NETS' COMPREHENSIVE GUIDE TO ROAD SAFETY™

MAY 2014

For Employers with Large or Small Fleets and New, Developing, or Advanced ROAD SAFETY Programs

Prepared by
The Network of Employers for Traffic Safety
in Support of
The Decade of Action for Road Safety 2011–2020

NETS®
Network of Employers for Traffic Safety

DECADE OF ACTION FOR ROAD SAFETY 2011-2020

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INTRODUCTION

The Network of Employers for Traffic Safety (NETS)

NETS is an employer-led advocate for global road safety and is chartered as a nonprofit non-governmental organization (NGO). Its advocacy for global road safety includes an annual fleet safety benchmark program on behalf of its members, in addition to promoting the Decade of Action for Road Safety through its involvement in the United Nations Road Safety Collaboration (UNRSC). NETS works in partnership with the U.S. Department of Transportation, National Institute for Occupational Safety and Health, industry associations and NGOs to conduct road safety-related projects and promote road safety throughout their network. Finally, NETS produces and distributes Drive Safely Work Week campaign materials annually.

Purpose

NETS' Comprehensive Guide to ROAD SAFETY was developed as part of its mission to assist employers in advancing global road safety. The purpose of this document is to assist employers at various stages of ROAD SAFETY program development, including those who are:

- preparing to initiate a ROAD SAFETY program;
- in the early stages of policy and program development;
- managing more mature road safety management systems and interventions.

Acknowledgements

Sources for this document include the ANSI/ASSE Z15.1 – 2012 standard, *Safe Practices for Motor Vehicle Operations*; the International Association of Oil & Gas Producers' *Land Transportation Safety Recommended Practice* (OGP 365); the ISO 39001:2012 standard, *Road traffic safety (RTS) management systems — Requirements with guidance for use*; and members of NETS' Board of Directors and staff.

Disclaimer

This information is provided as a courtesy by NETS to its members and also to the general public. It is provided "as is," without any representations or guarantees as to its accuracy, and neither NETS nor any contributing company is liable for the content or use of this information.

The Road Safety Management Requirements that make up the main body of this document are based on consensus among the NETS' Board of Directors members and staff who contributed. On the other hand, the examples provided in the appendices do not necessarily represent the views of NETS and its staff, member companies and Board of Directors.

In addition, because the material in the appendices is drawn from a variety of sources, some of the sample policies contained therein may be inconsistent with each other and with the Road Safety Management Requirements. Where there are inconsistencies between the Road Safety Management Requirements and related material in the appendices, the provisions specified in the Requirements take precedence.

Further, readers should recognize that local conditions should be considered when implementing specific elements of the sample policies provided herein. For example, a minimum of 2 seconds is generally recommended as a safe following distance, increasing to 4 to 8 seconds in bad weather conditions. However, a 2-second minimum may not be feasible in congested urban environments in some parts of the world, and 4 to 8 seconds may not provide an appropriate margin of safety under extremely challenging road or weather conditions.

Finally, the topics and recommendations in this document represent the most current and comprehensive information available at the time of publication. That said, in interpreting and applying recommendations offered in this document, readers should always consider emerging hazards, the local road environment, changes in technology and new research findings.

Compliance with local, regional, state, and national traffic safety laws

An organization's commercial and non-commercial leased or owned vehicles will, at a minimum, meet all local, regional, state and national regulations and traffic laws, as well as all regulatory requirements established for commercial and non-commercial vehicles.

SCOPE AND USE

This document applies to drivers of light-, medium- or heavy-duty vehicles which are company-owned or company-leased, and contract workers and employees who drive personal, pooled, leased or rented vehicles on company business more than 5,000 miles/8,000 kilometers per year. The document can be used in a variety of ways, including:

- As a *primer* by companies in the early stages of developing a ROAD SAFETY program. It provides a *template* of those items found to be critical in developing, implementing and sustaining a ROAD SAFETY initiative.
- As an *audit tool* by employers with in-place fleet-safety programs to identify gaps and opportunities for improvement in their fleet-safety programs.
- As a template for comparison when multiple companies meet to benchmark their fleet-safety programs.

Organizational considerations

Successful ROAD SAFETY programs are resourced, led by leadership and are line owned.

1. Resourcing includes, but is not limited to, funding for:
    a. Driver-safety programs (such as training);
    b. ROAD SAFETY program management (e.g. Corporate headcount or outside services);
    c. Technology to collect metrics.
2. Senior business/world area management executives demonstrate commitment and invest time, resources and attention. They champion the ROAD SAFETY program and set the tone for embracing a culture that values safety.
3. "Line owned" refers to the following elements:
    a. Each driver is accountable for his/her driving performance.

b. The driver's manager is also accountable for his/her organization's driving performance, and accountability for results rises up through the highest levels of the organization.

c. Local area ROAD SAFETY teams are part of a ROAD SAFETY network comprised of regional or business ROAD SAFETY leads who are connected to the global ROAD SAFETY manager.

Note: In some large organizations, the global ROAD SAFETY manager is a full-time role. All others take on their ROAD SAFETY roles as part of their positions. Examples of ROAD SAFETY organization charts are shown in Appendix A.

METRICS, BUSINESS CASE, AND CONTINUOUS IMPROVEMENT

Collecting, analyzing and disseminating metrics/key performance indicators are important management components of a fleet-safety program.

Basic Data Needs

1. Total number of vehicles by type:
    a. Light
    b. Medium
    c. Heavy
2. Total miles/kilometers by type of vehicle for a given period of time
3. Total collisions by type of vehicle for a given period of time
4. Total injuries by type of vehicle for a given period of time
5. Type of collisions, e.g.
    a. by consequence: e.g., fatality, employee injury, third-party injury, property damage only
    b. by cause: e.g., fail to observe traffic signal, fail to yield, hit-and-run
    c. by crash mechanism: e.g., sideswipe, head-on, rear-end

Metrics/Key Performance Indicators

1. Leading Performance Indicators
   Leading performance indicators provide insight into the possibility of future positive or negative events.
    a. Example: Percentage of drivers classified as high-risk drivers (e.g. based on speeding or collision records or other data sources, including In Vehicle Monitoring Systems, see also Appendix B)
    b. Example: Percentage of drivers completing driver training in a calendar year

   Example: Percentage of collisions undergoing a "root cause" analysis within 30 days of the collision

2. Lagging Performance Indicators

   Lagging performance indicators shed light on how well or poorly a fleet-safety program is performing.

   Example: Collisions and Injuries per Million Miles (CPMM and IPMM)

$$\text{CPMM} = \frac{(\text{Total collisions in a given period of time x } 1{,}000{,}000)}{\text{Total number of miles driven during that period}}$$

$$\text{IPMM} = \frac{(\text{Total injuries in a given period of time x } 1{,}000{,}000)}{\text{Total number of miles driven during that period}}$$

Determining Collision Repair Costs

The example below provides guidance on determining the cost of repairing collisions. Note that it excludes costs associated with injuries and fatalities.

Assume:

Fleet size = 500 vehicles; 15% of fleet involved in a non-injury collision per year; average repair cost = USD $15,380*

Annual Collision Repair Cost = 500 x 0.15 x $15,380 = USD $1,153,500

(* Average repair cost from *Economic Burden of Crashes on Employers*, NHTSA, 2002)

Collaboration/Benchmarking/Continuous Improvement

NETS recommends that companies' fleet/road-safety leaders look beyond their own fleet-safety programs on a regular basis to learn from others in their industry and from those in unrelated industries. This will reduce problem-solving time, bring fresh ideas to ROAD SAFETY programs, foster continuous improvement and facilitate the exchange of promising practices.

Benchmarking/collaboration can be formal or informal. Formal benchmarking includes joining a road safety benchmarking organization (NETS, for example), as well as participating in benchmarking programs conducted by industry organizations on behalf of their members (the American Gas Association, for example). For information on a formal and comprehensive fleet safety benchmarking program, visit www.trafficsafety.org to learn about NETS' STRENGTH IN NUMBERS™ Fleet Safety Benchmark program. Note that it can be of value to large and small fleets, all vehicle types, and to employers operating globally, in a single region of the world or in one country only.

In informal benchmarking, a group of employers, usually in the same industry, collaborates to improve the respective companies' ROAD SAFETY programs without engaging a third party to collect and analyze data.

NETS' benchmark program collects data on CPMMs/IPMMs and the program elements used by companies participating in the benchmark exercise.

Program elements benchmarked by NETS include, but are not limited to:

1) Policies
2) Training programs, including Commentary Drive process
3) High-risk driver identification and intervention
4) Collision review process
5) Use of In-vehicle Monitoring Systems (IVMS) and safety technology supplied by the Original Equipment Manufacturer (OEM)
6) Authorized driver process (spouse/domestic partner/dependent programs/contractors)
7) Metrics (e.g., CPMM/IPMM, percentage of fleet in a collision, most common collision types, scorecard by vehicle type and by country or world area)
8) Mobile phone and other electronic device policy
9) Senior management engagement
10) Administrative controls (e.g., limits on hours driven per day or consecutively in a week; mandatory rest breaks

DEFINITIONS

ABS	Anti-Lock Brake System
Collision	An incident that involves a motor vehicle in operation coming in contact with another vehicle, other property, person(s) or animal(s). This incident may occur on or off a public roadway and may result in vehicle damage, property damage or injury.
Company Driver	• A company driver is one who is assigned a company-owned or leased vehicle. • At the employer's discretion, company drivers may also include spouses, domestic partners and licensed dependents of company drivers, as well as contract personnel. • Company drivers also include employees provided with a "compensation" vehicle. • Contract workers and employees who drive personal, pooled, leased or rented vehicles on company business more than 5,000 miles/8,000 kilometers per year are also company drivers.
Defensive Driving Training	A course to teach safe driving techniques and responsibility to all road users. It goes beyond mastery of the rules of the road and the basic mechanics of driving. Its aim is to reduce the risk of collision by anticipating dangerous situations, despite adverse conditions or the mistakes of others.
Heavy Vehicle	A vehicle that either: • Alone or in truck/trailer combination has a combined Gross Vehicle Weight Rating (GVWR) of 26,001 pounds (11,794 kilograms) or more or • Is designed to carry 16 or more passengers, including the driver.
HSSE	Health, Safety, Security, Environment
Injury	Medical treatment beyond first aid is required and an injury has been diagnosed by a physician or other health-care professional. Further definitions include physical harm or damage to a person resulting in loss of consciousness, at least one day away from work, restricted work activity or job transfer.

IVMS	In-vehicle Monitoring Systems (IVMS), or driver behavior monitoring systems, are electronic devices that record data about a driver's behavior and vehicle use such as date, time, speed, acceleration, deceleration and seat belt use.
Journey Management System	A journey management system is a planned and systematic process of reducing road transportation-related risks within a company's operations. Journey management has the following components: 1) a formal mechanism to assess the need for travel and to seek to eliminate or reduce long trips; and 2) a procedure for managing trips, including risk mitigation, planning safe routes and communication between drivers and supervisors.
JMP	Journey Management Plan (JMP) is part of a journey management system and refers to the agreed-upon plan between driver and supervisor (or Journey Manager). The JMP covers the time between departure and arrival at the final destination. The JMP details the safest route in order to avoid or mitigate any potential hazards en route, alternate routes, radio traffic monitoring stations, communication while en route and includes the rest breaks (at safe locations) drivers take to prevent fatigue. In locations where access to a public emergency response system is lacking, the plan should identify facilities where drivers can seek medical care.
Light Vehicle	A vehicle that either: • Has a Gross Vehicle Weight Rating (GVWR) of fewer than 10,001 pounds (4,536 kilograms) or is designed to carry eight or fewer people, including the driver. GVWR is the maximum loaded capacity of a single vehicle, including the driver, passengers, fuel and cargo.
Medium Vehicle	A vehicle that either: • Has a GVWR greater than 10,001 pounds, but fewer than 26,001 pounds (11,794 kilograms) • Is pulling a trailer of any kind and has a combined GVWR of fewer than 26,001 pounds (11,794 kilograms) or • Is designed to carry nine to 15 people, including the driver.

NCAP	New Car Assessment Program. Usually government-led, an NCAP is tasked with testing motor vehicles and assigning them ratings (generally numeric) based on their ability to protect occupants from injury in the event of a crash. More info: http://www.globalncap.org/
Rollover prevention technology	Rollover prevention technology designed for light vehicles uses an electronic stability control system (ESC). This system can activate brakes on individual wheels, allowing the vehicle to regain traction, which allows the driver to control the vehicle. Other names for the same technology include: Traction control system (TCS), vehicle stability control (VSC), electronic stability program (ESP), dynamic stability control (DSC). The system is available from most vehicle manufacturers in their new cars, SUVs and light trucks.
Rollover protection	Rollover protection structures (usually cabs or frames) are intended to protect vehicle occupants from injuries caused by vehicle rollovers. This additional protection may be in the form of: • Full roll cage inside the vehicle • Support to the roof columns • Increased window strength
Side Impact Protection	A system of protection against injury in side collisions compliant with European Union regulation ECE95, U.S. regulation FMVSS 214 or equivalent. Typically, all modern vehicles have structural designs adapted to side impact protection; the majority of vehicles are equipped with side airbags and many offer additional head protection airbags or curtains.

ROAD-SAFETY MANAGEMENT REQUIREMENTS

The requirements are grouped into four pillars:

A. **ROAD SAFETY Management System**: contains program elements that enable an organization to improve road-safety performance
B. **Driver and passenger** requirements
C. **Journey Management** requirements for planning, executing and follow-up
D. **Vehicle** requirements

Mandatory elements of a robust road safety initiative are listed on the left. Additional materials, including references to guidance, best practices and appendices, are on the right.

Mandatory elements	Guidance
A. Road-Safety Management System	
1. A road-safety management system must be implemented to ensure that activities are planned, carried out, controlled and directed so road transport risks are minimized. The management system must contain the following elements: A. Leadership and commitment B. ROAD SAFETY policy, objectives and targets C. Organization, resources, roles and responsibilities D. Competence, training and awareness E. Road transport risk management F. Communication process G. Documentation of the management system H. Operational planning and control I. Emergency preparedness and response J. Monitoring, measurement, analysis and evaluation	Examples of frameworks for comprehensive road safety management systems are: - OGP 365 Land transportation safety recommended practice - ISO 39001:2012 Road traffic-safety management systems (RTS) – Requirements with guidance for use Further, the ANSI/ASSE Z15.1 2012 standard Safe Practices for Motor Vehicle Operations contains elements of a road-safety management system. Sample organizational charts and incident investigation reports are available in Appendix A.

K. Road transport incident investigation and follow-up L. Internal audits M. Management review N. Nonconformity, corrective and preventive action O. Commitment for continuous improvement	

B. Driver and passenger requirements	
1. Occupants of vehicles must use seat belts. It is the responsibility of the driver to communicate this requirement.	
2A. Drivers must have a driving license valid for the location and type of vehicle. 2B. Develop an internal Fitness for Work policy to assure drivers are physically and mentally fit to drive.	Refer to Appendix B4 for a sample Driver Licensing policy. Implement a Driver Fitness to Work process that includes periodic medical examinations (e.g., screening for sleep disorders such as sleep apnea).
3. Drivers must successfully complete a Defensive Driving Training appropriate for the various classifications of vehicles being operated. Training should include: A. General hazard awareness (including fatigue management and distracted driving) and items identified through a review of historical collisions B. Hands-on, behind the wheel or other method to demonstrate and assess the level of skill C. Periodic refresher training should be based on the driver's performance and risk exposure with a minimum of hands-on refresher training every three years	NETS recommends to complete a rollover awareness training where there is a high risk of rollovers (e.g., because of vehicle type and/or road type or conditions. Refer to Appendix B2 for a sample Driver training policy that includes information on commentary and peer drives. NETS recommends to obtain drivers' written endorsement/acknowledgement of the driver training policy.

4. Management must implement a High-Risk Driver intervention process, which must include at a minimum: A. Criteria for identifying, notifying and managing high-risk drivers; B. A scheduled coaching session with the driver's immediate supervisor immediately after the High-Risk Driver classification; and C. Additional re-training and supplemental assessment requirements; D. Referral to appropriate performance management process.	Refer to Appendix B6 for a High-Risk Identification and handling sample policy.
5A. Identify, based on a HSSE risk assessment, which vehicles must be equipped with In-Vehicle-Monitoring Systems (IVMS). At a minimum, IVMS devices must record against a "driver identification key" the speed, harsh acceleration, harsh deceleration, kilometers or miles driven and driver hours. 5B. Use the IVMS data to: • Provide feedback to drivers and improve driver performance • Apply recognition and consequence management; issue sanctions for non-compliance	A risk-based approach may be used to set the pace of introducing IVMS. The outcome of the risk assessment may be that IVMS will be introduced for high-risk drivers first, followed by the other driver categories. An example of an IVMS implementation and driver feedback guidance document can be found at http://www.ogp.org.uk/pubs/365-12.pdf Note: Implementation of this requirement does not mean that other feedback mechanisms (e.g. commentary and peer drives) are not a valid method for improving driver performance. Commentary

	and peer drives may still be part of the driver training scheme.
6. Drivers are not allowed to use a mobile phone/pager/two-way radio while driving a vehicle. This includes hands-free devices. A. Exceptions, if permitted by legislation, are: • In cases of emergency • As part of convoy management • Other situations, based on HSSE risk assessments	Refer to Appendix B1 for a sample mobile phone policy.
7. Drivers must not operate a vehicle while under the influence of alcohol, drugs, narcotics or medication that could impair driving ability.	Refer to Appendix B3 for a sample policy regarding the use of alcohol, drugs and medication that could impair driving ability.
8. The use of two-wheeled motor vehicles on company business is not allowed, unless a risk assessment demonstrates adequate controls are put in place to manage the risk associated with this type of transport. If the outcome of the risk assessment determines that two-wheeled motor vehicles are allowed, a policy/procedure must be in place that addresses minimum requirements for the use of these vehicles, including the use of appropriate helmets and specialized driver training.	Refer to Appendix B7 for a sample policy on the use of two-wheeled motor vehicles.

C. Journey Management	
1. Management must implement fatigue management procedures and a duty, driving and rest hours regime. The regime must comply with local laws and regulations. Management must not assign work such that a driver will work in violation of the duty, driving and rest hours regime. A. Drivers must be physically and mentally capable of operating the vehicle. B. Drivers have the right to: • Avoid driving if they are not fully rested or alert • Stop the vehicle and take a rest break in a safe location if attention is lost C. Drivers must comply with duty, driving and rest hours.	Implement procedures for fatigue management that include: • Schedule work to provide adequate rest breaks, avoid long driving hours, avoid night driving and avoid rotating work shifts • Allow workers to plan an overnight stay. • Educate drivers about the risk of fatigue and effective strategies for managing fatigue • If local laws and regulations for duty, driving and rest hours are absent, the duty, driving and rest hours in Table 1 (page 22) are recommended. • If local laws and regulations for duty, driving and rest hours are less strict, NETS recommends to implement the stricter requirements specified in Table 1.

2. Managers shall periodically question and review the number of journeys with the intent to eliminate journeys and lower the risk.	Consider safer modes of transport (rail, ferry, air travel) and alternative means of accomplishing work such as video conferencing or web meetings. Where road transport is the only feasible solution, specific road transport measures must be considered to reduce exposure (kilometers or miles driven) and risk. This includes: use of lower-risk road transportation modes (e.g. bus versus light vehicle) and combining trips.
3A. Use a local HSSE risk assessment to identify which (types of) journeys require a Journey Management Plan (JMP) and implement a JMP for those journeys. 3B. The JMP includes authorized route, identification of route hazards and associated controls, rest stops, and communication requirements during the journey. In journey planning, the duty, driving and rest hours specified in Table 1 shall be applied as well as fatigue management controls.	Refer to Appendix C for a sample policy on Journey Management. NETS recommends to appoint Journey Managers and ensure they are properly trained. Where feasible, driver and journey manager have a pre-trip briefing to ensure: a. The driver is fit for work and qualified for the trip (see also requirements 3,4 and 8) b. JMP is understood by driver and journey manager c. Vehicles are inspected prior to the trip (see also requirement 16.2) For trips where pre-trip briefings are not feasible, alternative

	controls can be implemented to ensure journeys comply with items a, b and c mentioned above.
4. Unauthorized passengers are not allowed in the vehicle while on company business.	Implement a policy that specifies those authorized to drive a company owned or leased/rented vehicle and those authorized to ride in a company owned leased/rented vehicle. Typically, an authorized passenger in a heavy goods vehicle is a person who has been approved by the driver's line management. This includes but is not limited to driver trainers, trainee drivers, maintenance staff and transport staff. In some countries, passengers must comply with regulatory requirements where they are expected to have knowledge of the cargo, its properties and emergency response process.
5. Drivers must, where permitted by law, drive with lights on during daylight hours.	

TABLE 1: SAMPLE WORK/DUTY, DRIVING AND REST HOURS

The recommendations below are based primarily on regulatory frameworks applied to heavy vehicles. However, a number of the elements below, e.g., those related to the need for rest breaks and the need to consider commuting time as a component of total driving time, are also relevant for light and medium vehicles.

Refer to Appendix C1 for more information around each of the requirements in Table 1, the importance of complying with these requirements and how they relate to local laws and regulations.

	For drivers of light or medium vehicles	**For drivers of heavy vehicles and others for whom driving is the primary job task**
Maximum driving time between breaks and minimum break time	Two hours of continuous driving followed by a break of at least 15 minutes.	4.5 hours of continuous driving followed by a 30-minute break. However, it is strongly recommended to have 15 minute breaks every two hours, or more frequent breaks during periods of circadian lows.
Maximum work/duty hours* within a rolling 24-hour period *Work/duty hours that primarily include occupational driving	The employee is not permitted to drive after twelve work/duty hours.	The employee is not permitted to drive after 14 duty hours.
Maximum driving hours within a rolling 24-hour period	Eight hours total, excluding commuting time. Nine hours, including any commuting time.	Ten hours total excluding commuting time. Eleven hours including any commuting time.
Maximum work/duty hours in a rolling seven-day and 14-day period	No driving after a period of 40 work/duty hours over a seven-day period, or 80 hours over a 14-day period.	No driving after a period of 70 duty hours over an eight-day period, or 120 hours over a 14-day period.

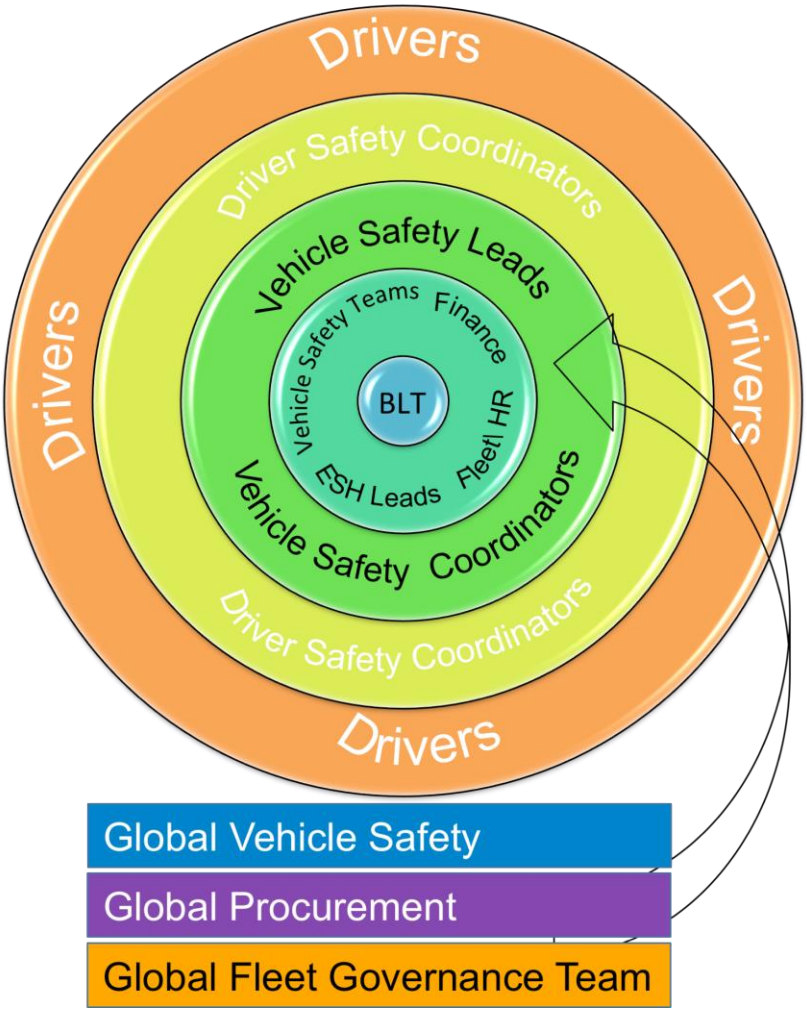
D. Vehicle	
1. Management must ensure vehicles are used that comply with the minimum standards: A. 3-point seat belts* B. Head rest/head restraint* C. Airbag (for driver and front seat passenger) D. Side impact protection E. ABS F. IVMS (Based on risk assessment) G. Emergency response kit *minimum standards for light vehicles used on Company business that are owned or leased by the Driver.	The standards specified in this document are minimum standards. Additional standards may include: towing capacity, ergonomic considerations (e.g. ease of access, movement, ability to work from or in the vehicle), safety features such as stability systems, rear vision or detection devices, collision avoidance system, in-cab camera and exterior mirror systems. NETS recommends to use vehicles with rollover prevention or protection devices, if a rollover risk assessment identifies a high risk of rollovers. NETS recommends that vehicles have a least four stars on the NCAP rating scheme or equivalent crash test rating framework. Appropriate emergency equipment includes: first-aid kit, flashlight, reflective safety vest, fire extinguisher, warning triangles.
2A. Maintain vehicles in safe working order in line with manufacturer's specifications and local legal requirements.	Refer to Appendix D for a sample vehicle maintenance procedure and a vehicle inspection procedure.

2B. Drivers must carry out pre-trip inspections to ensure that the vehicle is in good working order and appropriate for the trip.	
3. Secure loose items in the passenger compartment	Loose items should not be carried in the passenger compartment; a cargo net or equivalent can be used to separate the storage area from the passenger area.

APPENDIX A1.1: EXAMPLE ROAD SAFETY ORGANIZATIONAL STRUCTURE

1.1 Organizations which operate in a wide variety of businesses or geographies may consider establishing a high- level global policy which outlines the minimum requirements and allows Regional or Business Units to establish more detailed guidance specific to the applicable operations and within the requirements of the global policy.

1.2 In order to successfully implement and sustain a road and fleet safety program, a strong demonstration of management commitment to the Road and Vehicle Safety Program is required.



Drivers
- -Drive safely
- -Report mileage & incidents
- -Work with Driver Safety Coordinators
- -Complete driver training

Driver Safety Coordinators (DSC)
- -Team Manager or Admin Professional
- -Provide relevant vehicle safety data to team
- -Monitor At-Risk drivers within team
- -Champion & influence safety within team
- -Participate in DSC network
- -Report incidents and collect mileage

Vehicle Safety Coordinators
- -ESH or Key business leader
- -Assign and work with DSC's
- -Work with vehicle safety lead
- -Participate in vehicle safety team

Vehicle Safety Leads/Environment Safety and Health Department (ESH)
- -Work with coordinators & DSC's
- -Manage systems & capture ESH metrics
- -Provide guidance to vehicle safety teams

Vehicle Safety Teams
- -Establish policies
- -Request and monitor metrics
- -Report to Business Leadership

Business Leadership Teams/People Leaders
- -Set direction & expectations
- -Review metrics
- -Approve & apply policies
- -Conduct driver follow-up & interventions

1.3 Organizational Leaders must ensure the program is appropriately resourced to implement the program, collect and communicate the appropriate metrics, review incidents/collisions, ensure driver training is completed as required and identify and pursue areas for continual improvement. An example structure can be found above.

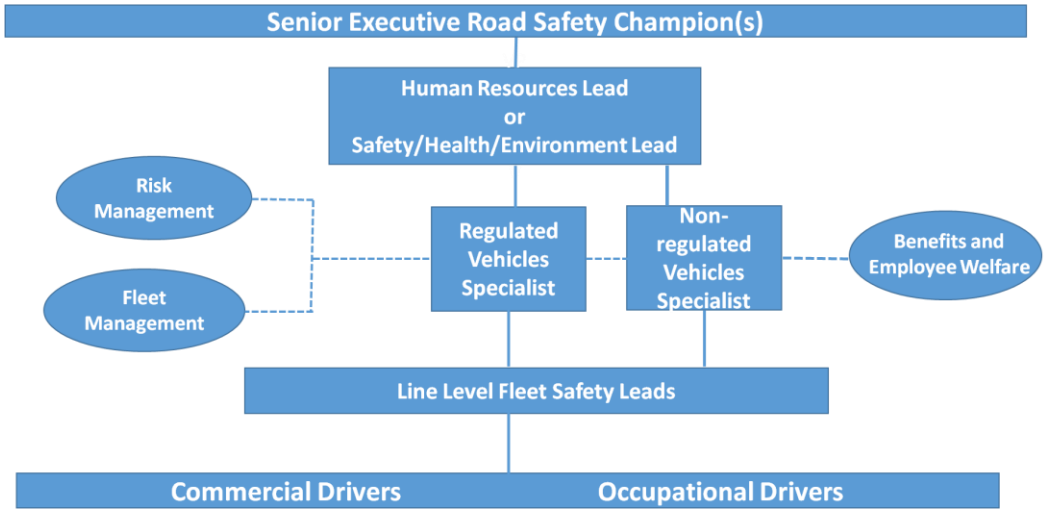
1.4 Consider establishing Regionally Based Vehicle Safety Teams to manage issues within each Business Unit or World Area.

- Establish and review a safety policy within the Region/Business Unit.
- Identify and ensure adequate number of Vehicle Safety Coordinators
- Review Incidents and Collisions
- Ensure driver training is completed per policy

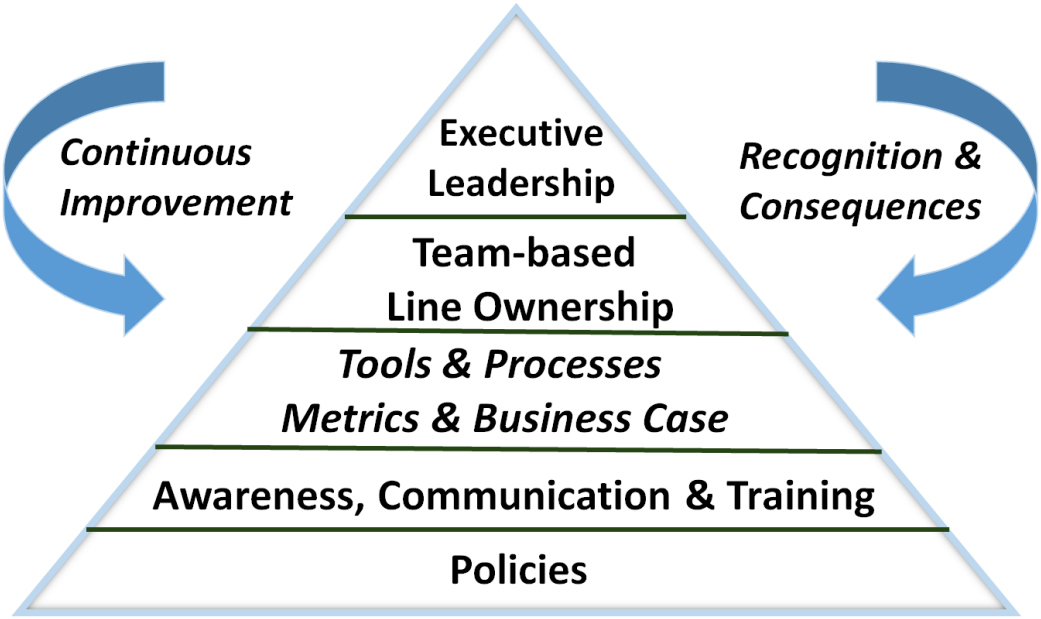
1.5 There shall be a method for identifying and training the individuals responsible for managing the requirements of the Vehicle Safety Program and to serve as main point of contact to assist with any reporting and other communications to Company Drivers and spouses/domestic partners who drive Company owned or leased vehicles.

APPENDIX A1.2: SAMPLE ROAD SAFETY ORGANIZATIONAL CHART AND ROAD SAFETY MANAGEMENT MODEL

Sample Fleet Safety Organizational Chart



Fleet Safety Management Model



APPENDIX A2: SAMPLE INCIDENT INVESTIGATION PROCEDURE

PURPOSE

To determine the facts of a collision/incident and follow the required protocol.

SCOPE

All employees operating (Insert Company name)'s vehicles (owned, rented, or leased)

DEFINITIONS

Preventable Collision or Incident—A preventable collision or incident is one in which the (Insert Company name) Employee failed to do everything possible to prevent the collision or incident, including anticipating the hazard and applying the appropriate defensive driving procedures.

Non-preventable Collision or Incident—A non-preventable collision or incident is one in which the (Insert Company name) Employee did everything possible to prevent the collision or incident, including anticipating the hazard and applying the appropriate defensive driving procedures.

GENERAL

A collision investigation is a search for facts. As management for (Insert Company name), you must not only determine what happened, but why it happened and, most importantly, how your employee can avoid similar collisions. Environment, road and vehicle conditions, human and organizational behavior must all be considered. The success of the investigation depends on the manager's ability to obtain facts without prejudice and without trying to support preconceived notions.

(Insert Company name)'s ultimate goal in investigation and preventability determination is self-improvement to prevent collisions in the future.

The guidelines on the following pages are meant to help managers perform the investigative and preventability determination part of their job. By following the step-by-step procedure as outlined, managers will be able to gather enough information for their purposes, as well as to provide (Insert Company name) with legal and financial documentation. It is essential for reports to be as complete and accurate as possible because it is, in many cases, the only official

(Insert Company name) document on the collision and may be used in court for insurance purposes or to justify disciplinary action.

Employee Responsibilities

After being involved in a vehicle collision:

1. Stop immediately to investigate.
2. Help anyone who is injured.
3. Notify Emergency Services.
4. Protect scene of collision by placing warning devices, if applicable, to warn traffic, etc.
5. Protect your vehicle from further damage or theft. Do not put yourself in a position of danger.
6. If possible, do not move your vehicle until police arrive.
7. Be courteous, but do not sign anything or discuss the collision with anyone except the police and the (Insert Company name) representative, once identified.
8. Report to your dispatcher/manager at once by phone
9. Contact Fleet Response to report the collision
10. Do not admit responsibility or agree to pay for anything.
11. Protect yourself by obtaining witnesses, including first persons to arrive. If names are refused, get vehicle license numbers.
12. If possible, take pictures of vehicle(s) and collision scene

Manager Responsibilities

When an employee calls to report a collision, the manager must:

1. Make sure the employee is not injured and is out of harm's way.
2. Determine if the employee requires immediate medical attention and provide the employee with the means to receive medical attention (call an ambulance if necessary).
3. Ensure that the employee has followed the steps above.

AT THE SCENE

When arriving at the scene, the **manager** will (when pertinent):

1. Check on the condition of the employee and others involved.
2. Secure the vehicle and its contents.
3. Photograph the scene.
4. Gather information for your report.
5. Sketch the scene.
6. Secure witness statements.

Photographing the Scene

Take pictures of the collision scene from as many different angles as possible. Take shots of the vehicles from a distance to make sure you get the surrounding area as well. Close-ups of any damage, inside or outside the vehicles, or to the surrounding property, should also be included. If the vehicles have been moved, photograph each one from as many angles as possible.

It's better to have too many pictures of a collision than not enough!

Gathering Information at the Scene

Precise location of the collision—be sure you know:

1. city, state, and county where collision occurred
2. name of highway, street, or route
3. nearest street address if collision occurred in built-up area
4. distance from nearest intersection or other landmark such as a farm, park, business, sign, etc.

Parties involved—be sure you know:

1. names, addresses, and phone numbers of all parties involved, including passengers, witnesses, and police officers (if possible, obtain the police officer's badge number)
2. who owns any vehicles or other property involved in the collision
3. other driver's insurance company, policy number, agent's name, agent's phone number

Regarding vehicles involved and property damage, be sure you know: make, model, year, license number, color, type (auto, truck, motorcycle) and, if possible, serial number of all vehicles involved.

Describe damage sustained by each vehicle or piece of property. If possible from past experience, estimate dollar amount of damage, but do not make any statements regarding estimated damage.

Extent of injuries

1. If possible, determine the exact nature and extent of injuries to anyone involved in the collision (call the hospital when you return to your office, if necessary).
2. Be sure your driver is physically and mentally able to drive before allowing him/her to continue.
3. If possible, determine the name, address and telephone number of hospital(s)/medical treatment facilities to which the injured were transported.
4. If possible, determine the name and telephone number of the ambulance company who transported the injured.

Determine if alcohol/drug testing criteria are met. If any of the following occurs as a result of the collision, (Insert Company name) management must conduct a post-collision drug and alcohol test on the employee:

1. fatality or
2. moving violation is issued to (Insert Company name) driver and either vehicle needed towing due to disabling damage or any individual involved in the collision received immediate medical treatment away from the scene of the collision

Statements: Write down statements from parties involved and witnesses describing the collision

Measurements—you should measure:

1. length of skid marks (measure the marks by measuring an equal distance along the curb if traffic won't permit you to measure the actual skid mark safely)
2. width of the road or highway and individual traffic lanes
3. distance of point of impact (if vehicles haven't been moved) from at least two stationary reference points such as the center line and the curb

Regarding driving conditions, make a note of:

1. road surface and condition (e.g., asphalt, wet)
2. weather and lighting conditions at the time of the collision (e.g., clear, daylight, night time)

Find out where you can get a copy of the police report and when will it be available.

Verify safety and mechanical reliability of the vehicle before it is moved or driven. When in doubt, have it towed.

Sketching the Scene

Sketch the collision scene as accurately as possible, including all physical features in the vicinity such as trees, fences, walls, ditches and signs. Traffic signs and signals, as well as the names of streets and highways, are particularly important.

Also be sure to show:

1. direction of vehicles involved prior to impact
2. point of impact (make note of its distance from a fixed reference point)
3. final resting place of vehicle(s) as a result of collision
4. length of all skid marks
5. width of road and individual traffic lanes

BACK AT THE OFFICE: DETERMINING PREVENTABILITY

After investigating a collision, you must determine whether or not it was preventable on the part of your employee and complete a Notification of Judgment. (Insert Company name) considers a collision/occurrence preventable unless the employee did everything possible to prevent it, including anticipating the hazard and applying the appropriate defensive driving procedures.

It is important to remain objective. It won't be easy, but personal feelings for the employee involved must not be allowed to influence the decision. The effects of that decision go well beyond the particular employee and collision in question.

By that definition, preventability goes far beyond legal liability as far as (Insert Company name) is concerned. It is possible for an employee to have a preventable collision/occurrence while not being legally at fault. Company drivers, as trained professionals, bear more responsibility for preventing collisions than ordinary motorists. That standard is admittedly high, but comes with the territory and is universally accepted throughout the transportation industry.

By classifying a collision/occurrence non-preventable, a manager may be giving unspoken approval to certain driving behavior for all his/her employees. By ruling one preventable, the manager defines certain behavior as unacceptable by the corporation's standards. In short, each decision sets the driving standards the employees will be expected to live up to.

APPENDIX B1: SAMPLE MOBILE PHONE USE POLICY

Recommended Usage

This policy can serve as a model for your organization's policy. You can expand the policy language to include additional scenarios relevant to your organization's needs, such as volunteers, drivers transporting people on behalf of your organization, driving on company property, etc. Although you may choose to edit the enforcement and disciplinary terms, the inclusion of specific terms strengthens compliance with a policy. It's recommended that your legal team review your final policy language.

We deeply value the safety and well-being of all employees. Due to the increasing number of accidents resulting from the use of cell phones while driving, we are instituting a new policy.

1. Employees are not permitted to use a cell phone, either handheld or hands-free, while operating a motor vehicle on company business and/or on company time.
2. Employees are not permitted to read or respond to emails or text messages while operating a motor vehicle on company business and/or on company time.
3. This policy also applies to use of PDAs.
4. While driving, calls cannot be answered and must be directed to voice mail.
5. If an employee must make an emergency call (911), the vehicle should first be parked in a safe location.

Employees will be given two warnings. The third time an employee is found to be in violation of this policy, it is grounds for immediate dismissal.

Your signature below certifies your agreement to comply with this policy.

Employee Signature _____ Date _____

APPENDIX B2: SAMPLE GUIDELINE FOR ROAD SAFETY TRAINING REQUIREMENTS

There shall be a process to ensure all employees and all spouses/domestic partners and contractors who drive Company- owned or leased vehicles are appropriately trained for the specific vehicles to be operated and the training is appropriately documented.

Universal Training for all employees:
Annual classroom or computer based safety awareness training, including policy review certification, is required for all employees who drive on or off the job. The annual training should address general hazard awareness (including fatigue management and distracted driving), items identified through a review of historical collisions and a policy review certification. This training should be offered to spouses/domestic partners and contractors who are eligible to drive Company owned or leased vehicles.

Light Vehicle training for company drivers:
All company drivers of light passenger vehicles are required to complete the universal annual training. In addition to the universal training requirements for all employees, training for Company Drivers of Light Vehicles must include the following:

1. Light Vehicle BTW (Behind the Wheel) training within 90 days of hire or as soon as training is reasonably available for all Company Drivers and every three years thereafter.
2. An Assessment Drive must be completed with commentator noting significant concerns prior to driving on behalf of the Company and each year that Light Vehicle BTW training is not required.
3. Annual Peer Drive assessments should be considered to increase the frequency of feedback if GPS/electronic feedback systems are not in use.

Medium and Heavy Vehicle training for company drivers:
In addition to all of the training requirements of light vehicle company drivers, operators of Medium and/or Heavy Vehicles must include the following:

1. BTW training in the applicable vehicle a minimum of every three years.
2. An assessment drive in an appropriate vehicle, with commentator noting significant concerns, is required each year BTW training is not required.
3. Class room or computer based training (CBT) in the two years between BTW training.
4. Drivers of nine- to -15 -passenger vehicles must have a Commercial Driver's License (CDL) Endorsement. Additional training requirements should be developed to address the drivers who transport large numbers of people (i.e. >9).
5. Training for the drivers of heavy vehicles should include the elements covered in medium

vehicle training so that an appropriately trained operator of Heavy Vehicles is also qualified to operate Medium Vehicles.

6. Spouse/Domestic partners are not authorized to drive Medium or Heavy Vehicles.

High-Risk Driver Training:
Drivers who are identified as High-Risk per the monitoring and identification processes must receive:

1. A coaching session with the driver's immediate supervisor immediately after the At-Risk Driver classification; and
2. BTW training or appropriate alternative training (as determined by the driver's supervisor in consultation with the Environment, Safety and Health Department (ESH) and the business within 90 days of the At-Risk Driver classification; and
3. Two Assessment Drives within 12 months of the At-Risk Driver classification with the first Assessment Drive within 30 days.

Assessment Driver Training:
Assessment Drives are opportunities for managers to review the driving skills and vehicle condition one-on-one with their Company Drivers. They are meant to provide immediate feedback on driving skills and identify areas for improvement. Training for Assessment Drives will be provided to managers. The manager will schedule and complete an Assessment Drive within 15 days of an employee becoming a Company Driver. Signed Assessment Drive Checklists should be maintained by the driver's immediate supervisor for a period of three years.

Peer Drives:
Peer drives are an opportunity to continue to create a safety conscious coaching atmosphere where individuals look out for one another and encourage safe behaviors. A peer drive will be required annually for each Company Driver. A record of completion will be signed by both the driver and the observer and will be maintained by the driver's immediate supervisor for a period of 3 years.

EXAMPLE ASSESSMENT AND/OR PEER DRIVE EVALUATION FORM

Scan 360 Skills	Positive Behavior	Needs Improvement	Not Observed
Adjust mirrors to eliminate blind spots before starting to drive	❑	❑	❑
Scan ahead of, behind and to both sides (360°) of the vehicle while driving	❑	❑	❑
Checks rear- and side-view mirrors every four to eight seconds while driving	❑	❑	❑
Reacts *early* to hazards ahead by covering the brake or moving to another lane	❑	❑	❑
Continues scanning 360° even when the vehicle is stopped	❑	❑	❑
Scans 360° and turns to look over shoulder while backing	❑	❑	❑
Can describe appropriate "escape routes" when driving or stopped	❑	❑	❑

Comments:

Following Distance Skills	Positive Behavior	Needs Improvement	Not Observed
Always maintains at least a "two-second" following distance	❑	❑	❑
Increases following distance to four to eight seconds in bad weather/road conditions	❑	❑	❑
Increases following distance to compensate for tailgaters	❑	❑	❑
Quickly drops back to a safe following distance if another car cuts in ahead	❑	❑	❑
Uses low-beam headlights on roadway so vehicle is visible to others, i.e. recommended safety practice	❑	❑	❑
Reduces speed on unpaved roads	❑	❑	❑
Approaches "slow moving vehicles" with caution	❑	❑	❑
Yields at unmarked or reduced visibility intersections	❑	❑	❑
Reduces speed when going from paved to unpaved roads	❑	❑	❑

Comments:

Intersection Skills	Positive Behavior	Needs Improvement	Not Observed
Slows, checks cross traffic, and covers the brake before passing through intersections	❑	❑	❑
Avoids entering intersections on yellow lights	❑	❑	❑
When stopped, can see *clearly* where rear tires of car ahead *touch pavement*	❑	❑	❑
Signals intention to turn well in advance	❑	❑	❑
When turning left, waits to turn wheels until all cross traffic has cleared	❑	❑	❑
Waits two full seconds before entering intersection after light turns green	❑	❑	❑

Comments:

Braking Skills	Positive Behavior	Needs Improvement	Not Observed
Uses "ready brake" whenever there is a *potential* problem ahead or "stale-green" light.	❑	❑	❑
Uses "30% braking" to bring the car to a smooth stop in normal braking situations	❑	❑	❑

Comments:

Vehicle Walk-Around:

❑ Good Condition, Exterior & Interior ❑ Exterior Needs Maintenance ❑ Interior Needs Maintenance

Supervisor's Signature Date

Driver's Signature Date

This information is provided as a courtesy by NETS to its members and also to the general public. It is provided "as is," without any representations or guarantees as to its accuracy, and neither NETS nor any contributing company is liable for the content or use of this information.

APPENDIX B3: SAMPLE ALCOHOL AND DRUG USE POLICY

1. Employees who drive must meet the requirements of the applicable Vehicle Policies, and exercise due diligence to drive safely. Employees are not permitted, under any circumstances, to operate any vehicle on company business when impairment causes the employee to be unable to drive safely. This prohibition includes circumstances in which an employee is temporarily unable to operate a vehicle safely or because of use of drugs or intoxication.

2. Any disciplinary action resulting from violations of the driving while impaired requirement should be addressed through the company's Human Resources Department to ensure compliance with any Governmental Regulations.

3. All employees must report to their supervisor, within 24 hours, all law enforcement stops and arrests for driving under the influence, intoxicated or impaired, while driving on company business in their personal vehicle or company vehicles as defined in this policy.

4. Failure to report will result in disciplinary action up to, and including, termination of employment.

5. For alcohol related impairment, *impaired* is defined by the individual's alcohol level, as determined by Breathalyzer or blood test, being equal to or greater than the legal limit in the location in which the employee was driving. For purposes of this policy, findings will be based on the applicable legal blood alcohol limits and will not require a conviction. Employees who are found to be impaired due to an alcohol related collision will be terminated on first offense of violation of this policy. In addition, if an individual refuses to take a field sobriety, Breathalyzer or blood alcohol test as requested by law enforcement or the company, that individual's employment will be terminated.

6. The determination of impairment for unauthorized legal or illegal drugs will rely on an acceptable and reliable test for the drug at issue. There is no requirement that there be a conviction. Employees who are found to be impaired by unauthorized legal or illegal drugs will be terminated on first offense of violation of this policy.

7. Impairment due to legal prescriptions or over-the-counter drugs will be determined by applicable tests, law enforcement reports, medical advice and any other pertinent information. Employees found to be driving while impaired due to legal prescription or over-the-counter drugs may be subject to disciplinary action up to and including termination of employment.

APPENDIX B4: SAMPLE DRIVER LICENSING POLICY

Requirements for drivers:

1. It is a fundamental expectation that all drivers comply with all governmental laws.
2. It is the responsibility of the driver to possess a valid driver's license and/or the correct license class per applicable governmental requirements.
3. In addition to complying with the company's policies for driver training, drivers are expected to obtain any additional training needed to maintain any specialized driver's license held, as required by local laws or safety regulations.
4. Drivers are responsible for notifying their immediate supervisor within 24 hours of any motor vehicle citation (or violation) that disqualifies them from operating a motor vehicle.

Company policies and procedures:

1. There shall be a process to verify that drivers possess a current and valid driver's license issued by the local government authority having jurisdiction and that the license is of the appropriate type for the vehicle being driven.
2. There shall be an established policy for authorized use of vehicles owned or leased by the Company.
3. There shall be an established method to collect an acknowledgement on an annual basis from every driver that they reviewed and understands the current vehicle safety policy.
4. At the time of hire, hiring officials shall perform applicant background checks and reference checks with previous employers. These checks should include, but not be limited to, the following: number and severity of motor vehicle violations, prior license suspension, previous motor vehicle collisions, previous experience and training.
5. There shall be a method for collecting written permission from the driver allowing the Company to conduct periodic checks of Motor Vehicle Records where allowed by law, or self-disclosure of driving records.
6. Up-to-date records of driver qualification, licensing, training, and performance shall be maintained for all drivers.
7. There shall be a method of categorizing the types and frequencies of motor vehicle violations that will lead to possible disciplinary action or suspension of driving privileges. Workers should be informed about this system. Such a system may be used to place drivers in risk categories and deliver more intensive program elements to higher-risk drivers.

APPENDIX B5: EXAMPLE OF NEW HIRE ELIGIBILITY AND DRIVER REQUIREMENTS POLICY

Screening Criteria (within the past three years)	Eligibility for Hire
A. Any alcohol and/or drug related driving offense including driving while under the influence of alcohol or drugs or driving while intoxicated. This also includes refusal to submit to testing.	Not Eligible for Hire
B. Suspension or revocation of a driver's license.	Not Eligible for Hire (recruiter may use discretion if the suspension was due to administrative reasons and/or the applicant is able to produce documentation that his/her driver's license is currently valid)
C. Leaving the scene of a crash or a hit and run as defined by the law of the state/country in which the violation occurred.	Not Eligible for Hire
D. At fault in a fatal crash as defined by the law of the state/country in which the crash occurred.	Not Eligible for Hire
E. Any combination of three or more violations or crashes, while the vehicle was moving, within the past three years. The eligibility assessment is based on the date(s) of the actual violation versus when the conviction occurred **or,** Any combination of two or more violations or crashes, while the vehicle was moving, within any six-month period. The eligibility assessment is based on the date(s) of the actual violation versus when the conviction occurred.	Not Eligible for Hire

The aforementioned information may be collected and recorded in accordance with local laws and regulations.

In the event that the screening process using the above criteria cannot be implemented due to limited access to motor vehicle data (i.e., citations/violations), or due to restricted access as dictated by local laws and regulations, the Company affiliate must implement a High Risk related screening process achieving the same objective of risk mitigation.

Alternative screening criteria (e.g., risk rating criteria utilizing pre-determined point values that are assigned to crashes and/or violations) must be reviewed by the Global Leadership Team to ensure that the designation of risk is appropriate for screening out drivers who exhibit a history of unsafe driving practices. The screening criteria must be in compliance with applicable local laws and regulations.

APPENDIX B6: SAMPLE GUIDELINE FOR HIGH-RISK DRIVER IDENTIFICATION AND MANAGEMENT

Identification of High-Risk Drivers

A High-Risk Driver is defined as a Company Driver or authorized spouse/domestic partner or dependent who:

1. Has had three or more unrelated collisions and/or moving violations in the last three years or
2. Has had two unrelated collisions and/or moving violations in the last six months or
3. Illegally (as defined by the applicable local laws) left the scene of a collision in the last three years or
4. Has had an "at-fault" (as defined by the applicable local laws) fatal collision in the last three years or
5. Has had his or her driver's license suspended or revoked in the last three years or
6. Has had an impaired-driving moving violation in the last three years or
7. Has been identified as High-Risk through the Company's IVMS feedback program.

Management of High-Risk Drivers:

Management of Drivers who are identified as "At-Risk" per the monitoring and assessment processes:

1. Must participate in re-training as described in the Training Guideline.
2. At-Risk Drivers may not drive Medium or Heavy Vehicles.
3. At a minimum, the At-Risk Driver's Motor Vehicle Record (MVR) will be reviewed 12 months after classification as an At-Risk Driver.
4. Any disciplinary action for an At-Risk Driver who disregards intervention, refuses to participate in intervention efforts, or is repeatedly identified as an At-Risk Driver shall be referred to Human Resources.
5. The Company may take disciplinary action, up to termination, against Company Drivers who maintain an At-Risk Driver classification for more than two years.
6. Any spouse or domestic partner identified as At-Risk shall be prohibited from driving a company- owned or leased vehicle.

Although an impaired-driving moving violation involving alcohol, illicit drugs, or prescription drugs does count toward the assessment of a driver's at-risk status, any further Company decisions or actions in response to such a violation shall be referred to Human Resources.

APPENDIX B7: EXAMPLE OF A TWO-WHEELER DRIVING POLICY

The purpose of this document is to define policies that [insert Company name] contractors and seasonal workers must follow to ensure their safety when riding two- wheelers for [insert Company name] business-related purposes.

Two-Wheeler Vehicle Safety

Two-wheelers, or motorcycles, are able to get people to destinations to which cars and trucks are usually unable. However, due to their nature, it is relatively riskier to maneuver them while on the road.

The following requirements apply to all agency employed Seasonal Workers or contractors, who ride two-wheelers for [insert Company name] business related purposes. [insert Company name] employees are NOT allowed to use two-wheelers for company business under any circumstances.

General Requirement

The Two-Wheeler Safety Requirements within a country should include the following:

1. **Training in safe operation of the vehicle:** All drivers are required to attend and successfully complete relevant safety training conducted by qualified trainers within a stipulated number of days of employment with [insert Company name]. They are also required to attend refresher training arranged by the Vehicle Safety Coordinator or Management, at stipulated frequency.

2. **Passengers:** Passenger(s) are only allowed to be ferried on the two-wheelers with permission of vehicle safety coordinator, AND only if they are wearing appropriate Personal Protective Equipment as defined below.

3. **Carrying of loads:** Carrying of heavy loads is not permitted on two-wheelers. Carrying of lighter baggage/personal belongings may only be permitted using specific containers (e.g. panniers, backpacks) that have been reviewed by the vehicle-safety team for ability to operate the motorcycle safety.

4. **Vehicle safety features/ components:** The Vehicle Safety Coordinator shall ensure all Two-Wheelers are equipped with the necessary safety features and components in order for the vehicle to function properly.

5. **Maximum distance:** Each country should define the maximum distance that an individual can travel on a two-wheeler for company business during a year.

Driver's License and Vehicle Registration
The Vehicle Safety Coordinator must ensure that all two-wheeler drivers possess a valid license and the necessary documents before they are engaged for [insert Company name] business. All vehicles used to conduct [insert Company name] business must have a valid registration, where required by law, and all necessary registration documentation.

Vehicle Safety Training
All two-wheeler riders must attend the training provided for them at an interval determined to be necessary by the Vehicle Safety Team or Management.

Personal Protective Equipment (PPE)
All riders must wear personal protective equipment, required by the Vehicle Safety Team or Management. It is mandatory to use this PPE regardless of the traveling distance, time, terrain, location and weather. The PPE shall be manufactured according to the local regulatory safety requirement and checked regularly for defects.

The PPE and other safety equipment for all two-wheelers riders should meet requirement (**bold** are critical):

a. **Helmet (Full Face)**
b. **Eye Protection**
c. **Jacket**
d. **Elbow and Knee Protection**
e. Leather gloves
f. Full length pants (Abrasion resistant)
g. **Boots**
h. Raincoat (two pieces) as required

APPENDIX C1: MANAGING DRIVER FATIGUE

1. INTRODUCTION

Driver fatigue is a contributing factor in a significant number of vehicle crashes and fatalities each year. This is a particularly important topic to address among people driving for work and commuting. Fatigue makes us less alert to what is happening on the road, and less able to react quickly and safely if a dangerous situation arises.

NETS recommends that all organizations adopt policies that state that employees and authorized drivers may not operate a vehicle in a state of fatigue or while using prescription or over-the-counter medication that may adversely impact their ability to safely operate the vehicle. Fatigue management is a shared responsibility for the organization and the employee. The organization is responsible for informing drivers of how to identify fatigue and alertness problems and the appropriate means for addressing this issue. E, and employees are responsible for following organizational policies and guidelines related to fatigue management.

Through proper journey management and education of drivers and supervisors, the risks associated with driver fatigue can be minimized. The most effective way to manage the risks of driver fatigue is to eliminate the need to drive –. journeys should only be undertaken where there is a clear business necessity and where alternatives such as teleconferencing or video conferencing are not feasible.

The sections that follow present useful information to help workers plan and conduct a workday to minimize the risk of driver fatigue while behind the wheel. Organizations should incorporate this information into their policies and awareness materials. Organizations should also develop overnight stay policies that apply to drivers who recognize that they are fatigued.

2. FACTS ABOUT DRIVER FATIGUE

Sleep is regulated by two body systems: *sleep/wake homeostasis* and the *circadian biological clock*. When we have been awake for a long period of time, sleep/wake homeostasis tells us that a need for sleep is accumulating and that it is time to sleep. All adults need between seven and nine hours of uninterrupted sleep a night to feel well rested and function at their fullest.

On the other hand, our internal circadian biological clocks regulate the timing of periods of sleepiness and wakefulness throughout the day. The circadian rhythm dips and rises at different times of the day. According to the National Sleep Foundation in the United States, adults' strongest sleep drive generally occurs between 2:00 and 4:00 a.m. and in the afternoon between 1:00 and 3:00 p.m. This may vary depending on whether you are a "morning person" or "evening person." The sleepiness we experience during these "circadian lows" will be less intense if we have had sufficient sleep, and more intense when we are sleep-deprived. The times of day "circadian lows" are likely to occur are also the times of day when the risk of collisions tends to be highest.

Even if you don't fall asleep, driving while you are drowsy or fatigued means that you will be less attentive, your reaction times will be slower, and your ability to make decisions will be impaired. Research has shown that lack of sleep can impair driving performance as much as or more than alcohol. In fact, the effects of staying awake for 17 or more hours on driving performance are equivalent to that of a blood- alcohol concentration at or above legal limits in North America and Europe. In other words, driving sleepy is like driving drunk.

Lack of sleep leads to "sleep debt," and the only way to repay this debt is by sleeping. Until you catch up on your sleep, you are at greater risk of having a fatigue-related crash.

3. RECOGNIZING FATIGUE

The following are some of the most common signs and symptoms of fatigued driving:

A. Trouble keeping your posture or your head up
B. Excessive yawning
C. Tired, heavy or burning eyes
D. Difficulty concentrating
E. Difficulty remembering the past few miles driven
F. Drifting from your lane, driving off the shoulder or crossing the center line
G. Missing your exit
H. Hitting a "rumble strip" on the side of the road
I. Loss of attention due to microsleep (an unintended loss of attention that can last about six seconds or longer).

If you experience one or more microsleeps, or any other signs of fatigue while driving, stop immediately at a safe location and rest before continuing your journey.

If you frequently experience the symptoms listed above, you may have a sleep disorder such as sleep apnea. Symptoms include heavy snoring broken by sudden periods of silence, restless sleep and constantly being tired during the day. To learn more about options for diagnosis and treatment, consult your health professional.

4. STRATEGIES FOR MANAGING FATIGUE

Pre-Trip Planning

A. Getting Sufficient Rest

1. Be sure to get adequate sleep prior to driving. Most adults need seven to nine hours of uninterrupted sleep each day.
2. Do not schedule extended work-related and non-work-related activities prior to a long drive.

3. Try to go to sleep and wake up around the same time each day, even on non-work days. The best rest occurs when your sleep times are consistent.
4. If you exercise after work, allow three hours between the end of your workout and the time you go to bed.
5. Alcohol and caffeine can both disturb your sleep patterns and should be avoided.

B. Scheduling to Avoid High-Risk Driving Times

Try to avoid long or monotonous driving trips at times of day when you are likely to experience "circadian lows" and may therefore be at higher risk of a fatigue-related collision or incident: early morning hours and the hours between lunch and mid-afternoon.

C. Planning the Route

1. Reduce your drive time by planning your routes effectively. When possible, plan your business stops in successive order so as to reduce your risk exposure and the miles driven.
2. Prior to setting out, consider the following factors that may introduce risk: vehicle maintenance (oil and fluid levels, tires, etc.), road condition, journey timing and duration, terrain, weather, visibility, personal safety/security, traffic density, presence of animals, presence/density of pedestrians, environment, communications (if at all possible, make calls before starting the journey), and availability of emergency services along your route.
3. If you are assigned a new territory, be sure to talk with your supervisor about the safest and most efficient way to manage your daily routine.
4. Plan which customers you will visit and the routes you will take. Allow for extra time to avoid rushing. Plan alternate visits and routes, just in case you run into traffic or encounter an unforeseen event on the road.

D. Planning Driving and Work Times and Rest Periods

The following recommendations for driving hours, working hours, and rest periods are tailored for employees who operate light- and medium duty vehicles and for whom driving is not the primary job duty. They are significantly more conservative than what is allowed under regulatory requirements for professional drivers who spend all of their time behind the wheel.

1. Maximum Daily Working (Driving and Non-Driving) Hours: eight hours, including breaks; not exceeding 40 hours (in one week) is recommended, including breaks.
2. Maximum Consecutive Hours of Driving: two hours. Take a break of at least 15 minutes after every two hours of driving.
3. Minimum Time Off (no driving): The minimum amount of time off after eight hours of driving should be at least 11 hours.

E. Estimating Travel Time

1. Prior to your trip, try to utilize on-line mapping programs to estimate the time it will take for you to travel to and from a destination. Never input GPS data into GPS units while driving. This should be done in advance of your trip or while parked in a safe location.
2. Schedule an overnight stay when your plan requires long workdays. Before you travel, check with your supervisor if you have any questions about guidelines for overnight stays.

Assuming an average speed of 45 miles or 72 kilometers per hour and an eight-hour working day, the following table gives approximate driving times required for certain journey lengths, and indicates the relationship between distance driven and the time available for work purposes. In simple terms, the more time you spend on the road, the less working time you have available, and the more fatigued you are likely to be. As well as increasing your risk level, it is also likely to impact on the potential quality of the work you are able to undertake.

Trip Distance (Miles)	Trip Distance (Kilometers)	Hours Driving	Non-driving Work Hours
45	72	1	7
90	145	2	6
135	217	3	5
180	290	4	4
225	362	5	3
270	435	6	2
315	507	7	1
360	579	8	0

Driving for four or more hours (highlighted in yellow) may not be the safest, most economical or most efficient use of your time, and driving between five and eight hours (highlighted in red) indicates that other alternatives should be considered, such as conducting the meeting via teleconference, video conference, or flying.

F. Anticipating Unplanned Events and Circumstances

1. When planning your travel, consider other factors such as construction zones, heavy congestion and poor weather. These will increase your drive time and require extra concentration, which itself can increase fatigue. Make sure you have allowed time for these interruptions, and consider them when determining whether an overnight stay is warranted.

2. Keep in mind that GPS destination arrival estimates do not account for possible delays, so be sure to take this into consideration as part of your journey planning.

On the Job and On the Road

A. Drive Time Flexibility

If unforeseen events increase your workday and/or your drive time beyond what you have planned, do not try to "push on" with your original plans for that day. It is better to stop and stay overnight than to risk driving fatigued.

B. Managing Fatigue

The most effective way to avoid fatigue and sleepiness while driving is to get the right amount of good-quality sleep. However, if you do experience the warning signs of fatigue while you are driving, take the following steps:

Best option: Stop driving—pull off at the next exit or rest area.

1. Depending on time of day and availability of accommodations, consider staying overnight.
2. Otherwise, park the vehicle in a safe location and take a nap. A restful nap is about 20 minutes. (Napping for more than 20 minutes can make you groggy for 15 minutes or more after waking).
3. If you are traveling with a co-worker, change drivers when you stop for rest breaks.

Second option: Consume caffeine.

The equivalent of two cups of coffee can increase alertness for several hours. It usually takes about 30 minutes to enter the bloodstream. Caffeine is available in various forms (coffee, tea, soft drinks, energy drinks, chewing gum, tablets), and in various amounts. For example, the amount of caffeine in one cup of coffee (about 135 mg) is about the same as two to three cups of tea or three to four cans of regular or diet cola. **Research suggests that combining a short nap with caffeine consumption is a more effective way to increase alertness than caffeine consumption alone.**

Strategies such as rolling down the window or listening to loud music are **not** effective ways to manage fatigue. They only temporarily mask your fatigue.

> **For your personal safety:** Be certain that any area where you stop to nap is safe and secure (e.g., well-lit store parking lots and designated rest areas). Look for areas with higher volumes of pedestrian traffic; many crimes occur where there are few witnesses. Turn off the ignition, store any valuables from view, lock the doors, and roll up the windows (allowing for ventilation on hot and sunny days.

5. OTHER FACTORS TO CONSIDER

A. Vehicle Use and Work Time after Air Travel

Jet lag is a condition that travelers may experience when flying across time zones. All employees traveling by air internationally, overnight or on flights with significant time zone adjustment or late-night arrival are likely to experience jet lag and fatigue. These employees should not operate a motor vehicle after extended periods of air travel.

Road safety tips for jet-lagged travelers:

1. Do not operate a motor vehicle immediately upon arrival at your destination. Collision risks may be particularly high in locations where driving is on the other side of the road or signage is unfamiliar.
2. Avoid hiring a rental vehicle unless there is no other form of transport compatible with the business requirement, especially immediately on arrival after a long journey. Local shuttle services are generally a safe, reliable, and cost-effective option for ground transport to hotels, workplaces, home and other destinations. Express rail links to and from airports should also be used when suitable.
3. If you are arriving home late at night or early in the morning from a long flight, arrange for someone to pick you up at the airport or take a taxi or public transportation.
4. When employees arrive early in the morning after a trans-Atlantic or other long flight, consideration should be given to allowing them a suitable rest period before work duties commence. The hours spent travelling by air should be counted as part of the work shift.

B. Medical Conditions

Be aware of, and plan accordingly for, any medical conditions that may influence your ability to stay alert while you are driving (e.g., diabetes, high blood pressure, heart disease, depression, sleep apnea). Your medical professional can assist you in dealing effectively and responsibly with your situation. Ultimately, you are accountable to take the proper precautions and to inform your Human Resources or Occupational Health departments if you have a condition that could jeopardize the safe operation of a vehicle while driving on company business. (Human Resources should be contacted if special work accommodations or alternate work are required.)

Health effects of long periods of inactivity: Deep-vein thrombosis

Long hours of driving and long periods of travel without physical activity also have adverse health effects. Long trips by air are associated with the risk of deep-vein thrombosis, which is a blood clot that forms deep in the body, usually in the leg. If a clot breaks off, it can travel to the lung, causing serious lung damage or death. For prevention tips, see http://www.nhlbi.nih.gov/health/health-topics/topics/dvt/prevention.html.

C. Medications

Some prescription and over-the-counter medications can cause drowsiness. Discuss all side effects of medications with your health professional or pharmacist. Also, read all labels on over-the-counter medications to find out if drowsiness is a possible side effect. If you are starting a

new medication, see how that medication affects you before taking it while driving. It is your responsibility to take these precautions. **You should never drive on company or other business if you are taking a medication that may cause drowsiness.**

D. Stress

Work and home-based stress and conflicts can lead to difficulty in having a restful sleep, and may result in sleep deprivation and inability to concentrate on the task at hand. If you are experiencing high levels of stress or conflict at work or at home, contact a mental health professional, your physician, or your [INSERT COMPANY NAME] Employee Assistance Program where provided.

E. Food and Beverage

Certain "comfort foods" have been linked to poor sleep. Avoid consuming large, spicy, salty or greasy meals, especially within three hours before sleep. Sleep-interfering foods include fried foods, garlic, tomato sauce and chocolate. For tips on eating for sustained energy, please refer to "**Eating for Sustained Energy"** (below). Caffeine is a stimulant and does not supply the body with energy. It can provide a false sense of energy and suppress your natural hunger signals. Caffeine should be used in moderation. Its aftereffects include tiredness, irritability, and compromised energy levels.

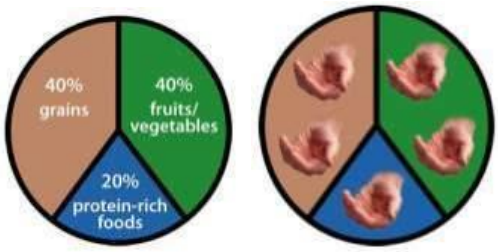
Alcohol is a mood-altering depressant that will magnify the effects of fatigue. Drinking alcohol before bed can interrupt sleep, as it affects blood sugar levels. **Never drive a vehicle after consuming any amount of alcohol.**

Eating for Sustained Energy

The Human Performance Institute provides the following recommendations regarding eating for sustained energy:

Use the palm of your hand or a handful to estimate the right serving size for each food group at meals.

Imagine a plate, divided into three sections like a peace sign. There is room for five handfuls; two for grains, two for fruits and/or vegetables, and one for protein. Now let's picture your handfuls on a plate at breakfast. Maybe you're having one handful of scrambled eggs, one slice of toast, one handful of fresh mixed berries, and one cup/handful of orange juice.



Savor that breakfast by chewing your food slowly, putting down your fork between bites, and engaging in conversation. A "five handfuls" breakfast eaten within one hour of waking will jump start your metabolism for the day and provide a balance of nutrients for your physiological needs.

Timing is everything. To effectively sustain your energy throughout the day, you should eat light and eat often. Between meals, you may need a small (about 100 -150 calories maximum) healthy snack every two to three hours, preferably a low glycemic snack such as yogurt, dried apricots, apple, or celery with peanut butter. Snacks are not meant to fill you up; instead, you should use them to bridge the gap between meals and maintain your energy levels.

Ideally, you never want to go more than four hours without eating, so plan ahead when you travel and remember that you are the one in control of your food. Good nutrition is easy if you remember to eat light, eat often and use your handy measuring tool.

For additional information, check the Human Performance Institute website at http://www.hpinstitute.com/.

6. RESOURCE MATERIALS

A. 'White Paper' on Driver Fatigue

The European Sleep Research Society has developed a white paper titled *Sleepiness at the Wheel*, which provides a good overview of the scientific evidence related to drowsy driving and suggests behavioral and technology-based methods for addressing driver fatigue in organizational settings: http://www.esrs.eu/fileadmin/user_upload/publications/Livre_blanc_VA_V4.pdf.

B. North American Fatigue Management Program (NAFMP)

Developed jointly by the U.S. Department of Transportation and Transport Canada, the North American Fatigue Management Program (www.nafmp.com) provides free online courses and resource materials to help motor carriers, drivers, and others in the supply chain to better manage driver fatigue. These materials were developed primarily for the freight transport industry, but they are also useful for other companies whose employees drive for work. NAFMP topics include:

- How to develop a corporate culture that supports reduced driver fatigue
- Fatigue management education for drivers, drivers' families, carrier executives and managers, shippers/receivers, and dispatchers
- Sleep disorders screening and treatment
- Driver and trip scheduling
- Fatigue management technologies

C. Regulations on work and rest time in the United States and European Union

U.S. regulations for operators of large trucks and buses: http://www.fmcsa.dot.gov/rules-regulations/administration/fmcsr/FmcsrGuideDetails.aspx?menukey=395

Information from the European Commission on driving and working time regulations: http://ec.europa.eu/transport/modes/road/social_provisions/working_time_en.htm

APPENDIX C2: JOURNEY MANAGEMENT GUIDANCE

1. What is Journey Management?

Journey Management is a process for planning and executing necessary land transport journeys in compliance with all Health, Safety, Security, and Environment (HSSE) requirements. Journey Management can be broken into three phases:

A. Plan the Journey

The aspects that are addressed in the planning of the journey include (amongst others):

a. Determine if the trip is necessary and when to drive, including rest breaks, driving and duty hours;
b. What vehicle to use and is it suitable and in proper condition;
c. Required driver skills and competence;
d. What route to take and where to make rest stops.

A key deliverable of the journey management process is the Journey Management Plan (JMP). Typically a Dispatcher, a Journey Manager or a Driver compiles the JMP. Prior to executing the journey, the Driver should be fully briefed (or aware) about the journey and the associated risks, including mitigating measures as documented in the JMP.

B. Execute the Journey

Drivers are responsible for executing journeys in line with the agreed JMP, but others may need to play a role as well. For example, the JMP may include preparations for a "Man Lost" procedure that may need to be started by the Journey Managers. This is relevant when driving through deserted or hostile areas, including areas without mobile phone coverage.

C. Close-out of the Journey

Closing-out the journey ensures that the objectives of the journey were met and enables the capture of lessons that can help improving the journey management process and/or plan for future journeys.

2. Why Journey Management?

Journey Management is used to prevent undesired security HSSE consequences of land transport journeys. Supervisors responsible for individuals driving on company business are accountable for ensuring a JMP is prepared when required. Anyone driving a company vehicle or driving on company business is responsible for meeting the requirements of a JMP when needed.

Some considerations for a journey management plan include:

A. Loading and discharge site (where applicable)

- Loading and unloading at site, including site assessment and site hazards

- Loading of the vehicle (passengers, product stability for bulk and cargo, hazards of the load)
- Type of vehicle necessary for the journey and vehicle roadworthiness

B. Driver preparedness

- Driving duty and rest periods
- Competence and fitness of the driver, including fatigue considerations

C. Authorized Route

- Route plan (can be longer than the fastest or shortest route to avoid hazards)
- Enables compliance with the duty driving and rest hours

D. Identification of route hazards and controls

- General safety hazards, including country infrastructure, environment, seasons, weather conditions (dust, snow, ice, rain, fog), driving at night (reduced visibility), etc.
- Account for situational hazards such as road closures; dangerous intersections; speed limits; adverse road conditions; bridges; overhead clearances, etc.
- Account for specific security hazards
- Local driving practices; differences caused by the time of day and or day of the week effects; national and religious events; pedestrians and large animals on the road

E. Communication Process

- Route planning and changes, emergency response preparedness, deviations and arrival

Journey Management Plan	**Trip High Level Description:** *Site visit by GM and HSE Advisor and return.*	**Names of Passengers** *(For Light Vehicles)*	**Alternate Driver?** *(Tick if Yes)*
Is the trip necessary? Why?	*Yes, contractual requirement*	1 *Mike Smith*	
Can it be combined with another trip? If not, why?	*No, no other trips today*	2	
Is there a need for night driving? If so, why?	*No*	3	
Name of person acting as Journey Manager:	*Joe Mitchell* Phone number: *12345678*	4	

Departure Date	**Departure Time**	**Vehicle ID**	**Is the Vehicle fit for the Trip?**	**Name of Main Driver (and Company if Contractor)**	**Is/are the driving licence(s) valid for the vehicle and country?**	**Is Defensive Driving Training for the Driver valid?** *(Yes/No/ N/A)*
04/25/11	*07:30*	*88-XT-VD*	*yes*	*Dave River*	*yes*	*Yes (10/10/11)*

Route Destination/Rest Area(s)	**Arrival Time**	**Departure Time**	**Rest Break?**	**Is Contact Required?**	**Known hazards to destination/rest area(s) and mitigation measures, specific instructions (e.g., contact notification details, place to stay overnight, etc.)**
Smithtown Office – Saltflat	*09:15*	*09:45*	*yes*	*yes*	*Slow for Roadwork at 100 km, Starbucks coffee*
Saltflat - Brownsville site	*11:00*			*yes*	*Security measures at site gates, passes needed.*

Did the Trip go as expected and if not, why?	**Driver Signature** (unless driver is also the journey manager)
No. The trip was delayed due to roadwork between Saltflat and site. Arrival time as 11:25.	

Emergency Response	*(e.g. contact details, remote areas with no GSM coverage etc.)*
Journey manager: 12345678; Security manager - John Wayne: 23456 6789; Site Manager - Rob Keens: 34560987. Full GSM coverage.	
Security	*(e.g. hijack, robbery, cases of theft - load, vehicle, etc.)*
Starbucks in Saltflat renowned for vehicle smash and grab. No personal items to be left in view of public; lock vehicle.	
Location and Timing	*(e.g. driving times, impact of driving at night without properly lit roads, driving during Ramadan etc.)*
Local Environment and Circumstances	*(e.g. weather, route condition, vehicle roll over risk etc.)*
Fast moving third-party traffic between Saltflat and site. Road narrows over Smiths Gap. Fog expected in Smiths Gap. Reduce speed and increase following distance to suit.	
Loading/Unloading	*(e.g. special risks as a result of the base or customer location lay-out etc.)*
After entry to site, first turn to left has loading dock entry on left. Beware of HGV movement in that area.	

APPENDIX D1: SAMPLE VEHICLE INSPECTION CHECKLIST

VEHICLE No:	**DRIVERS NAME**	ODOMETER (Kms) READING:	TRAILER No: (If relevant)

EXTERNAL		**INTERNAL**	
NO FUEL, OIL, WATER LEAKS		**INSTRUMENTS AND GAUGES** • Fuel level • Oil pressure • Air pressure (heavy vehicles) • No red warning lights remain on	
CHECK FLUID LEVELS OF: • Engine Oil • Brake Fluid • Clutch Fluid • Power Steering Fluid • Auto Transmission Fluid (if relevant)		**CONTROLS** • Horn • Brakes • Windshield wipers	
CHECK WATER LEVELS OF: • Radiator Header Tank and Coolant Levels • Check Radiator Cap is closed • Windshield Wiper/Washer Reservoir Levels • Battery Fluid Level		**AC/AUDIO:** • Air conditioning working • Audio player working	

CHECK ELECTRICAL SYSTEMS: • Battery Terminals Clean • Battery Secure • Check location of fuses • Headlights Working • Brake lights Working • Indicators Working • Reverse Lights Working • High Intensity Rear Lights Working		**WINDSHIELD/WINDSHIELD WIPERS** • Windshield wipers • Windshield – clean and unobstructed **SEATS, SEAT BELTS AND MIRRORS** • Drivers seat position and seat belt • Passenger seats and seat belts • Mirrors	
CHECK RUBBER • Check Radiator Hoses are tight • Check fan belts • Check Windshield wipers not worn • Tires– check pressure correct • Tread depth minimum 1.6mm • Tread pattern matches • No deep cuts, lumps, bulges, tears, ply exposure		**EMERGENCY EQUIPMENT** • Jack and accessories • Fire extinguisher • First aid kit • Hazard warning triangle	
VEHICLE BODY • No Damage • Load Security • Lights and Reflectors - Clean		**TRAILER (if applicable)** • No Damage • Brake Hoses • Electrical Connections • Coupling Security	

ANY OTHER DEFECTS NOTED:

WRITE **NIL** HERE IF NO DEFECTS FOUND	DRIVER'S SIGNATURE:

REPORT ACCEPTED BY:.....
SIGNATURE:……

APPENDIX E1: ANSI/ASSE Z15.1—2012

SAFE PRACTICES FOR MOTOR VEHICLE OPERATIONS

This consensus standard was developed under the direction of American Society of Safety Engineers and approved by the American National Standards Institute. It provides practices for the safe use of vehicles operated on behalf of employers, including:

- Definitions, management, leadership, and administration
- Operational environment
- Driver considerations
- Vehicle considerations
- Incident reporting and analysis

These practices are designed for use by those having the responsibility for the administration and operation of motor vehicles as a part of organizational operations.

https://www.asse.org/shoponline/products/Z15_1_2012.php