

: CHAPTER 8 :

Road Safety



: NOTES :

Road Safety

Internal statistics confirm that the toll of road traffic injuries and deaths is very high for CRS staff and third parties, especially cyclists and pedestrians. However, most deaths and injuries from road crashes are completely preventable. Applying robust road safety management is necessary to reverse the current toll. The responsibility rests with all CRS staff, not only drivers. Vehicle passengers have the obligation to ensure that road safety measures are applied or otherwise they must voice concern to the driver.

Road Traffic Deaths and Injuries

The WHO *World Report on Road Traffic Injury Prevention* indicates that the number of road crash fatalities, which already surpasses 1.2 million annually, will increase worldwide by 60 percent by 2020. Although they will continue to fall by 20 percent in high-income countries (due to increased road safety, stricter regulations and enforcement, and improved technologies), they are likely to grow by 80 percent in low- and middle-income countries. Trends also indicate that road traffic injuries will become the third leading cause of mortality and disability by 2020¹ (ranked 9th in 1990). Road traffic injuries are a completely preventable major public health problem!

The main reasons for the actual and projected increase of road traffic injuries in low and middle-income countries are population growth, especially in urban areas where people become more reliant on motorized transport, and a growing middle class that is becoming more mobile (i.e., able to own and operate private motor vehicles). The result is a rapid increase of motorization rates not matched with road safety improvements (e.g., infrastructure, road-worthy vehicles, road users' behavior, law enforcement, etc). All road users are concerned by road safety, not only users of motor vehicles. For example, young pedestrians account for 50 percent of road crash casualties in low- and middle-income countries.

Road safety is one of the major problems facing developing societies, the very countries in which we work, and is a critical issue to drivers, passengers and other road users. A significant number of aid workers (international and national) are involved in road traffic crashes every year, resulting in significant financial losses across the entire humanitarian sector and devastating consequences to individuals and their families. Senior managers must find creative means to protect our staff, our assets and the people whom we seek to assist. The need is particularly acute during emergencies since traffic volume in the intervention areas often increases dramatically with the arrival of the humanitarian agencies, military, and private sector responders. The result is all too often an increase in road crashes that lead to unacceptable loss of life, injuries to road users and losses of resources. CRS must act responsibly, particularly during emergencies when we are in the spotlight. We must do everything possible to do our part to reduce global road crashes and the resultant deaths, injuries and devastating financial losses they cause. We can and must lead by example.

How people drive is largely determined by a variety of risk factors; some are acceptable and some are controllable, but many are neither controllable nor acceptable. Yet these factors contribute directly to the frequency and severity of road crashes. When planning and authorizing travel, managers must consider:

- **Exposure:** the amount of travel done; distances covered; time on the road; number and type of vehicles using the infrastructure; and quality of the infrastructure.

¹ Source: Murray CJL, Lopez AD, eds. *The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Boston University Press, 1996.

- **Behavior:** driver understanding of and compliance with the rules of the road; knowledge of traffic patterns; driver age, experience, skill and training; speed and maneuvering decisions; alcohol consumption and drug use; and the perception and acceptance of risk. Inexperienced drivers, or those under the influence, tend to minimize risk, make poor decisions on the road, and often exhibit little consideration for other drivers, road users and pedestrians.
- **Status of the infrastructure:** quality of road engineering, maintenance and repair; road signage; barriers; traffic lights or round points; insufficient crosswalks/pedestrian overpasses; inexistent foot and bicycle paths. Damage done to roads during natural disasters and our need to access beneficiaries of our assistance may lead to bad or dangerous driving decisions.
- **Vehicle attributes:** include elements other than design, such as: older vehicles that are often not roadworthy are driven freely; weak vehicle inspection systems; availability and installation of non-genuine parts; inadequate maintenance and repair; corrupt officials who are either unable or unwilling to curtail the use of dangerous vehicles; worn tires and brakes; insufficient exterior lights; etc. All are recognized major risk factors for both light and heavy vehicles and are leading causes of road crashes
- **Other factors:** the vulnerability and risk-taking of other road users (e.g., pedestrians, bicycle and motorcycle users); vehicles with lower design standards and passenger protection capabilities (e.g., no seat belts or air bags); the non-use of safety devices when available (e.g., wearing seatbelts or helmets, or using child seats, often not required); road designs that are “unforgiving” of driver or user error (e.g., insufficient median and roadside barriers; lack of overhead pedestrian crosswalks on busy roads); and the unavailability of good emergency and post-trauma medical care.



CONCEPT

Sound road safety management requires:

- Recruiting safe, competent drivers who show care for other road users, especially pedestrians and cyclists.
- Knowing, complying and enforcing road safety rules and regulations, including defensive driving (maintaining vigilance at all times).
- Applying professional vehicle fleet management (preventive checks and regular maintenance services).
- Rewarding careful drivers, while applying disciplinary actions in case of crashes caused by reckless driving.
- Creating an agency culture of road safety through multiple innovative activities.



PRACTICE

Mini Case Study

Two international staff asked a CRS driver to take them to a meeting in a Toyota Prado. Getting a late start, the staff members pushed the driver to hurry up so they could arrive on time. The driver, afraid to argue with the staff for fear of repercussions, broke the speed limit and drove aggressively to get to the destination quickly. On a major thoroughfare with heavy pedestrian traffic, a slow-moving taxi cut in front of the CRS vehicle.

The CRS driver swerved to avoid a collision, lost control of the vehicle, slid into a ditch and rolled the vehicle onto its side. The vehicle narrowly missed two young children on their way to school. Nobody was seriously injured, but damage to the vehicle exceeded \$8,000. It was later

determined that the vehicle lost traction because the tires were fairly worn and under-inflated, and the brakes were worn and badly in need of replacement.

Regular maintenance schedules had not been followed, the problem had been reported before to the Fleet Manager but no action had been taken, and the driver had not performed a vehicle daily check that morning. Who is at fault? What is the impact on CRS' image? What would have been the impact and cost to the Agency had the school children or another pedestrian been hit and injured or killed? Is arriving on time for a meeting worth the risk?

- A vehicle check shall be performed and documented daily by a driver or fleet manager; the operational status of all tires (tread wear/inflation) is 2 elements that should be verified.
- Regular maintenance schedules shall be respected to ensure safe vehicle operation.
- Drivers shall be encouraged and rewarded for resisting pressure to disobey traffic regulations and for demonstrating good defensive driving techniques.
- Staff shall never compel drivers to disregard local traffic laws and general rules-of-the-road, and shall be held accountable when they do so.
- Drivers who require additional training shall receive it through professional institutions or internally managed programs.

BEST PRACTICE EXAMPLE



PROMOTING A ROAD SAFETY CULTURE IN CRS:

While it is essential to apply disciplinary actions in case of non-compliance with road safety measures, it is all the more important to promote a road safety culture at the Agency level. The following are some recommended practices:

- Reward drivers for applying defensive driving techniques and showing particular care for vulnerable road users.
- Hold all staff accountable for road safety incidents.
- Obtain and disseminate posters, brochures, etc. to sensitize staff on issues of road safety.
- Develop appropriate driver testing tools and training programs.
- Provide codes of conduct for drivers and practical guides for vehicle fleet management.
- Organize a road safety entertaining event for children of staff.
- Paint artistic slogans on covers of spare tire found on rear of some 4wd. Illustrate positive messages such as: *'This vehicle respects pedestrians.'*
- Be imaginative and develop other actions. Share good ideas with other CPs.

MAJOR CONTRIBUTORY FACTORS TO ROAD TRAFFIC CRASHES, INJURIES AND DEATHS

Failure to wear seat-belts

- Seat-belts reduce the risk of serious and fatal injury by 40–60%.
- Mandatory seat-belt use has been one of the greatest success stories of road injury prevention and has saved many lives.
- Vehicle operators are responsible for the security of all passengers they carry.

Failure to wear helmets on two-wheelers

Head injuries are the main cause of death among the riders of all two-wheelers.

Speed

A key factor, speed has influence on:

- The ability to control the vehicle.
- The risk of accident.
- The seriousness of injuries.
- The level of material damage.

The probability that a pedestrian survives if hit by a vehicle at 30 km/h is 90%, below 50% if hit at 45 km/h and virtually nil if hit at 80 km/h.

Vehicle configuration

Some regions have instituted a policy that CRS vehicles should not have bull-bars mounted on them. Bull-bars are the metal extensions that reinforce the front bumper and grill of the vehicle, sometimes used for mounting HF antennas. Bull-bars protect the vehicle but are disastrous for pedestrians when hit. Extended bumpers designed for mounting winches are allowable, but should not include bull-bars.

Impaired driving

Alcohol consumption and the use of controlled substances greatly increase the probability of a crash occurring that results in death or serious injury. A survey of studies in low-income and middle-income countries found that blood alcohol was present in 33% to 69% of fatally-injured drivers.

Using mobile phones

Drivers using a mobile phone are six times more at risk of a road crash. Research has indicated **that people who talk on their phone while driving are more dangerous than drunk drivers; hands-free sets do not significantly reduce the risks.**

Driver fatigue

Factors contributing to fatigue and crash involvement include driving long distances, under pressure, on monotonous or unfamiliar roads, after consuming alcohol, in extreme weather, during hours when normally asleep, after poor quality sleep and during certain periods of the day (such as in the afternoon) when the driver normally feels drowsy. Drivers should take a 10-15 minute break every two hours, and when possible take short "cat" naps. Drivers should never be asked to operate a vehicle for more than 10 hours in a day, and should be given a day off for every 6 days worked whenever possible.

ROAD SAFETY MEASURES - MAINSTREAMING DEFENSIVE DRIVING

By driving defensively it is expected that drivers not only comply with highway codes, but also that they consider that other road users might be reckless. Therefore:

- Expect the unexpected!!!
- It's not important to arrive at your destination fast, but it is important to arrive.
- Ensure tires are in good condition and fully inflated.
- Test the brakes prior to entering traffic.
- Always expect that other vehicles/two-wheelers may suddenly swerve without warning.
- Always expect that pedestrians (especially children) or animals may suddenly cross the road or enter a lane of traffic.
- Be wary of parking vehicle operators opening their doors into a line of traffic.
- Use of two wheelers.
 - do not use motorbikes over 125 cc.

- wear helmets; they protect very effectively against head injuries!
- require daytime running lights.
- All vehicle passengers wear seatbelts.
- Respect speed limits and adapt speed to road and weather conditions.
- Be aware of increased risks when it rains. Reduce speed accordingly, increase safe distance with other road users and be prepared for slippery conditions.
- Avoid speeding through standing water. Your brakes may become saturated and not work for a period of time.
- Take extra precautions when driving through rural villages or on undeveloped roads with pedestrians in the roadway.
- **Driving under the influence of alcohol or drugs is not permitted.**
- Taking psycho-active medication or recreational drugs and driving is not permitted.
- Don't tailgate. Maintain safe distance at all times (i.e. following distance of at least two seconds with the car ahead) and keep as much space as possible on the side between your vehicle and, for example, a stopped vehicle or any obstacle that may hide somebody who would cross the road.
- Avoid being tailgated. You should be able to see the headlights of the car behind you in your rear-view mirror. If you feel you are being followed too closely, signal and pull over to allow the other driver to go by.
- Drivers should never "ride their brakes" (i.e., drive with their foot on the brake). Vehicle operators following yours will be confused by or unprepared for your intended and unintended braking actions.
- **No mobile phones or other means of communications shall be used while driving (even hand free).**
- If necessary to drive at night, CRS drivers will turn on and keep headlights on a half hour before sunset and turn them off at sunrise.
- Even if you have the priority, do not assume that others will respect your "right of way." Even if the traffic light is green or if you reach an intersection where you have priority, always proceed slowly and look in both directions to ensure that the way is free. Be ready to react to the unexpected.
- If you want to pass a car, follow these rules:
 - If you're uncertain you have sufficient time to pass, don't take the risk.
 - Make sure you are in a passing zone.
 - Be absolutely certain that there is no oncoming traffic.
 - Do not pass when approaching a curve or the top of a hill.
 - Look in all mirrors carefully before you make a lane change.
 - Look behind you for any vehicles that might be trying to pass you.
 - Be aware of any blind spots. Once the lane is clear, signal your move.
 - Move into the passing lane, and accelerate to pass the car in front of you.
 - Once you see the vehicle you passed in the rear-view mirror, reenter the driving lane. If you have to quickly cut in front of the passed vehicle to avoid oncoming traffic, you should not have passed.

RECRUITING DRIVERS

Using drivers is the norm in CRS, especially for field treks. Using a local driver offers advantages as he/she possesses knowledge of local routes, languages, and basic mechanics. CRS should hire professional drivers. Using a driver allows staff to rest while traveling. Attention must therefore be given to recruit competent drivers with the right skills and attitudes to provide a high level of safety for passengers, other road users and themselves.

During recruitment, drivers should be tested for:

- knowledge of the generally accepted highway code and local traffic regulations.
- basic mechanics to be able to carry out daily vehicle inspections and perform minor maintenance and repairs.
- driving competency and behaviors: verify that candidates respect other road users, that they maintain safe distances, visual vigilance and apply all other aspects of defensive driving.
- Acceptable vision certified by an eye doctor.
- and finally make sure that you hire drivers carry a valid driving license.

NOTE: driving tests should be somewhat standardized and documented. A link to a sample Driving Test Scorecard may be found in Chapter 11, Forms and Graphics.

Personnel Allowed Driving

Some personnel and spouses of international staff may be allowed to drive. Children of international staff are never permitted to drive CRS vehicles. All vehicle operators must carry a valid driving license, be tested for driving skills and behavior, and approved by the Country Representative or Regional Director.

FLEET MANAGEMENT

Develop Vehicle Use Policies

Local policies and procedures must be consistent with agency policies, formalized in writing, and disseminated to all vehicle users.

Focus on Road Safety and Security

in all testing, training and monitoring sessions with drivers and users. All testing and authorizations to operate CRS equipment shall be documented in writing in the driver's personnel file. All drivers must sign a CRS Disclaimer to Drive CRS Vehicles form (see Chapter 11, Forms and Graphics). Elements to evaluate include, but are not limited to:

- general road safety and knowledge of local laws.
- security awareness.
- knowledge of local infrastructure and traffic patterns.
- adjusting to various road and weather conditions.
- defensive driving.
- attitude (e.g. non-aggressive).
- respect of local laws and CRS policies.
- responsible for passenger and asset safety and security (e.g., ensuring that all passengers wear seat-belts).
- overall familiarity with CRS vehicles.
- a minimal level of mechanics (e.g., changing a tire, checking fluid levels).
- handling road crashes.
- dealing with the authorities.
- behavior at check points.
- general driving skills.

Create Maintenance Plan for All Equipment

Motorized equipment manufacturers provide specific maintenance guidelines. In general, these should be followed closely to preserve warranties and ensure appropriate vehicle operations. In some cases, manufacturer guidelines are too liberal for the conditions in which we are using the equipment. It is the responsibility of the Fleet Manager and his/her

supervisor to devise maintenance schedules that are compliant with manufacturer guidelines and appropriate to the operating environment. Schedules shall be revised as necessary and appropriate. All maintenance and repair shall be documented in an equipment file created for each motorized asset.

Daily Inspections

Regular maintenance and repair of rolling equipment is of paramount importance, both to prevent road crashes and to prevent damage to the equipment. Driving CRS vehicles is not a right—it is a privilege. As such, the use of CRS rolling equipment carries specific responsibilities for the user.

The first vehicle user of the day shall conduct a vehicle inspection (a sample Vehicle Daily Inspection format is provided in Chapter 11, Forms and Graphics). If renting vehicles that include drivers, ensure the drivers are trained in CRS driving protocols and behaviors, and that they conduct daily inspections. Elements to inspect include (list not all inclusive):

- Overall vehicle cleanliness.
- Fuel level (always ensure the vehicle is at least 50% full).
- Motor oil, brake fluid, radiator coolant and windshield washer fluid levels.
- Battery connections and water levels.
- Tire wear and pressure (including spare tire). A minimum of 3mm of tread is required, no other damage seen. All vehicles should carry a pressure gauge.
- Wheel lug bolts all on and tight.
- On diesel motors, drain water decanter if necessary.
- Head, tail, turn signals and other lights all function normally.
- Horn functions normally.
- Fluid leaks (check underneath the vehicle).
- Tools and equipment (jack and handle, tire iron, lug wrench, flashlight, fire extinguisher, wrenches and other tools, warning triangles, first aid kit).
- Doors, windows and mirrors lock and operate normally.
- Working seat belts installed for all vehicle passengers. Each motorcycle passenger has helmet, closed shoes (no sandals), long pants and shirt (jacket preferred).
- Vehicle documents (registration book, insurance papers, driver's license, vehicle log).
- Start engine: preheats normally, no unusual noises or odors, oil pressure okay, battery charging, no "idiot" lights or other warnings.
- Brakes (check hand brake; test brakes while driving but prior to entering traffic).
- Suspension okay—neither too rough nor "spongy."
- Clutch is tight, gear changing is normal, no unusual sounds from gear box, transmission or transfer cases.
- 4WD system operates normally.
- All passengers wear seat belts before vehicle moves.

Vehicle Logs

Drivers are responsible for completely filling out the [Vehicle Log](#) after each movement of the vehicle and during refueling. Whenever applicable, a passenger shall initial the log entry. It is important that all log entries be legible, and that a DSPN (Donor Source Project Number) be provided for every movement. If the vehicle is used for personal reasons, this should be entered in the DSPN column.

Cargo

MAXIMUM LOAD FOR TOYOTA LAND CRUISER		
ROAD TYPE	PICK-UP	STATION WAGON
Road & good trail	800 kg	700 kg
Bad trail	600 kg	500 kg

IN CASE OF ROAD CRASH

The procedures and repercussions of road crashes will vary from country to country. CRS staff shall rely on their own judgment, but try to follow the guidelines below:

- 1. Stop and assist. 2 Evacuate casualties to the site of the nearest medical professional, if transporting the injured individual(s) will not cause greater harm. 3. Inform CR, Head of Office or Security Officer as soon as possible.
- Don't stop if there is mob risk. Inform CR or head of office, go to the nearest police station and eventually return to the scene with an escort.
- Don't claim responsibility for the accident.
- Ensure that injured persons receive medical treatment.
- Take photos of the crash site if possible. Document photographically any and all damage done to the CRS vehicle.
- Take note of plate number of other vehicles involved in collision
- Make an accident report on the spot or with the police. Request copies of police reports.
- If the vehicle is impounded, lock the doors and windows, remove all documents, and take the keys. If there is a multi-lock installed, engage it.
- Prepare a written incident report for CRS.

TRAVELING IN INSECURE ENVIRONMENTS**Road Travel Security**

- Inform local authorities about CRS movements.
- Collect up-to-date information before departure.
- Inform the CRS base of itinerary and passengers traveling (tracking system).
- Limit travel when the situation is tense.
- Always have vehicle attended (driver, guards).
- No night travel outside main towns.
- When driving outside towns, a minimum of two car convoys should be used for travel whenever possible, particularly in cases of remote locations and tense operating environments.

Evacuation

- Vehicles are always on standby for evacuation.
- Include evacuation kit in each vehicle.
- Regularly reassess evacuation travel plans.
- Keep permanent radio contact with a CRS base.
- Drive slowly.
- Verify that everybody on the itinerary is present.

Convoys

- Drive with a CRS vehicle at the beginning and the end of the convoy.
- Establish the itinerary before departure, estimate the duration on maps, plan alternative routes, and brief drivers.
- Check to ensure that the vehicles are in good working order before departure.

- Take enough gas for the entire distance, plus 25%.
- Identify all vehicles with CRS flags and emblems.
- Know exactly what each vehicle is transporting.
- All members of the convoy must have their documents.
- Establish radio communication at least between the first and last vehicle.
- One vehicle must have permanent radio contact with CRS base.
- Turn on headlights.
- Distances: Minimum 30 meters between each vehicle, maximum 100 meters.
- Vehicles should never be separated. Keep visual contact with all vehicles in convoy.
- Remove identification from rented trucks when travel is complete.

Checkpoints

- Location must be known by passengers and CRS base (reported on maps).
- Reduce speed to a minimum when approaching.
- At night, turn off headlights for the final approach and simultaneously turn on the inside light to allow full view of passengers.
- Stop radio contacts.
- Stop when ordered to stop or at the barrier if no spoken order has been given.
- Stay calm and polite.
- Only one representative of the group should be in contact with the authorities.
- Refuse politely to give money.
- Do not raise any objection about baggage checks.
 - If vehicles are coming behind you, inform the check point of number of vehicles in the convoy.
 - Make radio contact with the base after the passage of all vehicles.

Landmines

See Chapter 10, Dangerous Situations.

VEHICLE CHECKLIST

Suggested Equipment

- Hydrogen Peroxide Fire extinguisher.
- First aid kit.
- Flashlight and spare batteries.
- Spare tire and basic tools.
- Foot pump.
- Warning triangles and flares (when available).
- Battery jumper cables.
- Fuel jerry can (for long journey/evacuation).
- Potable water (for long journey/evacuation).
- Equipment to extricate from mud/sand/snow (as necessary, e.g. shovels, 10-20m X 5mm cable or tow strap).

Documents

- Itinerary and any copies of written approval for travel if required.
- Discharge of responsibility form for non-CRS passengers.
- CRS' mission statement in local language.
- Vehicle log.
- All vehicle documents (copies: importation, registration, taxes, insurance, registration).
- Maps (indicate: mine roads, checkpoints, evacuation route, etc.).

- Radio frequencies and call signs list.
- Emergency contact list (e.g., hospital, consulate, police, etc.).



LINKS/ONLINE RESOURCES

Global Road Safety Partnership (GRSP): <http://www.grsproadsafety.org/>

World Health Organization Publications related to Road Safety and Injury Prevention:
http://www.who.int/violence_injury_prevention/road_traffic/en/

See Chapter 11, Forms and Graphics, for sample formats:

- Vehicle Inspection Checklist.
- Driver Test Score Sheet.
- Disclaimer - Authorized Users of CRS Vehicles.
- Authorization to drive CRS Vehicles.
- No Passenger Sticker.
- No Firearm Sticker.