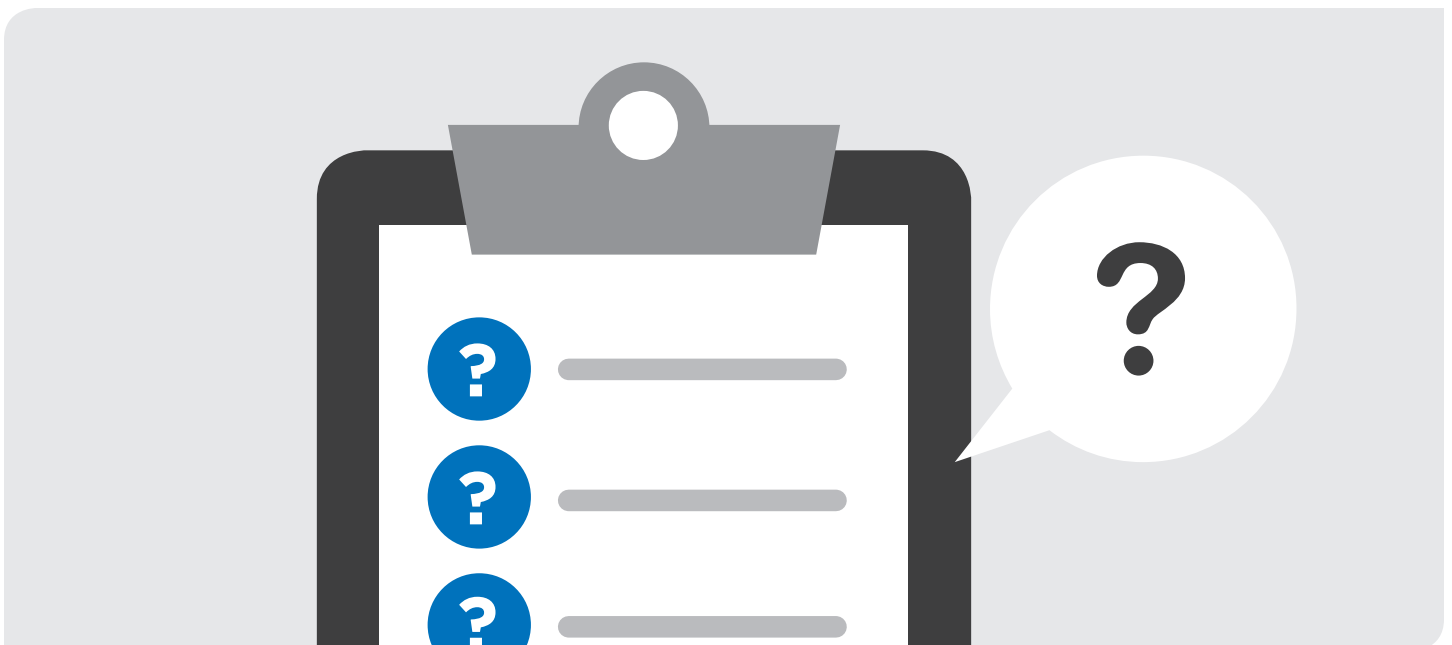
Safety departments should administer driver surveys to determine existing internal barriers to improved safety and the vulnerabilities within those barriers by determining the existing safety climate in their organization.

**Result:** Model of existing safety barriers and understanding the current safety climate.

### 8. Are safety communications methods adequate?

This question asks safety departments to outline their current safety communications. Essentially, this will determine what is in place and what is lacking.

**Result:** Outline of safety communications systems.



## Stage 2: Identify Safety Culture Improvement Areas

Stage 2 is intended to act as the platform for bringing together all of the deficiencies found in Stage 1. All eight steps in Stage 2 are intended to be brainstorming exercises for safety departments and others resulting in a list of potential improvement areas.

1. Develop a list of how things “could be” or “should be” compared with how they are currently.
2. Develop a list of where high-level deficiencies exist within the safety culture, and where overall improvements will be beneficial.
3. Develop a list of safety-related deficiencies/improvement areas for each specified group within the organization.
4. Develop a list of improvement areas for training, orientation, and recognition and rewards programs.
5. Develop a list of data and data analysis needs.
6. Develop a list of driver empowerment needs.
7. List new barriers and how existing safety barriers can be improved.
8. Identify where safety communications systems are ineffective or needed.



### Stage 3: Develop Solutions to Improve Safety Culture

Stage 3 allows for a review of the compiled safety culture deficiencies for the purposes of developing individually tailored solutions for each deficiency, as well as comprehensive solutions that address multiple safety culture deficiencies.

1. Corporate culture may need to change to improve safety culture. If “things are done quickly and carelessly” throughout an organization, there will be a negative impact on safety. Leadership is clearly key to changing corporate culture. If the “way things are done” is to change, the driving force for that change must come from top leaders as well as those who manage departments and fleets. Once the desired improvement(s) are determined, they must be implemented through these senior members of the organization.
2. The safety culture improvement tasks will likely be high level, long-term goals, and will be derived, in part, through the last six solution exercises listed in Stage 3 below.
3. A plan to improve the safety commitment for specific groups within the organization will be developed. Methods to increase the departmental and driver commitment to safety will likely be delivered by the safety department and top leaders within all departments; strong leadership and buy-in across the company is key to the effectiveness of those messages.
4. The safety department should play a central role in determining appropriate methods for improving employee training, orientation, safety recognition and rewards programs. Because of the financial aspects of a rewards system, other departments would likely participate in solution development. Solutions might include the following:
  - Safety department will run training and orientation.
  - Messages will be more safety oriented.
  - Decreased emphasis on “cash” rewards.
  - Increased emphasis on recognition.
5. Data collection and analysis solutions should be finalized before implementation.
6. Driver empowerment will stem from actions taken by the safety department in conjunction with other departments, such as sales and operations. Changes in training and orientation will likely have to take place if the empowerment of drivers is going to be increased.
7. Safety departments take the lead on developing new safety barriers and closing the gaps in existing safety barriers.
8. Communications-based solutions are exemplified in the following examples:
  - Corporate identity through logos on vehicles and trailer style-slogans can be beneficial.
  - Technology-based solutions can be used to convey safety communications.

## Stage 4: Implement Safety Culture Improvement Plan and Reassess Each Quarter

Lastly, safety culture enhancing programs should be transparent, be open to suggestions, and include as much of the organization's staff as possible. After implementation, evaluation of effectiveness should occur as the safety culture is once again reassessed each quarter and the cycle begins once again (see Figure 7 below):



**Final Note:** The research indicates that existing drivers can have significant influence with their peers in the company as it relates to the organizations safety culture improvement initiative. It is an immutable fact that drivers are a remote workforce with the ability to stay in close contact with other drivers at stopping points and over CB radios and cell phones. Considering this factor, it is recommended that organizations maintain a positive focus in ongoing quarterly safety culture assessments to establish momentum for safety culture improvement on an ongoing basis.

## Section 9. Conclusion

One of the key lessons from this research is that the safety function within any organization, must move beyond traditional scope and basic technical expertise and “act as a change agent” within the company.

Additionally, the key motivations for an organization to develop its fleet safety culture need to be consistently maintained as follows:

- a. To reduce crashes, close calls, injuries and fatalities for employees, contracted drivers (owner-operators) and general public/third parties in the external environment.
- b. To ensure that safety issues are recognized, formalized and communicated throughout the entire organization consistently.
- c. To ensure that the values, beliefs, attitudes and norms regarding safety are standard at all levels of the organization.
- d. To increase commitment to safety among all members of the organization.
- e. To define the safety program in terms of both design and overall performance.

A strong fleet safety culture, when properly defined by an organization, is not something that is unachievable. The full research report by the National Academy of Sciences (NAS) for “The Role of Safety Culture in Preventing Commercial Motor Vehicle Crashes”; located at: <http://www.trb.org/publications/blurbs/159031.aspx> can assist your organization in achieving safety improvement.

Redstone suggests you obtain the full research report from (NAS) to see how safety culture is an important evolutionary process that is adaptable to changes, and how it offers safety managers the opportunity to commit the entire organization to a single, common goal to: **Establish Highly Effective Fleet Safety.**

We are hopeful that you find summary useful information in your Fleet Safety Program development efforts.

